



**PARK CITY PLANNING COMMISSION MEETING
SUMMIT COUNTY, UTAH
February 23, 2022**

PUBLIC NOTICE IS HEREBY GIVEN that the Planning Commission of Park City, Utah will hold its Regular Meeting electronically on Zoom, through www.parkcity.org/public-meetings for the purposes and at the times as described below on Wednesday, February 23, 2022.

MEETING CALLED TO ORDER AT 5:30 PM.

Notice of Electronic Meeting and How to Comment Virtually The Chair issued a written determination that because of the public health emergency, conducting a meeting with an anchor location presents a substantial risk to the health and safety of those who may attend in person. This determination is based on the ongoing risks and infection rates statewide and in Summit County. For these reasons, this meeting will be an electronic meeting without an anchor location. Planning Commission members will connect electronically. Public comments will be accepted virtually. To comment virtually, use eComment or raise your hand on Zoom. Written comments submitted before or during the meeting will be entered into the public record but will not be read aloud. For more information on attending virtually and to listen live, please go to www.parkcity.org.

1. ROLL CALL

2. MINUTES APPROVAL

3. PUBLIC COMMUNICATIONS

4. STAFF AND BOARD COMMUNICATIONS AND DISCLOSURES

4.A. Housing Department Update

This report is to serve as an informational update on progress on the City's housing goals along with the projects the Housing Team has been working on over the last several months to continue to further these goals.

[Staff Communication](#)

5. CONTINUATIONS

- 5.A. 543 Park Ave - Hotel, Minor Conditional Use Permit - The Applicant Requests a Minor Hotel Conditional Use Permit to Convert the Washington School Inn, a Landmark Historic Structure on the Park City Historic Sites Inventory in the Historic Residential -- 1 Zoning District, from a Bed and Breakfast to a Minor Hotel with Accessory Facilities for Events. PL-20-04477. (A) Public Hearing; (B)**

Continuation to a Date Uncertain.

[Staff Report](#)

6. WORK SESSION

6.A.

1020 - 1100 Iron Horse Drive - Master Planned Development - The Applicant Proposes 4,304 Square Feet for Retail and Office Space, 145,197 Square Feet for Residential Units, and 2,992 Square Feet for Restaurant Uses Over a 184-Stall Underground Parking Garage on a 3.05- Acre Property in the General Commercial Zoning District. PL-21-04949 (60 mins.)

[Staff Report](#)

[Exhibit A: Ironhorse Park Commercial Subdivision](#)

[Exhibit B: Proposed Plans](#)

[Exhibit C: Proposed Ironhorse Subdivision](#)

[Exhibit D: Existing Conditions](#)

[Exhibit E: Applicant's 3D Renderings](#)

[Exhibit F: Applicant's On-Street Parking Research](#)

[Exhibit G: Topography and Existing Conditions](#)

[Exhibit H: Mine Hazard Report](#)

[Exhibit I: 1990 Environmental Assessment](#)

[Exhibit J: Hales Traffic Impact Study](#)

7. REGULAR AGENDA

7.A.

2300 Deer Valley Drive E - St. Regis Deer Valley – Modification to a Conditional Use Permit –The Applicant Proposes to Install an Additional Temporary Tent for Winter Months. PL-21-05095 (10 mins.)

(A) Public Hearing; (B) Action

[2300 Deer Valley Drive E Staff Report](#)

[Exhibit A: Draft Letter of Approval](#)

[Exhibit B: Proposed Plans](#)

[Exhibit C: Existing CUP](#)

7.B.

Land Management Code Amendments - Amendments to Land Management Code § 15-2.1-2, § 15-2.2-2, § 15-2.3-2, § 15-2.4-2, § 15-2.5-2, § 15-2.6-2, § 15-2.7-2, § 15-2.9-2, § 15-2.10-2, § 15-2.11-2, § 15-2.12-2, § 15-2.13-2, § 15-2.14-2, § 15-2.15-2, § 15-2.16-2, § 15-2.17-2, § 15-2.18-2, § 15-2.19-2, § 15-2.23-2, For Zoning District Use Tables, § 15-15-1 Definitions, and Enacting a New §15-4-22, Outdoor Pickleball Courts in Residential Areas, Are Proposed for Pickleball Court Land Use Regulation in Residential Zoning Districts To Mitigate Pickleball Court Impacts. PL-21-05062

(A) Public Hearing; (B) Possible Recommendation for City Council's Consideration on March 3, 2022. (60 mins.)

[Staff Report](#)

[Exhibit A: Draft Ordinance No. 2022-XX](#)

[Exhibit B: Survey Results](#)

[Exhibit C: Public Comments](#)

[Exhibit D: Post Card Proof](#)

[Exhibit E: Abrego South Green Valley, AZ Pickleball Noise Survey](#)

Exhibit F: City of Ojai, CA Pickleball Sound Mitigation Options
Exhibit G: Noise Study for Pickleball Courts in Surprise, AZ
Exhibit H: Pickleball Environmental Noise Assessment Pacific Grove, CA
Exhibit I: Scottsdale, AZ Development Review Board Pickleball and Bocce Courts Report
Exhibit J: Spendiarian and Willis Noise Survey for Pickleball Courts in Sun Lakes, AZ
Exhibit K: Spendiarian and Willis Pickleball Acoustics and Noise Control
Exhibit L: Spendiarian & Willis Acoustics & Noise Control LLC Letter

8. ADJOURN

Pursuant to the Americans with Disabilities Act, individuals needing special accommodations during the meeting should notify the Planning Department at 435-615-5060 or planning@parkcity.org at least 24 hours prior to the meeting.

***Parking is available at no charge for Council meeting attendees who park in the China Bridge parking structure.**

Planning Commission Agenda Item Report

Meeting Date: February 23, 2022

Submitted by: Julie Schultz

Submitting Department: Community Development

Item Type: Work Session

Agenda Section: STAFF AND BOARD COMMUNICATIONS AND
DISCLOSURES

Subject:

Housing Department Update

Suggested Action:

This report is to serve as an informational update on progress on the City's housing goals along with the projects the Housing Team has been working on over the last several months to continue to further these goals.

Attachments:

[Staff Communication](#)

Planning Commission Staff Communication

Subject: Housing Updates
Author: Housing Department
Date: February 23, 2022
Type of Item: Informational



This report provides an informational update on progress on the City's housing goals and the projects the Housing Team has been working on over the last several months to further these goals.

Housing Goal & Plans

In 2016, the City Council passed Resolution HA 01-2016, establishing a goal to create 800 new affordable units by 2026. The Council passed this Resolution to:

- Promote a range of affordable, quality housing opportunities for persons of all economic levels;
- To meet the socio-economic needs of people who live and work in Park City;
- To maintain a community that contains a broad diversity of owner-occupied and rental housing types; and
- To promote energy-efficient and environmentally sensitive housing development that blends with the City's natural environment.

The goal set in 2016 was based on the [2016 Park City Housing Needs Assessment](#) that stated that for Park City to maintain the current level of employees living within Park City limits (15%), a total of 80 additional units would need to be developed each year. The Housing Team is working on completing the 2021 Housing Needs Assessment and will be sharing the results in the coming weeks.

In the City Council's Long-Term Strategic Plan, the Council identified "a range of affordable, quality housing opportunities that meet the life-cycle needs of persons at all economic levels" to be a critical priority (p. 6). "[S]olving housing will greatly mitigate traffic . . . some residents worry that bringing more affordable and attainable housing into the region will affect property values, but we would counter that a community without completeness is less resilient, less vibrant, and less desirable" (p. 4).

In addition to the City's Long-Term Strategic Plan, as part of the state requirement created in 2019, the Housing Department creates an annual Housing Needs Assessment and Plan. The plan, that is incorporated into the Housing Element of the City's General Plan, must facilitate a reasonable opportunity for a variety of housing, including moderate-income housing, to "meet the needs of people of various income levels living, working, or desiring to live or work in the community" and "to allow people with various incomes to benefit from and fully participate in all aspects of neighborhood

and community life.”

For cities like Park City, the plan must address four of twenty-three strategies established by the state, including higher density for affordable housing along the City’s fixed-route transit or reduced parking for affordable housing near transit.

The plan must be submitted by December 1st of each year to the state. Beginning this year, in addition to City Council, the Housing Department is looking forward to including the Planning Commission in the review and approval of this plan.

Progress On Housing Goals

Progress on the City’s Housing Goals has been made through City projects and developer obligations. City projects such as Woodside Park Phase I and Central Park have been completed, which add units directly to the 800 goal. Alongside the City projects, developer obligations have also built affordable units in City limits. Developments such as Park City Heights and Kings Crown have added units to the affordable housing stock. Subject to regulatory approvals, many proposed City and private-developer projects are coming up that will contribute to this goal, such as PEG and Homestake.

Progress Towards Goal			
		UNITS	% of GOAL
City Completed Units		33	4%
Private Sector Completed		99.32	12%
	Total Completed	132.32	17%
City Planned Units		375	47%
Private Sector Planned Units		304.17	38%
	Total Planned Units	679.17	85%
	TOTAL	811.49	101%

While the City has made strides toward 800 units, there is still a long way to go. As a result, public-private partnerships have been identified as a key strategy in developing the remaining units in the next four years.

On-going Development Projects

Homestake

Once Public/ Private partnerships were identified as a key strategy to help reach the 2016 goal created by Council to reach 800 affordable housing units in Park City by 2026, the Housing Team began the development process of the City-owned Homestake lot. The City released a Request for Qualifications (RFQ) and received nine proposals. A Selection Committee made up of City Staff, and local professionals recommended the City begin negotiating a Development Agreement with JF Development out of Salt Lake City. The City entered a Memorandum of Understanding (MOU) with JF Development

on December 9, 2021. Council approved a Professional Service Contract on January 27, 2022, with Specific Performance, Inc (SPI) to help lead the City's Housing Team through the development process of the Homestake lot.

Woodside Park, Phase II

At the direction of the City Council, the Housing Team is preparing an application for plat amendments for the site. We plan to return to Council in the coming weeks to discuss the potential future development options for the site.

Deer Valley/ Snow Park

Alterra has provided a proposal to calculate the housing obligation for their planned Snow Park development. The applicant brought the proposed calculation to a work session with the Housing Authority on February 3rd for discussion and feedback. The Housing Authority raised concerns regarding the employee generation calculations in several areas and provided feedback to the applicant to fulfill as much of this obligation on-site as possible. Therefore, the applicant is re-working the proposal and will resubmit when complete. The Housing Team will present the new plan to the Planning Commission for feedback before bringing the item back to the Housing Authority.

Old Peace House

The Housing Team is working with a local architect to execute a design contract to have high-level conceptual designs completed. The designs study will show various options for renovating/reconstructing the building to better meet the City's employee housing needs.

Policies and Programs

Live Park City – Lite Deed Restriction Program

The Housing Team has been researching various ways to continue to facilitate a range of affordable, quality housing options to meet a life-cycle of needs of various economic levels within the City. As a result of this goal, the Housing Team has been researching implementing a comparable program to the Vail InDeed program in Park City. This program would provide residents with a cash payment in exchange for placing a Deed Restriction on their property in perpetuity. The Deed Restriction would only stipulate full-time residency within City limits requirements and would not include income or appreciation caps or have employment requirements.

The goals of the draft program, called Park City Lite Deed Restriction, are to:

- Support full-time residents who want to remain in their homes;
- Provide down payment assistance for buyers who find market-rate units to

- be just out of reach financially; and
Create an incentive for current homeowners to reserve their homes for long-term Park City residents to rent.

Staff is planning to return to City Council on March 3rd in a work session to receive final input and hope to bring the program back for approval in late March.

AMPD Code Adoption

Planning Commission adopted Ordinance No. 2021-10 to enact the new [Affordable Master Planned Developments \(AMPD\) code](#). After the 2016 City Council goal to create 800 new affordable units by 2026, the urgency of incentivizing public-private partnerships to develop affordable units was emphasized. Because of this, the AMPD code was passed. The code permits AMPDs in non-Historic Zoning Districts that allow Multi-Unit Dwellings, separates the AMPD review process from the MPD review process, requires at least 50% of the RUEs to be Affordable Units, reduces Open Space requirements and setbacks, allows Building Height up to 45 feet, reduces parking when impacts and mitigated, and allows for mixed-use development.

The AMPD code implements Park City General Plan Goals, Objectives, and Community Planning Strategies, and the Housing Assessment and Plan Goals. As the Housing Team progresses with the Homestake development project, the importance of using the AMPD code to incentivize affordable housing development may resurface.

Exhibits

Exhibit A: AMPD Code

Planning Commission Staff Report



Subject: The Washington School Inn
Application: PL-20-04477
Author: Browne Sebright
Date: February 23, 2022
Type of Item: Hotel, Minor Conditional Use Permit

Recommendation

Open a public hearing and continue the item to a date uncertain.

Description

Applicant: Washington School House LLC, represented by Jason Boal
Location: 543 Park Avenue
Zoning District: Historic Residential – 1
Adjacent Land Uses: Residential; Parking Structure; Offices
Reason for Review: The Planning Commission reviews and takes final action on Conditional Use Permits¹

Terms that are capitalized as proper nouns throughout this staff report are defined in LMC § [15-15-1](#).

Summary

The Planning Commission held work sessions and took public input on this application on:

1. April 28, 2021 ([Staff Report](#), [Minutes](#) beginning on pg. 3)
2. November 10, 2021 ([Staff Report](#), [Minutes](#) beginning on pg. 2)

The Applicant proposes to convert the Washington School Inn from a Bed & Breakfast to a Minor Hotel and is working with Staff on updating the application materials.

A follow up meeting with the Applicant and staff will be held the first week of March to further refine the proposed Management Plan and to incorporate any feedback into the draft Conditions of Approval.

¹ LMC [§ 15-1-8\(G\)](#).

Planning Commission Staff Report

Subject: Iron Horse Master Planned Development
Application: PL-21-04949
Author: Rebecca Ward
Date: February 23, 2022
Type of Item: Work Session



Recommendation

Conduct an introductory work session for the Iron Horse Master Planned Development, a mixed-use project proposing the following on 3.05 acres along Iron Horse Drive in the Bonanza Park & Snow Creek Neighborhood:

- 145,197 square feet for residential units
- 4,304 square feet for retail and office space
- 2,992 square feet for restaurant uses
- 184 parking stalls in an underground parking structure
- Angled on-street parking along the north side of Iron Horse Drive

The Applicant submitted 3D renderings of the project, including the view looking north:

IRON HORSE



3 VIEW LOOKING NORTH

VIEW 3
07 . 30 . 2021

Description

Applicant:	Wintzer-Wolfe Properties, LLC, represented by Rory Murphy
Location:	1020 – 1255 Iron Horse Drive Parcel No. IHPC-A-AM Parcel No. IHPC-B-AM Parcel No. IHPC-C-AM Parcel No. IHPC-D-AM
Zoning District:	General Commercial within the Soils Ordinance Boundary
Adjacent Land Uses:	To the west: Walgreens, 950 Iron Horse Drive To the north: proposed affordable housing development, 1875 Homestake Road To the east: restaurant, bakery, retail, and office To the south: retail, cafe, automotive shop, and the Park City Public Works building and facilities
Reason for Review:	The Planning Commission reviews Master Planned Developments ¹

Abbreviations

CUP	Conditional Use Permit
LMC	Land Management Code
MPD	Master Planned Development

Terms that are capitalized as proper nouns throughout this staff report are defined in LMC § [15-15-1](#).

Background

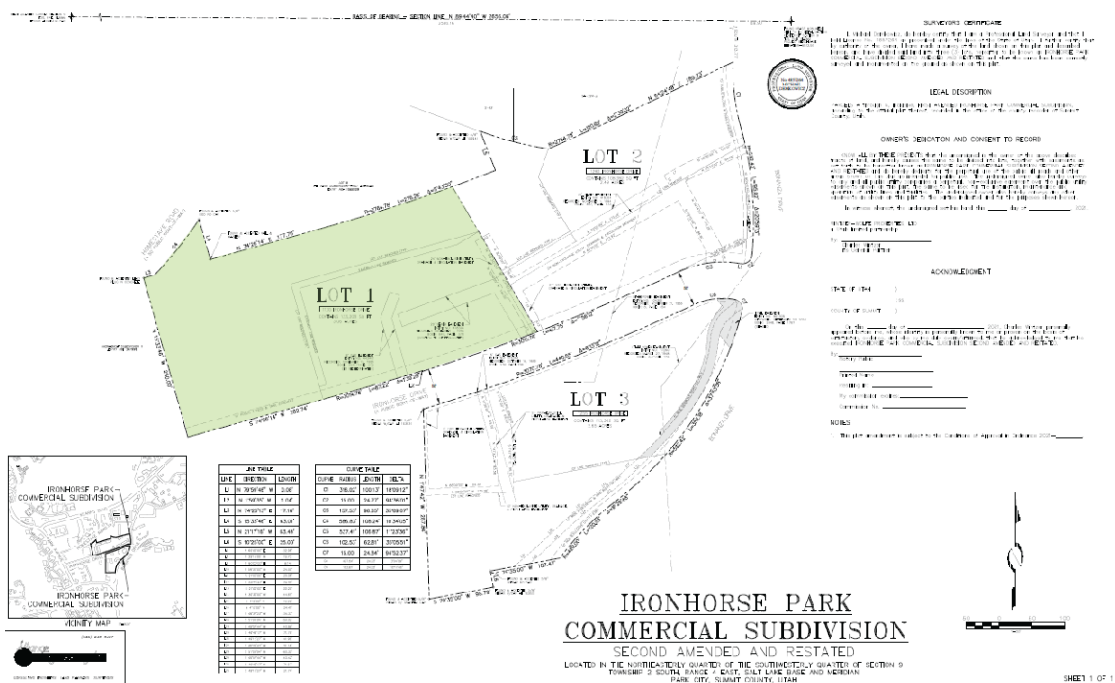
The Ironhorse Park Commercial Subdivision was recorded with Summit County in 1995 and contains seven lots (8.2 acres) that span north and south of Iron Horse Drive between Park Avenue (S.R. 224) and Bonanza Drive (Exhibit A). The Iron Horse Master Planned Development (MPD) is a mixed-use project proposed to be located on 3.05 acres of the Ironhorse Park Commercial Subdivision (Exhibit B, *Proposed Plans*), the approximate location highlighted in green below:

¹ LMC [§ 15-12-15\(A\)\(5\)](#).



Ironhorse Drive - looking southerly

Concurrently with the MPD application, the Applicant submitted a plat amendment to consolidate the seven Ironhorse Park Commercial Subdivision lots into a three-lot subdivision (Exhibit C). The Iron Horse MPD is proposed to be located on the 3.05-acre Lot 1 of the Iron Horse Subdivision, highlighted in green:



The 3.05-acres currently contains seven single-story buildings and three two-story buildings. Existing uses include storage facilities, retail, office spaces, and apartments. The image below is taken from Google Earth and shows the site from Iron Horse Drive looking eastward toward Bonanza Drive:



The image below is taken from the Applicant's existing conditions, showing current building footprints and parking (Exhibit D):



Staff created a site vicinity map, highlighting the proposed project in the context of the neighborhood in red:



Project Review

The Applicant submitted their application on August 19, 2021, and staff has been reviewing the project with the Applicant and the Development Review Committee and Planning, Engineering, Transportation, Transit, and Sustainability Departments since that time. Staff thanks the Applicant for their patience and understanding regarding the full Planning Commission agendas. The proposed project review schedule is outlined below:

- Wednesday, March 23, 2022, at 4:00 PM: the Planning Commission is scheduled to visit the Iron Horse MPD site.
- Thursday, April 28, 2022: the City Council is scheduled to conduct a work session regarding the proposed angled on-street parking along Iron Horse Drive.
- Wednesday, May 25, 2022: the Planning Commission is scheduled to review the Iron Horse MPD and conduct the first public hearing.
- Additional Planning Commission review and public hearings will be scheduled in the summer of 2022 as needed.

Staff recommends the Planning Commission provide initial input on the Applicant's proposal and request additional information as needed.

Analysis

GENERAL PLAN – BONANZA PARK & SNOW CREEK NEIGHBORHOOD

The Iron Horse MPD is in the Bonanza Park & Snow Creek Neighborhood. The 2014 Park City General Plan identifies the following for the neighborhood:

- The area is “extremely walkable due to diversity of amenities including schools, stores, and restaurants”
- It is a mixed-use neighborhood where locals live and work
- As outdated buildings are replaced and existing buildings expand, the neighborhood will evolve into a local, mixed-use district
- The Rail Trail State Park provides a main pedestrian spine for connectivity at the eastern end of the district (Prospector Square); as the area redevelops, it is envisioned that this spine will extend through the Bonanza Park Area
- Multi-Unit Dwellings should be concentrated within the Bonanza Park redevelopment area
- By redirecting higher density redevelopment to this area, the neighborhood has the potential to provide more life-cycle housing opportunities
- Nightly Rentals should be limited in this area to protect the neighborhood for locals
- Project design should consider the human scale

GENERAL COMMERCIAL ZONING DISTRICT

The Iron Horse MPD is in the General Commercial Zoning District. The purposes of the General Commercial Zoning District include:

- Allowing a wide range of commercial and retail uses, as well as offices, business and personal services, and limited residential uses in an area that is convenient to transit, employment centers, resort centers, and permanent residential areas
- Allowing commercial uses that orient away from major traffic thoroughfares to avoid strip commercial development and traffic congestion
- Encouraging commercial development that contributes to the positive character of the City, buffers adjacent residential neighborhoods, and maintains pedestrian

access with links to neighborhoods, and other commercial developments

- Encouraging architectural design that is distinct, diverse, reflects the mountain resort character of Park City, and is not repetitive of what may be found in other communities, and
- Encouraging commercial development that incorporates design elements related to public outdoor space including pedestrian circulation and trails, transit facilities, plazas, pocket parks, sitting areas, play areas, and public art.²

SCOPE OF REVIEW

An MPD can only contain uses that are allowed or conditional in the Zoning District in which it is located.³ LMC [§ 15-6-6\(A\)](#) requires the Planning Commission to find that the MPD “complies with all requirements of the Land Management Code.” Retail, restaurant, and office uses are allowed in the General Commercial Zoning District.⁴ Multi-Unit Dwellings are a Conditional Use in the General Commercial Zoning District.⁵

Staff recommends the Applicant submit a Conditional Use Permit (CUP) in addition to the MPD and subdivision applications so the Planning Commission can evaluate the proposed Multi-Unit Dwellings under both the MPD criteria outlined in LMC [Chapter 15-6](#), as well as the CUP criteria outlined in LMC [§ 15-1-10\(E\)](#). Reviewing the MPD and CUP simultaneously does not mean the Planning Commission cannot require additional CUP review at the time of proposed construction. Pursuant to LMC [§ 15-5-4\(L\)](#), “[a]ny portion of an approved Master Planned Development may require additional review by the Planning Commission as a Conditional Use permit, if so required by the Planning Commission at the time of the Master Planned Development approval.”

The Applicant submitted 3D renderings for the proposed project (Exhibit E):⁶

² LMC [§ 15-2.18-1](#).

³ LMC [§ 15-6-3](#).

⁴ LMC [§ 15-2.18-2\(A\)](#).

⁵ LMC [§ 15-2.18-2\(B\)\(4\)](#).

⁶ The Applicant is working to update the renderings to show compliance with the 25-foot MPD perimeter setback requirement.

IRON HORSE



2 VIEW LOOKING NORTH-WEST

VIEW 2
07 . 30 . 2021

The Applicant also submitted proposed total square footage for residential uses, but the Applicant did not submit number of residential units, floor plans, and elevations. The Conditional Use Permit application requires the Applicant to submit more detailed schematics, including floor plans and elevations. The Applicant requests deferring Conditional Use Permit review until the time of construction and requests the Planning Commission review and approve volumetrics only. The Applicant would like the Iron Horse MPD approval to be conditioned upon future Conditional Use Permit review as each building within the project is developed.

If the Planning Commission defers the Conditional Use Permit review to a later date, staff will recommend the following prior to Planning Commission MPD review:

- The Applicant submit design guidelines outlining roof forms, project materials, and architectural style as part of the Master Planned Development review
- The Applicant submit details outlining expected ownership and management of the project, including potential restrictions on nightly rentals for a percentage of residential units within the project (see subsection (N) below)

Is the Planning Commission supportive of deferring Conditional Use Permit review to a later date as a Condition of Approval?

MASTER PLANNED DEVELOPMENT CRITERIA

Pursuant to LMC [§ 15-6-6](#), the Planning Commission is required to make 16 findings to approve a MPD. The 16 findings are outlined below with staff analysis for items to be discussed in detail in future meetings:

(1) The MPD complies with all requirements of the LMC.

Please see the analysis section above regarding Conditional Use Permit review. Additionally, staff continues to review driveway width and slopes, parking garage height, and other details regulated by the LMC.

(2) The MPD meets the requirements of LMC Section 15-6-5.

LMC [§ 15-6-5](#) outlines 16 criteria the Planning Commission evaluates, discussed below:

(A) Density

The Iron Horse MPD is in the General Commercial Zoning District. While there are some regulations for Floor Area Ratio in the General Commercial Zoning District, these apply to the Prospector Overlay only.⁷ The Iron Horse MPD is not within the Prospector Overlay. As a result, density for this project is based on setbacks and building height.

The Applicant proposes 79.9 Unit Equivalents for the project:⁸

- 145,197 square feet for residential units (72.6 Residential Unit Equivalents)
- 4,304 square feet for retail and office space (4.3 Unit Equivalents)
- 2,992 square feet for restaurant uses (3 Unit Equivalents)

(B) Building Footprints in the HR – 1 and HR – 2 Zoning Districts.

Not applicable.

(C) Setbacks

⁷ LMC [§ 15-2.18-3\(l\)](#).

⁸ LMC [§ 15-6-8](#) defines *Unit Equivalents* for residential uses in Multi-Unit Dwellings as one Unit Equivalent per 2,000 square feet and for commercial or office floor area as one Unit Equivalent per 1,000 square feet.

The Iron Horse MPD is proposed to be developed on a 3.05-acre lot. LMC [§ 15-6-5\(C\)](#) requires a minimum 25-foot perimeter setback around the exterior boundary of an MPD that is greater than two acres. The proposed Iron Horse MPD complies with the 25-foot perimeter setback. The Applicant requests no exceptions from setbacks.

The Applicant updated the site plan to reflect the 25-foot setback perimeter. Staff requests the Applicant update all exhibits to reflect this setback perimeter by May 1, 2022.

(D) Open Space

LMC [§ 15-6-5\(D\)](#) establishes a 30% Open Space requirement for MPD redevelopments in the General Commercial Zoning District. LMC [§ 15-15-1](#) defines two relevant types of Open Space:

- Landscaped – which may include necessary improvements and playground equipment, recreation amenities, public landscaped and hardscaped plazas, and public pedestrian amenities (excluding buildings or structures)
- Natural – an undisturbed area with little or no improvements

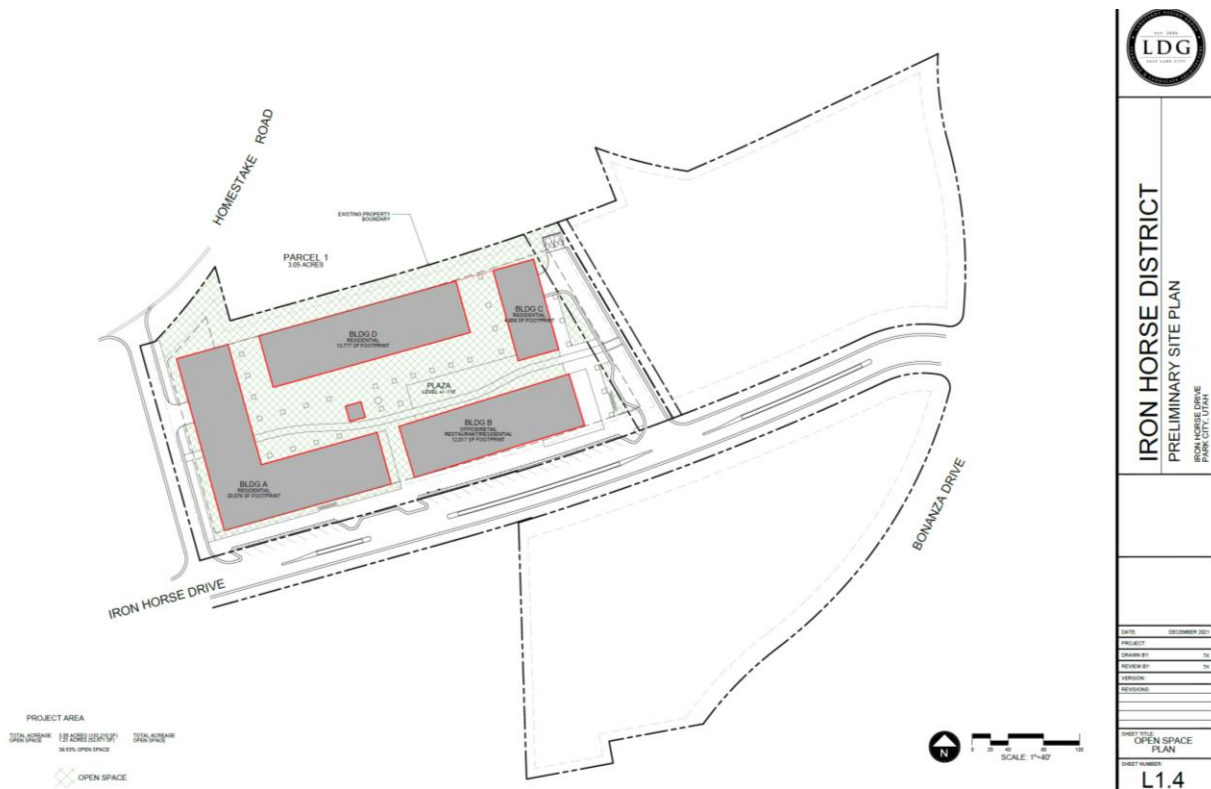
The Planning Commission designates the preferable type and mix of Open Space for each MPD, based on the General Plan.⁹ The General Commercial Zoning District encourages commercial development that incorporates design elements related to public outdoor space including pedestrian circulation and trails, transit facilities, plazas, pocket parks, sitting areas, play areas, and public art.¹⁰ The General Plan further recommends public parks for the Bonanza Park Neighborhood.¹¹

The Applicant proposes 1.21 acres (52,671 square feet) or 39.53% of Landscaped Open Space in the form of a public plaza and limited turf areas:

⁹ LMC [§ 15-6-5\(D\)\(3\)](#).

¹⁰ LMC [§ 15-2.18-1\(G\)](#).

¹¹ [General Plan, Bonanza Park Neighborhood](#), p. 31



(E) Off-Street Parking

The Applicant proposes satisfying the parking demand in an underground parking garage, providing 184 parking stalls total. The Applicant does not request any parking reductions. However, as described below in subsection (16) outlining traffic implications for the proposed project, some reductions in parking may be appropriate for this project to reduce the number of cars coming to and leaving the site.

In addition to satisfying the parking requirement in an underground parking garage, the Applicant proposes angled on-street parking in excess of what is required for the project along the Iron Horse Drive Right-of-Way to activate the street-level retail, office, and restaurant spaces. The Applicant also proposes installing Electric Vehicle Charging Stations for some of these on-street parking spaces.

The City Council has jurisdiction over on-street parking along the Iron Horse Drive Right-of-Way and a work session is scheduled for City Council review of the proposal on April 28, 2022.

Pursuant to Municipal Code of Park City [§ 9-2-8](#), *Angle Parking*, the following standards are required:

- Signs must be posted designating on-street parking
- Angle parking may not obstruct driving lanes
- No vehicle in excess of 20 feet in length may park in an angle parking space

The Applicant submitted research regarding benefits of on-street parking and identifies the following:

- Higher efficiency (users prefer on-street parking rather than underground or garage parking)
- Increased business vitality
- Increased safety
- Reduction of vehicle/bike/pedestrian interactions
- Vitality
- Bike and pedestrian safety
- Easily identifiable open spaces
- Two-hour time limit ensures turnover and efficiency
- Overnight parking is prohibited and supports snow removal

Please review Exhibit F to read the Applicant's full analysis.

The Engineering, Transportation, Transit, and Parking Departments reviewed the proposed on-street parking and requested more information to prepare for City Council review, including:

- Pedestrian safety and crossings
- Bicycle safety
- Transit safety
- Adequate bus and emergency vehicle access
- Adequate traffic flow
- Adequate snow removal and snow storage
- Inclusion of ADA parking spaces

The Applicant proposes a two-hour maximum time limitation for the on-street parking with restrictions prohibiting overnight parking. According to the Parking Department, time-limited parking could be enforceable in this location and the City could potentially install parking meters or mobile-only paid parking. On-street parking would be subject to the regulations outlined in Municipal Code of Park City [Title 9, Parking Code](#).

Planning staff is researching the pros and cons of on-street parking and has identified the following preliminary findings:

- On-street parking must be adequately priced to convey the value of the curb to the community¹²

¹² [Poor Curb Management Is Costing Cities Billions](#), APA Planning Magazine (May 1, 2021)

- Parking revenue may be directed to provide funds for bicyclist and pedestrian infrastructure improvements, and for equity goals, including the City's free transit services¹³

Staff requests Planning Commission input on the Applicant's proposal for on-street parking along Iron Horse Drive to activate the street-level retail, office, and restaurant spaces.

(F) Building Height

Building Heights for MPDs must comply with the requirements of the Zoning District in which they are located, unless the Planning Commission considers an increase based on site specific analysis.¹⁴ The General Commercial Zoning District allows for Building Height of 35 feet from Existing Grade.¹⁵ LMC [§ 15-15-1](#) defines *Existing Grade* as "[t]he Grade of a Property prior to any proposed Development or Construction Activity." The Iron Horse property is already developed, and Existing Grade is shown on the Applicant's Topography and Existing Conditions Survey for the Ironhorse Commercial Subdivision completed by Alliance Engineering on October 29, 2020, and attached to this staff report as Exhibit G. The Applicant proposes flat-roofed buildings within the 35-foot Building Height. The Applicant requests no exceptions for increased height.

The Engineering Department notes that the 35-foot Building Height requires at least a 26-foot-wide driveway and is working with the Applicant regarding compliance.

(G) Site Planning

LMC [§ 15-6-5\(G\)](#) requires the following for MPD site plans:

- Units must be clustered on the most developable and least visually sensitive portions of the site
- Open space must separate the clusters
- Significant Vegetation must be maintained
- Design shall minimize grading and the need for large retaining structures
- Roads, utility lines, and structures should be designed to work with the Existing Grade; cuts and fills must be minimized

¹³ [8 Ways to Launch Your Parking Strategy](#), APA Planning Magazine (July 29, 2021)

¹⁴ LMC [§ 15-6-5\(F\)](#).

¹⁵ LMC [§ 15-2.18-4](#).

- Existing trails must be incorporated into the Open Space elements (Applicants may be required to grant the City a trail easement to connect proposed trails with existing trails)
- Adequate internal vehicular, pedestrian, and bicycle circulation must be provided; pedestrian and bicycle circulations must be separated from vehicular circulation and must provide safe travel within the boundaries of the MPD and to adjoining public sidewalks, trails, and rights-of-way
- Adequate areas for snow removal and storage must be provided
- Multi-Unit Dwellings must provide a mandatory recycling program and facilities
- A transit stop shall be included, if applicable
- Service and delivery access and loading/unloading areas must be included in the site plan and be separated from pedestrian areas

The Engineering, Transportation, and Transit Departments reviewed the proposed bus stop location along Iron Horse Drive and provided preliminary input: the final location for the proposed transit stop may be shifted further to the east and must take into consideration safe pedestrian access. Staff will continue to work with the Applicant and relevant departments to have a final proposal ready for Planning Commission review in May.

The Engineering Department also requests additional information regarding storm drainage retention ponds.

Staff requests the Applicant submit a separate exhibit identifying significant vegetation, highlighting the proposed retaining structures and height, and outlining proposed snow storage, and storm drainage retention ponds for the project.

(H) Landscape and Lighting

At the building permit phase, the Iron Horse MPD will be required to submit building plans that comply with the following:

Landscaping

- The Applicant must complete a landscape plan that
 - is Water Wise for plant selection and location, irrigation, and mulching
 - includes foundation plantings and ground cover
 - outlines the percentage of the lot that is landscaped and irrigated
 - complies with the City's Wildland Urban Interface Code

- includes a detailed irrigation plan showing layout of the heads, lines, valves, controller, backflow preventer, with WaterSense labeled smart irrigation controller that automatically adjusts the frequency and/or duration of irrigation events in response to changing weather conditions
- Limits turf to no more than 25% of the property¹⁶

Because the project is in the Soils Ordinance Boundary, landscaping must also comply with Municipal Code of Park City [Chapter 11-15](#), *Park City Landscaping and Maintenance of Soil Cover*.

Lighting

- The Applicant must show compliance with the outdoor lighting code:
 - outdoor lights must be fully shielded and down directed
 - outdoor lighting must be 3,000 degrees Kelvin or less
 - the project shall not exceed 2,500 Lumens per light nor 100,000 Lumens per acre

(I) Sensitive Lands Compliance

The project is not within the Sensitive Land Overlay.

(J) Employee/Affordable Housing

According to the General Plan, “[t]he overriding goal for this neighborhood is to create new housing opportunities while maintaining the existing affordable housing units.”¹⁷

The [Affordable Housing Resolution 25-2020](#) (the Resolution) Section 8(A) requires Developers of MPDs to provide Affordable Unit Equivalents (AUEs) in an amount equal to 20% of the total Residential Unit Equivalents in the project. LMC [§ 15-15-1](#) defines *Residential Unit Equivalent* for Multi-Unit Dwellings as “one (1) Unit Equivalent per 2,000 square feet and portions of Unit Equivalents for additional square feet above or below 2,000. For example: 2,460 square feet of a Multi-Unit Dwelling equals 1.23 Residential Unit Equivalents.”

The Resolution Section 8(B) also requires Developers of MPDs to provide AUEs for 20 percent of the employees generated by the project. Employee generation is established by the type of use.

The Resolution Section 5(E) defines an AUE as a unit with 900 square feet of Net Livable Space (interior living area measured interior wall to interior wall, including all partitions; excluding uninhabitable basements, mechanical areas, exterior storage,

¹⁶ LMC [§ 15-5-5\(N\)](#).

¹⁷ [General Plan Bonanza Park Neighborhood](#), p. 30.

stairwells, garages, patios, decks, and porches).

The Housing Department reviewed the Iron Horse MPD and calculated an AUE obligation of 19.64, totaling 17,673 square feet:

Ironhorse MPD Housing Requirements							
Land Use	Size	Multiplier Title	Multiplier Number	Employees Generated	Employees to Mitigate	AUEs Obligated	SQFT Obligated
Multifamily Housing	145197 SQFT	Residential Multiplier	0.2	x	x	14.52	13,067
Restaurant	2,992 SQFT	Restaurant	6.5	19,448	3.89	2.59	2,333
Commercial Space	4304 SQFT	Commercial/ Retail	4.4	18.94	3.79	2.53	2,273
Total				38.388	7.68	19.64	17,673

The Applicant proposes constructing the AUEs on site.

(K) Child Care

No childcare facilities are included in the proposal.

(L) Mine Hazards

LMC [§ 15-6-5\(L\)](#) requires MPD Applicants to submit a map and list of all known Physical Mine Hazards on the Property and a Physical Mine Hazard mitigation plan. Please see Exhibit H to review the Applicant's submittal, stating the Ontario Silver Mining Company owned the property, but as "section land not mining claim lands."

(M) Historic Mine Waste Mitigation

The Iron Horse MPD is in the Soils Ordinance Boundary established in Municipal Code of Park City [§ 11-15-1](#). LMC [§ 15-6-5\(M\)](#) requires MPD Applicants with property located within the Park City Soils Ordinance Boundary to submit a soil remediation mitigation plan, indicating areas of hazardous soils and proposed methods of remediation and/or removal subject to the requirements and regulations of the Municipal Code of Park City [Chapter 11-15](#).

The Applicant submitted a 1990 Environmental Assessment (1990 Assessment) prepared by Sergeant, Hauskins & Beckwith Consulting Geotechnical Engineers (Exhibit I). The 1990 Assessment evaluated the site prior to the Iron Horse Park Commercial Subdivision development and outlined analysis regarding an above-ground storage tank area (including gasoline, fuel oil, and diesel fuel storage), a loading ramp associated with the loading area along the rail line (composed of gravel earth cover, including mine tailings); a slurry line traversing the eastern portion of the property (used for carrying a slurry mixture containing arsenic from the mine to the tailings dump); and suspected landfill material beneath the eastern end of the site (a domestic refuse landfill was located east of the site across Bonanza Drive and some dumping may have occurred west of Bonanza Drive on the property). The 1990 Assessment did not investigate

groundwater nor did the 1990 Assessment include soil sampling in the landfill area along the slurry line.

The 1990 Assessment concluded the following:

- The loading ramp and soils along the rail line contain mine tailings with moderate to high concentrations of lead, silver, and zinc
- PCBs do not appear to be present near the surface along the rail line in the loading area
- The bulk storage area tanks appear to be in good condition and well maintained
- No evidence of significant surface spills were noted on the north, east, and south sides of the tanks
- A release of petroleum products occurred at the west end of the tanks. The volume of product release is unknown as well as whether the release was due to surface spills, transfer line failure, etc.
- Other areas of surface staining were noted in the west end of the facility that may be due to hydrocarbon contamination

The 1990 Assessment notes that tailings may remain in place if capped by six inches of surface cover. Pavement covers much of the Iron Horse Park Commercial Subdivision for circulation and parking, and the proposed MPD will require significant site disturbance for the construction of an underground parking garage.

The 1990 Assessment outlines what existed on the site prior to the Iron Horse Park Commercial Subdivision development, but staff finds the 1990 Assessment does not meet the threshold required pursuant to LMC [§ 15-6-5\(M\)](#):

An Applicant for a Master Planned Development with Property that is located within the Park City Soils Ordinance Boundary shall submit a soil remediation mitigation plan and shall indicate areas of hazardous soils and proposed methods of remediation and/or removal subject to the requirements and regulations of the Municipal Code of Park City Chapter 11-15.

Additionally, LMC [§ 15-6-5\(E\)](#) states “[t]he Commission may require Applicants to submit and fund additional studies for Master Planned Development proposals that significantly increase the Density and intensity of Use of a Site.”

Staff requests the Applicant submit the required soil remediation mitigation plan as outlined in LMC §15-6-5(M) prior to May 1, 2022 in order to retain the Planning Commission meeting scheduled for May 25, 2022.

(N) General Plan Review

Possible Long-Term Rentals within the Iron Horse MPD

Please see the General Plan references included throughout this report. Additionally,

the General Plan states that the Bonanza Park & Snow Creek Neighborhood “should include a limit on nightly rentals if this district is to be protected as a local’s neighborhood.”¹⁸ According to the Applicant’s project description, the Applicant is interested in exploring deed restrictions for some of the residential units to prohibit nightly rentals to increase the long-term housing stock for the neighborhood.

Staff is supportive of this approach because of the urgent demand for long-term housing units, especially in the Bonanza Park area that provides proximity to transit, to the resort centers, and to local amenities and services. Staff requests the Applicant submit a formal proposal by May 1, 2022 for Planning Commission consideration on May 25, 2022.

(O) Historic Sites

LMC [§ 15-5-6\(O\)](#) requires MPD Applicants to submit a map and inventory of Historic Structures and Sites on the Property and a Historic Structures Report prepared by a Qualified Historic Preservation Professional, defined in LMC [§ 15-15-1](#) as a professional with a combination of education in a closely related field of study plus work experience to meet the Secretary of the Interior’s Historic Preservation Qualification Standards.

Staff requests the Applicant submit the required map, inventory, and report pursuant to the standards of the code prior to May 1, 2022 in order to retain the Planning Commission meeting scheduled for May 25, 2022.

(P) Land Management Code Review

Staff continues to review the proposal for compliance with the following:

- LMC Chapter 15-2.18, *General Commercial District*
- LMC Chapter 15-3, *Off-Street Parking*
- LMC Chapter 15-6, *Master Planned Developments*

(3) The MPD provides the highest value of Open Space.

See analysis in subsection (2)(D) above.

(4) The MPD strengthens and enhances the resort character of Park City.

The General Plan identifies the Bonanza Park & Snow Creek Neighborhood as “a mixed-use neighborhood in which locals live and work.”¹⁹ The Iron Horse MPD is

¹⁸ General Plan [Bonanza Park Neighborhood](#), p. 31

¹⁹ General Plan [Bonanza Park Neighborhood](#), p. 30

obligated to provide 19.64 AUEs, totaling 17,673 square feet of on-site affordable housing for the workforce that is vital to our resort town.

(5) The MPD compliments the natural features on the site and preserves significant features or vegetation to the extent possible.

The Iron Horse MPD is proposed as a redevelopment of the Iron Horse Park Commercial Subdivision. While there are mature trees on the site, the proposed plans replace the landscaping along Iron Horse Drive with a pedestrian path and propose new landscaping in the Iron Horse Drive median, as well as within the proposed interior plaza of the project.

(6) The MPD is compatible in use, scale, and mass with adjacent properties, and promotes neighborhood compatibility and protects residential neighborhoods and uses.

The MPD is compatible in use, scale, and mass with adjacent properties and the Applicant does not request any exceptions to the General Commercial MPD setbacks or building height.

(7) The MPD provides amenities to the community so that there is no net loss of community amenities.

Initial review highlights proposed amenities that include pedestrian and bicyclist pathways and connectivity, public Electric Vehicle Charging Stations along Iron Horse Drive, deed restrictions against a portion of the residential units to require long-term rentals, on-site affordable housing, and opportunities for improved street connectivity in the Bonanza Park neighborhood.

(8) The MPD is consistent with the employee Affordable Housing requirements as adopted by the City Council.

Please see the analysis subsection (2)(J) above.

(9) The MPD meets the sensitive lands requirements of the LMC and is designed to place development on the most developable land and least visually obtrusive portions of the site.

The MPD is not within the Sensitive Lands Overlay. The Applicant requests no setbacks exceptions, and the project will provide a 25-foot perimeter setback to adjacent properties.

There are opportunities to improve pedestrian and bicycle connectivity in the Bonanza Park & Snow Creek Neighborhood. The General Plan recommends complete streets, sidewalks, an extension of the Rail Trail, and connections to trails for the Bonanza Park Neighborhood.²⁰

The Applicant proposes a bicycle and pedestrian pathway between the buildings that front Iron Horse Drive and the angled on-street parking proposed along Iron Horse Drive, highlighted by staff in blue below. The Applicant is working with the Engineering and Transportation Departments to evaluate neighborhood connectivity and to explore possible design features to identify areas of separation for pedestrians and cyclists within dedicated pathways. The on-street parking is proposed to serve as a buffer between traffic and the pedestrian and bicyclist path, and the Applicant proposes installing bollards at the front of each on-street parking space to further protect pedestrians and bicyclists.

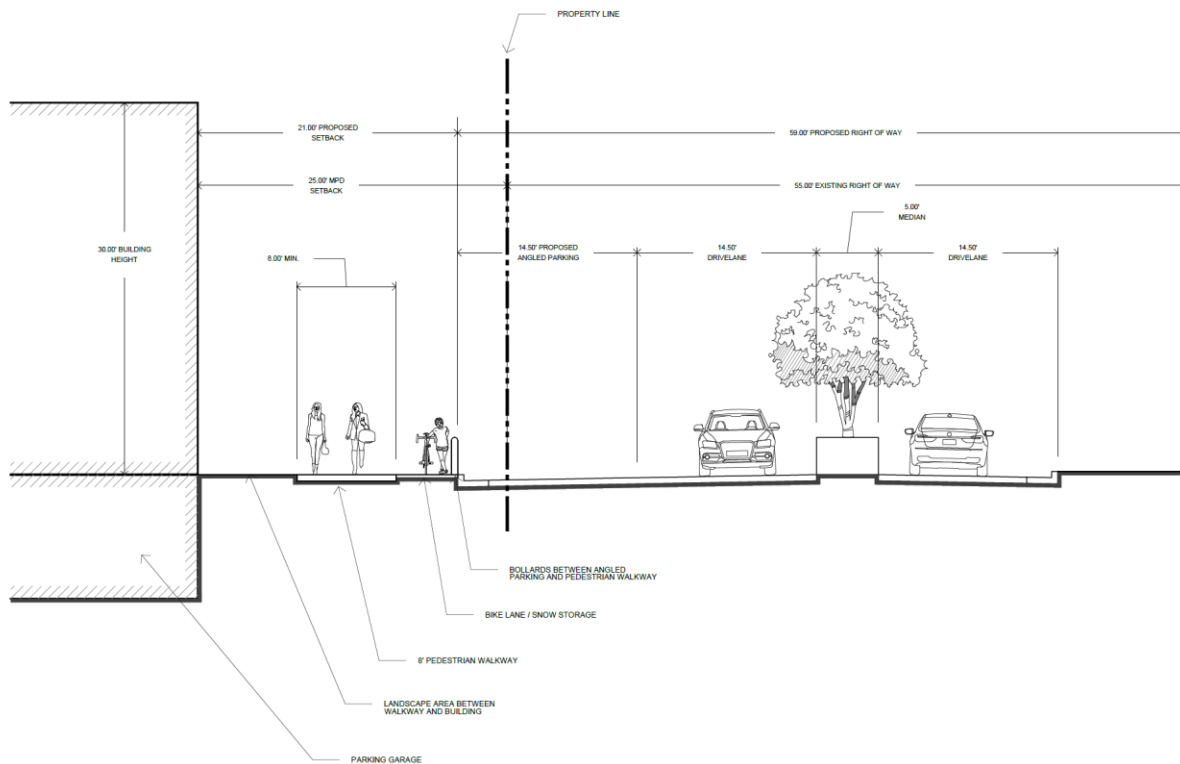


Also highlighted in green above are proposed medians along Iron Horse Drive to mirror those along Bonanza Drive, shown in the image below taken from Google Earth:



Planning, Engineering, Transportation, and Transit staff requested the Applicant submit additional information regarding the type, location, and height of medians, plans that consider adjacent property driveways and left turn accommodations, the types of trees or shrubs that may be appropriate for the medians while allowing for bus and emergency vehicle passage and snow removal and snow storage, and safe designated pedestrian crossings.

Additionally, the Applicant proposes a north-south connection between Iron Horse Drive and Homestake Drive (discussed in subsection (16) below). The proposed connection includes a dedicated pedestrian and bicycle path, shown on the Applicant's cross-section:



Additionally, an east-west pedestrian and bicyclist pathway to the north of the project may be considered to improve overall site connectivity within the neighborhood context.

Another possibility to support multi-modal transportation to the project site includes the installation of a Summit Bike Share e-bike station on the property, something that requires further coordination with Transportation and Summit County.

(11) The Planning Commission must hold a public hearing.

The first Planning Commission public hearing is scheduled for May 25, 2022 at 5:30 PM. Additional public hearings will be scheduled into the summer of 2022 as needed.

(12) The MPD incorporates best planning practices for sustainable development, including water conservation measures and energy efficient design and construction per the Residential and Commercial Energy and Green Building program and codes adopted by the Park City Building Department in effect at the time of the application.

The General Plan identifies the Bonanza Park Neighborhood to be “a model for green, sustainable redevelopment in balance with nature” because of its location and linkage, neighborhood pattern and design, and infrastructure.²¹

The Sustainability Department is reviewing the Iron Horse MPD and will provide recommendations for Applicant and Planning Commission consideration.

(13) The MPD addresses and mitigates Physical Mine Hazards according to accepted City regulations and policies.

Please see the analysis in subsection (L).

(14) The MPD addresses and mitigates Historic Mine Waste and complies with the requirements of the Park City Soils Boundary Ordinance.

Please see the analysis in subsection (M).

(15) The MPD addresses Historic Structures and Sites on the property, according to accepted City regulations and policies and any applicable Historic Preservation Plan.

Please see the analysis in subsection (O).

(16) The MPD addresses and mitigates traffic.

The Applicant submitted a Traffic Impact Study prepared by Hales Engineering (Exhibit J). The Planning, Engineering, and Transportation Departments are evaluating this study in the context of additional Traffic Impact Studies for the Bonanza Park Neighborhood. Additionally, the City plans to make street connectivity improvements in the Bonanza Park Neighborhood, including the westward extension of Munchkin Road to Homestake Road, and expansion of Homestake Road to include a pedestrian and bicyclist lane.

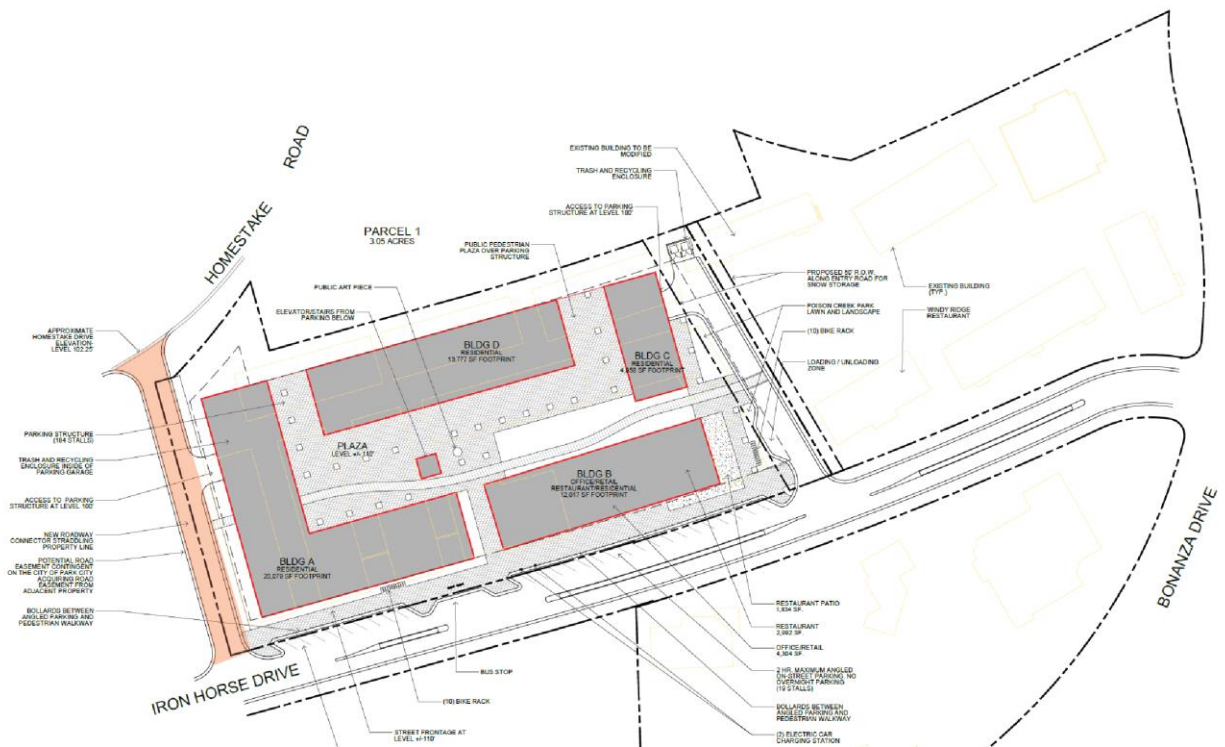
The March 23, 2022 site visit is planned to provide the Planning Commission with an opportunity to tour the site, as well as to walk through the proposed street connectivity improvements for the neighborhood.

The General Plan identifies the need for improved street connectivity in the Bonanza Park Neighborhood. “Connectivity is lacking throughout the district. The existing pattern of roads is disconnected, yet there is a great opportunity to fix this disconnection as part of an overall redevelopment plan for the area . . . [b]eyond the importance of creating

²¹ General Plan [Bonanza Park Neighborhood](#), p. 31

additional rights-of-way (ROWS) for vehicular access throughout the [Bonanza Park District] is the need to utilize these ROWs for pedestrian and cyclist movement. This will allow for alternative modes of transportation thereby creating ‘complete streets.’”²²

The Applicant proposes a north-south connection between Iron Horse Drive and Homestake Drive, highlighted by staff in orange on the Applicant’s site plan below:



As mentioned above in the analysis subsection (10), the north-south connection is proposed to accommodate a separate pedestrian and bicycle lane.

The Planning, Engineering, Transportation, and Transit Departments have requested the Applicant submit additional information and are currently evaluating the proposal in the context of a wider Traffic Impact Study of the Bonanza Park Neighborhood and surrounding areas. Staff will provide more analysis and information for the Planning Commission’s review in preparation for the March 23, 2022 site visit, as well as for the May 25, 2022 review and public hearing.

²² General Plan [Bonanza Park Neighborhood](#), p. 32

Department Review

The Development Review Committee reviewed the Iron Horse MPD on December 7, 2021. The Park City Fire District and Snyderville Basin Water Reclamation District provided input and are working with the Applicant on modifications to the site plan.

The Planning, Engineering, Transportation, Transit, Sustainability, and Legal Departments reviewed the Iron Horse MPD and will continue to provide input.

Notice

Staff published notice on the City's website and the Utah Public Notice website on February 9, 2022. The *Park Record* published notice on February 9, 2022.

Exhibits

Exhibit A: Ironhorse Park Commercial Subdivision
Exhibit B: Proposed Plans
Exhibit C: Proposed Ironhorse Subdivision
Exhibit D: Existing Conditions
Exhibit E: Applicant's 3D Renderings
Exhibit F: Applicant's On-Street Parking Research
Exhibit G: Topography and Existing Conditions
Exhibit H: Mine Hazard Report
Exhibit I: 1990 Environmental Assessment
Exhibit J: Hales Traffic Impact Study

GENERAL NOTES:

- SEE COVENANTS, CONDITIONS & RESTRICTIONS FOR COMPLETE DESCRIPTION OF CIRCULATION EASEMENTS AND PARKING RESTRICTIONS.
- SEE GENERAL PARKING SCHEME EXHIBIT IN COVENANTS, CONDITIONS, AND RESTRICTIONS FOR SPECIAL PARKING ARRANGEMENT ALONG PARCEL BOUNDARY LINES FOR PARCELS A, C, D, & G.
- NO NEW OCCUPANCY WILL BE PERMITTED BY THE TRUSTEES IF THE PARKING REQUIREMENT FOR THE PROPOSED OCCUPANCY, WHEN COMBINED WITH THE PARKING REQUIREMENT FOR ALL OTHER TENANTS ON THAT LOT WILL EXCEED THE AVAILABLE PARKING ON THAT LOT. THE PARKING DEMAND WILL BE CALCULATED IN THE MANNER DESCRIBED IN THE PARK CITY LAND MANAGEMENT CODE FOR THE PARTICULAR USE IN QUESTION AT THE TIME THE USE IS CHANGED.
- PARCELS E, F, & G ARE ZONED LIGHT INDUSTRIAL AS OF THE DATE OF THIS PLAT, NOT COMMERCIAL.
- SANITARY SEWER SERVICE IS NOT EXTENDED TO PARCELS D AND F. IT SHALL BE THE RESPONSIBILITY OF THE INDIVIDUAL PROPERTY / PARCEL OWNER TO INSTALL A SEWER LATERAL.
- PARCELS B, D, E, AND G WILL REQUIRE INDIVIDUAL SANITARY SEWER LINE EXTENSION AGREEMENTS FROM SNYDERVILLE BASIN SEWER IMPROVEMENT DISTRICT PRIOR TO ISSUANCE OF BUILDING PERMITS FOR FUTURE USES THEREON.

WEST QUARTER CORNER SECTION 9
TOWNSHIP 2 SOUTH, RANGE 4 EAST,
SALT LAKE BASE & MERIDIAN

FOUND ALUMINUM CAP

CURVE	RADIUS	LENGTH	DELTA
C1	15.00'	24.77'	94°36'03"
C2	157.53'	96.65'	35°09'07"
C3	3014.78'	87.22'	01°39'28"
C4	532.42'	15.02'	01°37'01"
C5	102.53'	62.81'	35°05'51"
C6	15.00'	24.84'	94°52'37"
C7	532.42'	29.73'	03°11'57"
C8	3014.78'	22.88'	00°26'05"

SURVEYOR'S CERTIFICATE

I, John Demkowicz, do hereby certify that I am a Registered Land Surveyor and that I hold Certificate No. 163931 as prescribed by the laws of the State of Utah. I further certify that by authority of the owner I have made a survey of the tract of land shown on this plat and described herein and subdivided said tract of land into lots, private easements, and public right-of-ways to be hereafter known as FIRST AMENDED IRONHORSE PARK COMMERCIAL SUBDIVISION and that same has been correctly surveyed and staked on the ground as shown on this plat.

John Demkowicz
John Demkowicz I.S. No. 163931
Date 3/22/94

LEGAL DESCRIPTION

NORTH TRACT
Beginning at a point which is N 89°44'40" W along centerline of section 69.90 feet and South 313.77 feet from the center of Section 9, Township 2 South, Range 4 East, Salt Lake Base and Meridian, said point being on the Westerly right-of-way line of Bonanza Drive; thence Southeasterly along said Westerly right-of-way line on a 316.02 foot radius curve to the left (center bears S 87°25'59" E 316.02 feet) thence along the arc of said curve 100.13 feet through a central angle of 18°09'15"; thence Southeasterly along said Westerly right-of-way line on a 532.42 foot radius reverse curve to the right (center bears S 74°24'46" W 532.42 feet) thence along the arc of said curve 195.02 feet through a central angle of 20°59'13"; thence along said Westerly right-of-way line on a 15.00 foot radius compound curve to the right (center bears N 84°36'04" W 15.00 feet) thence along the arc of said curve 24.77 feet through a central angle of 94°36'03" to a point on the North right-of-way line of Ironhorse Drive and a point of tangency, thence along said right-of-way line N 80°00'01" W 0.08 feet, thence Northwesterly along said right-of-way line and along a 157.53 foot radius curve to the left (center bears S 10°00'06" W 157.53 feet) thence along the arc of said curve 96.65 feet through a central angle of 35°09'07"; thence Westerly and along said right-of-way line and along a 3015.78 foot radius reverse curve to the right (center bears N 25°09'07" W 3015.78 feet) thence along the arc of said curve 417.75 feet through a central angle of 07°56'12"; thence leaving said right-of-way line N 01°59'36" W 1.04 feet to a point on the South line of Lot #2 of the Iron Horse Subdivision according to the official plat thereof on file in the office of the Summit County Recorder; said point also being on a 3014.78 foot radius curve to the right (center bears N 17°13'14" W 3014.78 feet) thence along the arc of said curve and said South boundary line 87.22 feet through a central angle of 01°39'28" to a point of tangency; thence along said South boundary line S 74°26'14" W 282.74 feet to the Southwest corner of said Lot #2 of the Iron Horse Subdivision; thence along the West boundary line of said Lot #2, N 15°33'46" W 250.00 feet to the Northwest corner of said Lot #2; thence along the North boundary line of said Lot #2, N 74°26'14" E 17.16 feet; thence leaving said North boundary line and along a 566.83 foot radius curve to the left (center bears N 45°56'15" W 566.83 feet) thence along the arc of said curve 108.24 feet through a central angle of 10°34'05"; thence S 15°33'46" E 63.01 feet to a point on the North boundary line of said Lot #2; thence along said North boundary line, N 74°26'14" E 177.76 feet to a point on a 2764.78 foot radius curve to the left (center bears N 15°33'46" W 2764.78 feet) thence along the arc of said curve 276.26 feet through a central angle of 05°43'30"; thence leaving said North boundary line, N 21°17'16" W 63.44 feet to a point on a 537.41 foot radius curve to the left (center bears N 19°59'36" E 537.41 feet) thence along the arc of said curve 106.87 feet through a central angle of 11°23'36" to a point on the North boundary line of said Lot #2; thence along said North boundary line and along a 2764.78 foot radius curve to the left (center bears N 23°05'10" W 2764.78 feet) thence along the arc of said curve 120.66 feet through a central angle of 02°50'02"; thence along said North boundary line N 64°24'48" E 189.73 feet to the point of beginning. Contains 5.55 Acres.

SOUTH TRACT
Beginning at a point which is N 89°44'40" W along centerline of section 333.38 feet and South 1066.70 feet from the center of Section 9, Township 2 South, Range 4 East, Salt Lake Base and Meridian and being on the Westerly right-of-way line of Bonanza Drive; thence leaving said right-of-way line S 79°35'00" W 107.47 feet, thence S 10°25'00" E 25.00 feet, thence S 79°35'00" W 98.79 feet, thence N 01°47'42" W 287.84 feet to a point on the South right-of-way line of Ironhorse Drive, thence Easterly along said right-of-way line on a 3070.78 foot radius curve to the left (center bears N 16°55'55" W 3070.78 feet) thence along the arc of said curve 440.55 feet through a central angle of 08°13'12"; thence Easterly along said right-of-way line on a 102.53 foot radius curve to the right (center bears S 25°09'07" E 102.53 feet) thence along the arc of said curve 62.81 feet through a central angle of 35°05'51"; thence along said right-of-way line on a 15.00 foot radius curve to the right (center bears S 09°56'44" W 15.00 feet) thence along the arc of said curve 24.84 feet through a central angle of 94°52'37" to a point on the West right-of-way line of Bonanza Drive; thence along said right-of-way line on a 532.42 foot radius curve to the right (center bears N 75°10'39" W 532.42 feet) thence along the arc of said curve 352.18 feet through a central angle of 37°53'58"; thence along said right-of-way line on a 420.00 foot radius curve to the left (center bears S 37°16'47" E 420.00 feet) thence along the arc of said curve 120.93 feet through a central angle of 16°29'48"; to the point of beginning. Contains 2.65 Acres.

OWNER'S DEDICATION AND CONSENT TO RECORD

KNOW ALL MEN BY THESE PRESENTS: That the undersigned is the owner of the herein described tract of land, having caused the same to be subdivided into lots, public right-of-ways, together with easements as set forth on this Record of Survey Plat to be known hereafter as FIRST AMENDED IRONHORSE PARK COMMERCIAL SUBDIVISION do hereby dedicate for the perpetual use of the public use all parcels of land shown on this plat as intended for public use and further consent to the recordation of this Record of Survey Plat in accordance with Utah Law.

ALSO, the owner hereby dedicates to Park City Municipal Corporation, Snyderville Basin Sewer Improvement District, Park City Fire Protection District, and Summit County a non-exclusive easement over the utility easements shown on this plat for the purpose of providing access for utility installation, maintenance, use and eventual replacement.

IN WITNESS WHEREOF, the undersigned set his hand this 22 day of March, 1994.

WINTER-WOLFE PROPERTIES, LTD
A Utah Limited Partnership

Charles Wintzer
Charles Wintzer
Its General Partner

ACKNOWLEDGEMENT

STATE OF UTAH)
COUNTY OF WASATCH)

On the 22 day of March, 1994, Charles Wintzer, appeared before me and acknowledged that he is the general partner in Winter-Wolfe Properties, Ltd, a Utah limited partnership, and that he executed the same on behalf of the partnership with proper authority.

Douglas J. Ward
Notary Public
Residing at: Heber, UT

Commission Expires:

May 30, 1995

ALLIANCE ENGINEERING INC.

P.O. BOX 2664
323 MAIN STREET
PARK CITY, UTAH 84060
(801) 649-9467

PLANNING COMMISSION

APPROVED BY THE PARK CITY
PLANNING COMMISSION THIS 16
DAY OF JUNE, 1994 A.D.
BY *Abram Child*
CHAIRMAN

ENGINEERS CERTIFICATE

I FIND THIS PLAT TO BE IN
ACCORDANCE WITH INFORMATION ON
FILE IN MY OFFICE THIS 16
DAY OF APRIL, 1994 A.D.
BY *Eric W. Ockman PE*
PARK CITY ENGINEER

APPROVAL AS TO FORM

APPROVED AS TO FORM THIS 16
DAY OF FEBRUARY, 1995 A.D.
BY *Mark D. H. 2*
PARK CITY ATTORNEY

CERTIFICATE OF ATTEST

I CERTIFY THIS RECORD OF SURVEY
MAP WAS APPROVED BY PARK CITY
COUNCIL THIS 3RD DAY
OF JUNE, 1993 A.D.
BY *Amica L. Sheldon*
PARK CITY RECORDER

COUNCIL APPROVAL AND ACCEPTANCE

APPROVAL AND ACCEPTANCE BY THE PARK CITY
COUNCIL THIS 3RD DAY OF JUNE,
1993 A.D.
BY *Paul J. O'Connell*
MAYOR

425123

RECORDED

STATE OF UTAH COUNTY OF SUMMIT AND FILED
AT THE REQUEST OF Coalition Title
DATE 02-23-95 TIME 13:34 BOOK 1 PAGE 1
FEE 3.75 RECORDER *Doreen M. Simon deputy*



JOB NO. 4-5-91 Y:\CW\D\IHP1

FIRST AMENDED RECORD OF SURVEY PLAT IRONHORSE PARK COMMERCIAL SUBDIVISION

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 9
TOWNSHIP 2 SOUTH, RANGE 4 EAST, SALT LAKE BASE
AND MERIDIAN, PARK CITY, SUMMIT COUNTY, UTAH



IRON HORSE DISTRICT

PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE: DECEMBER 2021

PROJECT:

DRAWN BY: TK

REVIEW BY: TK

VERSION:

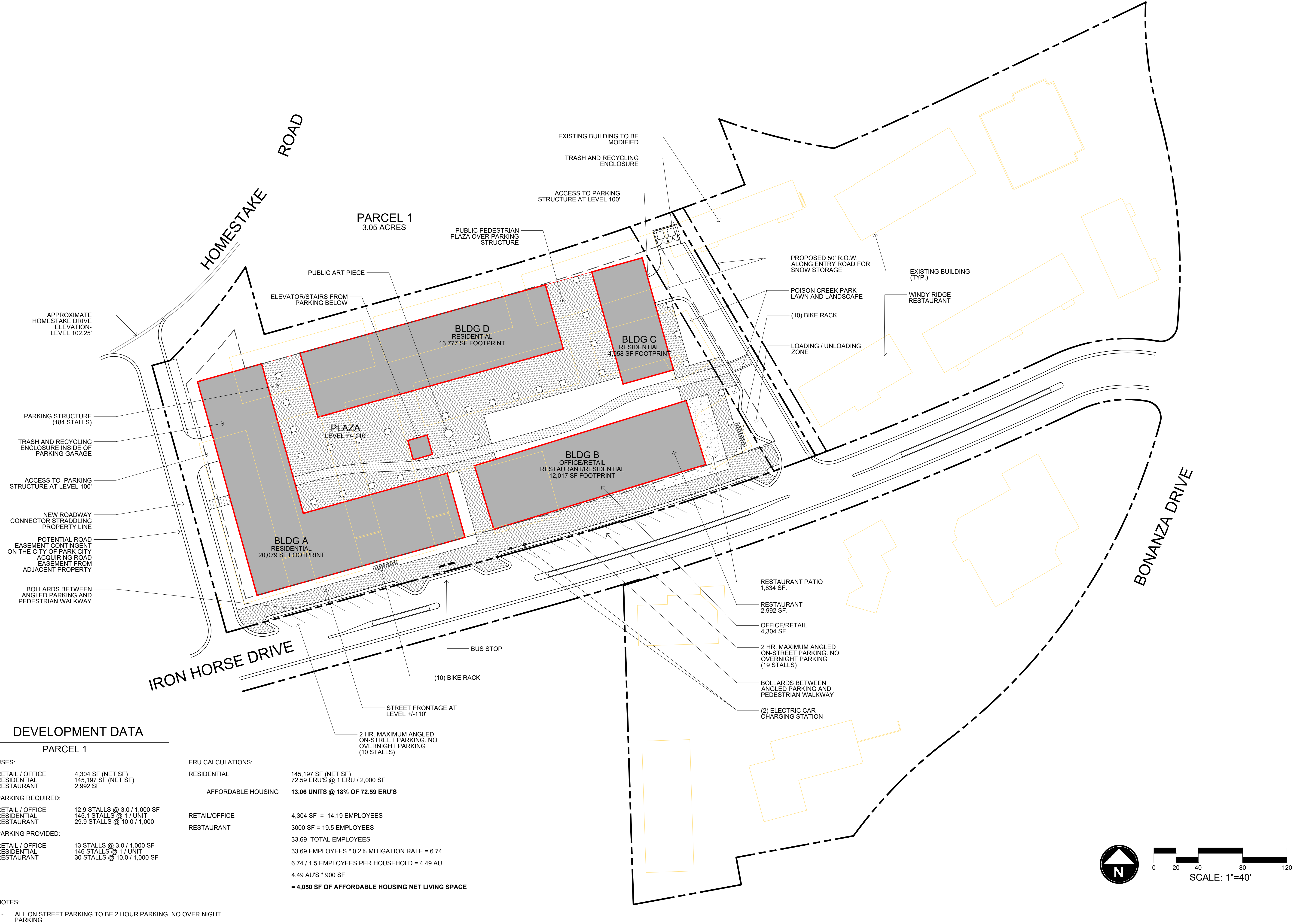
REVISIONS:

SHEET TITLE:

SITE
PLAN

SHEET NUMBER:

L1.0



DEVELOPMENT DATA

PARCEL 1

USES:

RETAIL / OFFICE 4,304 SF (NET SF)
RESIDENTIAL 145,197 SF (NET SF)
RESTAURANT 2,992 SF

PARKING REQUIRED:

RETAIL / OFFICE 12.9 STALLS @ 3.0 / 1,000 SF
RESIDENTIAL 145.1 STALLS @ 1 / UNIT
RESTAURANT 29.9 STALLS @ 10.0 / 1,000

PARKING PROVIDED:

RETAIL / OFFICE 13 STALLS @ 3.0 / 1,000 SF
RESIDENTIAL 146 STALLS @ 1 / UNIT
RESTAURANT 30 STALLS @ 10.0 / 1,000 SF

ERU CALCULATIONS:

RESIDENTIAL 145,197 SF (NET SF)
72.59 ERU'S @ 1 ERU / 2,000 SF

AFFORDABLE HOUSING 13.06 UNITS @ 18% OF 72.59 ERU'S

RETAIL/OFFICE

RESTAURANT

4,304 SF = 14.19 EMPLOYEES
3000 SF = 19.5 EMPLOYEES
33.69 TOTAL EMPLOYEES
33.69 EMPLOYEES * 0.2% MITIGATION RATE = 6.74
6.74 / 1.5 EMPLOYEES PER HOUSEHOLD = 4.49 AU
4.49 AU'S * 900 SF
= 4,050 SF OF AFFORDABLE HOUSING NET LIVING SPACE

NOTES:

- ALL ON STREET PARKING TO BE 2 HOUR PARKING. NO OVER NIGHT PARKING



IRON HORSE DISTRICT

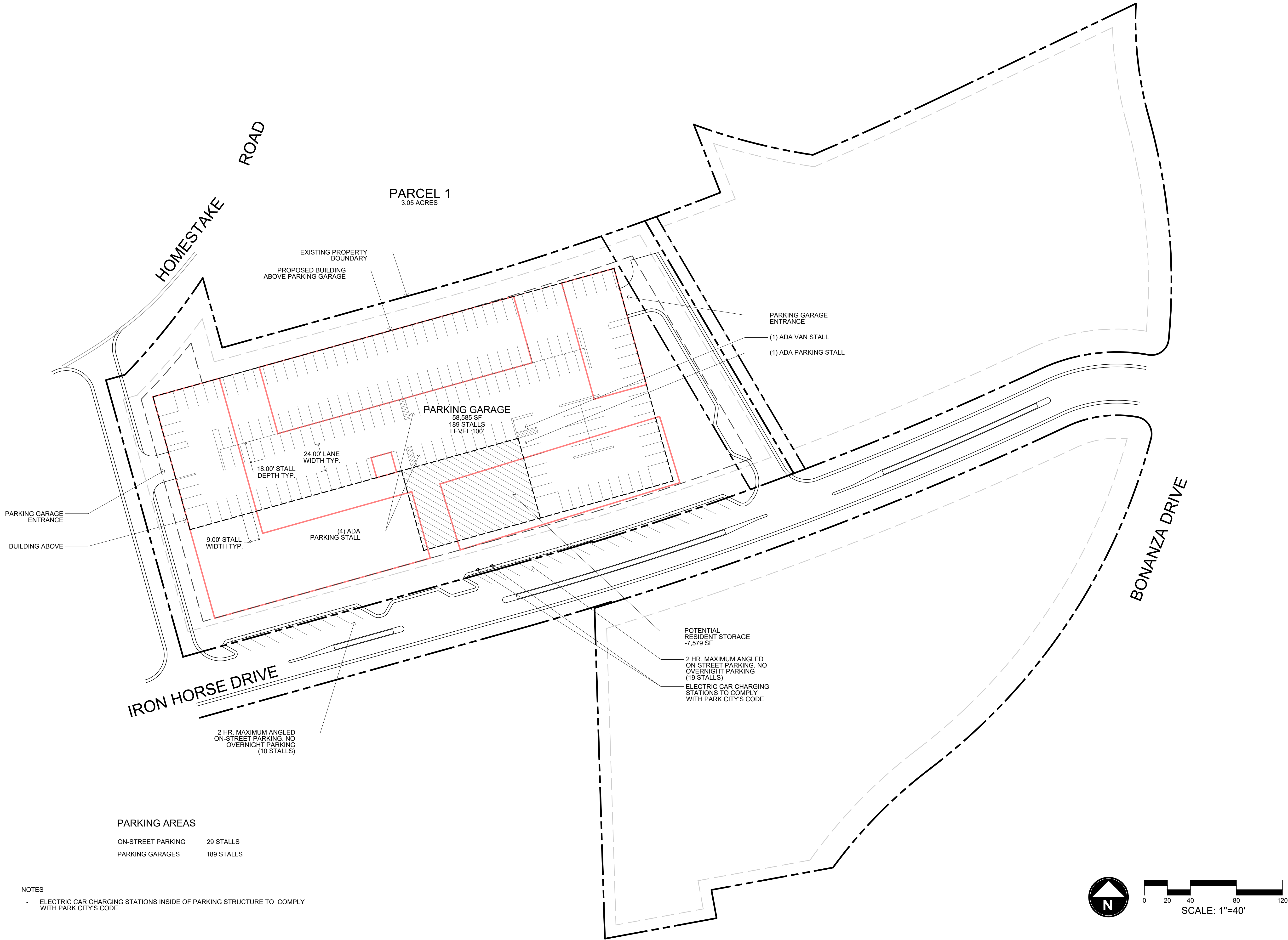
PRELIMINARY SITE PLAN

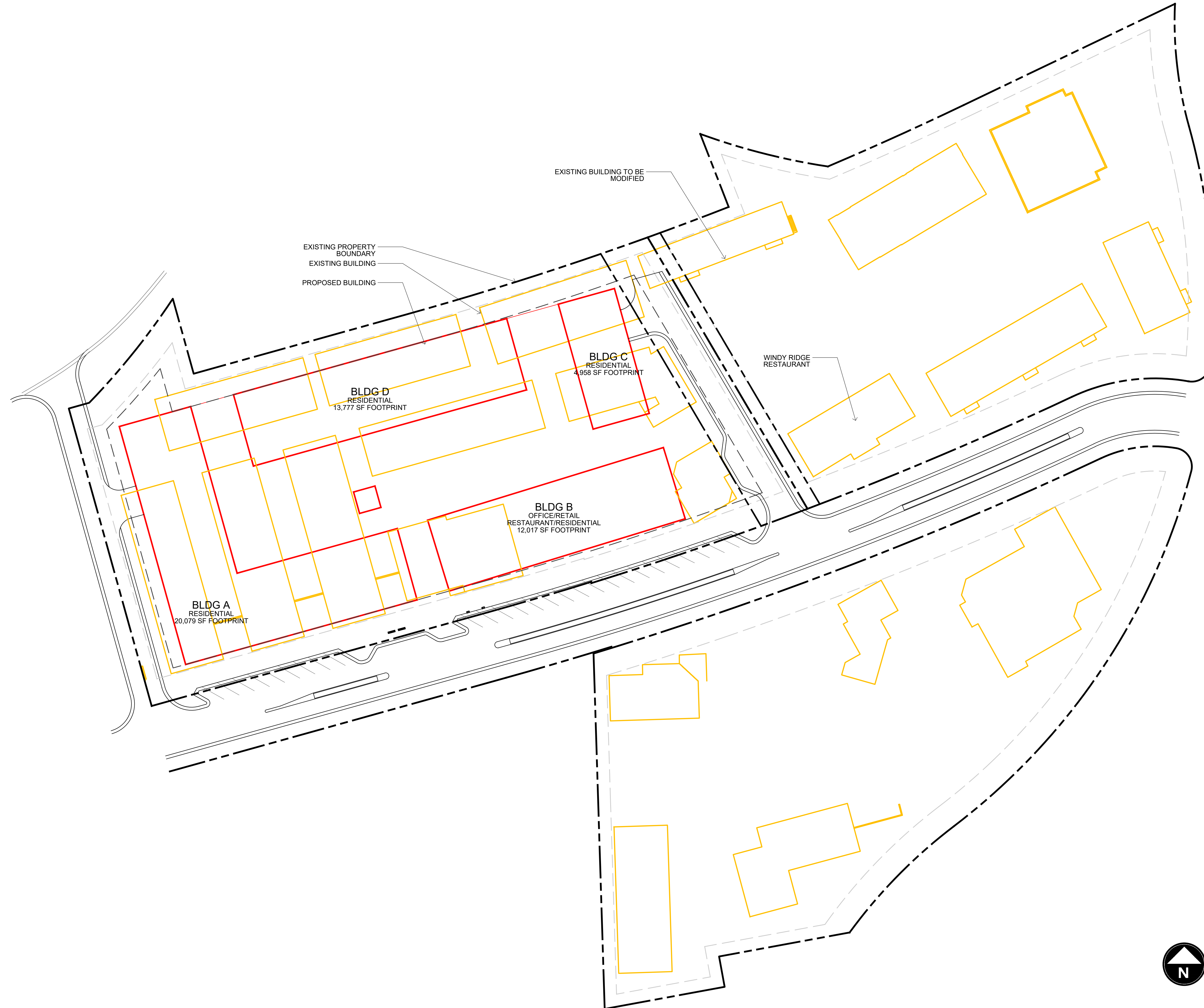
IRON HORSE DRIVE
PARK CITY, UTAH

DATE:	DECEMBER 2021
PROJECT:	
DRAWN BY:	TK
REVIEW BY:	TK
VERSION:	
REVISIONS:	

SHEET TITLE:
PARKING SITE
PLAN

SHEET NUMBER:
L1.1





IRON HORSE DISTRICT

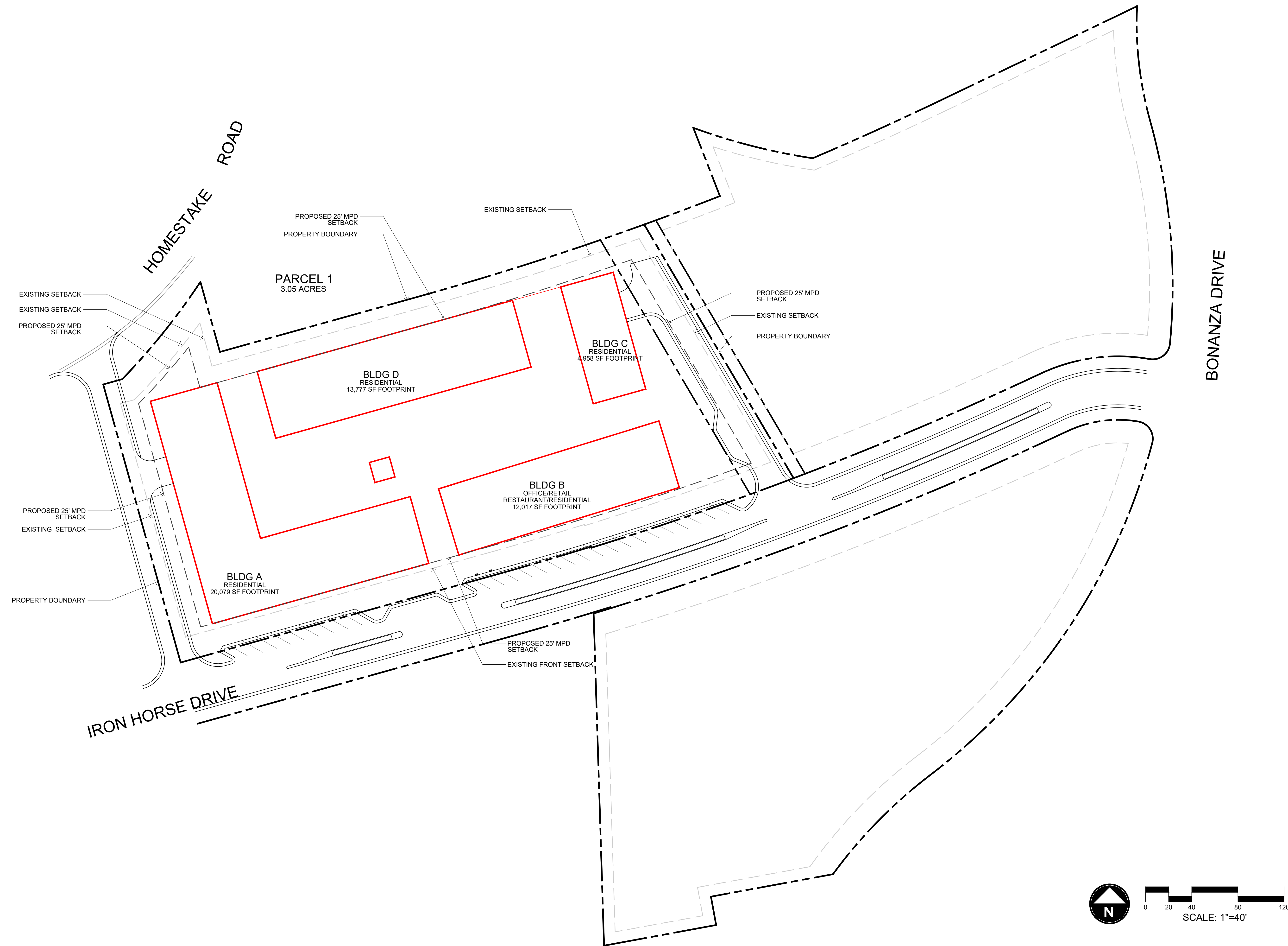
PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE:	DECEMBER 2021
PROJECT:	
DRAWN BY:	TK
REVIEW BY:	TK
VERSION:	
REVISIONS:	

SHEET TITLE:
**EXISTING BUILDINGS
PLAN**

SHEET NUMBER:
L1.2



IRON HORSE DISTRICT

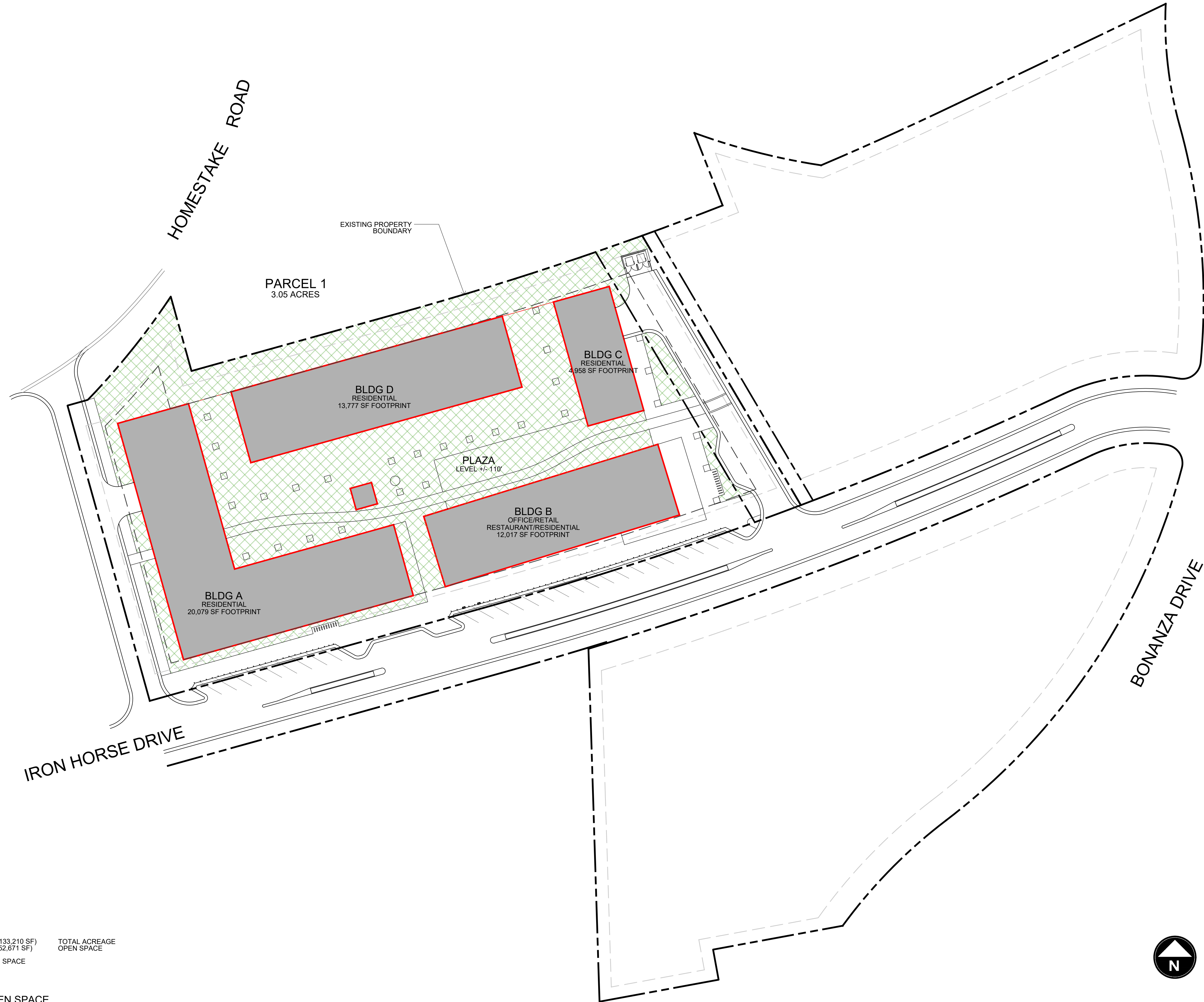
PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE:	DECEMBER 2021
PROJECT:	
DRAWN BY:	TK
REVIEW BY:	TK
VERSION:	
REVISIONS:	

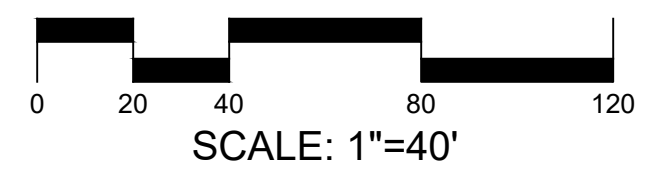
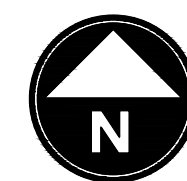
SHEET TITLE:
SITE SETBACKS
PLAN

SHEET NUMBER:
L1.3



PROJECT AREA

TOTAL ACREAGE	3.05 ACRES (133,210 SF)	TOTAL ACREAGE
OPEN SPACE	1.21 ACRES (52,671 SF)	OPEN SPACE
	39.53% OPEN SPACE	



IRON HORSE DISTRICT

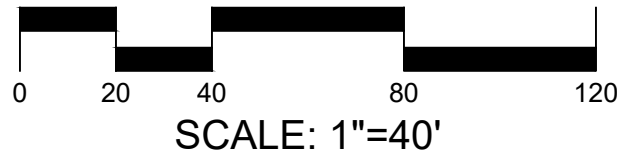
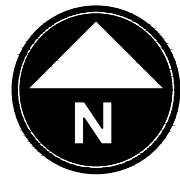
PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE:	DECEMBER 2021
PROJECT:	
DRAWN BY:	TK
REVIEW BY:	TK
VERSION:	
REVISIONS:	

SHEET TITLE:
OPEN SPACE
PLAN

SHEET NUMBER:
L1.4



IRON HORSE DISTRICT

PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE: DECEMBER 2021

PROJECT:

DRAWN BY: TK

REVIEW BY: TK

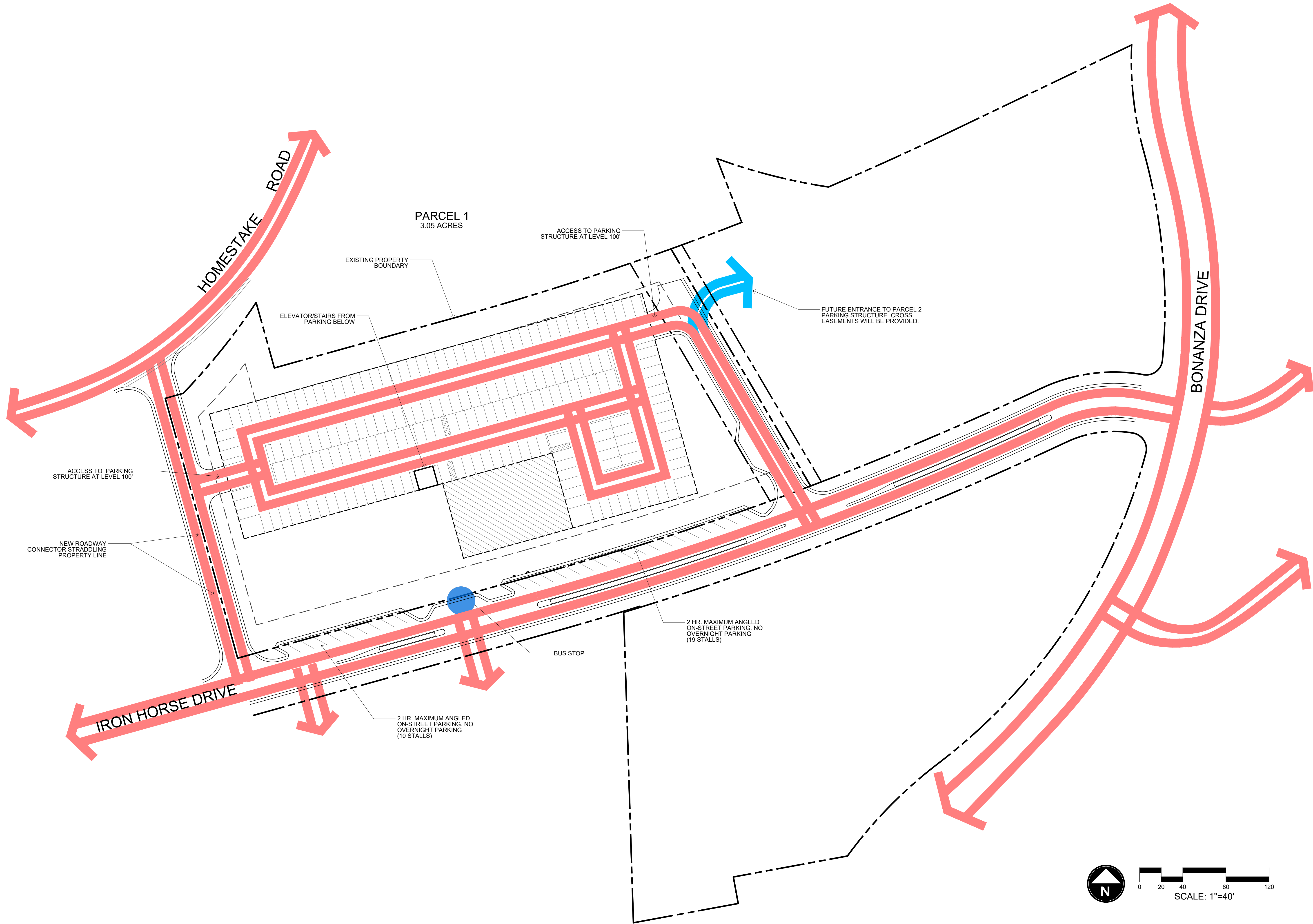
VERSION:

REVISIONS:

SHEET TITLE:
PEDESTRIAN
CONNECTIVITY PLAN

SHEET NUMBER:

L1.5

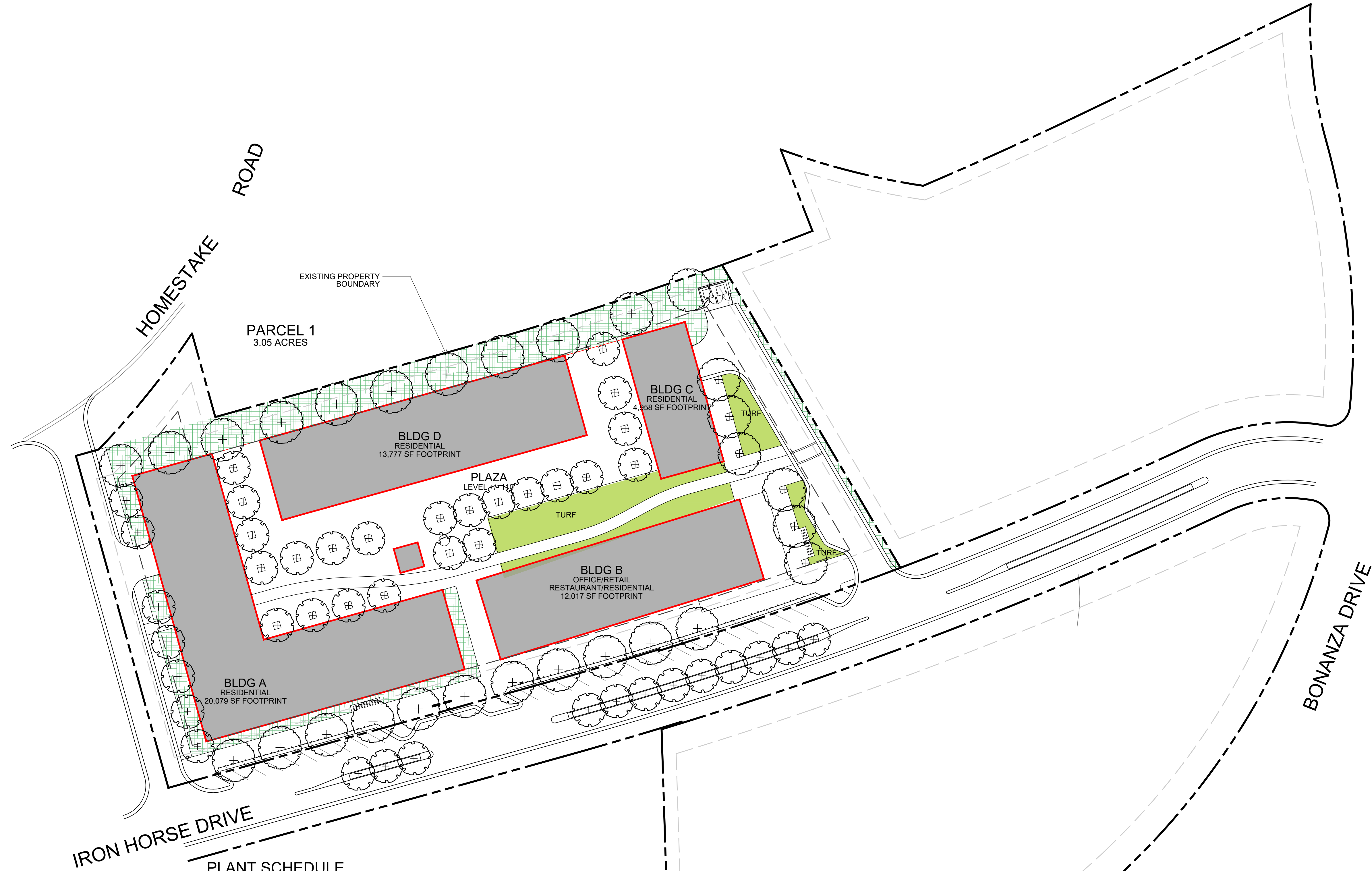


IRON HORSE DISTRICT
PRELIMINARY SITE PLAN
IRON HORSE DRIVE
PARK CITY, UTAH

DATE:	DECEMBER 2021
PROJECT:	
DRAWN BY:	TK
REVIEW BY:	TK
VERSION:	
REVISIONS:	

SHEET TITLE:
VEHICULAR
ACCESS PLAN

SHEET NUMBER:
L1.6



PLANT SCHEDULE		
SYMBOL	BOTANICAL NAME	COMMON NAME
+	ACER TATARICA	PATTERN PERFECT MAPLE
	POPULUS ANGUSTIFOLIA	NARROWLEAF COTTONWOOD
	POPULUS TREMULOIDES	QUAKING ASPEN
	CELTIS OCCIDENTALIS	COMMON HACKBERRY
+	AMELANCHIER X GRANDIFLORA	AUTUMN BRILLIANCE SERVICEBERRY
	MALUS SP.	CRABAPPLE
	PRUNUS MAACKII	AMUR CHOKECHERRY
	PRUNUS VIRGINIANA	CHOKECHERRY
+	BETULA OCCIDENTALIS	WESTERN RED BIRCH
	PICEA PUNGENS FASTIGIATA	COMMON LILAC
	SYMPHORICARPOS SP.	SNOWBERRY SP.
	PHILADELPHUS LEWISII	MOCK ORANGE
+	PHYSOCARPUS SP.	NINEBARK
	CARAGANA ARBORESCENS	SIBERIAN PEASHRUB
	SPIREA SP.	SPIREA SP.
	RIBES SP.	ALPINE CURRANT SP.
+	CORNUS SP.	DOGWOOD SP.
	POTENTILLA FRUTICOSA	POTENTILLA
	MUGO PINE	PINUS MUGO
	PANICUM VIRGATUM	SHENANDOAH SWITCH GRASS
+	MISCANTHUS SINENSIS	FLAME GRASS
	TURF	

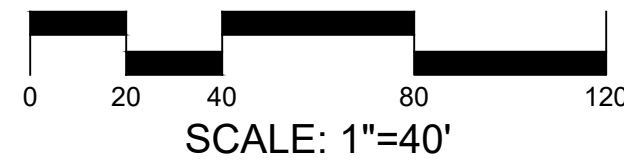
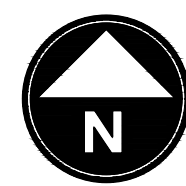
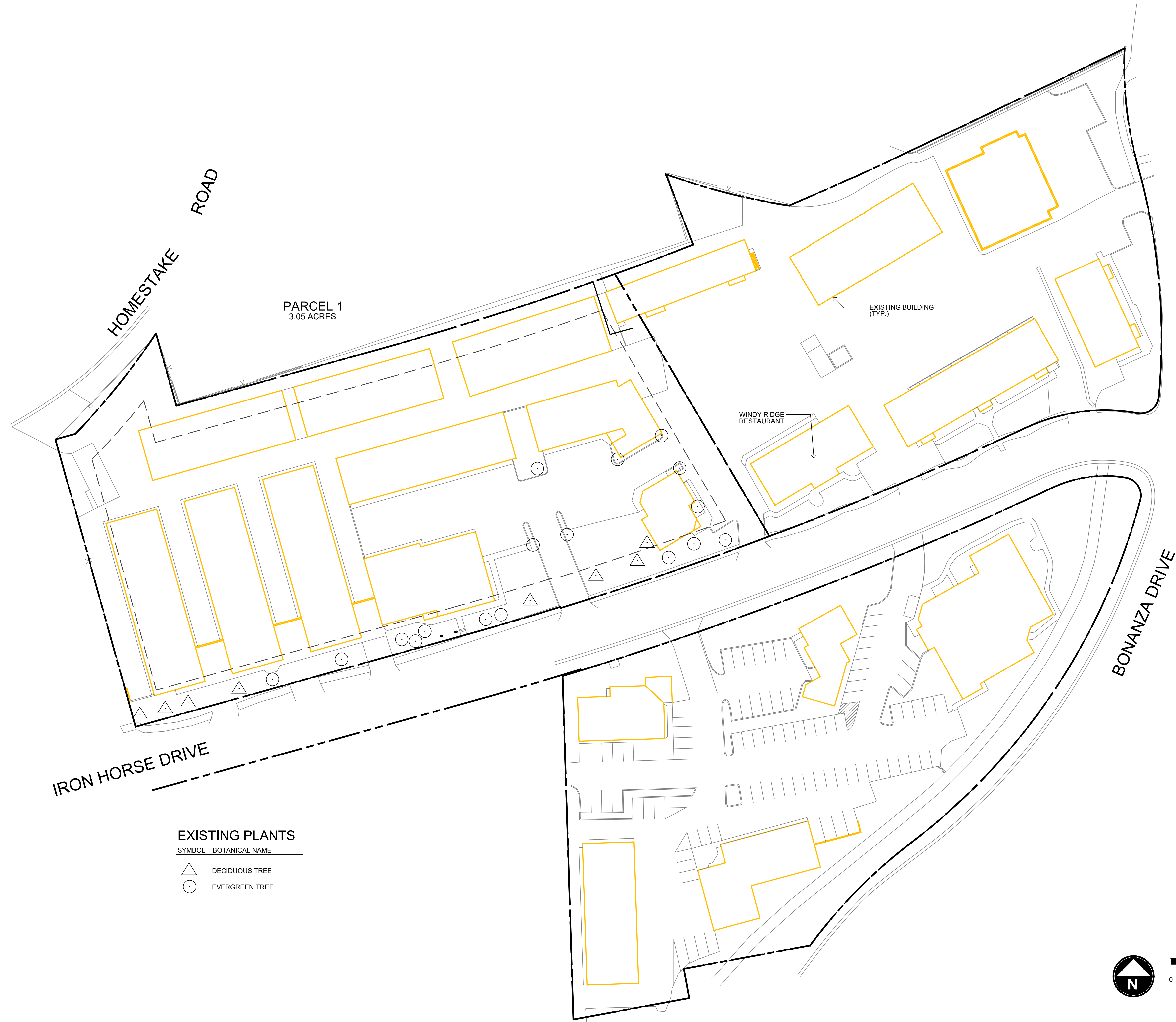


IRON HORSE DISTRICT

PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE:	DECEMBER 2021
PROJECT:	
DRAWN BY:	TK
REVIEW BY:	TK
VERSION:	
REVISIONS:	
SHEET TITLE:	LANDSCAPE PLAN
SHEET NUMBER:	L1.7



IRON HORSE DISTRICT

PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE: DECEMBER 2021

PROJECT:

DRAWN BY: TK

REVIEW BY: TK

VERSION:

REVISIONS:

SHEET TITLE:
EXISTING
LANDSCAPE

SHEET NUMBER:

L1.8



IRON HORSE DISTRICT

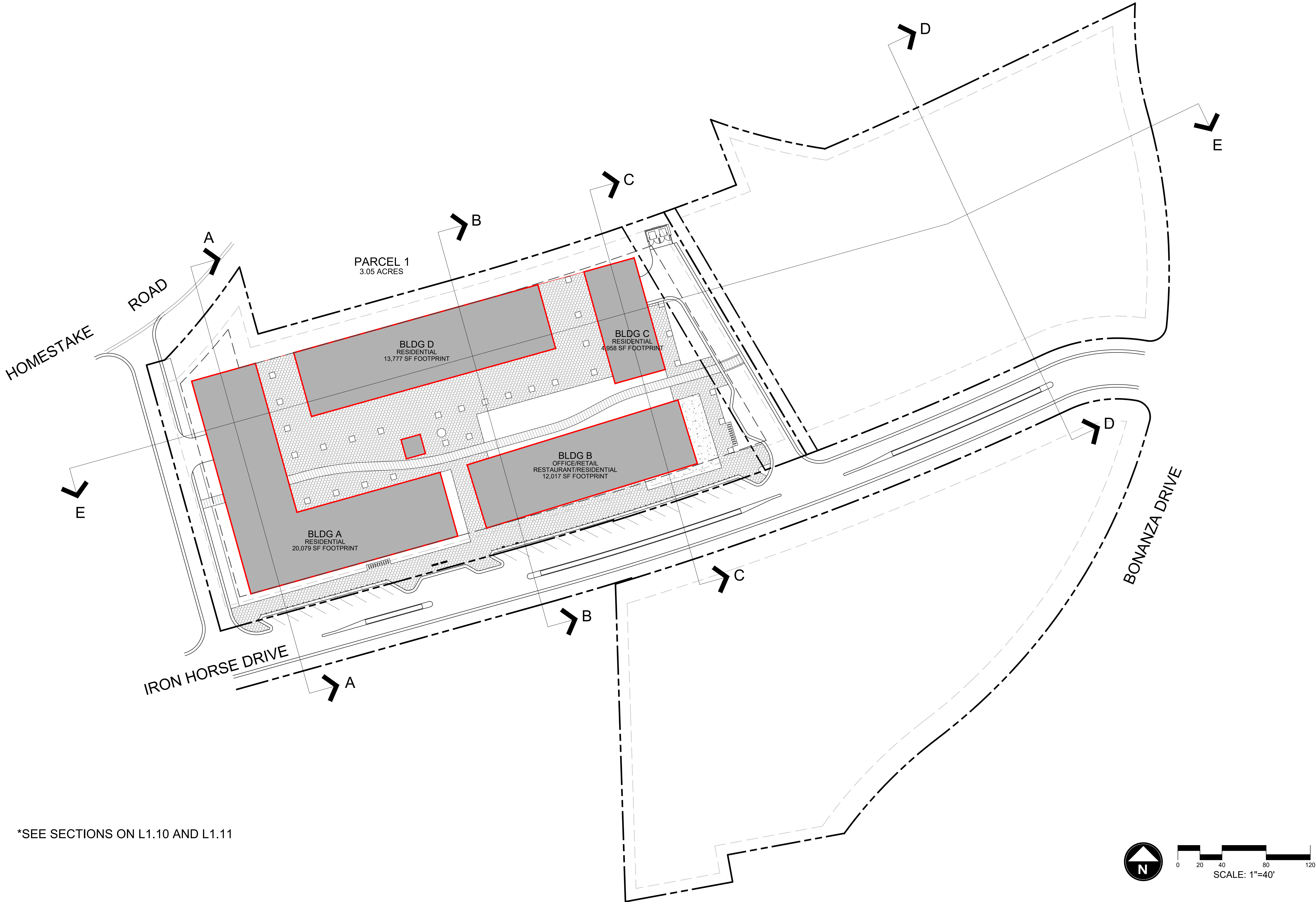
PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE:	DECEMBER 2021
PROJECT:	
DRAWN BY:	TK
REVIEW BY:	TK
VERSION:	
REVISIONS:	

SHEET TITLE: SITE SECTIONS

SHEET NUMBER: L1.9



*SEE SECTIONS ON L1.10 AND L1.11



IRON HORSE DISTRICT
PRELIMINARY SITE PLAN
IRON HORSE DRIVE
PARK CITY, UTAH

DATE: DECEMBER 2021

PROJECT:

DRAWN BY: TK

REVIEW BY: TK

VERSION:

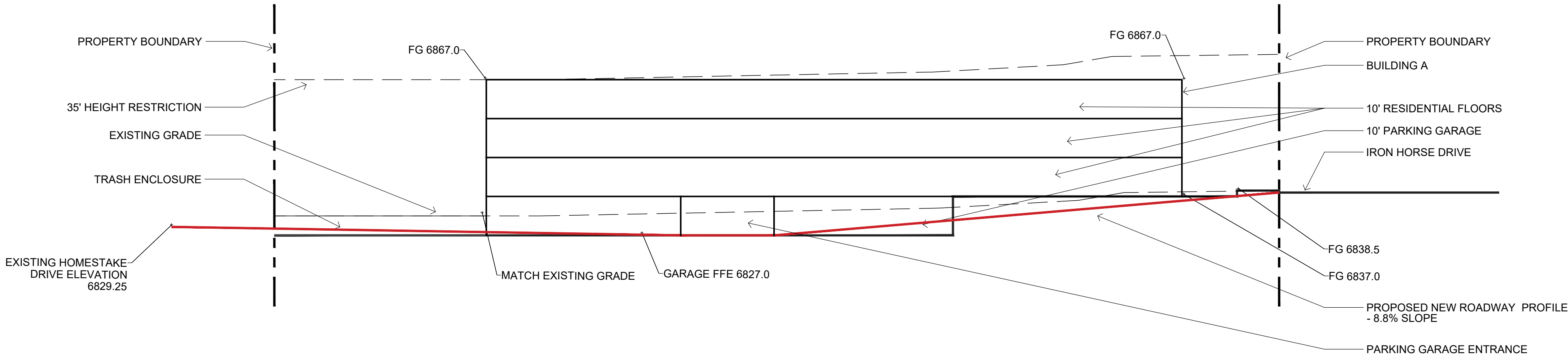
REVISIONS:

SHEET TITLE: SITE SECTIONS

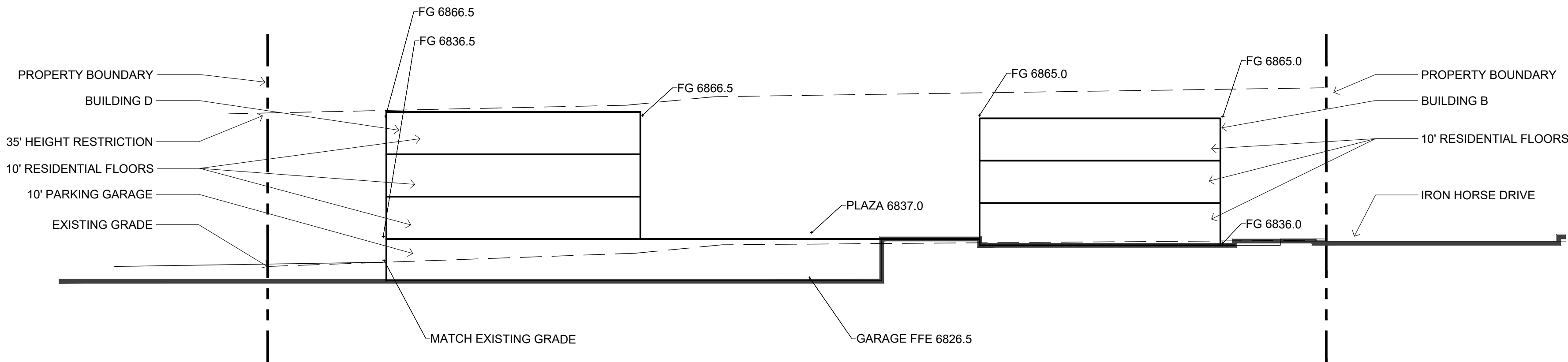
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L1.10

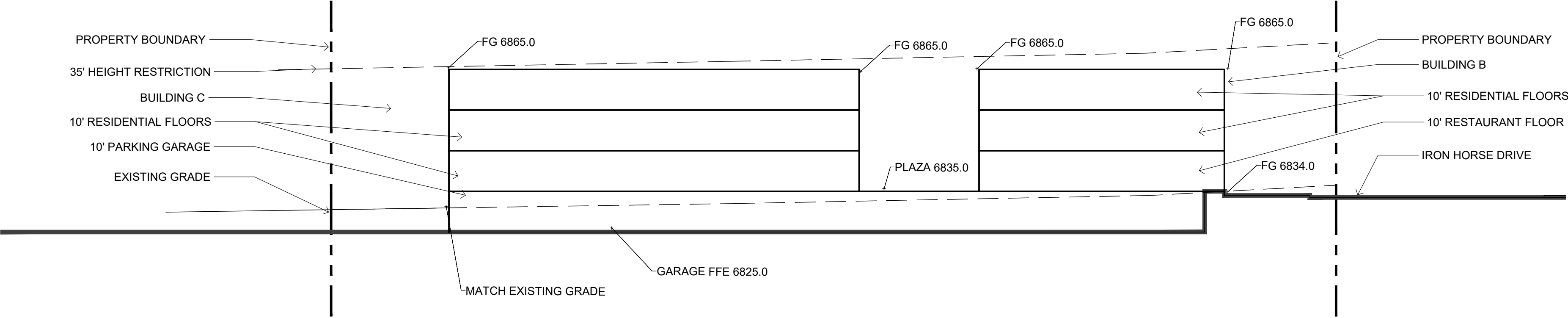
SECTION A



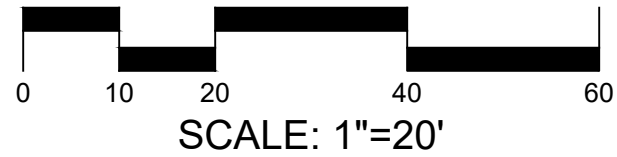
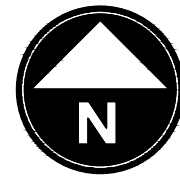
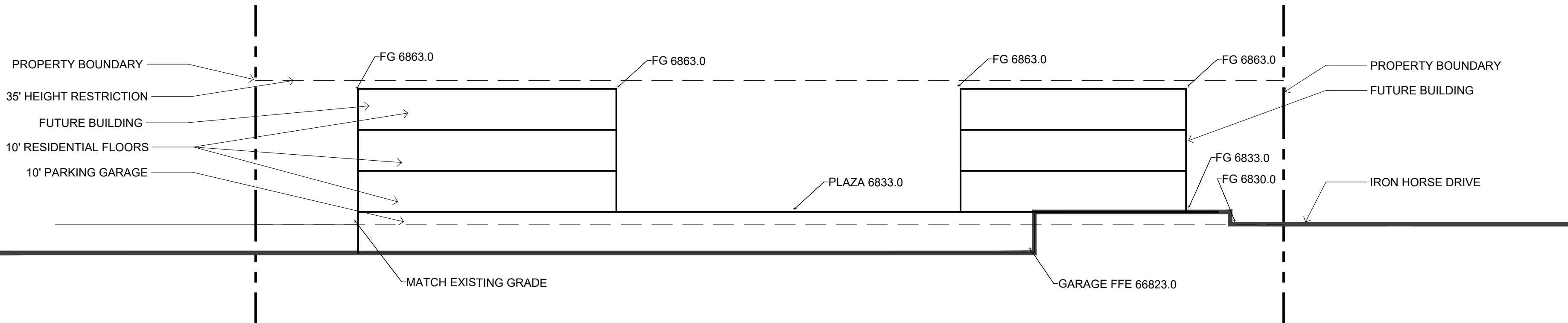
SECTION B



SECTION C



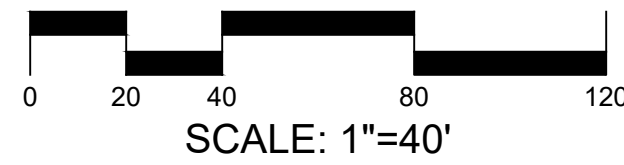
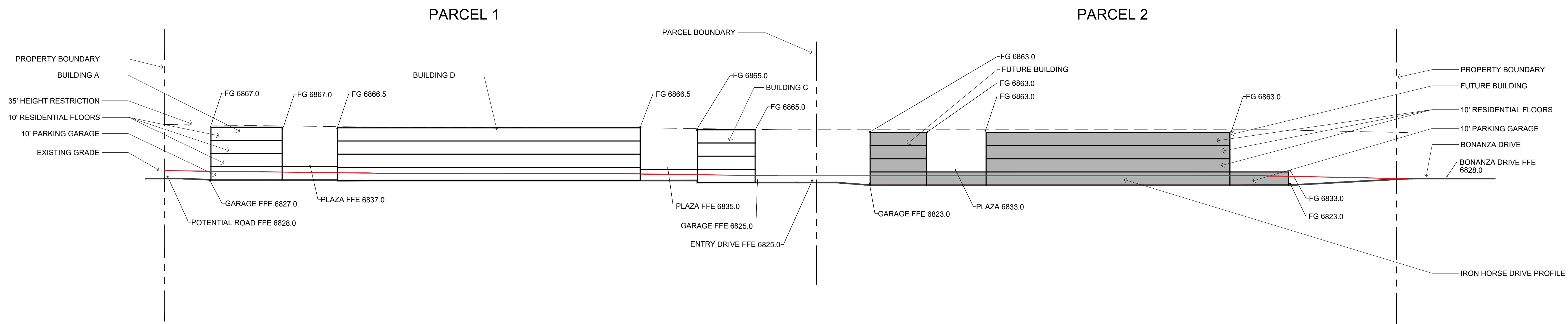
SECTION D





IRON HORSE DISTRICT
PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH



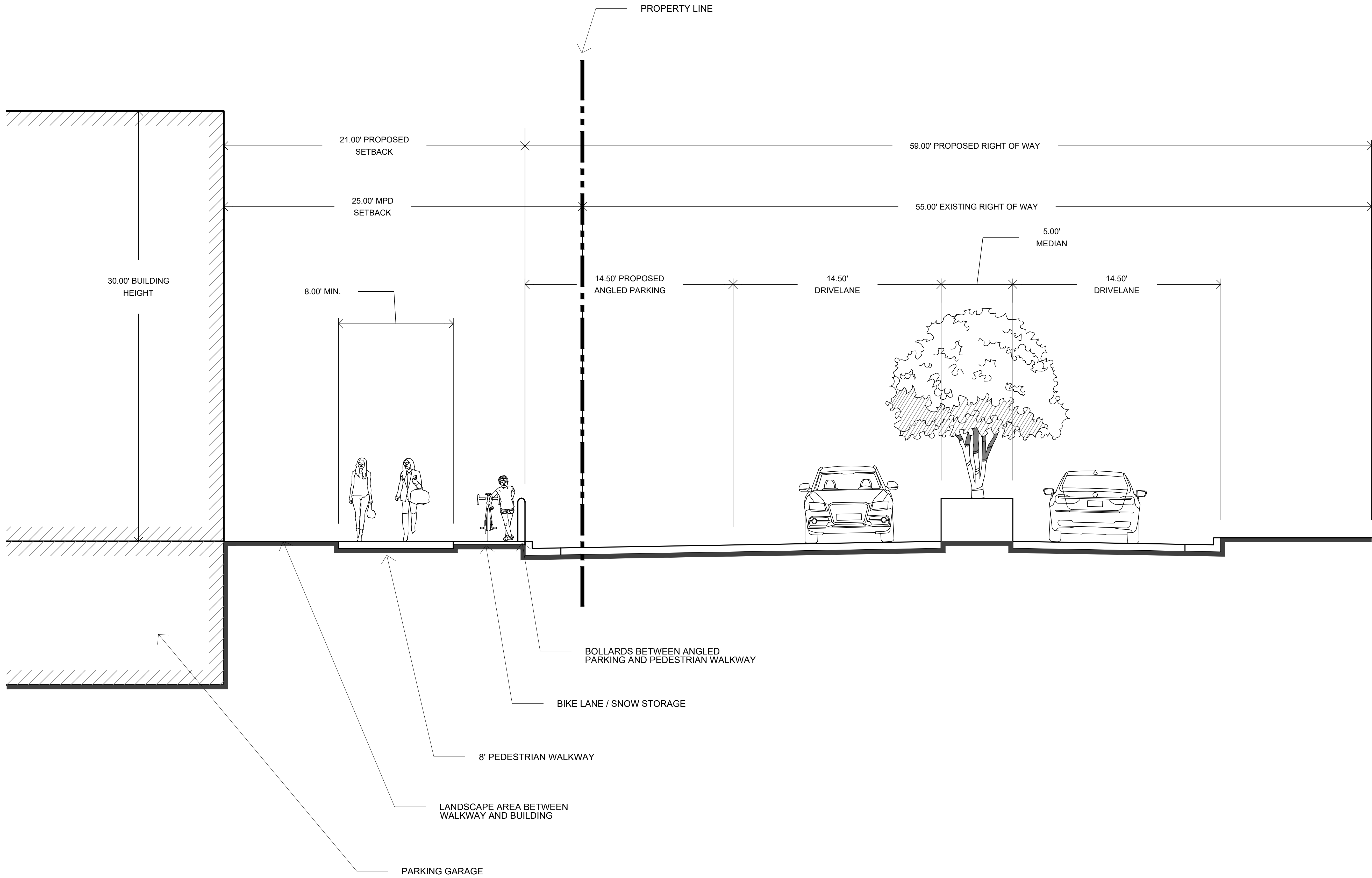
DATE:	DECEMBER 2021
PROJECT:	
DRAWN BY:	TK
REVIEW BY:	TK
VERSION:	
REVISIONS:	

SHEET TITLE: SITE SECTIONS

SHEET NUMBER: L1.11



IRON HORSE DISTRICT
PRELIMINARY SITE PLAN
IRON HORSE DRIVE
PARK CITY, UTAH



DATE:	DECEMBER 2021
PROJECT:	
DRAWN BY:	TK
REVIEW BY:	TK
VERSION:	
REVISIONS:	

SHEET TITLE:
IRON HORSE
SECTION

SHEET NUMBER:
L1.12

WEST QUARTER CORNER SECTION 9
T2S, R4E, S18AM
FOUND ALUMINUM CAP

BASIS OF BEARING - SECTION LINE N 89°44'40" W 2656.06'
2586.16'

69.90'

FOUND BRASS MONUMENT
WITH "X" IN METAL CASTING
CENTER OF SECTION 9
T2S, R4E, S18AM
PROJECT BENCHMARK
ELEVATION=6812.35'



SURVEYORS CERTIFICATE

I, Michael Demkowicz, do hereby certify that I am a Professional Land Surveyor and that I hold License No. 4857264 as prescribed under the laws of the State of Utah. I further certify that by authority of the owner, I have made a survey of the land shown on this plat and described hereon, and have divided said land into three (3) lots, hereafter to be known as IRONHORSE PARK COMMERCIAL SUBDIVISION SECOND AMENDED AND RESTATED and that the same has been correctly surveyed and monumented on the ground as shown on this plat.

LEGAL DESCRIPTION

PARCELS A through G, inclusive, FIRST AMENDED IRONHORSE PARK COMMERCIAL SUBDIVISION, according to the official plat thereof, recorded in the office of the county recorder of Summit County, Utah.

OWNER'S DEDICATION AND CONSENT TO RECORD

KNOW ALL BY THESE PRESENTS that the undersigned is the owner of the above described tracts of land, and hereby causes the same to be divided into lots, together with easements as set forth to be hereafter known as IRONHORSE PARK COMMERCIAL SUBDIVISION SECOND AMENDED AND RESTATED and do hereby dedicate for the perpetual use of the public all roads and other areas shown on this plat as intended for public use. The undersigned owner also hereby conveys to any and all public utility companies a perpetual, non-exclusive easement over the public utility easements shown on this plat, the same to be used for the installation, maintenance and operation of utility lines and facilities. The undersigned owner also hereby conveys any other easements as shown on this plat to the parties indicated and for the purposes shown hereon.

In witness whereof, the undersigned set his hand this ____ day of _____, 2021.

WINTZER-WOLFE PROPERTIES, LTD
a Utah limited partnership

By: _____
Charles Wintzer
Its General Partner

ACKNOWLEDGMENT

STATE OF UTAH)
) ss.
COUNTY OF SUMMIT)

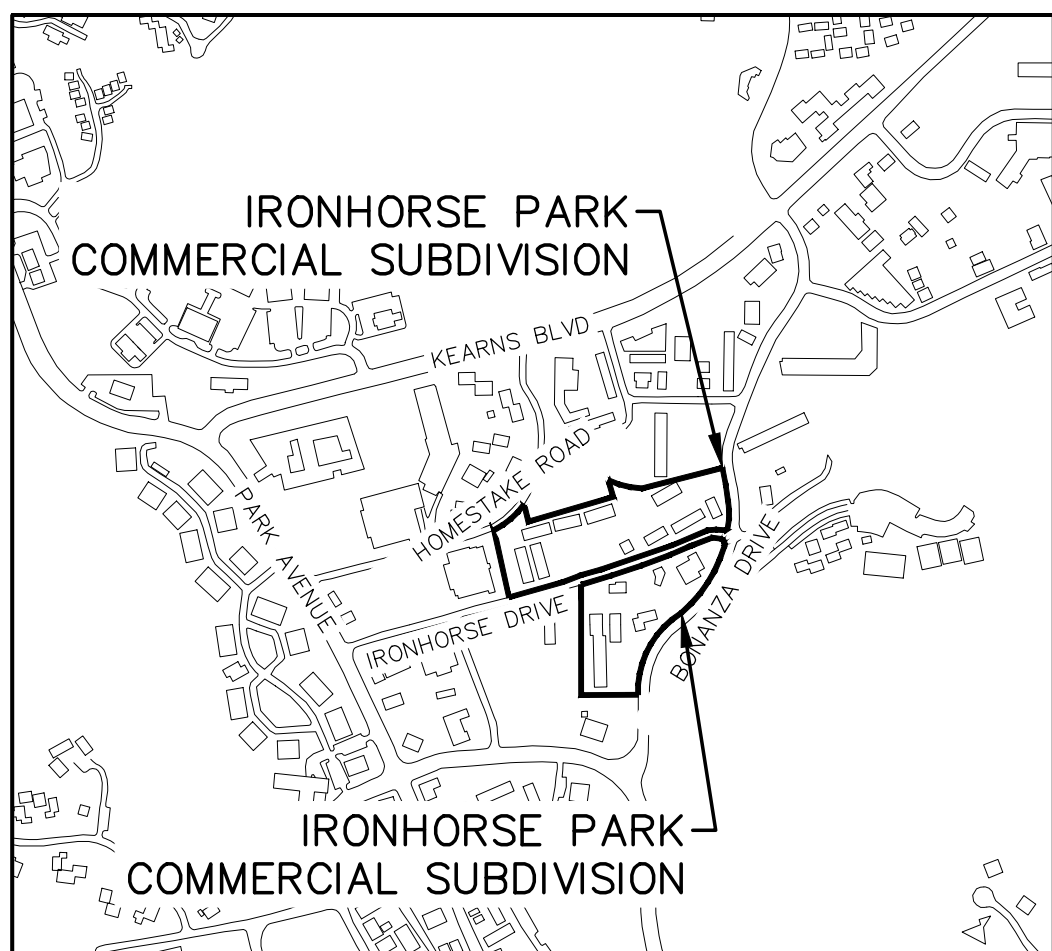
On this ____ day of _____, 2021, Charles Wintzer personally appeared before me, whose identity is personally known to me or proven on the basis of satisfactory evidence, and who by me duly sworn/affirmed, that he acknowledged to me that he executed IRONHORSE PARK COMMERCIAL SUBDIVISION SECOND AMENDED AND RESTATED.

By: _____
Notary Public

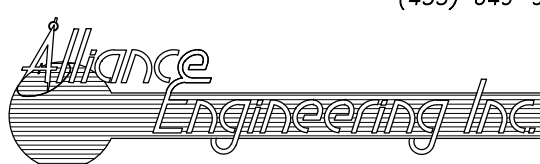
Printed Name _____
Residing in: _____
My commission expires: _____
Commission No. _____

NOTES

1. This plat amendment is subject to the Conditions of Approval in Ordinance 2021-_____.



VICINITY MAP 1"=800'



CONSULTING ENGINEERS LAND PLANNERS SURVEYORS
323 Main Street P.O. Box 2664 Park City, Utah 84060-2664

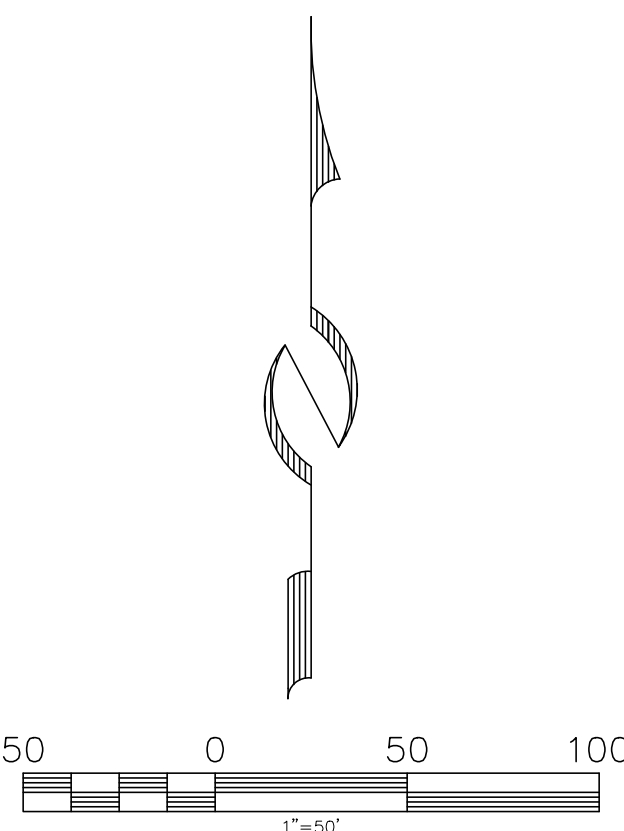
LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N 79°59'46" W	0.08'
L2	N 1°59'35" W	1.04'
L3	N 74°26'13" E	17.16'
L4	S 15°33'46" E	63.01'
L5	N 21°17'16" W	63.44'
L6	S 10°25'00" E	25.00'
L7	N 60°00'00" E	32.98'
L8	N 29°15'00" W	19.73'
L9	N 60°00'00" E	8.14'
L10	S 59°30'00" W	24.00'
L11	S 21°00'00" E	20.06'
L12	N 69°30'47" E	24.00'
L13	S 21°00'00" E	22.20'
L14	N 30°30'00" W	44.65'
L15	N 41°50'00" W	19.09'
L16	N 41°50'00" W	24.41'
L17	S 48°37'23" W	34.33'
L18	S 51°08'04" W	60.02'
L19	S 49°57'44" W	40.88'
L20	S 46°48'17" W	71.75'
L21	S 49°12'27" W	41.96'
L22	S 46°24'47" W	51.14'
L23	S 51°08'04" W	60.32'
L24	S 49°57'44" W	40.42'
L25	S 46°48'17" W	71.67'
L26	S 49°12'27" W	21.74'

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	316.02'	100.13'	18°09'12"
C2	15.00'	24.77'	94°36'01"
C3	157.53'	96.65'	35°09'07"
C4	586.83'	108.24'	10°34'05"
C5	537.41'	106.87'	11°23'36"
C6	102.53'	62.81'	35°05'51"
C7	15.00'	24.84'	94°52'37"
C8	457.84'	24.53'	3°04'09"
C9	133.87'	24.03'	101°7'08"

IRONHORSE PARK COMMERCIAL SUBDIVISION

SECOND AMENDED AND RESTATED

LOCATED IN THE NORTHEASTERLY QUARTER OF THE SOUTHWESTERLY QUARTER OF SECTION 9
TOWNSHIP 2 SOUTH, RANGE 4 EAST, SALT LAKE BASE AND MERIDIAN
PARK CITY, SUMMIT COUNTY, UTAH



SHEET 1 OF 1

7/20/21 JOB NO.: 1-7-20 FILE: X:\Prospector\dwg\src\plat2020\010720.dwg

SNYDERVILLE BASIN WATER RECLAMATION DISTRICT
REVIEWED FOR CONFORMANCE TO SNYDERVILLE BASIN WATER RECLAMATION DISTRICT STANDARDS ON THIS ____ DAY OF _____, 2021
BY _____
ENGINEERING DEPARTMENT

PLANNING COMMISSION
RECOMMENDED BY THE PARK CITY PLANNING COMMISSION THIS ____ DAY OF _____, 2021
BY _____
CHAIR

ENGINEER'S CERTIFICATE
I FIND THIS PLAT TO BE IN ACCORDANCE WITH INFORMATION ON FILE IN MY OFFICE THIS ____ DAY OF _____, 2021
BY _____
PARK CITY ENGINEER

APPROVAL AS TO FORM
APPROVED AS TO FORM THIS ____ DAY OF _____, 2021
BY _____
PARK CITY ATTORNEY

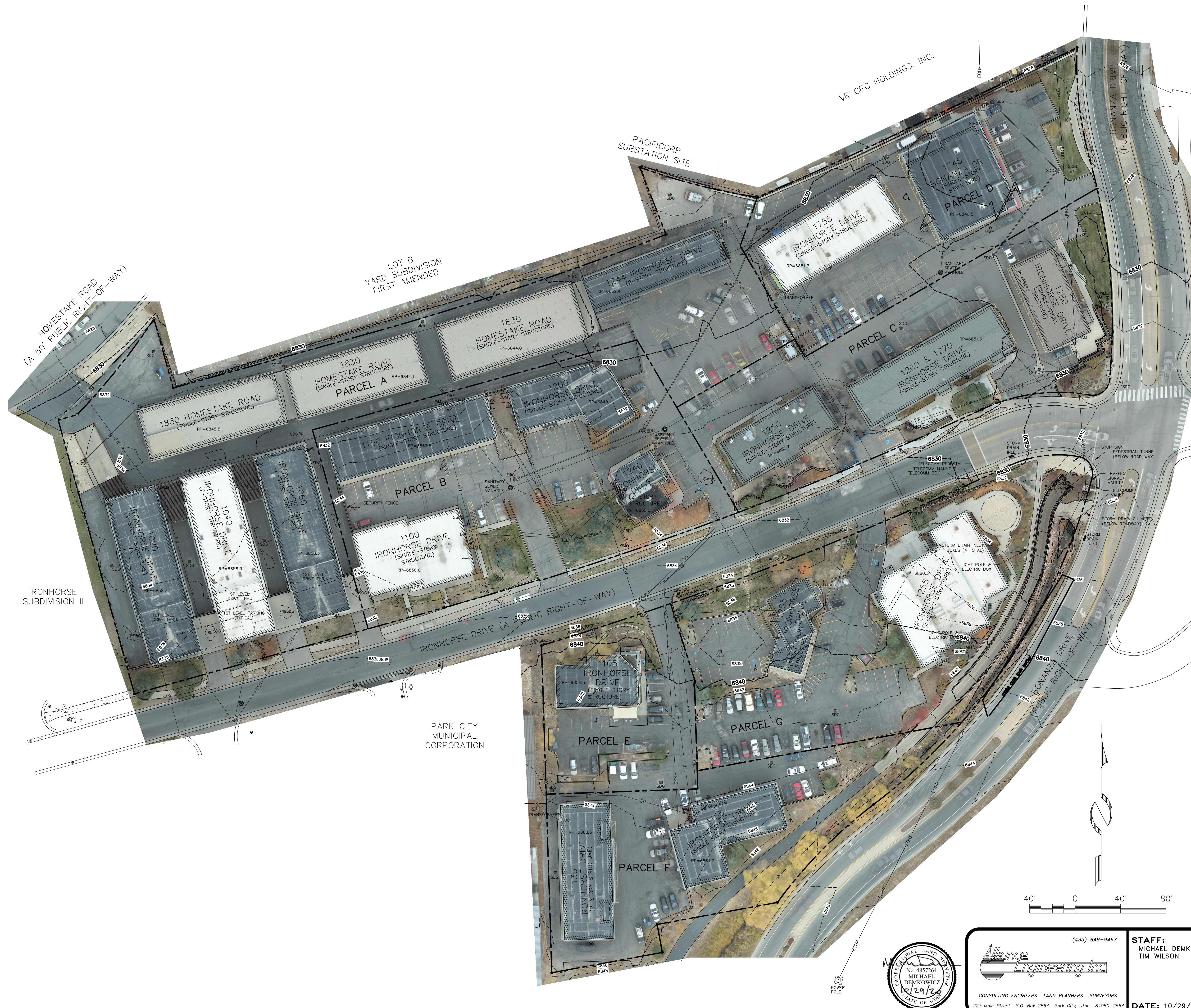
COUNCIL APPROVAL AND ACCEPTANCE
APPROVAL AND ACCEPTANCE BY THE PARK CITY COUNCIL THIS ____ DAY OF _____, 2021
BY _____
MAYOR

CERTIFICATE OF ATTEST
I CERTIFY THIS PLAT WAS APPROVED BY PARK CITY COUNCIL THIS ____ DAY OF _____, 2021
BY _____
PARK CITY RECORDER

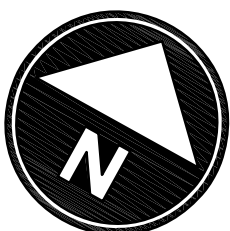
PUBLIC SAFETY
ANSWERING POINT APPROVAL
APPROVED THIS ____ DAY OF _____, 2021
BY _____
SUMMIT COUNTY GIS COORDINATOR

RECORDED
STATE OF UTAH, COUNTY OF SUMMIT, AND FILED AT THE REQUEST OF _____
FEE _____ RECORDER _____
TIME _____ DATE _____ ENTRY NO. _____

IRONHORSE COMMERCIAL SUBDIVISION



IRON HORSE



IRON HORSE



1

VIEW LOOKING SOUTH-WEST

VIEW 1

07 . 30 . 2021

IRON HORSE



2 VIEW LOOKING NORTH-WEST

VIEW 2
07 . 30 . 2021

IRON HORSE



3

VIEW LOOKING NORTH

VIEW 3

07 . 30 . 2021

IRON HORSE



4

VIEW LOOKING NORTH-EAST

VIEW 4

07 . 30 . 2021

IRON HORSE



5 VIEW LOOKING EAST

VIEW 5
07 . 30 . 2021

IRON HORSE



6

VIEW LOOKING SOUTH

VIEW 6

07 . 30 . 2021

December 10, 2021

Rebecca Ward, JD
Senior Planner
Park City Planning Department
Park City Municipal Corporation
445 Marsac Avenue
PO Box 1450
Park City, UT 84060

RE: Benefits of On-Street Parking

Dear Rebecca,

Pursuant to our conversation regarding the efficacy and benefits of on-street parking at the proposed Iron Horse MPD, I have researched the topic and have come up with the following points that may be considered. I found the following sources to be useful and educational regarding on-street parking: The Urban Land Institute, Professor Norman Garrick, Civil and Environmental Engineering and the University of Connecticut.

- Higher Efficiency. Users of downtown parking consistently selected on-street parking spaces over off-street parking and garage parking. On-street parking saw the highest use and the greatest turnover.
- Increased Business Vitality. On-street parking gives shoppers opportunities to make stop-and-go purchases and significantly increases the vitality of on-street businesses. This has been proven to be a tremendous boost to business.
- Increased Safety. There is conclusive proof that drivers tend to travel at significantly slower speeds in the presence of street parking. It serves as effective traffic-calming and creates a safer environment. Drivers become more cautious, reducing the chances of occurrence of severe mishaps. It is unequivocal that street parking lowers the frequency and severity of accidents.
- Angled vs. parallel parking. Angled parking demands cautious reversing and with such additions as bike lanes between the parking space and the sidewalk, has a strong tendency to reduce vehicle/bike/pedestrian interactions.
- Vitality. People do not tend to park in a garage for take-out purchases, such as coffee and sandwiches.
- Bike and Pedestrian Safety. Parking provides a safe barrier for pedestrians and bicyclists. Bike lanes should be incorporated between the buildings and the parking. These interior bike lanes work extremely well. Bollards are suggested to keep the nose of the car from interfering with

the bike lane. On street parking is considered to be a significant component of “Complete Streets”.

- Drivers can easily spot open spaces, which leads to more activity and greater utilization of the spaces. More activity increases business vitality.
- Angled parking with a bike lane in between the vehicle and the sidewalk prevents open door accidents/threats to bicyclists.
- 2-hour time limits help to ensure turnover and efficiency. They also prevent overnight parking, so snow removal is not impaired.
- The single largest practical concern is with snow removal. Eliminating and enforcing overnight parking is the key to snow removal.

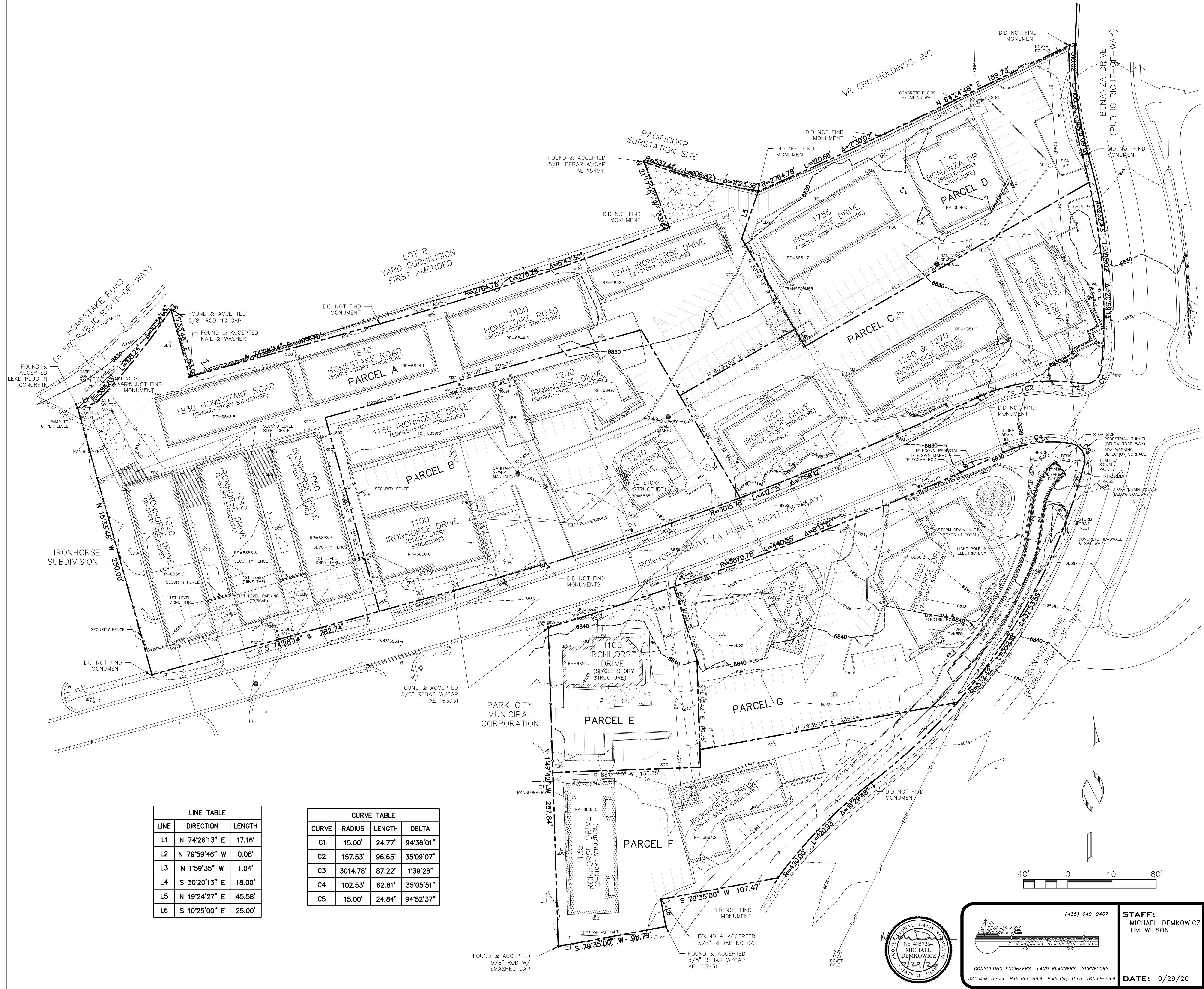
Thank you for taking the time to review this list of benefits of street parking. We appreciate your continued feedback and look forward to discussing this project further with the Staff and Commission. Please do not hesitate to contact me with any questions or concerns whatsoever.

Sincerely,

Rory Murphy
Wintzer-Wolfe Properties
435-640-5068
paladinparkcity@aol.com

CC: Charlie and Mary Wintzer

IRONHORSE COMMERCIAL SUBDIVISION



LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N 74°26'13" E	17.16'
L2	N 79°59'46" W	0.08'
L3	N 1°59'35" W	1.04'
L4	S 30°20'13" E	18.00'
L5	N 19°24'27" E	45.58'
L6	S 10°25'00" E	25.00'

CURVE TABLE			
CURVE	RADIUS	LENGTH	DELTA
C1	15.00'	24.77'	94°36'01"
C2	157.53'	96.65'	35°09'07"
C3	3014.78'	87.22'	1°39'28"
C4	102.53'	62.81'	35°05'51"
C5	15.00'	24.84'	94°52'37"

- LEGEND
- IC Irrigation Control
 - SDG Storm drain grate
 - FDG Fire department connection
 - SSCO Sanitary sewer cleanout
 - UC Utility cluster
 - EM Electric meter
 - ES Electric service
 - GM Gas meter
 - RP= Roof peak
 - CMP Corrugated metal pipe
 - FF2 Finished floor, level 2
 - FF Finished floor, level 1
 - WM Water Meter
 - WV Water Valve
 - T Telephone pedestal
 - UNDERGROUND POWER
 - OVERHEAD POWER
 - EXISTING SANITARY SEWER
 - EXISTING WATER
 - EXISTING TELECOM
 - EXISTING HYDRANT
 - EXISTING SD MANHOLE
 - EXISTING SS MANHOLE



Alliance Engineering Inc.
(435) 649-9467
CONSULTING ENGINEERS LAND PLANNERS SURVEYORS
323 Main Street P.O. Box 2664 Park City, Utah 84060-2664

STAFF:
MICHAEL DEMKOWICZ
TIM WILSON
DATE: 10/29/20

TOPOGRAPHY AND EXISTING CONDITIONS SURVEY
IRONHORSE COMMERCIAL SUBDIVISION
FOR: WINTZER
JOB NO.: 1-7-20
FILE: X:\Prospector\dwg\sr\sr\2020\010720-Ironhorse Park\010720-ironhorse.dwg

SHEET
2
OF
2

Blue Ledge Consulting, LLC

2334 Stringham Avenue
Salt Lake City, Utah 84109

Mr. Rory Murphy
2590 Sidewinder Drive
Park City, Utah 84060-7437

RE: Mine Hazards on Property South of Homestake Affordable Housing Site.

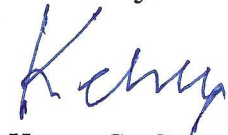
Rory:

I have researched the available information regarding any mine hazards that may lie within the property. The property appears at one time have been owned by the Ontario Silver Mining Company. It is section land not mining claim lands. There is no reference to any mine on the property in any of the information I have researched.

If you have any questions regarding this information, please contact me.

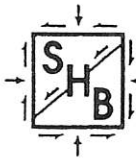
Thank you for choosing Blue Ledge Consulting.

Sincerely.



Kerry C. Gee





SERGEANT, HAUSKINS & BECKWITH CONSULTING GEOTECHNICAL ENGINEERS

SOIL & FOUNDATION ENGINEERING • ENGINEERING GEOLOGY • HYDROGEOLOGY
MATERIALS ENGINEERING • MATERIALS TESTING • ENVIRONMENTAL SERVICES

January 18, 1990

Wintzer-Crippen Construction Company
1250 Iron Horse Drive
Park City, Utah 84060

SHB Job No. E89-2318

Attention: Mr. Charlie Wintzer

Re: Phase II Environmental Assessment
Preliminary Sampling Plan Implementation Report
Site Located Between Park Avenue and
Bonanza Drive Along Iron Horse Drive
Park City, Utah
For Wintzer-Crippen Construction Company

Gentlemen:

1. INTRODUCTION

Sergeant, Hauskins & Beckwith Engineers (SHB) was retained by Wintzer-Crippen Construction Company to perform a Phase I environmental audit at the above referenced site during October, 1989. Figure 1, Vicinity Map, is taken from the USGS topographic map. The Phase I report, dated October 27, 1989¹ identified four areas of possible environmental

¹Report, Phase I Environmental Assessment, Site Located Approximately Between Park Avenue and Bonanza Drive, Extending Approximately 250 Feet East from the East Edge of Iron Horse Drive, For Wintzer-Crippen Construction Company," SHB Job No. E89-2257.



REPLY TO: 4030 S. 500 WEST, SUITE 90, SALT LAKE CITY, UTAH 84123

PHOENIX
(602) 272-6848
FAX 272-7239

TUCSON
(602) 792-2779
FAX 620-6622

ALBUQUERQUE
(505) 884-0950
FAX 884-1694

SANTA FE
(505) 471-7836
FAX 438-7156

SALT LAKE CITY
(801) 266-0720
FAX 266-0727

EL PASO
(915) 564-1017
FAX 562-7739

RENO/SPARKS
(702) 331-2375
FAX 331-4153

concern. These included the above ground storage tank area (bulk storage area); loading ramp and associated loading area along the rail line; a slurry line traversing the eastern portion of the property; and suspected landfill material beneath the eastern end of the site. These are shown on Figure 2, Site Plan.

The bulk storage area, at the western end of the site, holds six above-ground storage tanks, a transfer/pump house, and a storage shed. The tanks were labeled as holding gasoline, fuel oil, and diesel fuel. The tanks were of equal size with roughly estimated capacities on the order of 10,000 gallons each. No evidence of berming around, or concrete pads beneath, the tanks was noted.

The loading ramp, near the center of the property, is approximately 20 feet high at its highest end (to the west) and is composed of gravel covered earth, including mine tailings, with a slope on the order of 15 percent. A rail line runs parallel to the ramp. Next to the rail loading area is a weigh station. The ramp had been used for loading silver ore into rail cars for transfer to the smelter. Large capacity electrical transformers were also shipped from this loading area.

The slurry line is reportedly made of 4-inch O.D. PVC pipe with one-half inch walls. The line was used for carrying a slurry mixture containing arsenic from the mine to the tailings dump. The line is no longer in use; however, it is flushed with water monthly to insure the line remains clear.

Air photo evidence of domestic dumping on the property was discovered during the Phase I historical site review. A domestic refuse landfill was located east of the site, across Bonanza Drive. Air photos show that some dumping may have occurred west of Bonanza Drive on the eastern edge of the property. Excavation by Wintzer-Crippen for building purposes on the eastern edge of the property uncovered a thin layer (approximately three to four feet thick) of trash material. No historical evidence exists of hazardous material dumping at the site, nor was evidence of hazardous material unearthed by the backhoe work on the property.

A written, preliminary Phase II environmental study proposal was prepared and submitted to Mr. Charlie Wintzer of Wintzer-Crippen on November 21, 1989. This proposal presented a sampling strategy and cost estimate designed to assess impact to the environment in the four areas outlined above. Due to time constraints, Mr. Wintzer elected to forego the groundwater investigation at the site and the proposed soil sampling in the landfill area and along the slurry line.

A revised proposal and cost estimate addressing the bulk storage facility and loading ramp was submitted to and accepted by Mr. Wintzer. The proposal included provisions for sampling and laboratory analysis of soils to maximum depth of approximately 10 feet below grade (the maximum reach of the backhoe used during the sampling event). A hydrogeologic investigation was recommended but was not performed at the client's request.

2. SAMPLING METHODOLOGY AND ANALYTICAL PARAMETERS

A series of test pits was excavated by backhoe at 10 locations on the site (Figure 3) ranging from 1.0 to 10.0 feet below existing grade. The test pits were designated LTP-1 through LTP-6 (the LTP series of pits) in the loading ramp area, and BTP-1 through BTP-4 (the BTP series of pits) in the bulk storage area. Test pit depths were measured along the deepest wall on those pits excavated into the sloping flanks of the loading ramp. Soil samples were collected with stainless steel spoons properly decontaminated according to methods documented in Appendix A. Samples were taken at one-foot intervals down the deepest pit wall beginning one foot below grade. The soils were then composited and placed in glass sample jars with Teflon lined lids. One composite sample was taken from each test pit.

Sample jars were labeled in the field. Labeling information included Sample I.D. Number, date and time of sampling, project name, sampler's initials, and

analysis to be performed. A chain-of-custody form was completed to document transfer of the samples to laboratory personnel.

A trip blank was prepared by the analytical laboratory (Mountain States Analytical, Inc. [MSAI]) carried into the field, then analyzed for the same volatile fraction as the soil samples (benzene, toluene, ethylbenzene, and xylene [BTEX]). All samples were stored on ice until delivery to the labs.

Analytical parameters were lead, silver, and zinc for samples taken from the loading ramp with one sample also analyzed for PCBs. Analytical parameters for samples taken in the bulk storage area included petroleum hydrocarbons (PHC); Base/Neutral extractable compounds (B/N); and benzene, ethylbenzene, toluene, and xylene (BTEX). Table 1 presents sampling information in tabular form.

Field notes were kept of the sampling event. Soil logs of the test pits were prepared and the nomenclature utilized to describe the soil types is presented in Appendix B.

3. SAMPLE RESULTS

A summary of analytical results is presented in Table 2. The complete laboratory report is attached as Appendix C.

Soil sample results from the LTP series of test pits along the loading ramp show moderate to high

concentrations of metals ranging from 776 to 6,940 parts per million (ppm) lead; 3.9 to 66.6 ppm silver; and 1,930 to 17,060 ppm zinc. Higher metal concentrations were associated with samples taken from pits excavated near the top of the ramp and along the rail line.

PCB analysis of the soil sample taken along the rail line (LTP-6) showed total PCB concentrations below the laboratory minimum detection levels of 1 ppm. Analytical results below method detection limits for a specific analyte can be interpreted as that analyte not being present in the environment.

Sample results of soil taken from the BTP series of test pits show PHC, B/N, and BTE compounds to be below the lab method detection limits at test pit locations BTP-2 and BTP-4. Test Pit BTP-1 sample results were 1,340 ppm PHC with 3.7 ppm BETX and 17.2 ppm B/N compounds. Metals analysis was not performed on the BTP series sample. High concentrations of some metals may be present. It should be noted that no visual evidence of tailings was observed in the BTP test pits.

4. FIELD OBSERVATIONS

Soils in Test Pits LTP-1 and LTP-2 consisted of gravel, cobbles, and some sand in a reddish-brown silt matrix to the pits' total depth of approximately 4 feet. A thin layer of dark gray silty clay was encountered at depths of 2.0 to 2.5 feet.

Test Pits LTP-3, LTP-4, and LTP-5 were the same as Test Pits LTP-1 and LTP-2 to depths of 1.0 to 4.0 feet below

grade. Beneath this was light to medium gray, fine to coarse-grained sandy material (tailings) with some dark gray silty clay lenses. Tailings thickness ranged from 0.5 (LTP-3) to in excess of 6.0 feet (LTP-5). Tailings thickness increased as ramp height increased.

LTP-6 was a surficial scrape approximately 1 foot deep, 1 foot wide, and 20 feet long. Soils consisted of dark gray silty clay and medium to light gray tailings.

Test Pit BTP-1, at the west end of the tanks, between the western-most tank and the transfer hut, was excavated to seven feet below grade. The upper four feet of the excavation consisted of dark gray silt with sand, gravel, and cobbles. The soil was hydrocarbon stained and had a strong hydrocarbon odor. Soils from four to seven feet were composed of dark reddish-brown silt and clay containing large amounts of sand, gravel, and cobbles. The four- to seven-foot horizon also had hydrocarbon staining with strong to moderate hydrocarbon odors. No "clean" soils were noted anywhere in BTP-1 to the excavated depth of seven feet.

Soils in Test Pits BTP-2, BTP-3, and BTP-4 all consisted of dark brown to reddish-brown silt with abundant gravel and cobbles. No visual or olfactory evidence was found that would indicate the presence of hydrocarbons in the shallow subsurface in these areas. BTP-2 and BTP-4 were excavated to depths of four feet and five feet, respectively. Surface soils at the east end of the tanks were frozen so that BTP-3 could not be advanced beyond one foot below grade. No sample was taken from Test Pit BTP-3.

No groundwater was encountered in any of the test pits excavated at the site. Based on information gathered while researching the area during the Phase I assessment, depth to groundwater at the site is expected to be greater than 30 feet below original grade.

5. CONCLUSIONS

Based on sample analytical results and field observations, we conclude the following:

Loading Ramp

- ° The loading ramp and soils along the rail line contain mine tailings with moderate to high concentrations of lead, silver, and zinc.
- ° PCBs do not appear to be present near the surface along the rail line in the loading area.

Bulk Storage Area

- ° The tanks appear to be in good condition and well maintained.
- ° No evidence of significant surface spills were noted on the north, east, and south sides of the tanks.
- ° A release of petroleum products occurred at the west end of the tanks. The volume of product release is unknown as well as whether the release was due to surface spills, transfer line failure, etc.
- ° Other areas of surface staining were noted in the west end of the facility that may be due to hydrocarbon contamination.

6. RECOMMENDATIONS

Based on information gathered to date, we recommend that the extent of metals and hydrocarbon contamination, especially in the bulk storage facility, be

defined. This could be accomplished through a drilling program with samples taken and visually inspected for tailings material or petroleum hydrocarbon (PHC) contamination using a field screening device such as an organic vapor analyzer. Borings could be conducted in such a way as to define the horizontal and vertical extent of the contaminants.

In addition, a monitor well in the area of BTP-1 should be installed to assess impact to groundwater in the bulk storage area.

7. REPORTING REQUIREMENTS

Portions of Park City contain mine tailings with varying concentrations of heavy metals. Conversations with personnel at the Bureau of Solid and Hazardous Waste (UBSHW) Division of the Utah Department of Health indicated that there is an agreement between UBSHW and Park City to allow tailings to remain in-place if capped by six inches of surface cover. The agreement could be subject to change at some future date. No firm policy regulates the disturbance of tailings during excavation, demolition, or construction.

The UBSHW also indicated that although above-ground tanks are not regulated by any State agency, associated surface spills should be reported to Utah's Resource Conservation and Recovery Act (RCRA) group for evaluation. In addition, closure, demolition, or removal of above-ground storage tanks are regulated by local fire officials and must meet their standards and requirements.

We appreciate the opportunity of providing this service for you. If you have any questions concerning this report or require additional information, please do not hesitate to contact the undersigned.

Respectfully submitted,
Sergeant, Hauskins & Beckwith Engineers

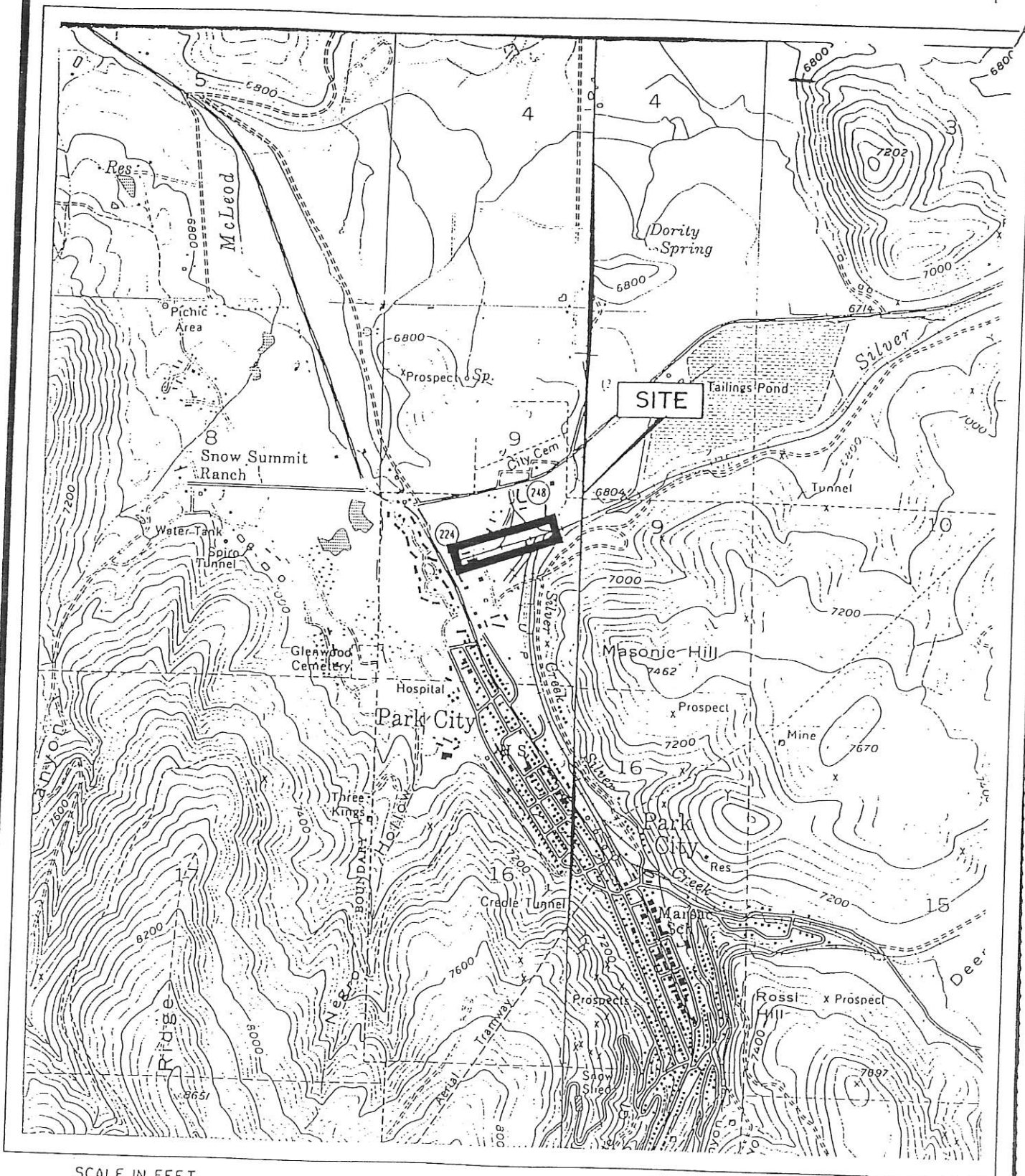
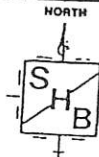
By Don Swigonsky
Don Swigonsky
Project Hydrogeologist

Reviewed by William J. Gordon
William J. Gordon
Professional Engineer No. 3457
State of Utah

DS:WJG/ljs

Copies: Addressee (3)

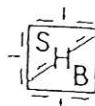
Attachments: Figure 1, Vicinity Map
Figure 2, Site Plan
Figure 3, Test Pit Locations
Table 1, Sample Location Depth and
Analytical Parameters
Table 2, Sample Results Summary
Appendix A, Laboratory Report
Appendix B, Log of Test Pits, and Unified Soil
Classification System
Appendix C, QA/QC Packet



SCALE IN FEET
1000 0 1000 2000

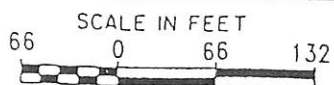
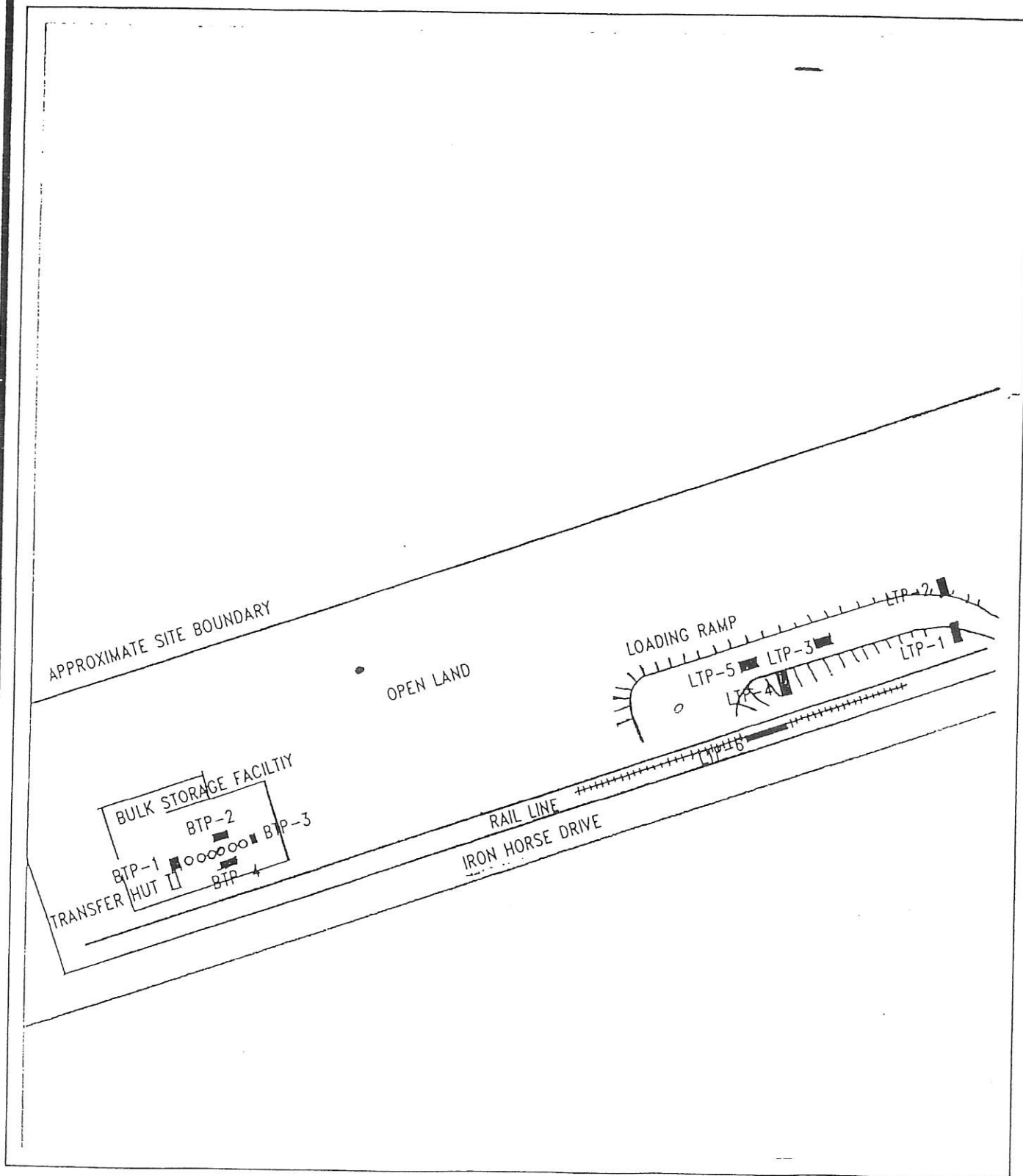
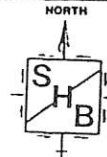
REFERENCE
FROM USGS 7.5 MIN. QUADS TITLED
"PARK CITY WEST, UTAH", 1955
PHOTOREVISED 1975
"PARK CITY EAST, UTAH", 1955

FIGURE 1
VICINITY MAP



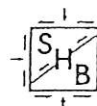
SERGEANT, HAUSKINS & BECKWITH

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PHOENIX • TUCSON
ALBUQUERQUE • SANTA FE • SALT LAKE CITY • EL PASO • RENO • SPARKS



REFERENCE:
ADAPTED FROM UNDATED PRINT
TITLED "EXHIBIT 'A', UNION
PACIFIC RAILROAD" PROVIDED
BY CLIENT

FIGURE 3
TEST PIT LOCATIONS



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TABLE 1

Sample Locations, Depth, and Analytical Parameter

<u>Location</u>	<u>Sample I.D.</u>	<u>Sample Parameters</u>
Test Pit LTP-1	LTP-1	Lead, Silver, Zinc
Test Pit LTP-2	LTP-2	Lead, Silver, Zinc
Test Pit LTP-3	LTP-3	Lead, Silver, Zinc
Test Pit LTP-4	LTP-4	Lead, Silver, Zinc
Test Pit LTP-5	LTP-5	Lead, Silver, Zinc
Test Pit LTP-6	LTP-6	Lead, Silver, Zinc, PCB
Test Pit BTP-1	BTP-1	PHC, BTEX, B/N
Test Pit BTP-2	BTP-2	PHC, B/N
Test Pit BTP-3	BTP-3	No Sample
Test Pit BTP-4	BTP-4	PHC, BETX

TABLE 2

Sample Results Summary (in ppm)

<u>Sample I.D.</u>	<u>Parameters</u>						
	<u>Inorganics</u>			<u>Organics</u>			
	<u>Lead</u>	<u>Silver</u>	<u>Zinc</u>	<u>PCB</u>	<u>PHC</u>	<u>B/N</u>	<u>BTEX</u>
LTP-1	704	3.6	2380	N/A	N/A	N/A	N/A*
LTP-2	3037	31	9700	N/A	N/A	N/A	N/A
LTP-3	2118	23	7040	N/A	N/A	N/A	N/A
LTP-4	827	6	1830	N/A	N/A	N/A	N/A
LTP-5	4018	62	15700	N/A	N/A	N/A	N/A
LTP-6	6182	30	15200	<1	N/A	N/A	N/A
BTP-1	N/A	N/A	N/A	N/A	1340	17.2	3.7
BTP-2	N/A	N/A	N/A	N/A	<10	ND	ND**
BTP-3	No Sample			No Sample			
BTP-4	N/A	N/A	N/A	N/A	<10	ND	ND

* Soil sample not analyzed for this particular analyte or group of compounds.

** Analyte or compound group was not detected above the laboratory method detection limit.

Appendix A



ANALYTICAL REPORT

CLIENT: SHB Engineers
4030 So 500 West Suite 90
Salt Lake City, UT

ATTN: Mr. Thomas Suchoski
Project: WINTZER

Date Samples Rec'd: 11/22/89
MSAI Group No.: 1455
Sample Matrix: Non-Aqueous/Solid
Report Date: 12/11/89
P.O. Number:

LAB SAMPLE NO. DATE	SAMP SAMPLE DESCRIPTION TIME	ANALYSES PERFORMED	RESULT
9200 11/22/89	940 BTP-1	TOTAL PET. HYDRO. 418.1 BTEX (8020), Non-aqueous PP GC/MS ABN #625 Aqueou HOMOGENIZATION MOISTURE	1340 mg/kg See Attach --- See Attach LLI Complete --- 16.5 %
9201 11/22/89	950 BTP-2	TOTAL PET. HYDRO. 418.1 PP GC/MS ABN #625 Aqueou HOMOGENIZATION MOISTURE	<10 mg/kg See Attach LLI Complete --- 13.4 %
9202 11/22/89	1000 BTP-4	TOTAL PET. HYDRO. 418.1 BTEX (8020), Non-aqueous HOMOGENIZATION MOISTURE	<10 mg/kg See Attach --- Complete --- 12.9 %
9203 11/22/89	900 LPT-1	LEAD, FAA SILVER, FAA ZINC, FAA HOMOGENIZATION METALS DIGESTION MOISTURE	776 mg/kg 3.96 mg/kg 2620 mg/kg Complete --- Complete --- 9.3 %
9204 11/22/89	915 LPT-2	LEAD, FAA SILVER, FAA ZINC, FAA HOMOGENIZATION METALS DIGESTION MOISTURE	3360 mg/kg 34.1 mg/kg 10700 mg/kg Complete --- Complete --- 9.6 %
9205 11/22/89	920 LPT-3	LEAD, FAA SILVER, FAA ZINC, FAA HOMOGENIZATION METALS DIGESTION MOISTURE	2280 mg/kg 24.2 mg/kg 7570 mg/kg Complete --- Complete --- 7.0 %



ANALYTICAL REPORT

CLIENT: SHB Engineers
4030 So 500 West Suite 90
Salt Lake City, UT

Date Samples Rec'd: 11/22/89
MSAI Group No.: 1455

ATTN: Mr. Thomas Suchoski
Project: WINTZER

LAB SAMPLE NO DATE	SAMP SAMPLE DESCRIPTION TIME	ANALYSES PERFORMED	RESULT
9206 11/22/89	930 LPT-4	LEAD, FAA	874 mg/kg
9206 11/22/89	930 LPT-4	SILVER, FAA	6.36 mg/kg
		ZINC, FAA	1930 mg/kg
		HOMOGENIZATION	Complete ---
		METALS DIGESTION	Complete ---
		MOISTURE	5.4 %
9207 11/22/89	935 LPT-5	LEAD, FAA	4330 mg/kg
		SILVER, FAA	66.6 mg/kg
		ZINC, FAA	16,900 mg/kg
		HOMOGENIZATION	Complete ---
		METALS DIGESTION	Complete ---
		MOISTURE	7.1 %
9208 11/22/89	950 LPT-6	PCB, Non-Aq, Soil	See Attach ---
		LEAD, FAA	6940 mg/kg
		SILVER, FAA	33.6 mg/kg
		ZINC, FAA	17,060 mg/kg
		HOMOGENIZATION	Complete ---
		METALS DIGESTION	Complete ---
		MOISTURE	11.9 %

Respectfully submitted,

William O. Moellmer, Ph.D.
Manager, Organic Group

Glenn A. Sorensen, B.S.
Manager, Inorganic Group



MOUNTAIN
STATES
ANALYTICAL

ANALYTICAL REPORT

Client: SHB Engineers
4020 South 500 West, #90
Salt Lake City, Utah 84123

ATTN: Don Swigonski

LAB NO: 9200
GROUP NO: 1455
DATE SAMPLED: 11/22/89
TIME SAMPLED: 940
DATE RECEIVED: 11/22/89
DATE REPORTED: 12/11/89
DISPOSAL DATE: 01/10/90

SAMPLE ID: BTP - 1

ANALYSIS: PP GC/MS ABN
(Base Neutrals)

COMPOUND(s)	FINAL RESULTS
N-nitrosodimethylamine	< 330. ug/kg
bis(2-chloroethyl)ether	< 330. ug/kg
1,3-dichlorobenzene	< 330. ug/kg
1,4-dichlorobenzene	< 330. ug/kg
1,2-dichlorobenzene	< 330. ug/kg
bis(2-chloroisopropyl)ether	< 330. ug/kg
hexachloroethane	< 330. ug/kg
N-nitrosodi-n-propylamine	< 330. ug/kg
nitrobenzene	< 330. ug/kg
isophorone	< 330. ug/kg
bis(2-chloroethoxy)methane	< 330. ug/kg
1,2,4-trichlorobenzene	< 330. ug/kg
naphthalene	5,980. ug/kg
hexachlorobutadiene	< 330. ug/kg
hexachlorocyclopentadiene	< 330. ug/kg
2-chloronaphthalene	< 330. ug/kg
acenaphthylene	< 330. ug/kg
dimethyl phthalate	< 330. ug/kg
2,6-dinitrotoluene	< 330. ug/kg
acenaphthene	< 330. ug/kg
2,4-dinitrotoluene	< 330. ug/kg
fluorene	1,360. ug/kg
4-chlorophenyl phenyl ether	< 330. ug/kg
diethyl phthalate	< 330. ug/kg
1,2-diphenylhydrazine	< 330. ug/kg
N-nitrosodiphenylamine	< 330. ug/kg
4-bromophenyl phenyl ether	< 330. ug/kg
hexachlorobenzene	< 330. ug/kg

(Continued....)



MOUNTAIN
STATES
ANALYTICAL

ANALYTICAL REPORT

CLIENT: SHB Engineers
4030 South 500 West, #90
Salt Lake City, Utah 84123

ATTN: Don Swigonski

LAB NO: 9200
GROUP NO: 1455
DATE SAMPLED: 11/22/89
TIME SAMPLED: 940
DATE RECEIVED: 11/22/89
DATE REPORTED: 12/11/89
DISPOSAL DATE: 01/10/90

SAMPLE ID: BTP - 1

ANALYSIS: PP GC/MS ABN 8270
(Base Neutrals)

(... continued from previous page)

COMPOUND(S)	FINAL RESULTS
phenanthrene	8,300. ug/kg
anthracene	< 330. ug/kg
di-n-butyl phthalate	< 330. ug/kg
fluoranthene	< 330. ug/kg
pyrene	< 330. ug/kg
benzidine	< 830. ug/kg
butyl benzyl phthalate	450. ug/kg
benzo(a)anthracene	< 330. ug/kg
chrysene	< 330. ug/kg
3,3'-dichlorobenzidine	< 830. ug/kg
bis(2-ethylhexyl)phthalate	590. ug/kg
di-n-octyl phthalate	540. ug/kg
benzo(b)fluoranthene	< 330. ug/kg
benzo(K)fluoranthene	< 330. ug/kg
benzo(a)pyrene	< 330. ug/kg
indeno(1,2,3-cd)pyrene	< 330. ug/kg
dibenz(a,h)anthracene	< 330. ug/kg
benzo(ghi)perylene	< 330. ug/kg

Internal standard peak areas were outside of QC limits for both the initial injection and the re-injection. The values reported here are from the initial injection of the sample.

This test performed by Lancaster Laboratories, Inc.

Respectfully submitted,



ANALYTICAL REPORT

CLIENT: SHB Engineers
4030 South 500 West, #90
Salt Lake City, Utah 84123

ATTN: Don Swigonski

SAMPLE ID: BTP - 1

ANALYSIS: Gasoline Contamination (BTEX)

LAB NO: 9200
GROUP NO: 1455
DATE SAMPLED: 11/22/89
TIME SAMPLED: 940
DATE RECEIVED: 11/22/89
DATE REPORTED: 12/11/89
DISPOSAL DATE: 01/10/90

COMPOUND(s)	RESULT AS RECEIVED
Benzene	< 50. ug/kg
Toluene	< 50. ug/kg
Ethylbenzene	360. ug/kg
p-Xylene	2,870. ug/kg
m-Xylene	450. ug/kg
o-Xylene	<400. ug/kg

This test performed by Lancaster Laboratories.

Normal reporting limits for benzene and toluene were not attained due to dilution of the sample made necessary by the high level of o-xylene, whereas the reporting limit for p-xylene was not attained due to the presence of an interferent near the retention time for p-xylene.

Respectfully submitted,

Glenn A. Sorensen, B.S.
Manager, Technical Operations



MOUNTAIN
STATES
ANALYTICAL

ANALYTICAL REPORT

Client: SHB Engineers
4020 South 500 West, #90
Salt Lake City, Utah 84123

ATTN: Don Swigonski

LAB NO: 9201
GROUP NO: 1455
DATE SAMPLED: 11/22/89
TIME SAMPLED: 1000
DATE RECEIVED: 11/22/89
DATE REPORTED: 12/11/89
DISPOSAL DATE: 01/10/90

SAMPLE ID: BTP - 2

ANALYSIS: PP GC/MS ABN
(Base Neutrals)

COMPOUND(s)	FINAL RESULTS
N-nitrosodimethylamine	< 330. ug/kg
bis(2-chloroethyl)ether	< 330. ug/kg
1,3-dichlorobenzene	< 330. ug/kg
1,4-dichlorobenzene	< 330. ug/kg
1,2-dichlorobenzene	< 330. ug/kg
bis(2-chloroisopropyl)ether	< 330. ug/kg
hexachloroethane	< 330. ug/kg
N-nitrosodi-n-propylamine	< 330. ug/kg
nitrobenzene	< 330. ug/kg
isophorone	< 330. ug/kg
bis(2-chloroethoxy)methane	< 330. ug/kg
1,2,4-trichlorobenzene	< 330. ug/kg
naphthalene	< 330. ug/kg
hexachlorobutadiene	< 330. ug/kg
hexachlorocyclopentadiene	< 330. ug/kg
2-chloronaphthalene	< 330. ug/kg
acenaphthylene	< 330. ug/kg
dimethyl phthalate	< 330. ug/kg
2,6-dinitrotoluene	< 330. ug/kg
acenaphthene	< 330. ug/kg
2,4-dinitrotoluene	< 330. ug/kg
fluorene	< 330. ug/kg
4-chlorophenyl phenyl ether	< 330. ug/kg
diethyl phthalate	< 330. ug/kg
1,2-diphenylhydrazine	< 330. ug/kg
N-nitrosodiphenylamine	< 330. ug/kg
4-bromophenyl phenyl ether	< 330. ug/kg
hexachlorobenzene	< 330. ug/kg

(Continued....)



ANALYTICAL REPORT

CLIENT: SHB Engineers
4030 South 500 West, #90
Salt Lake City, Utah 84123

ATTN: Don Swigonski

LAB NO: 9201
GROUP NO: 1455
DATE SAMPLED: 11/22/89
TIME SAMPLED: 1000
DATE RECEIVED: 11/22/89
DATE REPORTED: 12/11/89
DISPOSAL DATE: 01/10/90

SAMPLE ID: BTP - 1

ANALYSIS: PP GC/MS A&N 8270
(Base Neutrals)

(... continued from previous page)

COMPOUND(s)	FINAL RESULTS
phenanthrene	< 330. ug/kg
anthracene	< 330. ug/kg
di-n-butyl phthalate	1,340. ug/kg
fluoranthene	< 330. ug/kg
pyrene	< 330. ug/kg
benzidine	< 830. ug/kg
butyl benzyl phthalate	590. ug/kg
benzo(a)anthracene	< 330. ug/kg
chrysene	< 330. ug/kg
3,3'-dichlorobenzidine	< 830. ug/kg
bis(2-ethylhexyl)phthalate	400. ug/kg
di-n-octyl phthalate	520. ug/kg
benzo(b)fluoranthene	< 330. ug/kg
benzo(k)fluoranthene	< 330. ug/kg
benzo(a)pyrene	< 330. ug/kg
indeno(1,2,3-cd)pyrene	< 330. ug/kg
dibenz(a,h)anthracene	< 330. ug/kg
benzo(ghi)perylene	< 330. ug/kg

This test performed by Lancaster Laboratories, Inc.

Respectfully submitted,



ANALYTICAL REPORT

CLIENT: SHB Engineers
4030 South 500 West, #90
Salt Lake City, Utah 84123

ATTN: Don Swigonski

SAMPLE ID: BTP - 4

ANALYSIS: Gasoline Contamination (BTEX)

LAB NO: 9202
GROUP NO: 1455
DATE SAMPLED: 11/22/89
TIME SAMPLED: 1000
DATE RECEIVED: 11/22/89
DATE REPORTED: 12/11/89
DISPOSAL DATE: 01/10/90

COMPOUND(s)	RESULT AS RECEIVED
Benzene	< 20. ug/kg
Toluene	< 20. ug/kg
Ethylbenzene	< 20. ug/kg
p-Xylene	< 20. ug/kg
m-Xylene	< 20. ug/kg
o-Xylene	< 20. ug/kg

This test performed by Lancaster Laboratories.

Respectfully submitted,

Glenn A. Sorensen, B.S.
Manager, Technical Operations



ANALYTICAL REPORT

Client: SHB Engineers
4030 So 500 West Suite 90
Salt Lake City, UT

Attn: Donald Swigonski
Project: WINTZER

SAMPLE ID: LPT-6

Lab No.: 9208
Group No.: 1455
Date Sampled: 11/22/89
Time Sampled: 950
Date Received: 11/22/89
Date Reported: 12/08/89
Discard Date: 01/06/90

ANALYSIS: Polychlorinated Biphenyl Contamination in Soils

COMPOUNDS

Result, as Rec'd

PCB Aroclor 1016	<	1	mg/kg
PCB Aroclor 1211	<	1	mg/kg
PCB Aroclor 1232	<	1	mg/kg
PCB Aroclor 1242	<	1	mg/kg
PCB Aroclor 1248	<	1	mg/kg
PCB Aroclor 1254	<	1	mg/kg
PCB Aroclor 1260	<	1	mg/kg

Respectfully submitted:

William O. Moellmer
William O. Moellmer, Ph.D.
Manager, Organics Group

Appendix B

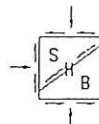
PROJECT Wintzer-Crippen Construction Company
Park City, Utah

JOB NO. E89-2318 DATE 11-22-89

LOG OF TEST PIT NO. LTP-1[illegible]

SAMPLE TYPE

B - Undisturbed Block Sample.
D - Disturbed Bulk Sample.
S - Small Bag Sample.
TW - Thinwall Sample.
J - Jar Sample



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PROJECT Wintzer-Crippen Construction Company
Park City, UtahLOG OF TEST PIT NO. LTP-2JOB NO. E89-2318 DATE 11-22-89BACKHOE TYPE Rubber Tire Backhoe

LOCATION _____

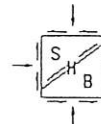
ELEVATION _____

DATUM _____

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classifi- cation	GROUNDWATER			REMARKS	VISUAL CLASSIFICATION
						DEPTH	HOUR	DATE		
0					FILL					CONCRETE DEBRIS gravel, cobbles in a reddish-brown silt, FILL
			J							
					CL					SILTY CLAY trace of gravel; low plasticity, dark gray, FILL
			J		ML					
5										GRAVELLY SILT occasional cobbles; fine to coarse gravel, low plasticity, reddish-brown
10										Stopped excavating at 4'
15										*No groundwater encountered
20										The discussion in the text under the section titled, <u>Field Observations</u> , is necessary to a proper understanding of the nature of the subsurface material.
25										

SAMPLE TYPE

- B - Undisturbed Block Sample.
 D - Disturbed Bulk Sample.
 S - Small Bag Sample.
 TW - Thinwall Sample.
 J - Jar Sample



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PROJECT Wintzer-Crippen Construction CompanyPark City, UtahLOG OF TEST PIT NO. LTP-3JOB NO. E89-2318 DATE 11-22-89BACKHOE TYPE Rubber Tire Backhoe

LOCATION _____

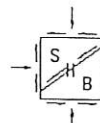
ELEVATION _____

DATUM _____

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classifi- cation	GROUNDWATER			REMARKS	VISUAL CLASSIFICATION
						DEPTH	HOUR	DATE		
0					ML FILL					GRAVELLY SILT with some cobbles; fine to coarse grained gravel, low plasticity, reddish-brown, FILL
		J								
		J								
5					CL FILL GM					SILTY CLAY discontinuous, low plasticity, dark gray, FILL, with tailings, fine to coarse grained sand, gray
		J								GRAVELLY SILT with some cobbles; fine to coarse grained gravel, low plasticity, reddish-brown
10										Stopped excavating at 6'
										*No groundwater encountered
15										
20										The discussion in the text under the section titled, <u>Field Observations</u> , is necessary to a proper understanding of the nature of the subsurface materials.
25										

SAMPLE TYPE

- B - Undisturbed Block Sample.
 D - Disturbed Bulk Sample.
 S - Small Bag Sample.
 TW - Thinwall Sample.
 J - Jar Sample



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Park City, Utah

Park City, Utah

JOB NO. E89-2318 DATE 11-22-89

LOG OF TEST PIT NO. LTP-4

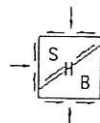
BACKHOE TYPE Rubber Tire Backhoe
LOCATION _____
ELEVATION _____
DATUM _____

GROUNDWATER		
DEPTH	HOUR	DATE
	*	

[illegible]

SAMPLE TYPE

B - Undisturbed Block Sample.
D - Disturbed Bulk Sample.
S - Small Bag Sample.
TW - Thinwall Sample.
J - Jar Sample



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PROJECT Wintzer-Crippen Construction Company

Park City, Utah

JOB NO. E89-2318

DATE 11-22-89

LOG OF TEST PIT NO. LTP-5

GROUNDWATER		
DEPTH	HOUR	DATE
	*	

BACKHOE TYPE Rubber Tire Backhoe

LOCATION

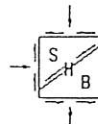
ELEVATION

DATUM

[illegible]

SAMPLE TYPE

B - Undisturbed Block Sample.
D - Disturbed Bulk Sample.
S - Small Bag Sample.
TW - Thinwall Sample.
J - Jar Sample



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PROJECT Wintzer-Crippen Construction CompanyPark City, UtahLOG OF TEST PIT NO. LTP-6JOB NO. E89-2318DATE 11-22-89BACKHOE TYPE Rubber Tire Backhoe

LOCATION _____

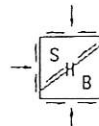
ELEVATION _____

DATUM _____

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classifi- cation	GROUNDWATER			REMARKS	VISUAL CLASSIFICATION
						DEPTH	HOUR	DATE		
0			J		SM FILL					SILTY SAND with trace of clay; fine to coarse grained sand, dark gray and gray, TAILINGS FILL
5										Stopped excavating at 1'
10										*No groundwater encountered
15										
20										The discussion in the text under the section titled, <u>Field Observations</u> , is necessary to a proper understanding of the nature of the subsurface materials.
25										

SAMPLE TYPE

- B - Undisturbed Block Sample.
 D - Disturbed Bulk Sample.
 S - Small Bag Sample.
 TW - Thinwall Sample.
 J - Jar Sample



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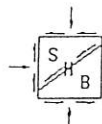
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Page 1 of 1

LOG OF TEST PIT NO. BTP-1

SAMPLE TYPE

B - Undisturbed Block Sample.
D - Disturbed Bulk Sample.
S - Small Bag Sample.
TW - Thinwall Sample.
J - Jar Sample



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PROJECT Wintzer-Crippen Construction CompanyPark City, UtahJOB NO. E89-2318DATE 11-22-89LOG OF TEST PIT NO. BTP-2BACKHOE TYPE Rubber Tire Backhoe

LOCATION _____

ELEVATION _____

DATUM _____

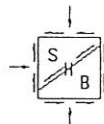
GROUNDWATER

DEPTH	HOUR	DATE
	*	

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classifi- cation	REMARKS	VISUAL CLASSIFICATION
0					SP		
					FILL		
		J			SM		SAND; fine to coarse grained, brown to gray, FILL
					ML		SILTY SAND with some gravel; fine to coarse grained sand, dark brown
		J					(no hydrocarbon odor or staining)
5							
							GRAVELLY SILT with some sand; fine to coarse grained gravel, reddish-brown
							(no hydrocarbon odor or staining)
10							
							Stopped excavating at 4'
							*No groundwater encountered
15							
20							
							The discussion in the text under the section titled, <u>Field Observations</u> , is necessary to a proper understanding of the nature of the subsurface materials.
25							

SAMPLE TYPE

- B - Undisturbed Block Sample.
 D - Disturbed Bulk Sample.
 S - Small Bag Sample.
 TW - Thinwall Sample.
 J - Jar Sample



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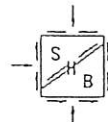
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PROJECT Wintzer-Crippen Construction Company
Park City, UtahJOB NO. E89-2318 DATE 11-22-89LOG OF TEST PIT NO. BTP-3

Depth in Feet	Graphical Log	Sample	Sample Type	Moisture Content Percent of Dry Weight	Unified Soil Classifi- cation	GROUNDWATER			REMARKS	VISUAL CLASSIFICATION
						DEPTH	HOUR	DATE		
0					SM					SILTY SAND with some gravel; fine to coarse grained sand, dark brown (no hydrocarbon odor or staining)
5										Backhoe refused at 1', encountered frozen soil, no sample taken *No groundwater encountered
10										
15										
20										
25										The discussion in the text under the section titled, <u>Field Observations</u> , is necessary to a proper understanding of the nature of the subsurface materials.

SAMPLE TYPE

- B - Undisturbed Block Sample.
 D - Disturbed Bulk Sample.
 S - Small Bag Sample.
 TW - Thinwall Sample.
 J - Jar Sample



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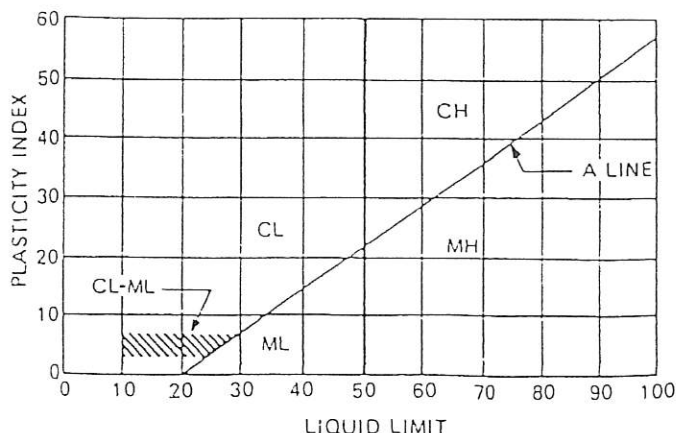
UNIFIED SOIL CLASSIFICATION SYSTEM

Soils are visually classified by the Unified Soil Classification system on the boring logs presented in this report. Grain-size analysis and Atterberg Limits Tests are often performed on selected samples to aid in classification. The classification system is briefly outlined on this chart. For a more detailed description of the system, see "The Unified Soil Classification System" Corp of Engineers, US Army Technical Memorandum No. 3-357 (Revised April 1960) or ASTM Designation: D2487-66T.

MAJOR DIVISIONS				GROUP SYMBOL	TYPICAL NAMES
COARSE-GRAINED SOILS (Less than 50% passes No. 200 sieve)	GRAVELS (50% or less of coarse fraction passes No. 4 sieve)	CLEAN GRAVELS (Less than 5% passes No. 200 sieve)		GW	Well graded gravels, gravel-sand mixtures, or sand-gravel-cobble mixtures.
				GP	Poorly graded gravels, gravel-sand mixtures, or sand-gravel-cobble mixtures.
		GRAVELS WITH FINES (More than 12% passes No. 200 sieve)	Limits plot below "A" line & hatched zone on plasticity chart	GM	Silty gravels, gravel-sand-silt mixtures.
			Limits plot above "A" line & hatched zone on plasticity chart	GC	Clayey gravels, gravel-sand-clay mixtures.
	SANDS (More than 50% of coarse fraction passes No. 4 sieve)	CLEAN SANDS (Less than 5% passes No. 200 sieve)		SW	Well graded sands, gravelly sands.
				SP	Poorly graded sands, gravelly sands.
FINE-GRAINED SOILS (50% or more passes No. 200 sieve)	SILTS LIMITS PLOT BELOW "A" LINE & HATCHED ZONE ON PLASTICITY CHART	SILTS OF LOW PLASTICITY (Liquid Limit Less Than 50)		ML	Inorganic silts, clayey silts with slight plasticity.
		SILTS OF HIGH PLASTICITY (Liquid Limit More Than 50)		MH	Inorganic silts, micaceous or diatomaceous silty soils, elastic silts.
	CLAYS LIMITS PLOT ABOVE "A" LINE & HATCHED ZONE ON PLASTICITY CHART	CLAYS OF LOW PLASTICITY (Liquid Limit Less Than 50)		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
		CLAYS OF HIGH PLASTICITY (Liquid Limit More Than 50)		CH	Inorganic clays of high plasticity, fat clays, sandy clays of high plasticity.

NOTE: Coarse-grained soils with between 5% & 12% passing the No. 200 sieve and fine-grained soils with limits plotting in the hatched zone on the plasticity chart to have double symbol.

PLASTICITY CHART



DEFINITIONS OF SOIL FRACTIONS

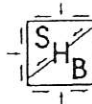
SOIL COMPONENT	PARTICLE SIZE RANGE
Cobbles	Above 3 in.
Gravel	3 in. to No. 4 sieve
Coarse gravel	3 in. to 1/2 in.
Fine gravel	1/2 in. to No. 4 sieve
Sand	No. 4 to No. 200
Coarse	No. 4 to No. 10
Medium	No. 10 to No. 40
Fine	No. 40 to No. 200
Fines (silt or clay)	Below No. 200 sieve



Appendix C

APPENDIX C

Quality Assurance/Quality Control Procedures for Water & Soil Sampling & Testing



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QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES FOR WATER & SOIL SAMPLING & TESTING

(Revised May 1989)

To ensure that valid water and soil chemistry determinations are obtained, the following procedures are followed. These procedures are based on guidelines established by the U.S. Environmental Protection Agency (EPA, 1986) in the Code of Federal Regulations (40 CFR 100-149), the U.S. Geological Survey (USGS, 1984) and the American Society for Testing & Materials (ASTM, 1982). All groundwater and soil sample collection performed for chemical analysis will follow these procedures.

1. Preparation for Sampling

The following steps are taken before sampling begins:

- ° A testing laboratory is selected to perform the analyses. This laboratory should be certified by the appropriate state agencies for chemical analyses of water and waste under regulations developed using EPA guidelines.
- ° The selected testing laboratory is contacted and advised of the upcoming sampling program. Details include 1) the approximate number of samples they will be receiving, 2) when they will be receiving them, 3) the parameters to be tested, 4) the number and types of sample bottles that the lab is to provide and preservatives that will be required, and 5) the date that results are needed.
- ° All equipment is inspected to confirm that all is in working order, and that the required amounts of reagents, solutions, filters, etc., are on hand.

2. Drilling Procedures

- ° Steam clean all auger and A-rods that will be used on the job prior to beginning work.
- ° Steam clean used auger and A-rod between each hole.
- ° Do not use any petroleum based oil or grease (no WD-40 either) on auger, A-rod or samplers. Use only Teflon grease.
- ° Do not use any muds while drilling. Clean water may be added, if necessary, to advance auger.



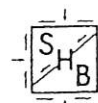
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3. Soil Sampling Procedures

- ° Sample every 5 feet (surface, 5 feet, 10 feet, etc.), unless otherwise specified. In some instances, CME continuous sampling or more frequent field penetration tests (every 2 feet, for example) may be required (at least to the water table). It may also be appropriate to sample at larger intervals (generally 10 feet) where contamination is suspected to extend to greater depths (e.g. 50 feet or deeper).
- ° To obtain a sufficient volume of sample it may be helpful to use a ring sampler (with or without rings) in place of the split spoon.
- ° When taking a drive sample, if there is more than 6 inches of plug in the auger, drive plug from auger, then replace sampler and redrive to obtain sample.
- ° Use only cleaned samplers in the borehole.
- ° Clean samplers between each sample by washing thoroughly with an approved non-phosphate detergent (e.g. Liquinox, Aquanox, etc.), then rinsing in two clean water baths.
- ° Keep all soil samples in 8-ounce glass jars, filling jars as completely full as possible. (Keep water samples in jars or bottles specifically recommended for the desired analysis.) Use jars with teflon-lined lids. If not, place two layers of aluminum foil over the top of the jar, then screw lid on tightly.
- ° Relative field measurements of VOC concentrations are obtained using an HNU photoionization meter, or comparable field instruments. To obtain accurate and consistent readings, the following procedure is followed. Fill a glass jar one-half full with sample. Seal with foil, or a cover specially prepared by drilling a small hole in the lid (cover the hole with tape until ready to make the measurement). Let jar sit for one minute and insert probe into headspace to take reading. If readings fluctuate, record range of values detected. Record HNU



readings on boring log. Wash headspace jar after each use.

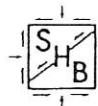
- ° Label each jar with the following information:

Hole number.
Sample depth.
Date and time.
Job number.
Name of sampler.
SHB

Special care must be taken that labels cannot become detached or smeared during storage and transport. Use only indelible ink. Make sure sample labels are securely fastened and will not come off when moistened. If possible, label samples twice - on a paper label fastened to the side of the jar and also written directly on the lid of the jar. If necessary, place each sample jar in a sealed plastic bag, along with sample tag.

- ° Complete a chain of custody report form for each sample taken.
- ° Store filled jars in an ice chest, keeping temperature at about 40 degrees (Fahrenheit). The ice chest should contain a sufficient quantity of ice cubes or "Blue Ice"* to maintain the desired

* "Blue Ice" generally consists of inorganic salts such as alkali metal chlorides or sulfates, borax, and corn starch. Compositions are proprietary, and vary with the manufacturer. This type of "Blue Ice" will freeze into a solid block when exposed to normal freezer temperatures. Another type of "Blue Ice" will remain soft and gel-like, even after overnight exposure to freezer conditions. The mixture inside these packages may contain high concentrations of methanol, apparently added to lower the mixture's freezing point, thus keeping it soft and pliable. Under certain conditions (such as punctured or otherwise damaged gel containers), traces of methanol from the soft blue ice can be drawn into sample vials while the sample is being cooled from ambient to ice chest temperatures. This problem can be avoided by double-sealing sample jars and/or by the inclusion of activated charcoal in the plastic bag containing the jar. A more certain way is to avoid the use of soft blue ice when sampling or transporting samples destined for volatile organic analyses.

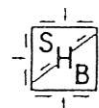


temperature until the samples reach the testing laboratory. Avoid placing the ice chest and/or samples in direct sun, near operating machinery or other heat sources during sampling, transport and storage.

- ° At the end of each day's drilling, send selected samples to the testing laboratory. Include with the samples a list describing what testing is to be performed on each sample and a completed chain of custody report form. The project manager and field engineer will be responsible for determining what tests will be performed.

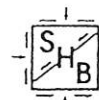
4. Monitor Well Installation

- ° Drill hole to the designated depth.
- ° Drive any plug from the bottom of the auger with a cleaned ring sampler, then take final drive sample.
- ° Measure depth of hole with weighted tape or 1-inch PVC rods to determine the depth of slough at bottom. Record on log.
- ° Begin pulling the auger from the hole. Measure the depth to the bottom after each section of auger is removed. As long as the hole remains open, continue to pull the auger. If the hole stays open until all the auger is pulled, then proceed with the well installation in the open hole. If the hole begins caving at any time while the auger is being removed, then put the auger back on, clean the hole out to the bottom and begin the well installation through the auger as described below.
- ° Install screen and casing to the required depth.
- ° All screen and casing should be clean and wrapped in plastic prior to use to avoid possible contamination. All personnel handling screen and casing during well installation should wear clean gloves. Screen and casing should not be allowed to contact oil and grease, hydraulic fluids, fuels, machinery, used drill steel, or other potential sources of contamination during well installation. If possible, the casing and screen should be hung over the well head with the plastic wrapping still intact,



and the plastic should be removed as the casing and screen are lowered into the wellbore. If specified, or if appropriate, based on field conditions at the time of well installation, decontaminate casing and screen with steam cleaner prior to installation in the borehole.

- ° Complete well with top of pipe at or slightly above ground level. Record depth of screen and casing on well log.
- ° For UST sites where a layer of free product is suspected to be present on the water table, install a sufficient interval of screen to intersect the water table and allow for seasonal fluctuations in static water levels. Installation of screen above the water table may require a variance from the State Department of Water Resources or other appropriate agencies.
- ° After installing the screen and casing through the auger, place the sand pack around the screened interval by slowly introducing sand between the outside of the casing and the inside of the auger after pulling one 5-foot section from the hole. After adding one sack of sand, repeat with two more sections, then carefully pull the remainder of the auger from the hole.
- ° Add sand to bring sand-pack level to about 3 feet above the top of the screen. Add sand very slowly and agitate with 1-inch PVC to avoid bridging.
- ° Measure depth to top of sand pack and record on log.
- ° Install a clay seal above the sand pack using bentonite pellets. Add pellets slowly to avoid bridging. Measure and record depth to the top of the bentonite seal.
- ° Backfill hole above bentonite seal with sand, clean soils or cement grout to a depth of 20 feet.
- ° Fill hole to the surface with cement grout.
- ° Place steel surface casing assembly into the grouted hole before the cement sets up. Install as directed by the field engineer. Installation probably will be flush with or slightly above ground level. Flush

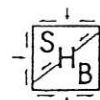


or below-ground completions may require a variance from the State Department of Water Resources or other appropriate agencies.

- ° Let cement grout set up.
- ° Measure water level, record on log.
- ° After grout has set up, develop the well using a bailer, air compressor or temporary pump. To use air compressor, put air hose to the bottom of the well and blow out all the water. Wait until water level has recovered at least 10 feet, then blow out the hole again. Repeat four to six times. If using a bailer, bail hole for at least one hour unless the hole goes dry first.
- ° If developing well by pumping, pump water continuously until the discharge is free of sediment and measurements of water temperature, pH and electrical conductance have stabilized.
- ° Do not sample monitor wells for the possible presence of a free product layer on the water table until at least 24 hours have elapsed since development of the well.

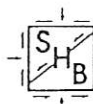
5. Groundwater Sampling Plan

- ° To reduce the potential for cross-contamination when sampling a series of wells, all upgradient wells will be measured first, then downgradient wells, then on-site wells. All domestic wells will be sampled before sampling any on-site wells. Extra care will be taken in cleaning downhole sampling equipment before lowering mechanism into domestic wells.
- ° Water from all wells will be sampled as close to the well head as is practicable. Samples will not be taken downstream of any device that alters water quality, such as a chlorinator or water softener. Prior to collecting samples for analysis, static water level measurements will be taken. A record of all data will be compiled.
- ° Sampling to determine the quantity of immiscible fluids on top of the water table should be performed through the use of an interface probe or a clean



bailer. These samples should be obtained after the well has been sitting idle for at least 24 hours. Do not purge the well before sampling, and try to obtain the sample from the very top of the water table.

- ° After sampling to determine the quantity of immiscible fluids has been collected, pumping or bailing of the wells will be performed prior to any additional sampling in order to purge the well of stagnant water. During this purging, field measurements of discharging water will be performed to determine when laboratory samples can be collected. Field measurements include water temperature, pH and electrical conductance (EC). Field measurements will be continued while purging at least three well volumes. If measurements have stabilized after purging three well volumes, then samples for laboratory analysis can be collected. If measurements have not stabilized, monitoring will continue while purging up to ten well volumes, or until readings stabilize.
- ° When making field measurements, a flow-through container will be used for temperature, pH and TC probes. The water will enter the flow-through container before discharging. This procedure increases the accuracy and reproducibility of the field measurements.
- ° Groundwater sampling equipment will be decontaminated before and after being used in any one well. Evacuated water should be stored in drums or bins, and then disposed of in an appropriate and legal manner after analysis of the sample or evacuated water has identified any hazards.
- ° To collect water samples for laboratory analysis, water is carefully added from the discharge point to the sample bottles to ensure that no air bubbles have entered. The sample should not overflow the bottle. Bottles from the laboratory will be precleaned and have had appropriate preservatives added. Do not prerinse bottles in the field.
- ° During each sampling period, two duplicate samples will be taken and two blank samples will be prepared. Duplicate samples will be taken at the same time as the original sample, and will be



filtered and preserved in the same manner as the original sample. The duplicate samples will be labeled the same as the original, except the sample identification number will be followed by the letter "D." Blank samples will be composed of deionized water added to a sample bottle under field conditions. Labeling of the blank samples will include a sample identification number "Blank 1" or "Blank 2." Field water sampling forms and a chain of custody record will be completed for each blank and duplicate sample, and shipment procedures will be the same as for the actual samples.

- ° After completing the water sampling at a particular well, all sampling equipment, including pumps or bailers, flow-through containers, filtering equipment, testing equipment and water level sounders, will be thoroughly cleaned with a detergent wash and two deionized water rinses prior to sampling any additional wells.

6. Labeling and Chain of Custody

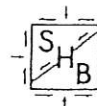
All sample bottles will be labeled with the following information:

- ° Well number or sample identification number.
- ° Date and time.
- ° Any preservative included in sample.
- ° Filtered or unfiltered water.
- ° Job number or name.
- ° Name of sampler.
- ° SHB .

In addition to labeling the sample bottles, a chain of custody form will be completed for each sample. All samples will be accompanied by the chain of custody record. When transferring the possession of samples, the individuals relinquishing and receiving will sign, date and note the time on the record. The original record will accompany the samples to the testing laboratory and a copy of the record will remain in the job file.

7. Sample Shipment

- ° Samples will be shipped in insulated coolers with sufficient coolant to keep samples cool until they arrive at the testing laboratory. A self-contained coolant such as "Blue Ice" is the preferred choice of coolant. Coolers will be taped shut. Acidified samples will be shipped in sturdy boxes, otherwise the same procedures apply.
- ° If possible, samples will be hand delivered to the testing laboratory. If samples need to be shipped, they will be packaged to arrive at the laboratory in good condition. Using tape, pertinent information will be fastened to the inside lid of the cooler. This information will include the name, address and telephone number of the testing laboratory, and the name of the person to contact at the lab. The original chain of custody record will also be included. This record will include the requested analyses for each sample included in the shipment.
- ° If it is suspected that a sample may contain corrosive, toxic or hazardous materials, or an unusually high concentration of a particular constituent, a memo to this effect will be prepared. A copy of this memo will be included with the other information sent to the laboratory with the samples.
- ° The sampling and shipments will be scheduled so that samples do not arrive at the laboratory after 4:00 p.m. on a Friday or on weekends. Samples will be shipped so they arrive at the lab no later than 24 hours after they were taken. The laboratory will be called to inform them when the samples will arrive.
- ° Chemical testing will generally be performed at a laboratory certified by the State. Testing will be performed to determine total petroleum hydrocarbon (TPH) levels as well as levels of benzene, toluene, ethylbenzene and xylenes (BTEX). If soil or water contamination from regular gasoline is suspected, an analysis for total organic lead will be performed. If waste oil is a suspected contaminant, then testing will be performed for both lead and chromium.



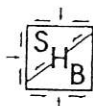
- The test methods to be used for these analyses are summarized below:

<u>Constituents</u>	<u>EPA Test Methods</u>	
	<u>Soil</u>	<u>Water</u>
TPH (Gasoline)	Modified 8015	Modified 8015
TPH (Diesel or Waste Oil)	Modified 418.1	Modified 418.1
BTEX	8020 or Modified 8015	602
Lead & Chromium	3050	3050

- All water samples to be analyzed using EPA Method 602 will be preserved with hydrochloric acid in accordance with EPA publication SW-846. Maximum holding times for all samples prior to extraction in the laboratory will be 48 hours.
- In some cases waste oil or similar products may contain solvents or other metals, including arsenic, cadmium and barium. Soils containing toxic levels of lead, chromium, arsenic, cadmium and certain solvents may be regulated as hazardous substances under Subtitle I of the Resource Conservation and Recovery Act (RCRA). Such waste may require special testing, as well as Hazardous Waste Treatment, Transport, Storage and Disposal Permits under state or federal RCRA programs.

8. Record Keeping

Proper record keeping is essential to the validity of the water quality sampling program. Records include the labeling of the sample bottles, completion of the chain of custody and field water sampling records, and all daily field reports (Attachment 4). Upon the receipt of laboratory results, a data summary sheet will be developed for each monitoring point. This summary will include all field and laboratory testing results, listed chronologically. Summary sheets, original field forms and laboratory correspondence will be retained in a central file. These data will be accompanied by any pertinent details concerning well construction, such as geologic logs, well completion records, etc.

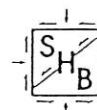


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Wintzer

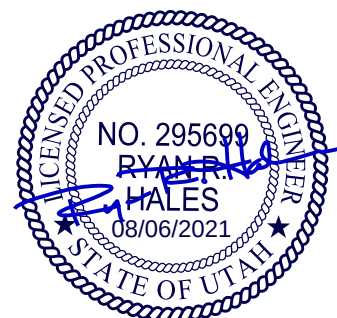
Traffic Impact Study



Park City, Utah

August 6, 2021

UT21-1940



EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with Phase I of the proposed Wintzer development located in Park City, Utah. The Wintzer development is located on the north side of Iron Horse Drive to the southeast of the bend at Homestake Road.

The purpose of this traffic impact study is to analyze traffic operations at key intersections for existing (2021) and future (2026) conditions with and without the proposed project and to recommend mitigation measures as needed. The evening peak hour level of service (LOS) results are shown in Table ES-1. Recommended storage lengths are shown in Table ES-2.

Table ES-1: Evening Peak Hour Level of Service Results

Intersection		Level of Service													
		Existing (2021)						Future (2026)							
		Background		Plus Project				Background				Plus Project			
		AM	PM	AM		PM		AM		PM		AM		PM	
		-	-	w/o Link	w/ Link	w/o Link	w/ Link	w/o Mit	w/ Mit	w/o Mit	w/ Mit	w/o Link	w/ Link	w/o Link	w/ Link
1	Homestake Road / S.R. 224	c	e	c	d	e	d	d	d	f	f	d	d	f	e
2	Iron Horse Drive / S.R. 224	c	f	c	c	d	e	c	c	d	f	d	d	d	e
3	S-4 & N-5 (West Access) / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
4	S-3 & N-4 / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
5	S-2 & N-3 / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
6	N-2 / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
7	S-1 / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
8	N-1 / Iron Horse Drive	a	c	a	a	a	d	a	a	c	a	a	a	a	a
9	Iron Horse Drive / Bonanza Drive	c	f	c	c	f	f	c	A	f	A	A	A	A	A
10	East Access / Bonanza Drive	b	c	b	b	c	c	c	b	d	c	c	c	c	c
11	Bonanza Drive / Kearns Boulevard (S.R. 248)	C	D	C	C	D	D	C	C	E	C	C	C	C	C
12	West Access / Homestake Drive	-	-	-	a	-	a	-	-	-	-	-	a	-	a

Note: "w/o Mit" refers to the scenario without mitigations and "Mit" refers to the scenario with mitigations

Table ES-2: Recommended Storage Length

Intersection		Recommended Storage Lengths (feet)															
		Northeast-bound				Southeast-bound				Southwest-bound				Northwest-bound			
		LT		RT		LT		RT		LT		RT		LT		RT	
		E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
11	Bonanza Drive / Kearns Boulevard (S.R. 248)	-	-	-	225	-	-	-	-	100	325	-	-	-	-	-	-

1. Storage lengths are based on 2040 95th percentile queue lengths and do not include required deceleration / taper distances

2. E = Existing storage length (approximate), if applicable; P = proposed storage length for new turn lanes or changes to existing turn lanes, if applicable

Source: Hales Engineering, August 2021

SUMMARY OF KEY FINDINGS & RECOMMENDATIONS

Project Conditions

- The development will consist of multifamily residential units, office and retail space, and a restaurant.
- The project is anticipated to generate approximately 582 weekday daily trips, including 35 trips in the morning peak hour, and 51 trips in the evening peak hour

2021	Background	Plus Project
Assumptions	• None	• Scenarios with and without link between Iron Horse Dr and Homestake Rd analyzed ◦ In the scenario with the link, some background traffic volumes were rerouted through it • Traffic volumes from existing buildings on the project site were removed from the roadway network
Findings	• Poor LOS at Homestake Rd / S.R. 224, Iron Horse Dr / S.R. 224, and Iron Horse Dr / Bonanza Dr intersections • Excessive queueing at the Bonanza Dr / Kearns Blvd (S.R. 248) intersection	• Poor LOS at Homestake Rd / S.R. 224, Iron Horse Dr / S.R. 224, and Iron Horse Dr / Bonanza Dr intersections
Mitigations	• Bonanza Dr / Kearns Blvd (S.R. 248): Install SWB dual left-turn lanes per UDOT's preferred alternative ◦ This will require a second receiving lane, which is shown as ending as a left-turn trap at Prospector Ave	• None
2026	Background	Plus Project
Findings	• Poor LOS at Homestake Rd / S.R. 224, Iron Horse Dr / Bonanza Dr, and Bonanza Dr / Kearns Blvd (S.R. 248) intersections	• Poor LOS at Homestake Rd / S.R. 224 and Iron Horse Dr / S.R. 224 intersections
Mitigations	• Bonanza Dr / Kearns Blvd (S.R. 248): Install NWB free right-turn and NEB right-turn pocket per UDOT's preferred alternative ◦ It is also recommended that this signal be coordinated • Kearns Blvd (S.R. 248): Extend 5-lane cross-section past current bottleneck at Sidewinder Dr per UDOT's preferred alternative • Iron Horse Dr / Bonanza Dr: Signalize	• None

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with Phase I of the proposed Wintzer development located in Park City, Utah. The proposed project is located on the north side of Iron Horse Drive to the southeast of the bend at Homestake Road. Figure 1 shows a vicinity map of the proposed development.

The purpose of this traffic impact study is to analyze traffic operations at key intersections for existing (2021) and future (2026) conditions with and without the proposed project and to recommend mitigation measures as needed.

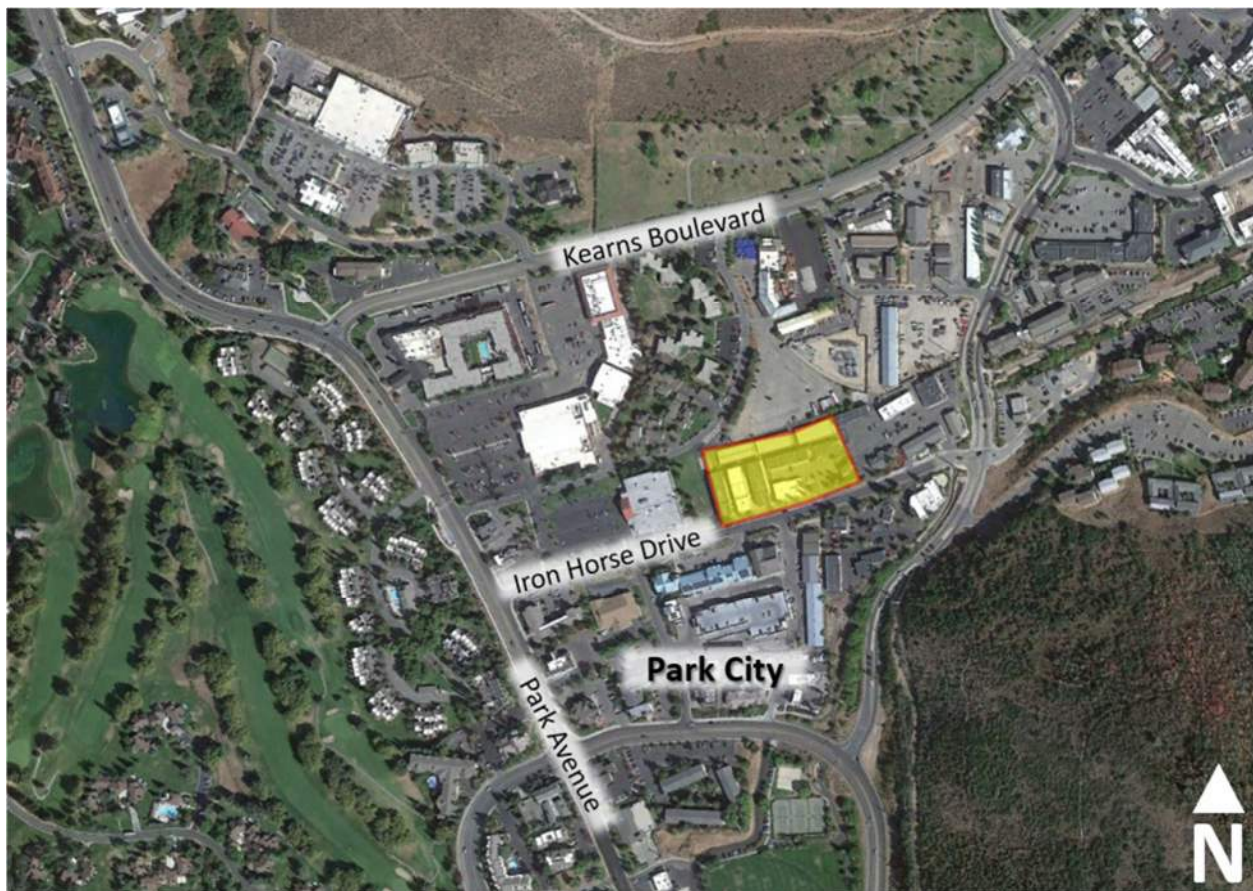


Figure 1: Vicinity map showing the project location in Park City, Utah

B. Scope

The study area was defined based on conversations with the development team. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Homestake Road / S.R. 224
- Iron Horse Drive / S.R. 224
- Accesses along Iron Horse Drive between project and Bonanza Drive
- Iron Horse Drive / Bonanza Drive
- East Access / Bonanza Drive
- Bonanza Drive / Kearns Boulevard (S.R. 248)

C. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections.

The *Highway Capacity Manual* (HCM), 6th Edition, 2016 methodology was used in this study to remain consistent with “state-of-the-practice” professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized, roundabout, and all-way stop-controlled (AWSC) intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections, LOS is reported based on the worst movement.

Using Synchro/SimTraffic software, which follow the HCM methodology, the peak hour LOS was computed for each study intersection. Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. The detailed LOS reports are provided in Appendix B. Hales Engineering also calculated the 95th percentile queue lengths for the study intersections using SimTraffic. The detailed queue length reports are provided in Appendix D.

D. Level of Service Standards

For the purposes of this study, a minimum acceptable intersection performance for each of the study intersections was set at LOS D. If levels of service E or F conditions exist, an explanation and/or mitigation measures will be presented. A LOS D threshold is consistent with “state-of-the-practice” traffic engineering principles for urbanized areas.

Table 1: Level of Service Description

LOS		Description of Traffic Conditions	Average Delay (seconds/vehicle)	
			Signalized Intersections	Unsignalized Intersections
A		Free Flow / Insignificant Delay	≤ 10	≤ 10
B		Stable Operations / Minimum Delays	> 10 to 20	> 10 to 15
C		Stable Operations / Acceptable Delays	> 20 to 35	> 15 to 25
D		Approaching Unstable Flows / Tolerable Delays	> 35 to 55	> 25 to 35
E		Unstable Operations / Significant Delays	> 55 to 80	> 35 to 50
F		Forced Flows / Unpredictable Flows / Excessive Delays	> 80	> 50

Source: Hales Engineering Descriptions, based on the *Highway Capacity Manual* (HCM), 6th Edition, 2016 Methodology (Transportation Research Board)

II. EXISTING (2021) BACKGROUND CONDITIONS

A. Purpose

The purpose of the background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified, and potential mitigation measures recommended. This analysis provides a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadways that will provide access to the project site are described below:

Iron Horse Drive – is a city-maintained roadway which is classified by the Park City Transportation Master Plan (October 2011) as a “commercial collector.” The roadway has one travel lane in each direction. The posted speed limit is 25 mph in the study area.

Homestake Road – is a city-maintained roadway which is classified as a local street. The roadway has one travel lane in each direction. The posted speed limit is 25 mph in the study area.

C. Traffic Volumes

Weekday morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak period traffic counts were performed at the following intersections:

- Homestake Road / S.R. 224
- Iron Horse Drive / S.R. 224
- Accesses along Iron Horse Drive between project and Bonanza Drive
- Iron Horse Drive / Bonanza Drive
- East Access / Bonanza Drive
- Bonanza Drive / Kearns Boulevard (S.R. 248)

The counts were performed on Tuesday, June 29, 2021, Thursday, July 22, 2021, and Thursday, July 29, 2021. The morning peak hour was determined to be between 8:00 and 9:00 a.m., and the evening peak hour was determined to be between 4:30 and 5:30 p.m. Detailed count data are included in Appendix A.

Hales Engineering considered the possibility of seasonal adjustments to the observed traffic volumes. Monthly traffic volume data were obtained from a nearby UDOT automatic traffic recorder (ATR) on S.R. 224 (ATR #605). In recent years, traffic volumes in June have been on par with average traffic volumes and July volumes have been equal to approximately 110% of average traffic volumes. July volumes are on par with winter volumes. For this reason, no seasonal adjustments were made.

The traffic counts were collected during the COVID-19 pandemic when traffic volumes were slightly reduced in some areas due to social distancing measures. According to the UDOT COVID-19 Data Reporting website, the traffic volumes in June and July 2021 in Summit County were higher than volumes in June and July 2019. Therefore, no adjustments were made.

For the purposes of the modeling software, it was necessary to consolidate some of the low volume accesses near the project that are spaced closely together. These accesses are numbered and designated an “N” or an “S” depending whether they are on the north or south side of Iron Horse Drive.

Figure 2 and Figure 3 show the existing morning and evening peak hour volumes as well as intersection geometry at the study intersections.

D. Level of Service Analysis

Hales Engineering determined that the Homestake Road / S.R. 224, Iron Horse Drive / S.R. 224, and Iron Horse Drive / Bonanza Drive intersections are currently operating at poor levels of service during the evening peak hour, as shown in Table 2. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2021) conditions.

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Significant 95th percentile queue lengths during the evening peak hour are summarized as follows:

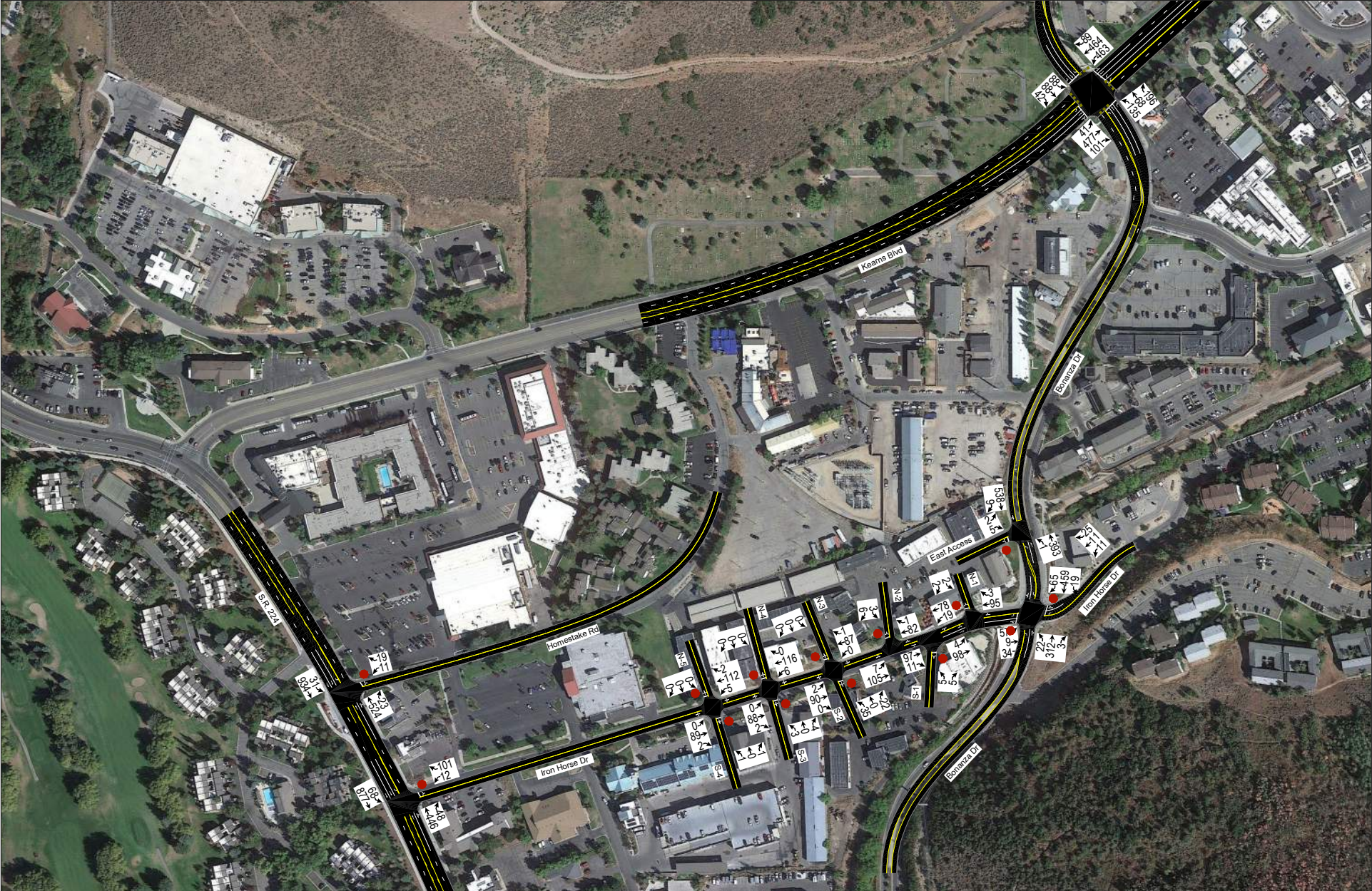
- Bonanza Dr / Kearns Blvd (S.R. 248):
 - Northeast-bound: 600 feet
 - Northwest-bound: >1,000 feet

F. Mitigation Measures

According to the UDOT environmental assessment for S.R. 248, the alternative listed as “preferred” shows significant improvements at the Bonanza Drive / Kearns Boulevard (S.R. 248) intersection. Based on the improvements listed in this alternative, it is recommended that dual left-turn lanes be installed on the southwest-bound approach to mitigate the excessive queueing, which are currently warranted according to UDOT left-turn guidelines. This will require a second receiving lane on Bonanza Drive, which is planned to be carried through as a trap left-turn lane at Prospector Avenue. This improvement will allow more green time to be allocated to other movements.

With the proposed improvement, it is anticipated that the queueing at the Bonanza Drive / Kearns Boulevard (S.R. 248) intersection will reduce to 550 feet on the northeast-bound approach and 300 feet on the northwest-bound approach.

Signalization is not recommended on any of the intersections with a poor LOS, either because they do not meet warrants for a signal or because they are located too close to an existing signalized intersection. Drivers will learn to adapt and reroute.



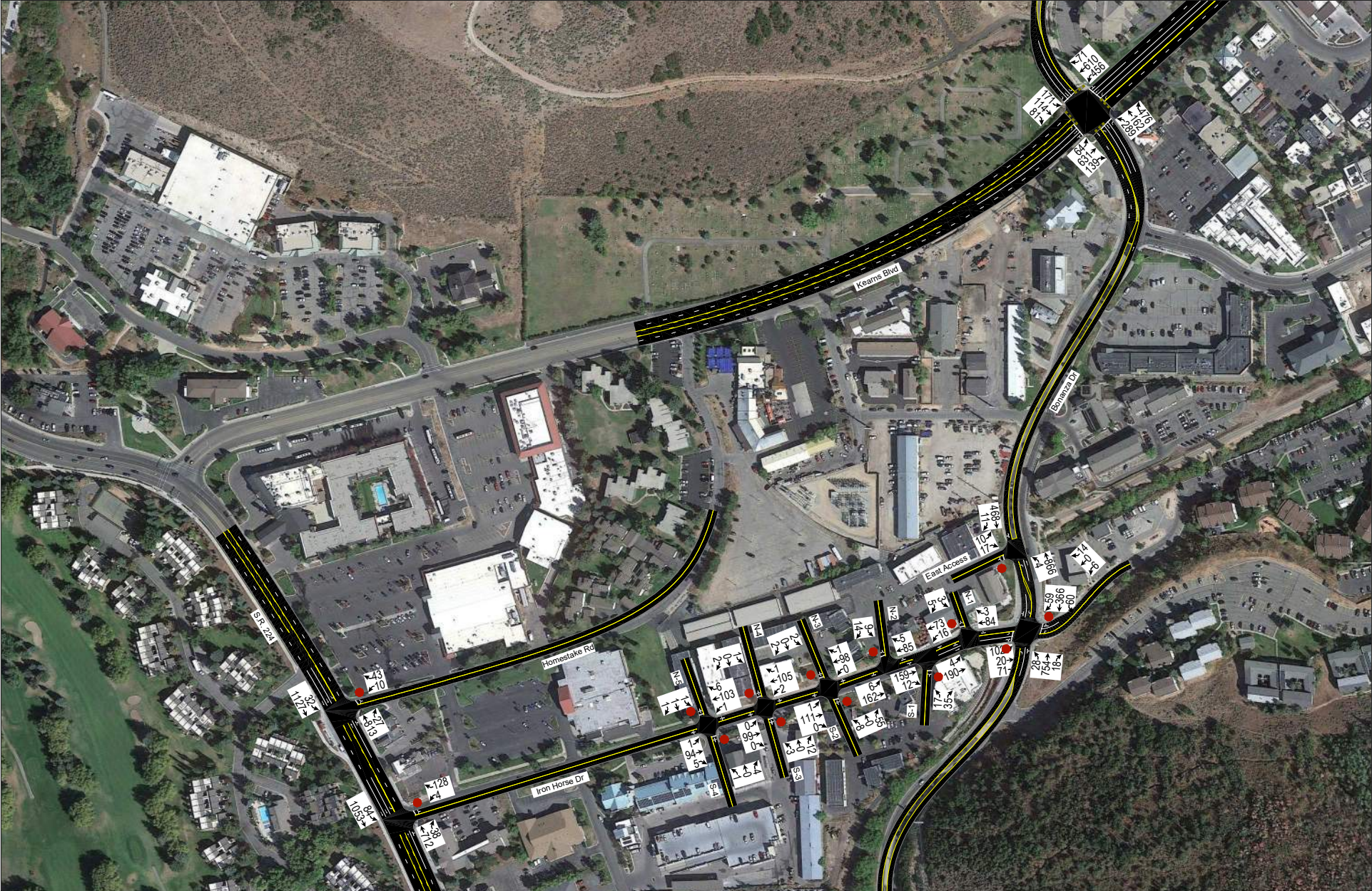


Table 2: Existing (2021) Background Peak Hour LOS

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	c (22.5) / WBL	e (40.2) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (21.5) / WBL	f (>50) / WBL
S-4 & N-5 / Iron Horse Drive	NB/SB Stop	a (2.2) / NBR	a (5.1) / SBT
S-3 & N-4 / Iron Horse Drive	NB/SB Stop	a (5.1) / NBL	a (3.9) / NBL
S-2 & N-3 / Iron Horse Drive	NB/SB Stop	a (4.7) / NBL	a (5.0) / SBL
N-2 / Iron Horse Drive	SB Stop	a (4.1) / SBL	a (7.0) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.5) / NBL	a (9.8) / NBR
N-1 / Iron Horse Drive	SB Stop	a (4.5) / SBL	c (21.2) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	c (17.0) / EBL	f (>50) / EBL
East Access / Bonanza Drive	EB Stop	b (12.8) / EBL	c (21.0) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (23.3)	D (46.0)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

III. PROJECT CONDITIONS

A. Purpose

The project conditions discussion explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in Chapter I.

B. Project Description

Phase I of the proposed Wintzer development is located on the north side of Iron Horse Drive to the southeast of the bend at Homestake Road. The development will consist of residential multifamily units, office space, commercial / retail space, and a restaurant. A concept plan for the proposed development is provided in Appendix C. The proposed land use for the development has been identified in Table 3.

Table 3: Project Land Uses

Land Use	Intensity
Multifamily housing	58 Units
Office	2,152 sq. ft.
Restaurant	2,992 sq. ft.
Commercial / Retail	2,152 sq. ft.

C. Trip Generation

Trip generation for the development was calculated using trip generation rates published in the Institute of Transportation Engineers (ITE), *Trip Generation*, 10th Edition, 2017. Because of the mixed-use nature of the development, internal capture reductions were made as it is likely several trips will be made via walking internal to the development. These reductions were calculated using standard ITE methodology and reductions of 5% and 30% were produced for the morning and evening peak hours, respectively. To be conservative, the evening peak hour internal capture was reduced to 25% for this analysis. There is currently a Park City transit route that runs near the project on Bonanza Drive, and the project itself has potential for a bus stop. To be conservative, no transit reductions were made to the trip generation. Trip generation for the proposed project is included in Table 4.

The total new trip generation for the development is as follows:

- Daily Trips: 582
- Morning Peak Hour Trips: 35
- Evening Peak Hour Trips: 51

Table 4: Trip Generation

Trip Generation Park City - Wintzer TIS											
Weekday Daily Land Use ¹	# of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Internal Capture	New Trips Entering	New Trips Exiting	Total New Daily Trips
Multifamily Housing (Mid-Rise) (221)	58	Dwelling Units	316	50%	50%	158	158	15%	134	134	268
Quality Restuaruant (931)	3.0	1,000 Sq. Ft. GFA	252	50%	50%	126	126	15%	107	107	214
Shopping Center (820)	2.2	1,000 Sq. Ft. GLA	82	50%	50%	41	41	15%	35	35	70
Small Office Building (712)	2.2	1,000 Sq. Ft. GLA	36	50%	50%	18	18	15%	15	15	30
Total			686			343	343		291	291	582
Morning Peak Hour Land Use ¹	# of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Internal Capture	New Trips Entering	New Trips Exiting	Total New AM Trips
Multifamily Housing (Mid-Rise) (221)	58	Dwelling Units	22	26%	74%	6	16	5%	6	15	21
Quality Restuaruant (931)	3.0	1,000 Sq. Ft. GFA	4	50%	50%	2	2	5%	2	2	4
Shopping Center (820)	2.2	1,000 Sq. Ft. GLA	4	62%	38%	2	2	5%	2	2	4
Small Office Building (712)	2.2	1,000 Sq. Ft. GLA	6	83%	17%	5	1	5%	5	1	6
Total			36			15	21		15	20	35
Evening Peak Hour Land Use ¹	# of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Internal Capture	New Trips Entering	New Trips Exiting	Total New PM Trips
Multifamily Housing (Mid-Rise) (221)	58	Dwelling Units	26	61%	39%	16	10	25%	12	8	20
Quality Restuaruant (931)	3.0	1,000 Sq. Ft. GFA	24	67%	33%	16	8	25%	12	6	18
Shopping Center (820)	2.2	1,000 Sq. Ft. GLA	10	48%	52%	5	5	25%	4	4	8
Small Office Building (712)	2.2	1,000 Sq. Ft. GLA	6	32%	68%	2	4	25%	2	3	5
Total			66			39	27		30	21	51

1. Land Use Code from the Institute of Transportation Engineers (ITE) *Trip Generation*, 10th Edition, 2017.

SOURCE: Hales Engineering, July 2021

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially near the site. The resulting distribution of project generated trips during the evening peak hour is shown in Table 5.

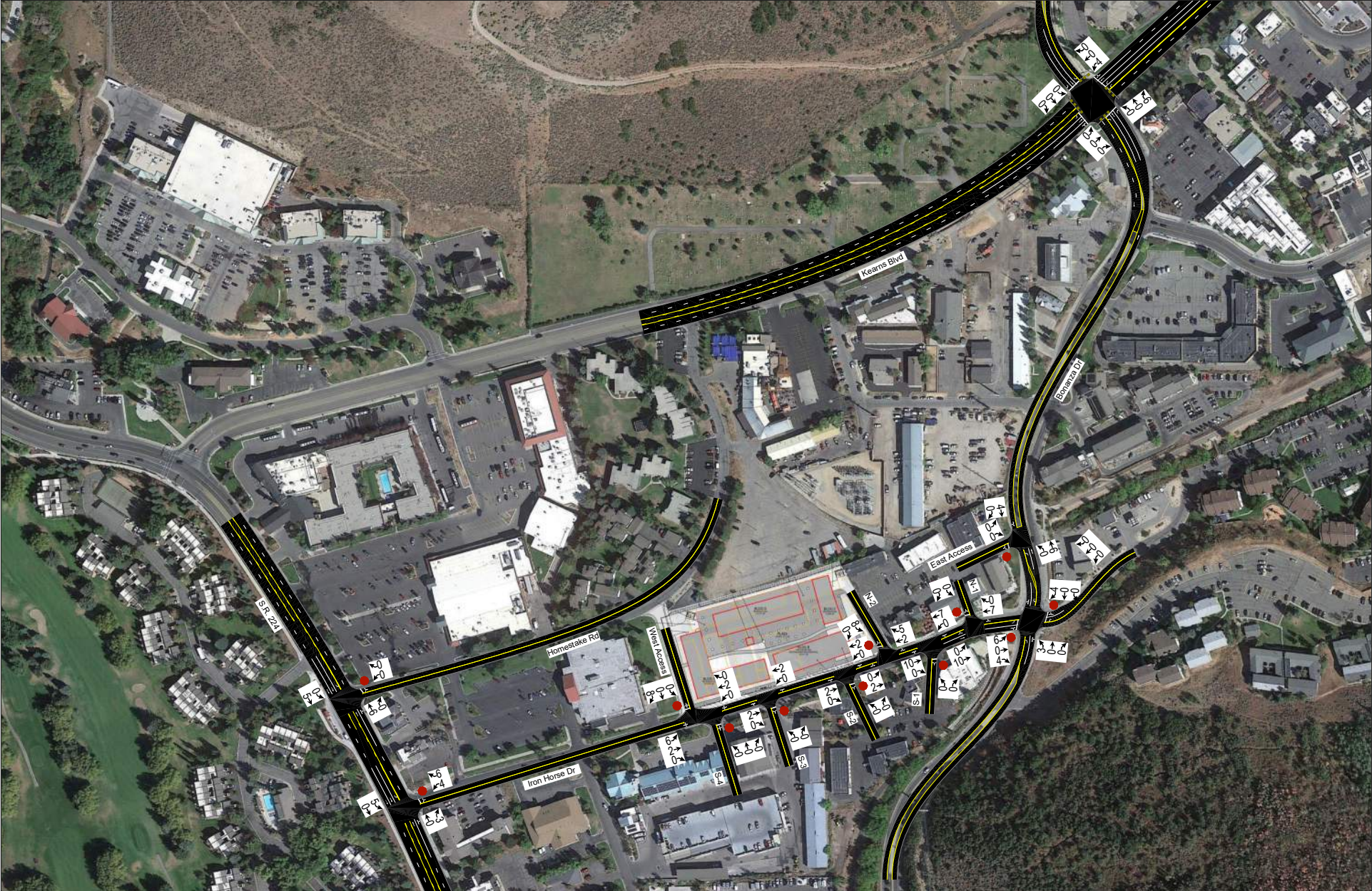
Table 5: Trip Distribution

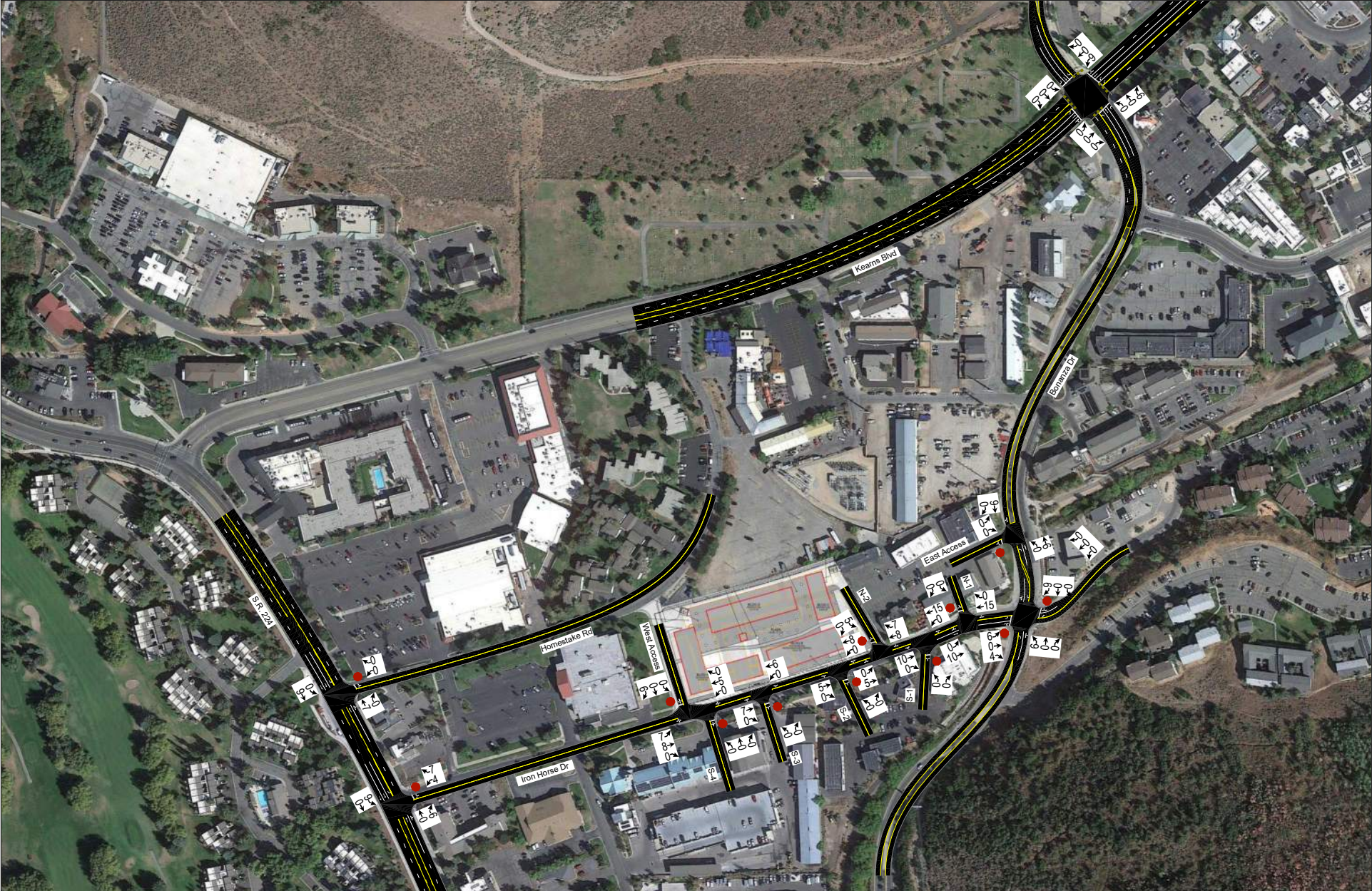
Direction	% To/From Project
North (S.R. 224)	30%
East (S.R. 248)	30%
South (S.R. 224)	20%
South (Bonanza)	20%

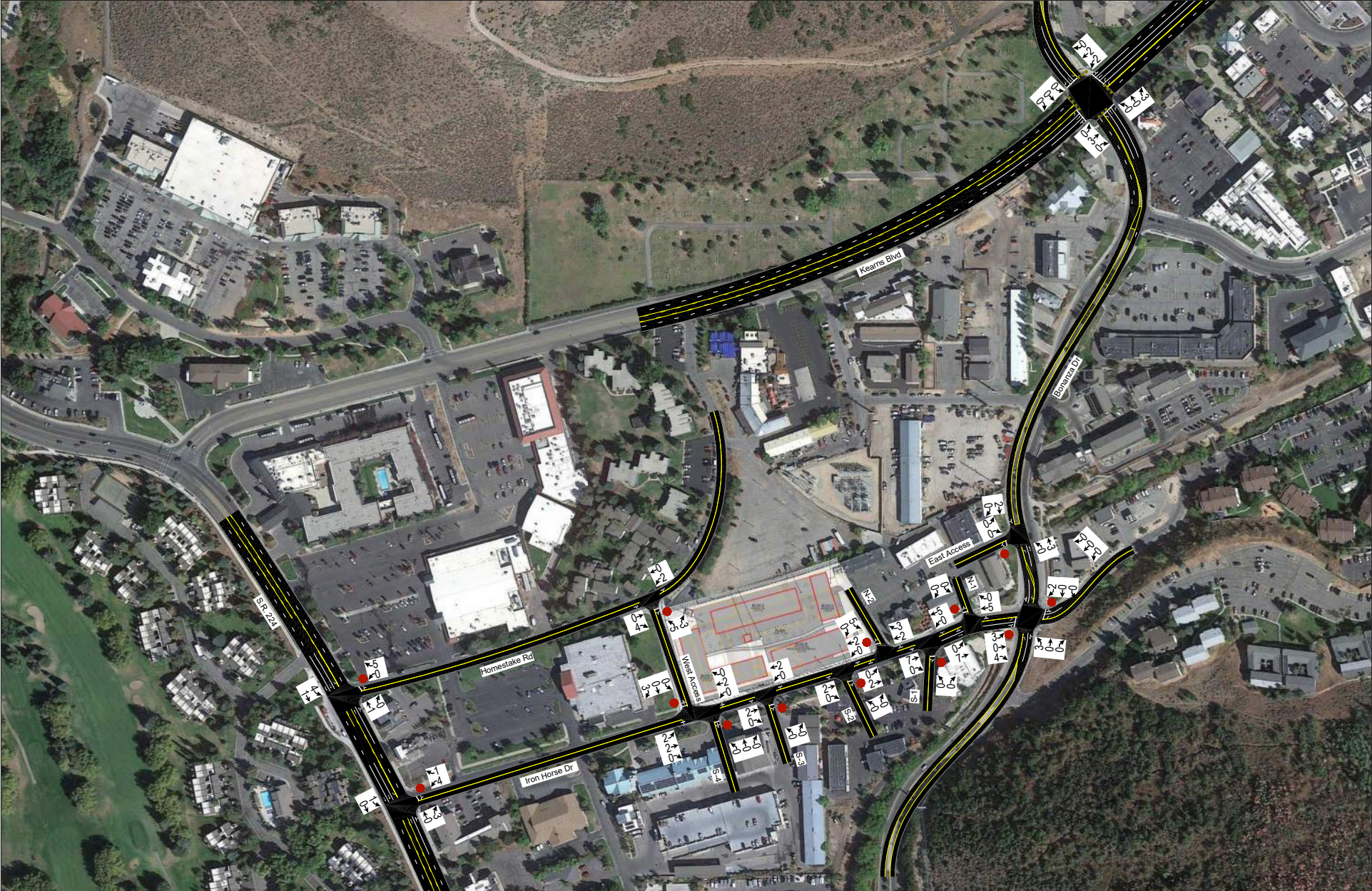
These trip distribution assumptions were used to assign the morning and evening peak hour generated traffic at the study intersections to create trip assignment for the proposed development. Two separate scenarios were analyzed within the existing and future plus project

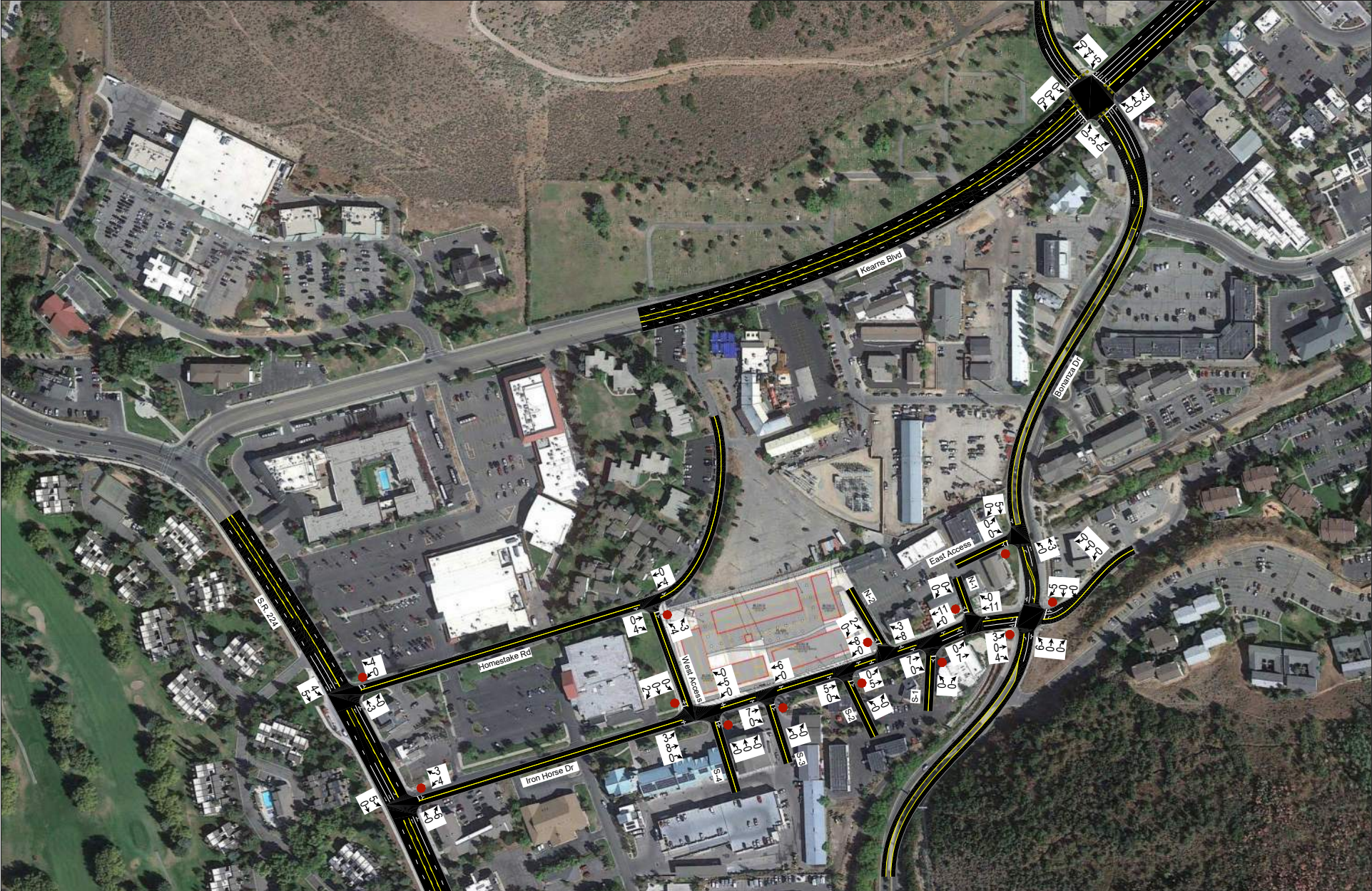
conditions as a link between Homestake Road and Iron Horse Drive is being planned along the west edge of the project.

Trip assignment for the development with the existing roadway configuration is shown in Figure 4 and Figure 5 and trip assignment with the new link is shown in Figure 6 and Figure 7. It was assumed that the retail and restaurant trips will utilize the on-street parking in front of the development rather than the project access points. The office and residential land uses were assumed to use the access points. The medians shown on Iron Horse Drive in the site plan were not included in the analysis due to conflicts with the accesses on the south side. If these medians are eventually installed, the project accesses in this area are likely to perform even better; however, the islands will need to be strategically placed.









E. Access

The proposed access for the site will be gained at the following locations (see also concept plan in Appendix C):

Iron Horse Drive:

- The access on the eastern edge of the property will take the place of the access in the figures labeled “N-2.” It is anticipated that the adjacent property to the east will have use of this access as well. It is anticipated that the access will be stop-controlled.
- The West Access will be located approximately 730 feet east of the Iron Horse Drive / S.R. 224 intersection. It will access the project on the north side of Iron Horse Drive. It is anticipated that the access will be stop-controlled.

Homestake Road:

- The West Access is anticipated to continue perpendicularly from its intersection with Iron Horse Drive along the property boundary and connect with Homestake Road. Scenarios with and without this connection were analyzed to demonstrate its effects. It is anticipated that the access will be stop-controlled.

IV. EXISTING (2021) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the existing (2021) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for existing background traffic and geometric conditions plus the net trips generated by the proposed development both with and without the proposed link between Iron Horse Drive and Homestake Road at the west end of the property. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the existing (2021) background traffic volumes to predict turning movement volumes for existing (2021) plus project conditions. Trips from the existing accesses at the project site were removed from the model. It was assumed that the adjacent property to the east would have an easement to the access on the east edge of the project property, so these trips remained at N-2.

In the scenario with the added link between Iron Horse Drive and Homestake Road, 15 background trips during the morning peak hour and 20 trips during the evening peak hour were rerouted through this link. It was assumed that these trips would mostly comprise of vehicles traveling between Fresh Market or the condos on Homestake Road and Deer Valley. Existing (2021) plus project morning and evening peak hour turning movement volumes are shown in Figure 8 through Figure 11.

C. Level of Service Analysis

Hales Engineering determined that the Iron Horse Drive / Bonanza Drive intersection is anticipated to operate at a poor LOS during the evening peak hour with project traffic added, both with and without the link to Homestake Road, as shown in Table 6 and Table 7. The Homestake Road / S.R. 224 intersection is anticipated to perform at a poor LOS without the link and the Iron Horse Dr / S.R. 224 intersection is anticipated to perform at a poor LOS with the link. Any slight improvement in delay is most likely due to the randomness introduced by the average of the simulation runs or the rerouting of traffic.

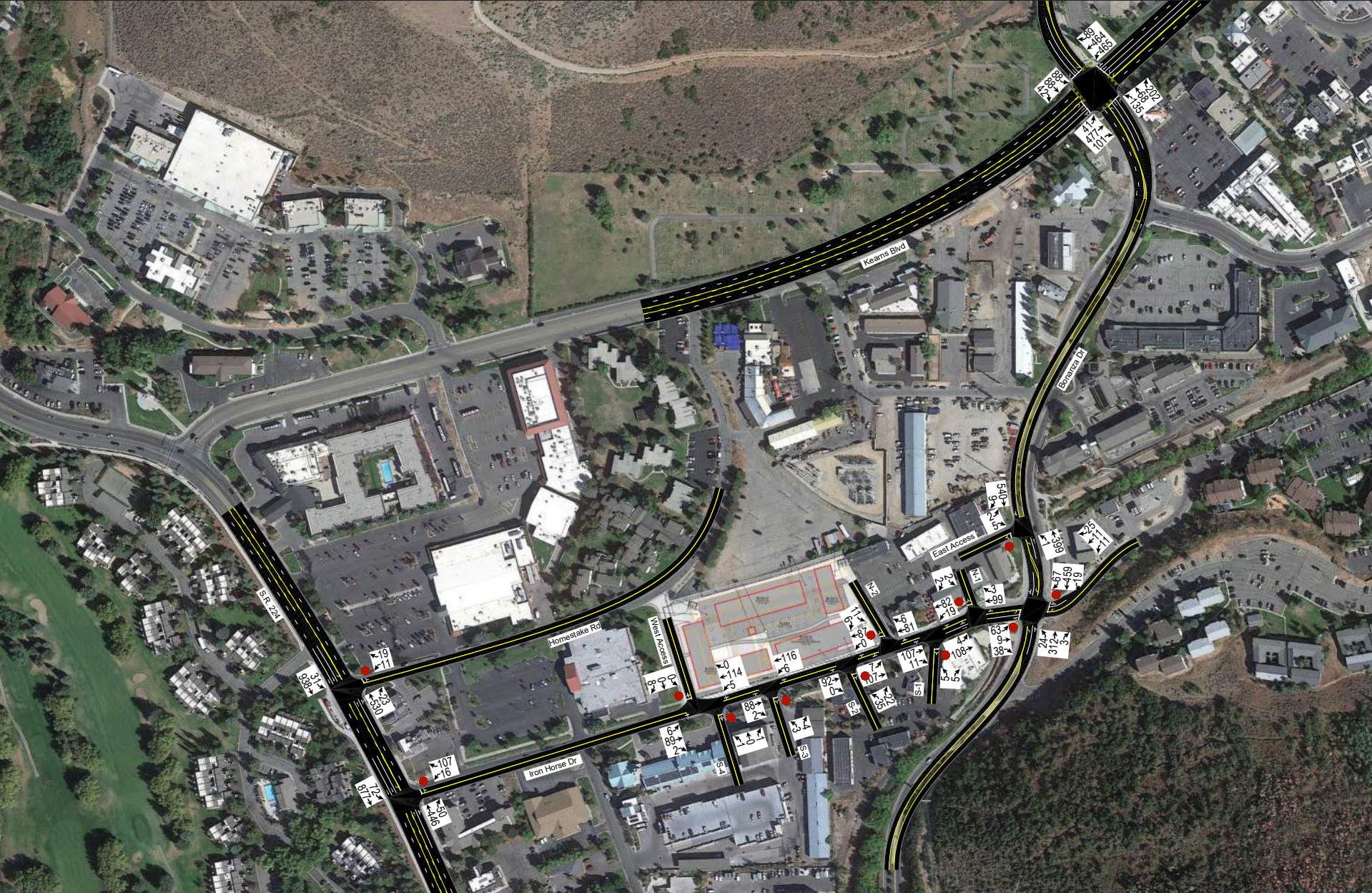
D. Queuing Analysis

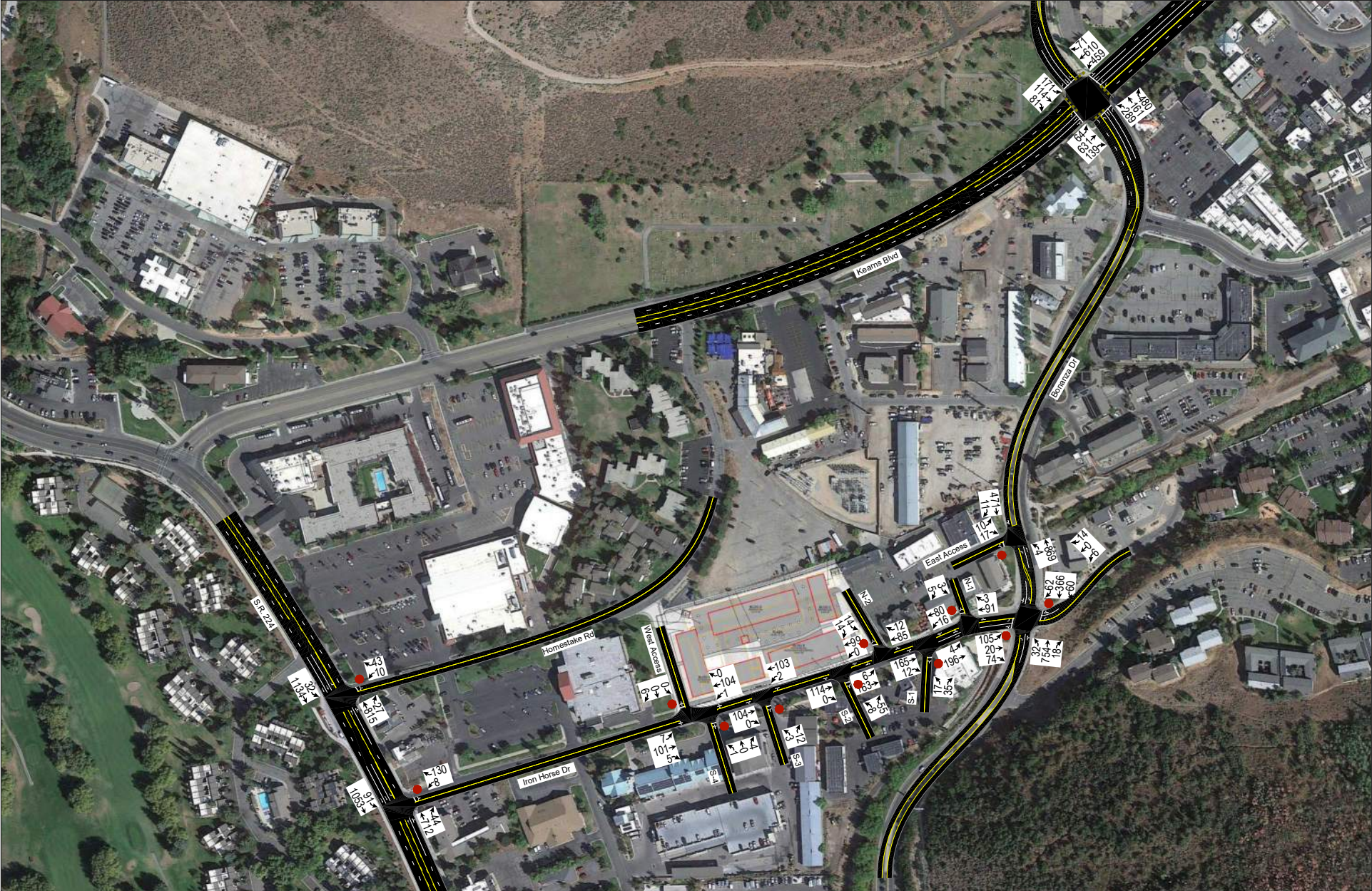
Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Significant 95th percentile queue lengths during the evening peak hour are summarized as follows:

- Bonanza Drive / Kearns Boulevard (S.R. 248):
 - Northeast-bound: 625 feet with link, 725 feet without link
 - Southwest-bound: 525 feet without link (not significant with link)

E. Mitigation Measures

No mitigation measures are recommended.







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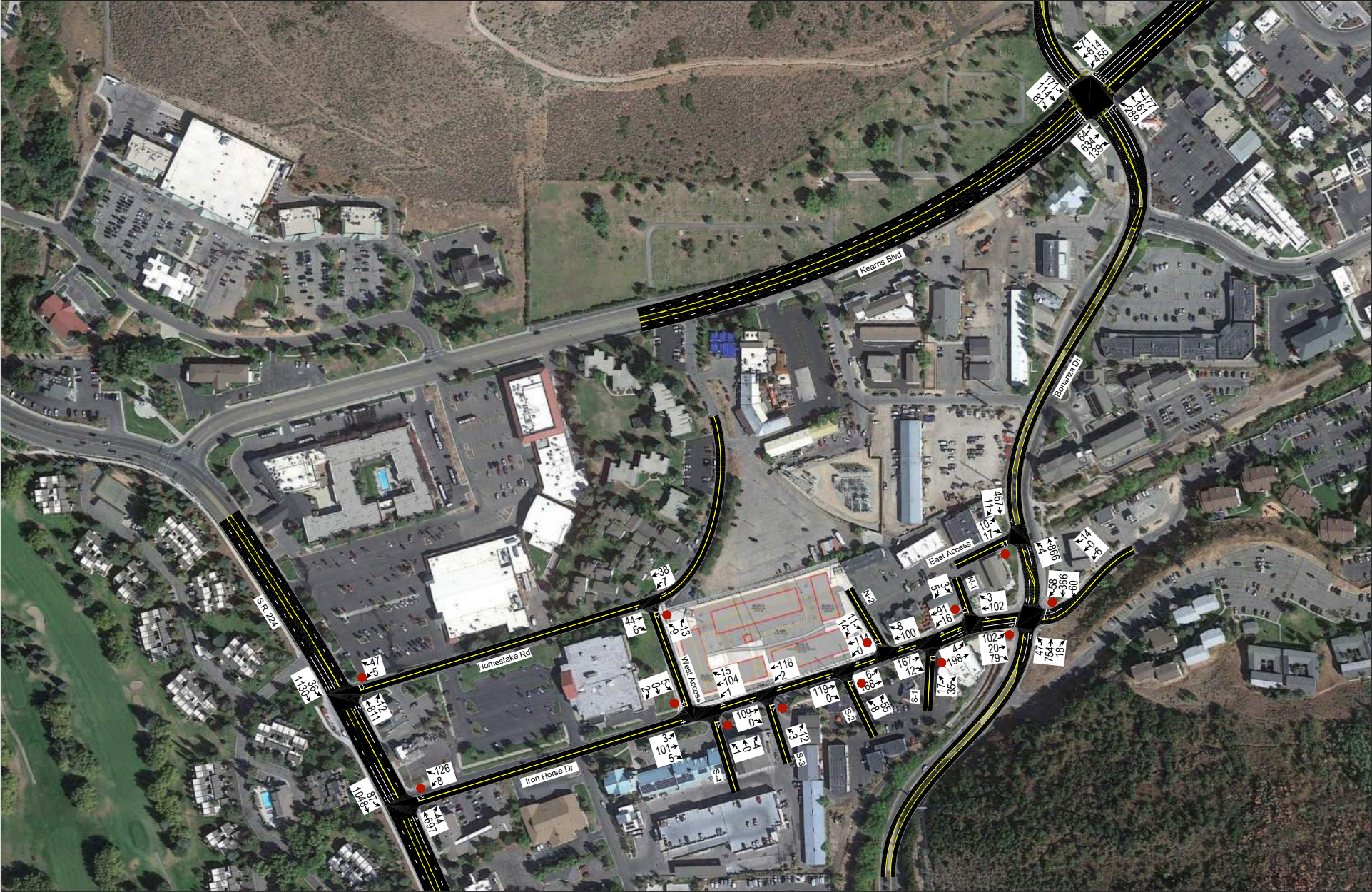


Table 6: Existing (2021) Plus Project Peak Hour LOS (Without Link)

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	c (21.5) / WBL	e (48.9) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (22) / WBL	d (33) / WBL
S-4 & West Access / Iron Horse Drive	NB/SB Stop	a (5.2) / NBL	a (3.4) / SBR
S-3 / Iron Horse Drive	NB/SB Stop	a (4.2) / NBL	a (5.6) / NBL
S-2 / Iron Horse Drive	NB/SB Stop	a (4.5) / NBL	a (4.5) / NBL
N-2 / Iron Horse Drive	SB Stop	a (4.4) / SBL	a (4.7) / SBL
S-1 / Iron Horse Drive	NB Stop	a (3.9) / NBL	a (5.4) / NBL
N-1 / Iron Horse Drive	SB Stop	a (3.5) / SBL	a (7.2) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	c (16.1) / WBT	f (>50) / EBL
East Access / Bonanza Drive	EB Stop	b (12.2) / EBL	c (18.3) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (26.4)	D (51.9)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

Table 7: Existing (2021) Plus Project Peak Hour LOS (With Link)

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (25.4) / WBL	d (31.4) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (20.5) / WBL	e (41.5) / WBL
S-4 & West Access / Iron Horse Drive	NB/SB Stop	a (7.1) / SBL	a (6.2) / SBL
S-3 / Iron Horse Drive	NB/SB Stop	a (5.2) / NBL	a (5) / NBL
S-2 / Iron Horse Drive	NB/SB Stop	a (4.6) / NBL	a (4.7) / NBL
N-2 / Iron Horse Drive	SB Stop	a (5.0) / SBL	a (5.5) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.7) / NBL	a (4.8) / NBL
N-1 / Iron Horse Drive	SB Stop	a (4.6) / SBL	d (31.5) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	c (16.8) / EBL	f (>50) / EBL
East Access / Bonanza Drive	EB Stop	b (14.9) / EBL	c (22.3) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (24.5)	D (45.6)
West Access / Homestake Road	NB Stop	a (4.1) / NBL	a (4.3) / NBL

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

V. FUTURE (2026) BACKGROUND CONDITIONS

A. Purpose

The purpose of the future (2026) background analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions. Through this analysis, future background traffic operational deficiencies can be identified, and potential mitigation measures recommended.

B. Roadway Network

According to the Wasatch Front Regional Council (WFRC) Regional Transportation Plan, there are no projects planned before 2026 in the study area. Therefore, no changes were made to the roadway network for the future (2026) analysis.

C. Traffic Volumes

Hales Engineering obtained future (2026) forecasted volumes from the Summit / Wasatch County travel demand model. Peak period turning movement counts were estimated using National Cooperative Highway Research Program (NCHRP) 255 methodologies which utilize existing peak period turn volumes and future average weekday daily traffic (AWDT) volumes to project the future turn volumes at the major intersections. Future (2026) morning and evening peak hour turning movement volumes are shown in Figure 12 and Figure 13.

D. Level of Service Analysis

Hales Engineering determined that the Homestake Road / S.R. 224, Iron Horse Drive / Bonanza Drive, and Bonanza Drive / Kearns Boulevard (S.R. 248) intersections are anticipated to operate at poor levels of service during the evening peak hour in future (2026) background conditions, as shown in Table 8. These results serve as a baseline condition for the impact analysis of the proposed development for future (2026) conditions.

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Significant 95th percentile queue lengths during the evening peak hour are summarized as follows:

- Bonanza Dr / Kearns Blvd:
 - Northeast-bound: 975 feet
 - Southwest-bound: 550 feet

F. Mitigation Measures

At the Bonanza Drive / Kearns Boulevard (S.R. 248) intersection, the 5-lane cross-section on S.R. 248 will need to be extended to the east. Additionally, a free right-turn should be installed on the northwest-bound approach and a right-turn pocket should be installed on the northeast-bound approach. These improvements are included in the “preferred alternative” of the UDOT environmental assessment for S.R. 248. Additionally, the signal at this intersection should be coordinated.

It is anticipated that a signal will be warranted at the Iron Horse Drive / Bonanza Drive intersection, and it is recommended that one be installed.

With the proposed improvements, it is anticipated that the Iron Horse Drive / Bonanza Drive and Bonanza Drive / Kearns Boulevard (S.R. 248) intersections will perform at acceptable levels of service, as shown in Table 9.

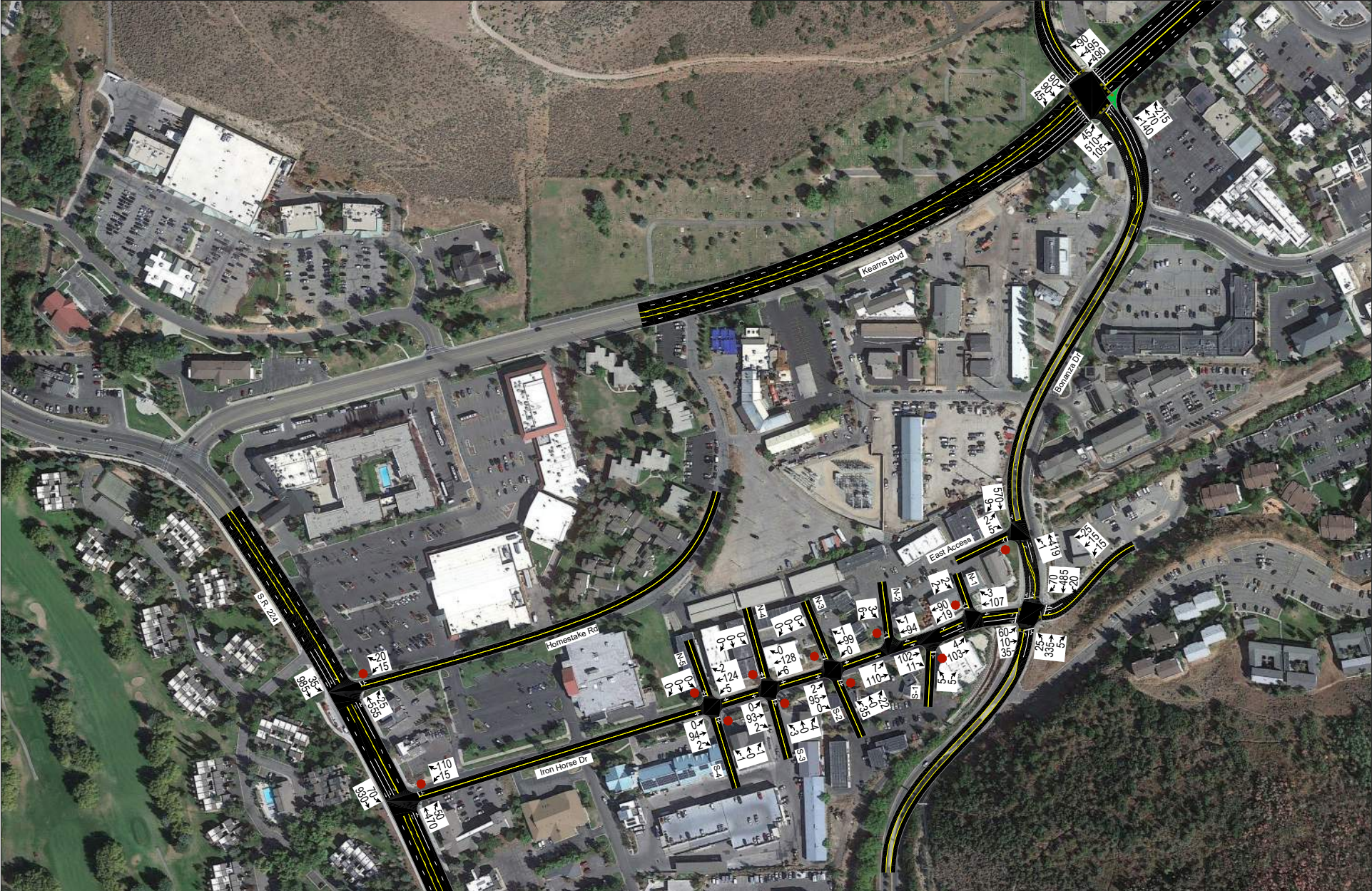




Table 8: Future (2026) Background Peak Hour LOS

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (28.4) / WBL	f (>50) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (21.6) / WBL	d (32.3) / WBL
S-4 & N-5 / Iron Horse Drive	NB/SB Stop	a (1.9) / NBR	a (4.3) / SBT
S-3 & N-4 / Iron Horse Drive	NB/SB Stop	a (4.9) / NBL	a (3.8) / NBL
S-2 & N-3 / Iron Horse Drive	NB/SB Stop	a (4.9) / NBL	a (5.4) / NBL
N-2 / Iron Horse Drive	SB Stop	a (5.0) / SBL	a (4.8) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.8) / NBL	a (5.4) / NBL
N-1 / Iron Horse Drive	SB Stop	a (3.0) / SBR	c (17.2) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	c (17.9) / EBL	f (>50) / EBL
East Access / Bonanza Drive	EB Stop	c (20.8) / EBL	d (31.8) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (29.4)	E (63.2)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

Table 9: Mitigated Future (2026) Background Peak Hour LOS

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (29) / WBL	f (>50) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (22.9) / WBL	f (>50) / WBL
S-4 & N-5 / Iron Horse Drive	NB/SB Stop	a (4.0) / NBL	a (5.3) / SBT
S-3 & N-4 / Iron Horse Drive	NB/SB Stop	a (5.3) / NBL	a (4.2) / NBL
S-2 & N-3 / Iron Horse Drive	NB/SB Stop	a (4.7) / NBL	a (4.9) / NBL
N-2 / Iron Horse Drive	SB Stop	a (5.1) / SBL	a (4.7) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.6) / NBL	a (5.9) / NBL
N-1 / Iron Horse Drive	SB Stop	a (3.5) / SBL	a (4.1) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	A (8.1)	A (9.6)
East Access / Bonanza Drive	EB Stop	b (11.1) / EBL	c (21.9) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (23.9)	C (29.0)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

VI. FUTURE (2026) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the future (2026) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the future (2026) background traffic volumes to predict turning movement volumes for future (2026) plus project conditions. Future (2026) plus project morning and evening peak hour turning movement volumes are shown in Figure 14 through Figure 17.

C. Level of Service Analysis

Hales Engineering determined that the Homestake Road / S.R. 224 intersection is anticipated to operate at a poor LOS during the evening peak hour in future (2026) plus project conditions with and without the link, as shown in Table 10 and Table 11. The Iron Horse Drive / S.R. 224 intersection is anticipated to operate at a poor LOS with the link.

D. Queuing Analysis

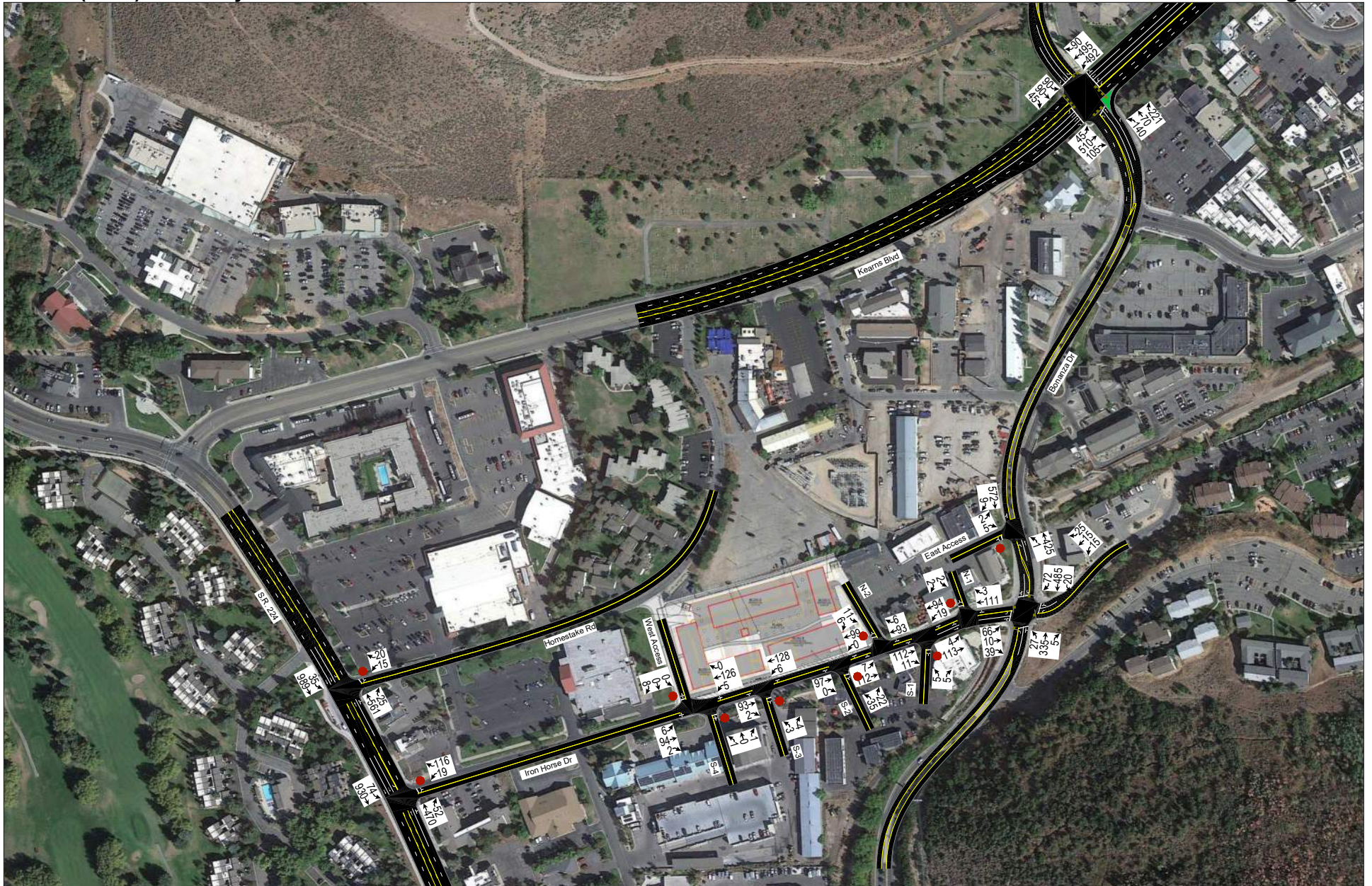
Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queueing was observed during the evening peak hour.

E. Mitigation Measures

No mitigation measures are recommended.

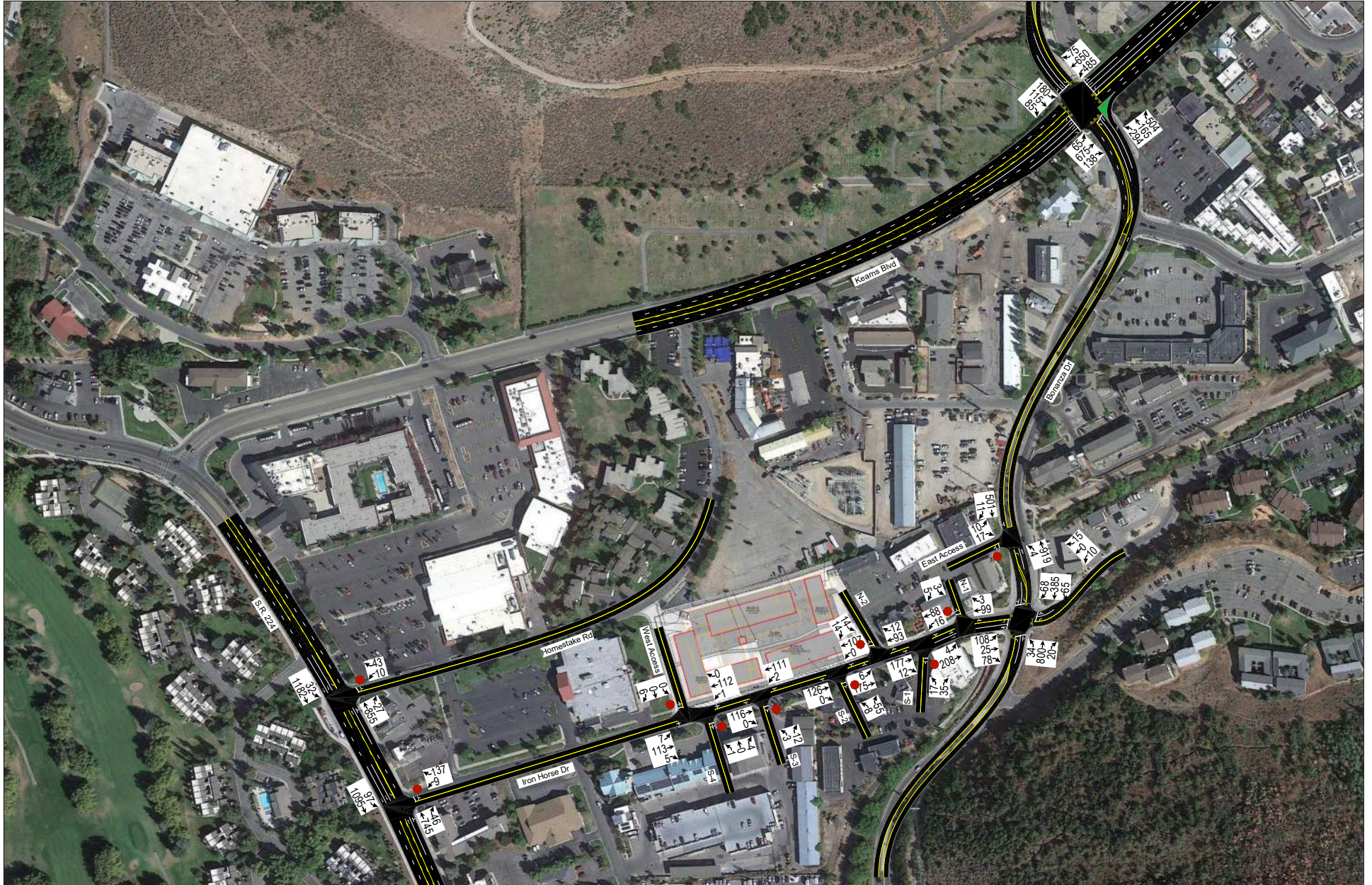
F. Recommended Storage Lengths

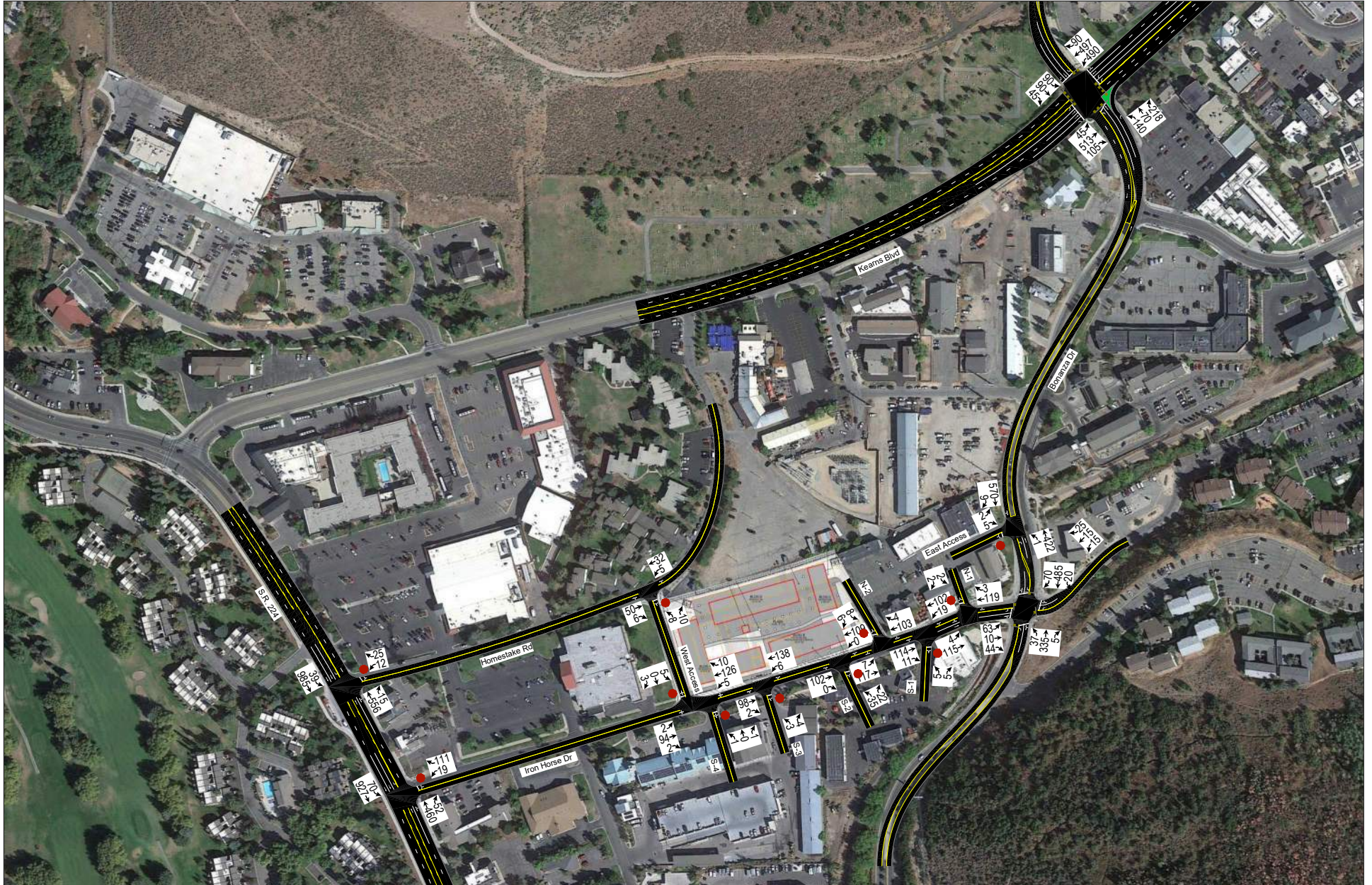
Hales Engineering determined recommended storage lengths based on the 95th percentile queue lengths given in the future (2040) plus project scenario. These storage lengths do not include the taper length. Recommended storage lengths for the study intersections are shown in Table 12. Intersections shown in Table 12 include new intersections and existing intersections that have recommended storage length changes.



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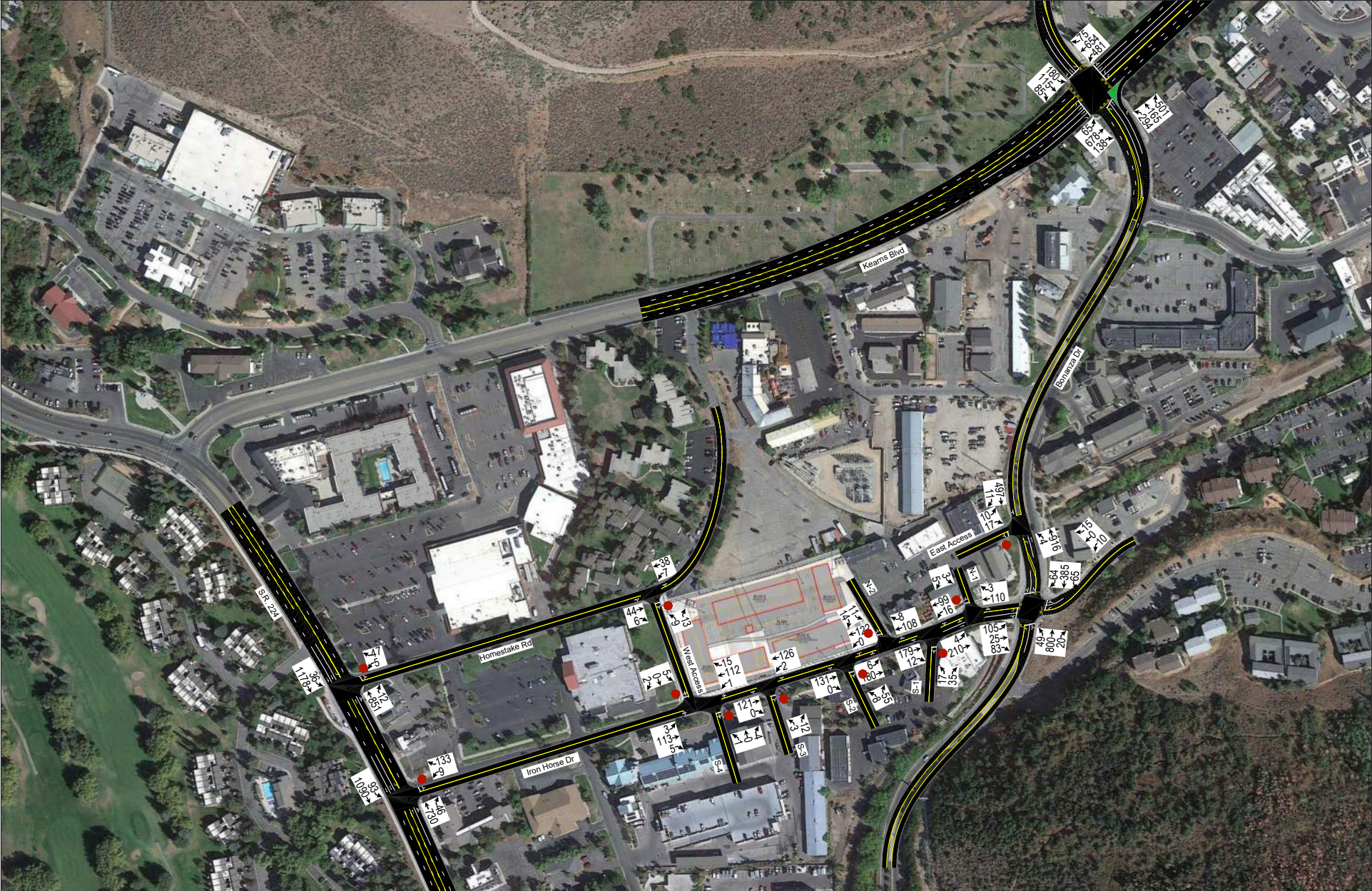


Table 10: Future (2026) Plus Project Peak Hour LOS (Without Link)

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (25.6) / WBL	f (>50) / WBL
Iron Horse Drive / S.R. 224	WB Stop	d (26.8) / WBL	d (33.6) / WBL
S-4 & West Access / Iron Horse Drive	NB/SB Stop	a (3.3) / SBR	a (3.5) / SBR
S-3 / Iron Horse Drive	NB/SB Stop	a (5.6) / NBL	a (4.9) / NBL
S-2 / Iron Horse Drive	NB/SB Stop	a (4.5) / NBL	a (4.1) / NBL
N-2 / Iron Horse Drive	SB Stop	a (4.0) / SBL	a (4.8) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.6) / NBL	a (5.7) / NBL
N-1 / Iron Horse Drive	SB Stop	a (8.7) / SBL	a (8.1) / SBL
Iron Horse Drive / Bonanza Drive	Signal	A (7.6)	A (10.0)
East Access / Bonanza Drive	EB Stop	c (23.8) / EBL	c (20.4) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (24.6)	C (28.9)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

Table 11: Future (2026) Plus Project Peak Hour LOS (With Link)

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (28.2) / WBL	e (39.1) / WBL
Iron Horse Drive / S.R. 224	WB Stop	d (28.3) / WBL	e (35.9) / WBL
S-4 & West Access / Iron Horse Drive	NB/SB Stop	a (5.8) / SBL	a (5.6) / SBL
S-3 / Iron Horse Drive	NB/SB Stop	a (5.1) / NBL	a (4.3) / NBL
S-2 / Iron Horse Drive	NB/SB Stop	a (4.6) / NBL	a (4.7) / NBL
N-2 / Iron Horse Drive	SB Stop	a (4.6) / SBL	a (4.9) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.6) / NBL	a (5.3) / NBL
N-1 / Iron Horse Drive	SB Stop	a (6.7) / SBL	a (6.1) / SBL
Iron Horse Drive / Bonanza Drive	Signal	A (7.9)	A (9.9)
East Access / Bonanza Drive	EB Stop	c (15.7) / EBL	c (20.3) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (23.2)	C (28.3)
West Access / Homestake Drive	NB Stop	a (4.1) / NBL	a (3.9) / NBL

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

Table 12: Recommended Storage Lengths

Intersection		Recommended Storage Lengths (feet)															
		Northeast-bound				Southeast-bound				Southwest-bound				Northwest-bound			
		LT		RT		LT		RT		LT		RT		LT		RT	
		E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
11	Bonanza Drive / Kearns Boulevard (S.R. 248)	-	-	-	225	-	-	-	-	100	325	-	-	-	-	-	-

1. Storage lengths are based on 2040 95th percentile queue lengths and do not include required deceleration / taper distances

2. E = Existing storage length (approximate), if applicable; P = proposed storage length for new turn lanes or changes to existing turn lanes, if applicable

Source: Hales Engineering, August 2021

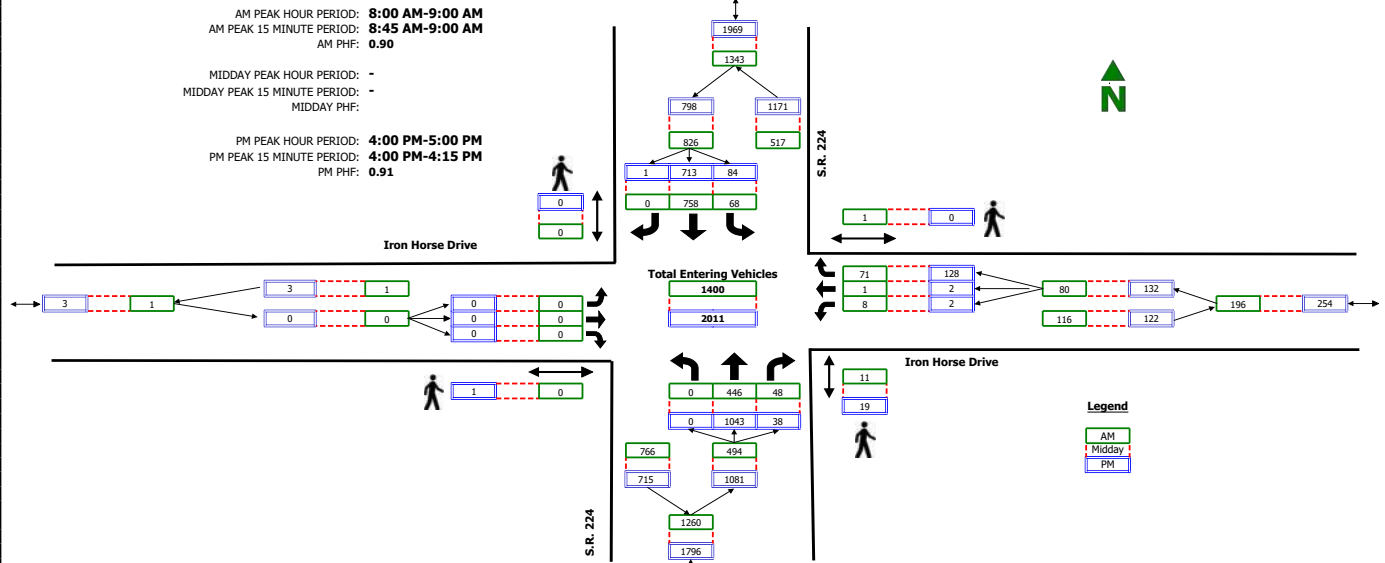
APPENDIX A

Turning Movement Counts

Intersection Turning Movement Summary

Intersection: S.R. 224 / Iron Horse Drive
North/South: S.R. 224
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0



RAW COUNT SUMMARIES	S.R. 224 Northbound				S.R. 224 Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	47	6	1	10	84	0	0	0	0	0	0	3	0	11	5	161
7:15 - 7:30	0	60	9	3	11	117	0	0	0	0	0	0	1	0	16	0	214
7:30 - 7:45	0	64	2	2	17	148	0	0	0	0	0	0	4	2	14	0	252
7:45 - 8:00	0	76	7	1	23	143	0	0	0	0	0	0	4	1	22	0	276
8:00 - 8:15	0	89	14	5	10	189	0	0	0	0	0	0	2	0	13	0	317
8:15 - 8:30	0	100	12	4	18	173	0	0	0	0	0	0	2	0	11	0	316
8:30 - 8:45	0	122	8	0	15	206	0	0	0	0	0	0	2	1	26	0	380
8:45 - 9:00	0	135	14	2	25	190	0	0	0	0	0	0	2	0	21	1	387
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	265	8	4	32	202	0	0	0	0	0	1	1	1	42	0	551
16:15 - 16:30	0	251	9	5	18	149	1	0	0	0	0	0	0	0	32	0	460
16:30 - 16:45	0	275	12	8	17	188	0	0	0	0	0	0	0	0	26	0	518
16:45 - 17:00	0	252	9	2	17	174	0	0	0	0	0	0	1	1	28	0	482
17:00 - 17:15	0	207	9	1	13	116	0	0	0	0	0	0	2	0	32	0	379
17:15 - 17:30	0	169	4	8	18	89	0	0	0	0	0	0	0	0	24	0	304
17:30 - 17:45	0	220	5	12	16	153	0	0	0	0	0	0	3	19	0	0	416
17:45 - 18:00	0	166	1	5	15	126	0	0	0	0	0	0	0	0	28	0	336

Intersection Turning Movement Summary

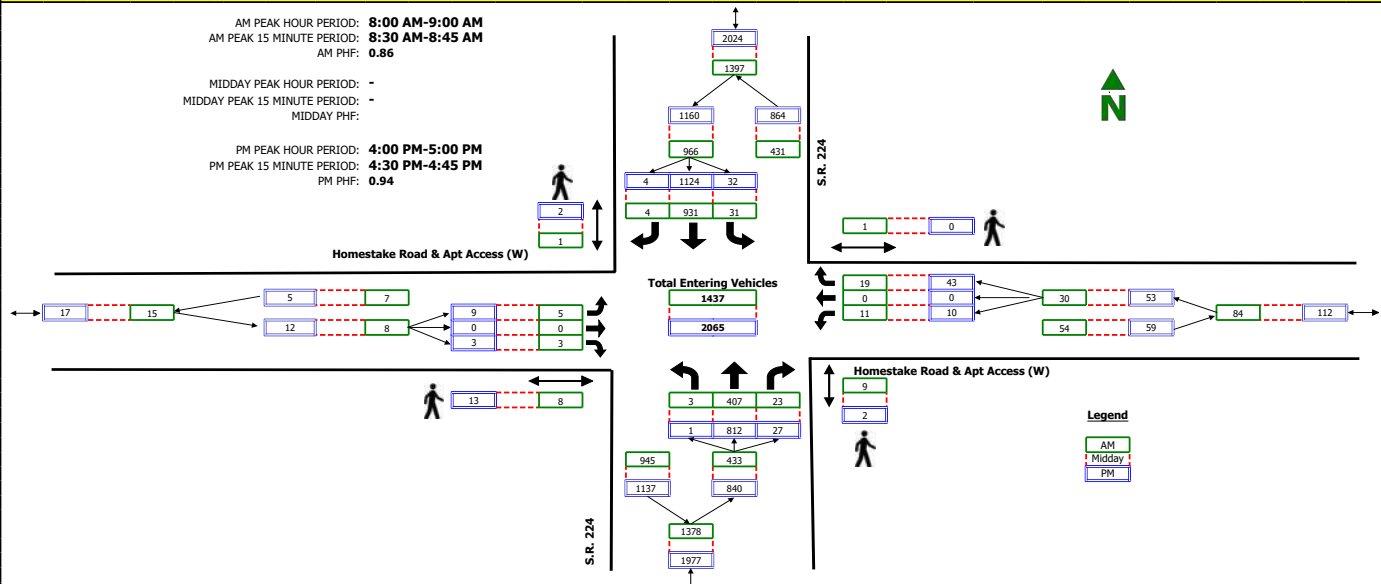
Intersection: S.R. 224 / Homestake Road & Apt Access (W)
 North/South: S.R. 224
 East/West: Homestake Road & Apt Access (W)
 Jurisdiction: Park City
 Project Title: Wintzer TIS
 Project No: UT21-1940
 Weather: Clear

Date: 6-29-21, Tue
 Day of Week Adjustment: 100.0%
 Month of Year Adjustment: 100.0%
 Adjustment Station #: 0
 Growth Rate: 0.0%
 Number of Years: 0

AM PEAK HOUR PERIOD: 8:00 AM-9:00 AM
 AM PEAK 15 MINUTE PERIOD: 8:30 AM-8:45 AM
 AM PHF: 0.86

MIDDAY PEAK HOUR PERIOD: -
 MIDDAY PEAK 15 MINUTE PERIOD: -
 MIDDAY PHF: -

PM PEAK HOUR PERIOD: 4:00 PM-5:00 PM
 PM PEAK 15 MINUTE PERIOD: 4:30 PM-4:45 PM
 PM PHF: 0.94

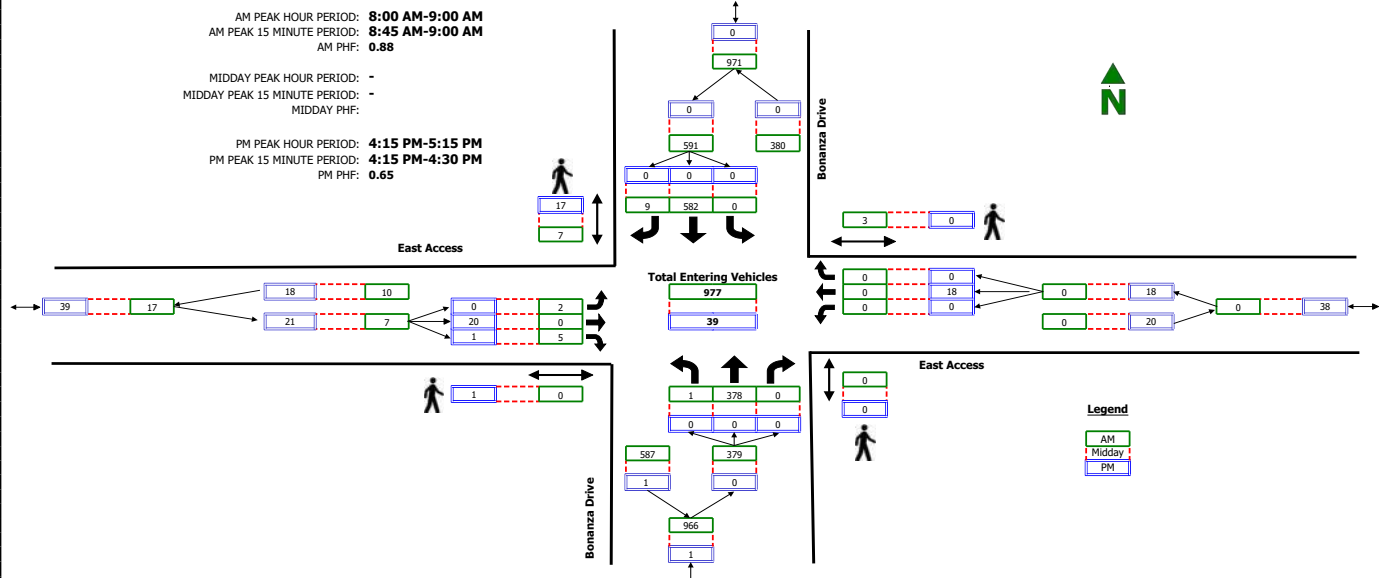


RAW COUNT SUMMARIES	S.R. 224 Northbound				S.R. 224 Southbound				Homestake Road & Apt Access Eastbound				Homestake Road & Apt Access Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	34	2	6	1	78	0	2	0	0	0	3	3	0	6	0	124
7:15 - 7:30	0	62	0	1	1	114	2	3	1	1	2	1	6	2	2	2	193
7:30 - 7:45	0	72	6	3	1	183	1	0	0	0	7	1	1	0	4	1	269
7:45 - 8:00	1	83	4	0	2	197	2	0	1	0	1	3	6	0	2	7	299
8:00 - 8:15	2	86	6	0	4	181	1	0	0	0	2	0	1	0	3	0	286
8:15 - 8:30	0	82	4	6	10	227	1	0	1	0	0	7	1	0	6	0	332
8:30 - 8:45	1	113	5	3	8	275	0	1	1	0	1	0	6	0	8	0	418
8:45 - 9:00	0	126	8	0	9	248	2	0	3	0	0	1	3	0	2	1	401
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	199	2	0	10	310	1	0	3	0	0	1	2	0	8	0	535
16:15 - 16:30	1	168	3	2	3	284	2	0	2	0	2	4	1	0	14	0	480
16:30 - 16:45	0	238	12	0	13	267	1	1	2	0	0	8	2	0	14	0	549
16:45 - 17:00	0	207	10	0	6	263	0	1	2	0	1	0	5	0	7	0	501
17:00 - 17:15	0	180	3	0	10	177	2	1	0	0	1	0	1	0	7	0	381
17:15 - 17:30	1	137	4	0	1	151	2	0	0	0	1	0	1	2	1	0	301
17:30 - 17:45	2	104	5	0	5	236	2	0	0	0	0	0	3	0	0	0	357
17:45 - 18:00	1	99	1	0	1	258	0	0	0	0	0	0	2	0	6	0	368

Intersection Turning Movement Summary

Intersection: Bonanza Drive / East Access
North/South: Bonanza Drive
East/West: East Access
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

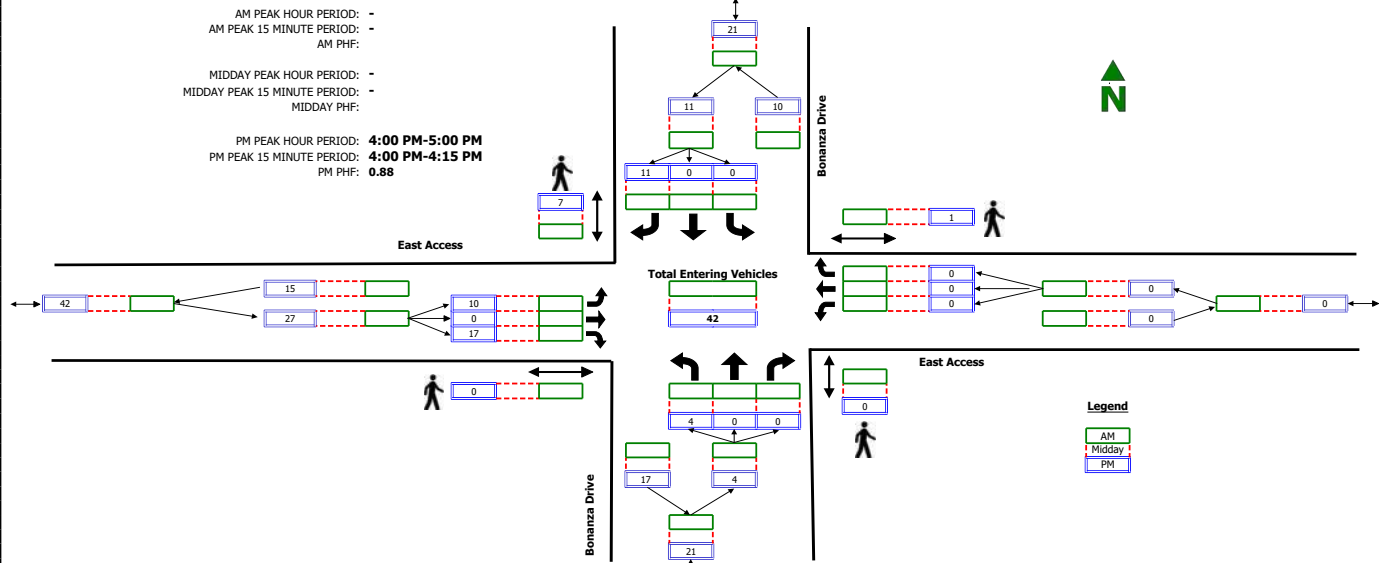


RAW COUNT SUMMARIES	Bonanza Drive Northbound				Bonanza Drive Southbound				East Access Eastbound				East Access Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	35	0	0	0	82	0	3	0	0	0	0	0	0	0	0	117
7:15 - 7:30	0	35	0	0	0	102	2	0	0	0	0	0	0	0	0	0	139
7:30 - 7:45	0	76	0	0	0	130	3	0	1	0	0	0	0	0	0	1	210
7:45 - 8:00	0	86	0	0	0	151	5	2	1	0	0	0	0	0	0	0	243
8:00 - 8:15	1	66	0	0	0	156	1	3	0	0	1	0	0	0	0	0	225
8:15 - 8:30	0	90	0	0	0	160	3	2	0	0	0	0	0	0	0	0	253
8:30 - 8:45	0	84	0	0	0	131	3	1	1	0	2	0	0	0	0	0	221
8:45 - 9:00	0	138	0	0	0	135	2	1	1	0	2	0	0	0	0	3	278
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0	0	3	0	10	0	0	0	5	0	0	15
16:30 - 16:45	0	0	0	0	0	0	0	4	0	5	0	1	0	5	0	0	10
16:45 - 17:00	0	0	0	0	0	0	0	7	0	3	0	0	0	4	0	0	7
17:00 - 17:15	0	0	0	0	0	0	0	3	0	2	1	0	0	4	0	0	7
17:15 - 17:30	0	0	0	1	0	0	0	0	0	1	0	4	0	5	0	0	6
17:30 - 17:45	0	0	0	2	0	0	0	0	0	2	0	1	0	4	0	0	6
17:45 - 18:00	0	0	0	0	0	0	0	1	0	3	0	0	0	5	0	0	8

Intersection Turning Movement Summary

Intersection: Bonanza Drive / East Access
North/South: Bonanza Drive
East/West: East Access
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 7-22-21, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

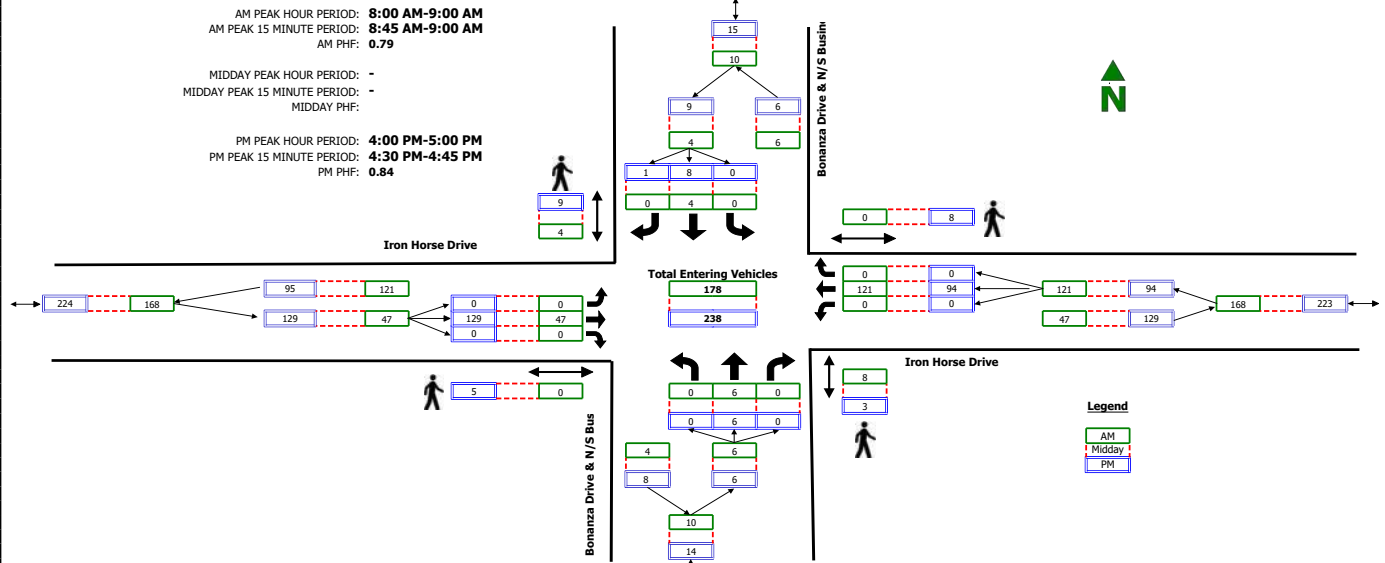


RAW COUNT SUMMARIES	Bonanza Drive Northbound				Bonanza Drive Southbound				East Access Eastbound				East Access Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	0	0	0	0	0	3	0	4	0	5	0	0	0	0	0	12
16:15 - 16:30	1	0	0	0	0	0	4	1	2	0	4	0	0	0	0	1	11
16:30 - 16:45	0	0	0	0	0	0	2	0	1	0	5	0	0	0	0	0	8
16:45 - 17:00	3	0	0	0	0	0	2	6	3	0	3	0	0	0	0	0	11
17:00 - 17:15	2	0	0	0	0	0	1	2	1	0	1	0	0	0	0	0	5
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
17:30 - 17:45	0	0	0	0	0	0	3	0	1	0	2	0	0	0	0	0	6
17:45 - 18:00	0	0	0	0	0	0	1	4	2	0	3	0	0	0	0	1	6

Intersection Turning Movement Summary

Intersection: Bonanza Drive & N/S Business Access / Iron Horse Drive
North/South: Bonanza Drive & N/S Business Access
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

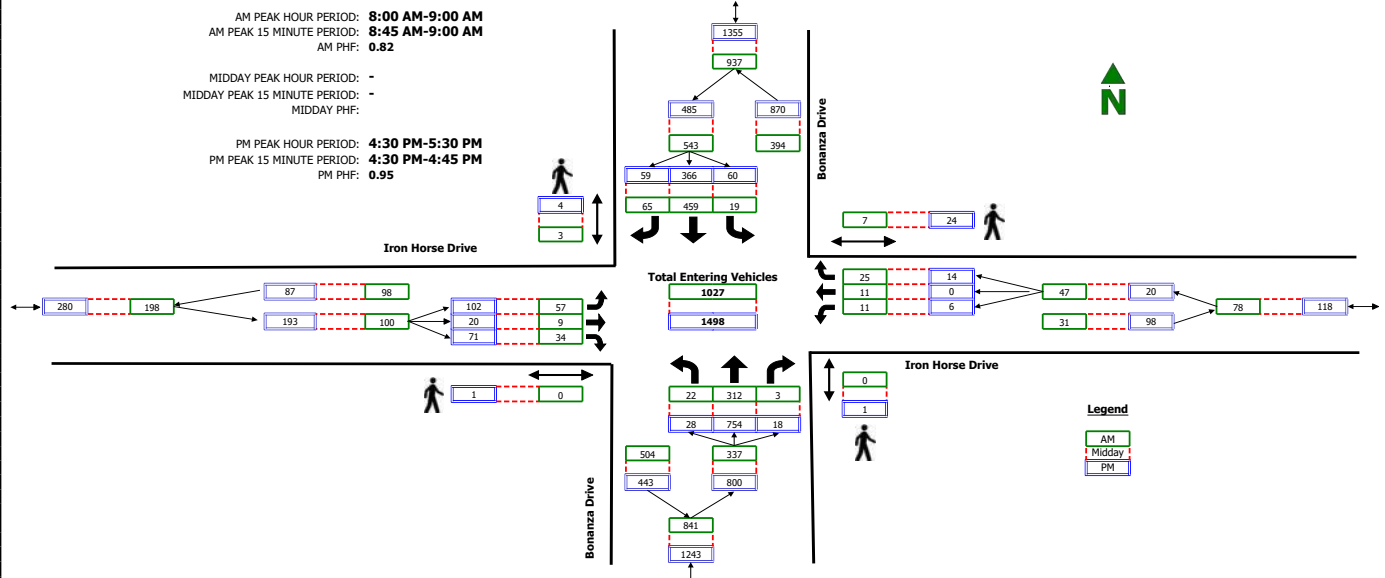


RAW COUNT SUMMARIES	Manza Drive & N/S Business Access								Acacia Drive & N/S Business Access				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Northbound				Southbound				Eastbound				Westbound								
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds					
AM PERIOD COUNTS																					
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL				
7:00 - 7:15	1	1	0	0	0	0	0	9	2	2	9	2	0	0	7	0	0	31			
7:15 - 7:30	0	0	0	0	0	0	0	4	1	2	7	2	0	0	10	0	0	25			
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	11	0	0	0	17	0	0	28			
7:45 - 8:00	0	1	0	5	0	0	0	1	0	0	11	0	0	0	36	0	0	48			
8:00 - 8:15	0	0	0	0	0	0	0	2	0	9	0	0	0	32	0	0	0	41			
8:15 - 8:30	0	1	0	4	0	0	0	1	0	8	0	0	0	30	0	0	0	39			
8:30 - 8:45	0	0	0	3	0	2	0	1	0	10	0	0	0	30	0	0	0	42			
8:45 - 9:00	0	5	0	1	0	2	0	0	0	20	0	0	0	29	0	0	0	56			
MIDDAY PERIOD COUNTS																					
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL				
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
PM PERIOD COUNTS																					
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL				
16:00 - 16:15	0	1	0	1	0	0	0	0	0	38	0	2	0	28	0	2	67				
16:15 - 16:30	0	1	0	0	0	2	1	2	0	30	0	1	0	16	0	0	50				
16:30 - 16:45	0	3	0	1	0	2	0	7	0	38	0	0	0	28	0	4	71				
16:45 - 17:00	0	1	0	1	0	4	0	0	0	23	0	2	0	22	0	2	50				
17:00 - 17:15	0	0	0	4	0	0	0	2	0	37	0	5	0	22	0	1	59				
17:15 - 17:30	0	2	0	2	0	0	0	0	0	37	0	2	0	19	0	0	58				
17:30 - 17:45	0	2	0	0	0	0	0	4	0	33	0	0	0	14	0	2	49				
17:45 - 18:00	0	1	0	2	0	0	0	1	0	19	0	1	0	27	0	2	47				

Intersection Turning Movement Summary

Intersection: Bonanza Drive / Iron Horse Drive
North/South: Bonanza Drive
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 7-22-21, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0



RAW COUNT SUMMARIES	Bonanza Drive Northbound				Bonanza Drive Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	3	32	0	1	2	72	13	3	4	2	2	0	1	5	7	1	143
7:15 - 7:30	3	42	0	0	4	86	18	0	10	3	5	0	5	4	3	3	183
7:30 - 7:45	5	48	2	0	10	108	19	2	6	1	1	0	2	8	5	3	215
7:45 - 8:00	11	45	0	1	2	9	138	15	0	5	0	0	1	8	6	1	244
8:00 - 8:15	8	56	0	0	5	127	16	0	12	2	6	0	0	2	2	1	236
8:15 - 8:30	6	59	1	0	6	77	18	0	10	3	10	0	4	3	8	2	205
8:30 - 8:45	2	87	0	0	7	116	15	3	14	3	8	0	7	5	10	3	274
8:45 - 9:00	6	110	2	0	1	139	16	0	21	1	10	0	0	1	5	1	312
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	6	173	1	0	7	115	13	3	10	2	15	0	2	0	9	4	353
16:15 - 16:30	16	159	5	0	6	89	9	1	31	2	16	1	0	1	5	1	339
16:30 - 16:45	5	163	12	1	17	114	23	2	26	3	21	0	3	0	6	6	393
16:45 - 17:00	4	165	1	0	17	97	16	1	22	4	21	0	1	0	3	8	351
17:00 - 17:15	10	224	4	0	11	77	13	0	27	4	17	0	1	0	0	7	388
17:15 - 17:30	9	202	1	0	15	78	7	1	27	9	12	1	1	0	5	3	366
17:30 - 17:45	6	136	4	0	10	99	6	0	22	5	16	1	0	0	6	4	310
17:45 - 18:00	7	148	0	0	5	91	11	2	25	4	18	0	0	1	6	8	316

Intersection Turning Movement Summary

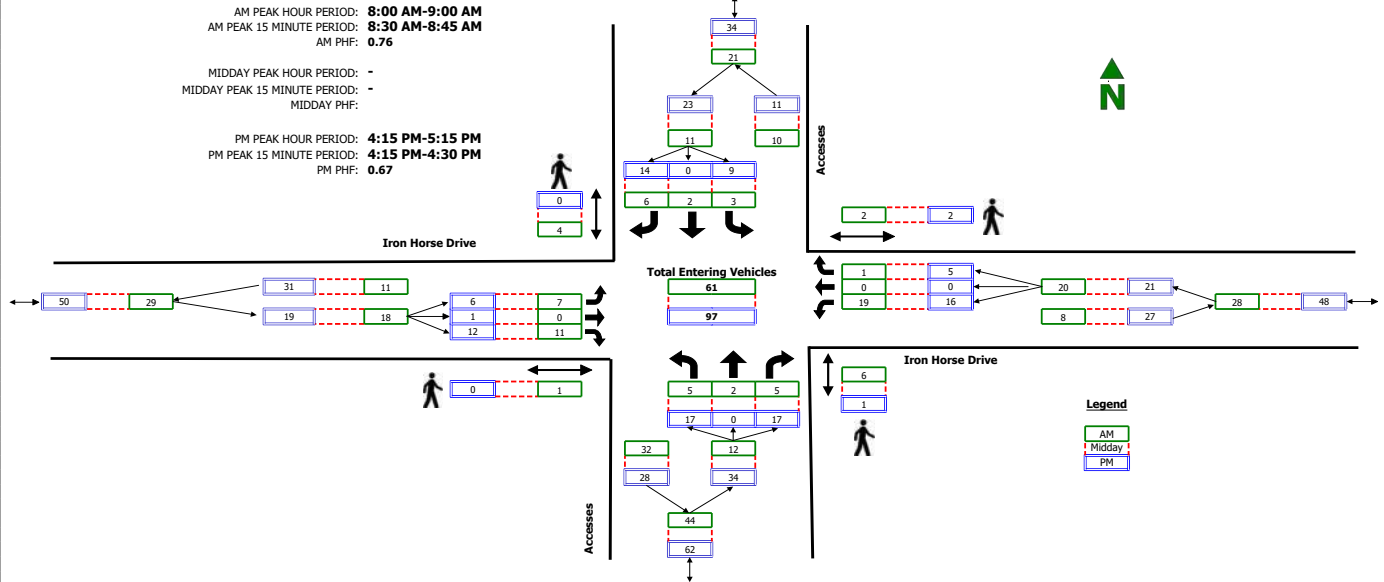
Intersection: Accesses / Iron Horse Drive
North/South: Accesses
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

AM PEAK HOUR PERIOD: 8:00 AM-9:00 AM
AM PEAK 15 MINUTE PERIOD: 8:30 AM-8:45 AM
AM PHF: 0.76

MIDDAY PEAK HOUR PERIOD: -
MIDDAY PEAK 15 MINUTE PERIOD: -
MIDDAY PHF: -

PM PEAK HOUR PERIOD: 4:15 PM-5:15 PM
PM PEAK 15 MINUTE PERIOD: 4:15 PM-4:30 PM
PM PHF: 0.67

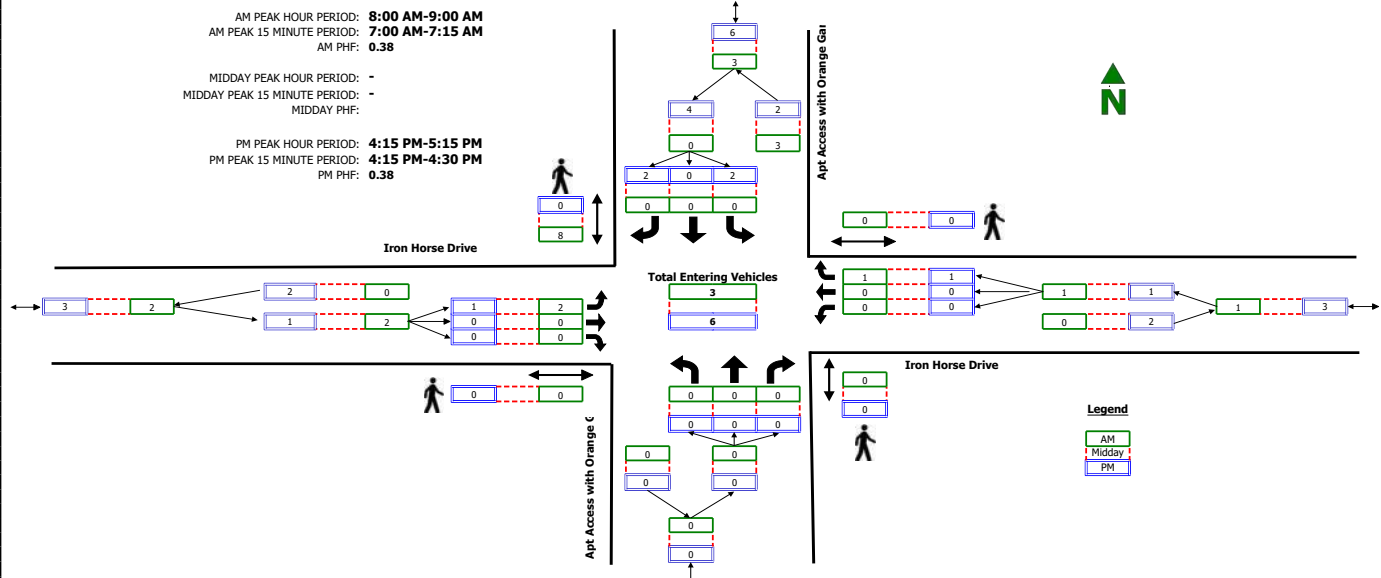


RAW COUNT SUMMARIES	Accesses Northbound				Accesses Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
7:15 - 7:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 - 7:45	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
7:45 - 8:00	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	9
8:00 - 8:15	1	0	1	5	1	2	1	1	1	0	4	0	4	0	0	2	15
8:15 - 8:30	0	0	0	1	1	0	1	1	1	0	4	0	2	0	0	0	9
8:30 - 8:45	3	2	1	0	0	0	3	0	2	0	2	0	6	0	1	0	20
8:45 - 9:00	1	0	3	0	1	0	1	2	3	0	1	1	7	0	0	0	17
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	1	0	2	0	2	0	2	0	6	0	0	0	6	0	3	1	22
16:15 - 16:30	11	0	5	1	1	0	5	0	2	1	5	0	5	0	1	2	36
16:30 - 16:45	0	0	4	0	2	0	2	0	2	0	3	0	3	0	2	0	18
16:45 - 17:00	1	0	5	0	1	0	3	0	2	0	2	0	4	0	1	0	19
17:00 - 17:15	5	0	3	0	5	0	4	0	0	0	2	0	4	0	1	0	24
17:15 - 17:30	4	0	2	0	3	0	2	0	1	1	2	4	1	0	3	0	19
17:30 - 17:45	0	0	5	0	1	0	0	0	0	0	0	0	1	0	0	0	7
17:45 - 18:00	2	0	5	0	1	0	2	0	1	0	2	0	2	0	2	0	17

Intersection Turning Movement Summary

Intersection: Apt Access with Orange Garage Door / Iron Horse Drive
 North/South: Apt Access with Orange Garage Door
 East/West: Iron Horse Drive
 Jurisdiction: Park City
 Project Title: Wintzer TIS
 Project No: UT21-1940
 Weather: Clear

Date: 6-29-21, Tue
 Day of Week Adjustment: 100.0%
 Month of Year Adjustment: 100.0%
 Adjustment Station #: 0
 Growth Rate: 0.0%
 Number of Years: 0

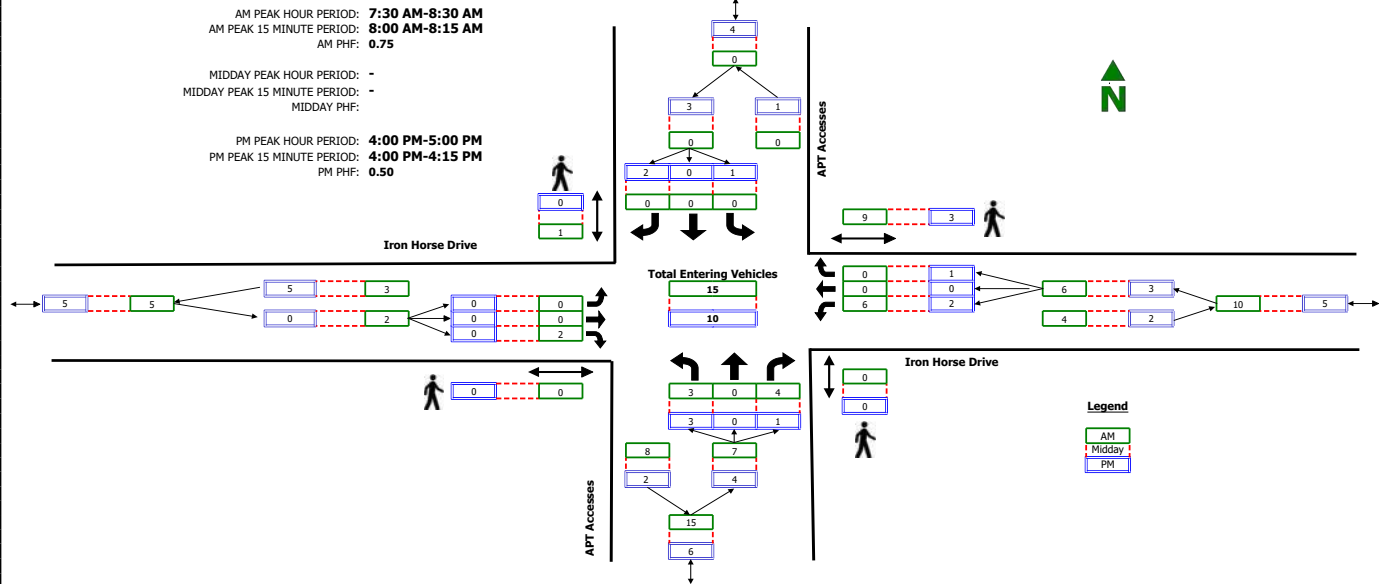


RAW COUNT SUMMARIES	Apt Access with Orange Garage Door Northbound				Apt Access with Orange Garage Door Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2
7:15 - 7:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	1
8:15 - 8:30	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	1
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	2	0	0	0	1	0	0	0	0	0	1	0	4
16:30 - 16:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
16:45 - 17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1

Intersection Turning Movement Summary

Intersection: APT Accesses / Iron Horse Drive
North/South: APT Accesses
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

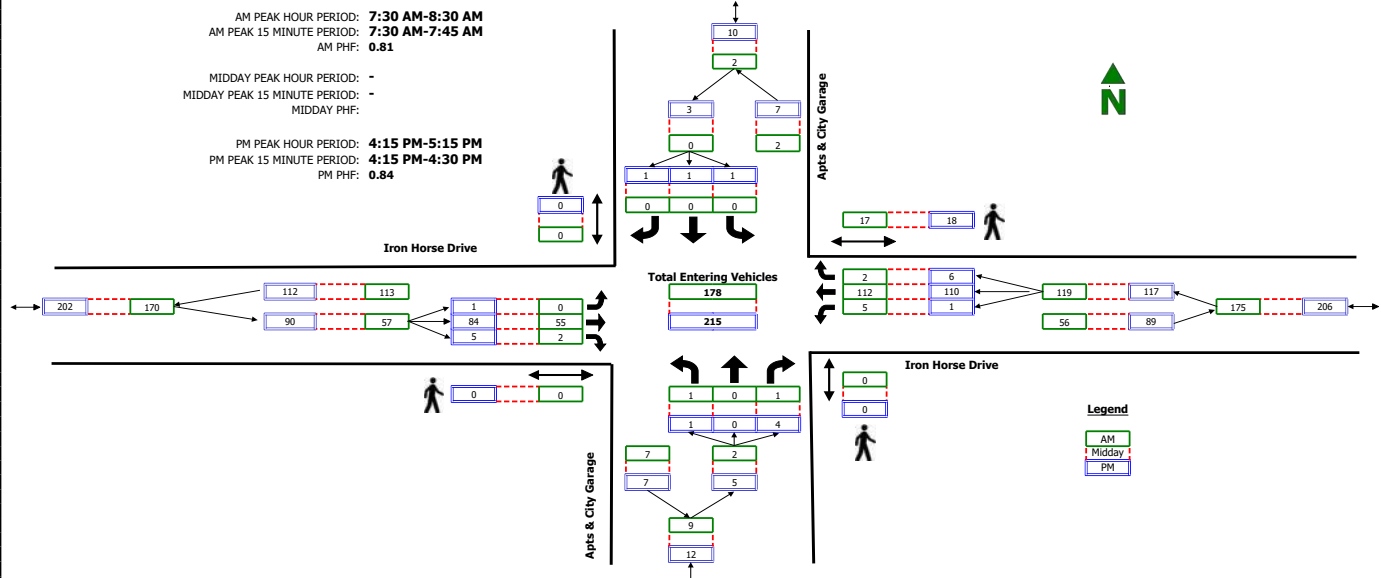


RAW COUNT SUMMARIES	APT Accesses Northbound				APT Accesses Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	2	0	0	0	0	1	0	0	0	0	1	0	0	1	3
7:15 - 7:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30 - 7:45	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3
7:45 - 8:00	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	4
8:00 - 8:15	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	1	5
8:15 - 8:30	2	0	0	0	0	0	0	1	0	0	0	0	1	0	0	7	3
8:30 - 8:45	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	3
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	2	4
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	2	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	5
16:15 - 16:30	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
16:30 - 16:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2
16:45 - 17:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
17:00 - 17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
17:15 - 17:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Turning Movement Summary

Intersection: Apts & City Garage / Iron Horse Drive
 North/South: Apts & City Garage
 East/West: Iron Horse Drive
 Jurisdiction: Park City
 Project Title: Wintzer TIS
 Project No: UT21-1940
 Weather: Clear

Date: 6-29-21, Tue
 Day of Week Adjustment: 100.0%
 Month of Year Adjustment: 100.0%
 Adjustment Station #: 0
 Growth Rate: 0.0%
 Number of Years: 0

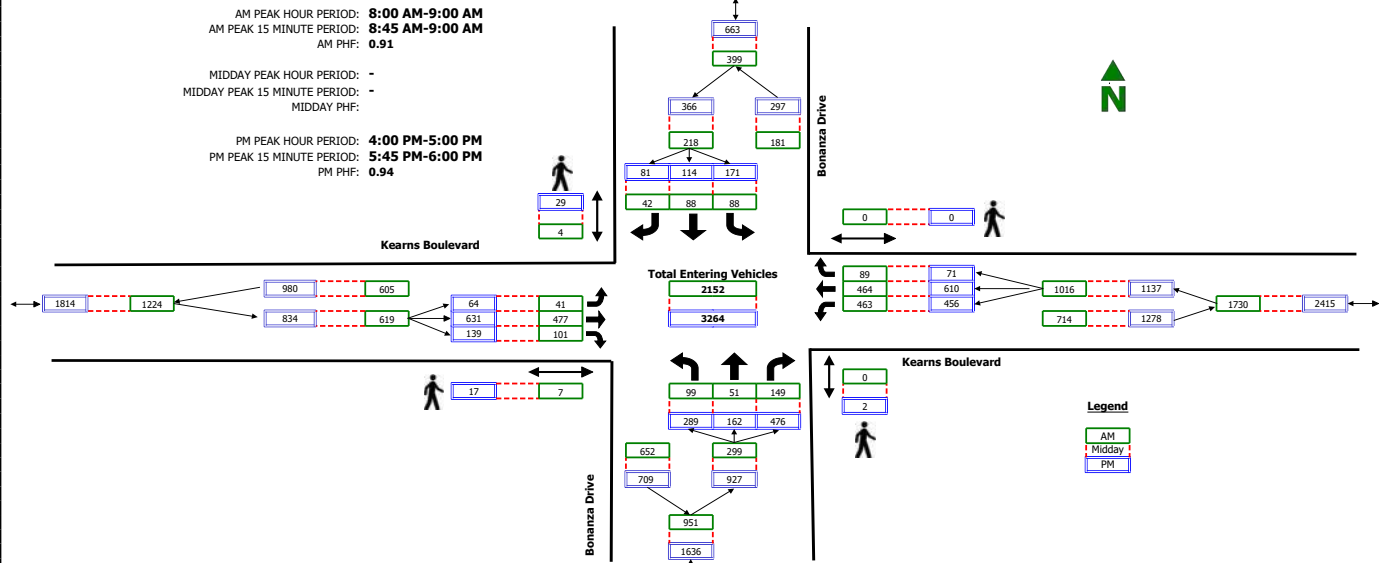


RAW COUNT SUMMARIES	Apts & City Garage Northbound				Apts & City Garage Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	1	0	2	1	0	6	0	0	0	11	0	0	20
7:15 - 7:30	0	0	0	0	0	0	0	0	0	12	0	0	0	17	0	1	29
7:30 - 7:45	1	0	1	0	0	0	0	0	0	16	0	0	1	36	0	0	55
7:45 - 8:00	0	0	0	0	0	0	0	0	0	16	0	0	1	25	2	7	44
8:00 - 8:15	0	0	0	0	0	0	0	0	0	12	0	0	0	28	0	9	41
8:15 - 8:30	0	0	0	0	0	0	0	0	0	11	1	0	3	23	0	1	38
8:30 - 8:45	1	0	0	0	0	0	0	0	0	9	1	0	0	23	0	6	34
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	1	0	1	0	0	0	0	0	0	25	5	0	0	24	0	6	56
16:15 - 16:30	0	0	0	0	0	1	0	0	0	23	2	0	0	32	6	1	64
16:30 - 16:45	0	0	3	0	1	0	0	0	0	15	1	0	1	23	0	5	44
16:45 - 17:00	0	0	0	0	0	0	0	0	0	1	16	0	0	27	0	9	44
17:00 - 17:15	1	0	1	0	0	0	1	0	0	30	2	0	0	28	0	3	63
17:15 - 17:30	0	0	2	0	0	0	0	0	0	20	5	0	0	17	0	13	44
17:30 - 17:45	0	0	1	0	0	0	0	0	0	23	5	0	1	13	0	4	43
17:45 - 18:00	0	0	0	0	0	0	0	0	0	14	3	0	0	28	1	0	46

Intersection Turning Movement Summary

Intersection: Bonanza Drive / Kearns Boulevard
North/South: Bonanza Drive
East/West: Kearns Boulevard
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 7-29-21, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0



RAW COUNT SUMMARIES	Bonanza Drive Northbound				Bonanza Drive Southbound				Kearns Boulevard Eastbound				Kearns Boulevard Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	14	10	32	0	13	6	2	0	1	52	9	2	92	70	19	0	320
7:15 - 7:30	13	8	34	0	16	11	4	1	4	72	21	2	91	91	6	0	371
7:30 - 7:45	15	8	27	0	20	5	3	1	5	73	13	2	135	117	14	0	435
7:45 - 8:00	17	12	24	0	17	21	11	1	8	101	35	4	144	94	25	0	509
8:00 - 8:15	28	13	30	0	15	24	7	0	9	101	31	1	133	103	20	0	514
8:15 - 8:30	18	19	34	0	21	19	7	3	9	111	19	3	128	111	28	0	524
8:30 - 8:45	23	9	37	0	32	28	16	0	6	122	25	1	82	122	22	0	524
8:45 - 9:00	30	10	48	0	20	17	12	1	17	143	26	2	120	128	19	0	590
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	107	41	102	1	44	18	17	11	19	156	28	6	100	157	23	0	812
16:15 - 16:30	64	37	139	1	30	42	13	9	25	163	44	7	112	119	14	0	802
16:30 - 16:45	52	43	114	0	62	29	31	5	8	141	34	1	133	157	15	0	819
16:45 - 17:00	66	41	121	0	35	25	20	4	12	171	33	3	111	177	19	0	831
17:00 - 17:15	55	39	105	0	38	49	31	3	19	158	12	5	83	196	14	0	799
17:15 - 17:30	53	21	93	0	39	25	11	3	3	210	21	0	107	150	18	0	751
17:30 - 17:45	44	15	117	0	50	38	10	6	9	193	34	0	142	122	11	0	785
17:45 - 18:00	55	37	91	0	66	40	11	0	20	249	30	1	90	154	24	0	867

APPENDIX B

LOS Results

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	526	526	100	0.3	A
	R	23	23	101	0.3	A
	Subtotal	549	549	100	0.3	A
SB	L	31	31	99	3.9	A
	T	934	942	101	0.4	A
	Subtotal	965	973	101	0.5	A
WB	L	11	10	93	22.5	C
	R	19	19	99	4.2	A
	Subtotal	30	29	97	10.5	B
Total		1,544	1,551	100	0.6	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	446	451	101	0.4	A
	R	48	50	105	0.3	A
	Subtotal	494	501	101	0.4	A
SB	L	68	67	99	3.8	A
	T	878	886	101	0.2	A
	Subtotal	946	953	101	0.5	A
WB	L	12	12	100	21.5	C
	T	0	0	0		
	R	101	96	95	5.1	A
	Subtotal	113	108	96	6.9	A
Total		1,553	1,562	101	0.9	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	2	200	2.2	A
	Subtotal	2	2	100	2.2	A
EB	T	114	115	101	0.4	A
	R	2	2	100	0.6	A
	Subtotal	116	117	101	0.4	A
WB	L	5	6	114	1.7	A
	T	112	107	95	0.1	A
	R	2	2	100	0.0	A
	Subtotal	119	115	97	0.2	A
Total		237	234	99	0.3	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	62	5.1	A
	R	4	5	118	2.7	A
	Subtotal	7	7	100	3.4	A
EB	T	88	89	101	0.1	A
	R	2	2	100	0.0	A
	Subtotal	90	91	101	0.1	A
WB	L	6	6	96	1.8	A
	T	117	115	98	0.2	A
	Subtotal	123	121	98	0.3	A
Total		222	219	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	32	92	4.7	A
	R	22	23	106	2.9	A
	Subtotal	57	55	96	3.9	A
EB	L	2	2	100	1.1	A
	T	90	92	102	0.1	A
	Subtotal	92	94	102	0.1	A
WB	T	87	87	100	0.1	A
	R	1	1	100	0.0	A
	Subtotal	88	88	100	0.1	A
Total		237	237	100	1.0	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	62	4.1	A
	R	6	6	96	2.4	A
	Subtotal	9	8	89	2.8	A
EB	L	7	7	104	1.7	A
	T	105	107	102	0.1	A
	Subtotal	112	114	102	0.2	A
WB	T	83	83	100	0.1	A
	R	1	1	100	0.0	A
	Subtotal	84	84	100	0.1	A
Total		205	206	101	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	4	76	4.5	A
	R	5	7	133	2.5	A
	Subtotal	10	11	110	3.2	A
EB	T	97	98	101	0.1	A
	R	11	10	93	0.0	A
	Subtotal	108	108	100	0.1	A
WB	L	19	19	99	1.9	A
	T	78	82	104	0.1	A
	Subtotal	97	101	104	0.4	A
Total		216	220	102	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	4.5	A
	R	2	2	100	2.5	A
	Subtotal	4	4	100	3.5	A
EB	L	4	3	71	2.0	A
	T	98	102	104	0.2	A
	Subtotal	102	105	103	0.3	A
WB	T	95	98	103	0.4	A
	R	3	3	92	0.2	A
	Subtotal	98	101	103	0.4	A
Total		205	210	102	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	22	21	97	5.3	A
	T	312	316	101	0.6	A
	R	3	4	123	0.5	A
	Subtotal	337	341	101	0.9	A
SB	L	19	17	88	2.9	A
	T	460	466	101	1.0	A
	R	65	68	105	0.5	A
	Subtotal	544	551	101	1.0	A
EB	L	57	58	101	17.0	C
	T	9	7	80	12.7	B
	R	34	38	111	5.7	A
	Subtotal	100	103	103	12.5	B
WB	L	11	9	84	15.7	C
	T	11	10	93	13.4	B
	R	25	26	105	6.6	A
	Subtotal	47	45	96	9.9	A
Total		1,027	1,040	101	2.5	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	3.8	A
	T	393	399	102	0.3	A
	Subtotal	394	400	102	0.3	A
SB	T	644	648	101	2.3	A
	R	9	10	114	2.2	A
	Subtotal	653	658	101	2.3	A
EB	L	2	2	100	12.8	B
	R	5	7	133	6.7	A
	Subtotal	7	9	129	8.1	A
Total		1,054	1,067	101	1.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	135	142	105	35.1	D
	T	68	68	100	36.1	D
	R	196	195	99	6.0	A
	Subtotal	399	405	102	21.3	C
SE	L	88	85	96	31.5	C
	T	88	87	99	38.3	D
	R	42	43	102	5.8	A
	Subtotal	218	215	99	29.1	C
NE	L	41	41	100	17.4	B
	T	477	486	102	37.4	D
	R	101	104	103	18.9	B
	Subtotal	619	631	102	33.1	C
SW	L	463	467	101	25.3	C
	T	464	468	101	10.2	B
	R	89	87	98	5.4	A
	Subtotal	1,016	1,022	101	16.7	B
Total		2,253	2,273	101	23.3	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	526	516	98	0.3	A
	R	23	20	88	0.3	A
	Subtotal	549	536	98	0.3	A
SB	L	31	32	102	3.8	A
	T	934	935	100	0.5	A
	Subtotal	965	967	100	0.6	A
WB	L	11	12	112	27.1	D
	R	19	21	109	5.5	A
	Subtotal	30	33	110	13.4	B
Total		1,544	1,536	99	0.8	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	446	440	99	0.3	A
	R	48	50	105	0.4	A
	Subtotal	494	490	99	0.3	A
SB	L	68	64	94	3.9	A
	T	878	885	101	0.3	A
	Subtotal	946	949	100	0.5	A
WB	L	12	11	92	22.4	C
	T	0	0	0		
	R	101	95	94	5.1	A
	Subtotal	113	106	94	6.9	A
Total		1,553	1,545	99	0.9	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	2	200	3.0	A
	Subtotal	2	2	100	3.0	A
EB	T	114	112	98	0.4	A
	R	2	2	100	0.2	A
	Subtotal	116	114	98	0.4	A
WB	L	5	4	76	1.8	A
	T	112	105	94	0.0	A
	R	2	3	150	0.0	A
	Subtotal	119	112	94	0.1	A
Total		237	228	96	0.3	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	62	4.7	A
	R	4	5	118	2.6	A
	Subtotal	7	7	100	3.2	A
EB	T	88	87	98	0.1	A
	R	2	2	100	0.0	A
	Subtotal	90	89	99	0.1	A
WB	L	6	6	96	1.7	A
	T	117	111	95	0.3	A
	Subtotal	123	117	95	0.4	A
Total		222	213	96	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	36	104	4.6	A
	R	22	22	101	3.0	A
	Subtotal	57	58	102	4.0	A
EB	L	2	2	100	1.6	A
	T	90	90	99	0.1	A
	Subtotal	92	92	100	0.1	A
WB	T	87	80	92	0.1	A
	R	1	1	100	0.0	A
	Subtotal	88	81	92	0.1	A
Total		237	231	97	1.1	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	4	123	4.7	A
	R	6	6	96	2.5	A
	Subtotal	9	10	111	3.4	A
EB	L	7	5	74	1.6	A
	T	105	105	100	0.1	A
	Subtotal	112	110	98	0.2	A
WB	T	83	76	92	0.1	A
	R	1	1	100	0.0	A
	Subtotal	84	77	92	0.1	A
Total		205	197	96	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	6	114	5.2	A
	R	5	5	95	3.0	A
	Subtotal	10	11	110	4.2	A
EB	T	97	98	101	0.1	A
	R	11	11	102	0.0	A
	Subtotal	108	109	101	0.1	A
WB	L	19	18	94	1.6	A
	T	78	70	89	0.1	A
	Subtotal	97	88	91	0.4	A
Total		216	208	96	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	1	50	5.8	A
	R	2	2	100	1.9	A
	Subtotal	4	3	75	3.2	A
EB	L	4	4	94	1.3	A
	T	98	99	101	0.2	A
	Subtotal	102	103	101	0.2	A
WB	T	95	87	91	0.4	A
	R	3	3	92	0.3	A
	Subtotal	98	90	92	0.4	A
Total		205	196	96	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	22	20	92	5.1	A
	T	312	309	99	0.6	A
	R	3	4	123	0.3	A
	Subtotal	337	333	99	0.9	A
SB	L	19	18	94	2.9	A
	T	460	450	98	1.0	A
	R	65	59	91	0.5	A
	Subtotal	544	527	97	1.0	A
EB	L	57	56	98	14.4	B
	T	9	9	103	13.0	B
	R	34	36	105	6.8	A
	Subtotal	100	101	101	11.6	B
WB	L	11	11	102	11.4	B
	T	11	10	93	13.2	B
	R	25	25	101	5.3	A
	Subtotal	47	46	98	8.5	A
Total		1,027	1,007	98	2.4	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	393	390	99	0.4	A
	Subtotal	394	390	99	0.4	A
SB	T	644	629	98	1.5	A
	R	9	10	114	1.3	A
	Subtotal	653	639	98	1.5	A
EB	L	2	2	100	9.1	A
	R	5	4	76	7.8	A
	Subtotal	7	6	86	8.2	A
Total		1,054	1,035	98	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour **Project #:** UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	135	135	100	36.0	D
	T	68	63	93	35.5	D
	R	196	197	100	4.3	A
	Subtotal	399	395	99	20.1	C
SE	L	88	87	99	27.4	C
	T	88	84	95	34.6	C
	R	42	41	98	5.7	A
	Subtotal	218	212	97	26.1	C
NE	L	41	42	102	17.2	B
	T	477	479	100	32.8	C
	R	101	95	94	16.2	B
	Subtotal	619	616	100	29.2	C
SW	L	463	459	99	38.9	D
	T	464	465	100	10.8	B
	R	89	91	103	6.1	A
	Subtotal	1,016	1,015	100	23.1	C
Total		2,253	2,238	99	24.5	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	816	810	99	0.5	A
	R	27	30	110	0.4	A
	Subtotal	843	840	100	0.5	A
SB	L	32	30	94	6.9	A
	T	1,127	1,133	101	0.7	A
	Subtotal	1,159	1,163	100	0.9	A
WB	L	10	8	78	40.2	E
	R	43	44	103	8.3	A
	Subtotal	53	52	98	13.2	B
Total		2,055	2,055	100	1.0	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	712	705	99	0.5	A
	R	38	40	106	0.3	A
	Subtotal	750	745	99	0.5	A
SB	L	84	83	99	5.5	A
	T	1,054	1,059	100	0.3	A
	Subtotal	1,138	1,142	100	0.7	A
WB	L	4	3	75	50.9	F
	R	128	130	101	8.0	A
	Subtotal	132	133	101	9.0	A
Total		2,021	2,020	100	1.2	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	5	125	2.7	A
	Subtotal	5	5	100	2.7	A
SB	L	1	0	0		
	T	1	1	100	5.1	A
	R	1	2	200	2.4	A
	Subtotal	3	3	100	3.3	A
EB	L	1	0	0		
	T	116	118	102	0.5	A
	R	5	5	100	0.5	A
	Subtotal	122	123	101	0.5	A
WB	L	1	0	0		
	T	103	102	99	0.1	A
	R	6	5	83	0.0	A
	Subtotal	110	107	97	0.1	A
Total		240	238	99	0.4	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	67	3.9	A
	R	12	15	122	2.7	A
	Subtotal	15	17	113	2.8	A
SB	L	1	0	0		
	R	2	2	100	2.5	A
	Subtotal	3	2	67	2.5	A
EB	T	99	98	99	0.1	A
	Subtotal	99	98	99	0.1	A
WB	L	2	2	100	1.0	A
	T	105	104	99	0.1	A
	R	1	1	100	0.1	A
	Subtotal	108	107	99	0.1	A
Total		225	224	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	7	88	4.9	A
	R	55	54	98	3.0	A
	Subtotal	63	61	97	3.2	A
SB	L	2	1	50	5.0	A
	R	2	3	150	3.0	A
	Subtotal	4	4	100	3.5	A
EB	L	1	1	100	1.6	A
	T	111	112	101	0.1	A
	Subtotal	112	113	101	0.1	A
WB	T	98	97	98	0.1	A
	R	1	1	100	0.0	A
	Subtotal	99	98	99	0.1	A
Total		278	276	99	0.9	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	9	8	89	7.0	A
	R	14	14	98	2.7	A
	Subtotal	23	22	96	4.3	A
EB	L	6	4	67	1.7	A
	T	162	163	101	0.3	A
	Subtotal	168	167	99	0.3	A
WB	T	86	85	99	0.3	A
	R	5	5	100	0.2	A
	Subtotal	91	90	99	0.3	A
Total		282	279	99	0.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	19	110	8.9	A
	R	35	34	98	9.8	A
	Subtotal	52	53	102	9.5	A
EB	T	159	159	100	1.4	A
	R	12	12	98	0.2	A
	Subtotal	171	171	100	1.3	A
WB	L	16	15	92	1.7	A
	T	74	72	97	0.1	A
	Subtotal	90	87	97	0.4	A
Total		313	311	99	2.5	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	100	21.2	C
	R	5	5	100	6.1	A
	Subtotal	8	8	100	11.8	B
EB	L	4	4	100	8.0	A
	T	190	189	99	3.1	A
	Subtotal	194	193	99	3.2	A
WB	T	84	81	96	0.5	A
	R	3	3	100	0.1	A
	Subtotal	87	84	97	0.5	A
Total		290	285	98	2.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	28	27	96	6.5	A
	T	754	737	98	3.8	A
	R	18	21	115	4.0	A
	Subtotal	800	785	98	3.9	A
SB	L	60	58	97	9.3	A
	T	366	362	99	1.0	A
	R	59	56	95	0.5	A
	Subtotal	485	476	98	2.0	A
EB	L	102	99	97	57.1	F
	T	21	20	95	26.2	D
	R	71	72	101	7.4	A
	Subtotal	194	191	98	35.1	E
WB	L	6	5	83	34.6	D
	R	14	12	84	15.2	C
	Subtotal	20	17	85	20.9	C
Total		1,500	1,469	98	7.6	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	4	100	3.5	A
	T	866	843	97	1.3	A
	Subtotal	870	847	97	1.3	A
SB	T	698	679	97	2.0	A
	R	11	12	107	1.9	A
	Subtotal	709	691	97	2.0	A
EB	L	10	10	98	21.0	C
	R	17	19	110	6.8	A
	Subtotal	27	29	107	11.7	B
Total		1,607	1,567	98	1.8	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	289	270	93	74.7	E
	T	162	165	102	56.4	E
	R	476	456	96	23.9	C
	Subtotal	927	891	96	45.3	D
SE	L	171	182	106	47.5	D
	T	114	113	99	41.4	D
	R	81	80	98	7.5	A
	Subtotal	366	375	102	37.1	D
NE	L	64	62	97	31.7	C
	T	631	636	101	84.5	F
	R	139	137	98	59.0	E
	Subtotal	834	835	100	76.4	E
SW	L	456	441	97	32.9	C
	T	610	613	101	17.0	B
	R	71	76	107	10.8	B
	Subtotal	1,137	1,130	99	22.8	C
Total		3,265	3,231	99	46.0	D

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	816	806	99	0.5	A
	R	27	29	106	0.4	A
	Subtotal	843	835	99	0.5	A
SB	L	32	32	101	6.6	A
	T	1,127	1,125	100	0.6	A
	Subtotal	1,159	1,157	100	0.8	A
WB	L	10	9	88	53.5	F
	R	43	45	105	10.1	B
	Subtotal	53	54	102	17.3	C
Total		2,055	2,046	100	1.1	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	712	704	99	0.4	A
	R	38	37	98	0.4	A
	Subtotal	750	741	99	0.4	A
SB	L	84	83	99	5.4	A
	T	1,054	1,054	100	0.3	A
	Subtotal	1,138	1,137	100	0.7	A
WB	L	4	4	100	32.9	D
	R	128	130	101	6.3	A
	Subtotal	132	134	102	7.1	A
Total		2,021	2,012	100	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	4	100	3.1	A
	Subtotal	5	4	80	3.1	A
SB	L	1	1	100	3.7	A
	T	1	1	100	3.9	A
	R	1	2	200	2.7	A
	Subtotal	3	4	133	3.3	A
EB	L	1	0	0		
	T	116	115	99	0.5	A
	R	5	4	80	0.3	A
	Subtotal	122	119	98	0.5	A
WB	L	1	0	0		
	T	103	106	103	0.1	A
	R	6	6	100	0.1	A
	Subtotal	110	112	102	0.1	A
Total		240	239	100	0.4	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	100	3.7	A
	R	12	12	98	2.7	A
	Subtotal	15	15	100	2.9	A
SB	L	1	0	0		
	R	2	3	150	2.7	A
	Subtotal	3	3	100	2.7	A
EB	T	99	98	99	0.1	A
	Subtotal	99	98	99	0.1	A
WB	L	2	1	50	2.0	A
	T	105	107	102	0.1	A
	R	1	2	200	0.0	A
	Subtotal	108	110	102	0.1	A
Total		225	226	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	8	100	4.4	A
	R	55	56	102	3.2	A
	Subtotal	63	64	102	3.4	A
SB	L	2	1	50	3.1	A
	R	2	2	100	2.4	A
	Subtotal	4	3	75	2.6	A
EB	L	1	0	0	0.1	A
	T	111	110	99	0.1	A
	Subtotal	112	110	98	0.1	A
WB	T	98	99	101	0.1	A
	R	1	1	100	0.0	A
	Subtotal	99	100	101	0.1	A
Total		278	277	99	0.9	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	9	9	100	6.1	A
	R	14	15	105	2.9	A
	Subtotal	23	24	104	4.1	A
EB	L	6	5	83	1.7	A
	T	162	162	100	0.5	A
	Subtotal	168	167	99	0.5	A
WB	T	86	87	101	0.2	A
	R	5	4	80	0.2	A
	Subtotal	91	91	100	0.2	A
Total		282	282	100	0.7	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	18	104	6.3	A
	R	35	32	92	7.3	A
	Subtotal	52	50	96	6.9	A
EB	T	159	160	101	1.6	A
	R	12	12	98	3.1	A
	Subtotal	171	172	101	1.7	A
WB	L	16	16	98	2.1	A
	T	74	74	100	0.1	A
	Subtotal	90	90	100	0.5	A
Total		313	312	100	2.2	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	67	7.9	A
	R	5	5	100	2.6	A
	Subtotal	8	7	88	4.1	A
EB	L	4	4	100	4.2	A
	T	190	189	99	3.3	A
	Subtotal	194	193	99	3.3	A
WB	T	84	82	97	0.6	A
	R	3	3	100	0.2	A
	Subtotal	87	85	98	0.6	A
Total		290	285	98	2.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	28	26	92	4.4	A
	T	754	754	100	1.7	A
	R	18	18	99	1.2	A
	Subtotal	800	798	100	1.8	A
SB	L	60	59	98	8.4	A
	T	366	366	100	1.1	A
	R	59	58	98	0.6	A
	Subtotal	485	483	100	1.9	A
EB	L	102	102	100	55.4	F
	T	21	20	95	24.2	C
	R	71	73	102	8.0	A
	Subtotal	194	195	101	34.5	D
WB	L	6	7	117	34.8	D
	R	14	16	112	17.2	C
	Subtotal	20	23	115	22.6	C
Total		1,500	1,499	100	6.4	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	3	75	6.1	A
	T	866	868	100	0.6	A
	Subtotal	870	871	100	0.6	A
SB	T	698	697	100	1.3	A
	R	11	9	80	1.3	A
	Subtotal	709	706	100	1.3	A
EB	L	10	9	88	19.5	C
	R	17	19	110	6.6	A
	Subtotal	27	28	104	10.7	B
Total		1,607	1,605	100	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour **Project #:** UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	289	291	101	38.1	D
	T	162	161	99	41.3	D
	R	476	481	101	10.8	B
	Subtotal	927	933	101	24.6	C
SE	L	171	165	96	38.3	D
	T	114	116	102	47.4	D
	R	81	84	103	8.1	A
	Subtotal	366	365	100	34.2	C
NE	L	64	62	97	31.5	C
	T	631	621	98	73.1	E
	R	139	136	98	49.2	D
	Subtotal	834	819	98	66.0	E
SW	L	456	452	99	78.4	E
	T	610	616	101	20.9	C
	R	71	71	100	13.6	B
	Subtotal	1,137	1,139	100	43.3	D
Total		3,265	3,256	100	42.8	D

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	532	536	101	0.3	A
	R	23	22	97	0.3	A
	Subtotal	555	558	101	0.3	A
SB	L	31	29	93	4.1	A
	T	938	920	98	0.4	A
	Subtotal	969	949	98	0.5	A
WB	L	11	8	74	21.5	C
	R	19	20	104	4.3	A
	Subtotal	30	28	93	9.2	A
Total		1,554	1,535	99	0.6	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	446	452	101	0.4	A
	R	50	49	98	0.3	A
	Subtotal	496	501	101	0.4	A
SB	L	72	69	96	3.7	A
	T	878	861	98	0.3	A
	Subtotal	950	930	98	0.6	A
WB	L	16	15	92	22.0	C
	R	107	104	97	5.8	A
	Subtotal	123	119	97	7.8	A
Total		1,569	1,550	99	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
 Analysis Period: Existing (2021) Plus Project w/o Link
 Time Period: Morning Peak Hour
 Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr
 Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	5.2	A
	R	1	1	100	3.7	A
	Subtotal	2	2	100	4.5	A
SB	R	8	9	116	3.1	A
	Subtotal	8	9	113	3.1	A
EB	L	6	5	80	1.4	A
	T	114	110	97	0.4	A
	R	2	3	150	0.4	A
	Subtotal	122	118	97	0.4	A
WB	L	5	5	95	1.3	A
	T	114	109	95	0.1	A
	Subtotal	119	114	96	0.2	A
Total		251	243	97	0.4	A

Intersection: S-3 & Iron Horse Dr
 Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	4	123	4.2	A
	R	4	4	94	2.8	A
	Subtotal	7	8	114	3.5	A
EB	T	88	87	98	0.1	A
	R	2	2	100	0.0	A
	Subtotal	90	89	99	0.1	A
WB	L	6	7	112	1.8	A
	T	117	111	95	0.2	A
	Subtotal	123	118	96	0.3	A
Total		222	215	97	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	33	95	4.5	A
	R	22	23	106	2.7	A
	Subtotal	57	56	98	3.8	A
EB	T	92	90	97	0.1	A
	Subtotal	92	90	98	0.1	A
WB	T	87	84	96	0.0	A
	Subtotal	87	84	97	0.0	A
Total		236	230	97	1.0	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	11	11	102	4.4	A
	R	6	7	112	2.7	A
	Subtotal	17	18	106	3.7	A
EB	L	7	7	104	1.3	A
	T	107	105	98	0.1	A
	Subtotal	114	112	98	0.2	A
WB	T	81	77	95	0.1	A
	R	6	6	96	0.0	A
	Subtotal	87	83	95	0.1	A
Total		218	213	98	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
 Analysis Period: Existing (2021) Plus Project w/o Link
 Time Period: Morning Peak Hour
 Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
 Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	4	76	3.9	A
	R	5	7	133	2.6	A
	Subtotal	10	11	110	3.1	A
EB	T	107	105	98	0.1	A
	R	11	11	102	0.1	A
	Subtotal	118	116	98	0.1	A
WB	L	19	18	94	1.5	A
	T	82	79	96	0.1	A
	Subtotal	101	97	96	0.4	A
Total		229	224	98	0.4	A

Intersection: Iron Horse Dr & N-1
 Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	1	50	3.5	A
	R	2	3	150	2.0	A
	Subtotal	4	4	100	2.4	A
EB	L	4	5	118	1.2	A
	T	108	107	99	0.2	A
	Subtotal	112	112	100	0.2	A
WB	T	100	96	96	0.4	A
	R	3	4	123	0.2	A
	Subtotal	103	100	97	0.4	A
Total		219	216	99	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	24	24	101	5.1	A
	T	312	312	100	0.6	A
	R	3	3	92	0.4	A
	Subtotal	339	339	100	0.9	A
SB	L	19	18	94	3.2	A
	T	459	448	98	1.0	A
	R	67	63	94	0.4	A
	Subtotal	545	529	97	1.0	A
EB	L	63	61	97	15.1	C
	T	10	9	95	11.9	B
	R	38	38	101	6.2	A
	Subtotal	111	108	97	11.7	B
WB	L	11	13	121	10.4	B
	T	11	11	102	16.1	C
	R	25	26	105	5.9	A
	Subtotal	47	50	106	9.3	A
Total		1,040	1,026	99	2.5	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	400	400	100	0.3	A
	Subtotal	401	400	100	0.3	A
SB	T	646	630	98	1.5	A
	R	9	9	103	1.2	A
	Subtotal	655	639	98	1.5	A
EB	L	2	2	100	12.2	B
	R	5	5	95	6.5	A
	Subtotal	7	7	100	8.1	A
Total		1,062	1,046	98	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour **Project #:** UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	135	136	101	36.7	D
	T	68	69	101	37.7	D
	R	202	201	100	4.6	A
	Subtotal	405	406	100	21.0	C
SE	L	88	84	95	30.3	C
	T	88	85	96	34.9	C
	R	42	45	107	5.5	A
	Subtotal	218	214	98	26.9	C
NE	L	41	38	93	17.4	B
	T	477	484	101	34.7	C
	R	101	103	102	18.9	B
	Subtotal	619	625	101	31.0	C
SW	L	465	450	97	44.6	D
	T	464	464	100	10.6	B
	R	89	94	106	5.8	A
	Subtotal	1,018	1,008	99	25.3	C
Total		2,260	2,253	100	26.4	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	818	818	100	0.5	A
	R	27	30	110	0.4	A
	Subtotal	845	848	100	0.5	A
SB	L	32	30	94	6.2	A
	T	1,134	1,146	101	0.6	A
	Subtotal	1,166	1,176	101	0.7	A
WB	L	10	8	78	48.9	E
	R	43	44	103	7.8	A
	Subtotal	53	52	98	14.1	B
Total		2,064	2,076	101	1.0	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	712	712	100	0.5	A
	R	44	45	103	0.4	A
	Subtotal	756	757	100	0.5	A
SB	L	91	94	104	5.1	A
	T	1,056	1,062	101	0.3	A
	Subtotal	1,147	1,156	101	0.7	A
WB	L	8	8	100	33.0	D
	R	130	133	102	7.4	A
	Subtotal	138	141	102	8.9	A
Total		2,040	2,054	101	1.2	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	4	100	3.1	A
	Subtotal	5	4	80	3.1	A
SB	R	6	6	100	3.4	A
	Subtotal	6	6	100	3.4	A
EB	L	7	7	100	1.8	A
	T	122	125	102	0.5	A
	R	5	5	100	0.3	A
	Subtotal	134	137	102	0.6	A
WB	L	1	1	100	1.6	A
	T	109	112	103	0.1	A
	Subtotal	110	113	103	0.1	A
Total		255	260	102	0.5	A

Intersection: S-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	62	5.6	A
	R	12	12	100	2.8	A
	Subtotal	15	14	93	3.2	A
EB	T	109	110	101	0.1	A
	Subtotal	109	110	101	0.1	A
WB	L	2	1	50	1.4	A
	T	105	109	104	0.1	A
	Subtotal	107	110	103	0.1	A
Total		232	234	101	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	7	90	4.5	A
	R	55	57	104	3.0	A
	Subtotal	63	64	102	3.2	A
EB	T	116	116	100	0.2	A
	Subtotal	116	116	100	0.2	A
WB	T	104	107	103	0.1	A
	Subtotal	104	107	103	0.1	A
Total		282	287	102	0.8	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	14	14	98	4.7	A
	R	14	16	112	2.6	A
	Subtotal	28	30	107	3.6	A
EB	L	6	4	67	1.3	A
	T	170	174	102	0.2	A
	Subtotal	176	178	101	0.2	A
WB	T	85	86	101	0.2	A
	R	12	12	98	0.1	A
	Subtotal	97	98	101	0.2	A
Total		302	306	101	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	16	93	5.4	A
	R	35	34	98	3.1	A
	Subtotal	52	50	96	3.8	A
EB	T	165	169	102	0.4	A
	R	12	12	98	0.1	A
	Subtotal	177	181	102	0.4	A
WB	L	16	16	98	2.0	A
	T	80	83	103	0.1	A
	Subtotal	96	99	103	0.4	A
Total		326	330	101	0.9	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	67	7.2	A
	R	5	5	100	2.6	A
	Subtotal	8	7	88	3.9	A
EB	L	4	4	100	4.7	A
	T	196	200	102	1.7	A
	Subtotal	200	204	102	1.8	A
WB	T	91	94	104	0.4	A
	R	3	3	100	0.2	A
	Subtotal	94	97	103	0.4	A
Total		302	308	102	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	32	33	104	4.5	A
	T	754	745	99	1.8	A
	R	18	19	104	1.1	A
	Subtotal	804	797	99	1.9	A
SB	L	60	58	97	8.6	A
	T	366	354	97	1.2	A
	R	62	64	103	0.7	A
	Subtotal	488	476	98	2.0	A
EB	L	105	104	99	50.9	F
	T	21	23	110	23.0	C
	R	74	74	100	7.7	A
	Subtotal	200	201	101	31.8	D
WB	L	6	6	100	38.1	E
	R	14	17	119	16.0	C
	Subtotal	20	23	115	21.8	C
Total		1,513	1,497	99	6.3	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	2	50	6.4	A
	T	870	864	99	0.7	A
	Subtotal	874	866	99	0.7	A
SB	T	701	689	98	1.3	A
	R	11	11	98	1.2	A
	Subtotal	712	700	98	1.3	A
EB	L	10	9	88	18.3	C
	R	17	16	93	6.6	A
	Subtotal	27	25	93	10.8	B
Total		1,613	1,591	99	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour **Project #:** UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	289	293	101	37.6	D
	T	161	156	97	42.8	D
	R	480	474	99	11.0	B
	Subtotal	930	923	99	24.8	C
SE	L	171	176	103	41.0	D
	T	114	116	102	47.0	D
	R	81	82	101	8.6	A
	Subtotal	366	374	102	35.8	D
NE	L	64	63	98	43.4	D
	T	631	618	98	89.4	F
	R	139	138	99	62.4	E
	Subtotal	834	819	98	81.3	F
SW	L	459	446	97	113.2	F
	T	610	608	100	21.1	C
	R	71	73	102	14.0	B
	Subtotal	1,140	1,127	99	57.1	E
Total		3,270	3,243	99	51.9	D

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	528	531	101	0.3	A
	R	13	13	100	0.2	A
	Subtotal	541	544	101	0.3	A
SB	L	35	35	101	3.8	A
	T	934	935	100	0.4	A
	Subtotal	969	970	100	0.5	A
WB	L	6	5	80	25.4	D
	T	4	4	107	0.1	A
	R	24	23	97	4.8	A
	Subtotal	34	32	94	7.4	A
Total		1,543	1,546	100	0.6	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	436	439	101	0.3	A
	R	50	50	101	0.3	A
	Subtotal	486	489	101	0.3	A
SB	L	68	67	99	3.8	A
	T	874	875	100	0.2	A
	Subtotal	942	942	100	0.5	A
WB	L	16	15	92	20.5	C
	T	0	0	0		
	R	102	104	102	5.7	A
	Subtotal	118	119	101	7.6	A
Total		1,546	1,550	100	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	2	200	2.1	A
	Subtotal	2	2	100	2.1	A
SB	L	5	4	76	7.1	A
	T	2	3	120	0.1	A
	R	3	3	92	3.4	A
	Subtotal	10	10	100	3.9	A
EB	L	2	1	50	2.8	A
	T	114	114	100	0.3	A
	R	2	2	100	0.3	A
	Subtotal	118	117	99	0.3	A
WB	L	5	4	76	1.7	A
	T	114	116	101	0.1	A
	R	10	9	92	0.0	A
	Subtotal	129	129	100	0.1	A
Total		260	258	99	0.4	A

Intersection: S-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	62	5.2	A
	R	4	6	141	2.6	A
	Subtotal	7	8	114	3.3	A
EB	T	93	91	98	0.1	A
	R	2	2	100	0.0	A
	Subtotal	95	93	98	0.1	A
WB	L	6	6	96	1.6	A
	T	127	128	101	0.2	A
	Subtotal	133	134	101	0.3	A
Total		236	235	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	35	101	4.6	A
	R	22	21	97	3.0	A
	Subtotal	57	56	98	4.0	A
EB	T	97	96	99	0.1	A
	Subtotal	97	96	99	0.1	A
WB	T	97	98	101	0.1	A
	Subtotal	97	98	101	0.1	A
Total		250	250	100	0.9	A

Intersection: Iron Horse Dr & N-2

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	8	7	90	5.0	A
	R	6	7	112	2.6	A
	Subtotal	14	14	100	3.8	A
EB	L	7	5	74	1.2	A
	T	112	112	100	0.1	A
	Subtotal	119	117	98	0.1	A
WB	T	91	90	99	0.1	A
	R	4	5	118	0.0	A
	Subtotal	95	95	100	0.1	A
Total		228	226	99	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	4	76	4.7	A
	R	5	6	114	2.5	A
	Subtotal	10	10	100	3.4	A
EB	T	109	108	99	0.1	A
	R	11	11	102	0.0	A
	Subtotal	120	119	99	0.1	A
WB	L	19	18	94	1.6	A
	T	90	92	102	0.1	A
	Subtotal	109	110	101	0.3	A
Total		240	239	100	0.4	A

Intersection: Iron Horse Dr & N-1

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	4.6	A
	R	2	3	150	2.4	A
	Subtotal	4	5	125	3.3	A
EB	L	4	4	94	1.8	A
	T	110	110	100	0.3	A
	Subtotal	114	114	100	0.4	A
WB	T	107	106	99	0.4	A
	R	3	4	123	0.4	A
	Subtotal	110	110	100	0.4	A
Total		228	229	100	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	34	31	91	5.1	A
	T	312	307	98	0.6	A
	R	3	4	123	0.5	A
	Subtotal	349	342	98	1.0	A
SB	L	19	19	99	3.2	A
	T	460	463	101	1.1	A
	R	65	68	105	0.6	A
	Subtotal	544	550	101	1.1	A
EB	L	60	58	96	16.8	C
	T	9	9	100	13.2	B
	R	43	45	105	7.1	A
	Subtotal	112	112	100	12.6	B
WB	L	11	11	102	14.7	B
	T	11	11	102	15.9	C
	R	25	25	101	5.5	A
	Subtotal	47	47	100	10.1	A
Total		1,051	1,051	100	2.7	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	396	391	99	0.4	A
	Subtotal	397	391	98	0.4	A
SB	T	644	651	101	1.5	A
	R	9	9	103	1.2	A
	Subtotal	653	660	101	1.5	A
EB	L	2	2	100	14.9	B
	R	5	6	114	7.0	A
	Subtotal	7	8	114	9.0	A
Total		1,057	1,059	100	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	135	133	99	37.5	D
	T	68	65	96	36.3	D
	R	199	199	100	4.4	A
	Subtotal	402	397	99	20.7	C
SE	L	88	88	100	28.7	C
	T	88	95	108	35.0	C
	R	42	43	102	5.9	A
	Subtotal	218	226	104	27.0	C
NE	L	41	43	105	15.7	B
	T	480	471	98	32.9	C
	R	101	109	108	16.1	B
	Subtotal	622	623	100	28.8	C
SW	L	463	455	98	38.4	D
	T	466	476	102	11.1	B
	R	89	90	101	5.9	A
	Subtotal	1,018	1,021	100	22.8	C
Total		2,260	2,267	100	24.5	C

Intersection: West Access & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	7	88	4.1	A
	R	10	10	98	2.6	A
	Subtotal	18	17	94	3.2	A
EB	T	46	46	101	0.4	A
	R	6	6	100	0.2	A
	Subtotal	52	52	100	0.4	A
WB	L	5	4	80	1.6	A
	T	25	24	95	0.0	A
	Subtotal	30	28	93	0.2	A
Total		100	97	97	0.8	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	815	821	101	0.4	A
	R	12	13	106	0.2	A
	Subtotal	827	834	101	0.4	A
SB	L	36	35	98	5.0	A
	T	1,130	1,146	101	0.6	A
	Subtotal	1,166	1,181	101	0.7	A
WB	L	5	4	80	31.4	D
	R	47	43	92	5.0	A
	Subtotal	52	47	90	7.2	A
Total		2,044	2,062	101	0.8	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	697	700	100	0.5	A
	R	44	46	105	0.4	A
	Subtotal	741	746	101	0.5	A
SB	L	87	86	99	5.9	A
	T	1,050	1,066	101	0.3	A
	Subtotal	1,137	1,152	101	0.7	A
WB	L	8	7	88	41.5	E
	R	126	129	102	9.9	A
	Subtotal	134	136	101	11.5	B
Total		2,012	2,034	101	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	5	125	3.4	A
	Subtotal	5	5	100	3.4	A
SB	L	5	5	100	6.2	A
	T	6	7	117	0.1	A
	R	2	2	100	4.1	A
	Subtotal	13	14	108	2.9	A
EB	L	3	2	67	1.8	A
	T	122	125	102	0.5	A
	R	5	4	80	0.5	A
	Subtotal	130	131	101	0.5	A
WB	L	1	1	100	1.2	A
	T	109	107	98	0.1	A
	R	15	13	85	0.0	A
	Subtotal	125	121	97	0.1	A
Total		274	271	99	0.5	A

Intersection: S-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	5.0	A
	R	12	11	92	2.8	A
	Subtotal	15	14	93	3.3	A
EB	T	114	117	102	0.1	A
	Subtotal	114	117	103	0.1	A
WB	L	2	2	100	2.1	A
	T	120	117	98	0.1	A
	Subtotal	122	119	98	0.1	A
Total		252	250	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	7	90	4.7	A
	R	55	54	98	3.1	A
	Subtotal	63	61	97	3.3	A
EB	T	121	123	102	0.1	A
	Subtotal	121	123	102	0.1	A
WB	T	119	118	99	0.1	A
	Subtotal	119	118	99	0.1	A
Total		302	302	100	0.7	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	11	10	89	5.5	A
	R	14	15	105	2.7	A
	Subtotal	25	25	100	3.8	A
EB	L	6	7	117	1.6	A
	T	175	174	99	0.2	A
	Subtotal	181	181	100	0.3	A
WB	T	100	99	99	0.2	A
	R	8	9	112	0.2	A
	Subtotal	108	108	100	0.2	A
Total		315	314	100	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	17	99	4.8	A
	R	35	37	106	3.1	A
	Subtotal	52	54	104	3.6	A
EB	T	167	164	98	0.5	A
	R	12	12	98	0.0	A
	Subtotal	179	176	98	0.5	A
WB	L	16	14	86	1.8	A
	T	91	91	100	0.1	A
	Subtotal	107	105	98	0.3	A
Total		338	335	99	1.0	A

Intersection: Iron Horse Dr & N-1

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	67	31.5	D
	R	5	5	100	7.5	A
	Subtotal	8	7	88	14.4	B
EB	L	4	3	75	2.9	A
	T	198	198	100	1.7	A
	Subtotal	202	201	100	1.7	A
WB	T	102	99	97	0.5	A
	R	3	3	100	0.2	A
	Subtotal	105	102	97	0.5	A
Total		315	310	98	1.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	47	47	101	4.6	A
	T	754	766	102	1.8	A
	R	18	16	88	1.2	A
	Subtotal	819	829	101	1.9	A
SB	L	60	57	95	8.9	A
	T	366	363	99	1.1	A
	R	58	55	95	0.6	A
	Subtotal	484	475	98	2.0	A
EB	L	102	98	96	61.9	F
	T	20	20	99	25.2	D
	R	79	82	103	8.3	A
	Subtotal	201	200	100	36.3	E
WB	L	6	6	100	31.8	D
	R	14	16	112	16.8	C
	Subtotal	20	22	110	20.9	C
Total		1,525	1,526	100	6.8	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	3	75	3.7	A
	T	866	877	101	0.6	A
	Subtotal	870	880	101	0.6	A
SB	T	697	683	98	1.3	A
	R	11	10	89	1.1	A
	Subtotal	708	693	98	1.3	A
EB	L	10	10	98	22.3	C
	R	17	16	93	6.9	A
	Subtotal	27	26	96	12.8	B
Total		1,606	1,599	100	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	289	294	102	36.4	D
	T	161	163	101	40.9	D
	R	477	481	101	10.8	B
	Subtotal	927	938	101	24.1	C
SE	L	171	169	99	38.4	D
	T	114	115	101	45.5	D
	R	81	81	100	8.6	A
	Subtotal	366	365	100	34.0	C
NE	L	64	64	100	32.0	C
	T	634	630	99	81.1	F
	R	139	138	99	58.1	E
	Subtotal	837	832	99	73.5	E
SW	L	455	442	97	86.5	F
	T	614	605	99	20.2	C
	R	71	70	98	12.8	B
	Subtotal	1,140	1,117	98	46.0	D
Total		3,270	3,252	99	45.6	D

Intersection: West Access & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	9	7	78	4.3	A
	R	13	12	91	2.7	A
	Subtotal	22	19	86	3.3	A
EB	T	44	42	96	0.5	A
	R	6	8	133	0.4	A
	Subtotal	50	50	100	0.5	A
WB	L	7	7	100	1.7	A
	T	38	35	93	0.1	A
	Subtotal	45	42	93	0.4	A
Total		117	111	95	0.9	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	558	565	101	0.3	A
	R	25	27	109	0.4	A
	Subtotal	583	592	102	0.3	A
SB	L	35	35	101	4.5	A
	T	985	975	99	0.5	A
	Subtotal	1,020	1,010	99	0.6	A
WB	L	15	12	80	28.4	D
	R	20	20	99	7.1	A
	Subtotal	35	32	91	15.1	B
Total		1,638	1,634	100	0.8	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	470	479	102	0.4	A
	R	50	53	107	0.4	A
	Subtotal	520	532	102	0.4	A
SB	L	70	66	94	4.0	A
	T	932	924	99	0.3	A
	Subtotal	1,002	990	99	0.5	A
WB	L	15	16	107	21.6	C
	R	110	111	101	5.9	A
	Subtotal	125	127	102	7.9	A
Total		1,647	1,649	100	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	2	200	1.9	A
	Subtotal	2	2	100	1.9	A
EB	T	118	116	99	0.4	A
	R	2	2	100	0.2	A
	Subtotal	120	118	98	0.4	A
WB	L	5	5	95	1.7	A
	T	124	127	102	0.1	A
	R	2	3	150	0.1	A
	Subtotal	131	135	103	0.2	A
Total		253	255	101	0.2	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	4.9	A
	R	4	4	94	3.2	A
	Subtotal	7	7	100	3.9	A
EB	T	93	93	100	0.0	A
	R	2	2	100	0.0	A
	Subtotal	95	95	100	0.0	A
WB	L	6	6	96	1.5	A
	T	129	134	104	0.2	A
	Subtotal	135	140	104	0.3	A
Total		238	242	102	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	34	98	4.9	A
	R	22	23	106	3.0	A
	Subtotal	57	57	100	4.1	A
EB	L	2	2	100	1.2	A
	T	95	95	100	0.1	A
	Subtotal	97	97	100	0.1	A
WB	T	99	104	105	0.0	A
	R	1	1	100	0.0	A
	Subtotal	100	105	105	0.0	A
Total		254	259	102	1.0	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	92	5.0	A
	R	6	6	96	2.4	A
	Subtotal	9	9	100	3.3	A
EB	L	7	5	74	1.5	A
	T	110	113	103	0.1	A
	Subtotal	117	118	101	0.2	A
WB	T	94	99	105	0.1	A
	R	1	2	200	0.0	A
	Subtotal	95	101	106	0.1	A
Total		221	228	103	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	6	114	4.8	A
	R	5	7	133	2.9	A
	Subtotal	10	13	130	3.8	A
EB	T	102	103	100	0.1	A
	R	11	13	121	0.1	A
	Subtotal	113	116	103	0.1	A
WB	L	19	19	99	1.7	A
	T	90	96	107	0.1	A
	Subtotal	109	115	106	0.4	A
Total		233	244	105	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	2.6	A
	R	2	2	100	3.0	A
	Subtotal	4	4	100	2.8	A
EB	L	4	3	71	1.5	A
	T	104	108	104	0.2	A
	Subtotal	108	111	103	0.2	A
WB	T	108	113	105	0.5	A
	R	3	3	92	0.4	A
	Subtotal	111	116	105	0.5	A
Total		222	231	104	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	25	29	117	5.9	A
	T	335	341	102	0.6	A
	R	5	6	114	0.5	A
	Subtotal	365	376	103	1.0	A
SB	L	20	21	104	3.0	A
	T	486	483	99	1.1	A
	R	70	69	99	0.5	A
	Subtotal	576	573	99	1.1	A
EB	L	60	60	100	17.9	C
	T	10	10	100	14.4	B
	R	35	39	112	7.2	A
	Subtotal	105	109	104	13.8	B
WB	L	15	16	107	16.2	C
	T	15	16	107	17.4	C
	R	25	27	109	6.9	A
	Subtotal	55	59	107	12.3	B
Total		1,101	1,117	101	2.9	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	420	428	102	0.3	A
	Subtotal	421	428	102	0.3	A
SB	T	676	671	99	1.5	A
	R	9	8	91	1.2	A
	Subtotal	685	679	99	1.5	A
EB	L	2	1	50	20.8	C
	R	5	6	114	8.9	A
	Subtotal	7	7	100	10.6	B
Total		1,112	1,114	100	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	140	138	98	37.6	D
	T	70	72	103	35.5	D
	R	215	222	103	5.0	A
	Subtotal	425	432	102	20.5	C
SE	L	90	90	100	30.5	C
	T	90	91	101	34.8	C
	R	45	46	102	5.7	A
	Subtotal	225	227	101	27.2	C
NE	L	45	44	97	18.0	B
	T	510	518	102	35.8	D
	R	105	101	96	19.8	B
	Subtotal	660	663	100	32.2	C
SW	L	490	490	100	56.1	E
	T	495	498	101	11.8	B
	R	90	93	104	6.1	A
	Subtotal	1,075	1,081	101	31.4	C
Total		2,385	2,403	101	29.4	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	558	556	100	0.3	A
	R	25	28	113	0.3	A
	Subtotal	583	584	100	0.3	A
SB	L	35	35	101	3.9	A
	T	985	996	101	0.5	A
	Subtotal	1,020	1,031	101	0.6	A
WB	L	15	15	100	29.0	D
	R	20	23	114	8.4	A
	Subtotal	35	38	109	16.5	C
Total		1,638	1,653	101	0.9	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	470	472	100	0.4	A
	R	50	52	105	0.3	A
	Subtotal	520	524	101	0.4	A
SB	L	70	70	100	4.0	A
	T	932	940	101	0.3	A
	Subtotal	1,002	1,010	101	0.6	A
WB	L	15	14	93	22.9	C
	R	110	110	100	6.1	A
	Subtotal	125	124	99	8.0	A
Total		1,647	1,658	101	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	4.0	A
	R	1	1	100	3.2	A
	Subtotal	2	2	100	3.6	A
EB	T	118	120	102	0.3	A
	R	2	2	100	0.1	A
	Subtotal	120	122	102	0.3	A
WB	L	5	4	76	1.7	A
	T	124	123	99	0.1	A
	R	2	3	150	0.1	A
	Subtotal	131	130	99	0.1	A
Total		253	254	100	0.2	A

Intersection: S-3/N-4 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	5.3	A
	R	4	5	118	2.7	A
	Subtotal	7	8	114	3.7	A
EB	T	93	92	99	0.0	A
	R	2	2	100	0.0	A
	Subtotal	95	94	99	0.0	A
WB	L	6	5	80	1.7	A
	T	129	128	99	0.2	A
	Subtotal	135	133	99	0.3	A
Total		238	235	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	35	101	4.7	A
	R	22	22	101	3.2	A
	Subtotal	57	57	100	4.1	A
EB	L	2	1	50	2.3	A
	T	95	95	100	0.1	A
	Subtotal	97	96	99	0.1	A
WB	T	99	96	97	0.1	A
	R	1	2	200	0.0	A
	Subtotal	100	98	98	0.1	A
Total		254	251	99	1.0	A

Intersection: Iron Horse Dr & N-2

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	92	5.1	A
	R	6	5	80	2.6	A
	Subtotal	9	8	89	3.5	A
EB	L	7	6	89	1.6	A
	T	110	112	102	0.1	A
	Subtotal	117	118	101	0.2	A
WB	T	94	93	99	0.1	A
	R	1	1	100	0.0	A
	Subtotal	95	94	99	0.1	A
Total		221	220	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	5	95	4.6	A
	R	5	7	133	2.5	A
	Subtotal	10	12	120	3.4	A
EB	T	102	102	100	0.1	A
	R	11	12	112	0.0	A
	Subtotal	113	114	101	0.1	A
WB	L	19	17	88	1.8	A
	T	90	90	100	0.1	A
	Subtotal	109	107	98	0.4	A
Total		233	233	100	0.4	A

Intersection: Iron Horse Dr & N-1

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	3.5	A
	R	2	2	100	2.0	A
	Subtotal	4	4	100	2.8	A
EB	L	4	4	94	1.3	A
	T	104	105	101	0.3	A
	Subtotal	108	109	101	0.3	A
WB	T	108	105	98	0.5	A
	R	3	4	123	0.3	A
	Subtotal	111	109	98	0.5	A
Total		222	222	100	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	25	23	93	9.8	A
	T	335	329	98	3.1	A
	R	5	7	133	1.9	A
	Subtotal	365	359	98	3.5	A
SB	L	20	20	99	4.5	A
	T	486	475	98	2.3	A
	R	70	70	100	1.3	A
	Subtotal	576	565	98	2.3	A
EB	L	60	62	103	61.4	E
	T	10	10	100	39.9	D
	R	35	35	101	9.6	A
	Subtotal	105	107	102	42.4	D
WB	L	15	15	100	57.4	E
	T	15	15	100	41.6	D
	R	25	24	97	9.7	A
	Subtotal	55	54	98	31.8	C
Total		1,101	1,085	99	8.1	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	420	415	99	0.6	A
	Subtotal	421	415	99	0.6	A
SB	T	676	658	97	1.8	A
	R	9	10	114	1.4	A
	Subtotal	685	668	98	1.8	A
EB	L	2	2	100	11.1	B
	R	5	6	114	10.2	B
	Subtotal	7	8	114	10.4	B
Total		1,112	1,091	98	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	140	137	98	41.2	D
	T	70	72	103	39.1	D
	R	215	211	98	1.4	A
	Subtotal	425	420	99	20.8	C
SE	L	90	88	98	35.3	D
	T	90	87	97	38.2	D
	R	45	49	108	6.2	A
	Subtotal	225	224	100	30.1	C
NE	L	45	45	99	17.0	B
	T	510	506	99	30.7	C
	R	105	103	98	13.3	B
	Subtotal	660	654	99	27.0	C
SW	L	490	479	98	37.2	D
	T	495	505	102	9.7	A
	R	90	87	97	6.8	A
	Subtotal	1,075	1,071	100	21.8	C
Total		2,385	2,369	99	23.9	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	856	849	99	0.5	A
	R	27	28	103	0.4	A
	Subtotal	883	877	99	0.5	A
SB	L	32	34	107	5.8	A
	T	1,175	1,178	100	0.6	A
	Subtotal	1,207	1,212	100	0.7	A
WB	L	10	8	78	57.9	F
	R	43	41	96	11.0	B
	Subtotal	53	49	92	18.7	C
Total		2,143	2,138	100	1.1	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	745	740	99	0.5	A
	R	40	44	111	0.4	A
	Subtotal	785	784	100	0.5	A
SB	L	90	94	105	5.7	A
	T	1,097	1,094	100	0.3	A
	Subtotal	1,187	1,188	100	0.7	A
WB	L	5	6	120	32.3	D
	R	135	133	98	8.1	A
	Subtotal	140	139	99	9.1	A
Total		2,112	2,111	100	1.2	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	3.1	A
	R	4	5	125	3.0	A
	Subtotal	5	6	120	3.0	A
SB	L	1	1	100	2.5	A
	T	1	1	100	4.3	A
	R	1	1	100	3.4	A
	Subtotal	3	3	100	3.4	A
EB	L	1	1	100	1.9	A
	T	124	132	107	0.5	A
	R	5	5	100	0.4	A
	Subtotal	130	138	106	0.5	A
WB	L	1	0	0		
	T	111	109	98	0.1	A
	R	6	7	117	0.1	A
	Subtotal	118	116	98	0.1	A
Total		256	263	103	0.4	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	100	3.8	A
	R	12	12	98	2.7	A
	Subtotal	15	15	100	2.9	A
SB	L	1	1	100	3.0	A
	R	2	2	100	3.3	A
	Subtotal	3	3	100	3.2	A
EB	T	111	118	106	0.1	A
	Subtotal	111	118	106	0.1	A
WB	L	2	1	50	1.9	A
	T	113	112	99	0.1	A
	R	1	1	100	0.1	A
	Subtotal	116	114	98	0.1	A
Total		245	250	102	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	6	75	5.4	A
	R	55	55	100	3.1	A
	Subtotal	63	61	97	3.3	A
SB	L	2	2	100	3.7	A
	R	2	2	100	3.1	A
	Subtotal	4	4	100	3.4	A
EB	L	1	0	0	0.1	A
	T	124	131	106	0.1	A
	Subtotal	125	131	105	0.1	A
WB	T	106	106	100	0.1	A
	R	1	1	100	0.1	A
	Subtotal	107	107	100	0.1	A
Total		298	303	102	0.8	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	9	10	111	4.8	A
	R	14	16	112	2.6	A
	Subtotal	23	26	113	3.4	A
EB	L	6	6	100	1.5	A
	T	174	181	104	0.2	A
	Subtotal	180	187	104	0.2	A
WB	T	94	92	98	0.2	A
	R	5	5	100	0.2	A
	Subtotal	99	97	98	0.2	A
Total		302	310	103	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	17	99	5.4	A
	R	35	35	101	3.4	A
	Subtotal	52	52	100	4.1	A
EB	T	171	176	103	0.2	A
	R	12	15	122	0.1	A
	Subtotal	183	191	104	0.2	A
WB	L	16	16	98	1.8	A
	T	81	80	98	0.1	A
	Subtotal	97	96	99	0.4	A
Total		333	339	102	0.9	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	67	17.2	C
	R	5	6	120	2.1	A
	Subtotal	8	8	100	5.9	A
EB	L	4	4	100	5.2	A
	T	202	208	103	1.8	A
	Subtotal	206	212	103	1.9	A
WB	T	92	90	98	0.8	A
	R	3	3	100	0.2	A
	Subtotal	95	93	98	0.8	A
Total		309	313	101	1.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	30	101	5.8	A
	T	800	810	101	2.4	A
	R	20	20	99	1.5	A
	Subtotal	850	860	101	2.5	A
SB	L	65	58	89	10.0	A
	T	385	384	100	1.2	A
	R	65	64	98	0.6	A
	Subtotal	515	506	98	2.1	A
EB	L	105	108	103	68.8	F
	T	26	25	98	31.7	D
	R	75	76	101	11.8	B
	Subtotal	206	209	101	43.6	E
WB	L	10	8	78	41.4	E
	R	15	17	111	18.7	C
	Subtotal	25	25	100	26.0	D
Total		1,596	1,600	100	8.3	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	3	75	4.9	A
	T	916	932	102	0.9	A
	Subtotal	920	935	102	0.9	A
SB	T	724	717	99	1.4	A
	R	11	11	98	1.6	A
	Subtotal	735	728	99	1.4	A
EB	L	10	12	117	31.8	D
	R	17	18	104	8.2	A
	Subtotal	27	30	111	17.6	C
Total		1,683	1,693	101	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	295	301	102	41.7	D
	T	165	162	98	44.7	D
	R	500	505	101	11.5	B
	Subtotal	960	968	101	26.4	C
SE	L	180	180	100	43.9	D
	T	115	119	103	49.7	D
	R	85	84	99	8.9	A
	Subtotal	380	383	101	38.0	D
NE	L	65	58	89	70.8	E
	T	675	635	94	130.5	F
	R	140	136	97	101.0	F
	Subtotal	880	829	94	121.5	F
SW	L	480	475	99	111.2	F
	T	650	629	97	20.9	C
	R	75	75	100	15.2	B
	Subtotal	1,205	1,179	98	56.9	E
Total		3,426	3,359	98	63.2	E

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	856	854	100	0.5	A
	R	27	30	110	0.5	A
	Subtotal	883	884	100	0.5	A
SB	L	32	32	101	6.7	A
	T	1,175	1,188	101	0.6	A
	Subtotal	1,207	1,220	101	0.8	A
WB	L	10	11	107	65.1	F
	R	43	46	108	18.0	C
	Subtotal	53	57	108	27.1	D
Total		2,143	2,161	101	1.4	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	745	745	100	0.5	A
	R	40	40	101	0.4	A
	Subtotal	785	785	100	0.5	A
SB	L	90	92	103	5.4	A
	T	1,097	1,108	101	0.3	A
	Subtotal	1,187	1,200	101	0.7	A
WB	L	5	5	100	54.9	F
	R	135	136	101	12.2	B
	Subtotal	140	141	101	13.7	B
Total		2,112	2,126	101	1.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	3.2	A
	R	4	4	100	3.6	A
	Subtotal	5	5	100	3.5	A
SB	L	1	0	0	5.3	A
	T	1	1	100		
	R	1	2	200	2.1	A
	Subtotal	3	3	100	3.2	A
EB	L	1	0	0	0.6	A
	T	124	126	102	0.6	A
	R	5	5	100	0.5	A
	Subtotal	130	131	101	0.6	A
WB	L	1	0	0	0.1	A
	T	111	110	99	0.0	A
	R	6	8	133	0.0	A
	Subtotal	118	118	100	0.1	A
Total		256	257	101	0.4	A

Intersection: S-3/N-4 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	67	4.2	A
	R	12	13	106	3.1	A
	Subtotal	15	15	100	3.2	A
SB	L	1	0	0	3.2	A
	R	2	3	150		
	Subtotal	3	3	100	3.2	A
EB	T	111	112	101	0.1	A
	Subtotal	111	112	101	0.1	A
WB	L	2	2	100	1.2	A
	T	113	112	99	0.1	A
	R	1	1	100	0.2	A
	Subtotal	116	115	99	0.1	A
Total		245	245	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	8	100	4.9	A
	R	55	49	89	3.2	A
	Subtotal	63	57	90	3.4	A
SB	L	2	2	100	4.2	A
	R	2	2	100	2.6	A
	Subtotal	4	4	100	3.4	A
EB	L	1	0	0	0.1	A
	T	124	126	102	0.1	A
	Subtotal	125	126	101	0.1	A
WB	T	106	106	100	0.1	A
	R	1	1	100	0.0	A
	Subtotal	107	107	100	0.1	A
Total		298	294	98	0.8	A

Intersection: Iron Horse Dr & N-2

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	9	9	100	4.7	A
	R	14	14	98	2.4	A
	Subtotal	23	23	100	3.3	A
EB	L	6	6	100	1.6	A
	T	174	170	98	0.2	A
	Subtotal	180	176	98	0.2	A
WB	T	94	94	101	0.2	A
	R	5	4	80	0.2	A
	Subtotal	99	98	99	0.2	A
Total		302	297	98	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	16	93	5.9	A
	R	35	38	109	3.1	A
	Subtotal	52	54	104	3.9	A
EB	T	171	167	98	0.1	A
	R	12	11	90	0.0	A
	Subtotal	183	178	97	0.1	A
WB	L	16	17	105	1.8	A
	T	81	82	101	0.1	A
	Subtotal	97	99	102	0.4	A
Total		333	331	99	0.8	A

Intersection: Iron Horse Dr & N-1

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	4	133	4.1	A
	R	5	6	120	2.4	A
	Subtotal	8	10	125	3.1	A
EB	L	4	4	100	1.5	A
	T	202	202	100	0.5	A
	Subtotal	206	206	100	0.5	A
WB	T	92	93	101	0.3	A
	R	3	3	100	0.2	A
	Subtotal	95	96	101	0.3	A
Total		309	312	101	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	31	104	12.0	B
	T	800	810	101	7.7	A
	R	20	21	104	5.8	A
	Subtotal	850	862	101	7.8	A
SB	L	65	67	103	17.4	B
	T	385	380	99	2.0	A
	R	65	64	98	1.0	A
	Subtotal	515	511	99	3.9	A
EB	L	105	105	100	41.3	D
	T	26	24	94	35.5	D
	R	75	78	104	10.8	B
	Subtotal	206	207	100	29.1	C
WB	L	10	9	88	45.0	D
	R	15	14	92	12.0	B
	Subtotal	25	23	92	24.9	C
Total		1,596	1,603	100	9.6	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	5	125	5.3	A
	T	916	923	101	1.0	A
	Subtotal	920	928	101	1.0	A
SB	T	724	722	100	1.4	A
	R	11	12	107	1.4	A
	Subtotal	735	734	100	1.4	A
EB	L	10	11	107	21.9	C
	R	17	17	99	6.1	A
	Subtotal	27	28	104	12.3	B
Total		1,683	1,690	100	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	295	300	102	34.0	C
	T	165	168	102	35.2	D
	R	500	501	100	2.6	A
	Subtotal	960	969	101	18.0	B
SE	L	180	173	96	33.6	C
	T	115	115	100	43.6	D
	R	85	82	96	7.7	A
	Subtotal	380	370	97	31.0	C
NE	L	65	63	97	21.0	C
	T	675	673	100	40.7	D
	R	140	136	97	13.7	B
	Subtotal	880	872	99	35.1	C
SW	L	480	484	101	57.4	E
	T	650	649	100	16.8	B
	R	75	74	98	11.9	B
	Subtotal	1,205	1,207	100	32.8	C
Total		3,426	3,418	100	29.0	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	564	554	98	0.3	A
	R	25	27	109	0.4	A
	Subtotal	589	581	99	0.3	A
SB	L	35	34	98	4.3	A
	T	989	983	99	0.5	A
	Subtotal	1,024	1,017	99	0.6	A
WB	L	15	14	93	25.6	D
	R	20	19	94	5.2	A
	Subtotal	35	33	94	13.9	B
Total		1,648	1,631	99	0.8	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	470	464	99	0.3	A
	R	52	47	91	0.4	A
	Subtotal	522	511	98	0.3	A
SB	L	74	73	98	3.7	A
	T	932	924	99	0.3	A
	Subtotal	1,006	997	99	0.5	A
WB	L	19	21	109	26.8	D
	T	0	1	400	0.2	A
	R	116	114	98	7.9	A
	Subtotal	135	136	101	10.8	B
Total		1,664	1,644	99	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	1	100	2.8	A
	Subtotal	2	1	50	2.8	A
SB	R	8	8	103	3.3	A
	Subtotal	8	8	100	3.3	A
EB	L	6	5	80	1.8	A
	T	118	113	96	0.4	A
	R	2	2	100	0.5	A
	Subtotal	126	120	95	0.5	A
WB	L	5	6	114	1.5	A
	T	126	127	101	0.1	A
	Subtotal	131	133	102	0.2	A
Total		267	262	98	0.4	A

Intersection: S-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	5.6	A
	R	4	4	94	2.8	A
	Subtotal	7	7	100	4.0	A
EB	T	93	89	96	0.1	A
	R	2	2	100	0.0	A
	Subtotal	95	91	96	0.1	A
WB	L	6	6	96	1.7	A
	T	129	131	101	0.3	A
	Subtotal	135	137	101	0.4	A
Total		238	235	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/o Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	37	106	4.5	A
	R	22	22	101	3.1	A
	Subtotal	57	59	104	4.0	A
EB	T	97	93	96	0.1	A
	Subtotal	97	93	96	0.1	A
WB	T	99	99	100	0.0	A
	Subtotal	99	99	100	0.0	A
Total		253	251	99	1.0	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	11	11	102	4.0	A
	R	6	7	112	2.8	A
	Subtotal	17	18	106	3.5	A
EB	L	7	7	104	1.3	A
	T	112	108	96	0.1	A
	Subtotal	119	115	97	0.2	A
WB	T	93	92	99	0.1	A
	R	6	7	112	0.0	A
	Subtotal	99	99	100	0.1	A
Total		235	232	99	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	4	76	4.6	A
	R	5	5	95	2.7	A
	Subtotal	10	9	90	3.5	A
EB	T	112	107	95	0.2	A
	R	11	12	112	0.1	A
	Subtotal	123	119	97	0.2	A
WB	L	19	19	99	1.7	A
	T	94	95	101	0.1	A
	Subtotal	113	114	101	0.4	A
Total		247	242	98	0.4	A

Intersection: Iron Horse Dr & N-1

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	8.7	A
	R	2	2	100	2.0	A
	Subtotal	4	4	100	5.4	A
EB	L	4	4	94	1.8	A
	T	113	109	96	0.4	A
	Subtotal	117	113	97	0.4	A
WB	T	111	112	101	0.5	A
	R	3	3	92	0.4	A
	Subtotal	114	115	101	0.5	A
Total		236	232	98	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	27	25	93	9.8	A
	T	335	345	103	3.2	A
	R	5	6	114	2.0	A
	Subtotal	367	376	102	3.6	A
SB	L	20	20	99	3.7	A
	T	486	495	102	2.1	A
	R	72	75	104	1.1	A
	Subtotal	578	590	102	2.0	A
EB	L	66	62	94	58.1	E
	T	10	10	95	39.0	D
	R	39	40	103	9.5	A
	Subtotal	115	112	97	39.0	D
WB	L	15	12	80	50.0	D
	T	15	15	100	43.0	D
	R	25	25	101	11.9	B
	Subtotal	55	52	95	29.7	C
Total		1,116	1,130	101	7.6	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	425	432	102	0.6	A
	Subtotal	426	432	101	0.6	A
SB	T	678	693	102	1.8	A
	R	9	9	103	1.4	A
	Subtotal	687	702	102	1.8	A
EB	L	2	1	50	23.8	C
	R	5	6	114	5.7	A
	Subtotal	7	7	100	8.3	A
Total		1,120	1,141	102	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	140	137	98	39.6	D
	T	70	68	97	38.2	D
	R	221	230	104	1.4	A
	Subtotal	431	435	101	19.2	B
SE	L	90	93	104	35.9	D
	T	90	90	100	40.9	D
	R	45	47	104	6.4	A
	Subtotal	225	230	102	31.8	C
NE	L	45	43	95	17.3	B
	T	510	510	100	30.9	C
	R	105	108	103	13.3	B
	Subtotal	660	661	100	27.1	C
SW	L	492	501	102	40.7	D
	T	495	498	101	9.5	A
	R	90	95	106	5.9	A
	Subtotal	1,077	1,094	102	23.5	C
Total		2,394	2,420	101	24.6	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	858	867	101	0.5	A
	R	27	27	99	0.3	A
	Subtotal	885	894	101	0.5	A
SB	L	32	32	101	5.8	A
	T	1,182	1,190	101	0.6	A
	Subtotal	1,214	1,222	101	0.7	A
WB	L	10	11	107	52.0	F
	R	43	44	103	12.5	B
	Subtotal	53	55	104	20.4	C
Total		2,152	2,171	101	1.2	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	745	758	102	0.6	A
	R	46	47	103	0.5	A
	Subtotal	791	805	102	0.6	A
SB	L	97	98	101	6.1	A
	T	1,097	1,104	101	0.3	A
	Subtotal	1,194	1,202	101	0.8	A
WB	L	9	9	100	33.6	D
	R	137	134	98	8.3	A
	Subtotal	146	143	98	9.9	A
Total		2,131	2,150	101	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/o Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	5	125	3.1	A
	Subtotal	5	5	100	3.1	A
SB	R	6	6	100	3.5	A
	Subtotal	6	6	100	3.5	A
EB	L	7	9	129	1.7	A
	T	130	131	100	0.6	A
	R	5	6	120	0.4	A
	Subtotal	142	146	103	0.7	A
WB	L	1	0	0		
	T	117	115	98	0.1	A
	Subtotal	118	115	97	0.1	A
Total		272	272	100	0.5	A

Intersection: S-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	4.9	A
	R	12	13	108	2.9	A
	Subtotal	15	16	107	3.3	A
EB	T	122	124	102	0.1	A
	Subtotal	122	124	102	0.1	A
WB	L	2	1	50	1.9	A
	T	112	110	98	0.1	A
	Subtotal	114	111	97	0.1	A
Total		251	251	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/o Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	6	77	4.1	A
	R	55	56	102	3.1	A
	Subtotal	63	62	98	3.2	A
EB	T	128	130	101	0.1	A
	Subtotal	128	130	102	0.1	A
WB	T	111	110	99	0.1	A
	Subtotal	111	110	99	0.1	A
Total		302	302	100	0.7	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	14	17	119	4.8	A
	R	14	14	98	2.7	A
	Subtotal	28	31	111	3.9	A
EB	L	6	5	83	1.4	A
	T	183	186	102	0.2	A
	Subtotal	189	191	101	0.2	A
WB	T	93	92	99	0.2	A
	R	12	13	106	0.1	A
	Subtotal	105	105	100	0.2	A
Total		322	327	101	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/o Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	16	93	5.7	A
	R	35	37	106	3.2	A
	Subtotal	52	53	102	4.0	A
EB	T	177	184	104	0.2	A
	R	12	12	98	0.1	A
	Subtotal	189	196	104	0.2	A
WB	L	16	14	86	1.6	A
	T	88	89	101	0.1	A
	Subtotal	104	103	99	0.3	A
Total		345	352	102	0.8	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	100	8.1	A
	R	5	5	100	2.7	A
	Subtotal	8	8	100	4.7	A
EB	L	4	3	75	2.3	A
	T	208	218	105	0.7	A
	Subtotal	212	221	104	0.7	A
WB	T	99	98	99	0.3	A
	R	3	3	100	0.2	A
	Subtotal	102	101	99	0.3	A
Total		322	330	102	0.7	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	34	30	89	11.2	B
	T	800	802	100	7.2	A
	R	20	20	99	5.0	A
	Subtotal	854	852	100	7.3	A
SB	L	65	72	111	17.4	B
	T	385	388	101	2.1	A
	R	68	71	104	1.1	A
	Subtotal	518	531	103	4.0	A
EB	L	108	113	105	46.2	D
	T	26	26	102	37.9	D
	R	78	82	105	12.9	B
	Subtotal	212	221	104	32.9	C
WB	L	10	10	98	51.0	D
	R	15	16	105	10.4	B
	Subtotal	25	26	104	26.0	C
Total		1,610	1,630	101	10.0	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	4	100	4.7	A
	T	919	926	101	0.9	A
	Subtotal	923	930	101	0.9	A
SB	T	727	736	101	1.6	A
	R	11	12	107	1.2	A
	Subtotal	738	748	101	1.6	A
EB	L	10	7	68	20.4	C
	R	17	19	110	6.6	A
	Subtotal	27	26	96	10.3	B
Total		1,689	1,704	101	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	294	292	99	34.1	C
	T	165	166	101	36.5	D
	R	504	506	100	2.6	A
	Subtotal	963	964	100	18.0	B
SE	L	180	169	94	32.5	C
	T	115	114	99	42.9	D
	R	85	86	101	8.7	A
	Subtotal	380	369	97	30.2	C
NE	L	65	65	100	21.5	C
	T	675	682	101	46.5	D
	R	138	143	103	15.1	B
	Subtotal	878	890	101	39.6	D
SW	L	485	489	101	47.7	D
	T	650	649	100	16.8	B
	R	75	80	106	12.7	B
	Subtotal	1,210	1,218	101	28.9	C
Total		3,432	3,441	100	28.9	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	559	555	99	0.3	A
	R	15	15	100	0.3	A
	Subtotal	574	570	99	0.3	A
SB	L	39	37	95	4.2	A
	T	985	986	100	0.5	A
	Subtotal	1,024	1,023	100	0.6	A
WB	L	12	11	92	28.2	D
	T	4	4	107	0.2	A
	R	25	26	105	6.3	A
	Subtotal	41	41	100	11.6	B
Total		1,638	1,634	100	0.8	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	460	461	100	0.4	A
	R	52	53	102	0.4	A
	Subtotal	512	514	100	0.4	A
SB	L	70	69	99	3.9	A
	T	928	931	100	0.3	A
	Subtotal	998	1,000	100	0.5	A
WB	L	19	17	88	28.3	D
	T	0	0	0		
	R	111	106	95	7.4	A
	Subtotal	130	123	95	10.3	B
Total		1,640	1,637	100	1.2	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	3.5	A
	R	1	1	100	2.2	A
	Subtotal	2	2	100	2.9	A
SB	L	5	6	114	5.8	A
	T	2	3	120	0.1	A
	R	3	4	123	2.8	A
	Subtotal	10	13	130	3.6	A
EB	L	2	2	100	2.5	A
	T	118	118	100	0.4	A
	R	2	2	100	0.4	A
	Subtotal	122	122	100	0.4	A
WB	L	5	4	76	2.1	A
	T	127	120	94	0.1	A
	R	10	11	113	0.0	A
	Subtotal	142	135	95	0.2	A
Total		277	272	98	0.5	A

Intersection: S-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	5.1	A
	R	4	5	118	2.9	A
	Subtotal	7	8	114	3.7	A
EB	T	98	99	101	0.1	A
	R	2	2	100	0.0	A
	Subtotal	100	101	101	0.1	A
WB	L	6	4	64	2.2	A
	T	138	132	95	0.2	A
	Subtotal	144	136	94	0.3	A
Total		252	245	97	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	32	92	4.6	A
	R	22	22	101	3.0	A
	Subtotal	57	54	95	3.9	A
EB	T	102	104	101	0.1	A
	Subtotal	102	104	102	0.1	A
WB	T	109	104	95	0.0	A
	Subtotal	109	104	95	0.0	A
Total		268	262	98	0.9	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	8	6	77	4.6	A
	R	6	8	128	2.9	A
	Subtotal	14	14	100	3.6	A
EB	L	7	6	89	1.5	A
	T	118	120	102	0.1	A
	Subtotal	125	126	101	0.2	A
WB	T	104	97	94	0.1	A
	R	4	5	118	0.1	A
	Subtotal	108	102	94	0.1	A
Total		246	242	98	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	6	114	4.6	A
	R	5	5	95	2.6	A
	Subtotal	10	11	110	3.7	A
EB	T	114	114	100	0.1	A
	R	11	12	112	0.1	A
	Subtotal	125	126	101	0.1	A
WB	L	19	20	104	1.7	A
	T	102	96	94	0.1	A
	Subtotal	121	116	96	0.4	A
Total		258	253	98	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	6.7	A
	R	2	3	150	2.3	A
	Subtotal	4	5	125	4.1	A
EB	L	4	3	71	2.0	A
	T	115	116	101	0.3	A
	Subtotal	119	119	100	0.3	A
WB	T	119	111	93	0.5	A
	R	3	3	92	0.4	A
	Subtotal	122	114	93	0.5	A
Total		246	238	97	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	37	35	95	10.5	B
	T	335	331	99	2.9	A
	R	5	6	114	1.6	A
	Subtotal	377	372	99	3.6	A
SB	L	20	19	94	3.9	A
	T	486	498	102	2.1	A
	R	70	64	91	1.1	A
	Subtotal	576	581	101	2.0	A
EB	L	63	66	105	56.9	E
	T	10	11	105	35.8	D
	R	44	42	95	10.6	B
	Subtotal	117	119	102	38.6	D
WB	L	15	17	113	56.9	E
	T	15	14	93	41.9	D
	R	25	24	97	8.9	A
	Subtotal	55	55	100	32.1	C
Total		1,126	1,127	100	7.9	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	422	422	100	0.5	A
	Subtotal	423	422	100	0.5	A
SB	T	676	678	100	1.7	A
	R	9	9	103	1.3	A
	Subtotal	685	687	100	1.7	A
EB	L	2	2	100	15.7	C
	R	5	6	114	9.6	A
	Subtotal	7	8	114	11.1	B
Total		1,115	1,117	100	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	140	136	97	41.4	D
	T	70	71	101	37.4	D
	R	218	220	101	1.4	A
	Subtotal	428	427	100	20.1	C
SE	L	90	87	97	34.8	C
	T	90	92	103	41.2	D
	R	45	47	104	5.9	A
	Subtotal	225	226	100	31.4	C
NE	L	45	45	99	16.8	B
	T	513	498	97	28.7	C
	R	105	109	104	12.5	B
	Subtotal	663	652	98	25.2	C
SW	L	490	483	99	36.2	D
	T	497	494	99	9.3	A
	R	90	90	100	6.9	A
	Subtotal	1,077	1,067	99	21.3	C
Total		2,393	2,372	99	23.2	C

Intersection: West Access & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	9	112	4.1	A
	R	10	10	98	2.5	A
	Subtotal	18	19	106	3.3	A
EB	T	52	50	97	0.4	A
	R	6	6	100	0.2	A
	Subtotal	58	56	97	0.4	A
WB	L	5	6	120	1.7	A
	T	32	32	101	0.1	A
	Subtotal	37	38	103	0.4	A
Total		113	113	100	0.8	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	854	847	99	0.5	A
	R	12	12	98	0.5	A
	Subtotal	866	859	99	0.5	A
SB	L	36	36	101	5.6	A
	T	1,178	1,179	100	0.6	A
	Subtotal	1,214	1,215	100	0.7	A
WB	L	5	4	80	39.1	E
	R	47	47	101	6.2	A
	Subtotal	52	51	98	8.8	A
Total		2,132	2,125	100	0.8	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	730	728	100	0.5	A
	R	46	52	114	0.5	A
	Subtotal	776	780	101	0.5	A
SB	L	93	93	100	6.0	A
	T	1,092	1,092	100	0.3	A
	Subtotal	1,185	1,185	100	0.7	A
WB	L	9	7	78	35.9	E
	R	133	129	97	8.3	A
	Subtotal	142	136	96	9.7	A
Total		2,103	2,101	100	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	5	125	3.4	A
	Subtotal	5	5	100	3.4	A
SB	L	5	4	80	5.6	A
	T	6	7	117	0.1	A
	R	2	2	100	2.3	A
	Subtotal	13	13	100	2.1	A
EB	L	3	3	100	1.3	A
	T	130	137	105	0.5	A
	R	5	5	100	0.7	A
	Subtotal	138	145	105	0.5	A
WB	L	1	1	100	0.6	A
	T	118	113	96	0.2	A
	R	15	18	118	0.1	A
	Subtotal	134	132	99	0.2	A
Total		290	295	102	0.5	A

Intersection: S-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	4	123	4.3	A
	R	12	12	100	2.9	A
	Subtotal	15	16	107	3.3	A
EB	T	127	132	104	0.2	A
	Subtotal	127	132	104	0.2	A
WB	L	2	1	50	1.7	A
	T	128	126	99	0.1	A
	Subtotal	130	127	98	0.1	A
Total		272	275	101	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	8	103	4.7	A
	R	55	57	104	3.2	A
	Subtotal	63	65	103	3.4	A
EB	T	133	137	103	0.2	A
	Subtotal	133	137	103	0.2	A
WB	T	127	125	98	0.1	A
	Subtotal	127	125	98	0.1	A
Total		323	327	101	0.8	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	11	10	89	4.9	A
	R	14	16	112	2.9	A
	Subtotal	25	26	104	3.7	A
EB	L	6	5	83	1.0	A
	T	188	196	104	0.2	A
	Subtotal	194	201	104	0.2	A
WB	T	108	103	95	0.2	A
	R	8	10	125	0.1	A
	Subtotal	116	113	97	0.2	A
Total		336	340	101	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	18	104	5.3	A
	R	35	37	106	3.1	A
	Subtotal	52	55	106	3.8	A
EB	T	179	182	102	0.2	A
	R	12	14	114	0.1	A
	Subtotal	191	196	103	0.2	A
WB	L	16	16	98	2.1	A
	T	99	95	96	0.1	A
	Subtotal	115	111	97	0.4	A
Total		358	362	101	0.8	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	100	6.1	A
	R	5	6	120	2.1	A
	Subtotal	8	9	113	3.4	A
EB	L	4	4	100	2.4	A
	T	211	216	102	0.8	A
	Subtotal	215	220	102	0.8	A
WB	T	110	105	95	0.3	A
	R	3	2	67	0.5	A
	Subtotal	113	107	95	0.3	A
Total		336	336	100	0.7	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	49	46	94	10.7	B
	T	800	799	100	7.2	A
	R	20	22	109	5.6	A
	Subtotal	869	867	100	7.3	A
SB	L	65	64	98	17.0	B
	T	385	390	101	2.0	A
	R	64	62	97	1.0	A
	Subtotal	514	516	100	3.7	A
EB	L	105	109	104	49.2	D
	T	26	25	98	35.9	D
	R	83	86	103	10.0	A
	Subtotal	214	220	103	32.4	C
WB	L	10	10	98	52.3	D
	R	15	15	98	11.4	B
	Subtotal	25	25	100	27.8	C
Total		1,622	1,628	100	9.9	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	3	75	6.2	A
	T	916	919	100	0.9	A
	Subtotal	920	922	100	0.9	A
SB	T	723	725	100	1.3	A
	R	11	12	107	1.4	A
	Subtotal	734	737	100	1.3	A
EB	L	10	10	98	20.3	C
	R	17	17	99	7.5	A
	Subtotal	27	27	100	12.2	B
Total		1,682	1,686	100	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	294	288	98	33.8	C
	T	165	163	99	36.5	D
	R	501	512	102	2.6	A
	Subtotal	960	963	100	17.7	B
SE	L	180	178	99	34.1	C
	T	115	122	106	43.0	D
	R	85	84	99	7.8	A
	Subtotal	380	384	101	31.2	C
NE	L	65	64	98	21.3	C
	T	678	682	101	45.7	D
	R	138	140	101	14.9	B
	Subtotal	881	886	101	39.1	D
SW	L	481	477	99	44.2	D
	T	654	650	99	17.4	B
	R	75	72	96	12.3	B
	Subtotal	1,210	1,199	99	27.8	C
Total		3,432	3,432	100	28.3	C

Intersection: West Access & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	9	9	100	3.9	A
	R	13	16	121	2.9	A
	Subtotal	22	25	114	3.3	A
EB	T	44	43	98	0.5	A
	R	6	6	100	0.4	A
	Subtotal	50	49	98	0.5	A
WB	L	7	6	86	1.6	A
	T	38	39	103	0.1	A
	Subtotal	45	45	100	0.3	A
Total		117	119	102	1.0	A

APPENDIX C

Site Plan



IRON HORSE DISTRICT

PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE: JULY 2021

PROJECT:

DRAWN BY: TK

REVIEW BY: TK

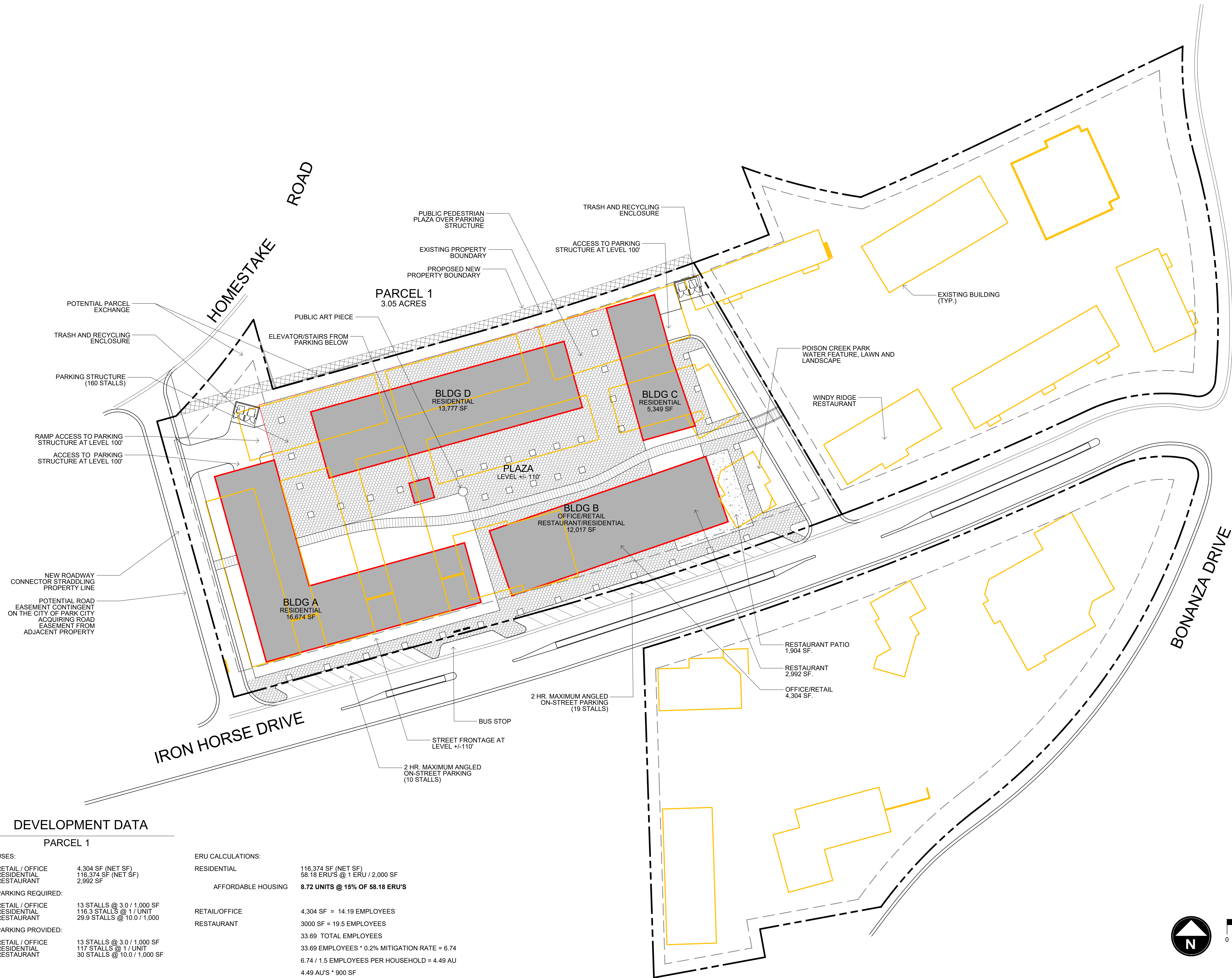
VERSION:

REVISIONS:

SHEET TITLE:
SITE PLAN

SHEET NUMBER:

L1.0



DEVELOPMENT DATA

PARCEL 1

USES:

RETAIL / OFFICE 4,304 SF (NET SF)
RESIDENTIAL 116,374 SF (NET SF)
RESTAURANT 2,992 SF

PARKING REQUIRED:

RETAIL / OFFICE 13 STALLS @ 3.0 / 1,000 SF
RESIDENTIAL 116.3 STALLS @ 1 / UNIT
RESTAURANT 29.9 STALLS @ 10.0 / 1,000

PARKING PROVIDED:

RETAIL / OFFICE 13 STALLS @ 3.0 / 1,000 SF
RESIDENTIAL 117 STALLS @ 1 / UNIT
RESTAURANT 30 STALLS @ 10.0 / 1,000 SF

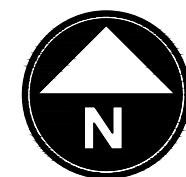
ERU CALCULATIONS:

RESIDENTIAL 116,374 SF (NET SF)
58.18 ERU'S @ 1 ERU / 2,000 SF

AFFORDABLE HOUSING 8.72 UNITS @ 15% OF 58.18 ERU'S

RETAIL/OFFICE 4,304 SF = 14.19 EMPLOYEES
3000 SF = 19.5 EMPLOYEES
33.69 TOTAL EMPLOYEES

33.69 EMPLOYEES * 0.2% MITIGATION RATE = 6.74
6.74 / 1.5 EMPLOYEES PER HOUSEHOLD = 4.49 AU
4.49 AU'S * 900 SF
= 4,050 SF OF AFFORDABLE HOUSING NET LIVING SPACE



0 20 40 80 120
SCALE: 1"=40'

APPENDIX D

95th Percentile Queue Length Reports

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Existing (2021) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB				SE			SW			EB				WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	T	TR	L	R	T	L	T	TR	L	LR	LT	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50		25												50				
02: S.R. 224 & Iron Horse Dr					25							50		25												75				
03: S-4/N-5 & Iron Horse Dr			25																									25		
04: S-3/N-4 & Iron Horse Dr			25																									25		
05: S-2/N-3 & Iron Horse Dr			50																											
06: Iron Horse Dr & N-2													25											25						
07: S-1 & Iron Horse Dr		50																									25			
08: Iron Horse Dr & N-1													25											25					25	
09: Bonanza Dr & Iron Horse Dr	50				25							25			50							75			75	25			50	
10: Bonanza Dr & East Access	25			25										25									50							
11: Kearns Blvd & Bonanza Dr						75	300	275	150	100	125					125	75	125	350	175	150									

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Mitigated Existing (2021) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB				SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50		50													50				
02: S.R. 224 & Iron Horse Dr				25	25							50		25													75				
03: S-4/N-5 & Iron Horse Dr			25																										25		
04: S-3/N-4 & Iron Horse Dr			50																										25		
05: S-2/N-3 & Iron Horse Dr			50																						25						
06: Iron Horse Dr & N-2													25											25							
07: S-1 & Iron Horse Dr		50																											25		
08: Iron Horse Dr & N-1													25											25							
09: Bonanza Dr & Iron Horse Dr	50				25							25			50							75				75	50				50
10: Bonanza Dr & East Access	25			25										25									25								
11: Kearns Blvd & Bonanza Dr						75	275	250	150	100	125					100	75	125	325	150	150										

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Existing (2021) Background

Time Period: Evening Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB					SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	50							50			75													75				
02: S.R. 224 & Iron Horse Dr				25	25							75			25													100				
03: S-4/N-5 & Iron Horse Dr			25											25																	25	
04: S-3/N-4 & Iron Horse Dr			50											25																		
05: S-2/N-3 & Iron Horse Dr			75											25																		
06: Iron Horse Dr & N-2												50													25							
07: S-1 & Iron Horse Dr		75																												25		
08: Iron Horse Dr & N-1												50													75							25
09: Bonanza Dr & Iron Horse Dr	50											75				50							150				75	25				50
10: Bonanza Dr & East Access	25			75											25									50								
11: Kearns Blvd & Bonanza Dr						350		600	550	275	250						225	100	200	350	200	200										

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

1049

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Existing (2021) Plus Project w/o Link

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB					SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	TR	L	LR	LT	LTR	TR	
01: S.R. 224 & Homestake Rd				25	25							50			50												50					
02: S.R. 224 & Iron Horse Dr					25							50															100					
03: S-4/West Access & Iron Horse Dr			25											50																25		
04: S-3 & Iron Horse Dr		50																											25			
05: S-2 & Iron Horse Dr		50																											25			
06: Iron Horse Dr & N-2													50												25							
07: S-1 & Iron Horse Dr			50																										25			
08: Iron Horse Dr & N-1													25												25						25	
09: Bonanza Dr & Iron Horse Dr	50				25							25				25							75				75	50			50	
10: Bonanza Dr & East Access				25																				50								
11: Kearns Blvd & Bonanza Dr						100	300	275	150	100	125						100	75	125	350	175	150										

Intersection	NB					NE			NW			SB					SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	T	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				50	25							50			50													75				
02: S.R. 224 & Iron Horse Dr				25	25							75			25													100				
03: S-4/West Access & Iron Horse Dr			25										25																	25		
04: S-3 & Iron Horse Dr		50																								25			25			
05: S-2 & Iron Horse Dr		50																								25			25			
06: Iron Horse Dr & N-2													50												25					25		
07: S-1 & Iron Horse Dr		50																								25			25			
08: Iron Horse Dr & N-1													25												50	25						25
09: Bonanza Dr & Iron Horse Dr	50				75							50				50							150				75	25				50
10: Bonanza Dr & East Access	25			50											25									50								
11: Kearns Blvd & Bonanza Dr						325	725	675		250	250	300					200	100	225	525	475	350										

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB					SE			SW			EB				WB					
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	TR	L	LR	LT	LTR	TR	
01: S.R. 224 & Homestake Rd				25	25							50			25												50					
02: S.R. 224 & Iron Horse Dr				25	25							50			25												75					
03: S-4/West Access & Iron Horse Dr			25											50																25		
04: S-3 & Iron Horse Dr		50																											25			
05: S-2 & Iron Horse Dr		75																														
06: Iron Horse Dr & N-2													50												25							
07: S-1 & Iron Horse Dr			50																										25			
08: Iron Horse Dr & N-1													25												25							
09: Bonanza Dr & Iron Horse Dr	50				25							25				50							75			75	50					50
10: Bonanza Dr & East Access	25			25											25									50								
11: Kearns Blvd & Bonanza Dr						75	275	250	150	100	125						100	75	150	325	150	150										
12: West Access & Homestake Rd		50																											25			

Intersection	NB					NE			NW			SB					SE			SW			EB						WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	T	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50			50														50				
02: S.R. 224 & Iron Horse Dr				25	25							75			25													125					
03: S-4/West Access & Iron Horse Dr			25										50											25							25		
04: S-3 & Iron Horse Dr		50																												25			
05: S-2 & Iron Horse Dr		75																												25			
06: Iron Horse Dr & N-2													50											25									
07: S-1 & Iron Horse Dr		50																									25		25				
08: Iron Horse Dr & N-1													50											50		25						25	
09: Bonanza Dr & Iron Horse Dr	50				75							75			50								150					100	25				50
10: Bonanza Dr & East Access	25			25											25									50									
11: Kearns Blvd & Bonanza Dr						325	625	575		250	250	300					175	100	200	450	425	325											
12: West Access & Homestake Rd		50																												25			

Intersection	NB					NE			NW			SB				SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50		50													50				
02: S.R. 224 & Iron Horse Dr				25	25							50		25													100				
03: S-4/N-5 & Iron Horse Dr			25																										25		
04: S-3/N-4 & Iron Horse Dr			50																										25		
05: S-2/N-3 & Iron Horse Dr			75																						25						
06: Iron Horse Dr & N-2												25												25							
07: S-1 & Iron Horse Dr		50																										25			
08: Iron Horse Dr & N-1												25												25						25	
09: Bonanza Dr & Iron Horse Dr	50				25							25			25							75				75	50				75
10: Bonanza Dr & East Access	25			25											25								50								
11: Kearns Blvd & Bonanza Dr						100	300	275	175	100	125					125	75	125	425	375	300										

Intersection	NB					NE			NW			SB				SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50		50													50				
02: S.R. 224 & Iron Horse Dr				25	25							75		25													100				
03: S-4/N-5 & Iron Horse Dr			25																										25		
04: S-3/N-4 & Iron Horse Dr			50																										25		
05: S-2/N-3 & Iron Horse Dr			75																						25						
06: Iron Horse Dr & N-2													25											25							
07: S-1 & Iron Horse Dr		50																								25		25			
08: Iron Horse Dr & N-1													25											25							25
09: Bonanza Dr & Iron Horse Dr	50				125							50			100							125				75	50				75
10: Bonanza Dr & East Access	25			25											50								50								
11: Kearns Blvd & Bonanza Dr						75	125	250	150	50	125					125	75	150	325	150	175										

Intersection	NB					NE			NW			SB					SE			SW			EB						WB					
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	T	TR	L	LR	LT	LTR	TR	
01: S.R. 224 & Homestake Rd				50	50							50			50														75					
02: S.R. 224 & Iron Horse Dr				25	25							75			25														125					
03: S-4/N-5 & Iron Horse Dr			25											25											25									
04: S-3/N-4 & Iron Horse Dr			50											25																	25			
05: S-2/N-3 & Iron Horse Dr			50											25												0								
06: Iron Horse Dr & N-2												50												25										
07: S-1 & Iron Horse Dr		50																										25			25			
08: Iron Horse Dr & N-1												50												50			25						25	
09: Bonanza Dr & Iron Horse Dr	50				125							75				50						150						100	50				50	
10: Bonanza Dr & East Access	25			50												25							75											
11: Kearns Blvd & Bonanza Dr						425	975	950	250	275	350						200	125	225	550	550	425												

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

1057

Intersection	NB					NE			NW			SB					SE			SW			EB					WB			
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	T	TR	L	LR	LT	TR
01: S.R. 224 & Homestake Rd				50	25							50			50													75			
02: S.R. 224 & Iron Horse Dr				25	25							75			25													100			
03: S-4/West Access & Iron Horse Dr			25											25																	
04: S-3 & Iron Horse Dr		50																											25		
05: S-2 & Iron Horse Dr		75																													
06: Iron Horse Dr & N-2													50												25					25	
07: S-1 & Iron Horse Dr			75																								25		25		
08: Iron Horse Dr & N-1													50												25	25				25	
09: Bonanza Dr & Iron Horse Dr	75				325							75				100							150				125	50			50
10: Bonanza Dr & East Access	25			25											75									50							
11: Kearns Blvd & Bonanza Dr						100	225	350	225	150	250						175	75	175	350	200	225									

Intersection	NB					NE			NW			SB					SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50			25													50				
02: S.R. 224 & Iron Horse Dr				25	25							50			25												100					
03: S-4/N-5 & Iron Horse Dr			25										50												0						25	
04: S-3 & Iron Horse Dr		50																											25			
05: S-2 & Iron Horse Dr		50																											25			
06: Iron Horse Dr & N-2													50												25					25		
07: S-1 & Iron Horse Dr			50																										25			
08: Iron Horse Dr & N-1													25												25							25
09: Bonanza Dr & Iron Horse Dr	50				125							25				100							125				75	75				75
10: Bonanza Dr & East Access	25			25												50								50								
11: Kearns Blvd & Bonanza Dr						75	100	225	175	25	125						125	75	150	300	150	150										
12: West Access & Homestake Rd		50																											25			

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Future (2026) Plus Project w/ Link

Time Period: Evening Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB					SE			SW			EB					WB			
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	T	TR	L	LR	LT	TR
01: S.R. 224 & Homestake Rd				50	25							50			50													75			
02: S.R. 224 & Iron Horse Dr				25	25							75			25													125			
03: S-4/West Access & Iron Horse Dr			25										25																		
04: S-3 & Iron Horse Dr		50																											25		
05: S-2 & Iron Horse Dr		75																											25		
06: Iron Horse Dr & N-2												50													25						
07: S-1 & Iron Horse Dr		75																									25		25		
08: Iron Horse Dr & N-1												50													25	25					25
09: Bonanza Dr & Iron Horse Dr	75				300							75			100							150					100	50			50
10: Bonanza Dr & East Access	25			25											25								50								
11: Kearns Blvd & Bonanza Dr						125	225	350	225	150	225						200	100	175	325	225	225									
12: West Access & Homestake Rd		50																											25		

Planning Commission Staff Report



Subject: 2300 Deer Valley Drive East –
St. Regis Deer Valley
Application: PL-21-05095
Author: Lillian Lederer, Planner I
Date: February 23, 2022
Type of Item: Modification to a Conditional Use Permit

Recommendation

Staff recommends the Planning Commission (1) review the proposed plan to modify an existing Conditional Use Permit that regulates the number and duration of tent installations for the St. Regis Deer Valley property, (2) conduct a public hearing, and (3) consider approving a Modification to the Conditional Use Permit to allow an additional winter tent installation for 120 days each year based on the Findings of Fact, Conclusions of Law, and Conditions of Approval outlined in the draft Final Action letter (Exhibit A).

Description

Applicant: Chris Okamura
Location: 2300 Deer Valley Drive East, St. Regis Hotel
Zoning District: Recreation Commercial (RC)
Adjacent Land Uses: Residential, Recreation Open Space
Reason for Review: Planning Commission reviews and approves Conditional Use Permits¹

Abbreviations

CUP	Conditional Use Permit
LMC	Land Management Code
RC	Recreation Commercial

Terms that are capitalized as proper nouns throughout this staff report are defined in LMC § [15-15-1](#).

Background

On March 9, 2011, the Planning Commission approved a Conditional Use Permit (CUP) regulating the number and duration of annual tent installations for the St. Regis Hotel Deer Valley (see Exhibit C). Under this CUP, the Applicant is allowed to install a temporary tent up to 15 times per year, with one tent allowed for 60 days during the summer. The Applicant would like to extend the annual tent allowances for the site to include an additional annual 40-by-40-foot snow-load winter tent installation for additional outdoor seating for 120 days. The tent is built on a temporary deck and includes seating inside and out of the tent and a bar area, all to help reduce density in indoor dining areas. The proposed tent is accessed via the Hotel and surrounding ski areas.

¹LMC [§ 15-1-10](#)

This item was originally scheduled for Planning Commission review on February 9, 2022 ([Staff Report](#); [Audio](#)). However, staff requested that the Planning Commission continue the item to February 23, 2022, to provide the Applicant with additional time to submit required application material. On February 16, 2022, the Planning Department deemed a Modification to a Conditional Use Permit application complete.

Analysis

Land Management Code (LMC) § [15-4-16\(A\)\(7\)](#) requires Planning Commission review and approval for tents proposed to be installed for more than 14 days. The Applicant is proposing to install the additional tent on an annual basis for winter months (December 17th through April 17th) and requests that their existing CUP be expanded to include this winter installation. The Applicant will be required to submit a building permit each year for the tent to make sure it complies with applicable building and fire codes (see Condition of Approval 7).

(I) The proposal complies with the requirements for the Recreation Commercial (RC) Zoning District outlined in LMC Chapter [15-2.16](#).

The St. Regis Deer Valley Hotel is in the Recreation Commercial Zone. Tents are a Conditional Use in the RC Zone.

The proposed temporary tent and deck encroach into the rear setback. The interior deck is 16 inches in height, with a seven (7) inch step up inside the tent. LMC § [15-2.16-3\(F\)\(5\)](#) provides an exception for structures in the rear setback when the height is under 30 inches and the structure is at least one (1) foot away from the setback, so the proposed tent location complies with the LMC. Additionally, the proposed location is identified in the current CUP (See Exhibit C) approval for tent placement on The Great Lawn.

(II) The proposal complies with Temporary Structures, Tents, And Vendors outlined in LMC § [15-4-16](#).

The proposed temporary structure tent is 1,600 square feet and will require an annual building permit per LMC § [15-4-16\(A\)\(5\)](#). Condition of Approval 11 caps the annual temporary winter tent installation to no more than 120 days.

Per LMC § [15-3-6\(B\)](#), for Temporary Improvement tents, one parking space is required per employee in addition to two guest spaces. The existing CUP covers this parking requirement provided by the St. Regis parking lot (see Exhibit C), as there are a similar number of users for the proposed tent and existing tents used. Most of the winter tent users will be existing hotel residents, and/or patrons that ski-in.

(III) The proposal complies with Conditional Use Permit criteria outlined in LMC § [15-1-10\(E\)](#).

There are certain Uses that, because of unique characteristics or potential impacts on

the municipality, surrounding neighbors, or adjacent land Uses, may not be Compatible in some Areas or may be Compatible only if certain conditions are required that mitigate or eliminate the detrimental impacts.

The Planning Commission shall approve a Conditional Use if reasonable conditions are proposed, or can be imposed, to mitigate the reasonably anticipated detrimental effects of the proposed Use in accordance with applicable standards. The Planning Commission may deny the Conditional Use if the proposed Use cannot be substantially mitigated by the proposal or imposition of reasonable conditions to achieve compliance with applicable standards. LMC [§ 15-1-10](#).

CUP Review Criteria	Analysis of Proposal
Size and Location of the Site	Complies: This is an existing Site, utilized as a Hotel in the Recreation Commercial Zone. The temporary structure will be installed on The Great Lawn on site. No changes are being made to the Lot.
Traffic	Complies: The temporary structure will not impact traffic.
Utility Capacity	Complies: On January 11, 2022, the Development Review Committee reviewed the proposed tent and did not identify impacts to utility capacity.
Emergency Vehicle Access	Complies: The tent will not impede Emergency Vehicle Access.
Parking	Complies: The parking is accounted for under the existing CUP (see Exhibit C), and therefore additional parking is not required.
Internal Vehicular and Pedestrian Circulation System	Complies: The tent will not impact circulation.
Fencing, Screening, and Landscaping	Not Applicable
Building Mass, Bulk, and Orientation	Not Applicable
Useable Open Space	Not Applicable
Signs and Lighting	Complies: See Condition of Approval 5.
Physical Design and Compatibility with Surrounding Structures	Not Applicable
Noise, Vibration, Odors, Stream, or Other Mechanical Factors	Complies: See Condition of Approval 6.

Control of Delivery and Service Vehicles, Loading and Unloading Zones, and Screening of Trash and Recycling Pickup Areas	Not Applicable
Expected Ownership and Management	Not Applicable
Within and Adjoining the Site, Environmentally Sensitive Lands, Physical Mine Hazards, Historic Mine Waste and Park City Soils Ordinance, Steep Slopes, and Appropriateness of the Proposed Structure to the Existing Topography of the Site	Complies: The tent is comparable to previously approved tents and does not have an impact on Sensitive lands.
Reviewed for Consistency with the Goals and Objectives of the Park City General Plan	Complies: The proposed Use of the Site is consistent with the Small Town and Natural Setting Goals of the General Plan.

Department Review

The Planning, Building, Engineering, and Fire Departments reviewed this application.

Notice

Staff published notice to the City website and City Hall and posted notice to the property on January 26, 2022. Staff mailed courtesy notice to adjacent property owners on January 26, 2022.

Public Input

Staff did not receive any public input at the time this report was published.

Alternatives

- a. The Planning Commission may approve the CUP Modification;
- b. The Planning Commission may deny the CUP Modification, and direct staff to make findings for the denial; or
- c. The Planning Commission may request additional information and continue the discussion to a date certain.

Exhibits

Exhibit A: Draft Final Action Letter

Exhibit B: Proposed Plans

Exhibit C: Existing CUP



February 23, 2022

Chris Okamura
2300 Deer Valley Drive East
Park City, UT 84060
(435) 940-5733
chris.okamura@st.regis.com

NOTICE OF PLANNING COMMISSION

Description

Address: 2300 Deer Valley Drive East – St. Regis Deer Valley

Zoning District: Recreation Commercial (RC)

Application: Modification to a Conditional Use Permit

Project Number: PL-21-05095

Action: APPROVED WITH CONDITIONS (See Below)

Date of Final Action: February 23, 2022

Project Summary: The applicant proposes to modify the existing CUP that regulates outdoor tent installations to include an annual winter tent installation for 120 days.

Action Taken

On February 23, 2022, the Planning Commission conducted a public hearing and approved the modification of an existing Conditional Use Permit in order to construct a temporary tent according to the following findings of fact, conclusions of law, and conditions of approval.

Findings of Fact

1. The Site is located at 2300 Deer Valley Drive East.
2. The Applicant proposes to construct an annual temporary tent from December 17 through April 17.
3. The Site has an existing Conditional Use Permit for temporary tents that was approved on March 9, 2011, by the Planning Commission.



Planning Department

4. The Applicant proposes modifying the existing Conditional Use Permit to include the additional annual winter tent installation.
5. Staff reviewed the 2300 Deer Valley Drive East Conditional Use Permit Modification Application for compliance with LMC Section 15-1-10, Conditional Use Review Process, Chapter 15-2.16, Recreation Commercial (RC) District, and Section 15-4-16, Temporary Structures, Tents, And Vendors.
6. Staff posted notice to the City website, City Hall, and the property on January 26, 2022.
7. Staff mailed courtesy notices to the adjacent property owners on January 26, 2022.
8. The Analysis Section of the Staff Report is incorporated herein.

Conclusions of Law

1. The proposal complies with the Land Management Code requirements pursuant to Section 15-1-10, Conditional Use Review Process, Chapter 15-2.16, Recreation Commercial (RC) District, and Chapter 15-4-16 Temporary Structures, Tents, And Vendors.
2. The use will be compatible with surrounding Structures in use, scale, mass, and circulation.
3. The effects of any differences in use or scale have been mitigated through careful planning.

Conditions of Approval

1. Final building plans and construction details shall reflect substantial compliance with the plans approved December 29, 2021. Any changes, modifications, or deviations from the approved design that have not been approved in advance by the Planning Department may result in a stop work order.
2. The Applicant is responsible for notifying the Planning Department prior to making any changes to the approved plans.
3. Any changes, modifications, or deviations from the approved scope of work shall be submitted in writing for review and approval/denial in accordance with the applicable standards by the Planning Director or designee prior construction.
4. The Applicant shall submit lighting plans that comply with LMC § 15-5-5 (J). Outdoor lighting must be Fully Shielded, down-directed, and no greater than 3,000 degrees Kelvin.
5. The Applicant shall submit sign plans that shall comply with the Municipal Code of Park City Title 12, Sign Code.



Planning Department

6. The temporary tent shall comply with the City Noise Ordinance, Chapter 6-3.
7. A Fire permit and Building permit are required for the installation of the temporary tent.
8. All Conditions of Approval of the 1995 Deer Crest Settlement Agreement continue to apply.
9. All Conditions of Approval of the Deer Crest Hotel CUP as amended on April 22, 2009, continue to apply.
10. All Conditions of Approval for the St. Regis Resort Temporary Structure (Tent) CUP apply for this permit.
11. The temporary tent may not be installed prior to December 17, and shall be removed from the site no later than April 17, at 5:00 PM, and may not be installed for longer than 120 days.

If you have questions or concerns regarding this Final Action Letter, please call (435) 615-5068 or email lillian.lederer@parkcity.org.

Sincerely,

John Phillips,
Planning Commission Chair

CC: Lillian Lederer, Project Planner

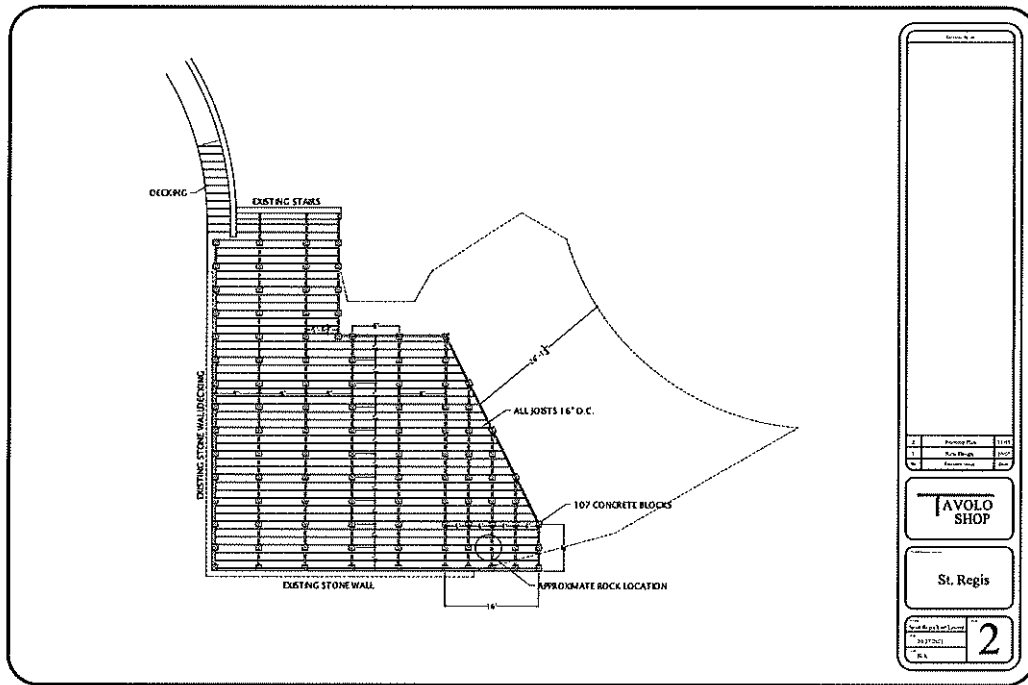
Site Locations

Site 1 - Grand Lawn (Tent)

Site 2 - Jordanelle Terrace (Update: Yurts have been eliminated from scope of project)

Site 1 - Grand Lawn (Tent)



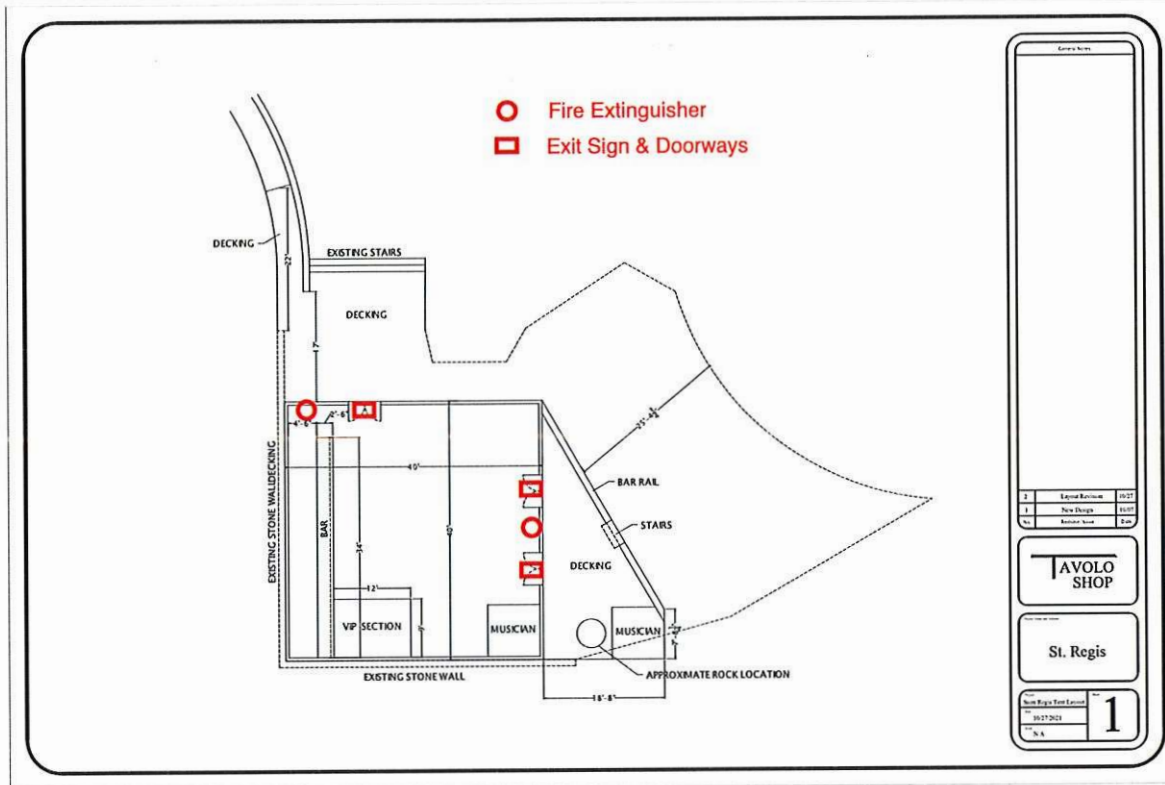


Layouts

Joist/Concrete Layout - To express the dimensions to the allover deck constructed. A 50lbs concrete pier block with metal tie down to be placed every 4' with 8' 4"x6" pre-treated lumber tying the blocks together and finally secured with 2"x6" pre-treated as joists. The finished decking will be ran perpendicular crafted from 2"x6" treated with a grip Deck Over paint meant for outdoor decking. MSDS sheets can be found [here](#) and TDS sheets can be found [here](#). The allover height is 16".

- Access points - a handicap access ramp will be available to the existing ramp access to the Grand Lawn. Guests can access entrance from the existing stairs and/or built in steps from the snow beach coming off of ski slopes of Deer Valley.

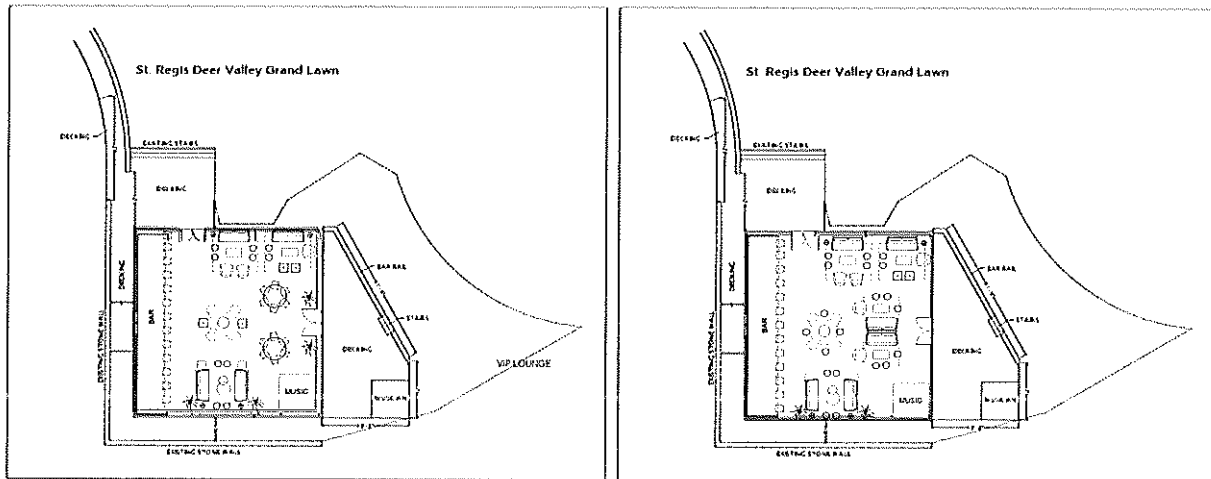
Site 1 - Grand Lawn (Tent) Layouts Continued...



Tent Layout - A 40'x40' Jumbo Trac clear tent with temporary clear vinyl, wind block to be placed on decking. The VIP area will be raised 7" or one step and the musician is a marker for space with no alterations to permanent fixtures. A Bar Rail will be added to the edge of the decking.

Site 1 - Grand Lawn (Tent)

PROPOSED FLOOR PLAN



WILLIAMS SONOMA, INC.
BUSINESS TO BUSINESS

Layouts Continued...

Furniture Layout - Purposed concept of furniture layout. Furniture provided by a third party and may adjust due to client needs. *Please note, the doors & bar have been updated. Please review the Tent Layout for specifics.

Planning Commission Staff Report



Subject: 2300 Deer Valley Drive
Author: Katie Cattan
Date: March 9, 2011
Type of Item: Conditional Use Permit

Summary Recommendation

Staff recommends that the Planning Commission review the application for a temporary structure, open the public hearing, and consider approving the application in accordance with the finding of fact, conclusions of law, and conditions of approval.

Description

Project Name: St. Regis Hotel
Applicant: Lauren Eatchel
Location: 2300 Deer Valley Drive
Proposal: Conditional Use Permit for Tent
Zoning: RC-MPD (subject to the 1995 Deer Crest Settlement Agreement/MPD)
Adjacent Uses: Ski resort and related uses, hotels/condominium units, open space, single-family residences and lots

Proposal

- This is a request for a CUP for a temporary tent to be located within the existing St Regis Resort hotel property.
- A CUP is required for tent that is installed more than 5 times per year or more than 14 days in a row.
- The applicant proposes an increase in tent occurrences from 5 to 15 times per year with the duration of one tent proposed to be a maximum of 60 days.
- The existing temporary structure currently utilized as a sales office at Snow Park must be taken down by June 1, 2011 or else the CUP will be void.

Background

The property is located at 2300 Deer Valley Drive in the Recreation Commercial (RC-MPD) zoning district and subject to the 1995 Deer Crest Settlement Agreement and the Deer Crest Hotel Conditional Use Permit.

The Land Management Code (LMC) was revised in 2009 to address the duration in which temporary tents may be installed. There were several tents located on hotel properties in town that had been approved as temporary structures but

were left standing year round. To make sure this trend would not continue, new duration parameters were adopted in 2009. Tents are allowed as administrative conditional use permits (approved by the Planning Department) if a tent is not installed for longer than fourteen days and for not more than 5 times a year. Any longer duration or increase occurrence must be approved by the Planning Commission.

On January 25, 2011, the Planning Department received a complete conditional use permit (CUP) application for a tent at the St. Regis Hotel. Without this CUP, the Hotel would be permitted to put up a tent 5 times for 14 consecutive days if they apply for a building permit and an administrative CUP each time. During the summer months, the St. Regis Hotel has numerous weddings and parties in which the client prefers to be outside with a temporary tent. In 2010, the hotel pulled 5 separate building permits for temporary tents. The applicant is requesting receive a condition use permit to allow them to install a tent a maximum of 15 times per year with one tent receiving a longer duration of 60 days during the summer months. There may be times when two tents would be used for an event.

Analysis

Within the Land Management Code (LMC) section 15-4-16(A)(7) a temporary structure may not be installed for a duration longer than fourteen (14) days and for more than five (5) times a year, unless a longer duration or greater frequency is approved by the Planning Commission consistent with CUP criteria in LMC section 15-1-10 and the criteria for temporary structures in LMC section 15-4-16(C). The applicant is requesting that the Planning Commission consider approving a conditional use permit to allow up to fifteen (15) tents per year with one tent receiving a longer duration of 60 days during the summer months, due to the higher frequency of weddings and outdoor parties. A maximum of two tents could be up at a time, each of which would count toward the fifteen (15) total tents per year.

The following are the review criteria for temporary structures on private property (LMC 15-4-16(C)):

(1) The proposed Use must be on private Property. The Applicant shall provide written notice of the Property Owner's permission.

Complies. The tent is within the private property of the St. Regis Hotel and the owner has given consent for this application.

(2) The proposed Use should not diminish existing parking. Any net loss of parking shall be mitigated in the Applicant's plan.

Complies. The proposed use will result in an increase in cars attending the event in the tent. The additional cars will have to be accommodated within the

existing parking areas of the St. Regis hotel. Currently, there are 146 spaces at Roosevelt Gap and 67 spaces at Snow Park. The applicant did a parking study on the busiest day of the year and found 49% usage of the parking lot. They estimate that the addition of a tent at maximum capacity and all guest arriving from off-site would diminish the parking by an additional 30%. Therefore, parking would be 79% of total parking capacity.

(3) The proposed Use shall not impede pedestrian circulation, emergency Access, or any other public safety measure.

Complies as Conditioned. Consistent with Condition of Approval #1, all tents must be inspected by the building department prior to occupancy. The building department will inspect circulation, emergency access, and all other applicable public safety measures. *The location of the proposed tents would not impede pedestrian circulation as it would be on a private deck of the St. Regis that is not typically used for circulation.*

(4) The Use shall not violate the City Noise Ordinance.

Complies as Conditioned. Consistent with Condition of Approval #2, the use shall not violate the City noise ordinance. Any violation of the City noise ordinance may result in the Condition Use Permit becoming void.

(5) The Use and all signing shall comply with the Municipal Sign and Lighting Codes.

Complies. Signs to the interior of a project are not regulated under the sign code. Any exterior signs must be approved by the Planning Department consistent with the City Municipal Code. All exterior lighting must be approved by the Planning Department and comply with the Land Management Code.

(6) The Use shall not violate the Summit County Health Code, the Fire Code, or State Regulations on mass gathering.

Complies. All uses within the temporary structure must be permitted. The property owner is responsible for obtaining the correct permits for each proposed use, including Summit County Health Code permits, Fire Code permits, and permits issued by the State of Utah.

(7) The Use shall not violate the International Building Code (IBC).

Complies as Conditioned. Consistent with Condition of Approval #1, all tents must be inspected by the building department prior to occupancy. The building department will inspect the tent for compliance with the IBC.

(8) The Applicant shall adhere to all applicable City and State licensing ordinances.

Complies. All commercial activities within the temporary structure must be licensed. The property owner is responsible for obtaining the correct City and State licensing for each proposed use within the temporary structure.

Condition Use Permit Criteria (LMC 15-1-10 (E))

The Planning Commission must review each of the following Condition Use Permit Criteria (LMC 15-1-10 (E)) and considering whether or not the proposed Conditional Use mitigates impacts of and addresses each of the items:

(1) Size and location of the Site;

No Unmitigated Impacts. The St. Regis Hotel has two locations for tents. One is on the Astor Terrace and the second is within The Great Lawn. The Astor Terrace is located outside of the main floor of the St. Regis. It is accessed through the Lobby and Pre-Function room outside the Astor Ballroom. The Great Lawn can be accessed off the patio on the main floor or the funicular landing floor. It is located on the hillside within the St. Regis property. The largest tent is 2800 square feet and measures 40' x 70'.

(2) Traffic considerations including capacity of the existing Streets in the Area;

No Unmitigated Impacts. The St. Regis may be accessed via Roosevelt Gap or Deer Valley Drive East. People using the tents would have to abide by the same parking restrictions as other hotel users outlined in the original Conditional Use Permit conditions of approval. Any extra parking caused by the activity in the tent must be accommodated within the St. Regis parking lots. According to a recent parking analysis (Exhibit B), forty-nine percent (49%) of the parking spaces were utilized during peak season (Sundance 2011). If the tents were at maximum capacity and all guests came from off-site, an additional 30% of parking would be utilized, bringing the total to seventy-nine percent (79%) of total parking.

(3) Utility capacity;

No Unmitigated Impacts. Any additional utilities that are necessary for the temporary tents are available through the hotel. The increase in guests will result in an increase in demand for water, gas, sewer and trash. The existing infrastructure is adequate to accommodate the additional guests and demand on utilities.

(4) Emergency vehicle Access;

No Unmitigated Impacts. Emergency vehicle access will not be impacted by the proposal.

(5) Location and amount of off-Street parking;

No Unmitigated Impacts. The proposed use typically results in an increase in cars attending the event in the tent. The additional cars will have to be accommodated within the existing parking areas of the St. Regis hotel. Currently, there are 146 spaces at Roosevelt Gap and 67 spaces at Snow Park. Access restrictions of the Deer Crest Hotel CUP continue to apply, including restrictions on travel through the east and west Deer Crest perimeter gates. Only owners are allowed to access the hotel through the west perimeter gate. All guests are required to access the hotel via shuttles or the funicular at Snow Park.

(6) Internal vehicular and pedestrian circulation system;

No Unmitigated Impacts. Due to the unique location of the hotel, there is no internal vehicular circulation other than the drop off areas. The building department will inspect the tents for pedestrian circulation requirements prior to issuance of a certificate of occupancy.

(7) Fencing, Screening, and landscaping to separate the Use from adjoining Uses;

No unmitigated impacts. The adjacent uses are the hotel. Fencing and screening is not required. The tents will be placed appropriately within the landscape.

(8) Building mass, bulk, and orientation, and the location of Buildings on the Site; including orientation to Buildings on adjoining Lots;

No unmitigated impacts. The tents are appropriate within the hotel site. There is no anticipated negative impacts due to the mass, bulk, and orientation of the tents. They will not be visible from the Snow Park parking lots or Deer Valley Drive.

(9) Usable Open Space;

No unmitigated impacts. The tent that is proposed on the Great Lawn is within the usable open space of the hotel. The tent will not negatively impact the open space. The open space calculation will not be changed by the existence of a temporary tent. Staff would not recommend allowing a tent to stand in this area for over 60 consecutive days due to impacts to the lawn

(10) Signs and lighting;

No unmitigated impacts. Signs to the interior of a project are not regulated under the sign code. Any exterior signs must be approved by the Planning Department consistent with the City Municipal Code. All exterior lighting must be approved by the Planning and Building Departments and comply with the Land Management Code.

(11) Physical design and Compatibility with surrounding Structures in mass, scale, style, design, and architectural detailing;

No unmitigated impacts. The design of the tent is simple. Event tents that located within hotel grounds and are not visible from the right of way are a normal occurrence for the use and compatible.

(12) Noise, vibration, odors, steam, or other mechanical factors that might affect people and Property Off-Site;

No unmitigated impacts. Consistent with Condition of Approval #2, the use shall not violate the City noise ordinance. Any violation of the City noise ordinance may result in the Condition Use Permit becoming void.

(13) Control of delivery and service vehicles, loading and unloading zones, and Screening of trash pickup Areas;

No applicable.

(14) Expected Ownership and management of the project as primary residences, Condominiums, time interval Ownership, Nightly Rental, or commercial tenancies, how the form of Ownership affects taxing entities; and

No applicable.

(15) Within and adjoining the Site, impacts on Environmentally Sensitive Lands, Slope retention, and appropriateness of the proposed Structure to the topography of the Site.

No unmitigated impacts. The tent proposed on the Great Lawn is on a flat area of the property. The proposed tent on the patio would not have any impact on Sensitive lands

Process

Approval of this application constitutes Final Action that may be appealed following the procedures found in LMC Section 1-18.

Department Review

This project has gone through an interdepartmental review. One issue was brought up during the review by the building department is that there is an

existing temporary structure on site that must be taken down. The temporary structure was allowed during the construction of the hotel and for sales. The building department is requiring that the temporary structure either be made a permanent building or be taken down. The applicant has agreed that the temporary structure will be removed by June 1, 2011. Condition of Approval #3 requires that the temporary structure be removed by June 1, 2011 or else the Conditional Use Permit for the tents becomes void.

Notice

The property was posted and notice letters were mailed to property owners within 300' of the property. Legal notice was published in the Park Record.

Public Input

No public input has been received.

Alternatives

1. The Planning Commission may approve the CUP for the temporary structure as proposed and conditioned; or
2. The Planning Commission may deny the CUP and direct staff to prepare findings supporting this recommendation; or
3. The Planning Commission may continue the discussion to a date certain to allow the applicant time to respond to any additional concerns or issues raised at the Planning Commission hearing.

Significant Impacts

There are no significant negative fiscal or environmental impacts from this application.

Consequences of not taking the Suggested Recommendation

The applicant will have to apply for an administrative conditional use permit for each tent. The applicant will not be allowed to have more than 5 tents within a year and each tent may stay up for a maximum of 14 days.

Recommendation

Staff recommends the Planning Commission discuss the proposed application for a Conditional Use Permit for a temporary structure (tent) to be located within the St. Regis Resort hotel, conduct a public hearing, and consider approving the CUP according to the following findings of fact, conclusions of law, and recommended conditions of approval, as follows:

Findings of Fact

1. On January 25, 2011, the City received a complete application for a conditional use permit for a temporary structure (tent) to be located within the St Regis Resort hotel.
2. In 2010, the hotel pulled 5 separate building permits for temporary tents.
3. Within the Land Management Code (LMC) section 15-4-16(A)(7) a

temporary structure may not be installed for a duration longer than fourteen (14) days and for more than five (5) times a year, unless a longer duration or greater frequency is approved by the Planning Commission consistent with CUP criteria in LMC section 15-1-10(E) and the criteria for temporary structures in LMC section 15-4-16(C).

4. The applicant is requesting that the Planning Commission consider approving a conditional use permit to allow up to the applicant to install a temporary tent up to 15 times per year with one tent receiving a longer duration of 60 days during the summer months, due to the higher frequency of weddings and outdoor parties. There may be occasions when more than one tent is installed for an activity.
5. The St. Regis Hotel has two locations for tents. One is on the Astor Terrace and the second is within The Great Lawn. The Astor Terrace is located outside of the main floor of the St. Regis. It is accessed through the Lobby and Pre-Function room outside the Astor Ballroom. The Great Lawn can be accessed off the patio on the main floor or the funicular landing floor. It is located on the hillside within the St. Regis property. The largest tent is 2800 square feet and measures 40' x 70'.
6. This application is reviewed under Land Management Code Section 15-1-10 (E) and Section 15-4-16(C).
7. The St. Regis may be accessed via Roosevelt Gap or Deer Valley Drive East. People using the tents would have to abide by the same parking restrictions as other hotel users outlined in the 1995 Deer Crest Hotel Conditional Use Permit conditions of approval. Any extra parking caused by the activity in the tent must be accommodated within the St. Regis parking lots.
8. According to a recent parking analysis (Exhibit B), forty-nine percent (49%) of the parking spaces were utilized during peak season (Sundance 2011). If the tents were at maximum capacity and all guests came from off-site, an additional 30% of parking would be utilized.
9. The property was posted and notice letters were mailed to property owners within 300' of the property. Legal notice was published in the Park Record.
10. The project has access from Deer Valley Drive and Deer Crest Estates Drive.
11. The property is located within the Recreation Commercial (RC) zoning district and is subject to the Deer Crest Settlement Agreement and the revised Deer Crest Hotel CUP as approved by the Planning Commission on April 22, 2009.
12. Temporary Structures require a Conditional Use Permit in the RC zone.
13. No additional signs or lighting are proposed with this application.
14. The Findings in the Analysis Section are incorporated herein.

Conclusions of Law

1. The Use, as conditioned complies with all requirements of the Land Management Code, Section 15-1-10.

2. The Use, as conditioned is consistent with the Park City General Plan.
3. The Use, as conditioned is compatible with surrounding structures in use, scale, mass, and circulation.
4. The effects of any differences in use or scale have been mitigated through careful planning.
5. The Application complies with all requirements outlined in the applicable sections of the Land Management Code, specifically Sections 15.1.10 review criteria for Conditional Use Permits and 15-4-16(C) review criteria for temporary structures.

Conditions of Approval

1. All tents require a permit issued by the Building Department. All tents must be inspected by the building department prior to occupancy. The building department will inspect circulation, emergency access, and all other applicable public safety measures.
2. Prior to installing a tent, the Planning Department must sign off on a building permit and record the date within the CUP application folder.
3. A maximum of fifteen tents per year are allowed. The maximum duration of a tent is fourteen days, with the exception of one tent per year having a maximum duration of sixty days during the summer months only.
4. The use shall not violate the City noise ordinance. Any violation of the City noise ordinance may result in the Condition Use Permit becoming void.
5. The existing temporary structure at the St. Regis hotel must be removed by June 1, 2011. If it is not removed by June 1, 2011, this Conditional Use Permit will be void.
6. All conditions of approval of the 1995 Deer Crest Settlement Agreement continue to apply.
7. All conditions of approval of the Deer Crest Hotel CUP as amended on April 22, 2009, continue to apply.

Exhibits

Exhibit A – Applicant's request and Site Plan

Exhibit B – Parking Study

From: [Eatchel, Lauren](#)
To: [Katie Cattan](#)
Subject: Conditional Use Permit
Date: Monday, February 14, 2011 12:12:26 PM

Hi Katie,

After speaking to everyone, we estimate having 15 tents this year. We would like to ask for an extension of up to 2 months for one tent to be setup this summer. Because we're unsure at how many tents we will need to set up, if we need to extend the number, will we be able to do that?

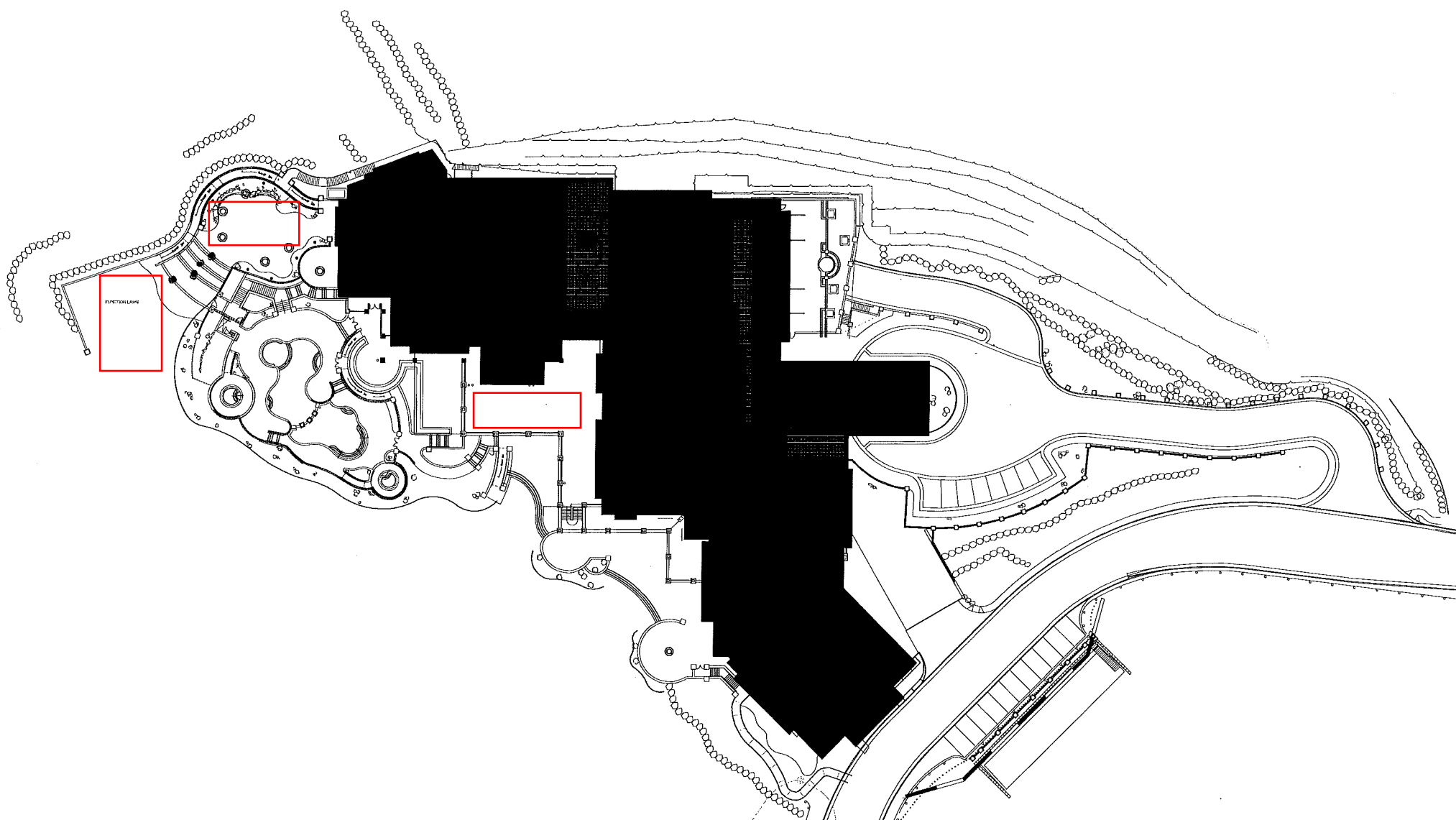
Thank you,

Lauren Eatchel CATERING & SALES ADMINISTRATIVE ASSISTANT
THE ST REGIS DEER VALLEY RESORT 2300 Deer Valley Drive East, PO Box 4493, Park City, UT 84060
TELEPHONE: 435-940-5729 FAX: 435-940-5725 STREGIS.COM/DEERVALLEY



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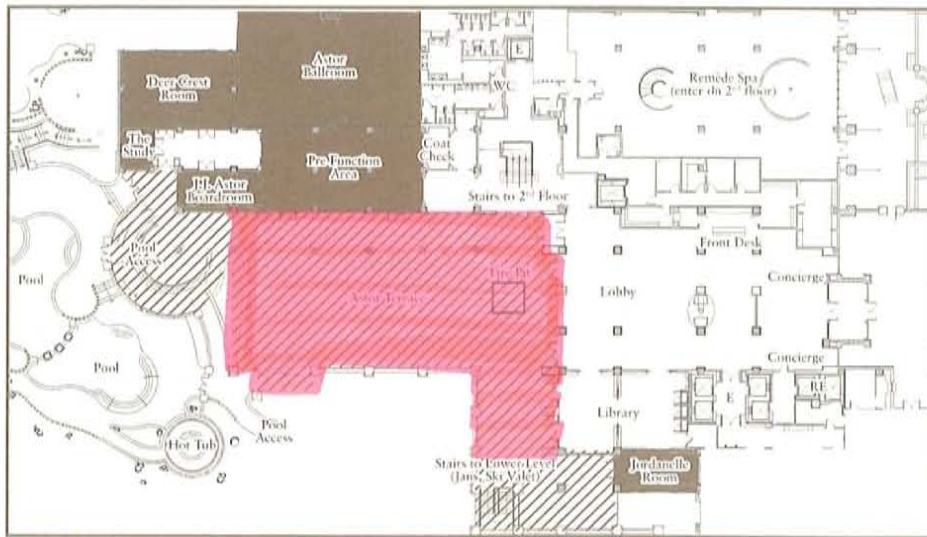




ST REGIS

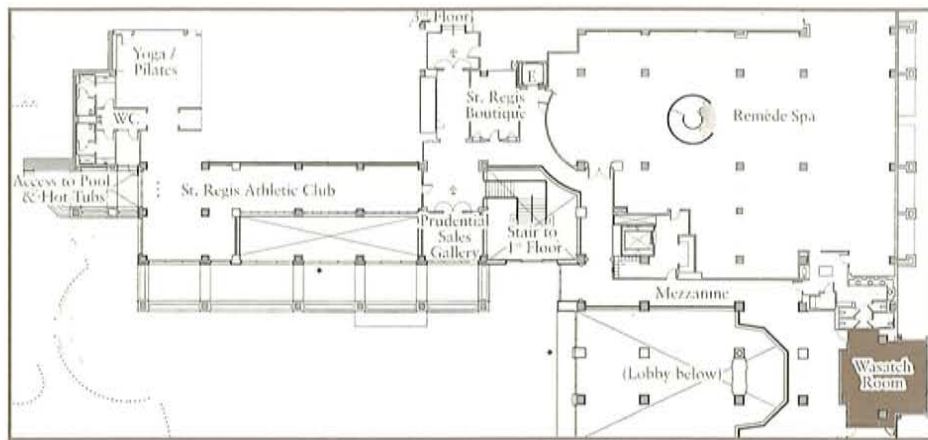
DEER VALLEY

FUNCTION SPACE FLOORPLAN AND CAPACITIES



	Total Sq. Ft.	Dimensions (ft.)	Ceiling Height (ft.)	Theater Style	Schoolroom Style	Hollow Square	Reception	Banquet	Boardroom
FIRST FLOOR FUNCTION SPACE									
Astor Ballroom	2,814	67' x 42'	13'6"	255	140	70	295	230	—
Astor Ballroom I	1,407	33'6" x 42'	13'6"	127	70	35	147	115	—
Astor Ballroom II	1,407	33'6" x 42'	13'6"	127	70	35	147	115	—
Astor Ballroom Pre-function	1,829	59' x 31'	8'4" to 20"	—	—	—	260	100	—
John Jacob Astor Boardroom	441	15' x 30'	8'2"	—	—	—	—	—	16
Deer Crest Prefunction	691	51' x 14'	8'2"	—	—	—	68	—	—
Deer Crest Room	1,164	41' x 28'	8'2"	104	57	30	164	76	30
Jordanelle Room	434	31' x 14'	8'4"	40	22	12	62	28	14
The Study	165	11' x 15'	8'2"	—	—	—	—	—	—
Astor Terrace	7,250		—	—	—	—	250	220	—

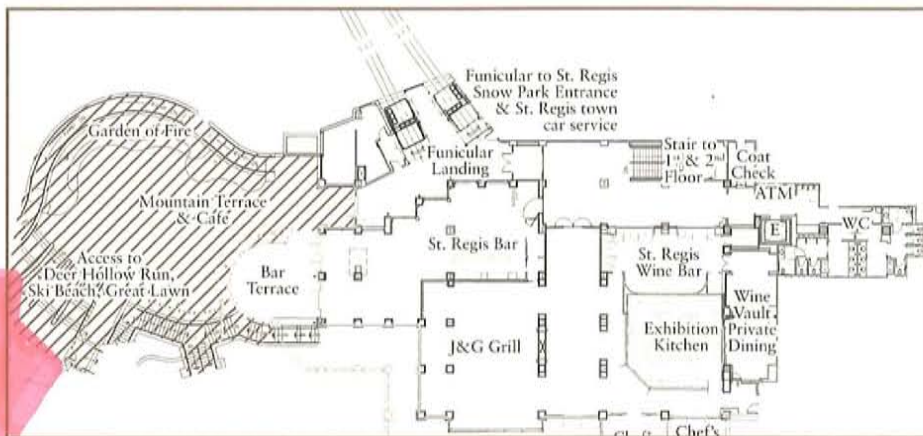
Floor plans and capacities subject to change. Maximum capacities are based on selected room set and audiovisual requirements.
© 2009 Starwood Hotels & Resorts Worldwide, Inc. All rights reserved.



Total Sq. Ft.	dimensions (ft.)	Ceiling Height (Ft.)	Theater Style	Schoolroom Style	Hollow Square	Reception	Banquet	Boardroom
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SECOND FLOOR FUNCTION SPACE

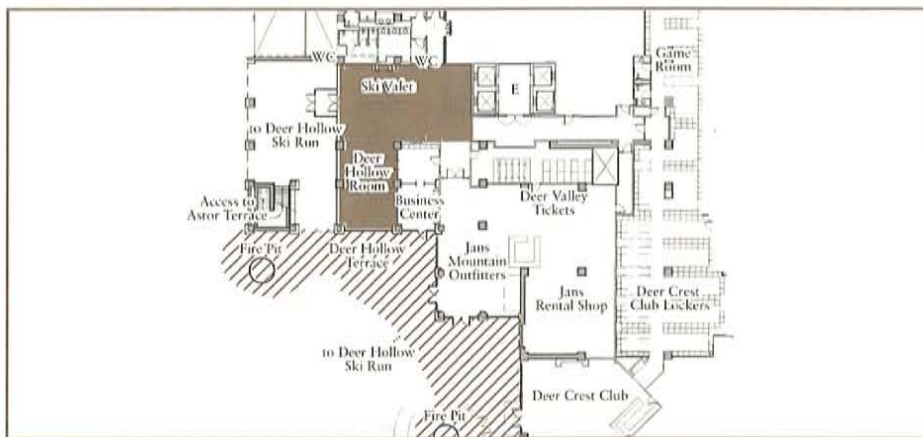
Wasatch Room	585	26' x 22.5'	8'2"	61	30	14	60	40	14
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Total Sq. Ft.	dimensions (ft.)	Ceiling Height (Ft.)	Theater Style	Schoolroom Style	Hollow Square	Reception	Banquet	Boardroom
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THIRD FLOOR FUNCTION SPACE

The Great Lawn	5,000		-	-	-	250	220	-
Mountain Terrace	2,289		-	-	-	150	100	-



Total Sq. Ft.	dimensions (ft.)	Ceiling Height (Ft.)	Theater Style	Schoolroom Style	Hollow Square	Reception	Banquet	Boardroom
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LOWER LEVEL FUNCTION SPACE

Deer Hollow Room	660	30' x 22'	8'2"	72	36	16	70	48	16
Deer Hollow Terrace	3,300		–	–	–	–	250	–	–
Ski Valet	1,275	48' x 27'	8"2 "	100	57	24	100	80	18

**ST REGIS DEER VALLEY RESORT
PARKING COUNT TABLE
2/9/2011**

AREA	ACTUAL CAPACITY	NOVEMBER - LOW SEASON				CHRISTMAS/NEW YEAR - HIGH SEASON				SUNDANCE WEEK- HIGH SEASON			
		WEEKDAY HOUR		WEEKEND		WEEKDAY HOUR		WEEKEND		WEEKDAY HOUR		WEEKEND	
		STALLS OCCUPIED	% OCCUPIED	STALLS OCCUPIED	% OCCUPIED	STALLS OCCUPIED	% OCCUPIED	STALLS OCCUPIED	% OCCUPIED	STALLS OCCUPIED	% OCCUPIED	STALLS OCCUPIED	% OCCUPIED
ROOSEVELT GAP	146	27	18%	36	25%	63	43%	44	30%	46	32%	55	38%
SNOW PARK	67	20	30%	30	45%	37	55%	30	45%	19	28%	42	63%
JORDANELLE	185	39	21%	10	5%	75	41%	55	30%	60	32%	85	46%
TOTAL	398	86	22%	76	19%	175	44%	129	32%	125	31%	182	46%

1. DATA REPRESENTS THE SINGLE HOUR IN 24 HOUR PERIOD WHEN THE TOTAL PROJECT PARKING LOAD IS HIGHEST - 23 REMAINING HOURS HAVE LESS TOTAL PARKING

2. JORDANELLE LOT LOAD INCLUDES SOME DAY SKIERS NOT RELATED TO HOTEL USE

Planning Commission Agenda Item Report

Meeting Date: February 23, 2022

Submitted by: Julie Schultz

Submitting Department: Planning

Item Type: Staff Report

Agenda Section: REGULAR AGENDA

Subject:

Land Management Code Amendments - Amendments to Land Management Code § 15-2.1-2, § 15-2.2-2, § 15-2.3-2, § 15-2.4-2, § 15-2.5-2, § 15-2.6-2, § 15-2.7-2, § 15-2.9-2, § 15-2.10-2, § 15-2.11-2, § 15-2.12-2, § 15-2.13-2, § 15-2.14-2, § 15-2.15-2, § 15-2.16-2, § 15-2.17-2, § 15-2.18-2, § 15-2.19-2, § 15-2.23-2, For Zoning District Use Tables, § 15-15-1 Definitions, and Enacting a New §15-4-22, Outdoor Pickleball Courts in Residential Areas, Are Proposed for Pickleball Court Land Use Regulation in Residential Zoning Districts To Mitigate Pickleball Court Impacts. PL-21-05062

(A) Public Hearing; (B) Possible Recommendation for City Council's Consideration on March 3, 2022. (60 mins.)

Suggested Action:

Attachments:

[Staff Report](#)

[Exhibit A: Draft Ordinance No. 2022-XX](#)

[Exhibit B: Survey Results](#)

[Exhibit C: Public Comments](#)

[Exhibit D: Post Card Proof](#)

[Exhibit E: Abrego South Green Valley, AZ Pickleball Noise Survey](#)

[Exhibit F: City of Ojai, CA Pickleball Sound Mitigation Options](#)

[Exhibit G: Noise Study for Pickleball Courts in Surprise, AZ](#)

[Exhibit H: Pickleball Environmental Noise Assessment Pacific Grove, CA](#)

[Exhibit I: Scottsdale, AZ Development Review Board Pickleball and Bocce Courts Report](#)

[Exhibit J: Spendiarian and Willis Noise Survey for Pickleball Courts in Sun Lakes, AZ](#)

[Exhibit K: Spendiarian and Willis Pickleball Acoustics and Noise Control](#)

[Exhibit L: Spendiarian & Willis Acoustics & Noise Control LLC Letter](#)

Planning Commission Staff Report



Subject: Outdoor Pickleball Courts in Residential Areas
Application: PL-21-05062
Author: Browne Sebright
Date: February 23, 2022
Type of Item: Legislative – Land Management Code Amendment

Recommendation

(I) Review the proposed Land Management Code amendments to enact a new section to regulate outdoor pickleball courts in residential areas, to amend Zoning District use tables to require a Conditional Use Permit for these outdoor courts, and to clarify definitions; (II) conduct a public hearing; and (III) consider forwarding a positive recommendation for City Council's consideration on March 3, 2022, as outlined in the Draft Ordinance No. 2022-XX (Exhibit A).

Description

Applicant: Planning Department
Land Management Amending Use Tables:
Code Sections:

- § 15-2.1-2 Historic Residential Low – Density
- § 15-2.2-2 Historic Residential 1
- § 15-2.3-2 Historic Residential 2
- § 15-2.4-2 Historic Residential Medium
- § 15-2.5-2 Historic Recreation Commercial
- § 15-2.6-2 Historic Commercial Business
- § 15-2.7-2 Recreation and Open Space
- § 15-2.9-2 Rural Estate
- § 15-2.10-2 Estate
- § 15-2.11-2 Single Family
- § 15-2.12-2 Residential – 1
- § 15-2.13-2 Residential Development
- § 15-2.14-2 Residential Development Medium Density
- § 15-2.15-2 Residential Medium Density
- § 15-2.16-2 Recreation Commercial
- § 15-2.17-2 Regional Commercial Overlay
- § 15-2.18-2 General Commercial
- § 15-2.19-2 Light Industrial
- § 15-2.23-2 Community Transition
- § 15-15-1 *Definitions*

Enacting
§ 15-4-22 *Outdoor Pickleball Courts in Residential Areas*

Reason for Review: The Commission has the primary responsibility of reviewing Land Management Code amendments and forwarding a recommendation for City Council's consideration. The City Council conducts a public hearing and takes Final Action.

dBa Noise Decibel
HOA Homeowners Association
LMC Land Management Code

Terms that are capitalized as proper nouns throughout this staff report are defined in LMC § [15-15-1](#).

Summary

Pickleball is an increasingly popular sport and public input is clear: more pickleball courts are wanted in Park City to meet the growing demand. On November 18, 2021, the City Council directed the Recreation Department to assess existing recreation facilities and determine new opportunities to construct public indoor and outdoor pickleball courts ([Staff Report](#); [Minutes](#), p. 5).

On January 27, 2022, the Recreation Department presented a plan to City Council to issue a Request for Proposal (RFP) to consider the scope and construction costs of new indoor pickleball courts at the Park City MARC, as well as possible outdoor pickleball courts at the Quinn's Junction Park City Sports Complex ([Staff Report](#); [Audio](#)). The City Council provided input and directed the Recreation Department to move forward with the RFP.

With the growing demand for public pickleball courts, an interest in constructing outdoor pickleball courts on residential lots has arisen. However, due to the unique noise produced as part of pickleball play, staff recommends the Planning Commission consider enacting specific land use regulations for outdoor pickleball courts in residential areas to address noise and other impacts. Commercial and public pickleball courts are proposed to remain a Conditional Use requiring Planning Commission review and approval on a case-by-case basis.

Background

Pickleball – A Sport Rising in Popularity

Pickleball, a sport described by USA Pickleball as a combination of tennis, badminton, and ping-pong that is played as doubles or singles, is rising in popularity.¹ According to USA Pickleball, "[p]ickleball grew in 2020 to 4.2 million players in the US, an incredible growth rate of 21.3% from 2019 per the Sports & Fitness Industry Association's (SFIA) 2021 Topline Participation Report, released in Feb. 2021."²

¹ <https://usapickleball.org/what-is-pickleball/>

² https://legistarweb-production.s3.amazonaws.com/uploads/attachment/pdf/1141988/Attachment_A-2021-Pickleball-Fact-and-Media-Sheet-8.2.21-Update.pdf (p. 2)

The USA Pickleball Association describes the sport as follows:

A pickleball court is 20' x 44' for both singles and doubles. The net is hung at 36" at the ends and hangs 34" in the middle. A non-volley zone extends 7' back from the net on each side, commonly called "the kitchen."³

The image below, taken from Pickleball RUSH, illustrates the size and dimensions of a typical pickleball court:⁴

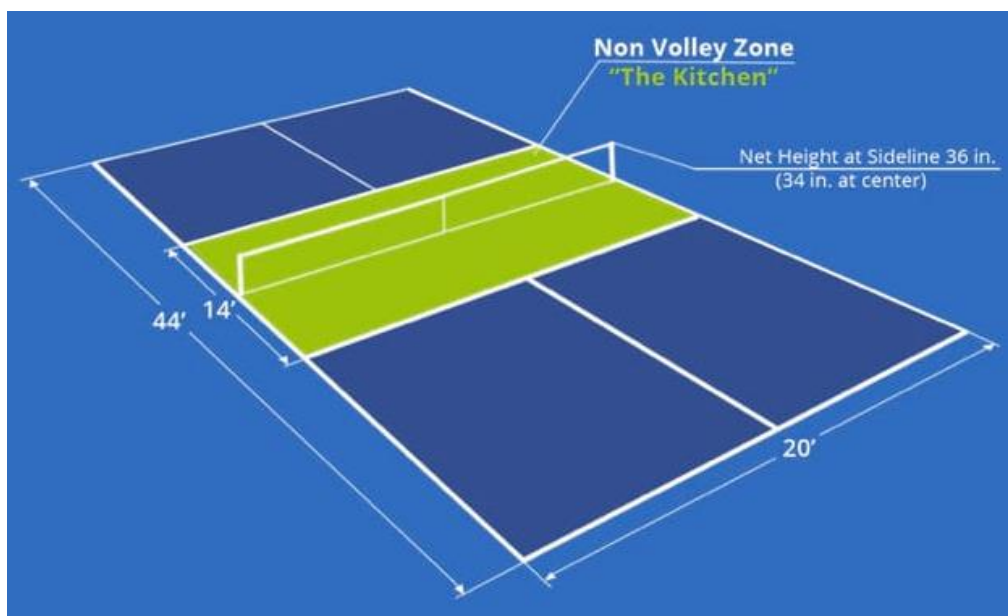


Figure 1. Dimensions of a Regulation Pickleball Court

While the in-play boundaries of a standard court are 20' by 44', the sport requires additional out-of-bounds areas for serving and general play. A single outdoor pickleball court playing area on a residential lot could measure up to 30' by 60' and the proposed amendments cap these dimensions.

Pickleball and Noise

Pickleball is played with wooden or composite paddles and a perforated plastic ball, which creates a unique and repetitive high-pitched sound that has led to noise complaints.⁵ According to Bob Unetich, a USA Pickleball certified referee and professional registered engineer, "[t]he noise problem pickleball causes is due to the fact that humans are more annoyed by higher pitch sounds in general. A beeping sound is more annoying than a rumble sound, even if those two sounds are of the same level.

³ https://legistarweb-production.s3.amazonaws.com/uploads/attachment/pdf/1141988/Attachment_A-2021-Pickleball-Fact-and-Media-Sheet-8.2.21-Update.pdf (p. 2)

⁴ <https://www.pickleballrush.com/how-to-play-pickleball/court-specifications/dimensions-measurements>

⁵ King, Mac. *Noise complaints prompt closures of pickleball courts*. Fox 5 New York. July 28, 2021; Mitchell, Alex. *'Noise pollution' of senior citizens playing pickleball has suburb outraged*. New York Post. July 20, 2021. Dobruck, Jeremiah. *Lawsuit claims pickleball is making Newport park's tennis courts too noisy*, LA Times. March 30, 2016.

Tennis and some other common sports produce sounds that are usually lower pitch than in pickleball, therefore less annoying.”⁶ As a result of the unique noise impacts of the sport, the LMC amendments for outdoor pickleball courts on residential lots are proposed to require compliance with the Municipal Code of Park City Noise Ordinance.

Pickleball Courts are a Recreation Facility and Private Facilities are an Allowed Use in Seven Zoning Districts; Most Zoning Districts Require a Conditional Use Permit for Private, Commercial, and Public Facilities

Under the current LMC, a pickleball court is defined as a Recreation Facility in LMC [§ 15-15-1 Definitions](#):

Recreation Facilities, Private. Recreation facilities operated on private Property and not open to the general public. Including Recreation Facilities typically associated with a homeowner or Condominium association, such as pools, tennis courts, playgrounds, spas, picnic Areas, similar facilities for the Use by Owners and guests.

Recreation Facilities, Commercial. Recreation Facilities operated as a Business on private or public Property and open to the public for a fee.

Recreation Facilities, Public. Recreation facilities operated by a public agency and open to the general public with or without a fee.

Recreation Facilities are currently an Allowed or Conditional Use in all Zoning Districts, except Public Use Transition, outlined in the table below:

Recreation Facilities are an Allowed Use:
HR-2 (Private)* RC (Private) RCO (Private) RD (Private) RDM (Private) GC (Private) LI (Private)
Recreation Facilities are a Conditional Use:
HRL (Private) HR-1 (Private) HR-2 (Private)* HRM (Public and Private)

⁶ [The sound of pickleball – a detailed explanation, and what you need to consider before building courts](#), by Bob Unetich

HRC (Commercial, Public, and Private) HCB (Commercial, Public, and Private) ROS (Commercial, Public, and Private) POS (Public) E-40 (Commercial, Public, and Private) E (Commercial, Public, and Private) SF (Public and Private) R-1 (Private) RD (Public and Commercial) RDM (Public and Commercial) RM (Public and Private) RC (Commercial and Public) RCO (Public and Commercial) GC (Public and Commercial) LI (Public and Commercial) CT (Commercial, Public, and Private) Urban Park District (Public and Commercial)
Recreation Facilities are prohibited:
PUT

** The HR – 2 Use Table includes Private Recreation Facilities as both Allowed and Conditional Uses. The proposed amendments remove the reference to the Allowed Use and retains Private Recreation Facilities as a Conditional Use.*

The current LMC allows Private Recreation Facilities in seven Zoning Districts, requiring only a building permit and no Planning Commission review. Staff finds this could create issues specific to outdoor pickleball courts, especially because these seven Zoning Districts contain areas adjacent to residential neighborhoods. The remaining Zoning Districts wherein Recreation Facilities are a Conditional Use requires Planning Commission review and discretion to impose conditions to mitigate the impacts, including mitigations for noise, pursuant to the Conditional Use Permit criteria outlined in LMC [§ 15-1-10](#).

Staff Recommends LMC Amendments to Address Specific Impacts of Pickleball in Residential Areas

The proposed amendments require a Conditional Use Permit for all outdoor pickleball courts in residential areas. While the Conditional Use Permit criteria outlined in LMC [§ 15-1-10](#) provides the Planning Commission an opportunity to evaluate site-specific mitigations for reasonably anticipated detrimental effects of a use, staff finds that a new LMC Section to establish baseline standards in addition to the Conditional Use Permit criteria the Planning Commission considers results in land use regulations that protect residential areas.

Staff recommends codifying the following:

- Requiring a Conditional Use Permit
 - Public notice will be sent to property owners within 300 feet of the proposed site
 - The Planning Commission will conduct a public hearing
 - The Planning Commission may condition the approval to address site-specific impacts
- Establishing a minimum lot size of one acre (43,560 square feet)
- Requiring a minimum 600-foot setback from lot lines of adjacent residential properties for pickleball courts with no noise mitigation⁷
- Allowing for reduced setbacks that are no less than 150 feet from adjacent residential property lines when a property owner demonstrates the outdoor pickleball court will comply with the noise ordinance
 - Property owners will be required to submit a site-specific noise study completed by a certified acoustical professional
 - Property owners must demonstrate that mitigating features, including noise-mitigating barriers, will be effective
- Limiting outdoor pickleball court use in residential areas to 8 AM – 8 PM
- Prohibiting outdoor lighting of residential pickleball courts
- Prohibiting on-street parking for properties with permitted pickleball courts
- Requiring Homeowner Association notification for properties that are part of an active and/or City registered Homeowner Association

These proposed amendments are outlined in detail in the Analysis Section below.

**No Changes are Proposed for Outdoor Commercial or Public Pickleball Courts;
These Require a Conditional Use Permit**

The proposed LMC amendments are specific to pickleball courts in residential areas. No changes are proposed for outdoor commercial or public pickleball courts at this time. Under the current LMC, outdoor commercial and public pickleball courts are defined in LMC [§ 15-15-1](#) as Commercial and Public Recreation Facilities and require a Conditional Use Permit. Staff finds that the Planning Commission can evaluate and mitigate outdoor commercial and public pickleball courts on a case-by-case basis pursuant to the criteria outlined in LMC [§ 15-1-10](#), *Conditional Use Review Process*, which requires the Planning Commission to find that reasonable conditions are proposed or can be imposed to mitigate the reasonably anticipated detrimental effects of the outdoor pickleball court, including mitigation of noise.

Pickleball Outreach

⁷ Exhibit K: Spendiarian and Willis Pickleball Acoustics and Noise Control

On January 21, 2022, staff created a Planning Department [Pickleball Land Management Code Amendment webpage](#) and an [Engage Park City webpage](#) outlining the overall framework for the proposed amendments. Also on January 21, 2022, staff initiated a community survey to gather input on the proposed pickleball land use regulations. The survey was open through February 16, 2022. Staff collaborated with the communications team to engage the community through social media, the City Brief email, and the Park City Municipal Update email.

Additionally, on January 31, 2022, staff mailed 8,984 postcards to all property owners within impacted Zoning Districts announcing the survey and held two virtual open houses on February 7 and February 8, 2022. Furthermore, the postcards provided information about the Planning Commission's February 23, 2022 review and public hearing regarding the proposed amendments, with possible consideration by the City Council on March 3, 2022.

The two virtual open houses allowed residents the opportunity to provide input on the proposed pickleball LMC Amendments. About 20 – 30 community members attended these open houses and participated in breakout groups for discussion facilitated by staff from the Executive, Sustainability, Recreation, Police, Building, and Planning Departments.

In total, 601 surveys were submitted to staff via the Engage Park City webpage. Of the survey respondents, the majority at 75% were in favor of allowing pickleball courts on private residential lots.

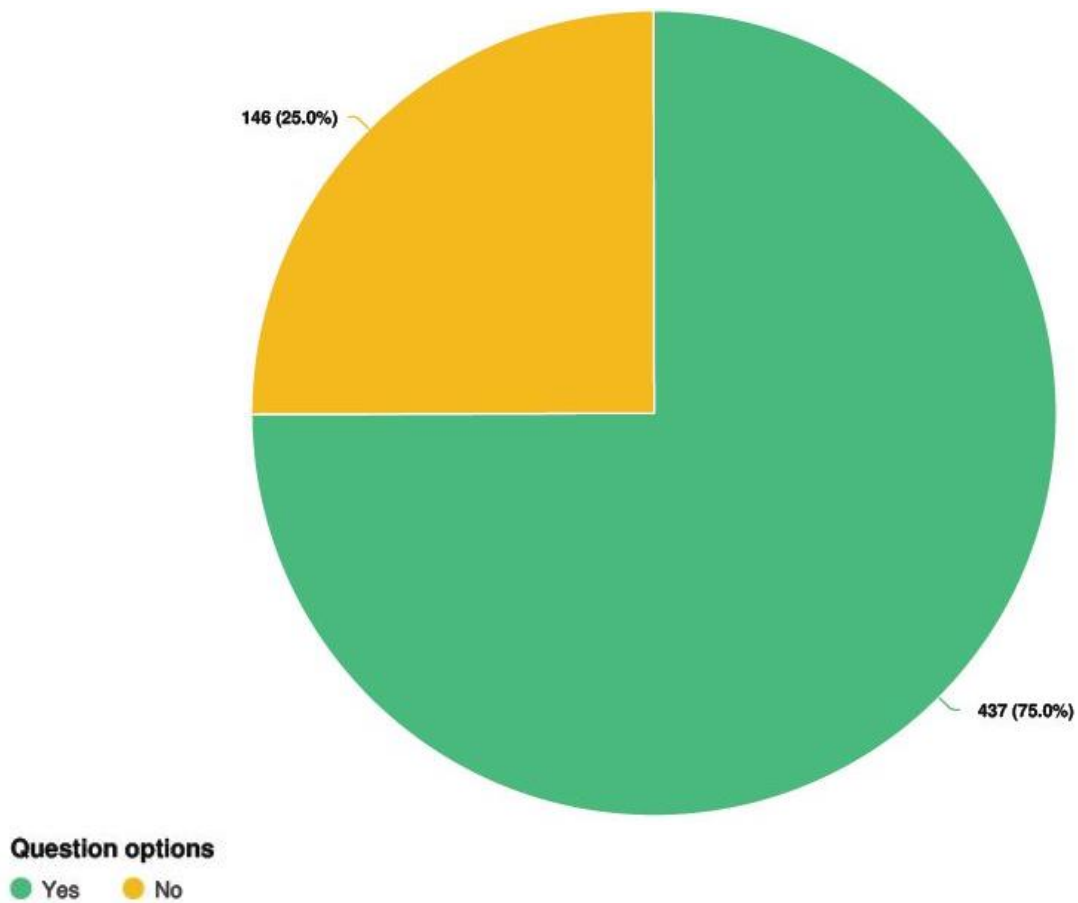


Figure 2. Survey Question 6: “Should pickleball courts be allowed on private residential lots?”

When asked what the minimum lot size for pickleball courts on private residential lots should be, most respondents that were in favor of courts on residential lots chose $\frac{1}{2}$ acre (34.3%). The second most selected option was 1 acre, at 27.7% of responses, followed by $\frac{1}{4}$ acre, which was selected by 25.9% of responses.

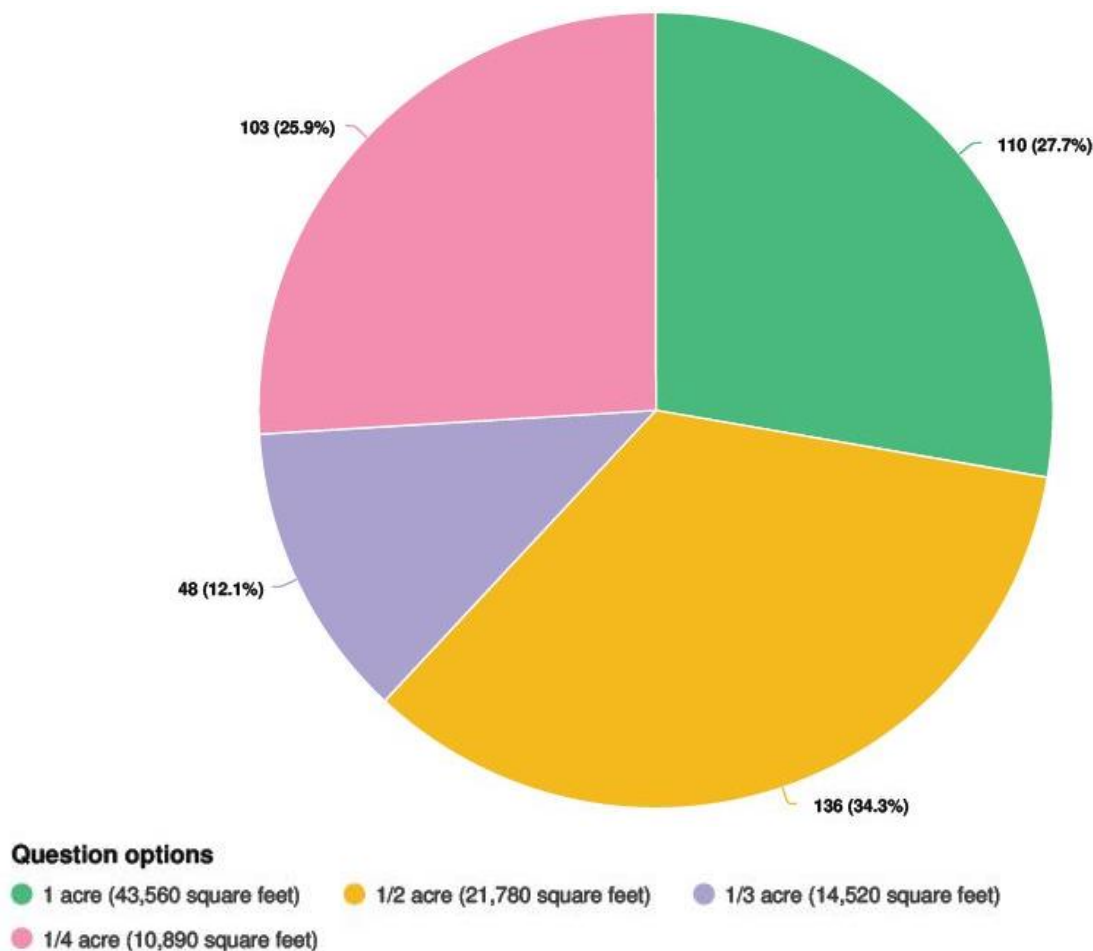


Figure 3. Survey Question 7: “What should the minimum lot size be for pickleball courts on private residential lots?”

Of those who took the survey, most were active players of pickleball (80.7%). Most of those individuals currently play at outdoor public facilities (88.5%), or at indoor public facilities (68.8%). Only 31.1% of active pickleball players reported that they play at private outdoor facilities.

Survey respondents also reported that most prefer to play pickleball outdoors (67.3%), and a slight majority at 56.4% were in favor of allowing pickleball to be played outside of daylight hours (approx. 7 AM to 9 PM). Of those who were in favor of allowing pickleball to be played outside of those hours, 55.4% selected 6 AM – 10 PM as reasonable hours, followed by 30.7% who selected 8 AM to 8 PM as reasonable playing hours.

Most respondents were in favor of requiring HOA approval for pickleball courts that are located within a Home Owners Association (75%), and a slight majority of respondents were opposed to requiring noticing for property owners beyond adjoined lot owners (55.4%). 44.6% of respondents were in favor of requiring noticing for property owners beyond adjoined lot owners, and of those, 49.6% said that noticing should go to neighbors within 300 feet, 40.8% said that noticing should go to neighbors beyond 300 feet, and 9.5% said that noticing should go to neighbors within 100 feet.

Please see Exhibit B to view the full results of the survey and Exhibit C to review public comments submitted to date. Staff thanks the many community members who provided input on pickleball use and the proposed amendments.

As the survey results indicate, many community members play pickleball and would like to see more pickleball courts in the Park City area. The proposed amendments allow for commercial and public pickleball courts through the Conditional Use Permit process, while mitigating impacts of outdoor pickleball courts in residential areas.

Analysis

(I) The Park City Noise Ordinance Requires Additional Mitigations for Outdoor Pickleball Courts.

The Municipal Code of Park City (MCPC) [Chapter 6-3](#) outlines the City’s noise regulations. MCPC [§ 6-3-2](#) states the purpose of the noise regulations are to “[r]educ[e] the making and creation of excessive, unnecessary, or unusually loud noises within the limits of Park City, Utah; [p]revent the making, creation, or maintenance of such excessive, unnecessary, or unusually loud noises that are prolonged, unusual, or unreasonable in their time, place, or use, that affect and are a detriment to public health, comfort, convenience, safety, or welfare of the residents of the City; and [s]ecure and promote the public health, comfort, convenience, safety, welfare and the peace and quiet of the residents of the City.”

MCPC [§ 6-3-9](#) outlines maximum permissible sound levels as follows:

Use District	10:00 p.m. – 6:00 a.m.	6:00 a.m. – 10:00 p.m.
Residential	50 dBA	55 dBA
Commercial	60 dBA	65 dBA

Outdoor pickleball can be noisy. Studies by acoustical engineers found that pickleball noise ranges from 39 dBA (Scottsdale, AZ; Exhibit I) to 80 dBA ([Spendiarian & Willis Acoustics & Noise Control LLC](#)). When looking at the tonal signature of a “sharp” hit, studies found that the frequency of the peak was seen to vary between roughly 1,000 and 2,000 Hz.⁸

⁸ Staff also reviewed seven additional studies, which are included in Exhibits E, F, G, H, I, J and K. (Exhibit E, a noise survey prepared for Green Valley Recreation, in Green Valley, AZ; Exhibit F, a study prepared for the city of Ojai, CA; Exhibit G, a noise study prepared for Sun City Gran Community Association in Surprise, AZ; Exhibit H, a report prepared for the city of Pacific Grove, CA; Exhibit I, a report prepared for the city of Scottsdale, AZ; Exhibit J, a survey prepared for the Iron Oaks at Sun Lakes Resort Community in Sun Lakes, AZ; and Exhibit K, an article summarizing previous studies done by Spendiarian & Willis Acoustics & Noise Control LLC). A community member also submitted a Pickleball Sound Abatement Study by Spendiarian & Willis Acoustics & Noise Control LLC for staff and Planning

Spendiarian & Willis found that courts located within 150 feet of residential structures require careful abatement design to avoid complaints. Courts located within 350 feet of residential structures often require abatement. Courts to be located within 500 to 600 feet of residential properties or other noise-sensitive areas should be reviewed by an acoustical engineer during the site selection phase in order to avoid choosing a site that is expensive to mitigate, results in unexpected limitations on court use, or leads to ongoing disputes with neighbors. It may be necessary to consider abatement at buffer distances greater than 500 to 600 feet for sites where sound tends to carry, such as sites that have a water feature or golf course as part of the intervening ground between the courts and homes or for sites located in a valley. Because of Park City's unique topography, staff recommends these setbacks as a baseline, with possible reductions upon evidence of site-specific evaluation.

Planning staff coordinated with Code Enforcement and Police regarding Noise Ordinance enforcement. Code Enforcement and Police recommend enacting clear standards that address noise impacts through the approval process, rather than rely on future complaints to require additional mitigations. As a result, the proposed code is the restrictive to ensure that noise is adequately addressed through baseline standards.

Planning staff also coordinated with the Engineering Department in reviewing the noise studies, the draft ordinance, and the requirement for applicants to provide site-specific noise study completed by a certified acoustical professional.

(II) The Proposed Amendments (A) Require a Conditional Use Permit; (B) Establish a Restrictive Baseline of a 600-foot Setback from Adjacent Residential Property Lines, (C) Provide Property Owners with Reduced Setbacks if they Can Establish the Pickleball Court will be Constructed and Used in a Way that Complies with the City Noise Ordinance, and (D) Require Additional Mitigations.

(A) Staff Recommends Requiring a Conditional Use Permit for Outdoor Pickleball Courts in Residential Areas

As mentioned above, Private Recreation Facilities, for which definition pickleball courts fall under, are allowed uses in seven Zoning Districts. The proposed amendments shift outdoor pickleball courts in residential areas from an Allowed Use to a Conditional Use Permit.

The Conditional Use Permit application triggers public notice to property owners within 300 feet of the proposed outdoor pickleball court.⁹ Additionally, Conditional Use Permits require Planning Commission review and a public hearing.

As outlined in LMC [§ 15-1-10](#), "[t]here are certain Uses that, because of unique characteristics or potential impacts on the municipality, surrounding neighbors, or adjacent land Uses, may not be Compatible in some Areas or may be Compatible only if

Commission review, Exhibit L.

⁹ LMC [§ 15-1-21](#).

certain conditions are required that mitigate or eliminate the detrimental impacts.

The Planning Department will evaluate all proposed Conditional Uses and may recommend conditions of approval to preserve the character of the zone and to mitigate potentially adverse effects of the Conditional Use.

A Conditional Use shall be approved if reasonable conditions are proposed, or can be imposed, to mitigate the reasonably anticipated detrimental effects of the proposed Use in accordance with applicable standards.

If the reasonably anticipated detrimental effects of a proposed Conditional Use cannot be substantially mitigated by the proposal or imposition of reasonable conditions to achieve compliance with applicable standards, the Conditional Use may be denied.

The City must review all proposed Conditional Uses according to the following procedure unless a subsequent provision of this LMC specifically sets forth an administrative approval process for a specific Conditional Use, in which case that section shall control.”

The Planning Commission evaluates 16 Conditional Use Permit criteria:

1. size and location of the Site;
2. traffic considerations including capacity of the existing Streets in the Area;
3. utility capacity, including Storm Water run-off;
4. emergency vehicle Access;
5. location and amount of off-Street parking;
6. internal vehicular and pedestrian circulation system;
7. Fencing, Screening, and landscaping to separate the Use from adjoining Uses;
8. Building mass, bulk, and orientation, and the location of Buildings on the Site; including orientation to Buildings on adjoining Lots;
9. usable Open Space;
10. signs and lighting;
11. physical design and Compatibility with surrounding Structures in mass, scale, style, design, and architectural detailing;
12. noise, vibration, odors, steam, or other mechanical factors that might affect people and Property Off-Site;
13. control of delivery and service vehicles, loading and unloading zones, and Screening of trash and recycling pickup Areas;
14. expected Ownership and management of the project as primary residences, Condominiums, time interval Ownership, Nightly Rental, or commercial tenancies, how the form of Ownership affects taxing entities;
15. within and adjoining the Site, Environmentally Sensitive Lands, Physical Mine Hazards, Historic Mine Waste and Park City Soils Ordinance, Steep Slopes, and appropriateness of the proposed Structure to the existing topography of the Site; and

16. reviewed for consistency with the goals and objectives of the Park City General Plan; however such review for consistency shall not alone be binding.

Staff finds the proposed amendments outlined below provide baseline standards for applicants to meet so that the Planning Commission can fully evaluate outdoor pickleball courts in residential areas.

(B) Staff Recommends Outdoor Pickleball Courts Without Noise Mitigations in Residential Areas Have a Minimum Setback of 600 feet

Increasing the distance between outdoor pickleball courts and residences in residential areas mitigates noise. Based on research outlined in *The sound of pickleball – a detailed explanation, and what you need to consider before building courts*,¹⁰ doubling the distance between a pickleball court and the point of measurements drops the perceived sound levels by 6 decibels in open areas.

The research from this source states the following about noise levels at setback distances:

- At 100 feet, the sound level will usually be around 70 dBa
- At 200 feet, the level will be about 64 dBa
- At 400 feet it will be about 58 dBa

Pickleball noise can exceed 55 dBA at distances up to 600 feet away from play without any additional sound mitigation measures. The illustration below shows a 30' by 60' pickleball court with the distances and maximum noise levels as stated above to scale:

¹⁰ Betsy. (2021, July 13). The sound of pickleball – a detailed explanation, and what you need to consider before building courts. Crazy Pickleball Lady. Retrieved February 7, 2022, from <https://crazypickleballlady.com>

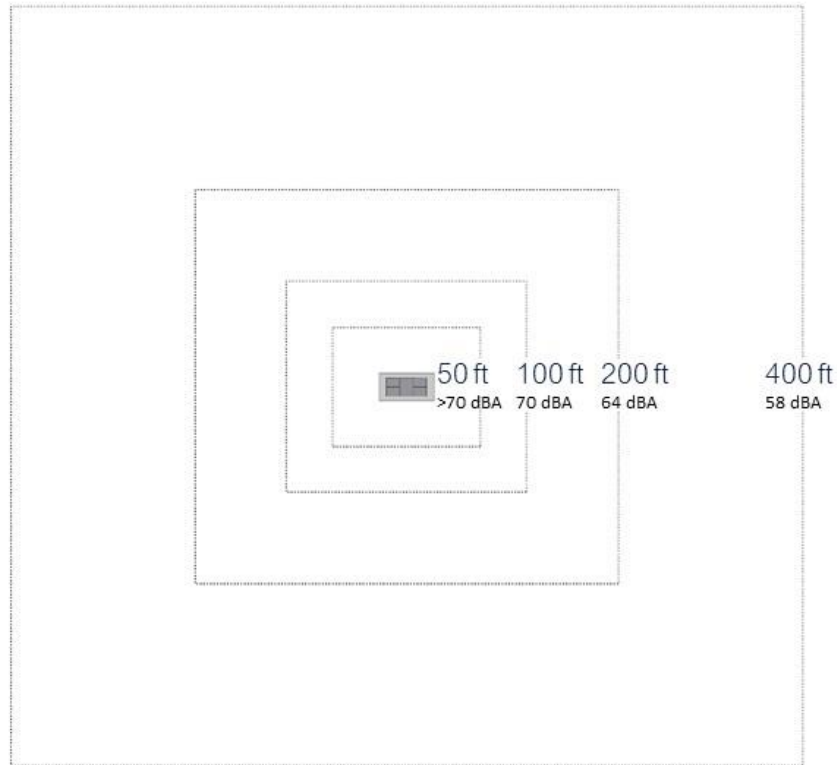


Figure 4. Noise levels at distances from an unmodified pickleball court.

Staff recommends that at a minimum, without noise mitigation, pickleball courts in residential areas be required to meet a 600-foot setback from residential property lines. This means outdoor pickleball courts in residential areas with no noise mitigation will require a minimum lot size of 35.57 acres. Staff found that in Park City, there are approximately 7,389 lots in Zoning Districts that allow for Single Family Dwellings. Of these lots, approximately 10% (714 lots) are one acre or larger.

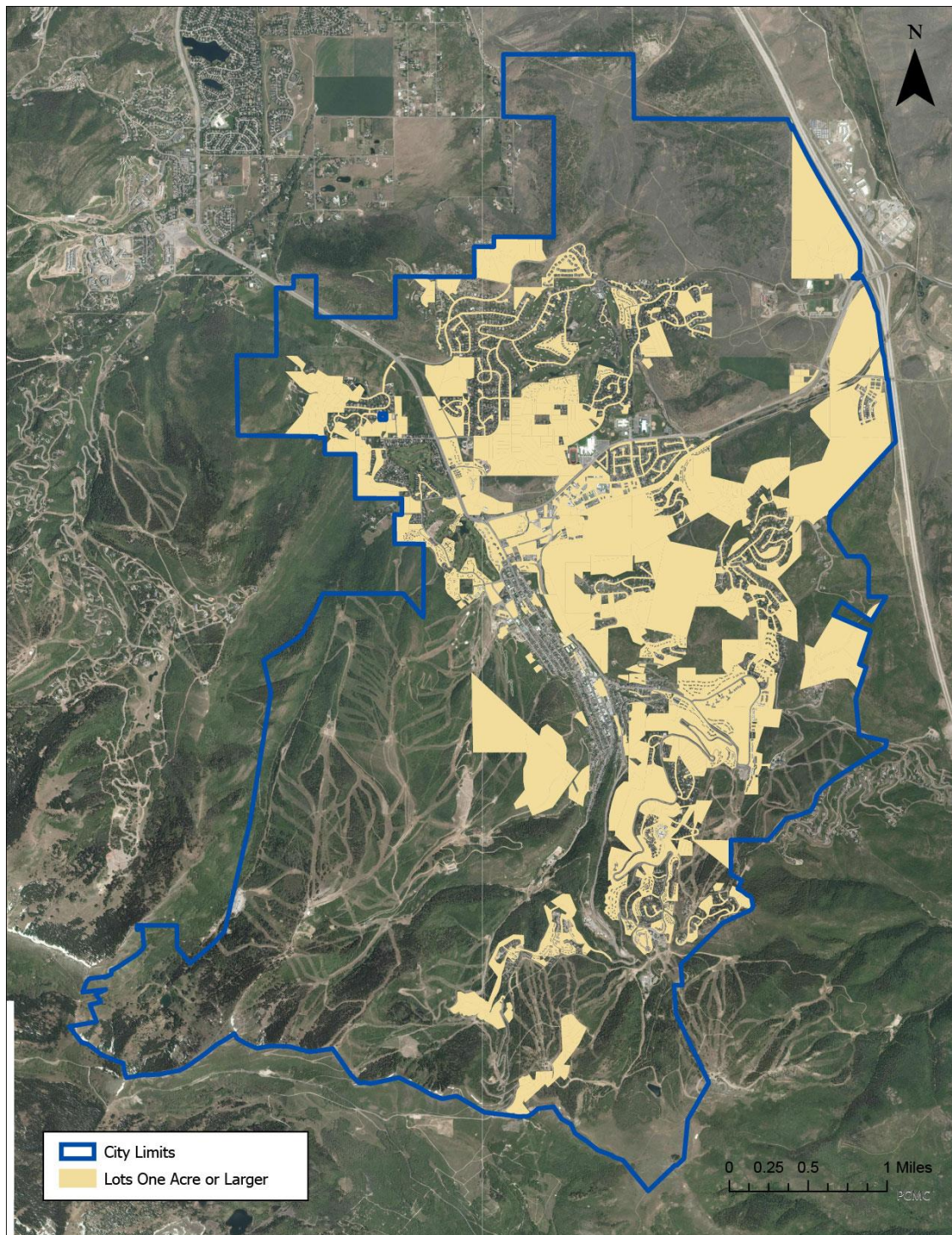


Figure 5. Map of Lots 1-Acre or Larger, in Zoning Districts that Allow for Single-Family Dwellings

However, when separation distances are combined with other mitigation measures, such as noise barriers, reduced setbacks may be considered for some sites, outlined below.

(A) Staff Recommends Planning Commission Discretion to Reduce Setbacks for Outdoor Pickleball Courts in Residential Areas that Include Noise-Mitigating Barriers

Studies show that adding a barrier with noise-absorbing material can reduce the maximum sound of a pickleball game by around 13 dBA.¹¹ In those studies, researchers installed noise mitigating barriers between 10 ft – 12 ft in height and found that barriers between these heights were effective for reducing the perceived noise at ground level. However, barriers are most effective when they block the line-of-sight that noise can travel. In areas with multi-story residential buildings, upper levels of homes that can see over a barrier may still be impacted by increased noise levels. However, sound absorbing barriers can be unsightly and should be considered as a mitigation carefully.



Figure 6. Illustration of pickleball courts with noise-mitigating fencing around the play area

In combination with increased setback distances, use of pickleball courts with barriers can comply with the noise ordinance. At 150 feet, with consideration for equipment and sound barriers, the level could be about 52 dBA, and may be an acceptable sound level in many neighborhoods. As a result, the proposed code requires property owners requesting reduced setbacks to submit a noise study that includes any noise mitigating barriers.

The 150-foot minimum setback distance is most aligned with the research in ensuring noise mitigation. The following illustration shows to scale 150-foot setback and 600-foot setback distances:

¹¹ Exhibit G, a noise study prepared for Sun City Gran Community Association in Surprise, AZ

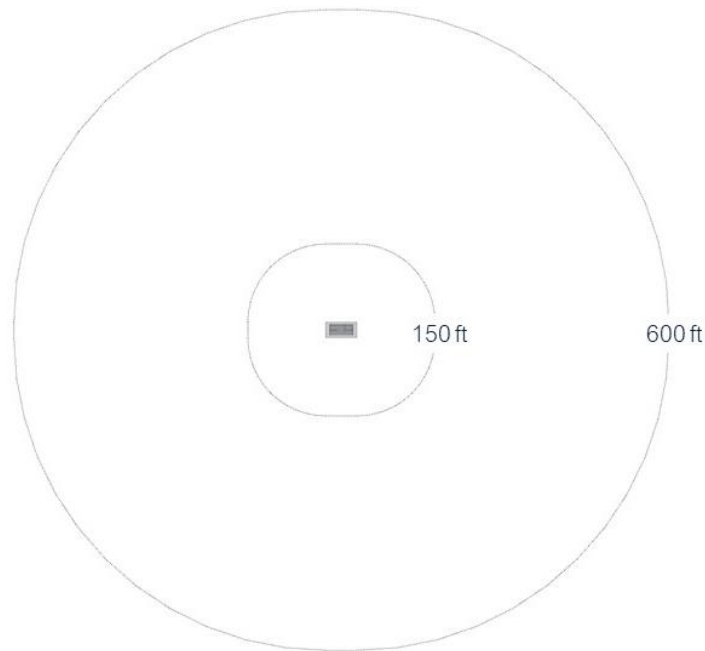


Figure 7. 150-Foot and 600-foot Setbacks

Therefore, staff recommends amendments that establish Planning Commission discretion to reduce setbacks to 150 feet, but no less than 150 feet, upon the basis of a noise study and noise mitigating barriers. The amendments provide applicants with an opportunity to demonstrate their proposal complies with the City Noise Ordinance.

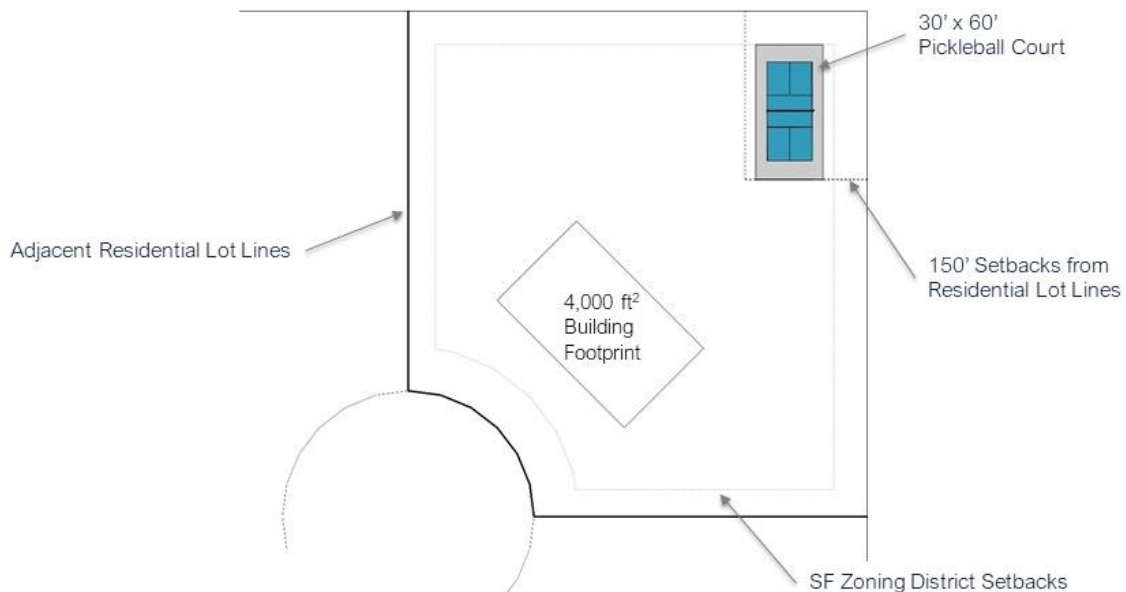


Figure 8. A 1-Acre Lot with a Pickleball Court that Meets 150-Foot Setbacks

Of lots in zoning districts that allow for Single Family Dwellings, staff found that 10% of those lots are 1-acre or larger. The proposed setbacks will not work on all 1-Acre lots, however, there are many lots adjacent to open space, parks, or non-residential land uses that are able to accommodate the required setbacks for a Pickleball Court with noise mitigation.

A minimum lot size of 1-acre ensures that private residential pickleball courts will not be concentrated in certain parts of the city, and that they will be in locations that have less impact on adjacent residential neighborhoods.

(C) Staff Recommends Additional Regulations to Mitigate Impacts of Outdoor Pickleball Courts in Residential Areas

i. Limiting Hours of Operation

The most common technique for cities seeking to reduce noise complaints was to limit the hours of operations that pickleball could be played on the courts. Most cities limited pickleball play to daytime hours, and some sought hours of operations that were narrower, specifically to avoid the more sensitive early morning times.

The proposed amendments limit pickleball court use to 8 AM – 8 PM.

ii. Prohibiting Outdoor Lighting

To enforce limited pickleball court use, staff recommends outdoor lighting of pickleball courts in residential areas be prohibited.

iii. Prohibiting On-Street Parking

Staff recommends that the Applicant demonstrate compliance with Section 15-3-6, *Parking Ratio Requirements For Specific Land Use Categories*. To ensure outdoor pickleball courts in residential areas are used by the residents and their guests without impacts to the neighborhood, staff also recommends that outdoor Pickleball Courts are for use of the residents and up to no more than four guests and for guest parking to be provided on site.

iv. Requiring Homeowner Association notice for construction of pickleball courts within a Homeowner Association

Staff recommends notice to relevant Homeowner Associations prior to submittal of a Conditional Use Permit application for an outdoor pickleball court on a residential lot in a residential area. In considering a reduction in Setbacks, the Planning Commission may consider whether a homeowner association (HOA) registered with the City pursuant to LMC 15-1-12(F) approves or objects to the proposed use and mitigation. However, applicant failure to obtain such approvals may not be the sole basis for Planning Commission denial.

v. Requiring Additional Landscaping for Noise Mitigating Measures

The proposed amendments allow for Planning Commission discretion to require

additional landscaping to mitigate the visual impacts of noise-reducing barriers.

Department Review

The Development Review Committee and Planning, Engineering, and Legal Departments reviewed this application.

Notice

Staff created a Planning Department webpage and Engage Park City webpage on January 21, 2022, outlining the framework for the proposed amendments. On January 31, 2022, staff mailed 8,984 postcards providing notice of the February 23, 2022 Planning Commission public hearing. Additionally, staff published notice on the City's website and the Utah Public Notice website for the February 23, 2022 Planning Commission public hearing on February 9, 2022. The *Park Record* published notice on February 9, 2022. LMC [§ 15-1-21](#).

Public Input

Please see Exhibit C.

Alternatives

- The Planning Commission may forward a positive recommendation for City Council's consideration on March 3, 2022;
- The Planning Commission may forward a negative recommendation for City Council's consideration on March 3, 2022, and direct staff to make Findings for the negative recommendation; or
- The Planning Commission may request additional information and continue the discussion to a date certain.

Exhibits

Exhibit A: Draft Ordinance No. 2022-XX

Exhibit B: Survey Results

Exhibit C: Public Comment

Exhibit D: Post Card Mailing Proof

Exhibit E: Abrego South Green Valley, AZ Pickleball Noise Study

Exhibit F: City of Ojai, CA Pickleball Sound Mitigation Options

Exhibit G: Noise Study for Pickleball Courts in Surprise, AZ

Exhibit H: Pickleball Environmental Noise Assessment Pacific Grove, CA

Exhibit I: Scottsdale, AZ Development Review Board Pickleball and Bocce Court Report

Exhibit J: Spendiarian and Willis Noise Survey for Pickleball Courts in Sun Lakes, AZ

Exhibit K: Spendiarian and Willis Pickleball Acoustics and Noise Control

Exhibit L: Spendiarian & Willis & Noise Control LLC Letter

Ordinance No. 2022-XX

AN ORDINANCE AMENDING LAND MANAGEMENT CODE SECTIONS § 15-2.1-2, § 15-2.2-2, § 15-2.3-2, § 15-2.4-2, § 15-2.5-2, § 15-2.6-2, § 15-2.7-2, § 15-2.9-2, § 15-2.10-2, § 15-2.11-2, § 15-2.12-2, § 15-2.13-2, § 15-2.14-2, § 15-2.15-2, § 15-2.16-2, § 15-2.17-2, § 15-2.18-2, § 15-2.19-2, § 15-2.23-2, FOR ZONING DISTRICT USE TABLES, § 15-15-1 *DEFINITIONS*, AND ENACTING A NEW §15-4-22, *OUTDOOR PICKLEBALL COURTS IN RESIDENTIAL AREAS*

WHEREAS, Goal 4 of the Park City General Plan, is to conserve a connected, health network of open space for continued access and respect for the *Natural Setting*;

WHEREAS, Objective 4C of the General Plan is to minimize further land disturbance and conversation of remaining undisturbed land areas to development to minimize the effects of neighborhoods;

WHEREAS, Goal 9 of the General Plan is for Park City to continue to provide unparalleled parks and recreation opportunities for residents and visitors;

WHEREAS, Objective 9B of the General Plan is to locate recreation options within close vicinity to existing neighborhoods and transit for accessibility and to decrease vehicle miles driven, and to group facilities within recreational campuses to decrease trips;

WHEREAS, Goal 14 of the General Plan is to live within limits to foster innovated sustainable development, protect the community vision, and prevent negative impacts to the region;

WHEREAS, Objective 14B of the General Plan is to manage growth to protect the quality of life and preserve the unique *Park City Experience* by recognizing limits to growth and adopting responsible policies that are consistent with those limits;

WHEREAS, the Land Management Code implements the goals and policies of the General Plan in part to promote the health, safety, and welfare of the present and future inhabitants, to protect and enhance the vitality of the overall quality of life, to protect and preserve peace and good order, comfort, convenience, and aesthetics of the city;

WHEREAS, Pickleball Courts are Private Recreation Facilities the proposed amendments are crafted to ensure pickleball courts are appropriately located and integrated into residential neighborhoods;

WHEREAS, the Planning Commission conducted a duly noticed public hearing on February 23, 2022, and _____ forwarded a positive recommendation for City Council's consideration on proposed amendments;

WHEREAS, the City Council conducted a duly noticed public hearing on March 3, 2022.

NOW, THEREFORE BE IT ORDAINED by the City Council of Park City, Utah, as follows:

SECTION 1. AMEND MUNICIPAL CODE OF PARK CITY LAND MANAGEMENT CODE TITLE 15. The recitals are incorporated herein as findings of fact. Municipal Code of Park City Title 15 Land Management Code § 15-2.1-2, § 15-2.2-2, § 15-2.3-2, § 15-2.4-2, § 15-2.5-2, § 15-2.6-2, § 15-2.7-2, § 15-2.9-2, § 15-2.10-2, § 15-2.11-2, § 15-2.12-2, § 15-2.13-2, § 15-2.14-2, § 15-2.15-2, § 15-2.16-2, § 15-2.17-2, § 15-2.18-2, § 15-2.19-2, § 15-2.23-2, and § 15-15-1 are hereby amended and § 15-4-22 enacted as outlined in Attachment 1.

SECTION 2. EFFECTIVE DATE. This Ordinance shall be effective upon publication.

PASSED AND ADOPTED this 3rd day of March 2022.

PARK CITY MUNICIPAL CORPORATION

Nann Worel, Mayor

Attest:

City Recorder

Approved as to form:

DRAFT

15-2.1-2 Uses

Uses in the HRL District are limited to the following:

A. ALLOWED USES.

1. Single Family Dwelling
2. Home Occupation
3. Child Care, In-Home Babysitting
4. Child Care, Family¹
5. Child Care, Family Group¹
6. Accessory Building and Use
7. Conservation Activity
8. Agriculture
9. Residential Parking Area or Structure with four (4) or fewer spaces
10. Internal Accessory Dwelling Unit⁹
11. Accessory Apartment³

B. CONDITIONAL USES.

1. Nightly Rentals²
2. Lockout Unit
3. Child Care Center¹
4. Essential Municipal and Public Utility Use, Facility, Service and Structure
5. Telecommunication Antenna⁴
6. Satellite dish greater than thirty-nine inches (39") in diameter⁵
7. Residential Parking Area or Structure five (5) or more spaces
8. Temporary Improvement⁶

24 9. Passenger Tramway Station and Ski Base Facility⁷

25 10. Ski Tow Rope, Ski Lift, Ski Run, and Ski Bridge⁶

26 11. Recreation Facility, Private¹⁰

27 12. Fences greater than six feet (6') in height from Final Grade^{5,8}

28 C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional
29 Use is a prohibited Use.

30 ¹See Section 15-4-9, Child Care and Child Care Facilities.

31 ²No more than twelve (12) Conditional Use Permits shall be allowed only in the West sub-neighborhood
32 located south of platted 2nd Avenue, west of Upper Norfolk and Daly Avenues, and east of King Road.
33 No Nightly Rentals are allowed elsewhere in this Zoning District. In addition to the Conditional Use Permit
34 criteria in LMC § 15-1-10(E), the Planning Commission shall consider whether or not the proposed Nightly
35 Rental mitigates the impacts of and addresses the following items: (a) all rental agreements for Nightly
36 Rental shall include language that limits the vehicles allowed to the number of on-site Parking Spaces; (b)
37 all rental agreements shall include language indicating that all-wheel drive vehicles are required during
38 the winter season; (c) all rental agreements shall provide Nightly Renters with information regarding
39 walkable access to skiing, to Park City's Historic Main Street, to Old Town, and to Park City's free transit
40 service; and (d) property management contact information shall be displayed in a prominent location
41 inside the Nightly Rental.

42 ³Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

43 ⁴See Section 15-4-14, Telecommunications Facilities.

44 ⁵See Section 15-4-13, Placement of Satellite Receiving Antennas.

45 ⁶Subject to Administrative or Administrative Conditional Use permit, see LMC Chapter 15-4.

46 ⁷See Section 15-4-18, Passenger Tramways and Ski-Base Facilities.

47 ⁸See Section 15-4-2, Fences and Retaining Walls.

48 ⁹See Section 15-4-7.1, Internal Accessory Dwelling Units. Single-Family Dwellings designated Significant
49 or Landmark Historic Sites on the Park City Historic Sites Inventory are subject to an Administrative
50 Conditional Use Permit.

¹⁰[See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

HISTORY

Adopted by Ord. [00-15](#) on 3/2/2000

Amended by Ord. [06-56](#) on 7/27/2006

Amended by Ord. [09-10](#) on 3/5/2009

Amended by Ord. [15-35](#) on 10/12/2015

Amended by Ord. [15-44](#) on 11/5/2015

Amended by Ord. [2020-37](#) on 7/30/2020

Amended by Ord. [2020-42](#) on 9/17/2020

Amended by Ord. [2021-38](#) on 9/23/2021

Amended by Ord. [2021-51](#) on 12/16/2021

....

15-2.2-2 Uses

Uses in the HR-1 District are limited to the following:

A. ALLOWED USES.

1. Single Family Dwelling
2. Lockout Unit¹
3. Nightly Rental¹
4. Home Occupation
5. Child Care, In-Home Babysitting²
6. Child Care, Family²
7. Child Care, Family Group²
8. Accessory Building and Use
9. Conservation Activity
10. Agriculture

11. Residential Parking Area or Structure, with four (4) or fewer spaces

12. Internal Accessory Dwelling Unit¹⁰

13. Accessory Apartment³

B. CONDITIONAL USES.

1. Duplex Dwelling

2. Guest House on Lots one (1) acre or greater

3. Secondary Living Quarters

4. Group Care Facility

5. Child Care Center

6. Public and Quasi-Public Institution, church and school

7. Essential Municipal and Public Utility Use, Facility, Service, and Structure

8. Telecommunication Antenna⁴

9. Satellite Dish, greater than thirty-nine inches (39") diameter⁵

10. Bed and Breakfast Inn⁶

11. Boarding House, hostel⁶

12. Hotel, Minor, (fewer than sixteen (16) rooms)⁶

13. Residential Parking Area or Structure with five (5) or more spaces.

14. Temporary Improvement⁷

15. Passenger Tramway Station and Ski Base Facility⁸

16. Ski Tow, Ski Lift, Ski Run, and Ski Bridge⁸

17. Recreation Facility, Private¹¹

18. Fences greater than six feet (6') in height from Final Grade^{7,9}

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Nightly Rental of a Lockout Unit requires a Conditional Use permit.

²See Section 15-4-9, Child Care and Childcare Facilities.

³Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

⁴See Section 15-4-14, Telecommunication Facilities.

⁵See Section 15-4-13, Placement of Satellite Receiving Antennas.

⁶In Historic Buildings and/or Structures only. Parking requirements of Chapter 15-3 shall apply.

⁷Subject to Administrative or Administrative Conditional Use permit.

⁸See Section 15-4-18, Passenger Tramways and Ski-Base Facilities.

⁹See Section 15-4-2, Fences and Retaining Walls.

¹⁰See Section 15-4-7.1, Internal Accessory Dwelling Units. Single-Family Dwellings designated Significant or Landmark Historic Sites on the Park City Historic Sites Inventory are subject to an Administrative Conditional Use Permit.

¹¹ See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas

HISTORY

Adopted by Ord. 00-15 on 3/2/2000

Amended by Ord. 06-56 on 7/27/2006

Amended by Ord. 07-25 on 4/19/2007

Amended by Ord. 09-10 on 3/5/2009

Amended by Ord. 15-35 on 10/12/2015

Amended by Ord. 2020-42 on 9/17/2020

Amended by Ord. 2021-38 on 9/23/2021

Amended by Ord. 2021-51 on 12/16/2021

....

15-2.3-2 Uses

Uses in the HR-2 District are limited to the following:

125 **A. ALLOWED USES.**

- 126 1. Single Family Dwelling
- 127 2. Lockout Unit¹
- 128 3. Nightly Rental²
- 129 4. Home Occupation
- 130 5. Child Care, In-Home Babysitting³
- 131 6. Child Care, Family³
- 132 7. Child Care, Family Group³
- 133 8. Accessory Building and Use
- 134 9. Conservation Activity
- 135 10. Agriculture
- 136 11. Residential Parking Area or Structure with four (4) or fewer spaces
- 137 ~~12. Recreation Facility, Private~~
- 138 13. Internal Accessory Dwelling Unit¹²
- 139 14. Accessory Apartment⁴

140 **B. CONDITIONAL USES.**

- 141 1. Duplex Dwelling
- 142 2. Secondary Living Quarters
- 143 3. Group Care Facility
- 144 4. Child Care Center
- 145 5. Public or Quasi-Public institution, church or school
- 146 6. Essential municipal and public utility Use, facility, service, and Structure
- 147 7. Telecommunication Antenna⁵

- 148 8. Satellite Dish Antenna greater than thirty-nine inches (39") in diameter⁶
- 149 9. Bed and Breakfast Inn⁷
- 150 10. Boarding House, Hostel⁷
- 151 11. Hotel, Minor, fewer than sixteen (16) rooms⁷
- 152 12. Office, General⁸
- 153 13. Office, Moderate Intensive⁸
- 154 14. Office and Clinic, Medical⁸
- 155 15. Retail and Service Commercial, Minor⁸
- 156 16. Retail and Service Commercial, personal improvement⁸
- 157 17. Cafe or Deli⁸
- 158 18. Restaurant, General⁸
- 159 19. Restaurant, Outdoor Dining⁸
- 160 20. Outdoor Events
- 161 21. Residential Parking Area or Structure with five (5) or more spaces, associated
- 162 with a residential Building on the same Lot
- 163 22. Temporary Improvement
- 164 23. Passenger Tramway Station and Ski Base Facility¹⁰
- 165 24. Ski tow rope, ski lift, ski run, and ski bridge¹⁰
- 166 25. Recreation Facility, Private¹³
- 167 26. Fences greater than six feet (6') in height from Final Grade¹¹
- 168 27. Limited Commercial expansion necessary for compliance with Building/ Fire
- 169 Code egress and Accessibility requirements and support Uses associated
- 170 with HCB Commercial Use

28. Bar⁸

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Nightly Rental of Lockout Units requires a Conditional Use Permit.

²Nightly Rental does not include the use of dwellings for Commercial Uses.

³See Section 15-4-9 Child Care And Child Care Facilities.

⁴Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

⁵See Section 15-4-14, Telecommunication Facilities.

⁶See Section 15-4-13, Placement Of Satellite Receiving Antennas.

⁷In Historic Buildings and/or Structures only.

⁸In Historic Buildings and/or Structures and within Sub-Zones A and B subject to compliance with all criteria and requirements of Section 15-2.3-8 for Sub-Zone A and Section 15-2.3-9 for Sub-Zone B.

⁹Subject to an Administrative Conditional Use Permit, and permitted in Sub-Zone B only, subject to requirements in Section 15-2.3-9.

¹⁰See Section 15-4-18, Passenger Tramways And Ski-Base Facilities.

¹¹See Section 15-4-2, Fences And Retaining Walls.

¹²See Section 15-4-7.1, Internal Accessory Dwelling Units. Single-Family Dwellings designated Significant or Landmark Historic Sites on the Park City Historic Sites Inventory are subject to an Administrative Conditional Use Permit.

¹³ See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas

HISTORY

Adopted by Ord. 00-51 on 9/21/2000

Amended by Ord. 04-08 on 3/4/2004

Amended by Ord. 06-56 on 7/27/2006

Amended by Ord. 09-10 on 3/5/2009

Amended by Ord. 10-14 on 4/15/2010

Amended by Ord. 12-37 on 12/20/2012

Amended by Ord. 15-35 on 10/12/2015

199 Amended by Ord. 2020-36 on 7/30/2020

200 Amended by Ord. 2020-42 on 9/17/2020

201 Amended by Ord. 2021-38 on 9/23/2021

202 Amended by Ord. 2021-51 on 12/16/2021

203

204 **15-2.4-2 Uses**

205 Uses in the HRM District are limited to the following:

206 **A. ALLOWED USES.**

- 207 1. Single Family Dwelling
- 208 2. Duplex Dwelling
- 209 3. Secondary Living Quarters
- 210 4. Lockout Unit¹
- 211 5. Accessory Apartment²
- 212 6. Nightly Rental³
- 213 7. Home Occupation
- 214 8. Child Care, In-Home Babysitting
- 215 9. Child Care, Family⁴
- 216 10. Child Care, Family Group⁴
- 217 11. Accessory Building and Use
- 218 12. Conservation Activity
- 219 13. Agriculture
- 220 14. Parking Area or Structure with four (4) or fewer spaces
- 221 15. Internal Accessory Dwelling Unit¹¹

222 **B. CONDITIONAL USES.**

- 223 1. Triplex Dwelling
- 224 2. Multi-Unit Dwelling
- 225 3. Group Care Facility
- 226 4. Child Care Center⁴
- 227 5. Public and Quasi-Public Institution, Church, and School
- 228 6. Essential Municipal and Public Utility Use, Facility Service, and Structure
- 229 7. Telecommunication Antenna⁵
- 230 8. Satellite Dish, greater than thirty-nine inches (39") in diameter⁶
- 231 9. Bed and Breakfast Inn⁷
- 232 10. Boarding House, Hostel⁷
- 233 11. Hotel, Minor⁷
- 234 12. Office, General⁸
- 235 13. Retail and Service Commercial, Minor⁸
- 236 14. Retail and Service Commercial, personal improvement⁸
- 237 15. Neighborhood Market, without gasoline sales⁸
- 238 16. Cafe, Deli⁸
- 239 17. Café, Outdoor Dining⁹
- 240 18. Parking Area or Structure with five (5) or more spaces
- 241 19. Temporary Improvement¹⁰
- 242 20. Recreation Facility, Public
- 243 21. Recreation Facility, Private¹²
- 244 22. Outdoor Events¹⁰
- 245 23. Fences greater than six feet (6') in height from Final Grade¹⁰

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Nightly rental of Lockout Units requires a Conditional Use permit.

²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

³Nightly Rentals do not include the Use of dwellings for Commercial Uses.

⁴See Section 15-4-9 Child Care and Child Care Facilities.

⁵See Section 15-4-14, Telecommunications Facilities.

⁶See Section 15-4-13, Placement of Satellite Receiving Antennas.

⁷Allowed only in Historic Buildings and/or Structures or historically Compatible Structures.

⁸Allowed only in Historic Buildings and/or Structures.

⁹Requires an Administrative Conditional Use permit. Allowed in association with a Café or Deli.

¹⁰Requires an Administrative or Administrative Conditional Use permit, see Chapter 15-4.

¹¹See Section 15-4-7.1, Internal Accessory Dwelling Units. Single-Family Dwellings designated Significant or Landmark Historic Sites on the Park City Historic Sites Inventory are subject to an Administrative Conditional Use Permit.

¹² [See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

HISTORY

Adopted by Ord. 00-51 on 9/21/2000

Amended by Ord. 06-69 on 10/19/2006

Amended by Ord. 09-10 on 3/5/2009

Amended by Ord. 15-35 on 10/12/2015

Amended by Ord. 2020-42 on 9/17/2020

Amended by Ord. 2021-38 on 9/23/2021

Amended by Ord. 2021-51 on 12/16/2021

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15-2.5-2 Uses

Uses in the HRC are limited to the following:

A. **ALLOWED USES.**¹⁰

1. Single Family Dwelling⁵
2. Duplex Dwelling⁵
3. Secondary Living Quarters⁵
4. Lockout Unit^{1,5}
5. Accessory Apartment^{2,5}
6. Nightly Rental⁵
7. Home Occupation⁵
8. Child Care, In-Home Babysitting
9. Child Care, Family³
10. Child Care, Family Group³
11. Child Care Center³
12. Accessory Building and Use
13. Conservation Activity
14. Agriculture
15. Bed and Breakfast Inn^{4,5}
16. Boarding House, hostel⁵
17. Hotel, Minor, fewer than sixteen (16) rooms⁵
18. Office, General⁵
19. Parking Area or Structure, with four (4) or fewer spaces⁵
20. Food Truck Location¹¹

B. **CONDITIONAL USES.**^{9, 10}

1. Triplex Dwelling⁵

- 296 2. Multi-Unit Dwelling⁵
- 297 3. Guest House, on Lots one (1) acre⁵
- 298 4. Group Care Facility⁵
- 299 5. Public and Quasi-Public institution, church, or school
- 300 6. Essential Municipal public utility Use, facility, service, and Structure
- 301 7. Telecommunication Antenna⁶
- 302 8. Satellite dish, greater than thirty-nine inches (39") in diameter⁷
- 303 9. Plant and Nursery stock products and sales
- 304 10. Hotel, Major⁵
- 305 11. Timeshare Projects and Conversions⁵
- 306 12. Private Residence Club Project and Conversion^{4,5}
- 307 13. Office, Intensive⁵
- 308 14. Office and clinic, Medical⁵
- 309 15. Financial institution, without drive-up window⁸
- 310 16. Commercial Retail and Service, Minor⁸
- 311 17. Commercial Retail and Service, Personal Improvement⁸
- 312 18. Neighborhood Convenience Commercial, without gasoline sales
- 313 19. Café or Deli⁸
- 314 20. Restaurant, General⁸
- 315 21. Restaurant and Café, outdoor dining⁴
- 316 22. Outdoor Events and Uses⁴
- 317 23. Bar
- 318 24. Parking Area or Structure, with five (5) or more spaces⁵

25. Temporary Improvement⁴

26. Passenger Tramway station and ski base facility

27. Ski tow, ski lift, ski run, and ski bridge

28. Recreation Facility, Commercial, Public, and Private¹²

29. Entertainment Facility, Indoor

30. Fences greater than six feet (6') in height from Final Grade⁴

31. Private Residence Club, Off-Site⁵

32. Private Event Facility⁵

C. **PROHIBITED USES**. Unless otherwise allowed herein, any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Nightly rental of Lockout Units requires a Conditional Use permit.

²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

³See Section 15-4-9, Child Care And Child Care Facilities.

⁴Requires an Administrative or Administrative Conditional Use permit, see Chapter 15-4.

⁵Prohibited in HRC Zoned Storefront Property adjacent to Main Street, Heber Avenue and Park Avenue, excluding those HRC Zoned Properties on the west side of Park Avenue and also excluding those HRC Zoned Properties with the following addresses: 702 Main Street, 710 Main Street, 738 Main Street (for the plaza side storefronts), 780 Main Street, 804 Main Street (for the plaza side storefronts), 875 Main Street, 890 Main Street, 900 Main Street, and 820 Park Avenue. Hotel rooms shall not be located within Storefront Property; however access, circulation, and lobby areas are permitted within Storefront Property.

⁶See Section 15-4-14, Telecommunication Facilities.

⁷See Section 15-4-13, Placement Of Satellite Receiving Antennas.

⁸If Gross Floor Area is less than 2,000 sq. ft., the Use shall be considered an Allowed Use.

⁹No community locations as defined by Utah Code 32B-1-102 (Alcoholic Beverage Control Act) are permitted within 200 feet of Main Street unless a variance is permitted for an outlet, as defined by Utah Code 32B-1-202, to obtain a liquor license.

¹⁰Within the HRC Zoning District, no more than seven (7) Conventional Chain Businesses are permitted in Storefront Properties.

¹¹The Planning Director, or his or her designee shall, upon finding a Food Truck Location in compliance with Municipal Code 4-5-6, issue the property owner a Food Truck Location administrative approval letter.

¹² See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas

HISTORY

Adopted by Ord. 00-51 on 9/21/2000

Amended by Ord. 04-39 on 3/18/2004

Amended by Ord. 06-69 on 10/19/2006

Amended by Ord. 07-55 on 8/30/2007

Amended by Ord. 09-10 on 3/5/2009

Amended by Ord. 12-37 on 12/20/2012

Amended by Ord. 16-02 on 1/7/2016

Amended by Ord. 2017-45 on 8/17/2017

Amended by Ord. 2018-55 on 10/23/2018

Amended by Ord. 2020-36 on 7/30/2020

Amended by Ord. 2020-42 on 9/17/2020

Amended by Ord. 2021-51 on 12/16/2021

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15-2.6-2 Uses

Uses in the Historic Commercial Business (HCB) District are limited to the following:

A. **ALLOWED USES.**¹¹

1. Single Family Dwelling¹

2. Multi-Unit Dwelling¹

- 370 3. Secondary Living Quarters¹
- 371 4. Lockout Unit^{1,2}
- 372 5. Accessory Apartment^{1,3}
- 373 6. Nightly Rental⁴
- 374 7. Home Occupation¹
- 375 8. Child Care, In-Home Babysitting¹
- 376 9. Child Care, Family^{1,5}
- 377 10. Child Care, Family Group^{1,5}
- 378 11. Child Care Center^{1,5}
- 379 12. Accessory Building and Use¹
- 380 13. Conservation Activity
- 381 14. Agriculture
- 382 15. Bed and Breakfast Inn^{1, 6}
- 383 16. Boarding House, hostel¹
- 384 17. Hotel, Minor, fewer than 16 rooms¹
- 385 18. Office, General¹
- 386 19. Office, Moderate Intensive¹
- 387 20. Office and clinic, Medical¹
- 388 21. Financial institution, without drive-up window
- 389 22. Commercial Retail and Service, Minor
- 390 23. Commercial Retail and Service, Personal Improvement
- 391 24. Commercial Neighborhood Convenience, without gasoline sales
- 392 25. Restaurant, Cafe or Deli

- 393 26. Restaurant, General
- 394 27. Bar
- 395 28. Parking Lot, Public or Private with four (4) or fewer spaces
- 396 29. Entertainment Facility, Indoor
- 397 30. Salt Lake City 2002 Winter Olympic Games Legacy Displays⁷
- 398 31. Temporary winter Balcony enclosures
- 399 32. Food Truck Location¹²
- 400 B. **CONDITIONAL USES**.^{10, 11}
- 401 1. Group Care Facility¹
- 402 2. Public and Quasi-Public institution, church, or school
- 403 3. Essential municipal public utility Use, facility, service, and Structure
- 404 4. Telecommunication Antenna⁸
- 405 5. Satellite dish, greater than thirty-nine inches (39") in diameter⁹
- 406 6. Plant and Nursery stock products and sales
- 407 7. Hotel, Major¹
- 408 8. Timeshare Projects and Conversions¹
- 409 9. Timeshare Sales Office, Off-Site within an enclosed Building¹
- 410 10. Private Residence Club Project and Conversion^{1,6}
- 411 11. Commercial Retail and Service, Major
- 412 12. Office, Intensive¹
- 413 13. Restaurant, outdoor dining⁶
- 414 14. Outdoor Events and Uses⁶
- 415 15. Hospital, Limited Care Facility¹

16. Parking Area or Structure for five (5) or more cars¹

17. Temporary Improvement⁶

18. Passenger Tramway station and ski base facility

19. Ski tow, ski lift, ski run, and ski bridge

20. Recreation Facility, Public [~~or Private~~]

21. Recreation Facility Private¹³

22. Recreation Facility, Commercial

23. Fences greater than six feet (6') in height from Final Grade⁶

24. Private Residence Club, Off-Site¹

25. Private Event Facility¹

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Prohibited in HCB Zoned Storefront Property adjacent to Main Street, Heber Avenue, Grant Avenue, and Swede Alley. Hotel rooms shall not be located within Storefront Property; however access, circulation and lobby areas are permitted within Storefront Property.

²Nightly Rental of Lock Units requires a Conditional Use permit.

³Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

⁴Nightly Rental of residential dwellings does not include the Use of dwellings for Commercial Uses.

⁵See Section 15-4-9, Child Care And Child Care Facilities.

⁶Requires an Administrative or Administrative Conditional Use permit.

⁷Olympic Legacy Displays limited to those specific Structures approved under the SLOC/Park City Municipal Corporation Olympic Services Agreement and/or Olympic Master Festival License and placed on the original Property set forth in the services Agreement and/or Master Festival License. Requires an Administrative Permit.

⁸See Section 15-4-14, Telecommunication Facilities.

⁹See Section 15-4-13, Placement Of Satellite Receiving Antennas.

¹⁰No community locations as defined by Utah Code 32B-1-102 (Alcoholic Beverage Control Act) are permitted within 200 feet of Main Street unless a variance is permitted for an outlet, as defined by Utah Code 32B-1-202, to obtain a liquor license.

¹¹Within the HCB Zoning District, no more than seventeen (17) Conventional Chain Businesses are permitted in Storefront Properties.

¹²The Planning Director or his or her designee shall, upon finding a Food Truck Location in compliance with Municipal Code 4-5-6, issue the property owner a Food Truck Location administrative approval letter.

¹³ [See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

HISTORY

Adopted by Ord. [00-51](#) on 9/21/2000

Amended by Ord. [02-38](#) on 9/12/2002

Amended by Ord. [04-39](#) on 3/18/2004

Amended by Ord. [06-69](#) on 10/19/2006

Amended by Ord. [07-55](#) on 8/30/2007

Amended by Ord. [09-10](#) on 3/5/2009

Amended by Ord. [12-37](#) on 12/20/2012

Amended by Ord. [16-02](#) on 1/7/2016

Amended by Ord. [16-01](#) on 1/7/2016

Amended by Ord. [2017-45](#) on 8/17/2017

Amended by Ord. [2018-55](#) on 10/23/2018

Amended by Ord. [2020-36](#) on 7/30/2020

Amended by Ord. [2020-42](#) on 9/17/2020

Amended by Ord. [2021-51](#) on 12/16/2021

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15-2.7-2 Uses

Uses in the ROS District are limited to the following:

A. ALLOWED USES.

469 1. Conservation Activity

470 2. Food Truck Locations⁴

471 B. **ADMINISTRATIVE CONDITIONAL USES**¹.

472 1. Trail and Trailhead Improvement

473 2. Outdoor Recreation Equipment

474 3. Essential Municipal Public Utility Use, Service, or Structure, less than 600 sq.
475 ft.

476 4. Accessory Building, less than 600 sq. ft.

477 5. Ski-related Accessory Building, less than 600 sq. ft.

478 6. Parking Area or Structure with four (4) or fewer spaces

479 7. Outdoor Event, Outdoor Music

480 8. Temporary Construction Improvement

481 9. Raising, grazing of horses

482 10. Raising, grazing of livestock

483 11. Anemometer and Anemometer Towers

484 C. **CONDITIONAL USES.**

485 1. Agriculture

486 2. Recreational Outdoor and Trail Lighting

487 3. Recreation Facility, Private⁵

488 4. Recreation Facility, Public

489 5. Recreation Facility, Commercial

490 6. Golf Course

491 7. Passenger Tramway Station and Ski Base Facility

- 492 8. Ski Tow Rope, Ski Lift, Ski Run and Ski Bridge
- 493 9. Recreational Sports Field
- 494 10. Skating Rink
- 495 11. Skateboard Park
- 496 12. Public and Quasi-Public Institution, Church, and School, Park, Plaza,
- 497 Structure for Public Assembly, greater than 600 sq. ft.
- 498 13. Essential Municipal Public Utility Use, Facility, Service, and Structure, greater
- 499 than 600 sq. ft.
- 500 14. Accessory Building, greater than 600 sq. ft.
- 501 15. Ski-Related Accessory Building, greater than 600 sq. ft.
- 502 16. Child Care Center
- 503 17. Commercial Stable, Riding Academy
- 504 18. Vehicle Control Gates²
- 505 19. Resort Support, Commercial
- 506 20. Cemetery
- 507 21. Parking Area or Structure with five (5) or more spaces
- 508 22. Telecommunications Antenna³
- 509 23. Mines and Mine Exploration
- 510 24. Plant and Nursery stock products and sales
- 511 25. Fences greater than six feet (6') in height from Final Grade.
- 512 26. Small Wind Energy Systems

513 D. **PROHIBITED USES.** Any use not listed above as an Allowed or Conditional Use

514 is a prohibited Use.

¹Subject to an Administrative Conditional Use permit and/or Master Festival license review process.
Master Festivals are temporary in nature. All related temporary Structures are restricted to specific time frames and shall be removed at the expiration of the Master Festival permit.

²See Section 15-4-19 for specific review criteria for gates

³Subject to LMC Chapter 15-4-14, Telecommunications

⁴The Planning Director, or his designee shall, upon finding a Food Truck Location in compliance with Municipal Code 4-5-6, issue the property owner a Food Truck Location administrative approval letter.

⁵ See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas

HISTORY

Adopted by Ord. 00-51 on 9/21/2000

Amended by Ord. 04-08 on 3/4/2004

Amended by Ord. 09-10 on 3/5/2009

Amended by Ord. 2018-55 on 10/23/2018

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15-2.9-2 Uses

Uses in the E-40 District are limited to the following:

A. ALLOWED USES.

1. Single Family Dwelling
2. Secondary Living Quarters
3. Lockout Unit¹
4. Accessory Apartment²
5. Nightly Rental³
6. Home Occupation
7. Child Care, In-Home Babysitting
8. Child Care, Family⁴
9. Child Care, Family Group⁴

- 541 10. Accessory Building and Use
- 542 11. Conservation Activity
- 543 12. Agriculture
- 544 13. Raising, grazing of horses
- 545 14. Residential Parking Area or Structure, with four (4) or fewer spaces
- 546 15. Internal Accessory Dwelling Unit⁹
- 547 **B. CONDITIONAL USES.**
- 548 1. Guest House
- 549 2. Group Care Facility
- 550 3. Child Care Center⁴
- 551 4. Public and Quasi-Public Institution, Church and School
- 552 5. Essential Municipal Public Utility Use, Facility, Service, and Structure
- 553 6. Telecommunication Antenna⁶
- 554 7. Satellite Dish, greater than thirty-nine inches (39") diameter⁶
- 555 8. Plant and Nursery Stock Production and Sales
- 556 9. Raising, grazing of livestock
- 557 10. Cemetery
- 558 11. Bed and Breakfast Inn
- 559 12. Parking Lot or Structure with five (5) or more space
- 560 13. Temporary Improvement⁷
- 561 14. Passenger Tramway Station and Ski Base Facility
- 562 15. Ski Rope Tow, Ski Lift, Ski Run, and Ski Bridge
- 563 16. Outdoor Event⁷

17. Recreation Facility, Public and Private¹⁰

18. Recreation Facility, Commercial

19. Commercial Stables, Riding Academy

20. Mines and Mine Exploration

21. Fences greater than six feet (6') in height from Final Grade⁷

22. Vehicle Control Gates⁸

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Nightly Rental of Lockout Units requires a Conditional Use permit

²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments

³Nightly Rentals do not include the Use of dwellings for Commercial Uses

⁴See LMC Chapter 15-4-9 for Child Care Regulations

⁵See LMC Chapter 15-4-14, Supplemental Regulations for Telecommunication Facilities

⁶See LMC Chapter 15-4-13, Supplemental Regulations for Satellite Receiving Antennas

⁷Requires an Administrative Conditional Use permit.

⁸See Section 15-4-19 for specific review criteria for gates.

⁹See Section 15-4-7.1, Internal Accessory Dwelling Units.

¹⁰ See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas

HISTORY

Adopted by Ord. 00-51 on 9/21/2000

Amended by Ord. 04-08 on 3/4/2004

Amended by Ord. 06-69 on 10/19/2006

Amended by Ord. 2021-38 on 9/23/2021

Amended by Ord. 2021-51 on 12/16/2021

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15-2.10-2 Uses

Uses in the Estate (E) District are limited to the following:

A. ALLOWED USES.

1. Single Family Dwelling
2. Duplex Dwelling
3. Secondary Living Quarters
4. Lockout Unit¹
5. Accessory Apartment²
6. Nightly Rental^{1,3}
7. Home Occupation
8. Child Care, In-Home Babysitting⁴
9. Child Care, Family⁴
10. Child Care, Family Group⁴
11. Accessory Buildings and Uses
12. Conservation Activity
13. Agriculture
14. Raising, grazing of horses
15. Parking Area or Structure with four (4) or fewer spaces
16. Internal Accessory Dwelling Unit¹²

B. CONDITIONAL USES.

1. Guest House
2. Group Care Facility
3. Child Care Center⁴
4. Public and Quasi-Public Institution, Church and School

5. Essential Municipal Public Utility Use, Facility, Services, and Structure
6. Telecommunication Antenna⁵
7. Satellite Dish Antenna, greater than thirty-nine inches (39") in diameter⁶
8. Plant and Nursery stock products and sales
9. Raising, grazing of livestock
10. Cemetery
11. Bed and Breakfast Inn
12. Hotel, Minor⁷
13. Hotel, Major⁷
14. Parking Area or Structure with five (5) or more spaces
15. Temporary Improvement⁸
16. Passenger Tramway Station and Base Facility⁹
17. Ski Tow Rope, Ski Run, Ski Lift, and Ski Bridge
18. Outdoor Event⁷
19. Recreation Facility, Public and Private¹³
20. Recreation Facility, Commercial
21. Commercial Stables, Riding Academy
22. Mines and Mine Exploration
23. Vehicle Control Gates¹⁰
24. Fences greater than six feet (6') in height from Final Grade⁸
25. Support Retail and Minor Service Commercial¹¹

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Nightly rental of Lockout Units requires a Conditional Use permit

²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

³Nightly Rentals do not include the Use of dwellings for Commercial Uses.

⁴See Section 15-4-9 Child Care and Child Care Facilities

⁵See Section 15-4-14, Telecommunication Facilities

⁶See Section 15-4-13, Placement of Satellite Receiving Antennas

⁷Subject to regulations of Chapter 15-6, Master Planned Developments

⁸Requires an Administrative Conditional Use permit

⁹See Section 15-4-18 Passenger Tramways and Ski Base Facilities

¹⁰See Section 15-4-19 Review Criteria for Vehicle Control Gates

¹¹Subject to a Master Planned Development approval. See Chapter 15-6

¹²See Section 15-4-7.1, Internal Accessory Dwelling Units.

¹³ [See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

HISTORY

Adopted by Ord. 00-51 on 9/21/2000

Amended by Ord. 04-08 on 3/4/2004

Amended by Ord. 06-69 on 10/19/2006

Amended by Ord. 2020-45 on 10/1/2020

Amended by Ord. 2021-38 on 9/23/2021

Amended by Ord. 2021-51 on 12/16/2021

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15-2.11-2 Uses

Uses in the SF District are limited to the following:

A. ALLOWED USES.

1. Single Family Dwelling

2. Duplex Dwelling¹

3. Secondary Living Quarters²

4. Accessory Apartment³

5. Nightly Rental⁴
6. Home Occupation
7. Child Care, In-Home Babysitting⁵
8. Child Care, Family⁵
9. Child Care, Family Group⁵
10. Accessory Building and Use
11. Conservation Activity
12. Agriculture
13. Parking Area or Structure with four (4) or fewer spaces
14. Internal Accessory Dwelling Unit¹⁰

B. CONDITIONAL USES.

1. Guest House⁶
2. Group Care Facility
3. Child Care Center⁵
4. Public and Quasi-Public Institution, Church, and School
5. Essential Municipal Public Utility Use, Facility, Service, and Structure
6. Telecommunication Antenna⁷
7. Satellite Dish, greater than thirty-nine inches (39") diameter⁸
8. Raising, grazing of horses
9. Bed and Breakfast Inn
10. Parking Area or Structure with five (5) or more spaces⁹
11. Temporary Improvements⁹
12. Outdoor Event⁹

13. Recreation Facility, Public or Private¹¹

14. Fences greater than six feet (6') in height from Final Grade⁹

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Permitted only on Lots designated for Duplexes on the official Subdivision Plat.

²Detached Guest Houses and detached Secondary Living Quarters are not allowed as a Conditional or Allowed Use within Holiday Ranchettes Subdivision.

³Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments. Accessory Apartments in detached Structures are not allowed within Holiday Ranchettes Subdivision.

⁴Allowed only within Prospector Village Subdivision. Commercial Uses are not allowed within Nightly Rental units.

⁵See Section 15-4-9 Child Care and Child Care Facilities.

⁶Detached Guest Houses and detached Secondary Living Quarters are not allowed as a Conditional or Allowed Use within Holiday Ranchettes Subdivision.

⁷See Section 15-4-14, Telecommunication Facilities

⁸See Section 15-4-13, Placement of Satellite Receiving Antennas

⁹Requires an Administrative Conditional Use permit.

¹⁰See Section 15-4-7.1, Internal Accessory Dwelling Units.

¹¹ [See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

HISTORY

Adopted by Ord. 00-51 on 9/21/2000

Amended by Ord. 06-76 on 11/9/2006

Amended by Ord. 2020-45 on 10/1/2020

Amended by Ord. 2021-38 on 9/23/2021

Amended by Ord. 2021-51 on 12/16/2021

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15-2.12-2 Uses

Uses in the R-1 District are limited to the following:

A. ALLOWED USES.

1. Single Family Dwelling
2. Duplex Dwelling
3. Secondary Living Quarters
4. Lockout Unit¹
5. Accessory Apartment²
6. Nightly Rental³
7. Home Occupation
8. Child Care, In-Home Babysitting⁴
9. Child Care, Family⁴
10. Child Care, Family Group⁴
11. Accessory Building and Use
12. Conservation Activity
13. Agriculture
14. Parking Area or Structure with four (4) or fewer spaces
15. Internal Accessory Dwelling Unit¹¹

B. CONDITIONAL USES.

1. Triplex Dwelling⁵
2. Guest House, on Lots one (1) acre or larger
3. Group Care Facility
4. Child Care Center⁴
5. Public or Quasi-Public Institution, Church, and School

6. Essential Municipal Public Utility Use, Facility, Service, and Structure
7. Telecommunication Antenna⁶
8. Satellite Dish Antenna, greater than thirty-nine inches (39") in diameter⁷
9. Bed and Breakfast Inn
10. Temporary Improvement⁸
11. Ski tow rope, ski lift, ski run, and ski bridge⁹
12. Outdoor Event⁸
13. Recreation Facility, Private¹²
14. Fences and walls greater than six feet (6') in height from Final Grade⁸
15. Residential and transient lodging Uses¹⁰

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Nightly rental of Lockout Units requires a Conditional Use permit

²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments

³Commercial Uses are not allowed within Nightly Rental Units

⁴See Section 15-4-9 Child Care and Child Care Facilities

⁵Must comply with special parking requirements, see Chapter 15-3.

⁶See Section 15-4-14, Telecommunications Facilities

⁷See Section 15-4-13, Placement of Satellite Receiving Antennas

⁸Subject to an Administrative Conditional Use permit.

⁹As part of an approved Ski Area Master Plan. See Section 15-4-18, Passenger Tramways and Ski Base Facilities

¹⁰Subject to Master Planned Development approval. See Chapter 15-6

¹¹See Section 15-4-7.1, Internal Accessory Dwelling Units.

¹²See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas

HISTORY

763 Adopted by Ord. 00-51 on 9/21/2000
764 Amended by Ord. 06-76 on 11/9/2006
765 Amended by Ord. 2020-45 on 10/1/2020
766 Amended by Ord. 2021-38 on 9/23/2021
767 Amended by Ord. 2021-51 on 12/16/2021
768

769 **15-2.13-2 Uses**

770 Uses in the RD District are limited to the following:

771 A. **ALLOWED USES.**

- 772 1. Single-Family Dwelling
- 773 2. Duplex Dwelling
- 774 3. Secondary Living Quarters
- 775 4. Lockout Unit¹
- 776 5. Accessory Apartment²
- 777 6. Nightly Rental³
- 778 7. Home Occupation
- 779 8. Child Care, In-Home Babysitting⁴
- 780 9. Child Care, Family⁴
- 781 10. Child Care, Family Group⁴
- 782 11. Accessory Building and Use
- 783 12. Conservation Activity Agriculture
- 784 13. Parking Area or Structure with four (4) or fewer spaces
- 785 14. ~~Recreation Facility, Private~~
- 786 15. Salt Lake City 2002 Winter Olympic Games Olympic Legacy Displays⁵

- 787 16. Food Truck Location¹⁶
- 788 17. Internal Accessory Dwelling Unit¹⁷
- 789 B. **CONDITIONAL USES.**
- 790 1. Triplex Dwelling⁶
- 791 2. Multi-Unit Dwelling⁶
- 792 3. Guest House
- 793 4. Group Care Facility
- 794 5. Child Care Center⁴
- 795 6. Public and Quasi-Public Institution, Church, and School
- 796 7. Essential Municipal Public Utility Use, Facility, Service, and Structure
- 797 8. Telecommunication Antenna⁷
- 798 9. Satellite Dish Antenna, greater than thirty-nine inches (39") in diameter⁸
- 799 10. Raising, grazing of horses
- 800 11. Cemetery
- 801 12. Bed and Breakfast Inn
- 802 13. Hotel, Minor⁶
- 803 14. Hotel, Major⁶
- 804 15. Private Residence Club Project and Conversion¹⁰
- 805 16. Office, General^{6,9}
- 806 17. Office, Moderate Intensive^{6,9}
- 807 18. Office, Medical^{6,9}
- 808 19. Financial Institution without drive-up window^{6,9}
- 809 20. Commercial Retail and Service, Minor^{6,9}

- 810 21. Commercial Retail and Service, personal improvement^{6,9}
- 811 22. Commercial, Resort Support^{6,9}
- 812 23. Café or Deli^{6,9}
- 813 24. Restaurant, Standard^{6,9}
- 814 25. Restaurant, Outdoor Dining¹⁰
- 815 26. Outdoor Event¹⁰
- 816 27. Bar^{6,9}
- 817 28. Hospital, Limited Care Facility^{6,9}
- 818 29. Parking Area or Structure with five (5) or more spaces
- 819 30. Temporary Improvement¹⁰
- 820 31. Passenger Tramway Station and Ski Base Facility¹¹
- 821 32. Ski Tow, Ski Lift, Ski Run, and Ski Bridge¹¹
- 822 33. Recreation Facility, Public
- 823 34. Recreation Facility, Commercial⁶
- 824 35. Recreation Facility, Private¹⁸
- 825 36. Entertainment Facility, Indoor^{6,9}
- 826 37. Commercial Stables, Riding Academy¹²
- 827 38. Heliport¹²
- 828 39. Vehicle Control Gate¹³
- 829 40. Fences and walls greater than six feet (6') in height from Final Grade¹⁰
- 830 41. Salt Lake City 2002 Winter Olympic Games Olympic Legacy Displays¹⁴
- 831 42. Amenities Club
- 832 43. Club, Private Residence Off-Site¹⁵

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Nightly rental of Lockout Units requires a Conditional Use permit

²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments

³Nightly Rentals do not include the Use of dwellings for Commercial Uses and Nightly Rentals are not permitted in the April Mountain, Mellow Mountain Estates Subdivisions, Meadows Estates Subdivision Phases #1A and #1B, Fairway Meadows Subdivision, and Hidden Oaks at Deer Valley Phases 2 and 3.

⁴See Section 15-4-9 Child Care and Child Care Facilities

⁵Olympic Legacy Displays limited to those specific Structures approved under the SLOC/Park City Municipal Corporation Olympic Services Agreement and/or Olympic Master Festival License and placed on the original Property set forth in the services agreement and/or Master Festival License

⁶Subject to provisions of LMC Chapter 15-6, Master Planned Development

⁷See Section 15-4-14, Telecommunications Facilities

⁸See Section 15-4-13, Placement of Satellite Receiving Antennas

⁹Allowed only as a secondary or support Use to the primary Development or Use and intended as a convenience for residents or occupants of adjacent or adjoining residential Developments.

¹⁰Requires an Administrative Conditional Use permit.

¹¹As part of an approved Ski Area Master Plan. See Section 15-4-18 Passenger Tramways and Ski Base Facilities.

¹²Omitted.

¹³See Section 15-4-19, Review Criteria For Control Vehicle Gates.

¹⁴Olympic Legacy Displays limited to those specific Structures approved under the SLOC/Park City Municipal Corporation Olympic Services Agreement and/or Olympic Master Festival License and placed in an Area other than the original location set forth in the services agreement and/or Master Festival License.

858 ¹⁵Only allowed within a Master Planned Development. Requires an Administrative Conditional Use permit.
859 Is permitted only in approved existing Commercial spaces or developments that have ten (10) or more
860 units with approved Support Commercial space. A Parking Plan shall be submitted to determine site
861 specific parking requirements.

862 ¹⁶The Planning Director or their designee shall, upon finding a Food Truck Location in compliance with
863 Municipal Code 4-5-6, issue the property owner a Food Truck Location administrative approval letter.

864 ¹⁷See Section 15-4-7.1, Internal Accessory Dwelling Units.

865 ¹⁸ See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas

866 HISTORY

867 *Adopted by Ord. [00-51](#) on 9/21/2000*

868 *Amended by Ord. [02-38](#) on 9/12/2002*

869 *Amended by Ord. [04-08](#) on 3/4/2004*

870 *Amended by Ord. [05-39](#) on 6/30/2005*

871 *Amended by Ord. [06-76](#) on 11/9/2006*

872 *Amended by Ord. [11-05](#) on 1/27/2011*

873 *Amended by Ord. [14-35](#) on 6/26/2014*

874 *Amended by Ord. [2018-23](#) on 5/17/2018*

875 *Amended by Ord. [2018-55](#) on 10/23/2018*

876 *Amended by Ord. [2020-38](#) on 7/30/2020*

877 *Amended by Ord. [2020-45](#) on 10/1/2020*

878 *Amended by Ord. [2021-16](#) on 4/15/2021*

879 *Amended by Ord. [2021-38](#) on 9/23/2021*

880 *Amended by Ord. [2021-52](#) on 12/16/2021*

881 *Amended by Ord. [2021-51](#) on 12/16/2021*

882 . . .

883 **15-2.14-2 Uses**

884 Uses in the RDM District are limited to the following:

885 A. **ALLOWED USES.**

- 886 1. Single Family Dwelling
- 887 2. Duplex Dwelling
- 888 3. Triplex Dwelling
- 889 4. Secondary Living Quarters
- 890 5. Lockout Unit¹
- 891 6. Accessory Apartment²
- 892 7. Nightly Rental³
- 893 8. Home Occupation
- 894 9. Child Care, In Home Babysitting⁴
- 895 10. Child Care, Family⁴
- 896 11. Child Care, Family Group⁴
- 897 12. Accessory Building and Use
- 898 13. Conservation Activity
- 899 14. Agriculture
- 900 15. Parking Area or Structure with four (4) or fewer spaces
- 901 16. ~~Recreation Facility, Private~~
- 902 17. Salt Lake City 2002 Winter Olympic Games Olympic Legacy Displays⁵
- 903 18. Food Truck Location¹⁴
- 904 19. Internal Accessory Dwelling Unit¹⁵

905 B. **CONDITIONAL USES.**

- 906 1. Multi Unit Dwelling⁶

- 907 2. Guest House
- 908 3. Group Care Facility
- 909 4. Child Care Center
- 910 5. Public and Quasi Public Institution, Church, and School
- 911 6. Essential Municipal Public Utility Use, Facility, Service, and Structure
- 912 7. Telecommunication Antenna⁷
- 913 8. Satellite Dish, greater than thirty nine inches (39") in diameter⁸
- 914 9. Raising grazing of horses
- 915 10. Cemetery
- 916 11. Bed and Breakfast Inn
- 917 12. Boarding House, Hotel
- 918 13. Hotel, Minor⁶
- 919 14. Hotel, Major⁶
- 920 15. Private Residence Club Project and Conversion¹¹
- 921 16. Office, General⁶
- 922 17. Office, Moderate Intensive^{6,9}
- 923 18. Office and Clinic, Medical^{6,10}
- 924 19. Financial Institution, without drive up window^{6,10}
- 925 20. Commercial Retail and Service, Minor^{6,10}
- 926 21. Commercial Retail and Service, personal improvement^{6,10}
- 927 22. Commercial, Resort Support^{6,10}
- 928 23. Cafe or Deli^{6,10}
- 929 24. Restaurant, Standard^{6,10}

- 930 25. Restaurant, Outdoor Dining¹¹
- 931 26. Outdoor Event¹¹
- 932 27. Bar^{6,10}
- 933 28. Hospital, Limited Care Facility^{6,9}
- 934 29. Parking Area or Structure with five (5) or fewer spaces
- 935 30. Temporary Improvement¹¹
- 936 31. Passenger Tramway Station and Ski Base Facility¹²
- 937 32. Ski Tow, Ski Lift, Ski Run, and Ski Bridge¹²
- 938 33. Recreation Facility, Public
- 939 34. Recreation Facility, Commercial⁶
- 940 35. Recreation Facility, Private¹⁶
- 941 36. Entertainment Facility, Indoor^{6,9}
- 942 37. Commercial Stables, Riding Academy^{6,10}
- 943 38. Fences greater than six feet (6') in height from Final Grade
- 944 39. Salt Lake City 2002 Winter Olympic Games Olympic Legacy Displays¹³
- 945 C. **PROHIBITED USES**. Any Use not listed above as an Allowed or Conditional Use
- 946 is a prohibited Use.

947 ¹Nightly Rental of Lockout Units requires a Conditional Use permit.

948 ²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

949 ³Nightly Rentals do not include the Use of Dwellings for Commercial Use.

950 ⁴See Section 15-4-9, Child Care and Child Care Facilities

951 ⁵Olympic Legacy Displays limited to those specific Structures approved under the SLOC/Park City
952 Municipal Corporation Olympic Services Agreement and/or Olympic Master Festival License and placed
953 on the original Property set forth in the services agreement and/or Master Festival License

954 ⁶Subject to Master Planned Development approval. See Chapter 15-6.

955 ⁷See Section 15-4-14, Telecommunication Facilities.

956 ⁸See Section 15-4-13, Placement of Satellite Receiving Antennas.

957 ⁹General Offices are only permitted with an approved Master Planned Development and may only be
958 approved as the redevelopment of an existing Building or Property. In addition to meeting the necessary
959 criteria in the Chapter 15-6 Master Planned Developments, the Planning Commission must find that: a)
960 the redevelopment of an existing Building or Property to a General Office use will substantially advance
961 the objectives of Economic Element of the General Plan or other more specific neighborhood plans; b) it
962 has minimized/eliminated any potential detrimental impact on the resort and/or resort-residential
963 character of the RDM District and the Frontage Protection Zone through careful planning and conditions
964 of approval; c) it will not result in an intensification of use incompatible with neighboring developments;
965 and d) it will not result in substantial increase in the existing trip generations for services and deliveries.

966 ¹⁰Allowed only as a secondary or support Use to the primary Development or Use and intended as a
967 convenience for residents or occupants of adjacent or adjoining residential Development.

968 ¹¹Requires an administrative Conditional Use permit.

969 ¹²As part of an approved Ski Area Master Plan. See Section 15-4-18, Passenger Tramways and Ski Base
970 Facilities

971 ¹³Olympic Legacy Displays limited to those specific Structures approved under the SLOC/Park City
972 Municipal Corporation Olympic Services Agreement and/or Olympic Master Festival License and placed
973 in an Area other than the original location set forth in the services agreement and/or Master Festival
974 License.

975 ¹⁴The Planning Director or their designee shall, upon finding a Food Truck Location in compliance with
976 Municipal Code Section 4-5-6, issue the property owner a Food Truck Location administrative approval
977 letter.

978 ¹⁵See Section 15-4-7.1, Internal Accessory Dwelling Units.

979 ¹⁶ See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas

980 HISTORY

981 *Adopted by Ord. [00-51](#) on 9/21/2000*

982 *Amended by Ord. [02-24](#) on 6/27/2002*

983 *Amended by Ord. [02-38](#) on 9/12/2002*

984 *Amended by Ord. [04-39](#) on 3/18/2004*

985 *Amended by Ord. [06-76](#) on 11/9/2006*

986 *Amended by Ord. [2018-55](#) on 10/23/2018*

987 *Amended by Ord. [2018-55](#) on 10/23/2018*

988 *Amended by Ord. [2020-45](#) on 10/1/2020*

989 *Amended by Ord. [2021-38](#) on 9/23/2021*

990 *Amended by Ord. [2021-51](#) on 12/16/2021*

991 . . .

992 **15-2.15-2 Uses**

993 Uses in the RM District are limited to the following:

994 **A. ALLOWED USES.**

- 995 1. Single Family Dwelling
- 996 2. Duplex Dwelling
- 997 3. Triplex Dwelling
- 998 4. Secondary Living Quarters
- 999 5. Lockout Unit¹
- 1000 6. Accessory Apartment²
- 1001 7. Nightly Rental³
- 1002 8. Home Occupation
- 1003 9. Child Care, In-Home Babysitting⁴
- 1004 10. Child Care, Family⁴

1005	11. Child Care, Family Group ⁴
1006	12. Accessory Building and Use
1007	13. Conservation Activity
1008	14. Agriculture
1009	15. Bed and Breakfast Inn
1010	16. Parking Area or Structure with four (4) or fewer spaces
1011	17. Internal Accessory Dwelling Unit ⁹
1012	B. <u>CONDITIONAL USES.</u>
1013	1. Multi-Unit Dwelling
1014	2. Guest House, on Lot greater than one (1) acre
1015	3. Group Care Facility
1016	4. Child Care Center ⁴
1017	5. Public and Quasi-Public Institution, Church, and School
1018	6. Essential Municipal Public Utility Use, Facility, Service, and Structure
1019	7. Telecommunication Antenna ⁵
1020	8. Satellite Dish Antenna, greater than thirty-nine inches (39") in diameter ⁶
1021	9. Boarding House, Hostel
1022	10. Hotel, Minor ⁷
1023	11. Outdoor Event ⁸
1024	12. Parking Area or Structure with five (5) or more spaces
1025	13. Temporary Improvement ⁸
1026	14. Recreation Facility, Public and Private ¹⁰
1027	15. Fences greater than six feet in Height from Final Grade ⁸

1028 16. Residential and transient lodging Uses⁷

1029 C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use
1030 is a prohibited Use.

1031 ¹Nightly rental of Lockout Units requires a Conditional Use permit.

1032 ²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

1033 ³Nightly Rentals do not include the Use of dwellings for Commercial Uses.

1034 ⁴See Section 15-4-9, Child Care and Child Care Facilities.

1035 ⁵See Section 15-4-14, Telecommunications Facilities.

1036 ⁶See Section 15-4-13, Placement of Satellite Receiving Antennas.

1037 ⁷Subject to Master Planned Development approval. See Chapter 15-6.

1038 ⁸Requires an Administrative Conditional Use permit.

1039 ⁹See Section 15-4-7.1, Internal Accessory Dwelling Units.

1040 ¹⁰ [See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

1041 HISTORY

1042 Adopted by Ord. 00-51 on 9/21/2000

1043 Amended by Ord. 2020-45 on 10/1/2020

1044 Amended by Ord. 2021-38 on 9/23/2021

1045 Amended by Ord. 2021-51 on 12/16/2021

1046

1047 **15-2.16-2 Uses**

1048 Uses in the RC District are limited to the following:

1049 A. **ALLOWED USES.**

1050 1. Single Family Dwelling

1051 2. Duplex Dwelling

1052 3. Triplex Dwelling

1053 4. Secondary Living Quarters

- 1054 5. Lockout Unit¹
- 1055 6. Accessory Apartment²
- 1056 7. Nightly Rental³
- 1057 8. Home Occupation
- 1058 9. Child Care, In-Home Babysitting⁴
- 1059 10. Child Care, Family⁴
- 1060 11. Child Care, Family Group⁴
- 1061 12. Child Care Center⁴
- 1062 13. Accessory Building and Use
- 1063 14. Conservation Activity
- 1064 15. Agriculture
- 1065 16. Bed and Breakfast Inn
- 1066 17. Boarding House, Hostel
- 1067 18. Hotel, Minor
- 1068 19. Parking Area or Structure with four (4) or fewer spaces
- 1069 20. Salt Lake City 2002 Winter Olympic Games Olympic Legacy Displays⁵
- 1070 21. Food Truck Location¹²
- 1071 **B. CONDITIONAL USES.**
- 1072 1. Multi-Unit Dwelling
- 1073 2. Group Care Facility
- 1074 3. Public and Quasi-Public institution, church, and school
- 1075 4. Essential municipal and public utility Use, facility, service, and Structure
- 1076 5. Telecommunications Antenna⁶

1077	6. Satellite dish Antenna, greater than thirty-nine inches (39") in diameter ⁷
1078	7. Raising, grazing of horses
1079	8. Cemetery
1080	9. Hotel, Major
1081	10. Timeshare Project and Conversion
1082	11. Timeshare Sales Office
1083	12. Private Residence Club Project and Conversion ⁹
1084	13. Office, General ⁸
1085	14. Office, Moderate ⁸
1086	15. Office and clinic, Medical ⁸
1087	16. Financial institution without drive-up window ⁸
1088	17. Minor Retail and Service Commercial ⁸
1089	18. Retail and Service Commercial, Personal Improvement ⁸
1090	19. Transportation Service ⁸
1091	20. Neighborhood Market, without gasoline sales ⁸
1092	21. Café or Deli ⁸
1093	22. Restaurant, General ⁸
1094	23. Restaurant, outdoor dining ^{8,9}
1095	24. Bar ⁸
1096	25. Hospital, Limited Care Facility ⁸
1097	26. Parking Area or Structure with five (5) or more spaces
1098	27. Temporary Improvement ⁹
1099	28. Passenger Tramway station and ski base facility ¹⁰

- 1100 29. Ski tow rope, ski lift, ski run, and ski bridge¹⁰
- 1101 30. Outdoor Events and Uses⁹
- 1102 31. Recreation Facility, Public and Private^{8, 13}
- 1103 32. Recreation Facility, Commercial⁸
- 1104 33. Entertainment Facility, Indoor⁸
- 1105 34. Commercial Riding Stable(s), riding academy⁸
- 1106 35. Heliport⁸
- 1107 36. Amenities Club
- 1108 37. Club, Private Residence Off-Site¹¹
- 1109 C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use
- 1110 is a prohibited Use.
- 1111 ¹Nightly Rental of Lockout Units requires a Conditional Use permit
- 1112 ²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments
- 1113 ³Nightly Rentals do not include the Use of dwellings for Commercial Uses
- 1114 ⁴See Section 15-4-9, Child Care And Child Care Facilities
- 1115 ⁵Olympic Legacy Displays limited to those specific Structures approved under the SLOC/Park City
- 1116 Municipal Corporation Olympic Services Agreement and/or Olympic Master Festival License and placed
- 1117 on the original Property set forth in the services agreement and/or Master Festival License. Requires an
- 1118 Administrative Permit.
- 1119 ⁶See Section 15-4-14, Telecommunication Facilities
- 1120 ⁷See Section 15-4-13, Placement Of Satellite Receiving Antennas
- 1121 ⁸As support Use to primary Development or Use, subject to provisions of LMC Chapter 15-6, Master
- 1122 Planned Developments
- 1123 ⁹Requires an Administrative or Administrative Conditional Use permit, see Chapter 15-4
- 1124 ¹⁰As part of an approved Ski Area Master Plan

1125 ¹¹Requires an Administrative Conditional Use permit. Is permitted only in approved existing Commercial
1126 spaces or Developments that have ten (10) or more units with approved Support Commercial space. A
1127 Parking Plan shall be submitted to determine site specific parking requirements.

1128 ¹²The Planning Director or their designee shall, upon finding a Food Truck Location in compliance with
1129 Municipal Code Section 4-5-6, issue the property owner a Food Truck Location administrative approval
1130 letter.

1131 ¹³[See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

1132 HISTORY

1133 Adopted by Ord. 00-51 on 9/21/2000

1134 Amended by Ord. 02-38 on 9/12/2002

1135 Amended by Ord. 04-39 on 3/18/2004

1136 Amended by Ord. 06-76 on 11/9/2006

1137 Amended by Ord. 09-10 on 3/5/2009

1138 Amended by Ord. 11-05 on 1/27/2011

1139 Amended by Ord. 15-35 on 10/12/2015

1140 Amended by Ord. 2018-23 on 5/17/2018

1141 Amended by Ord. 2018-55 on 10/23/2018

1142 Amended by Ord. 2020-36 on 7/30/2020

1143 Amended by Ord. 2020-45 on 10/1/2020

1144 Amended by Ord. 2021-51 on 12/16/2021

1145

1146 **15-2.17-2 Uses**

1147 Uses in the RCO District are limited to the following:

1148 **A. ALLOWED USES.**

1149 1. Secondary Living Quarters

1150 2. Lockout Unit¹

1151 3. Accessory Apartment²

- 1152 4. Nightly Rental
- 1153 5. Home Occupation
- 1154 6. Child Care, In-Home Babysitting³
- 1155 7. Child Care, Family³
- 1156 8. Child Care, Family Group³
- 1157 9. Accessory Building and Use
- 1158 10. Conservation Activity
- 1159 11. Agriculture
- 1160 12. Parking Area or Structure with four (4) or fewer spaces
- 1161 13. Recreation Facility, Private¹²
- 1162 14. Allowed Uses in the Underlying Zoning District
- 1163 15. Salt Lake City 2002 Winter Olympic Games Olympic Legacy Displays⁴
- 1164 16. Food Truck Location¹¹
- 1165 **B. CONDITIONAL USES.**
- 1166 1. Multi-Unit Dwelling⁵
- 1167 2. Group Care Facility⁵
- 1168 3. Child Care Center^{3,5}
- 1169 4. Public and Quasi-Public Institution, Church and School⁵
- 1170 5. Essential Municipal Public Utility Use, Facility, Service, and Structure⁵
- 1171 6. Telecommunication Antenna⁶
- 1172 7. Satellite Dish Antenna, greater than thirty-nine inches (39") in diameter⁷
- 1173 8. Plant and Nursery stock products and sales⁵
- 1174 9. Bed and Breakfast Inn⁵

1175	10. Boarding House, Hostel ⁵
1176	11. Hotel, Minor ⁵
1177	12. Hotel, Major ⁵
1178	13. Private Residence Club Project and Conversion ⁹
1179	14. Timeshare Sales Office, off-site ⁵
1180	15. Office, General ⁵
1181	16. Office, Moderate Intensive ⁵
1182	17. Office, Intensive ⁵
1183	18. Office and Clinic, Medical ⁵
1184	19. Financial Institution, with and without drive-up window ^{5,8}
1185	20. Retail and Service Commercial, Minor ⁵
1186	21. Retail and Service Commercial, personal improvement ⁵
1187	22. Retail and Service Commercial, Major ⁵
1188	23. Transportation Service ⁵
1189	24. Retail Drive-Up Window ⁸
1190	25. Neighborhood Convenience Commercial ⁵
1191	26. Commercial, Resort Support ⁵
1192	27. Gasoline Service Station ⁵
1193	28. Cafe, Deli ⁵
1194	29. Restaurant, General ⁵
1195	30. Restaurant, Outdoor Dining ⁹
1196	31. Outdoor Event ⁹
1197	32. Restaurant, Drive-up window ⁸

- 1198 33. Bar⁵
- 1199 34. Hospital, Limited Care Facility⁵
- 1200 35. Hospital, General⁵
- 1201 36. Parking Area or Garage with five (5) or more spaces⁸
- 1202 37. Temporary Improvement⁹
- 1203 38. Passenger Tramway Station and Ski Base Facility⁵
- 1204 39. Ski tow rope, ski lift, ski run, and ski bridge⁵
- 1205 40. Recreation Facility, Public⁵
- 1206 41. Recreation Facility, Commercial⁵
- 1207 42. Entertainment, Indoor⁵
- 1208 43. Heliport⁵
- 1209 44. Salt Lake City 2002 Winter Olympic Games Olympic Legacy Displays¹⁰
- 1210 C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use
- 1211 is a prohibited Use.
- 1212 ¹Nightly Rental of Lockout Units requires a Conditional Use permit.
- 1213 ²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.
- 1214 ³See Section 15-4-9, Child Care and Child Care Facilities.
- 1215 ⁴Olympic Legacy Displays limited to those specific Structures approved under the SLOC/Park City
- 1216 Municipal Corporation Olympic Services Agreement and/or Olympic Master Festival License and placed
- 1217 on the original Property set forth in the services agreement and/or Master Festival License.
- 1218 ⁵Subject to Master Planned Development approval. See Chapter 15-6.
- 1219 ⁶See Section 15-4-14, Telecommunication Facilities.
- 1220 ⁷See Section 15-4-13, Placement of Satellite Receiving Antennas.
- 1221 ⁸See Section 15-2.18-5 criteria for drive-up windows.
- 1222 ⁹Requires an administrative Conditional Use permit.

1223 ¹⁰Olympic Legacy Displays limited to those specific Structures approved under the SLOC/Park City
1224 Municipal Corporation Olympic Services Agreement and/or Olympic Master Festival License and placed
1225 in an Area other than the original location set forth in the services agreement and/or Master Festival
1226 License.

1227 ¹¹The Planning Director or their designee shall, upon finding a Food Truck Location in compliance with
1228 Municipal Code Section 4-5-6, issue the property owner a Food Truck Location administrative approval
1229 letter.

1230 ¹² [See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

1231 HISTORY

1232 Adopted by Ord. 00-51 on 9/21/2000

1233 Amended by Ord. 02-38 on 9/12/2002

1234 Amended by Ord. 04-39 on 9/23/2004

1235 Amended by Ord. 06-76 on 11/9/2006

1236 Amended by Ord. 2018-55 on 10/23/2018

1237 Amended by Ord. 2018-55 on 10/23/2018

1238 Amended by Ord. 2020-45 on 10/1/2020

1239 Amended by Ord. 2021-51 on 12/16/2021

1240

1241 **15-2.18-2 Uses**

1242 Uses in the GC District are limited to the following:

1243 **A. ALLOWED USES.**

1244 1. Secondary Living Quarters

1245 2. Lockout Unit¹

1246 3. Accessory Apartment²

1247 4. Nightly Rental

1248 5. Home Occupation

1249	6. Child Care, In-Home Babysitting ³
1250	7. Child Care, Family ³
1251	8. Child Care, Family Group ³
1252	9. Child Care Center ³
1253	10. Accessory Building and Use
1254	11. Conservation Activity
1255	12. Agriculture
1256	13. Plant and Nursery Stock production and sales
1257	14. Bed and Breakfast Inn
1258	15. Boarding House, Hostel
1259	16. Hotel, Minor
1260	17. Hotel, Major
1261	18. Office, General
1262	19. Office, Moderate Intensive
1263	20. Office, Intensive
1264	21. Office and Clinic, Medical and Veterinary Clinic
1265	22. Financial Institution without a drive-up window
1266	23. Commercial, Resort Support
1267	24. Retail and Service Commercial, Minor
1268	25. Retail and Service Commercial, Personal Improvement
1269	26. Retail and Service Commercial, Major
1270	27. Cafe or Deli
1271	28. Restaurant, General

- 1272 29. Hospital, Limited Care Facility
- 1273 30. Parking Area or Structure with four (4) or fewer spaces
- 1274 31. Parking Area or Structure with five (5) or more spaces
- 1275 32. ~~Recreation Facility, Private~~
- 1276 33. Food Truck Location¹⁰
- 1277 **B. CONDITIONAL USES.**
- 1278 1. Single Family Dwelling
- 1279 2. Duplex Dwelling
- 1280 3. Triplex Dwelling
- 1281 4. Multi-Unit Dwelling
- 1282 5. Group Care Facility
- 1283 6. Public and Quasi-Public Institution, Church, and School
- 1284 7. Essential Municipal Public Utility Use, Facility, Service, and Structure
- 1285 8. Telecommunication Antenna⁴
- 1286 9. Satellite Dish Antenna, greater than thirty-nine inches (39") in diameter⁵
- 1287 10. Timeshare Project and Conversion
- 1288 11. Timeshare Sales Office, off-site within an enclosed Building
- 1289 12. Private Residence Club Project and Conversion⁸
- 1290 13. Financial Institution with a Drive-up Window⁶
- 1291 14. Retail and Service Commercial with Outdoor Storage
- 1292 15. Retail and Service Commercial, Auto Related
- 1293 16. Transportation Service
- 1294 17. Retail Drive-Up Window⁶

1295	18. Gasoline Service Station
1296	19. Restaurant and Cafe, Outdoor Dining ⁷
1297	20. Restaurant, Drive-up Window ⁶
1298	21. Outdoor Event ⁷
1299	22. Bar
1300	23. Sexually Oriented Businesses ⁸
1301	24. Hospital, General
1302	25. Light Industrial Manufacturing and Assembly
1303	26. Temporary Improvement ⁷
1304	27. Passenger Tramway and Ski Base Facility
1305	28. Ski tow rope, ski lift, ski run, and ski bridge
1306	29. Commercial Parking Lot or Structure
1307	30. Recreation Facility, Public
1308	31. Recreation Facility, Commercial
1309	<u>32. Recreation Facility, Private⁹</u>
1310	33. Indoor Entertainment Facility
1311	34. Heliport
1312	35. Temporary Sales Trailer in conjunction with an active Building permit for the
1313	Site. ⁸
1314	36. Fences greater than six feet (6') in height from Final Grade ⁷
1315	37. Household Pet, Boarding ⁷
1316	38. Household Pet, Daycare ⁷
1317	39. Household Pet, Grooming ⁷

C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use is a prohibited Use.

¹Nightly rental of Lockout Units requires Conditional Use permit.

²Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

³See Section 15-4-9, Child Care and Child Care Facilities.

⁴See Section 15-4-14, Telecommunication Facilities.

⁵See Section 15-4-13, Placement of Satellite Receiving Antennas.

⁶See Section 15-2.18-6 for Drive-Up Window review.

⁷Requires an Administrative Conditional Use permit.

⁸See Section 15-4-16 for additional criteria.

⁹ [See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

¹⁰The Planning Director or their designee shall, upon finding a Food Truck Location in compliance with Municipal Code Section 4-5-6, issue the property owner a Food Truck Location administrative approval letter.

HISTORY

Adopted by Ord. 00-51 on 9/21/2000

Amended by Ord. 04-39 on 9/23/2004

Amended by Ord. 06-76 on 11/9/2006

Amended by Ord. 14-57 on 11/20/2014

Amended by Ord. 2018-55 on 10/23/2018

Amended by Ord. 2018-55 on 10/23/2018

Amended by Ord. 2020-45 on 10/1/2020

Amended by Ord. 2021-51 on 12/16/2021

....

15-2.19-2 Uses

Uses in the LI District are limited to the following:

A. **ALLOWED USES.**

- 1345 1. Secondary Living Quarters
- 1346 2. Accessory Apartment¹
- 1347 3. Nightly Rental
- 1348 4. Home Occupation
- 1349 5. Child Care, In-Home Babysitting²
- 1350 6. Child Care, Family²
- 1351 7. Child Care, Family Group²
- 1352 8. Child Care Center²
- 1353 9. Agriculture
- 1354 10. Plant and Nursery Stock
- 1355 11. Office, General
- 1356 12. Office, Moderate Intensive
- 1357 13. Office, Intensive
- 1358 14. Financial Institution without drive-up window
- 1359 15. Retail and Service Commercial, Minor
- 1360 16. Retail and Service Commercial, Personal Improvement
- 1361 17. Retail and Service Commercial, Major
- 1362 18. Commercial, Resort Support
- 1363 19. Hospital, Limited Care
- 1364 20. Parking Area or Structure with four (4) or fewer spaces
- 1365 21. ~~Recreation Facility, Private~~
- 1366 22. Food Truck Location⁸
- 1367 **B. CONDITIONAL USES.**

1368	1. Multi-Unit Dwelling
1369	2. Group Care Facility
1370	3. Child Care Center ²
1371	4. Public and Quasi-Public Institution, Church, and School
1372	5. Essential Municipal Public Utility Use, Facility, Service, and Structure
1373	6. Telecommunication Antenna ³
1374	7. Satellite Dish Antenna, greater than thirty-nine inches (39") in diameter ⁴
1375	8. Accessory Building and Use
1376	9. Raising, grazing of horses
1377	10. Bed and Breakfast Inn
1378	11. Boarding House, Hostel
1379	12. Hotel, Minor
1380	13. Private Residence Club Project and Conversion ⁶
1381	14. Office and Clinic, Medical and Veterinary Clinic
1382	15. Financial Institutions with Drive-Up Window ⁵
1383	16. Retail and Service Commercial with Outdoor Storage
1384	17. Retail and Service Commercial, Auto-Related
1385	18. Transportation Services
1386	19. Retail Drive-Up Window ⁵
1387	20. Gasoline Service Station
1388	21. Café or Deli
1389	22. Restaurant, General
1390	23. Restaurant, Outdoor Dining

- 1391 24. Restaurant, Drive-Up Window⁵
- 1392 25. Outdoor Event⁶
- 1393 26. Bar
- 1394 27. Hospital, General
- 1395 28. Light Industrial Manufacturing and Assembly Facility
- 1396 29. Parking Area or Structure with five (5) or more spaces
- 1397 30. Temporary Improvement⁶
- 1398 31. Passenger Tramway Station and Ski Base Facility
- 1399 32. Ski Tow Rope, Ski Lift, Ski Run, and Ski Bridge
- 1400 33. Recreation Facility, Public
- 1401 34. Recreation Facility, Commercial
- 1402 35. Recreation Facility, Private⁷
- 1403 36. Entertainment Facility, Indoor
- 1404 37. Commercial Stables, Riding Academy
- 1405 38. Heliports
- 1406 39. Commercial Parking Lot or Structure
- 1407 40. Temporary Sales Office, in conjunction with an active Building permit.
- 1408 41. Fences and Walls greater than six feet (6') in height from Final Grade⁶
- 1409 42. Household Pet, Boarding⁶
- 1410 43. Household Pet, Daycare⁶
- 1411 44. Household Pet, Grooming⁶

1412 C. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use

1413 is a prohibited Use.

1414 ¹Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments.

1415 ²See Section 15-4-9, Child Care and Child Care Facilities.

1416 ³See Section 15-4-14, Telecommunication Facilities.

1417 ⁴See Section 15-4-13, Placement of Satellite Receiving Antennas.

1418 ⁵See Section 15-2.19-8, Criteria for Drive-Up Windows.

1419 ⁶Subject to an Administrative Conditional Use permit.

1420 ⁷[See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas](#)

1421 ⁸The Planning Director or their designee shall, upon finding a Food Truck Location in compliance with
1422 Municipal Code Section 4-5-6, issue the property owner a Food Truck Location administrative approval
1423 letter.

1424 HISTORY

1425 Adopted by Ord. 00-51 on 9/21/2000

1426 Amended by Ord. 04-39 on 9/23/2004

1427 Amended by Ord. 06-76 on 11/9/2006

1428 Amended by Ord. 14-57 on 11/20/2014

1429 Amended by Ord. 2018-55 on 10/23/2018

1430 Amended by Ord. 2018-55 on 10/23/2018

1431 Amended by Ord. 2020-45 on 10/1/2020

1432 Amended by Ord. 2021-51 on 12/16/2021

1433

1434 **15-2.23-2 Uses**

1435 Uses in the Community Transition District are limited to the following:

1436 **A. ALLOWED USES.**

1437 1. Conservation Activities

1438 2. Home Occupation

1439 3. In-Home Babysitting

1440 4. Family Child Care

1441 5. Secondary Living Quarters

1442 6. Agriculture

1443 7. Food Truck Location²

1444 8. Accessory Apartments³

1445 **B. ADMINISTRATIVE CONDITIONAL USES.**

1446 1. Trails and trailhead improvements

1447 2. Outdoor Recreation Equipment

1448 3. Essential public utility Use, service, or Structure less than 600 sq. ft.

1449 4. Accessory Buildings less than 600 sq. ft.

1450 5. Parking Areas with four (4) or fewer spaces

1451 6. Outdoor Events and Outdoor Music, see Section 15-4

1452 7. Temporary Improvement

1453 8. Outdoor dining and support retail associated with support Uses with an MPD

1454 9. Fences and walls, see Section 15-4-2

1455 10. Anemometer and Anemometer Towers

1456 **C. CONDITIONAL USES.**

1457 1. Public, Quasi-Public, civic, municipal Uses

1458 2. General acute Hospital

1459 3. Alternative professional health-related services

1460 4. Athletic training and testing Offices and facilities

1461 5. Athletic program administrative Offices

1462 6. Support short-term athlete housing or lodging associated with an approved
1463 Recreation Facility (within an approved MPD)

- 1464 7. Accredited physician Office space
- 1465 8. Accredited Medical and dental clinics
- 1466 9. Medical Heliport
- 1467 10. Group Care Facility
- 1468 11. Ancillary Support Commercial (within an approved MPD)
- 1469 12. Gift shop
- 1470 13. Dispensing pharmacy
- 1471 14. Medical supply
- 1472 15. Restaurant
- 1473 16. Deli
- 1474 17. Outdoor grills/ beverage service stations
- 1475 18. Child Care Center
- 1476 19. Recreation Facility, Public [~~and Private~~]
- 1477 20. Recreation Facility, Private⁴
- 1478 21. Recreation Facility, Commercial
- 1479 22. Park and ride Lot
- 1480 23. Municipal/institutional Accessory Building and Use
- 1481 24. Parking Lot, Public
- 1482 25. Public utility or essential services
- 1483 26. Single Family Dwelling (with an approved MPD1)
- 1484 27. Duplex Dwelling (with an approved MPD1)
- 1485 28. Multi-Unit Dwelling (with an approved MPD1)
- 1486 29. Telecommunication Antenna

1487 30. Transit facilities

1488 31. Parking Areas, Lots, and Structures with more than five (5) Parking Spaces

1489 32. Raising, grazing of horses

1490 33. Commercial Riding Stable(s)

1491 34. Small Energy Wind Systems

1492 D. **PROHIBITED USES.** Any Use not listed above as an Allowed or Conditional Use

1493 is a prohibited Use.

1494 ¹Residential Uses cannot exceed one (1) unit/acre.

1495 ²The Planning Director or their designee shall, upon finding a Food Truck Location in compliance with

1496 Municipal Code Section 4-5-6, issue the property owner a Food Truck Location administrative approval

1497 letter.

1498 ³Requires an Administrative Permit. See Section 15-4-7, Accessory Apartments

1499 ⁴ See Section 15-4-22, Outdoor Pickleball Courts in Residential Areas

1500 HISTORY

1501 Adopted by Ord. 06-48 on 6/29/2006

1502 Amended by Ord. 07-25 on 4/19/2007

1503 Amended by Ord. 09-10 on 3/5/2009

1504 Amended by Ord. 2018-55 on 10/23/2018

1505 Amended by Ord. 2020-36 on 7/30/2020

1506 Amended by Ord. 2020-45 on 10/1/2020

1507 Amended by Ord. 2021-51 on 12/16/2021

1508

1509 **15-4-22 Outdoor Pickleball Courts in Residential Areas**

1510 In addition to the criteria outlined in Section 15-1-10 for Conditional Use Permit review,

1511 the Planning Commission shall also consider the criteria of this Section 15-4-22. Prior to

the issuance of a Conditional Use Permit for an outdoor Pickleball Court on a residential Lot adjacent to residential Lots, the Applicant must meet the following requirements:

A. PRE-APPLICATION CONFERENCE. An Applicant may request a pre-Application conference with Planning and Engineering Department staff to become acquainted with Pickleball Court regulations on residential Lots.

B. APPLICATION. A complete Application must be submitted to the Planning Department including the following:

1. GENERAL DESCRIPTION. An overview of the proposed outdoor Pickleball Court, including hours of operation, anticipated use, evidence of sufficient required off-street parking, and other applicable information.

2. SITE PLAN. The site plan shall be to scale not to exceed one inch to 100 feet indicating in detail how the proposal will comply with the International Building Code and this Section. The site plan should indicate the location of the outdoor Pickleball Court on the Property and clearly show distances from all Property Lines and Structures. The site plan shall include a grading and drainage plan with stormwater runoff calculations.

3. NOISE STUDY. The noise study shall be prepared by a certified professional and shall simulate through engineering models, field noise level data collection, computer generation, or similar techniques, the impact of the proposed outdoor Pickleball Court. The noise study shall indicate the noise impact from at least five (5) locations around and within 150 feet of the proposed outdoor Pickleball Court. The noise study must also show what alternatives have been considered for the mitigation of noise with the pre- and

post- development noise levels. The noise study shall demonstrate that the outdoor Pickleball Court will be constructed and used in compliance with Municipal Code Chapter 6-3, Noise.

4. ADDITIONAL STUDIES. The Planning Commission may require Applicants to submit and fund additional studies, including a visual analysis of the proposed outdoor Pickleball Court. If the Planning Commission requires the Applicant to submit additional studies, the Planning Department and City Engineer may recommend the scope and method of study.

5. FEES. The Applicant shall pay all fees outlined in the adopted Park City Fee Schedule, including fees for public notice mailings.

6. NOTICE. Staff shall mail courtesy notice pursuant to Sections 15-1-12 and 15-1-21.

C. LOT SIZE. The minimum Lot size for an outdoor Pickleball Court is 43,560 square feet (1 acre).

D. SETBACKS.

a. The minimum Setback is 600 feet from lot lines of adjacent residential property lines.

b. The Planning Commission may reduce the minimum Setback to no less than 150 feet when:

i. The Applicant submits a noise study prepared by a certified professional that demonstrates compliance with Municipal Code of Park City Chapter 6-3, Noise.

1557 ii. The approval is conditioned upon construction and completion of
1558 the noise mitigating features included in the noise study.

1559 iii. The Planning Commission may require additional landscaping for
1560 noise mitigating measures.

1561 c. In the instance of a conflict in Setback requirements, the more restrictive
1562 Setback shall apply.

1563 d. In considering a reduction in Setbacks, the Planning Commission may
1564 consider whether a homeowner association (HOA) registered with the City
1565 pursuant to Section 15-1-12(F) approves or objects to the proposed use
1566 and mitigation. However, applicant failure to obtain such approvals shall
1567 not be the sole basis for Planning Commission denial.

1568 E. HOURS OF OPERATION. The Use of outdoor Pickleball Courts on residential
1569 Lots shall be limited to 8 AM to 8 PM.

1570 F. OUTDOOR LIGHTING PROHIBITED. Artificial lighting of outdoor Pickleball
1571 Courts in residential areas is prohibited.

1572 G. PARKING. The Applicant shall demonstrate compliance with Section 15-3-6,
1573 Parking Ratio Requirements For Specific Land Use Categories.

1574 H. MAXIMUM CAPACITY. The outdoor Pickleball Court is for use of the residents
1575 and up to no more than four guests. Guest parking shall be provided on site.

1576 I. OWNER ASSOCIATION NOTIFICATION. For properties within a homeowner
1577 association, the Applicant must submit with the Conditional Use Permit
1578 application evidence of notification to the appropriate Owner association
1579 registered with the City.

1580 ...

1581 **15-15-1 Definitions**

1582

1583 **Recreation Facilities, Private.** Recreation facilities operated on private Property and
1584 not open to the general public,[-] including Recreation Facilities [typically associated
1585 with a homeowner or Condominium association,] such as pools, tennis courts, outdoor
1586 Pickleball Courts, playgrounds, spas, picnic Areas, and similar facilities for the Use by
1587 Owners and guests.

1588 **Pickleball Court.** Recreation Facilities for an indoor or outdoor game that is played on
1589 a level court measuring approximately 20 feet by 44 feet, but no greater than 30 feet by
1590 60 feet, with short-handled paddles and a perforated plastic ball volleyed over a low net
1591 by two single players or two pairs of players (4 players).

1592

Pickleball Survey

SURVEY RESPONSE REPORT

17 January 2022 - 16 February 2022

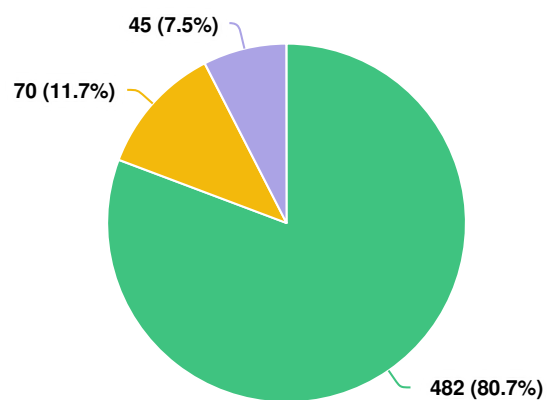
PROJECT NAME:

Pickleball Land Use Regulation Survey



SURVEY QUESTIONS

Q1 Do you play pickleball?

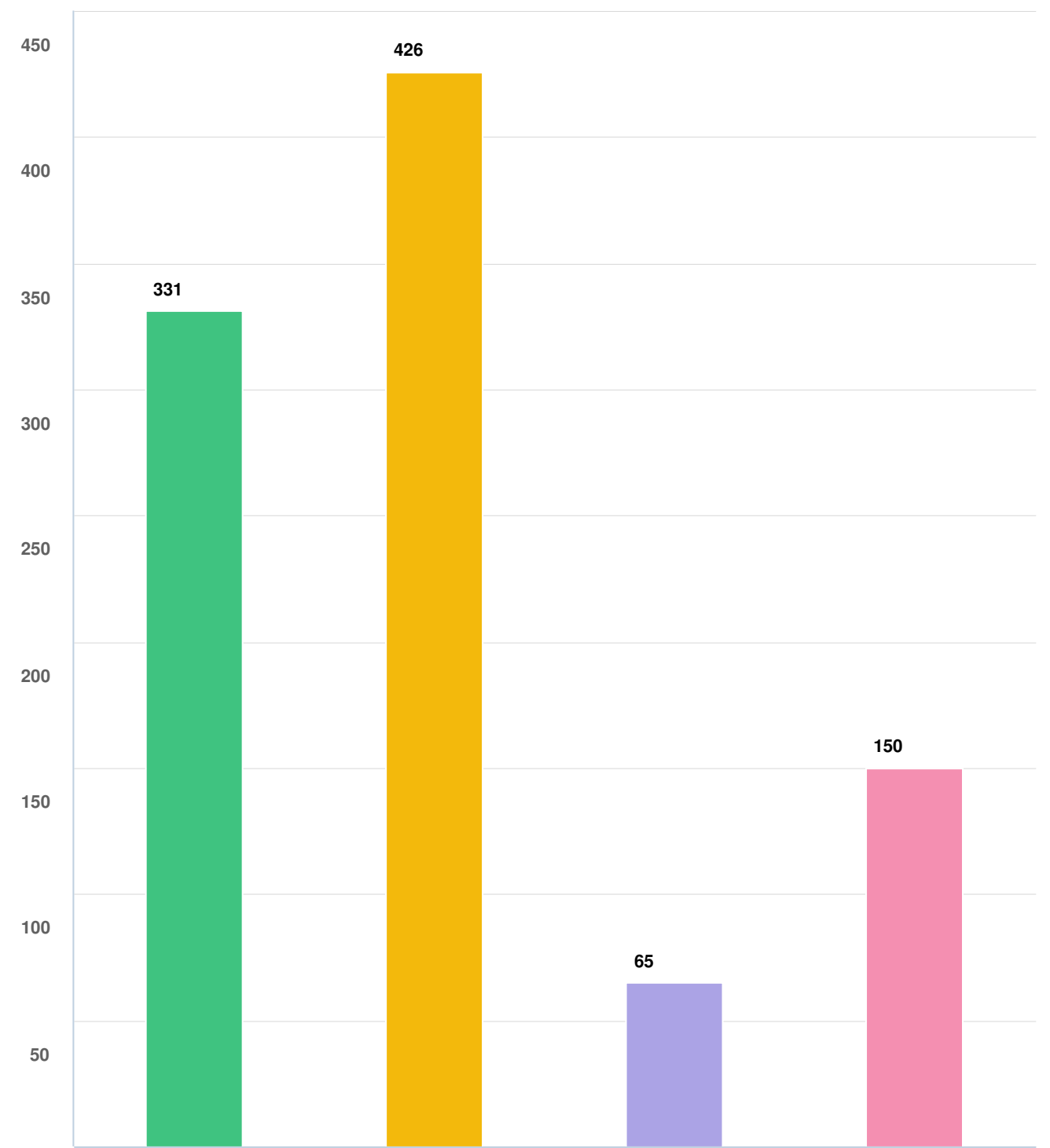


Question options

● Yes ● No ● No, but I would like to

Optional question (597 response(s), 4 skipped)
Question type: Dropdown Question

Q2 Where do you play pickleball?

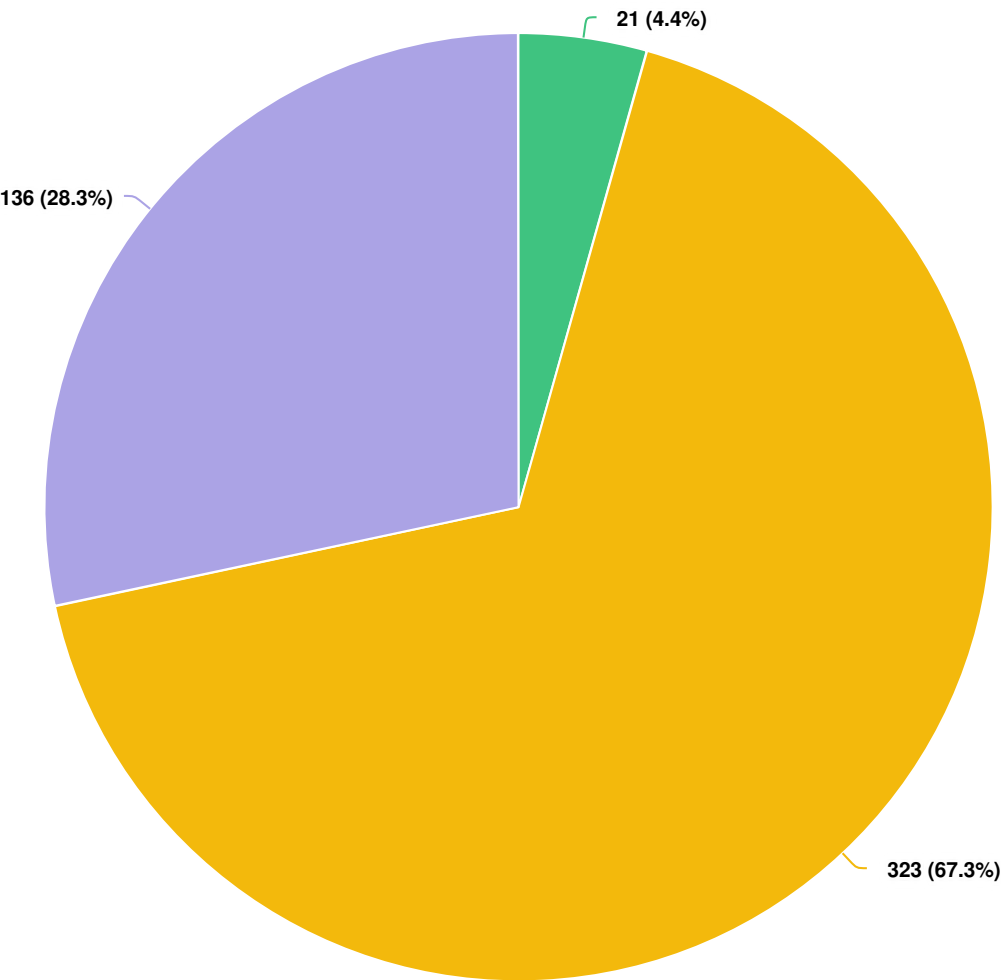


Question options

Public Indoor Facility Public Outdoor Facility Private Indoor Facility Private Outdoor Facility

Optional question (481 response(s), 120 skipped)
Question type: Checkbox Question

Q3 Do you prefer playing pickleball indoor or outdoor?

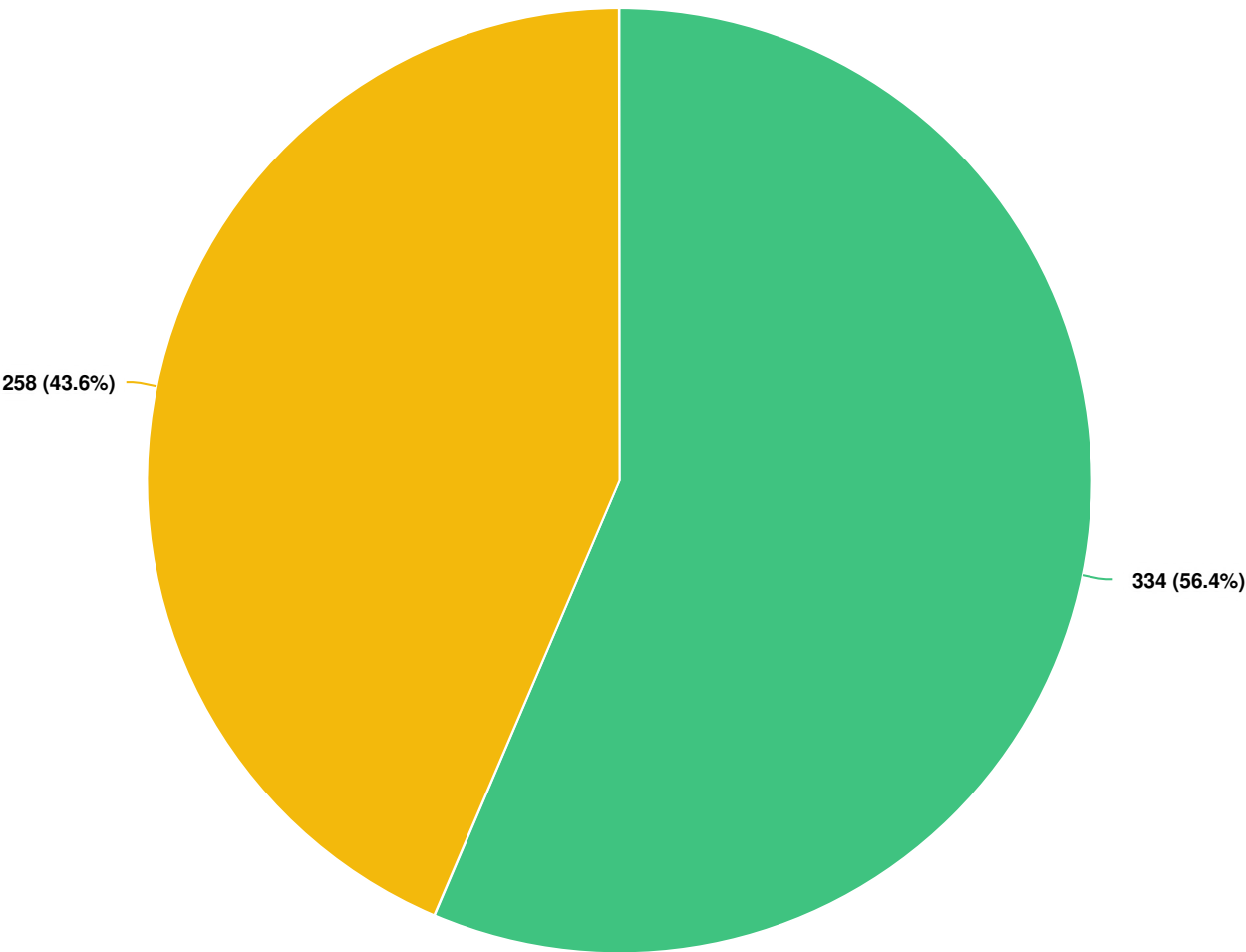


Question options

Indoor Outdoor No Preference

Optional question (480 response(s), 121 skipped)
Question type: Dropdown Question

Q4 Should outdoor pickleball be allowed outside of daylight hours (approx. 7 AM - 9 PM)?

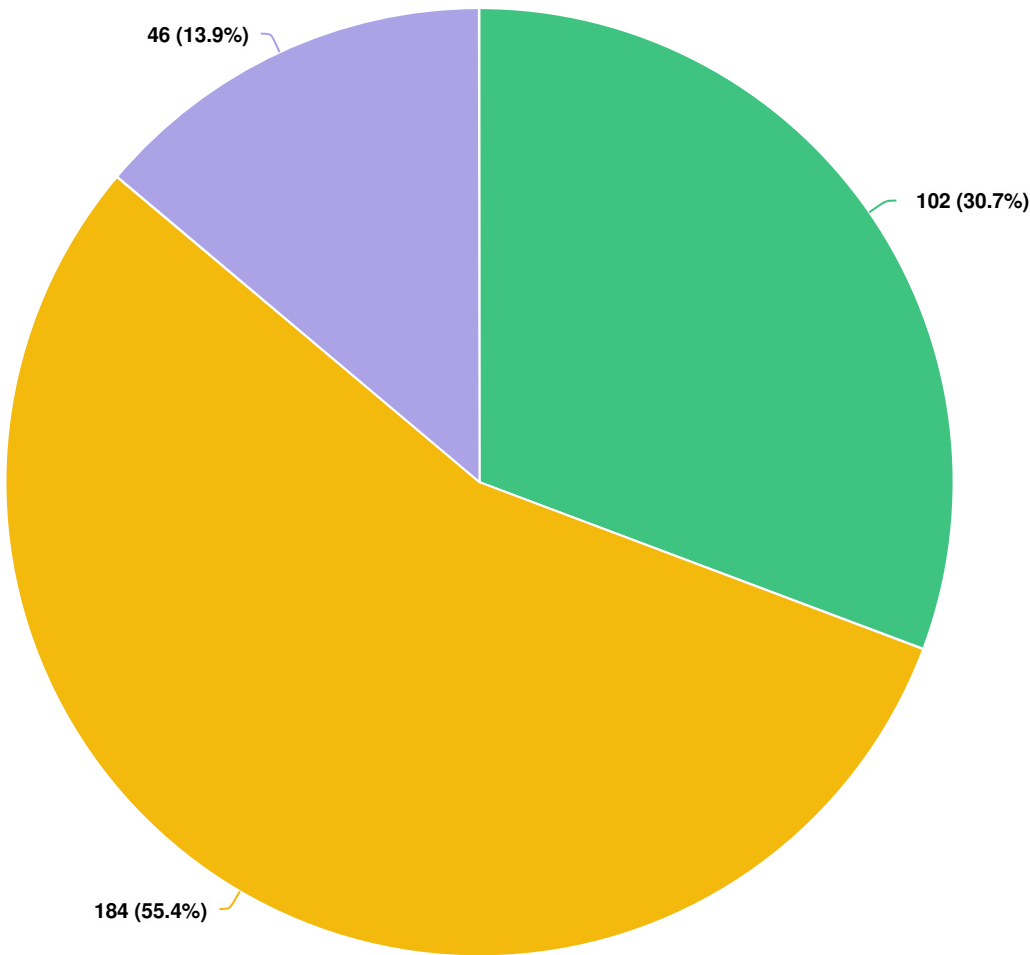


Question options

Yes No

Optional question (592 response(s), 9 skipped)
Question type: Dropdown Question

Q5 What are reasonable hours for outdoor pickleball?

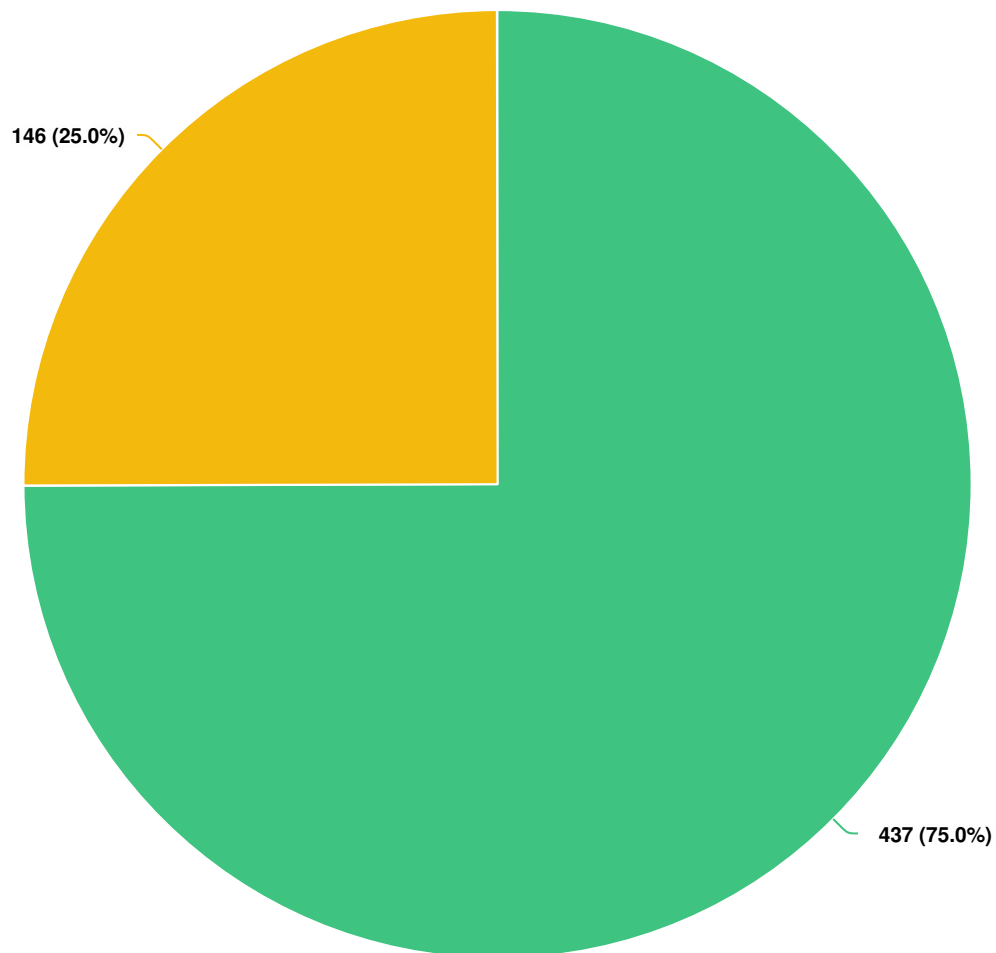


Question options

8 AM - 8 PM 6 AM - 10 PM Other (please specify)

Optional question (332 response(s), 269 skipped)
Question type: Dropdown Question

Q6 Should pickleball courts be allowed on private residential lots?

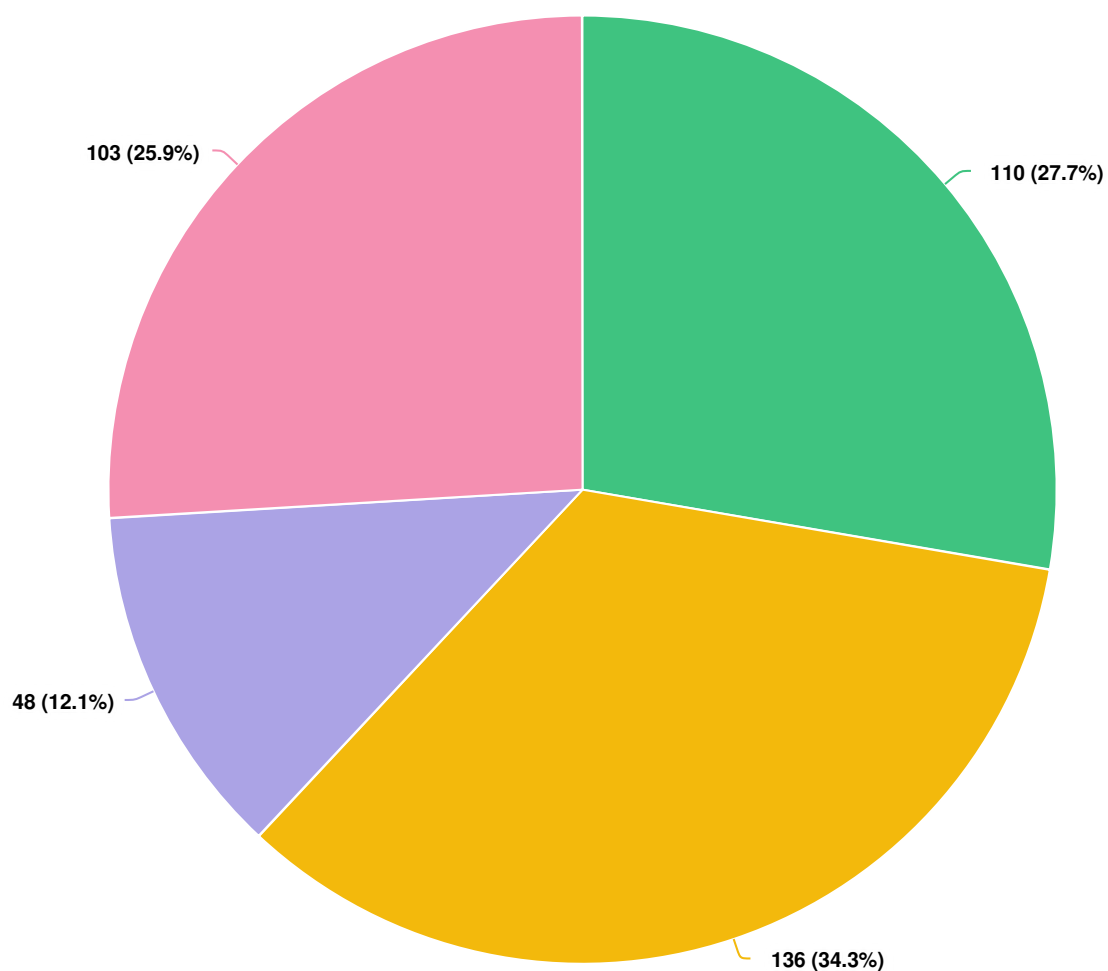


Question options

● Yes ● No

Optional question (583 response(s), 18 skipped)
Question type: Dropdown Question

Q7 What should the minimum lot size be for pickleball courts on private residential lots?

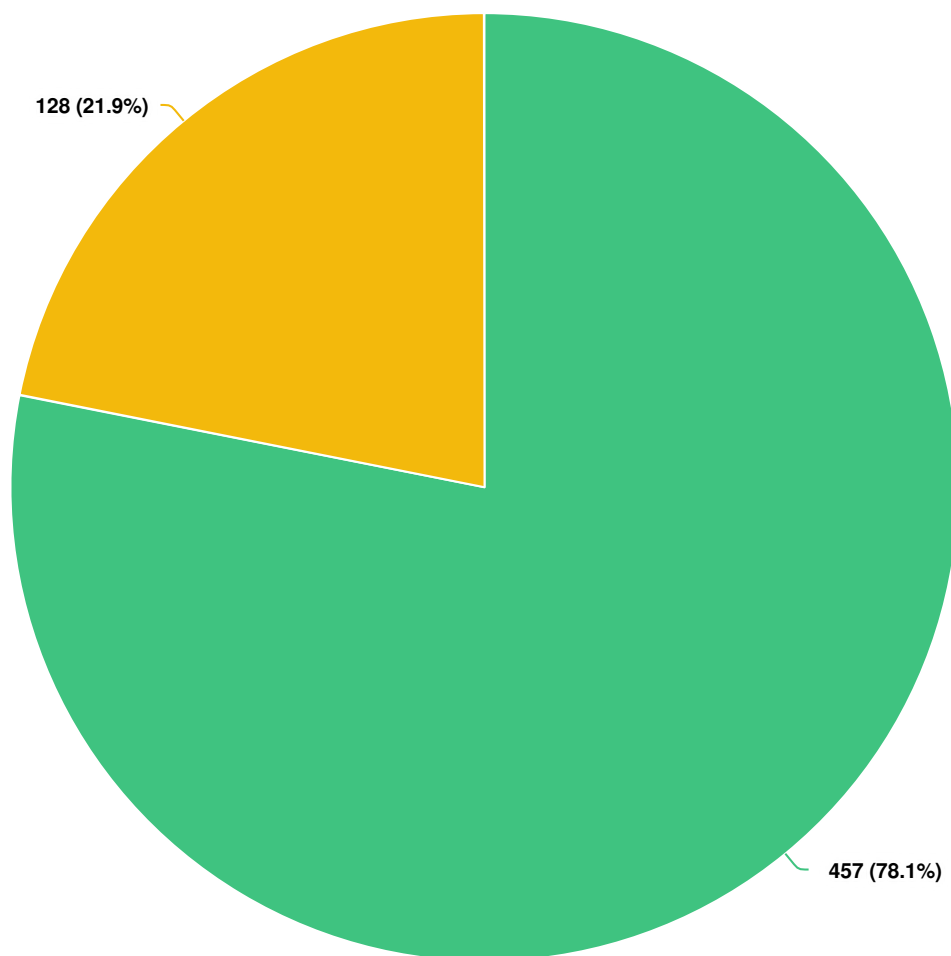


Question options

- 1 acre (43,560 square feet)
- 1/2 acre (21,780 square feet)
- 1/3 acre (14,520 square feet)
- 1/4 acre (10,890 square feet)

Optional question (397 response(s), 204 skipped)
Question type: Dropdown Question

Q8 Should properties within a Homeowner Association (HOA) obtain HOA approval before applying for a City permit to construct a pickleball court?

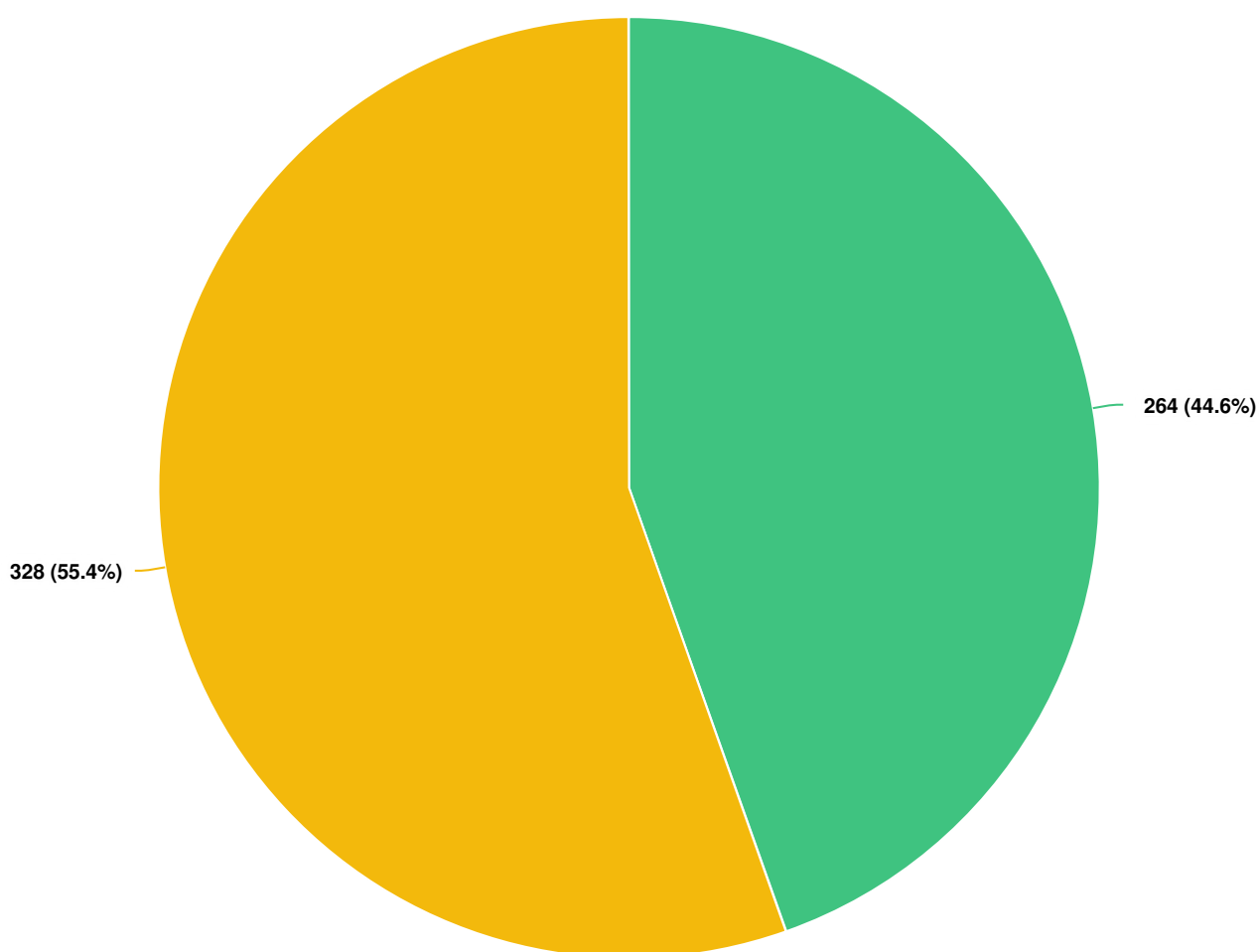


Question options

● Yes ● No

Optional question (585 response(s), 16 skipped)
Question type: Dropdown Question

Q9 The proposed amendments require notice to adjacent property owners when a pickleball court is proposed to be constructed. Should notice be extended beyond adjacent property owners?

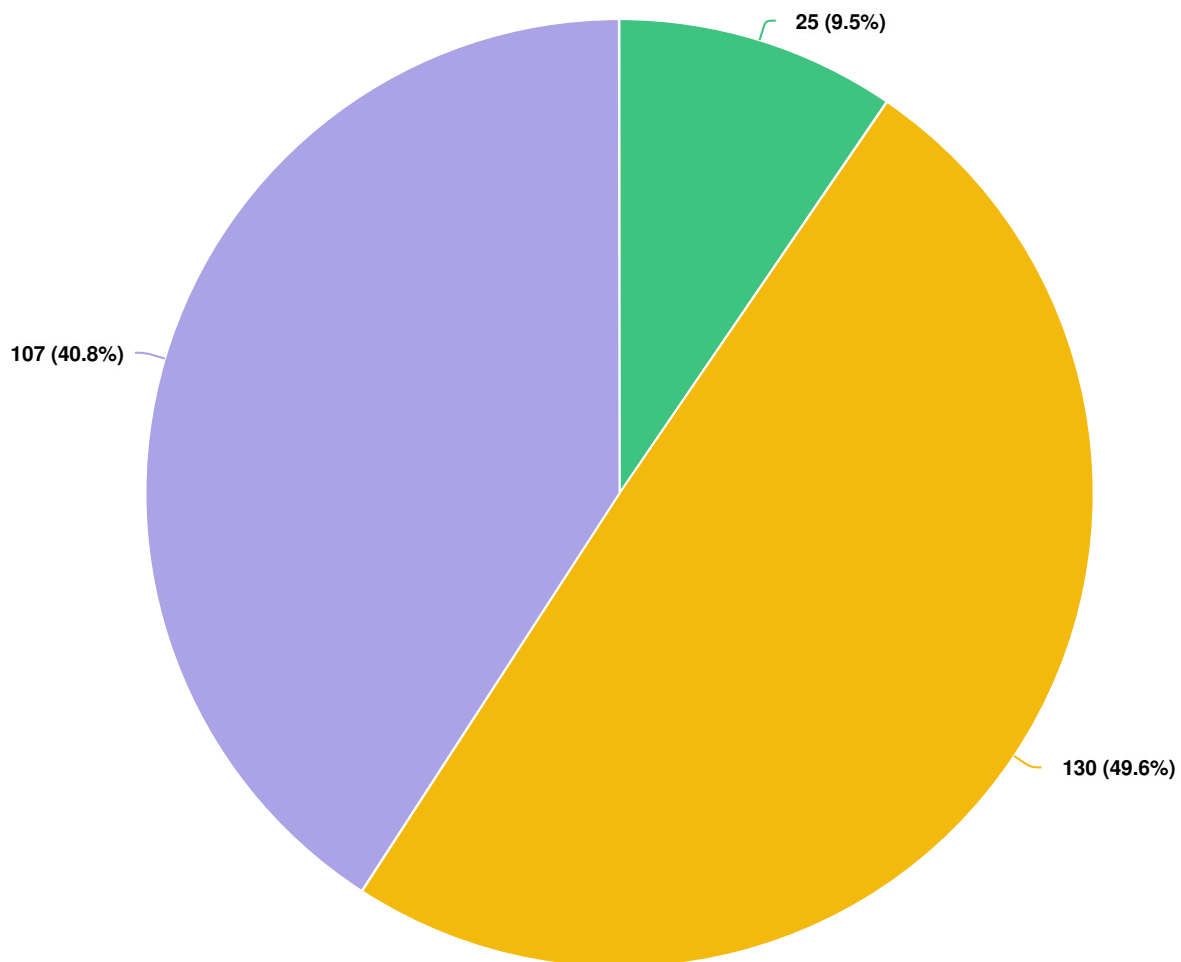


Question options

● Yes ● No

Optional question (592 response(s), 9 skipped)
Question type: Dropdown Question

Q10 Who should receive public notice for a proposed pickleball court?



Question options

● Property owners within 100 feet ● Property owners within 300 feet ● Property owners beyond 300 feet

Optional question (262 response(s), 339 skipped)

Question type: Dropdown Question

Q11 Any additional comments on pickleball you would like to share?

spencer.cawley

1/21/2022 10:17 AM

N/A

Anonymous

1/22/2022 05:49 AM

Pickleball courts should not be allowed where prohibited by existing setbacks. Setbacks have a reason. Pickleball is very noisy. The City should engage an expert acoustic engineer and obtain a report on noise issues. It should publish the report. Otherwise, the City is just guessing.

Anonymous

1/25/2022 12:32 PM

We really need more indoor pickleball courts. The bubble at the MARC fills up immediately. Any chance that we could bubble some other public courts for the winter?

Anonymous

1/25/2022 04:37 PM

Pickleball courts should not be allowed in a residential neighborhood unless all parcels are at least 1 acre in size.

Anonymous

1/25/2022 06:02 PM

We need more courts! Private residential courts should have same rules as outdoor swimming pools, trampolines, basketball net installations and horseshoes. Stodgy neighbors shouldn't have the power to ruin healthy pastimes.

Anonymous

1/25/2022 07:05 PM

Anyone constructing a pickle ball court without proper permits or approval should be made to remove and be fined.

Anonymous

1/26/2022 07:53 AM

Code should encourage HOA owned courts as a community amenity over private courts. I find that private courts are more disruptive because they are closer to neighbors while HOAs put them in larger recreation areas.

Anonymous

1/26/2022 07:58 AM

Pickleball is great and clearly the PC pickleball community is rapidly growing - let's support it!

Anonymous

1/26/2022 08:23 AM

Park City needs a dedicated indoor pickleball facility!!!

Anonymous

Avoid NIMBY'ism.... There are many basketball and tennis courts

1/26/2022 08:53 AM

within PC and Summit Co., But PBall Courts are more likely to be used by older people who can't do other sports

Anonymous

1/26/2022 09:07 AM

We really need more public courts, both indoor and outdoor. Right now, the pickleball players have no place to play where there are dedicated pickleball courts in the winter. And summer, it has become so packed that wait times are often 10-15 minutes in between games that are also just 10-15 minutes. The private courts might help a bit, but this sport is growing so fast, and it is so lovely to have a sport where several generations can come together and play, and people of all socioeconomic levels can play together.

Anonymous

1/26/2022 06:36 PM

We need more courts in town.

Anonymous

1/26/2022 09:30 PM

This is a ridiculous proposal and is a serious obstruction of freedom, especially on private property. Are police really expected to waste valueable time enforcing pickleball hours? This city needs a serious priveledge/reality check and needs to find issues that actually impact community health to concern itself with.

Anonymous

1/27/2022 03:40 PM

I looove pickle ball!!!

Anonymous

1/27/2022 03:52 PM

Pickleball court facilities should be separate from tennis courts

Anonymous

1/27/2022 03:52 PM

Its noisy, should not be allowed outside before 9 am or after 9 pm

Anonymous

1/27/2022 04:26 PM

Acoustic sound tests should be required in the application subtotal for any proposed court on private property w/ adjacent properties within 200'

Anonymous

1/27/2022 04:50 PM

I play tennis and completely understand the love of racquet/paddle sports and desire for personal courts. However, many people in this area work from home, which makes the prospect of a pickleball court anywhere within earshot a nuisance. It's not only the volume, but the rapid frequency of the strikes that makes it such an issue.

Anonymous

Pickleball is VERY loud. It should be limited to parks. The ball and

1/27/2022 04:50 PM

rackets generate far more noise than tennis.

Anonymous

1/27/2022 04:53 PM

Are you crazy?! Who thought of this lame idea?! Are you ready for a slew of noice/parking complaints? Park City is far from a retirement community. Why don't we just make the basketball and Pickleball court together ... just kidding there are ENOUGH, TONS of outdoor activities to find in Park City. This is as stupid as allowing Tennis Courts next door. Scrap this CRAZY idea or put it out by the hospital or else where AWAY from neighborhoods!! I'm President of 2 HOA's NO WAY will there be ANY approvals in a neighborhood, STUPID IDEA! Who's going to FINE or enforce they are well maintained, garbage, kids hanging out they will go LARGELY unused after a while This is as crazy as trying to put play areas in Prospector Park ... Do you remember HUNDERDS of residents showed up to stop and complain about that project. Let the ski resorts put them in where no one lives! Remember we have winter 7 months of the year so all this crap for 4 months NO NO NO !!!

Anonymous

1/27/2022 05:39 PM

Pickleball is so fun, but at same time do not want to disturb neighbors. The only people I know who have their own courts have a few acres. Would not want in tight suburban neighborhoods. What are rules for outdoor tennis courts?

Anonymous

1/27/2022 06:17 PM

Pickleball courts should not be in residential areas. I play and it is LOUD.

Anonymous

1/27/2022 07:18 PM

Don't use up any more public and/or private tennis courts for pickle ball.

Anonymous

1/27/2022 07:20 PM

Pickleball should not take anymore tennis courts in PC. Not enough tennis courts.

Anonymous

1/27/2022 07:24 PM

Dedicated public indoor and outdoor pickleball courts would be a great asset to the community and alleviate the pressure causing the increase in the number of private courts

Anonymous

1/27/2022 07:47 PM

The Marc needs to split time and courts evenly with pickleball, and not put tennis first.

Anonymous

This is ridiculous. Are basketball hoops in driveways next? Just no

1/27/2022 10:40 PM

lighted courts. No permits or notifications should be necessary.

Anonymous

1/27/2022 11:12 PM

I'm not sure how loud the paddle is but if significant then definitely feel it needs an approval process.

Anonymous

1/28/2022 08:35 AM

It's great for all ages and the Park City community is active and needs alternative sports beyond skiing. All for more options. It takes up little space and played with 4 people most of the time.

Anonymous

1/28/2022 09:14 AM

I attended the Jan 26 2022 planning meeting where new pickleball courts in residential zones were discussed. I agree that recreation is fun and healthy but hold that pickleball is a sport that should be restricted to city or county park facilities to insure adequate adherence to nuisance noise concerns and unsightly block houses surrounding courts in tight residential zones. I beg to differ that neighbors were notified about the plan for a pickleball court. No notices about upcoming construction or what was planned for construction were sent to neighbors. Trucks just appeared in large numbers and rapidly excavated and poured concrete. There is also concern about how pickleball courts in residential zones will impact short and long term rentals in these zones because as a rental unit, existence and use of such facilities could be subject to more use than expected for normal intergenerational family backyard activities. The existing pickleball courts near the PCMARC might require noise mitigation along the boundary with the Raquet Club Condos. The lack of mitigation here in this community recreation site should not be used as a pre existing exemption that would extend to new residential courts. Jeannine seibert 1870 Evening Star Dr.

Anonymous

1/28/2022 10:07 AM

I can understand the noise complaints. I can hear them playing at the racquet club and I am 1/2 a mile away. From our distance it doesn't bother us.

Anonymous

1/28/2022 11:34 AM

While pickleball is a very enjoyable sport, the noises engendered during play are staccato bursts of sound that are loud and can not be adequately muffled in a neighborhood with lot sizes less than 1/2 acre. In reality, even lots larger than this could be an issue depending where the court is located in relation to the neighbors. Property owners within 300 feet should therefore be notified and risk of transmitted noise should be assessed with a formal site assessment as part of the use permit to determine if and how much sound mitigation will be needed. In reality, unless a lot is very large and does not require sound dampening, courts should not be built by

private owners. Maintaining and if needed upgrading the necessary surrounding sound barriers for an outdoor court is best left to public locations and sport clubs. If a court is permitted for a smaller lot, the house can not be considered part of the sound barrier for neighbors backing up to the court site, unless it is covered with sound barrier paneling since the surface is reflective and will not absorb sound well. A 12 foot high wall may also not be adequate to dampen sound for neighbors that have a second story. Small sites with the court within 100 feet of the property line would need a careful survey by a sound engineer before construction and then reassessment by the engineering firm after construction and placement of the required calculated noise mitigation before the site is permitted for play. The proposed regulations allows for noise complaints within one year of the permit issuance. This permit requirement should extend a number of years (if not the life of the facility). If there is continued growth of pickleball in this community there should be additional courts built, including indoor courts to accommodate this need. There should not be additional conversion of tennis courts for pickleball courts.

Anonymous

1/28/2022 01:31 PM

Would like to see more indoor open play at both Basin Recreation and the Marc. Prior to Covid, Basin Recreation designated 2pm-4pm every weekday for 1/2 of their gym to open play. There are now lots of clinics and learn to play sessions, but not alot of open play.

Anonymous

1/28/2022 03:05 PM

lets build more courts. Indoor especially (not on basketball courts)

Anonymous

1/28/2022 03:15 PM

I feel if an HOA prohibits pickle ball courts in private yards they should not be allowed in. But all existing courts must remain. I feel 8-8 pm (during daylight savings time). Winter 9-5.

Anonymous

1/28/2022 03:19 PM

They are very noisy...

Anonymous

1/28/2022 03:28 PM

I love the game, but the sound can be annoying. There has to be some minimum distance from neighbors, or a requirement for sound barrier if neighbor is less than 200' (or some distance) from the court.

Anonymous

1/28/2022 03:43 PM

I live in the Holiday Ranchettes on Lucky John Drive where I have been a primary full time resident since 1978. In the evenings in the summer I can hear the pickle ball from my back deck from The Marc and it is loud. For some reason, this is not the case with tennis, so I assume that this has to do with the type of ball and racquet. If I am

two blocks away and constantly hear it, I cannot imagine living within close proximity or next door to someone. We all love to swim, play tennis and some play pickle ball, but most homes do not have pools, tennis courts and pickle ball courts. I think the hours that you have listed are too broad. I would not want to be awakened at 7:00 am by this sound, and 9:00 seems a bit late, even in the summer. I am not sure why this is needed in neighborhoods when there are courts nearby. I believe that a sound engineering study should be obtained and taken into consideration, prior to allowing these courts on private residences. Hard to imagine the needs of many ruining the quiet for the needs of the few. I am not in favor of pickleball courts being established in private homes in neighborhoods. Thank you very much for your time and consideration.

Anonymous

1/28/2022 03:56 PM

While I play pickleball occasionally, and would like to see more courts, I think that the noise issues are significant. Thus more indoor courts may be a better option, or more courts in recreational areas. Courts in residential areas on private land would be disruptive. I would not want a court near my home.

Anonymous

1/28/2022 04:06 PM

The sport is already a noise nuisance, we can't add lights that extend the playing time and are counter to any dark sky desires on the part of Park City.

Anonymous

1/28/2022 04:17 PM

It's a great sport, let's make Park City the capital of the Pickle World!

Anonymous

1/28/2022 04:24 PM

A wonderful sport, especially for seniors. But, it's noisy. Must not be allowed in residential situations. The answer is public indoor and outdoor facilities.

Anonymous

1/28/2022 04:27 PM

People have a lot more annoying things on their property that are not regulated including pools, playgrounds with loud kids, etc. Let them play Pickleball.

Anonymous

1/28/2022 04:44 PM

There should be no minimum lot size. There should be no required notice. This whole thing is a sick joke.

Anonymous

1/28/2022 05:07 PM

I would not like to hear any pickleball noise from my deck. There are plenty of public facilities available.

Anonymous

1/28/2022 09:03 PM

I play pickleball and I also build/surface pickleball, tennis courts etc for a living. I graduated from park city high school and believe pickleball will continue to grow. With that in mind, I would love the opportunity to earn your business in my home town and build/surface the pickleball courts that get approved by the city. For more information my email is precisepickleballcourts@gmail.com. Thank you!

Anonymous

1/28/2022 09:44 PM

It's a fad.

Anonymous

1/29/2022 04:01 AM

Acoustical analysis required for each permit request. Establish a maximum allowable decibel reading at 50 and 100 ft, not an average. Limit the number of hours a court can be used each day. Consider one or two quiet days per week for each court. This is the problem with the Marc courts. 12hours a day, every day of the week for the outdoor courts is a nuisance for those of us who live with in 200ft of courts at Raquel club village.

Anonymous

1/29/2022 07:32 AM

Prefer indoor in winter, outdoor in summer

Anonymous

1/29/2022 07:53 AM

It's an incredibly noisy and disruptive game. It should be restricted to parks that are removed from residential space by at least 1000 feet. It should similarly be restricted at places like the MARC to protect local residents. You wouldn't allow a gun range or other noise nuisance—the same should apply to pickle ball or other very noisy new sports.

Anonymous

1/29/2022 08:26 AM

The increase interest in pickleball is exactly what our world needs right now. Any exercise that helps with the over burdened health system due to obesity is a win win. It is a sport that all ages can play. Park City has always been known as a healthy place to live and Pickleball is healthy so in my opinion you can't have enough courts. Look at communities that have embraced the sport and you'll find healthier people. Florida has seen a huge increase in the number of players over the age of 65! There aren't many sports available for that generation so it is wholly embraced. This would be a win win for Park City. 😊

Anonymous

1/29/2022 08:31 AM

Park City needs many more courts both indoors and outdoors!!!

Anonymous

The city currently regulates and prohibits some businesses in

1/29/2022 09:29 AM

suburban residential areas for numerous reasons. Many could even be less intrusive than a personal recreational pickleball court squeezed into a homeowner's backyard and touching and/or affecting neighbors and homes adjacent to, immediately surrounding, across the street, around the corner, or well beyond any (arbitrary) proposed 300 ft parameter. At the recent PC planning commission meeting, commissioners and neighbors identified several technical and community issues affecting the proposed Venus Ct personal pickleball court. In addition to the negative effects of noise, neighbor views overlooking the court, acoustics, water, parking, sounds, enforcement, etc, etc, that were identified and mentioned (and I absolutely concur with them), I believe in this specific case, and likely in most other residential city and residential county attempts to install personal pickleball courts (unless on stand alone multi-acre sites) - there is an overriding issue. In Park City and Summit County, there are several places within convenient walking distance or on a bus line, that offer pickleball courts to everyone who wants to play. Citizens and visitors don't lack convenient access or opportunity to this sport. I believe just because a local residential homeowner WANTS a convenient personal backyard pickleball court they should NOT be allowed to have it in their residential neighborhood. Likewise, if a local local residential homeowner WANTS personal backyard access to, or ownership of, a convenient personal backyard drive thru fast food restaurant, they should NOT be allowed it as well in their residential neighborhood. Residential areas are typically clustered residential areas. Business areas are typically clustered business areas. This is not a question of mixed use where passive parks are acceptable and desirable in both residential and business areas. Private residential pickleball courts do not belong in congested neighborhood backyards with numerous lot lines adjacent and touching each other. Sounds don't respect lot lines and player space is not limited to the specific court space painted on the homeowner's cement pad. Additionally other homes surrounding the court have immediate views of 12' sound mitigating fences squeezed into the homeowner's lot that may technically meet city/county residential guidelines while contradicting or ignoring surrounding residential concerns and acoustic surveys. Additionally, these specific Venus Ct (and Equestrian Ct) requests have several pickleball courts located one block (or easy walking distance) from the MARC, where access to this sport is clearly and readily available and open for extended playtime hours. Sure there's a wait on occasion for access. That's life. We wait in lift lines, coffee lines, bank lines, stop lights, stop signs, grocery check out lines, etc. Immediate gratification is not always available - nor necessary. Same goes for homeowners who demand personal backyard pickleball courts when several are available a very short distance away - and are surrounded with appropriate space and sound and parking and view areas and water run off (and other) mitigation aspects. Private pickleball courts are not

appropriate nor acceptable and do not belong in close, crowded, intimate suburban residential neighborhood backyards. Any more than drive thru businesses would be appropriate nor acceptable and adjacent to a city's residential cul de sac or private backyard on that cul de sac or street. That's why communities support, create and enforce zoning restrictions. And in this specific instance, public pickleball courts are specifically available just blocks away and in an appropriate setting. Additionally, more public courts are currently being proposed and are under consideration in appropriate settings with appropriate space, parking, sound and acoustic mitigation. Therefore: mine is a decisive NO from a long time Park Meadows owner and resident since 1978. And this is precisely why I pay taxes so everyone has equal access to city and county supported and located recreational facilities with pickleball courts there - where they belong and are appropriate. Thank you.

Anonymous

1/29/2022 09:40 AM

Unlike Tennis players, Pickleball players like to gather in large numbers at a Pickleball court complex of 10 to 17 courts. Park City is late to need to build a large (17 court) Pickleball Complex.

Anonymous

1/29/2022 10:38 AM

No lights and there should not be a problem if you choose to put a court in on your property. I see lighting as being the main issue. One court with 2 to 4 people on a private lot should not be an issue.

Anonymous

1/29/2022 11:03 AM

There should be a restriction on the number of pickle ball courts allowed in a neighborhood

Anonymous

1/29/2022 11:11 AM

More outdoor courts, please.

Anonymous

1/29/2022 01:25 PM

Make it easier for HOA's to put in a pickleball court.

Anonymous

1/29/2022 03:59 PM

Pickleball nuisance noise is impulsive. Acoustic studies show that the impulsive sounds can range up to the low 80's in decibels or louder than freeway traffic. Impulsive noise is more disruptive to humans than continual noise because impulsive noise stimulates the nervous system with each jolt of sound. Accordingly, private pickleball courts should not be allowed in higher density neighborhoods in Park City with lot sizes that are typically .50 acres or less. Perhaps that prohibition should extend to one acre lots. Acoustic research again indicates that if one can see a pickleball court, from the second level of a home, no sound mitigation is possible even if 12 foot high

acoustic fencing is in place. The only true mitigation within 100 feet is to enclose said pickleball court within a building. A case in point is represented by friends who live about 600 feet south of the MARC pickleball courts. When using their backyard patio, nuisance noise from the MARC pickleball courts is readily heard. Interestingly, no noise is heard from the adjacent tennis courts at the MARC. In each case of requested permission to build a pickleball court regardless of lot size, the applicant at her/his expense should be required to have an acoustic study completed by an independent acoustic engineer who certifies the findings. In addition, a site plan at the expense of the applicant, completed by a licensed surveyor, should be a requirement. All setbacks for purpose built structures must be followed in accordance with distances specified on the original platting documents. All property owners within 300 feet should be so notified of the intent of the applicant and, after all studies are completed, should have the opportunity to participate/comment in a public hearing for consideration of the application. Finally, original documents when neighborhood development begins often reference efforts to build and sustain notions of community. The documents for Park Meadows 5 for example include similar language. It is counterintuitive that private facilities such as pickleball courts build community. The notion of personal private facilities is akin to private gated communities-keep the bourgeoisie out. Private pickleball courts suggest that the public at large can be excluded, near and far neighbors for example, as if they are unworthy of entrance and participation in this rather plebeian sport. Accordingly, please make note of my opposition to private pickleball courts in general and gated communities in our town as well. Recommendation-Build 110 pickleball courts out on half of the parking lot in Richardson Flat. A foundational base exists. Illuminated parking is extant. None but the rats in the nearby dump/landfill will be bothered by the sounds of paddles striking pickleballs, except when the sound of paddle striking ball may be carried by the north winds all the way to Hideout. Please record my opposition to private pickleball courts on lots smaller than .5 acres. .

Anonymous

1/29/2022 04:24 PM

1. I think 0.5 acre lot requirement and the 100 foot minimum distance to any adjacent residential building is an appropriate requirement to establish with regard to private pickle ball courts. 2. I think a 12-foot noise mitigation wall is absolutely ridiculous and the wrong requirement to establish. Imagine these 12-foot noise mitigating walls all over our neighborhoods--a very unpleasant image. That is not what we want our view sheds to look like. If the lot size and minimum distance requirements cannot be met, then no CUP should be granted. 3. I think the proposed CUP requirement that if the city receives 3 noise complaints in a year due to any private pickle ball court, then the planning department or planning commission will

review the CUP and determine if the CUP should continue to be granted is too much and a classic example of government overreach. Just image if the city placed the same requirement on dog owners. If any dog owner received 3 complaints in a given year for noise, bites or other badgering from their dog, then the city would no longer let that dog owner to keep their dog. How would that go over in Park City? Like a lead balloon. I am happy to speak further with any planning commissioner or city councilor about this matter. -Joe Cronley, joeinpc@gmail.com, 435-640-0391

Anonymous

1/29/2022 07:07 PM

I play pickle ball. I've become concerned at the stance PC pickle ball has taken at acquiring more space. There are plenty of MARC times for us to use and stay within the community

Anonymous

1/29/2022 07:52 PM

Pickleball needs its own dedicated facility...

Anonymous

1/29/2022 09:28 PM

As a tennis player I see the passion and enjoyment many have playing the sport. I think neighborhood use at individual homes should be carefully considered just like a sport court or a tennis court. These activities can impact neighbors.

Anonymous

1/30/2022 06:25 AM

Pickleball saved my life!

Anonymous

1/30/2022 07:24 AM

This is a growing sport of all ages It promotes exercise and socializing. Tournaments promotes tourism which makes promotes revenue. Don't really see a difference between Pickleball and any other sport. They all can be annoying to the uninterested. For the young players it gets them away from video games. For the elderly it keeps them motivated/active and being involved in the community. The cost to play as of now is reasonable but I am sure the city officials will see how to change that as they do with everything else 😊

Anonymous

1/30/2022 07:42 AM

Lack of enforcement is a problem in our town. No point in making rules if we don't have budget or manpower to uphold them, specifically with regards to time of play and parking,

Anonymous

1/30/2022 07:52 AM

If you can construct a tennis court, why not a pickleball court? I think this is a bias from certain income level people. Tennis vs Pickleball

Anonymous

1/30/2022 08:01 AM

We need more public courts both indoor and outdoor.

Anonymous

1/30/2022 08:09 AM

Pickleball is a fun, healthy sport and should not be regulated any more than any other sport court or swimming pool, or other outdoor activity I want to do on my property.

Anonymous

1/30/2022 08:11 AM

Pickle ball is a noisy sport. Care must be taken to place courts where it will not disturb neighbors.

Anonymous

1/30/2022 09:13 AM

I live within 200 feet of two (of the four) outdoor PB courts at the MARC. I do not oppose PB in general, but the sound produced by the paddle/ball contact is distinct, clear and carries well beyond my 200 foot distance. Where my unit is located (at Racquet Club Village) there is quite a bit of mature vegetation (spruce, pine, fir) between the courts, so natural vegetation offers limited noise reduction. Additionally, It is NOT the ball against the court surface that produces an unacceptable sound, it is the paddle/ball contact that does, so requesting a "softer" surface will not address the issue. A noise-dampening wall is probably the best option to address potential noise complaints. Therefore, Any private PB court within a residential setting should include the following: 1. A professionally-performed accoustical analysis of the proposed court and sound generation/reverberation out into the surrounding homes and points of reception (e.g., first and second floor decks, windows, bedrooms, etc.) 2. Comparison of this analysis with pre-court, background sound conditions. 3. Establishment of both a "not to exceed" decibel level from the court along with an unacceptable average. 4. An agreement from the homeowner to limit both the time-of-day playing but also the number of hours the court might be used during any course of the day. This is critical since noise from any single game is one thing, but the social nature of the game produces situations where noise can be produced for hours at a time. Any ordinance or agreement needs to limit the number of hours the courts can be used each day (and perhaps the number of days in any given week). Finally, any private court use should be limited to the owner and their guests. The courts should not be allowed to be used by others in the absence of the owner (e.g., the owner is not home but friends have permission to use it). This sets up the possibility of a semi-private/semi-public court condition.

Anonymous

1/30/2022 10:48 AM

If HOA members pay for building and maintaining the proposed pickleball courts, of course there should be a vote.

Anonymous

1/30/2022 11:06 AM

Very noisy!!!!. Limiting tennis courts use for tennis. Keep it in Parks. !
How would you like it outside your bedroom window at 7AM. Lets not forget not everyone likes the noise it produces. Who will regulate the use hours in neighborhoods ? The city does not do a good job of regulating building,(we have seen this in Park Meadows) off street parking in neighborhoods, etc. This could be a nightmare !!!

Anonymous

1/30/2022 01:00 PM

Pickle ball is noisy and can be annoying.... Ordinances should definitely clearly define where is and where is not appropriate space and setbacks.

Anonymous

1/30/2022 01:56 PM

Tennis courts have far less use and some should be converted to Pickleball

Anonymous

1/30/2022 01:59 PM

These recommendations should apply to basketball courts and tennis courts as well.

Anonymous

1/30/2022 03:18 PM

Great sport that has allowed many people to increase their activity level. Good for community.

Anonymous

1/30/2022 03:49 PM

I love pickle ball, but it is very loud! We live about a mile from the MARC and we can hear the pickle ball paddles hitting the ball. Pickle ball is a very social game, where players sub in etc. One pickle ball court will have 6-8 people for play. Get ready for a crowded neighborhood if private residential courts are permitted. I would think you should have well over an acre of land before a private court can go in.

Anonymous

1/30/2022 07:56 PM

I'd rather see more indoor soccer/lacrosse/football/baseball turf fields than pickleball courts. If there are existing tennis courts, make them dual use.

Anonymous

1/30/2022 09:40 PM

Pickle ball is surprisingly, incredibly loud. A small study could be performed by a HSA company to show This.

Anonymous

1/30/2022 09:44 PM

I don't understand the no parking on the street rule. Why should that be any different from other activities that people would park on the street for?

Anonymous

1/30/2022 10:07 PM

Pickleball continues to grow faster than other sport....Park City severely lacks the courts to accommodate all the local players in addition to the tourists. This is such a great activity for people of ALL ages and courts should be built to allow accessibility for all who want to play.

Anonymous

1/31/2022 01:03 AM

I believe private courts should not be allowed in residential zones. The game is very noisy and the ball noise travels. It should be in a park setting. I feel for the many homeowners within blocks of Venus Ct and Equestrian Ct as their lives will be forever disrupted if pickleball is allowed in one or more neighborhoods front or backyards. I don't think they should be allowed on any size lot. Lot size should not matter. Noise travels...

Anonymous

1/31/2022 07:35 AM

Build more courts both outdoor and indoor!

Anonymous

1/31/2022 08:01 AM

It appears pickleball is being singled out with this action. Out of an abundance of fairness I don't believe pickleball should be limited any different than other outdoor activities that creat more than a minimal amount of noise such as tennis, basketball skateboarding, etc. which I believe aren't specifically limited.

Anonymous

1/31/2022 11:19 AM

Lights associated with outdoor courts can be a nuisance if allowed after daylight hours. Also, the sound of pickleball travels further than just the adjacent neighbors. Sound and light mitigation should be required.

Anonymous

1/31/2022 12:42 PM

This has no place in any residential areas and is very noisy to adjacent properties

Anonymous

1/31/2022 03:25 PM

Park City should expand its pickleball facilities, particular for indoors in the winter months--it is virtually impossible to book an indoor court at the MARC or Basin Rec due to strong demand.

Anonymous

1/31/2022 03:33 PM

I think any new pickle ball courts should be out at Quinn's junction away from any homes. The noise from the game is loud and annoying to those not playing.

Anonymous

1/31/2022 03:45 PM

Pickle ball is awesome! And we need more courts. So many pickle ball player's aren't local therefore not paying taxes to build these

courts. This is annoying! Not sure how you handle that but, something to look into. Thanks!

Anonymous

1/31/2022 03:58 PM

I don't think pickleball should be treated differently from other sports court installs, it should be consistent IMO.

Anonymous

1/31/2022 04:13 PM

Pickleball is new, and is gaining popularity. It is not any more or less noisy than any other sport. It simply needs to be accepted as "normal" - once it is, the rules, suspicion and need to overly regulate it may subside. (Or at least I hope it will.). (Imagine if we chose to regulate everyone who wanted to install a basketball hoop due to the sound a ball made and the time of day anyone was allowed to bounce a ball on concrete when it echos against a garage door or elsewhere.)

Anonymous

1/31/2022 06:14 PM

Pickle ball is fun to play but it is a very loud sport. We need to be respectful for homeowners who live nearby the pickle ball courts.

Anonymous

1/31/2022 07:04 PM

I love Pickleball yet living next door to multiple courts is enough noise to drive someone insane! Please be responsible as courts advance in number

Anonymous

1/31/2022 10:27 PM

We have an epidemic of obesity in this country. Please don't regulate into oblivion one of the few competitive sports that appeals to people of all ages and fitness levels.

Anonymous

2/01/2022 10:12 AM

I would love to see the city and county build new courts so homeowners don't have to.

Anonymous

2/03/2022 09:35 AM

Pickleball on private courts should not have lights but lights & play on public courts should be allowed until 10 p.m. on public park courts.

Anonymous

2/03/2022 11:40 AM

Its a great sport and as far as noise is no different than basketball courts and hoops currently occupying every driveway in Park city. Its also a sport that builds community.

Anonymous

2/03/2022 11:55 AM

If someone wants to install a pickleball court within the boundaries of their yard and decrease the amount of landscape requiring water, it is a no brainer! Let them do it! No different than putting in a basketball court! If pickleball courts are going to be micromanaged, then hot

tubs, trampolines, croquet sets, volleyball nets, swing sets, tree houses and skate board ramps should all be added to the list. Let people recreate and enjoy the outdoors. This is a ridiculous first world problem that is getting way too much time, energy and money being thrown at it.

Anonymous

2/03/2022 12:22 PM

This is government over reach at its worst. Government should not be regulating what games can be played in my own backyard.

Anonymous

2/03/2022 12:27 PM

If we had enough public courts, the need for private would diminish.

Anonymous

2/03/2022 01:07 PM

Please build more public courts

Anonymous

2/03/2022 01:32 PM

It is a very noisy sport.

Anonymous

2/03/2022 01:42 PM

Having lived in my neighborhood for 43 years, I definitely am against pickle ball courts on private property. Close proximity with pickleball noise will be disruptive and annoying to all adjacent neighbors. A neighborhood is different than a resident on acreage where the noise will not bother anyone. Complaints about nuisance noise levels should not be limited to one year but the life of the court. What happen's when property owners rent the property? I don't think it's right that the adjacent property owners should be responsible for policing and enforcement of the noise mitigation. I feel strongly that the City needs to enforce the land management codes and appropriate ordinances and policy. This enforcement needs to be consistent and equitable for ALL property owners and residents. I want the City to receive professional plans before the backhoe comes into a property and starts digging, followed by the dump trucks and cement trucks. The City needs to to have sufficient support staff to conduct on-site inspections. Notification to neighbors in a timely manner, not after the fact, is highly critical. I love sports and have played tennis all my life and I have tried pickleball. In the never-ending hustle and bustle of the New Park City with all of the noise that follows, our residential neighborhoods are sanctuaries of much needed quiet and calm. I love my morning coffee on my deck of 43 years, reading in the afternoon on my deck, and sitting down for dinner in the evening on my deck. The sound of pickleball would be more than an unwelcome intrusion. I am a full-time resident and not a tourist for a few days. Thank you for taking the time to read my comments.

Anonymous

2/03/2022 02:46 PM

It's LOUD!!!!

Anonymous

2/03/2022 03:48 PM

Please do not legislate something that is not an issue. Let people do what they want with their land and then wait to see if there is an issue. What will happen to properties that already have courts and lights?

Anonymous

2/03/2022 03:51 PM

You all are trying to Police everything as if your communist. Let people play and have fun wherever and whenever they want to play. Nobodies gonna be playing at 2am on the morning. Don't restrict anything.

Anonymous

2/03/2022 09:00 PM

Keep people active

Anonymous

2/03/2022 09:42 PM

Pickleball on private property should have some restrictions, such as distance from neighbors and minimum lot sizes. However, be cautious to not make the mitigations worse than the original issue. I believe a 12 foot wall/fence (existing year round) would be much worse than the sound generated by an occasional pickle ball game, played only in the summer months. The idea of having residential a pickle ball court allows multi-generational families to spend time together outdoors, encourages exercise, and reduces the amount of grass that needs to be watered on a lot.

Anonymous

2/03/2022 11:10 PM

Pickleball is a great sport but tennis players are being squeezed out by having courts taken over. I supported the building bond to build tennis courts, not pickleball so I do think additional facilities may be needed for the sport. It is loud and disruptive and should be situated far from neighborhoods. I live 2 blocks from the MARC and pickleball noise is loud on my deck.

Anonymous

2/04/2022 08:03 AM

Planning a ban on pickleball courts is ridiculous. If this happens, we must also ban barking dogs and kids jumping on trampolines.

Anonymous

2/04/2022 08:14 AM

If in a neighborhood, parking must not be at the courts, rather at the homeowner who is playing.

Anonymous

People should be allowed to enjoy a fun, healthy activity at their

2/04/2022 08:23 AM

home.

Anonymous

2/04/2022 09:20 AM

It gets people out, it gets people active, and people need that.

Anonymous

2/04/2022 10:28 AM

The answers to your questions should offer the option to chose "it depends on the circumstances". I like to play indoor during the winter and the summer on high UV index days/times. I like to play outdoor during non high UV index days/times. It might be reasonable to play pickleball before 7 am and after 9 pm depending on location and how far the court would be from residential homes. Indoor courts could run any hour similar to an ice rink as the noise is mitigated. Pickleball courts on private residential land should be allowed depending upon the size of the lot, location of residential homes nearby and noise mitigation, lighting, landscaping. Public notice for a proposed pickleball court to property owners would depend upon the size of the lot and the location of the neighbors. For example, if there is a 5 acre lot and the court will not be near any neighbors then notification for a smaller radius seems reasonable. In higher density, smaller lot residential areas, the notification should be broad as sound travels further than one thinks. With respect to courts on private residential lots, traffic and parking should be pre-emptively addressed. Neighbors would be unhappy if there is a tournament at the house every weekend bringing in a large volume of traffic, potential trash, noise, and parking problems for the surrounding neighbors. Slow down, think this through, and try to get it right the first time. Residents want to be physically and socially active without the joint stress that may be found in tennis (elbow, etc.). Let's make it possible for everyone to enjoy exercise without offending the nearby residents. What is the supply and demand for tennis courts? if less people are playing tennis, why not just re-stripe them for pickleball (in a different color pain) and have portable nets and set up an online reservation system? That way those who want to play tennis have the option without creating a tennis vs. pickleball gang war. Thank you for reading.

chuck

2/04/2022 06:15 PM

Any Private sports court is a nuisance to the adjacent neighbors and all should not be approved in the future. Just because your wealthy and have the resources to build a court, doesnt mean on a 1/2 Arce lot its acceptable. Build it inside not outside.

Anonymous

2/04/2022 07:52 PM

Pickleball is no noisier than basketball and involves less people. I don't understand why the scrutiny when there's no issue with private basketball courts.

Anonymous

2/05/2022 07:44 AM

Courts should never be approved in neighborhoods that contain any lots of less than 3 acres. There should be at least a 300 ft distance required between a pickleball court and any residence. These courts cause significant loss in the value of surrounding homes - a major point to consider. The game is very noisy and very obnoxious to any homeowner located within 300 feet. Park City neighborhoods are too dense and the lots are way too small to accommodate pickleball courts, which are very very large. The concrete pad is at least 1800 sq ft - large enough to which to build a 3600 sq ft home. Ridiculous on a lot less than 3 acres in any neighborhood where the backyards are simply too small for something this large and on the same lot that may contain a house whose footprint is either the same size or less than the court. The surrounding fence height for the courts are huge and unsightly to any neighbor forced to look at it. There is no sufficient noise mitigation that can solve the noise issue for homes located closer than 300 feet from a court. Very poor comparison made to a basketball court. The noise generated from those cannot be compared to that of a pickle ball court. Please no courts on lots less than 3 acres.

Anonymous

2/05/2022 11:09 AM

I think residential Pickleball courts should be allowed.

Anonymous

2/05/2022 11:36 AM

Pickleball has already outgrown Park City and our surrounding areas with the current number of public courts. Having an active community that would engage in pickleball at later hours would be ideal as well.

Anonymous

2/07/2022 09:07 AM

This pickleball noise is all so embarrassingly entitled. And silly. Could we please focus on affordable housing for our workforce and seniors first?

Anonymous

2/07/2022 02:23 PM

Question 7,8 and 9 only allow a choice of options the survey maker listed. What are the requirements for adding a basketball court? Is there a minimum lot size? Are there notice requirements? Is play limited to certain times? Is HOA approval needed - I think this depends on the HOA's rules. The survey for questions 7,8 and 9 doesn't allow appropriate response as you can only select what the survey maker listed. Pickleball should be treated like any other sport court installation and should not have separate rules.

Anonymous

2/07/2022 05:26 PM

The db level is a little disingenuous in that the pitch of a Pickleball is different from other sports, thus it's perceived loudness is not the same as a db meter would read. I'm an audio engineer and thus I

understand the A weighted system you're using. But as I mentioned the pitch, EQ, timbre of a pickleball gives it a perceived difference.

Anonymous

2/07/2022 05:40 PM

Most players prefer to play outdoors, but we do need indoor facilities for winter and poor weather conditions.

Anonymous

2/07/2022 06:05 PM

I wish more public courts could be built both indoor and outdoor. In Park City the summers are beautiful and we should be able to play outside and in the winter , because of the weather, we can't play outside, so we need more inside courts.

Anonymous

2/07/2022 06:13 PM

As a member of the Park City Pickleball Club we appreciate the interest in expanding courts by the recreation department and increase of court time for Pickleball at the MARC.

Anonymous

2/07/2022 09:28 PM

We need more courts, indoor and outdoor!

Anonymous

2/07/2022 10:29 PM

This is the dumbest regulation consideration in the history of the world.

Anonymous

2/08/2022 02:04 PM

Keep seniors off the streets and out of trouble—with pickleball. If 5 year olds are getting universal pre-school seniors who have paid taxes for 50 years deserve pickleball

Anonymous

2/08/2022 02:12 PM

The growth of pickleball is overwhelming to the point there are NO courts to play in Park City or Salt Lake City and this sport has only just begun to boom and grow with young people to retired older people. My suggestion is build year round indoor courts with real tennis court surfaces in cinder block building (to be affordable to build) that allow play year-round from 6am - midnight with no noise for the neighborhoods to be concerned about. There is room at every park to build these very basic structure with indoor courts that solves all the negative concerns of not enough courts, noise and no where to play in the winter time ... just go to any pickleball court and it's overwhelming how many people are playing today in it's early stage of popularity ... good luck it's a good move to build more courts!

Anonymous

2/08/2022 02:38 PM

Pickleball courts should be separate from tennis courts; be its own facility.

Anonymous

2/08/2022 02:40 PM

Need more courts

Anonymous

2/08/2022 02:42 PM

Lights on the public courts would be necessary as well if one is to play outside daylight hours.

Anonymous

2/08/2022 02:42 PM

I love pickleball. But, have a park about 1/2 mile away and can still hear them- knock knock knock knock- all day. 8am start time is fine and 8 PM end time ... the noise is undeniable. There is a reason tennis balls are soft. Anyone that says it does not make noise needs a hearing aid.

Anonymous

2/08/2022 02:43 PM

Pickleball on residential lots is fine, no different than pool or basketball court - but if there are lights, then those that could see the lights should be consulted for approval.

Anonymous

2/08/2022 02:44 PM

Pickleball is a social sport, most courts should be public. We also don't need more light pollution.

Anonymous

2/08/2022 02:44 PM

hope we can get more outdoor courts its getting crowded

Anonymous

2/08/2022 02:45 PM

This sport is good for the mind, body and soul! All ages and abilities can laugh and play together, as well as some can practice, set goals and try to achieve them .

Anonymous

2/08/2022 02:48 PM

I love pickleball and want more courts. But, they are noisy. Neighbors should not have to listen to the ball noise all day.

Anonymous

2/08/2022 02:48 PM

Not sure why this would be different then paddle or tennis.

Anonymous

2/08/2022 02:49 PM

Pickleball is out of control in this town and must be stopped.

Anonymous

2/08/2022 02:52 PM

love park city pickle ball

Anonymous

The sport is totally taking off. If there were lots of public court

2/08/2022 02:53 PM

availability, there would probably be less interest in building courts in ones own yard but there will still be interest. Working with neighbors would be best. There are some noise mitigation techniques available but being neighborly would be best.

Anonymous

2/08/2022 02:53 PM

Pickleball is a big reason for spending the summer in Park City

Anonymous

2/08/2022 02:54 PM

If a residential property wants to build a pickleball court, it should be the same approval process as any sport court and not singled out as "pickleball."

Anonymous

2/08/2022 02:56 PM

There is a great need for more PB courts in Park City. The biggest problem is when we need indoor courts in the winter.

Anonymous

2/08/2022 02:57 PM

Pickleball is an inclusive, active sport for all ages. The sport is growing exponentially and additional public courts would be a huge asset for the community. Revenue streams through active leagues, tournament play (tourism revenue as well!), special events, social gatherings would be beneficial to the area!

Anonymous

2/08/2022 03:00 PM

We bought a house 15 minutes south of Park City because we love Park City pickleball so much! We came in 2020 during COVID and have come back and back because of pickleball. We have spent quite a bit of money in Park City - so pickleball is a wonderful thing there!!

Anonymous

2/08/2022 03:01 PM

Build more public courts in PC please!

Anonymous

2/08/2022 03:02 PM

i prefer to play pickle ball indoors during the winter months and outdoors weather permitting

Anonymous

2/08/2022 03:03 PM

Pickeball can be noisy. More public courts are needed but approval should be required by neighbors for private courts

Anonymous

2/08/2022 03:07 PM

Park city is our second home pickelball a great attraction along with all other pc outside activities

Anonymous

2/08/2022 03:11 PM

Pickleball is already very popular and its popularity is growing. We need more courts. Pickleball is not more noisy than other sports like basketball and should not be discriminated against with special rules.

Anonymous

2/08/2022 03:12 PM

We need more courts!!

Anonymous

2/08/2022 03:17 PM

No one seems to have an issue with basketball courts on residential property. They are as loud if not louder. Pickleball should be granted as much court availability as tennis. The MARC is not cutting it with the restricted hours even when courts are available during "tennis time".

Anonymous

2/08/2022 03:19 PM

Courts built on private residential lots would be nice, however noise is a concern. And lighting such courts would encourage perhaps unwanted sound and light pollution.

Anonymous

2/08/2022 03:24 PM

Pickleball has been very important to my mental health - it creates not only physical exercise opportunities but a lot of social opportunities. I know a reasonable balance is required for competing concerns. But pickleball really doesn't seem that different from basketball courts or a lot of other things that don't appear to have heavy regulation.

Anonymous

2/08/2022 03:34 PM

I love to play year round and believe PC needs more indoor AND outdoor public courts. It would be wonderful if some outdoor courts had sun protection for all of us pigment challenged folks as skin cancer is so pervasive in Utah. Thanks!

Anonymous

2/08/2022 03:36 PM

We need a 17 court outdoor complex to include a stadium center court

Anonymous

2/08/2022 03:38 PM

Not only is pickleball beneficial to the health of the elder residents, but it is also beneficial to the tourist appeal of Park City

Anonymous

2/08/2022 03:41 PM

Pickleball is so popular in Park City and will only get more popular! We are struggling NOW to play. It will get worse and worse as time goes on if we don't get more courts.

Anonymous

2/08/2022 03:43 PM

We need more pickleball courts in PC

Anonymous

2/08/2022 03:46 PM

Pickleball is here to stay!

Anonymous

2/08/2022 03:46 PM

I think set backs is a more appropriate measurement than size of lot.

Anonymous

2/08/2022 03:46 PM

I don't believe that daylight/nighttime is the determining factor when to play pickleball. 4 people on a court can be noisy, so it should not interfere with sleep hours. Other than that, the sport is very popular, and keeps the public active. I support building more courts.

Anonymous

2/08/2022 03:50 PM

PB is a great activity for all ages, so it would be nice to extend the availability while still protecting individual homeowners privacy and access

Anonymous

2/08/2022 03:53 PM

pickleball specific courts are very loud to surrounding neighbors. The club and citizens should work towards more public play area rather than disrupting neighborhoods. Sport courts are quite different in surface and noise and should not be restricted but cement courts are loud and disruptive to small close neighborhoods.

Anonymous

2/08/2022 03:57 PM

Pickleball continues to see incredible growth in participation. Its popularity warrants additional courts. These courts will be an asset to Park City for both residents and tourist.

Anonymous

2/08/2022 03:58 PM

Pickleball is a great social activity, great exercise and hugely popular with all age groups and demographics. It's a great way to meet / mix people that would otherwise never interact. Let's do everything possible to promote more pickleball play!

Anonymous

2/08/2022 04:04 PM

The current public indoor pickleball suck. Poor lighting, poor surfaces.

Anonymous

2/08/2022 04:04 PM

We need more courts both indoors and outside.

Anonymous

2/08/2022 04:06 PM

PICKLEBALL should be placed in a central complex for all to enjoy, away from homes. They should not be allowed in neighborhoods with close proximity of housing due to the noise that it makes. If you live on a large lot with multiple acres then I think it is fine or if you have an

indoor court at your home that is fine also.

Anonymous

2/08/2022 04:13 PM

We need more public pickle ball courts in Park City. It is an ever expanding game with so many participants. It is too difficult to get to play indoors at the Park City public courts as too many people sign up too quickly, consequently, no play in the wintertime indoors. I appreciate the City Council and City Staff considering these additional courts at The MARC and Park on 248

Anonymous

2/08/2022 04:17 PM

This is a fast growing sport as evidenced in our own community. Given the aging of our town, more will pick this sport up. If courts r located away from residential areas (ie, Quinn's) then I think the 9 pm curfew shld be extended.

Anonymous

2/08/2022 04:24 PM

We need more indoor courts in PC. They should be limited to PC residents only.

Anonymous

2/08/2022 04:26 PM

Please build more public Pickleball courts, or convert more tennis courts to PB. I'm a tennis and Pickleball player: I often see tennis courts empty, while there are dozens of people waiting for PB courts. Willow Creek Park on Sat or Sun illustrate this fact. Further, the relatively short time of PB games and smaller court enables dramatically higher utilization of courts. Envision 4 doubles PB courts on the size on one tennis court, yielding 16 PB players rather than 2 to 4 tennis players, leading to 4 to 8 times more happy residents! Thank you!

Anonymous

2/08/2022 04:30 PM

We desperately need more Pickleball Courts outside and inside for year long play.

Anonymous

2/08/2022 04:44 PM

We need more public courts in public parks

Anonymous

2/08/2022 04:48 PM

We need more dedicated outdoor pickleball courts

Anonymous

2/08/2022 04:49 PM

I am a summer resident and outdoor court availability in the summer is getting harder to regularly find. More dedicated courts are needed. My experience with tennis/pickleball courts suggests that the tennis population doesn't think they need to follow the rules.

Anonymous

2/08/2022 04:51 PM

Given population growth and corresponding growth of pickleball as a sport, it is a great move to expand pickleball court capacity.

Anonymous

2/08/2022 04:55 PM

I love this game but it is loud. Common courtesy and a willingness to work with the surrounding area is a must. I'd love one in my backyard but realize the sound of the ball and the loud socializing and swearing (me) would be a nuisance to my neighbors.

Anonymous

2/08/2022 05:04 PM

The outside courts should not have lights, my answer to number 4 would have been during daylight hours. Basketballs are just as noisy, if it is the noise you are concerned about, pickleball should fall under the same permitting as basketball courts.

Anonymous

2/08/2022 05:05 PM

The Park City Pickleball community should have a world class facility to play, which would also be an attraction for Tourists who would bring their paddles.. and revenue.. to Park City.

Anonymous

2/08/2022 05:10 PM

Pickleball courts should have the same consideration as tennis courts, basketball ball courts, pools, trampolines etc

Anonymous

2/08/2022 05:15 PM

The sheer numbers of pickleball players are increasing dramatically so the City is going to need to make alternatives available and if there are too many limitations on private courts, the City is going to have to deal with overcrowding at the public courts.

Anonymous

2/08/2022 05:15 PM

The question about hours of play outdoor should be relative to adjoining properties. If it is in a desolate warehouse area or isolated remote location, hours of play shouldn't be restricted. If courts surround homes, they certainly should be.

Anonymous

2/08/2022 05:23 PM

I think you need to do some NOISE Studies. I would not want a pickleball court near my home unless I could not hear it. too much disruptive noise

Anonymous

2/08/2022 05:38 PM

Pickleball is fastest growing sport. Pickle ball courts are crowded. Is only fair to give equal priority to both tennis and pickle ball.

Anonymous

2/08/2022 05:46 PM

As much as I love pickleball, it is a noisy sport and, given its popularity, one that is apt to draw multiple vehicles to court locations.

I think HOAs should have input into whether they want that type of recreation within their property boundaries and that nearby residences which might be impacted by the noise and/or traffic should be properly informed.

Anonymous

2/08/2022 06:02 PM

we need lots more pickelball courts in park city!!!

Anonymous

2/08/2022 06:12 PM

As you know, Pickleball courts are loud. Not only the sound of the ball and paddle, but most players are very enthusiastic and contribute to the sound. So I think that Pickleball can be played early and late so long as the noise is not affecting nearby homes.

Anonymous

2/08/2022 06:22 PM

I love pickleball and play a lot. The regular balls are quite noisy. There is a "Gamma Foam Quite Pickleball" ball that can be used instead of the regular plastic balls. This might be a good solution (requirement?) for homeowners who want to build a pickleball court.

Anonymous

2/08/2022 06:32 PM

Pickleball is already huge and growing every year. We need a outdoor dedicated Pickleball facility with 24 courts.

Anonymous

2/08/2022 06:49 PM

The sport is growing like crazy and should be supported in a big way!!

jphillips

2/08/2022 07:55 PM

Please approve additional indoor and outdoor pickleball courts. It is a great game, with a very impressive participation trajectory. The game does emit noise, however, and I believe it would be best to consolidate the use in public facilities rather than scattered throughout individual residential homes.

Anonymous

2/08/2022 08:39 PM

other consideration should be given for tree screening and other buffering, buildings, hills, etc.

1bilotta1

2/08/2022 08:57 PM

Pickleball is a fun court sport for all ages. It's the fastest growing sport in the USA and that's why more and more and more courts are needed.

Anonymous

2/08/2022 09:29 PM

I think it would be a standard process to have an HOA approved a Sport Court. I don't believe that a pickleball court should be treated any differantly than a "sports court"

Anonymous

2/08/2022 09:34 PM

I play pickleball but would not one in my neighborhood anywhere near without strict guidelines....

Anonymous

2/08/2022 09:38 PM

Lights should only be allowed on public courts.

Anonymous

2/08/2022 09:59 PM

Do homeowners have to notify their neighbors before buying a lawnmower or leaf blower, or installing an outdoor stereo system? Basketballs, skateboards, atvs, motorcycles - they're all vital to activities that people love, and they all make some noise. Pickleball should not be singled out for onerous regulation.

Anonymous

2/08/2022 10:40 PM

It has been extremely difficult to get court time, indoor and outdoor. You have hundreds of people wanting to exercise if there were available courts.

Anonymous

2/09/2022 12:10 AM

It is hard to get courts in the morning. It would be a great thing to have more courts.

Anonymous

2/09/2022 03:35 AM

Pull your heads out!!

Anonymous

2/09/2022 05:10 AM

Insane growth roughly doubling every year in park city (will level off eventually). Available public courts between Basin and Marc already inadequate. Availability at the Marc nowhere near meeting demand

Anonymous

2/09/2022 07:12 AM

It is such a pleasure to belong to the Park City Pickleball community! We've met so many wonderful people of all ages that we would never had the opportunity to get to know! For me it makes Park City even more special. It's a great inclusive, fun, communal sport the perfect fit for our wonderful town! But we do need more dedicated courts.....this sport is just getting more popular!

Anonymous

2/09/2022 08:14 AM

Pickleball should be treated the same as tennis.

Anonymous

2/09/2022 09:20 AM

Open up more indoor courts in the main building at the MARC

Anonymous

2/09/2022 09:23 AM

Interest in Pickleball continues to grow in all age groups. Additional courts can help meet the need and keep people healthier by playing Pickleball.

Anonymous

2/09/2022 09:26 AM

Pickleball courts need to be constructed with common sense in mind and not politicized.

Anonymous

2/09/2022 09:44 AM

More indoor public courts are needed. The MARC and Basin Rec. do not have enough capacity to meet demand in the winter. Thank you for addressing this issue. Pickleball is a fun sport for all ages.

Anonymous

2/09/2022 10:15 AM

We do not need additional light pollution in our city. Pickleball players do not need to play after 9pm in the summer. Neighbors should be notified. We need more public courts.

Anonymous

2/09/2022 10:20 AM

I love pickle balls so much, id love to build a pickle ball court in my backyard

Anonymous

2/09/2022 10:33 AM

its complicated

Anonymous

2/09/2022 10:34 AM

pickle ball 4 life

Anonymous

2/09/2022 10:43 AM

I do not believe these courts should be treated just as basketball nets in driveways or volleyball courts or skateboard ramps in driveways. Pickleball and the people who play are less noisy than skateboard ramps and basketballs bouncing along with profanity and yelling that goes along with it. More often than not, people who have pickleball courts painted in their cul-de-sacs and in their back yards, are not going to be using them that often. The neighbors who are bringing this complaint have other issues and don't even live here full time.

Anonymous

2/09/2022 11:01 AM

pickleball

Anonymous

2/09/2022 11:03 AM

No regulation needed

Anonymous

The city could build picklers their own dedicated indoor facility,

2/09/2022 11:29 AM

perhaps by the NAC. The Marc should be Tennis only.

Anonymous

2/09/2022 11:56 AM

I am a teacher at PCHS but I do not live in Park City. Depending on what information you want, you may want to first ask if the respondent lives in Park City.

Anonymous

2/09/2022 12:36 PM

It appears that there are other types of negative lobbies involved in this, where do these proposed regulations even come from. Pickleball is a fun community game that is not noisy. The only issue is they're not enough pickleball courts, it is rapidly growing and a great game for the entire family. We should not be looking at owners restrictions and anything that limits participation in the sport that is great for community and exercise. My children play with my parents, the whole family is involved, do not do anything to make this sport harder to play.

Anonymous

2/09/2022 01:21 PM

I love the idea of a dedicated indoor pickleball facility to be constructed at the MARC. Minimum 8 courts, but 10 or more even better. You build it, they will come! Parking could be an issue, though, especially with skiers now parking there. Control that!

Anonymous

2/09/2022 01:23 PM

Please build MORE pickleball courts for PC.

Anonymous

2/09/2022 02:15 PM

pickle ball please

Anonymous

2/09/2022 02:19 PM

I agree that is a very fast growing sport and it is popular with all ages. Also, it is a sport that does not require a lot of instruction to learn so it makes it very affordable. One or two courts added to Park City would be great!

Anonymous

2/09/2022 03:17 PM

I can't seem to be able to play Pickleball year round in Park City with the current facilities

Anonymous

2/09/2022 05:07 PM

We bought a condo with a tennis court on property. It was fine. It then changed to pickleball and the noise was so irritating that after 2 years of it we sold and moved out! It would be a shame for neighbors on their own private property to have to listen to the sound coming within the neighborhood. It only belongs indoors or on public property (parks/recreational facilities). Allowed only 9AM to 4PM.

Anonymous

2/09/2022 08:49 PM

No need for noise reducing fencing, flooring or paddles. It is not a noisy sport.

Anonymous

2/09/2022 09:24 PM

Great way to get people together outside safely and multi-generational

Anonymous

2/09/2022 11:25 PM

It isn't right to single out one sport for these requirements. A bouncing basketball has sound of 85-100Db, so why isn't this being regulated the same? You already have to get a special use permit for a court and that should be enough. Also there are only 3 requests at the city, why is the city creating a bureaucracy and wasting taxpayer money for such a small number of requests. Typical government overreach. And I have no plans to ever put a court on my yard.

Anonymous

2/10/2022 08:09 AM

Pickleball is a fantastic sport and this effort to curtail its enjoyment is a clear example of the term "Not in My Backyard". I DO NOT support these proposed changes.

Anonymous

2/10/2022 05:58 PM

I would like to see dedicated pickle ball courts to give back tennis courts for the purpose they were built. Pickle ball does not require extensive fencing and extra space so it would be much cheaper to put them on concrete slabs much like basketball and rec centers have. 11-6 would be better hours for usage unless they are totally away from residents.

Anonymous

2/10/2022 06:30 PM

i do not believe courts should be allowed in residential areas unless it is a new development and the courts can be very far away from homes as the noise is very annoying

Anonymous

2/11/2022 08:25 AM

Let's not over regulate. The game can easily be played in a driveway, preferably flat!!!

Anonymous

2/11/2022 10:38 AM

More outdoor public pickleball courts and indoor public pickleball courts.

Anonymous

2/11/2022 11:14 AM

rules should be same as tennis courts.

Anonymous

2/11/2022 02:37 PM

Our wonderful neighbors FOUR lots down recently put in a pickleball court and play 3 or 4 times a week until 10 pm at night. The LOUD and CONSTANT BANGING of the ball against the racquet is totally nerve-racking. Unfortunately, the incessant noise is unavoidable due to the nature of the game. Pickleball should be played in a public park or at a residence that is at least a quarter-mile away from any other homes. We love our neighbors, but their pickleball games are destroying the calm and peacefulness of the neighborhood. Thank you for conducting this survey.

Anonymous

2/11/2022 03:18 PM

In 2018-2021 pickleball participation grew at over 21%. Over 2021-2022 that increased to over 39%. Municipalities and regional districts should get ahead of this curve, not try to play catch up.

Anonymous

2/11/2022 03:57 PM

Please build more outdoor Pickleball courts!

H

2/11/2022 04:15 PM

I do love to play Pickleball when I am on vacation. However, we live adjacent to a tennis court and members of our HOA have determined that Pickleball should not be allowed at all on the tennis courts because of disturbance to surrounding owners. It is a very different noise to tennis and is a disturbance. When so many owners work from home it's certainly a consideration when homes are in close proximity to shared spaces. Having pickleball courts (for example at Willow Creek Park) is appropriate - where their placement is at considerable distance from homes.

Anonymous

2/11/2022 07:11 PM

The biggest concern with private pickleball courts in residential neighborhoods is the noise factor. Neighbors should not have to be subjected to that.

Anonymous

2/11/2022 08:04 PM

NO pickle ball anywhere. EVER

Anonymous

2/11/2022 08:07 PM

It is ridiculous to regulate a home sports court. There are quiet hours already in the city code. Apply those hours to pickle ball. Can you say government over-reach? How about not allowing contractors to park on both sides of the street for houses under construction that takes YEARS to complete!

Anonymous

2/12/2022 07:05 AM

I would prefer the addition of public courts at the MARC or other locations and keep them out of residential neighborhoods. The sound

is loud and annoying.

Anonymous

2/12/2022 08:07 AM

Pickleball is loud. I can hear the public facility pickleball games from over 3 blocks away. Nothing wrong with listening to it during day (fun game) but I would NOT want a court next door to me especially with lighting!

Anonymous

2/12/2022 08:31 AM

Of all the absurdities that are not addressed in the LMC, how did pickleball come to be a priority in need of code amendment????

Anonymous

2/12/2022 08:39 AM

Pickleball is not loud. We already have noise ordinances and people having parties, blowing leaves, playing music, playing basketball, etc. all make more noise than pickleball.

Anonymous

2/12/2022 10:12 AM

Seriously people?? Get over yourselves. We have bigger concerns to worry about like how in the world are we going to water all of golf courses!

Liz

2/12/2022 11:06 AM

Pickleball is a sport that does not allow for quiet enjoyment of our property. It is not a complementary to our community in any way. I believe our wildlife would suffer as well. I am strongly opposed to pickleball in any residential community in our city. The only place I can envision it working in the community is out by hwy. 80 or 40 where it would get drowned out by the hwy. noise. Thank you for asking.

Anonymous

2/12/2022 01:25 PM

Not in residential area, too noisy

Anonymous

2/12/2022 02:30 PM

HOA approval of these permits is essential to ensure it is consistent with the CCRs. We live within 500 feet of the Park Meadows Country Club. It has a pickle ball court and we hear it. At this distance, it is not a nuisance, but I could see it being one if it were closer.

Anonymous

2/12/2022 03:30 PM

Pickleball is loud. The sound from balls hitting paddles can be heard more than 300 feet away. Parking is an issue, "hanging out" after games is disruptive to a neighborhood. Pickleball is a community recreational activity and should be limited to areas designated as such, NOT quiet neighborhoods. Treat it the same way you would treat a skateboard park or pump track. Anything less is a disservice to the community.

Anonymous

2/12/2022 03:42 PM

There should be a 1/2 acres minimum lot.

Anonymous

2/12/2022 05:20 PM

Pickle ball courts are a water-wise yard option for exercise, and the noise is “happy” noise of people having fun. Many will probably eventually become patios after the craze. I would argue that landscaping services are louder, and outdoor house and street lights are brighter, (there are 2 non-dark skies compliant street lights visible from my house!), but neither are regulated, despite repeated requests. Many city lots are under 0.5 acre, but building setbacks provide adequate space for a court. I think it’s particularly unfair to regulate pickle ball or sport courts when so many that do not fit into your regulations have already been built. If you implement these regulations, I only think it’s fair to also regulate pre-existing sport courts—and additional non-code yard structures (eg, the extremely high fence on the corner of Venus Ct and Evening Star).

Anonymous

2/12/2022 06:30 PM

Get a life and let people have fun

Anonymous

2/12/2022 07:01 PM

We need to preserve the quiet enjoyment of mountain life in residential neighborhoods. Pickleball courts should be limited to our city parks where this type of activity is more appropriate.

Anonymous

2/12/2022 09:06 PM

I believe in personal property rights and enjoyment

Anonymous

2/12/2022 10:05 PM

Great idea to put out for comment with very concise and relevant questions.

Anonymous

2/13/2022 07:32 AM

Park City would be a huge draw for tournaments & an indoor/outdoor facility would get tremendous use.

Anonymous

2/13/2022 10:25 AM

Noise from courts travels well farther than 300 feet. Anyone in range of the sounds needs to be notified. Also, any new court should be required to be built with noise barriers and limit play to only reduced noise paddles and balls.

Anonymous

2/13/2022 11:23 AM

Pickleball paddles and balls are loud! Outdoor use in a neighborhood can be heard all over the neighborhood and should not be allowed.

Anonymous

2/13/2022 12:31 PM

I hope that those who weigh in on this subject and those who make the decision have at least watched a pickleball game, have talked with those who enjoy the sport, or, at best, have played pickleball. Yes, it is noisier than tennis, but for many people it's a lot more fun and very approachable even with borderline ability, which is why it's become so popular. Except for the real professionals, it's not particularly sedate or sophisticated -- and that's why I love it. It's been a while since we've really laughed and had physical and outdoor fun together -- pickleball lets that happen. Please don't nip it in the bud.

Anonymous

2/13/2022 02:41 PM

agree with the proposed changes that pickle ball be allowed with the appropriate setbacks, no lights. The parking is a slightly different issue, because if the presence of a pickle ball court negates street parking, what about people who are having an event in the neighborhood and want to use street parking for that. The presence of a pickle ball court in the neighborhood should not eliminate the ability to park on the street.

Anonymous

2/13/2022 03:41 PM

With time limits/hours of play spelled out, I can't really see why a Pickleball court would be more impactful due to noise than kids on a trampoline, shooting baskets, or playing any game in the backyard. The 12' fence being considered seems more significantly impactful to adjacent neighbors and property values than any noise concern. Thank you!

Anonymous

2/13/2022 04:38 PM

What we really need in Park City is more INDOOR pickleball AND TENNIS courts!

Anonymous

2/13/2022 07:23 PM

Anyone unfamiliar with outdoor pickleball should visit the MARC outdoor courts in summer to see how pickleball sound travels. I play but I wouldn't want a court next to my house.

Anonymous

2/13/2022 09:25 PM

We need more public courts.

Anonymous

2/14/2022 11:47 AM

Agreed about the need for greater mitigation for PB courts.

Anonymous

2/14/2022 12:03 PM

My home is located uphill, overlooking open space and the homes on Ashley. The noise from below carries extremely well up the hill so 300

feet is not far enough away to lessen the noise. Pickleball is a noisy game...the balls are hard and make quite a pop when hitting the wooden rackets, and the game itself makes people cheer and yell.

Anonymous

2/14/2022 12:38 PM

Let's not make it hard for people to exercise and socialize playing pickleball. The klunk of the paddle hitting the ball isn't any worse than loud traffic.

Anonymous

2/14/2022 01:00 PM

its an outdoor activity familiar (similar to known sports like tennis & table tennis) and accessible to people of all ages and fitness levels. access shouldn't be restricted. Lit courts on residential lots should probably be a no-go, but providing public lit courts in a place like city park would be great.

Anonymous

2/14/2022 01:03 PM

Obviously, if a neighbor were to have pickle ball tournaments on a regular basis it could get annoying. However, I would caution against becoming so over regulated that a youth wanting to practice shooting hoops on a daily basis needs to have an approved permit for the basketball standard. We live in a town that encourages an active lifestyle and spending all this time and energy opposing something that supports that philosophy seems counterproductive. It's reminiscent of when people started to complain about hot air balloons landing near their homes. Also, as long as emergency vehicle access is not restricted, I would never regulate when people can park on a public street.

Anonymous

2/14/2022 02:31 PM

Pickleball is NO different than any other sport. It's not any louder and shouldn't be regulated any differently. WE NEED MORE PUBLIC PICKLEBALL COURTS.

Anonymous

2/14/2022 02:32 PM

PB Courts should be allowed for residential use... what about basketball, pingpong, trampoline, putting greens Pools.

Anonymous

2/14/2022 02:54 PM

Do they require permits for basketball badminton others

Anonymous

2/14/2022 03:10 PM

Pickleball is noisy due to hard balls, paddles and courts. The sound carries a long distance. Pickleball courts are not appropriate in neighborhoods with small lots.

Anonymous

This is a very loud sport and neighborhoods should not to deal the

2/14/2022 03:36 PM

courts anywhere in their space. Someone should invent a quieter ball and some of these issues may go away.

Anonymous

2/14/2022 03:50 PM

There is a home in our neighborhood (no longer have an HOA) that meets requirements. However, it is in view of neighbors on high ridge lots. If the large cement rectangle is meant for a pickle ball court, it will be an eye sore.

Anonymous

2/14/2022 04:15 PM

No pickelball courts should be allowed at residences. Too noisy.

Anonymous

2/14/2022 05:29 PM

Need more courts. It is hugely popular and existing courts are overcrowded.

Anonymous

2/14/2022 06:03 PM

Please build more public pickleball courts

Anonymous

2/14/2022 06:09 PM

we need more public courts

Anonymous

2/14/2022 06:50 PM

Our neighborhood is very quiet, but getting noisier. I think we should all be cautious -- especially if there are public/club courts -- about doing anything that increases noise levels.

Anonymous

2/14/2022 06:59 PM

Pickleball is a great way for a family to stay fit. It's fast, action packed and a lot of laughter. There is always a noise problem. Residential areas always complain. A public park facility is perfect..near the skate park would be a perfect spot

Anonymous

2/14/2022 07:19 PM

Not many lots in PC are large enough to accommodate a pickle ball court without infringement on other property owners quiet use and enjoyment.

Anonymous

2/14/2022 08:12 PM

It should be a discretionary permit process, with a noticed public hearing with an appeal right to the Planning Commission and then to the City Council

Anonymous

2/15/2022 02:46 AM

Private courts ok if hours are reasonable and noise kept down. ABSOLUTELY NO PUBLIC LAND COURTS. Our police and snow removal services are overstretched during peak periods. All funds

must be invested in public health and safety! We need basic services. Pickle Ball courts are fun but not necessary. Please apply funds to services for all rather than the desires of special interest groups.

Anonymous

2/15/2022 06:58 AM

Pickleball and outdoor courts draw many cars to the site. Parking becomes an issue and outdoor courts such as pickleball should be kept in public facilities. Also noise is an issue because typically many people are invited over to play the sport, not just the family members are playing.

Anonymous

2/15/2022 09:47 AM

We need more use of the courts at the MARC all winter. Completely unfair that tennis has the vast majority of the time and pickleball gets times that no one wants. !!!!

Anonymous

2/15/2022 10:04 AM

Pickleball is gaining popularity but due to the nature of the ball and paddle being hard plastic and wood the noise level of the game is very irritating. Even the tennis players on adjoining courts find it distracting. Public courts are not usually in the middle of a residential area. Putting any private courts in a neighbourhood is a bad idea. The noise level is just too high. Maybe properties with 5 or more acres would be fine but in Thaynes or park Meadows or Old town they would be incredibly disturbing to the Majority of home owners who do not play.

Anonymous

2/15/2022 11:22 AM

This entire exercise strikes me as extreme overregulation. A solution in search of a problem. Surely the limited town staff resources have more pressing issues to address than this.

Anonymous

2/15/2022 03:29 PM

With already restricted daylight hours you are proposing, the added setback are ridiculous. How many hours can a private pickleball court really take up during the day? There should NOT be added set back rules for a pickleball court. You are comparing public court usage to private court usage and they are NOT the same. If someone has over 1/2 an acre, it would still be difficult to have even a 50 foot setback. The amount of noise coming from a private court is going to be minimal compared to the public courts that have people playing on them all day long. Try and remember that.

Anonymous

2/15/2022 05:50 PM

Is picklball louder than outdoor basketball, kicking soccer balls into nets, tennis? If not then no restrictions.

Anonymous

2/15/2022 06:23 PM

i understand the concern of noise and lights and believe hours of play should be limited for private residences w courts for those reasons. the pc pickleball club has been advocating for additional dedicated public courts beyond those at willow creek, in the development across from quinn's and trailside. there is clearly demand as those courts fill up fast and it is very difficult to get courts at the marc and other indoor facilities. i believe the town has approved exploring a large facility within the quinn's sports complex and that should be given high priority in my opinion.

Anonymous

2/16/2022 10:51 AM

Item 2. is should be the same setback as they allow for house set back or the setback for a driveway that people play Basket Ball on and play Hop Scotch Item 3 to restrictive why does A golf course not have to put up a noise reduction fence when they start mowing at 5 AM in the morning. Item 3 I do not believe there is an ordinance at what time you can take motor cycle out of your garage. Why should a pickle ball court be more restrictive than hot tub or swimming pool they do not time limit or have to put up a noise reduction fence. Take item 7 out everybody in PC complains

Anonymous

2/16/2022 11:15 AM

Let Freedom Ring (Or pong in the case of Pickleball!)

Anonymous

2/16/2022 12:08 PM

Pickle ball is a fun and NOISY sport. There should be limitations on how early it starts in the morning in residential areas.

Anonymous

2/16/2022 03:35 PM

I live about 100 yards, not feet, from 2 pickle ball courts in my neighborhood. They are MUCH LOUDER than the 2 tennis courts. It is quite loud early in the morning (between 6 a.m. & 8 a.m.)

Optional question (299 response(s), 302 skipped)

Question type: Essay Question

Julie Schultz

From: tidewaters93@comcast.net
Sent: Saturday, February 12, 2022 1:47 PM
To: Browne Sebright
Subject: [External] Public hearing for pickle ball rezoning

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Pickleball LMC Public Comment

[CAUTION] This is an external email.

Just to let you know that today, Saturday, February 12, this postcard announcement of a public hearing arrived in our mailbox in Park Meadows. Unfortunately, the two meetings on February 7, and February 8, are finished. It would be very nice if these mailings were sent out at an appropriate time so as to be received by Park City residents in time to attend.

Diane Thompson
2514 Little Kate Rd
Park Meadows

PUBLIC HEARING

PROPERTY ADDRESS: Primarily Residential Zoning Districts

PERMIT #: PL-21-05062

APPLICATION: Land Management Code Amendments - Pickleball Courts

REVIEW AUTHORITY: Planning Commission and City Council

HEARING DATE: Planning Commission 2/23/2022, 5:30 PM; City Council 3/5/2022, 6:00 PM

LOCATION: www.parkcity.org/public-meetings

PROJECT DESCRIPTION: Amendments to Land Management Code Section 15-15-1, and enacting a new section 15-4-22, are proposed for pickleball court land use regulation in residential Zoning Districts to mitigate pickleball court impacts. We want to hear from you! Attend a virtual open house on February 7 at 5:00 PM or February 8 at 12:30 PM and complete our survey on www.surveyparkcity.org by February 16, 2022. For more information, visit www.parkcity.org.

PROJECT PLANNER: Browne Sebright | browne.sebright@parkcity.org | 435-614-4063

For further information, please contact the Project Planner or visit the Planning Department at 400 Main Street, Park City, UT.

Julie Schultz

From: JF Lanvers <jflanvers@gmail.com>
Sent: Saturday, February 12, 2022 4:15 PM
To: Browne Sebright
Subject: [External] Public hearing Permit # PL-21-05062

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Pickleball LMC Public Comment

[CAUTION] This is an external email.

We just received the mailed notices for the above captioned hearing, today February 12.
We saw that it was scheduled for February 7. Obviously, it's long gone.
Are you rescheduling that hearing?
JF Lanvers, 3036 Arabian Dr, Park City, UT 84060

Julie Schultz

From: ttolpinrud@gmail.com
Sent: Monday, February 14, 2022 11:03 AM
To: Browne Sebright
Cc: Council_Mail; planning
Subject: [External] Public Hearing Pickle Ball Courts

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Pickleball LMC Public Comment

[CAUTION] This is an external email.

Browne,

Thank you for taking my call this morning regarding the public hearing coming up on Pickle Ball Courts.

I would like to follow-up in writing my concern about the postcard notice that I received in my mailbox on Friday afternoon, February 11th. I am very interested in the discussions and after reading the received card, was disappointed to learn that the two virtual open houses scheduled for February 7th and 8th had already taken place. This gave me zero opportunity to participate and hear other ideas and concerns both pro and con or to give feedback or ask questions.

You let me know this morning that the main reason for the postcard notice was to inform citizens about the Planning Commission meeting on the 23rd of February and the council meeting on the 3rd of March and that the virtual open house information was added separately. The information from the virtual meeting is going to be given to the Planning Commission to evaluate how they move forward, along with the online survey. Sadly, I will not be part of those comments but I will complete the survey.

While I appreciate the hard job that everyone has at the City offices, I do not find this an acceptable way to represent the planning department. If the notice is legally required within a specific time frame, or input is actually wanted, then it should be mailed in a timely manner.

Thank you,
Toby Tolpinrud
435-640-3773

2 February 2022

Members of the Planning Commission
Park City Municipal Corporation
Park City, Utah 84060

Dear Commissioners:

Following the Planning Commission meeting of 26 January 2022, I have spent several days pondering the issues surrounding possible approvals for private pickleball courts in Park City. I have also spoken with neighbors and other members of the public who reside in Park City. Following please find a compilation of my observations:

-I appreciated the serious review of pickleball courts in the City that conducted by the Planning Commission the evening of January 26. It was evident that commissioners had indeed reviewed the various letters submitted by residents concerning this issue. Clearly the consensus of commentary from neighbors and others indicated strong support for significant additional examination and study of this topic and the formulation of guidelines/policies that may govern possible construction and use of private pickleball courts in the future.

-Please know that I am aware of only one neighbor who received formal notification of the proposed pickleball court and receipt of that letter was two days before the meeting, January 24, 2022. I did not receive any notification as an adjacent property owner. While we receive mail at a post office box, in this day and age with large, integrated databases it is inappropriate to limit mailings to street addresses. The preceding is no longer a tenable excuse for failure to notify.

-Mr. Sebright did not accurately report the timing of the building permit for the requested pickleball court at 1961 Venus Court. The sequence is as follows:

- 29 June 2021-excavation begins at 1961 Venus Ct. Commissioners received dated photos.
- 30 June 2021-excavation and site preparation continues. Construction workers report that they are building a pickleball court for the property owner.
- 1 July 2021-property owner requests building permit for concrete patio construction. See Park City supplied documentation.
- 6 July 2021-half of concrete patio poured after compaction of fill material and rebar installation.
- 8 July 2021-Building permit approved by Crystal Kaufman. See Park City supplied documentation.
- 12-14 July 2021-Final concrete pour with completion to current state of concrete slab. See dated photos.

-Additionally, Mr. Sebright apparently made the suggestion of moving the lines painted on the concrete slab marking the confines of the pickleball court in an effort to abide by legal setback requirements. Several people commented that the game is often played on 5-10 foot margins

-A few commented that allowable decibel levels for private pickleball courts should not be determined by averages but by a fixed limit. Each proposed private pickleball court requires its own site specific acoustic study.

-Finally, the most common comment, and one that I have come to share, is that pickleball courts should be constructed in public common areas with parking, restrooms and other amenities. All of these courts sites should be studied for acoustical impacts and be acceptable to neighbors in proximity. Certainly, private pickleball courts should not be allowed on lots of less than .5 acres.

Please know that I wish the Planning Commission and all commissioners well as you carry a vital responsibility for our community. With the question at hand as well as other huge projects you are currently working on (think two huge parking lot initiatives) your work is daunting to say the least. Your conscientious efforts to engage the public will help share the burden and responsibility as well as provide perspectives that may prove to critical to the future of our little town. Thank you for reading!

Sincerely,
Brian Schiller
P.O. Box 2035
1919 Evening Star Drive
Park City, Utah 84060

A handwritten signature in cursive script that reads "Brian Schiller".

(801) 209-6845
schillerbt@aol.com

Julie Schultz

From: planning
Sent: Wednesday, February 9, 2022 8:20 AM
To: Planning_Mail
Subject: FW: [External] Pickleball Court Proposed requirements

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Pickleball LMC Public Comment

From: Calvin Regan <cregan9@yahoo.com>
Sent: Monday, February 7, 2022 4:56 PM
To: planning <planning@parkcity.org>
Subject: [External] Pickleball Court Proposed requirements

[CAUTION] This is an external email.

The proposed requirements for a residential pickleball court are ridiculous. Does Park City have these requirements for a basketball court? The bouncing of a basketball is louder than a pickleball hitting a paddle. A .5 acre lot minimum size is also ridiculous - how many lots in the city limits are even .5 acres - do you have this requirement for a basketball court? The setbacks are also ridiculous - do you require these setbacks for a basketball court? A tennis court? Volleyball court? Prohibiting on street parking - what the heck - this is way out of bounds!! This is unfair treatment of pickleball. Pickleball should not have any requirements that a tennis or basketball court don't already have. This noise issue is really over blown.

Proposed Requirements:

Staff will consider Land Management Code amendments for Planning Commission and City Council review, including:

- Requiring an Administrative Permit, public notice to adjacent properties, and a public hearing for pickleball courts
- Modifying the definition of Private Recreation Facilities to identify pickleball courts as a type of facility that requires additional mitigation due to the noise associated with the sport
- Adding a new Land Management Code Section specific to mitigation strategies for pickleball courts:
 1. Establishing a minimum required lot size of 0.5 acres (21,780 square feet) for pickleball courts
 2. Requiring a minimum 100-foot setback from lot lines of adjacent residential properties for pickleball courts with no noise mitigation
 3. Requiring a minimum 50-foot setback from lot lines of residential properties for courts that include a twelve-foot-tall noise reducing fence, noise reduction floor panels, and the recommended use of "quiet" paddles
 4. Limiting pickleball court use to daylight hours and prohibiting outdoor lighting of the court
 5. Prohibiting on-street parking for properties with permitted pickleball courts

6. Requiring Homeowner Association approval for properties that are part of a Homeowner Association
 7. Requiring further mitigation if three noise complaints are filed within a one-year period of permit issuance
-

Cal Regan
Thaynes Canyon

Julie Schultz

From: planning
Sent: Monday, January 31, 2022 2:28 PM
To: Gretchen Milliken; Rebecca Ward; Spencer Cawley; Browne Sebright
Subject: FW: [External] Pickleball Courts

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Pickleball LMC Public Comment

From: Andrew Morphett <armorphett@gmail.com>
Sent: Monday, January 31, 2022 1:17 PM
To: planning <planning@parkcity.org>
Subject: [External] Pickleball Courts

[CAUTION] This is an external email.

The Planning Department

I read with interest the following proposed amendments in relation to the installation and use of Pickleball courts in residential areas in Park City.

I feel these amendments are well thought out and fully support the them.

Pickleball is a noisy sport and has no place in any residential area without serious planning rules and noise mitigation.

Amendments include: (**see comments**)

- Requiring an Administrative Permit, public notice to adjacent properties, and a public hearing for pickleball courts **I would also include properties up to 150 yards**
- Modifying the definition of Private Recreation Facilities to identify pickleball courts as a type of facility that requires additional mitigation due to the noise associated with the sport . **I fully agree**
- Adding a new Land Management Code Section specific to mitigation strategies for pickleball courts:

1. Establishing a minimum required lot size of 0.5 acres (21,780 square feet) for pickleball courts **Agree: however due to the noise generated I think this could be extended to 3/4 acre**
2. Requiring a minimum 100-foot setback from lot lines of adjacent residential properties for pickleball courts with no noise mitigation **Agree**
3. Requiring a minimum 50-foot setback from lot lines of residential properties for courts that include a twelve-foot-tall noise reducing fence, noise reduction floor panels, and the recommended use of "quiet" paddles **This is important and I agree with this proposal**
4. Limiting pickleball court use to daylight hours and prohibiting outdoor lighting of the court **Fully agree**
5. Prohibiting on-street parking for properties with permitted pickleball courts **Agree**
6. Requiring Homeowner Association approval for properties that are part of a Homeowner Association **Agree along with complying with all these amendments.**
7. Requiring further mitigation if three noise complaints are filed within a one-year period of permit issuance. **I agree as this is important to curb any abuse of the amendments and their intentions. I would consider expanding this amendment to " if 3 noise complaints are filed in ANY one year period"**

Regards and thanks for your time

- Andrew Morphett
- 2040 Lucky John Dr
- Park City Ut 84060

**FRODE JENSEN
2812 HOLIDAY RANCH LOOP ROAD
PARK CITY UT 84060**

February 13, 2022

VIA EMAIL

Park City Planning Department
Gretchen Milliken
Gretchen.milliken@parkcity.org
Browne Sebright
Browne.sebright@parkcity.org

Re: Proposed Land Management Code Amendments to Mitigate Pickleball Impacts

Dear Gretchen and Browne

I write regarding the proposed Land Management Code amendments (Code Amendments) posted on your website and which you have described to the public in two open houses on February 7 and 8. I look forward to discussing the proposed Code Amendments with you at our meeting on February 15.

As you know, I have been concerned about pickleball noise issues since July 6, 2021, the day when I discovered that my neighbor in Park Meadows had commenced construction of a private, backyard pickleball court less than 25 feet from my house and within 100 feet of the homes of several of my neighbors -- without a building permit. Following this discovery, to better understand the noise implications of backyard pickleball I engaged an acoustic expert, R. Lance Willis, PhD, the Principal Acoustical Engineer at Spendiarian & Willis Acoustics & Noise Control, LLC. in Tucson, AZ, to evaluate the situation. Dr. Willis has extensive experience in pickleball court siting, noise analysis and mitigation. He provided me with a letter explaining many of the noise issues which pickleball courts in residential neighborhoods present, a copy of which letter was provided to Staff as an attachment to Robert Rosing's letter to you and others dated August 3, 2021. I will refer to his letter in several places below. By separate email to you today I am attaching an additional copy of his letter for your reference.

On January 24, 2022 I submitted a letter in opposition to the Application for a Conditional Use Permit to Build a Pickleball Court at 1961 Venus Court (PL-21-05072) to the Planning Commission on which you were copied. Many of the concerns which I raised in the letter are relevant to your further consideration of the proposed Code Amendments. By separate email to you today I am attaching an additional copy of this letter for your reference.

I have also prepared a PowerPoint presentation describing pickleball noise issues which I delivered to Mayor Worel, City Manager Dias and Senior City Attorney Harrington several weeks ago. By separate email to you today I am attaching an additional copy of this presentation for your reference. I am also cc'ing these three individuals on this letter for informational purposes.

I have the following specific questions, concerns and comments about residential pickleball courts and the proposed Code Amendments.

1. One of Staff's slides presented at the open houses last week describes levels of pickleball noise commonly exceeding 55 decibels and ranging up to 80 decibels or higher. Dr. Willis confirms these noise levels can be reached during pickleball play in his letter. For comparison's sake, it is widely understood that pickleball noise can equal or exceed the noise levels of garbage disposals, alarm clocks, vacuum cleaners and gas lawn mowers, all of which have been measured around 75 to 80 decibels. It is well known that pickleball courts near homes frequently lead to complaints, disputes and litigation. I provide numerous examples of pickleball complaints and litigation around the country in the attached PowerPoint presentation.

I would first ask you if you have considered, as a threshold issue, whether pickleball courts should even be permitted at all in densely developed residential areas in Park City and, if you have, what is the cost-benefit basis for your conclusion? To me, when decibel levels can reach 80 dBA, the costs simply outweigh the benefits. In addition to your minimum lot size proposal, why not simply also prohibit all backyard pickleball courts in residential areas where there are any homes within, say, 150 feet of a proposed court?

Furthermore, we learned in your recent open houses that the City is actively examining the possibility of adding numerous additional municipal courts. If the City can build, for example, sixteen or more new courts in a remote location, in the near future, why permit any private pickleball courts in residential backyards at all? Please explain why the provision of additional municipal courts would not satisfy the demand, obviating the need for private courts in densely developed residential areas.

2. If the Planning Department agrees with me that noise associated with pickleball play is a serious concern, which I presume it does since it is proposing the Code Amendments, exactly what noise levels resulting from pickleball play does the Department consider acceptable? The proposed Code Amendments don't say and the existing provisions of the Code relating to noise levels and noise annoyance may not provide clear answers.

Dr. Willis has reviewed Chapter 6-3 of the Park City Code which both regulates maximum permissible sound levels in Section 6-3-9.A and also provides noise disturbance and annoyance restrictions under Section 6-3-9.C. In particular, Section 6-3-9.C.2 of the Code prohibits "any stationary source of sound which emits a pure tone, cyclically varying or repetitive impulsive sound which creates a *noise disturbance*." A noise disturbance is defined in Section 6-3-1 as "[a]ny sound that annoys or disturbs a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s)". Accordingly, "annoyance" is a metric for noise

assessment for impulsive sound in addition to the maximum permissible sound levels described in Section 6-3-9.A.

Dr. Willis advises that current standards for noise assessment in regard to annoyance for impulsive sound are based on adjusted sound exposure levels and include ANSI S12.9 Part 4 and ISO 1996 Part 1 standards. He concludes that the methodology in ANSI S12.9 Part 4 for assessment of noise annoyance caused by pickleball play may well show violations of the requirements in Section 6-3-9.C.2 of the Code where the placement of courts is in close proximity to neighbors.

I have seen no evidence that Staff has considered the existing noise standards under Chapter 6-3 of the Code or done any analysis regarding acceptable levels of noise under the proposed Code Amendments. How are applicants to know when they have provided for sufficient noise mitigation in their permit application? What standards will the Planning Commission apply to determine what a sufficient level of noise mitigation is in considering a CUP? It is hard to imagine that any Code Amendments purporting to provide guidelines for acceptable levels of pickleball noise can be considered or adopted without this analysis.

3. Nearly all of Staff's proposals depend on a clear and coherent understanding of the kinds and levels of noise generated by pickleball play. Please advise me whether the City engaged a competent, expert noise consultant of Dr. Willis' caliber to assist in understanding the noise issue and in drafting the proposed Code Amendments? If not, please explain why the City should not commission a comprehensive and expert pickleball noise analysis now and submit it to the Planning Commission, the City Council, and the public together with the proposed Code Amendments.

Since I have seen no reference to any such engagement or analysis, I would suggest that it is premature to consider any codification of pickleball noise mitigation standards before the City has received the written advice of a qualified noise expert. It should go without saying that it is entirely inappropriate to rely on any noise analysis which may have been done by another municipality or concerned person in another geography under circumstances which may differ significantly from our situation here in Park City.

4. You have stated on your website, in the Staff Report on the Venus Court application, and in the open houses on residential pickleball that a pickleball court is 20' x 44' or 880 square feet.

This statement is simply inaccurate and is grossly misleading. A pickleball court will typically consume 2,100 square feet or nearly *2 ½ times more surface area* than you have represented. It is true the in-bounds area of a court may be 20' x 44' but the *minimum* recommended playing area is typically 30' x 60'. Moreover, pickleball court builders typically recommend a 34' x 64' (or 2,176 square feet) playing area. If perimeter fencing outside the playing area is included, a standard court could easily exceed 34' x 64'. Thus, a common pickleball court may be nearly 2 ½ times larger than you represent. See: <https://pickleballfix.com/pickleball-court-dimensions/>. If you agree with me, please correct these representations in future presentations.

5. Staff has previously proposed that applications for conditional use permits for pickleball courts would require an Administrative Permit, presumably as opposed to a permit granted by the Planning Commission.

Please explain why the Planning Department proposes an Administrative Permit process? Why shouldn't permits for highly controversial residential pickleball courts be CUPs, decided by the Planning Commission, with all of the legally-mandated requirements applicable to conditional uses, as all other Recreation Facilities are?

6. It was suggested by a representative of the Recreation Department in one of the open houses that the Department has only received one complaint from all the residents of the Racquet Club condos regarding pickleball noise. However, the Recreation Department staff report recently provided to City Council expressly acknowledged the problem of pickleball noise, stating (in respect of noise issues already present at the MARC) "Tennis is a quiet sport and pickleball is *much noisier* both in the game and the social nature of the sport causing incompatibility with most tennis players". Before moving forward with the Code Amendments, Staff should survey all the residents living within 600 feet of the pickleball courts at the MARC.

7. Staff has suggested modifying the definition of "Private Recreation Facilities" in the Code to identify pickleball courts as a type of facility that requires additional mitigation due to the noise associated with the sport.

I would agree that pickleball courts raise mitigation issues resulting from their noisiness and that it is appropriate to clarify the treatment of pickleball applications, including noise mitigation, in the Code.

However, it should be made clear in the Code Amendments that, in addition to noise mitigation, the items which the Planning Department and/or Planning Commission must review under subsection E of Section 15-1-10, as amended by the Code Amendments, include, but are not limited to (i) Storm Water run-off; (ii) Fencing, Screening, and landscaping to separate Use from adjoining Uses; (iii) usable Open Space; (iv) lighting; (v) physical design and Compatibility with surrounding Structures in mass, scale, style, design, and architectural detailing; (vi) within and adjoining the Site, the appropriateness of the proposed Structure to the existing topography of the Site; and (vii) consistency with the goals and objectives of the Park City General Plan.

In addition, the Code Amendments should be clear that all sports courts (for example, including tennis, basketball, and volleyball courts) require mitigation analysis under subsection E of Section 15-1-10 in connection with noise concerns.

In this vein, the distinction articulated by Staff in a recent open house between *sports courts* and *sports equipment* should be clearly delineated in the Code Amendments.

8. Staff has suggested adding a new Code section specific to mitigation strategies for pickleball courts, including

- (a) Establishing a minimum required lot size of 0.5 acres (21,780 square feet) for pickleball courts.

Please explain how the Planning Department chose 0.5 acres as the minimum required lot size? For example, a square lot of 0.5 acres would be 147' x 147'. As mentioned above pickleball courts are

commonly 34' x 64' and consume approximately 2,000 square feet. Based on typical home and garage sizes, and driveway coverages, in residential areas in Park City why do you conclude that a minimum lot size of 0.5 acres is appropriate? Why shouldn't it be a greater minimum size? How many residential lots in Park City equal or exceed 0.5 acres? In addition, should there be a maximum slope and excavation restriction for courts?

- (b) Requiring a minimum 100-foot setback from lot lines of adjacent residential properties for pickleball courts with no noise mitigation.

On what basis has Staff concluded that a 100-foot setback is an appropriate setback distance? Please provide your analysis. Why not a greater setback distance? When my neighbor at 2732 Meadow Creek Dr commenced construction of an unpermitted pickleball court last summer, Dr. Willis opined that noise concerns regularly arise whenever courts are located within 500-600 feet of homes. For your reference, a copy of Dr. Willis' letter is attached. Given Dr. Willis' opinion, please explain why you have chosen 100 feet as an appropriate distance beyond which courts may be sited with no mitigation required. Shouldn't courts further than 100 feet away from adjacent property lines which generate noise in excess of Park City noise limits also be required to show mitigation in order to obtain a CUP?

Based on my reading of many complaints which pickleball courts have given rise to across the country, it appears that many (if not all) disputes could have been avoided with careful court siting and noise mitigation steps taken *in advance* of permitting and construction. All applicants should be required to submit a noise study including a noise mitigation analysis prepared by a duly-qualified expert with and at the time of their CUP application. This requirement would, in fact, not be terribly burdensome on applicants. Noise analyses can be prepared for a fraction of the total cost of a pickleball court installation and would be far cheaper than lengthy litigation. The Planning Department, in consultation with a qualified noise expert engaged by the Department, should establish criteria in advance for the contents of this applicant's noise report and incorporate these requirements in the Code Amendments.

Please explain why applicants in Park City should not be specifically required under the Code Amendments to engage a qualified noise consultant at the planning and pre-application stage to work with the applicant and the Planning Department to determine optimal siting and whether appropriate levels of noise mitigation can be achieved. This seems to be a 'best practice' which Dr. Willis recommends. In this regard, the Code Amendments should provide that applicants show sufficient noise mitigation at the time of application and *in advance* of permitting and construction. Staff's draft proposal that noise mitigation be addressed after a permit has been granted and three or more complaints have been received is simply an invitation for disputes and litigation long after mitigation should have been determined. There is also no legal basis for this approach under Section 15-1-10.E. which requires that the Planning Department and/or Planning Commission "**must review**" noise mitigation when considering whether or not the proposed Conditional Use mitigates noise impacts before a CUP is granted.

Furthermore, in respect of the proposed 100-foot setback requirement, the Code Amendments should be clear that any special '100 foot' setback for pickleball courts does not supersede any setbacks (including Code-mandated setbacks, drainage and utility easements and Limits of Disturbance Areas) otherwise required by the Code or specific subdivision Plats.

During 2021 I became aware that the Planning Department had taken the position in several applications before the City that a pickleball court is sufficiently similar to a patio that it may be

approved as an Allowed Use and, specifically, may be built inside the otherwise Code-mandated side and rear setbacks in, for example, the Single Family and Estate districts (the Patio Exception). I was subsequently informed by Senior City Attorney Harrington in August 2021 that use of the Patio Exception for pickleball courts had been an erroneous interpretation of the Code and that a pickleball court is in fact a Recreation Facility and is not eligible for setback relief under the Patio Exception. So I was very surprised recently to read in the Staff report for the proposed pickleball court at 1961 Venus Court that the Planning Department has revived the Patio Exception to justify a pickleball court site which otherwise clearly violates the applicable setback restrictions. The Code Amendments must make it clear that the Patio Exception for setbacks is not available for pickleball courts and other Private Recreation Facilities. If this is not your position, please explain why.

It has also been suggested by speakers at the open houses that a homeowner could avoid the impact of any forthcoming Code Amendments for pickleball by simply setting up a net and drawing lines on his or her driveway. The Code Amendments should be clarified that anytime a property owner sets up a pickleball court with lines and a net on his or her property, whether s/he calls it a pickleball court, or a patio, or a concrete pad, or a driveway, if it is used to play pickleball, then it is a pickleball court and a 'conditional use' subject to all of the Code requirements applicable to this conditional use. If Staff disagrees that this is the correct result, please explain. The Code Amendments also need to clarify explicitly that a pickleball court is in all cases in Park City a Conditional Use and not an Allowed Use. In particular, the Code Amendments should make it clear that the setback exceptions for Accessory Buildings in, for example, the Single Family and Estate districts, will not be available for pickleball courts and other Recreation Facilities.

- (c) Requiring a minimum 50-foot setback from lot lines of residential properties for courts that include a twelve-foot-tall noise reducing fence, noise reduction floor panels, and the recommended use of "quiet" paddles

Please advise on what basis Staff has concluded that a 50-foot setback is an appropriate setback where there is a twelve-foot-tall noise reducing fence? Why has Staff concluded that noise can be sufficiently mitigated at distances between 50 and 100 feet from neighbors' property lines with a twelve-foot-tall fence? Why not a ten foot fence or a fourteen foot fence? As Dr. Willis explains in his letter, it may be impossible to successfully mitigate noise at certain distances within 100 feet.

Noise travels in a straight line from the point of paddle/ball impact (and player exclamations) to the noise recipient. For courts located between 50 and 100 feet from a residence, will a twelve-foot-tall fence (no matter how thick) block noise traveling to the second story of a nearby house? Dr. Willis suggests that it may not. Again, please provide your analysis with support from a qualified expert. And again, as mentioned above, the Code Amendments should require that noise mitigation be considered for all courts proposed to be sited within 600 feet of homes.

The proposed noise-reducing fence requirement needs to be further defined. What kinds of fences will be accepted? It would seem likely that the required fence will be at least 180 feet long ($60' + 30' + 60' + 30' = 180'$) with an opaque surface area of 2,160 sq. feet ($180' \times 12' = 2160$ sq. ft.). This would be a very large fence, and apparently larger and more opaque than any kind of fence currently permitted under the Code based on current Code fence requirements. What materials will be used or required? Does the chain link fence exception for tennis court fences apply to noise-reducing fences? Will the twelve-foot-tall noise reducing fence in fact also be a chain link fence? What kind of noise-reducing fences will

withstand our broiling summer afternoon temperatures, frigid winters, deep snows and high winds and also satisfactorily mitigate noise? Will the noise-reducing materials reflect or absorb so much heat that the court will not be useable on hot days? Would this encourage owners to remove fencing materials? How will any requirement to maintain noise reducing fencing be enforced? How will maintenance of the fence be enforced as it deteriorates over time?

In the Staff report for the pickleball application at 1961 Venus Court, staff recommended that the applicant "install a twelve foot (12') tall noise reducing fence around the sports court with a minimum noise reduction coefficient (NRC) of approximately 0.75." Yet the proposed Code Amendments are silent as to the noise reducing coefficient which will be required. Will Staff propose an NRC of 0.75 or some other NRC? What standard will applicants be required to meet and what is the basis for any such standard? Will any such standard effectively mitigate pickleball noise at varying distances, including more than 50 feet from property lines? Staff has provided no information on this point.

At the Planning Commission hearing on the 1961 Venus Court application in January a next door neighbor stated that he is more concerned about the visual impact of an unscreened 12 foot high, 180 foot long plastic and metal fence facing his backyard than he necessarily is about the noise the court will generate. How does Staff propose to mitigate the visual impacts on neighbors of any required noise reducing fence? Should the Code Amendments also provide for required landscape screening for such a large fence?

Staff also proposes that additional noise mitigation could be accomplished by requiring the use of 'noise reduction floor panels'. Please identify exactly what kind of noise reduction floor panels would be recommended. Please advise how much noise Staff expects 'noise reduction floor panels' to reduce? Has any analysis of noise reduction by use of noise reduction floor panels been done by Staff? If so, please provide. Will noise reduction floor panels reduce the noise impact of balls hitting racquets? Will noise reduction floor panels actually work in Park City, with our broiling summer afternoon temperatures, freezing winters, deep snows and Springtime snowmelts and run off? Will the glare, or heat or light absorption or reflection of floor panels impact play? In any event, all noise mitigation strategies contemplated by an applicant should be covered in a noise expert's opinion submitted with the initial application.

Lastly, Staff's proposed Code Amendments would require the use of 'quiet' paddles. It may be true that quiet(er) paddles reduce noise impacts, but an informal survey of internet sources indicates that players generally disfavor non-regulation equipment and are disinclined to use it. It is hard to imagine players in Park City will be any different. In any event, has Staff studied this issue and/or determined how this mitigation requirement can possibly be enforced as a practical matter?

(d) Limiting pickleball court use to daylight hours and prohibiting outdoor lighting of the court

The principal problem with this proposal is that given our long days at the western edge of the Mountain Time Zone and hot summer afternoon temperatures in Park City (where temperatures in bright sunlight frequently exceed 90 degrees), court owners will often (always?) want to play after work and later in the afternoon (for example, between 5 pm and 9 pm or later) when temperatures fall. This is exactly the time when nearby neighbors will often want to enjoy peace and quiet in their living rooms with open windows, or on their outdoor patios and decks, or retire early to bed. In mid-Summer twilight in Park City continues until as late as 9:30 pm and play will be possible without lights well past 9 pm. Staff

should consider whether permitting pickleball play between 5 pm and sundown in close proximity to neighbors wishing to enjoy peace and quiet isn't simply an unnecessary recipe for conflict. The same kinds of considerations will apply to weekend play. Owners will often want to play on weekends, at exactly the same time neighbors are off-work and enjoying the peace and quiet of their open windows and backyards. Finally, if the Code Amendments impose restrictions on evening play, who will enforce them?

(e) Prohibiting on-street parking for properties with permitted pickleball courts.

While I agree that prohibiting on-street parking is a good idea, it seems wholly impractical and also impossible to enforce. Anybody who lives in Park Meadows knows that residents already park their cars, and their second and third and fourth cars, and their campers and trucks, and their guests' cars, on the street with impunity. It already takes a virtual military campaign to persuade City Hall to rigorously enforce existing on-street parking restrictions. Who will enforce this restriction? Staff should supply analysis showing why any on-street parking restrictions would be effective.

It was also suggested in one of the open houses that use of a private residential pickleball court should be limited to owners and (presumably) their guests. While this requirement would likely reduce play, it also seems impossible to enforce. Again, Staff should supply analysis showing why this kind of restriction would be effective and who will enforce it?

(f) Requiring Homeowner Association approval for properties that are part of a Homeowner Association

This is another excellent idea which is probably also impractical and unlikely to work. Given the currently proposed 0.5 acre minimum lot size requirement it would seem likely that most qualifying lots will be in Park Meadows and surrounding areas. As Staff may know better than I do many (if not most) HOAs in Park Meadows are inactive or defunct. How will this requirement work for inactive or defunct HOAs? Will the applicant be prevented from making an application because her/his HOA is inactive or defunct? Or will the applicant be permitted to ignore the requirement? Yet, even inactive HOAs may have binding CC&Rs. How can a homeowner who lives in a subdivision with an inactive HOA cause it to enforce its CC&Rs? I am also painfully aware that in some HOAs officers simply ignore the limitations contained in their CC&Rs. Staff should give further study to this requirement and determine whether it can reasonably work as intended.

(g) Requiring further mitigation if three noise complaints are filed within a one-year period of permit issuance.

As mentioned above, this proposal, which would permit noise mitigation to be addressed *after* a permit has been granted and three or more complaints have been received, is simply an invitation for disputes and litigation continuing long after appropriate mitigation should have been determined as part of the CUP review process. There is no basis for this approach under Section 15-1-10.E. which requires that sufficient mitigation must be reviewed and determined before a CUP is granted. The noise mitigation analysis should be done before the permit is granted, not after expensive construction is completed and neighbors' complaints start to accumulate. This provision violates the Code and is simply unworkable.

9. In addition to potentially violating noise regulations, persistent pickleball noise can be an unhealthy nuisance which should be subject to mitigation as part of the Conditional Use review process under the Code Amendments. Staff should consider whether persistent pickleball noise in close proximity to homes in a residential neighborhood is an unhealthy nuisance. There is no evidence that this question has even been considered by Staff. Experts have reported that repetitive impulsive sounds can make it difficult for neighbors to relax, concentrate, or sleep soundly without disturbance and can lead to stress, fatigue, and anxiety. Experts have also reported that excessive and repetitive noise has implications for the human cardiovascular, auditory, limbic, nervous, endocrine, and other systems, adversely impacting good health. I would urge Staff to inform itself now, carefully and comprehensively, regarding all of these health concerns and consider how they might be successfully mitigated before submitting the Code Amendments for approval by the Planning Commission.

I look forward to discussing these concerns with you at our meeting on Tuesday, February 15 at 4:00 pm.

Sincerely,

A handwritten signature in blue ink, appearing to read "Frode Jensen".

Frode Jensen

cc:

Mayor of Park City
Nann Worel
Nann.worel@parkcity.org

Park City Manager
Matt Dias
matt.dias@parkcity.org

Park City Attorney's Office
Mark Harrington
mark@parkcity.org

Permitting Pickleball
in
Park City

Its All About the Noise

Frode Jensen

January 26, 2022



Background

In the process of opposing several applications to build backyard pickleball courts in Park City I have become very familiar with the various issues that outdoor pickleball raises under land use codes and nuisance ordinances around the country.

In comparison to other common backyard and recreational activities, and in terms of zoning compliance and noise management, the addition of a backyard pickleball court to a densely-settled neighborhood represents a significant challenge to owners, neighbors and planners.

This must be carefully planned for.

Background

Zoning regulations and conditional use criteria must be scrupulously adhered to or time-consuming and costly litigation is inevitable.

It may be that the setback and other requirements in some residential zones will simply prohibit some proposed court sites and applications for such uses must be denied.

It may also be that some court sites in residential areas are simply too close to neighbors' homes to successfully abate pickleball noise and applications for such uses must be denied.

The Planning Department and Planning Commission need to anticipate these issues and be prepared to justify any decisions approving or disapproving use applications on a factual and legal basis with sound analysis.

If they do not, expensive and time-consuming litigation will inevitably result.

Background

Among the issues which have and will inevitably arise here in Park City are

- Whether pickleball is an Allowed Use or a Conditional Use under our Code
- Whether backyard pickleball courts must comply with Code- and plat-mandated Setbacks and Easements as a threshold matter before Conditional Use review
- Whether a plat amendment or variance will be required prior to Conditional Use review if threshold requirements are not satisfied
- Whether the Planning Department or the Planning Commission has the authority to modify Setbacks in connection with a Conditional Use review
- How the Planning Department will deal with the requirements under the Code to mitigate the potential adverse effects of the Conditional Use.

Conditional Use Review: Mitigation Issues

In respect of mitigation of adverse impacts in connection with a Conditional Use review, numerous issues arise under the Code, including

- Fencing, screening and landscaping to separate Uses,
- Usable Open Space,
- Lighting,
- Design and compatibility with surrounding Structures,
- Appropriateness to existing topography,
- Consistency with goals and objectives of the General Plan, and
- **Existence and mitigation of *Noise***

Conditional Use Review: Mitigation Issues

The Conditional Use review process specifically requires the Planning Department and/or Planning Commission to consider whether or not the proposed Conditional Use mitigates impacts of and addresses

“noise, vibration, odors, steam, or other mechanical factors that might affect people and Property Off-Site”.

If these issues are not studied carefully in advance of consideration of pickleball applications and fairly resolved when applications are made, disputes and litigation are sure to follow.

Pickleball Noise Impacts

Of all the issues which must be considered and resolved under the Code-mandated review process for Conditional Use applications, perhaps the most difficult is the requirement for conditional use review of Noise issues.

- Pickleball play is an extremely noisy activity which has led to noise violation claims and nuisance disputes across the country.
- The Recreation Department staff report provided late last year to Council stated

Tennis is a quiet sport and pickleball is *much noisier* both in the game and the social nature of the sport causing incompatibility with most tennis players.

To say the least.

Pickleball Noise Impacts

Alarming, what the Recreation Department staff report didn't mention is the noise issue which gives rise to the incompatibility of outdoor pickleball play with *anyone* – or, perhaps more accurately, *everyone* -- who lives in close proximity to an outdoor pickleball court.

As part of my effort to understand pickleball noise issues, I have consulted with Dr. Lance Willis, a nationally recognized acoustic engineer who has worked on dozens of pickleball projects across the country and in Canada.

He has been engaged by homeowners, builders, pickleball clubs, site planners and HOAs to assist in precautionary site planning and noise abatement.

Here is what I learned.

Pickleball Play is Noisy and Neighbors Will Complain

There is a common misconception that pickleball is acoustically equivalent to tennis and many other common social and recreational activities.

This is not true. It is much noisier.

The sound produced by the impact of the hard plastic ball on the paddle and the loud enthusiasms of the players cause significant noise impacts on residents and properties near outdoor pickleball courts.

Pickleball Play is Noisy and Neighbors Will Complain

- Numerous anecdotal comments in an online blog about pickleball noise catalog common neighbor complaints.
- Here are some examples on the following pages

Pickleball Play is Noisy and Neighbors Will Complain

- “I live 80 ft. from...a tennis court that was recently resurfaced [for pickleball]. I can hear clacking in my back bedroom with all the windows down and the air conditioner going. I have an appointment with an attorney...I don’t intend to listen to this noise for the rest of my life.”
- “We lived in a quiet neighborhood until the people across the street from us put a pickle ball court in their yard...the court is right by the street. They play for long periods every day and most nights, and they often have friends over who yell and cheer loudly. We can hear it inside our house in all the rooms, not to mention how loud it is in our backyard.”
- “I’m suffering [from] anxiety and depression and the noise is exasperating my system to the point that I need to flee or be a prisoner in my own house.”

Pickleball Play is Noisy and Neighbors Will Complain

- “I am still working and would like to enjoy quiet time on the weekend or evenings and because of the popping of the balls and yelling of the players my quality of life has been affected. I do not want to move but the noise is getting the best of me.”
- “Can you honestly say...YOU know what its like, Waking up to hearing the sound of gunshots/POPS, which never seem to stop, from 8 am every day of the week until dusk *30 feet* away?”
- “*30 FEET* from your supposed peace and Serenity of your home!!!”
- “You cannot escape the sound of the noise...There’s nowhere in or around the house you cannot hear the ball banging against the paddle, again and again???”

Pickleball Play is Noisy and Neighbors Will Complain

- “Or maybe you invited people over for dinner and you want to be outside enjoying the nice ... weather. Well, do you think you will be able to entertain, when all your guests hear is the POP POP POP of pickleballers?”
- “It’s only common decency honestly for everyone to have the right to a peaceful sanctuary called home.”
- “Like the man said, IT’S TORTURE...You tell me what matters more, people playing a game, or the serenity of many many more people in their own home.”

Julie Schultz

From: Gretchen Milliken
Sent: Sunday, January 30, 2022 12:16 PM
To: Donald Seibert
Cc: Browne Sebright; Spencer Cawley
Subject: RE: [External] Pickleball meeting followup

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Pickleball LMC Public Comment

Donald,

Thank you for your email and taking the time to express your thoughts and concerns. We will add these to the public record for these two projects and have copied the planners that are processing the applications. The Planning team strives to create an objective platform where differing voices and opinions can be heard so your compliments on the "informative and unbiased" meeting are also much appreciated.

Best,
Gretchen

Gretchen Milliken
Planning Director
Park City Municipal Corporation
<https://www.parkcity.org/departments/planning>
Marsac Avenue, PO Box 1480
Park City, UT 84060
o: 435.615.5008 | c: 435.659.4591



From: Donald Seibert <seibert.donald@gmail.com>
Sent: Sunday, January 30, 2022 11:58 AM
To: Gretchen Milliken <gretchen.milliken@parkcity.org>
Subject: [External] Pickleball meeting followup

[CAUTION] This is an external email.

1870 Evening Star Dr
Park City, Ut 84060
1/29/2022

Gretchen Milliken
Planning Director
Park City Planning Department

Dear Ms. Milliken,

Thank you for running an informative and unbiased planning commission meeting January 26th, regarding the proposed Pickleball Court Land Management Code Amendments and the 2 CUP's for pickleball courts.

One can see immediately from the plats and proposed court location on the 2 CUPs that with guidelines there will also need to be site specific evaluations by an acoustic engineer. The 2089 Equestrian Ct site will reflect much of the sound out onto public space. It is a matter for the school and representatives for the public to decide how much sound is permissible. The area already has a fair amount of ambient intermittent noise because of the gym classes and sport events scheduled there. The 1961 Venus Court location is much more problematic. The court is located in a canyon of 6 homes that back up to it. Sound mitigation would need to be significant and most likely quite unsightly. The concrete site plan lists a distance of 4 foot 4 inches to the closest property fence. Is the fence actually on the property line? The building plan's measurement is marked mid pad to the fence line. The fence and pad are not parallel. Unless the measurement was made at the corner of the pad the distance at the corner of the pad to the fence is less than the stated amount making the proposed set back incorrect.

It is not likely that a court on a lot less than ½ acre in size could be sufficiently mitigated so as to not intrude on the neighbors at the property line. Depending on the court's location, even lots larger than this could be an issue depending where the court is located in relation to the neighbors.. I personally feel, that unless a lot is very large and does not require sound dampening, courts should not be built by private owners. Maintaining and if needed upgrading the necessary surrounding sound barriers for an outdoor court is best left to public facilities and regulated sport clubs.

The proposed regulations have a provision for noise complaints within one year of the permit issuance. This permit requirement should be for the life of the facility. This too would be better regulated with clubs on town courts and registered sport clubs.

If there is continued growth of pickleball in this community there should be additional courts built, including indoor courts to accommodate this need. There also should not be additional conversion of tennis courts for pickleball courts.

Thank you again.
Sincerely,

Donald Seibert M.D.

Pickleball Play Can Violate Noise Ordinances

The Park City Code provides for *both* maximum permissible sound levels and for determination of annoyance as a metric for noise assessment.

Section 6-3-9.A of the Park City Code provides for a limit for stationary sources of sound of 55 dBA (decibels) in residential neighborhoods between the hours of 6:00 a.m. and 10:00 p.m.

- Peak sound pressure levels from pickleball courts have been measured at a distance of approximately *75 feet* exceeding 80 dBA (decibels), which far exceeds standard noise ordinance limitations.

In addition, Section 6-3-9.C.2 of the Park City Code prohibits

"any stationary source of sound which emits a pure tone, cyclically varying or repetitive impulsive sound which creates a noise disturbance."

Pickleball Play Can Violate Noise Ordinances

- *A noise disturbance* is defined in Section 6-3-1 as

Any sound that *annoys or disturbs* a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s).

- The American National Standards Institute has set standards for noise assessment in regard to annoyance for impulsive sounds. Compliance with these standards will be an important element in determining whether a reasonable person is exposed to a noise disturbance.
- As part of any Conditional Use review process the Planning Commission will have to determine whether the placement of a court at various distances in close proximity to homes would satisfy the requirements in Sections 6-3-9.A or 6-3-9.C.2 of the Code.

Pickleball Noise is a Health Concern

In addition to violating noise regulations, persistent pickleball noise can be an unhealthy nuisance.

- Repetitive impulsive sounds can make it difficult for neighbors to relax, concentrate, or sleep soundly without disturbance and can lead to stress, fatigue, and anxiety.

I have walked around the neighborhoods close by the courts in the Racquet Club and the Willow Creek courts and spoken to neighbors who have told me they are annoyed and disturbed by pickleball noise and wish the courts were not so close to their homes.

- Experts have reported that excessive and repetitive noise has implications for the human cardiovascular, auditory, limbic, nervous, endocrine and other systems, impacting good health.

In short, the effects of excess noise and stress can take many forms.

I urge the City to carefully and comprehensively inform itself *now* regarding all of these health concerns.

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

There are numerous cases around the country where failure to carefully plan for noise abatement or appropriate site selection for pickleball has resulted in difficult disputes and, often, expensive and protracted legal action.

A simple google search reveals numerous news articles describing disputes and litigation over pickleball noise.

Here are some examples:

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

- In Newport Beach, CA, a resident filed a lawsuit against the City claiming that pickleball played *300 feet* from her home is “so raucous and disturbing that she can’t live a normal life”. In her suit she claimed that the pickleball playing at a neighboring City park is “so noisy that she can’t sleep, talk on the phone or ‘simply hold a conversation.’”

The lawsuit was apparently resolved by the ***City agreeing to remove the courts.***

- In Port Moody, B.C. neighbors complained that pickleball noise on nearby converted tennis courts subjected them “to an almost-daily barrage of noise disruption.” The City Manager admitted that the neighbors’ noise complaints “*caught staff off-guard*”.

The Mayor said, “*Sometimes there are unintended consequences.*”

The City Council ultimately removed the courts.

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

- In Montecito, CA, a neighbor living next door to a country club sued the club when it installed an extensive sports complex, including two pickleball courts, *without permits*, less than **100 feet** from the neighbor's property.

The neighbor alleged in his lawsuit that the unpermitted complex **exceeded setbacks** and that the constant noise and disturbances have destroyed his ability to peacefully enjoy his home and surroundings, and on multiple occasions have forced him to retreat inside to escape the ongoing nuisance and disturbance.

He claimed that his viewshed has been ruined, and ***the adverse impact of the unpermitted activities on his property value is substantial.***

- In Aiken, SC, residents sued a neighboring club which built pickleball courts about **250 feet** from their home for injunctive relief, as well as damages, costs, expenses and prejudgment interest, claiming that the courts ***disrupted their quality of life.***

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

- In Apple Valley, MN residents, including a resident who lives **20 feet** from the nearest court, complained to the City Council about municipal pickleball courts. One resident was quoted as having sent the city about **90 emails** complaining about the noise.

Another resident said, “I’m in a pickle...I play the game, it’s good for my body and soul.
But it really is an intrusion in our backyards.”

Another resident said about the impending commencement of pickleball season,
“I’m dreading it.”

- In Ahwatuckee, AZ two HOAs clashed over neighboring pickleball courts. The complaining neighbors said that *“most of the houses [near the courts] have their master bedrooms and living rooms closest to the courts, increasing the disturbance.”*

They claimed that the courts will create ‘noise and light’ pollution that
“ultimately will reduce the value of their homes.”

Careful Advance Planning is Critical

The inevitable noise and nuisance issues surrounding outdoor pickleball must be carefully examined and planned for in advance if disputes are to be avoided. With respect to noise concerns, experts advise generally that

- Court sites within **600 feet** of neighbors' homes should be reviewed in the site selection and planning phase of the project by a qualified acoustical engineer familiar with methodologies for assessing highly impulsive sounds.
- Courts located within **350 feet** of residential properties will require careful noise abatement analysis.
- Courts should ideally be located at least **150 feet** distance from residences.
- Courts located within **150 feet** of homes will have a significant impact on neighbors' quality of life and *will require careful and extensive noise abatement measures to avoid complaints.*
- Courts located within **75 feet** of homes will generate noise from play which penetrates the interior of homes and prevents quiet enjoyment of living rooms, dining rooms, bedrooms, balconies, patios, and other spaces used for rest, family activities, reading and other activities requiring concentration.

Acceptable noise abatement for courts located in close proximity to homes may be impossible.

Abatement Strategies

Mitigation of the sound from pickleball courts is theoretically possible through use of unofficial softer paddles and balls, construction of sound barriers and walls, and construction of court enclosure structures.

- *There are no other commonly used abatement strategies.*

Unofficial Equipment

- In practice players resist using unofficial equipment and enforcement of equipment restrictions is virtually *impossible*. This abatement strategy is generally unworkable.

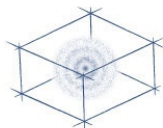
Sound Walls and Acoustic Barriers

- To be effective in attenuating sound, a wall or barrier must be high enough to block the line of sight from the noise recipient to the height of paddle impact.
- Anecdotal reports indicate that even a sound wall does not eliminate all of the noise which may escape through, around and above the sound wall.
- Sound walls are not practical where land use provisions prohibit the design and/or materials necessary to block the sound or the court site is so close to neighbors that the wall cannot be built high enough to block the sound.

Abatement Strategies

Full Enclosures

- If a sound wall will not work for mitigation, a full enclosure will be needed in the form of a building to house the pickleball court. The walls and roof of the building should have no penetrations facing the neighbors.
- Full enclosures present applicants and planning authorities with additional code compliance issues.



Friday, July 23, 2021

Robert Rosing
Rosing Davidson Frost
136 Heber Ave
Suite 205
Park City, Utah 84060

Mr. Rosing,

This letter comments on the noise impact on surrounding homes resulting from the planned installation of a pickleball court at 2732 Meadow Creek Drive. The planned pickleball court is located within 100 feet of several homes including 2812 Holiday Ranch Loop Road which is directly adjacent to and overlooks the placement of the court.

Qualifications in Regard to Pickleball Sound Abatement

I am the Principal Acoustical Engineer at Spendiarian & Willis Acoustics & Noise Control, LLC. In that capacity, I regularly perform on site acoustical testing, community noise impact assessment, acoustical site planning, and noise abatement design for commercial and industrial sites, often near residential areas. I have been working as a consultant in environmental acoustics and noise control since 2005.

I have Bachelor, Master of Science, and PhD degrees from the Woodruff School of Mechanical Engineering at the Georgia Institute of Technology with a specialization in physical and engineering acoustics. I also received a multidisciplinary certificate in acoustics from the same institute. After finishing my PhD, and while working as an applications engineer in the Advanced Product Technology Center at Motorola, I completed distance learning at the Pennsylvania State University in psychological acoustics and experimental design. This coursework covered the human sensation of hearing and the perception of sound. I have been a member of the Acoustical Society of America and the Audio Engineering Society since 1994.

Since 2010 I have assisted pickleball clubs, site planners, and home owners associations in site selection and noise abatement planning for pickleball courts. Some of these projects include: ABREGO AT GREEN VALLEY, AZ; CANOA RANCH, GREEN VALLEY, AZ; DESERTVIEW AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; RIDGEVIEW AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; MOUNTAINVIEW AT

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SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; THE PRESERVE AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; ROBSON AT SUN LAKES / IRON OAKS, PHOENIX, AZ; ROBSON AT PEBBLE CREEK, PHOENIX, AZ; TRILOGY AT ENCANTERRA, PHOENIX, AZ; TRILOGY AT VERDE RIVER, PHOENIX, AZ; TRILOGY AT VISTANCIA, PHOENIX, AZ; SUNFLOWER DEVELOPMENT, TUCSON, AZ; YAVAPAI HILLS HOA, PRESCOTT, AZ; OUTDOOR RECREATION PALM SPRINGS, PALM SPRINGS, CA; ELKHORN HOA, SUN VALLEY, ID; PELICAN PRESERVE, FORT MYERS, FL; and PELICAN LANDING, BONITA SPRINGS, FL.

I have also assisted home owners and home owners associations when pickleball courts have been placed close to residential properties without adequate noise abatement planning. The sites of these pickleball courts were ST MICHAEL'S BY-THE-SEA CHURCH, CARLSBAD, CA; COLUMBINE COUNTRY CLUB, LITTLETON, CO; TRILOGY AT POWER RANCH, GILBERT, AZ; private residence in LOUISVILLE, KY; private residence in CARLSBAD, CA; CHESTNUT WAY PARK, PORT MOODY, BRITISH COLUMBIA; and a park on WATERS END DRIVE, CARLSBAD, CA.

In some instances, failure to plan for noise abatement or select an appropriate pickleball site has resulted in legal action. I have been an expert witness in several cases seeking an injunction against pickleball activities in California, Kentucky, and Colorado. These cases involved courts placed with insufficient buffer distance to neighbors and ad hoc mitigation treatments.

Characteristics of Pickleball Sound

The main concern in regard to noise from the pickleball courts is the sound produced by the impact of the hard plastic ball on the paddles. This sound is characterized by a sudden onset and brief duration, typically on the order of two thousandths of a second for the direct path sound (see Figure 1) thus classifying it as impulsive sound. The spectral content of the paddle impact is narrowband with a center frequency typically between 1,000 and 2,000 Hertz. This is near the most sensitive frequency range of human hearing. Although it does not meet most guidelines for tonal prominence such as Annex C of ANSI S12.9 Part 4 or ANSI S1.13, it does impart a vague sensation of pitch. The acoustic radiation pattern of the paddle is more or less a dipole or figure eight pattern.

Using a foam ball such as the Foam Quiet Ball made by Gamma can reduce the amount of sound from paddle impacts significantly. Spendiarian & Willis has done a comparative study of this ball and the most common regulation ball, the Dura Fast 40. The foam ball was found to be 8 to 9 dBA quieter. While this will reduce the amount of sound abatement needed, it will not necessarily eliminate the need for it completely. This is especially true where homes are within 75 to 100

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feet of the pickleball courts. Use of the foam ball can still be expected to produce more noise complaints than tennis.

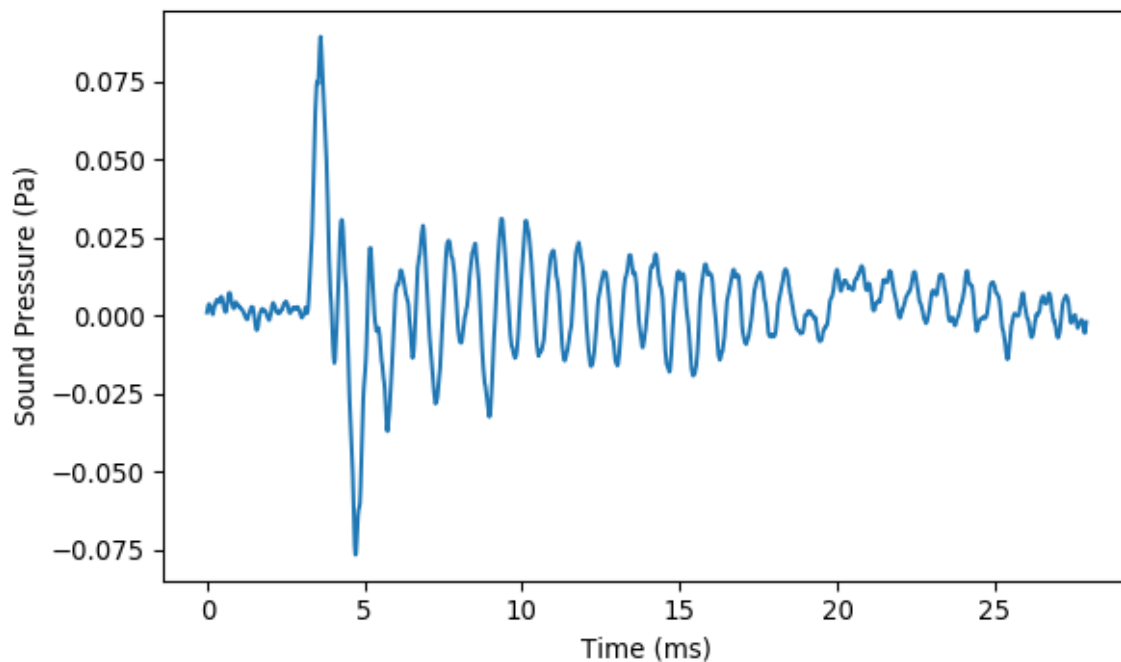


Figure 1. Sound Pressure Impulse Produced by Pickleball and Paddle Impact. Time is in milliseconds (0.001 seconds)

Comparison of Pickleball to Other Activities

There is a common misconception that pickleball is acoustically equivalent to tennis, volleyball, or many of the other activities typically found at outdoor recreation centers and parks. Numerous news articles covering disputes over pickleball noise, many of which originate when existing tennis courts are converted to pickleball, demonstrate that this is not the case:

- Adler, Erin, “Apple Valley neighbors in a pickle over pickleball noise.” *Star Tribune*, Minneapolis, Minnesota. March 27, 2019. <<http://www.startribune.com/apple-valley-neighbors-in-a-pickle-over-pickleball-noise/507726242/>>

- Bartel, Mario, “Pickleball banished from Port Moody court after neighbours complain of rising stress, anxiety.” The Tri-City News, Coquitlam, British Columbia, Canada. April 24, 2021. <<https://www.tricitynews.com/local-sports/these-games-are-loud-port-moody-pickleball-neighbours-revolt-against-rising-stress-anxiety-3662369>>
- Maryniak, Paul, “Pickleball lights plan puts two HOAs at loggerheads.” Ahwatukee Foothills News, Tempe, Arizona. November 29, 2017. <https://www.ahwatukee.com/news/article_9056a946-d48e-11e7-9838-8b69fb2d50b2.html>
- Bottemiller, Kitty, “Too loud! Pickleball noise upsets neighbors.” Green Valley News, Green Valley, Arizona. August 28, 2013. <https://www.gvnews.com/news/local/too-loud-pickleball-noise-upsets-neighbors/article_542c2aac-0f91-11e3-acdc-0019bb2963f4.html>
- Clay, Joanna, “Woman sues Newport Beach over pickleball noise at park near her home.” Orange County Register, California. April 7, 2016. <<https://www.ocregister.com/2016/04/07/woman-sues-newport-beach-over-pickleball-noise-at-park-near-her-home/>>
- Shanes, Alexis, “Village in a pickle: How Ridgewood plans to tone down the pickleball court noise.” northjersey.com, California. January 16, 2020. <<https://www.northjersey.com/story/news/bergen/ridgewood/2020/01/16/ridgewood-nj-pickleball-noise-reduction-measures/4480463002/>>
- Monterey Herald Staff, “Pickleball noise controversy goes before city leaders Pacific Grove neighbors object to game at nearby tennis courts.” The Mercury News, California. September 19, 2019. <<https://www.mercurynews.com/2019/09/19/pickleball-noise-controversy-goes-before-city-leaders/>>
- Fraser, Patrick and Rodriguez, Ambar, “What to do about constant pickleball noise?” WSVN 7 News Miami, Miami, Florida. March 27, 2019. <<https://wsvn.com/news/help-me-howard/what-to-do-about-constant-pickleball-noise/>>
- Sutphin, Daniel, “Nixing the noise: Sound fence construction underway at Gilchrist pickleball courts.” Port Charlotte Sun, Charlotte Harbor, Florida. May 20, 2019. <https://www.yoursun.com/charlotte/news/nixing-the-noise-sound-fence-construction-underway-at-gilchrist-pickleball/article_79a764de-7b1c-11e9-b4d4-6bcaa919f3f3.html>

It should be clear from the above list of references that pickleball constitutes a significant change in the acoustic environment of the area surrounding the courts in comparison to tennis and must be planned for accordingly. In particular, the impulsive sound produced by the impact of the hard plastic ball on the paddle can cause significant noise impact for those living near the courts.

Effects of Impulsive Sound

Persistent impulsive sounds create annoyance because they are similar to sounds that contain important information about our environment such as footsteps, a door opening, a tap at the window, or speech. We are sensitive to these types of sounds because they alert us to events occurring nearby that we may need to respond to. Continuous false alarms such as the popping sound created by pickleball paddle impacts make it difficult to relax, concentrate, or sleep soundly without disturbance as each time a pop is heard it draws the attention, creating distraction.

While it is well known that high amplitude acoustical pressures can cause hearing impairment as well as other types injury to the body, lower amplitude sound can also have adverse long term physiological effects. The World Health Organization recognizes that low level noise exposure has measurable health effects.

Sound/noise is a psychosocial stressor that activates the sympathetic and endocrine system. Acute noise effects do not only occur at high sound levels in occupational settings, but also at relatively low environmental sound levels when, more importantly, intended activities such as concentration, relaxation or sleep are disturbed. [WHO p. 61]

The sympathetic nervous system is part of the autonomic nervous system and is involved in the body's fight or flight arousal response. Chronic activation of the sympathetic system leads to stress, fatigue, and anxiety.

In addition to nervous system activation, sleep disturbance from noise can involve difficulty in falling asleep as well as awakenings that occur during sleep. Frequent awakenings lead to sleep fragmentation. This disrupts the normal stages of sleep and may lead to further neurocognitive manifestations not limited to daytime tiredness, loss of concentration, morning confusion, irritability, anxiety, and depression. [WHO p. 48, 26]

Environmental noise also has implications for the cardiovascular system, metabolism, and homeostasis, the ability of the body to regulate itself.

The auditory system is continuously analyzing acoustic information, which is filtered and interpreted by different cortical and subcortical brain structures. The limbic

system, including the hippocampus and the amygdala, plays an important role in the emotional processing pathways. It has a close connection to the hypothalamus that controls the autonomic nervous system and the hormonal balance of the body. Laboratory studies found changes in blood flow, [blood pressure] and heart rate in reaction to noise stimuli as well as increases in the release of stress hormones... Acoustic stimulation may act as an unspecific stressor that arouses the autonomic nervous system and the endocrine system... The arousal of the sympathetic and endocrine system is associated with changes in the physiological functions and the metabolism of the organism, including [blood pressure], cardiac output, blood lipids (cholesterol, triglycerides, free fatty acids, phosphatides), carbohydrates (glucose), electrolytes (magnesium, calcium), blood clotting factors (thrombocyte, aggregation, blood viscosity, leukocyte count) and others. In the long term, functional changes and dysregulation may occur, thus increasing the risk of manifest diseases. [WHO p. 62-63]

The effects of stress can take many forms as seen above. Low level noise exposure that disturbs sleep and concentration are known to produce a range of diagnosable illnesses and disorders.

Assessing the Impulsive Sound of the Pickleball Courts

Based on our experience working with pickleball facilities, courts located within 350 feet of residential properties often require noise abatement. Pickleball court sites within 500 to 600 feet of noise sensitive areas should be reviewed by a qualified acoustical engineer in the site selection phase of the project. The acoustical engineer should be familiar with modern methodologies for assessing highly impulsive sound such as ANSI S12.9 Part 4 or ISO 1996 Part 1. Courts located within 150 feet of homes require careful and often extensive noise abatement design to avoid complaints. I have measured peak sound pressure levels from pickleball courts at a distance of approximately 75 feet exceeding 80 dBA. Recurrent peak sound pressure levels this high present a high level of distraction and noise impact for the occupants of the receiving property.

I have been informed that the planned pickleball court pad at 2732 Meadow Creek Drive is within 20 to 25 feet of the house at 2812 Holiday Ranch Loop Road. Pickleball courts located this close to homes can be expected to produce noise complaints from the adjacent residents and have a significant impact on quality of life. At this distance the pickleball paddle impacts easily penetrate the interior of a home or condominium and will prevent the quiet enjoyment of the residents' use of their living rooms, dining rooms, bedrooms, balconies, patios, and other spaces used for rest, family activities, and activities requiring concentration such as reading.

Applicable Codes and Regulations

Chapter 6-3 of the Park City Municipal Code discusses impulsive sound and annoyance. The code specifies fast time weighting for measuring impulsive sound. This is acceptable for speech and some other types of impulses with slower onset rates, but it should be noted that this setting grossly underestimates the noise impact of sounds produced by impact processes such as pickleball paddles.

Section 6-3-9.C.2 prohibits "any stationary source of sound which emits a pure tone, cyclically varying or repetitive impulsive sound which creates a noise disturbance." A noise disturbance is defined in Section 6-3-1 as,

Any sound that annoys or disturbs a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s).

The definition refers to annoyance as a metric for noise assessment in addition to the maximum permissible sound levels described in Section 6-3-9.A. The use of the term, annoyance, can be traced back to the work of Schultz and other researchers in the 1960s and 1970s [Schultz, 1978] and is the basis of federal standards for transportation noise assessment. Current standards for noise assessment in regard to annoyance for impulsive sound are based on the adjusted sound exposure level and include ANSI S12.9 Part 4 and ISO 1996 Part 1. The fast time weighting measurement methodology of the Park City Code does not correlate well with community response to impulsive sounds with sudden onset rate and short duration such as impact processes, including pickleball paddle impacts, and should not be relied on for noise assessment in this application.

Based on our experience in creating noise abatement plans for pickleball facilities using the methodology in ANSI S12.9 for assessment of the annoyance of pickleball paddles, the placement of this court is much closer to other residential land uses than we would recommend and would not satisfy the requirements in Section 6-3-9.C.2 of the Code over the specified 10 minute period.

Noise Abatement Treatments

Mitigation of the sound from the pickleball court is complicated by the short buffer distance and two story construction of the house at 2812 Holiday Ranch Loop Road. Sound walls are a common abatement treatment used for pickleball courts. In order, however, for a sound wall to be effective in attenuating sound it must be high enough to block the line of sight to the players on the court including paddles. Figure 2 shows the view from the second floor window

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overlooking the pickleball court pad which is already under construction. As can be seen, a very high wall would be needed to shield the upper level windows of the house from the view of the paddles which radiate the popping sound. The sound wall must block the line of sight to the paddles regardless of the type of equipment used on the court.



Figure 2. View of Pickleball Court Pad from Upper Level Window

Such a wall is not, however, practical to build at this location. If a sound wall will not work for mitigation, a full enclosure will be needed in the form of a building to house the pickleball court. The walls and roof should have no penetrations facing the neighbors.

Conclusions

The addition of pickleball to a neighborhood represents a significant change in the amount of sound entering the surrounding area in comparison to other common recreational activities. This must be carefully planned for.

Based on over 10 years of experience with pickleball noise abatement, Spendiarian & Willis does not recommend this location for an open air pickleball court as being compatible with adjacent residential land uses. Given the insufficient buffer distance, close proximity to homes on multiple sides, and our experience at similar pickleball sites, a noise abatement plan involving a sound wall system will not provide sufficient mitigation at this location. Further, photos taken from the upper level window of the nearest receiving property show that the close proximity of the court and height of the second floor rooms will make an effective sound wall system infeasible. In order for a sound wall to be effective it must block the line of sight from sound sources to the receiving property including upper level windows. An effective noise abatement plan is likely to require the construction of a building with a roof to contain the impulsive sound power levels produced by pickleball.

The use of foam balls will reduce the need for noise abatement; however, given that a sound wall is infeasible for the site, this will not be enough to comply with the noise code. In practice, it has been our observation that enforcement of the use of specific equipment such as foam balls is difficult to ensure.

In summary, Spendiarian & Willis does not recommend the installation of a private, open air pickleball court due to the difficulties in creating an effective noise abatement plan for this site.

regards,



R. Lance Willis, PhD
Principle Acoustical Engineer

References

ANSI S12.9-2005, *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 4: Noise Assessment and Prediction of Long Term Community Response*, American National Standards Institute, 2005.

ISO 1996-1, *Acoustics - Description, measurement and assessment of environmental noise - Part 1: Basic quantities and assessment procedures*, International Organization for Standardization (ISO), 2016.

Schultz, T. J., "Synthesis of Social Surveys on Noise Annoyance," *Journal of the Acoustical Society of America* v. 64, pp. 377-405, 1978.

World Health Organization, Night Noise Guidelines for Europe, <http://www.euro.who.int>, 2009.

Browne Sebright

From: J Moira Howard <moira_howard@yahoo.com>
Sent: Thursday, February 17, 2022 3:01 PM
To: Browne Sebright
Subject: [External] Re LMC - pickleball courts

Follow Up Flag: Follow up
Flag Status: Completed

Categories: Pickleball LMC Public Comment

[CAUTION] This is an external email.

Hi

Please be aware that we did not receive the Public Hearing Notice for the above topic until 12 February. This was therefore not in time to attend virtual open houses being held Feb. 7 and 8.

J Moira Howard
2258 Jupiter View Drive
Park City
UT 84060

Bob Theobald
2810 Holiday Ranch Loop
RoadPark City, Utah 84060
435-714-0301

Date: February 17, 2022

To: Planning Staff and Planning Commissioners

RE: Comments to Code Amendment - Pickleball Courts

As currently written, I am in opposition to the proposed LMC amendment. I believe there are two threshold issues which must be considered and they are of equal importance.

First, the Planning Department's preconception in proposing the Code amendment doesn't hold up. The Director and Staff apparently have a notion that the City is obligated to accommodate a property owner's proposed use when **an attempt** is made to mitigate the adverse impacts even though mitigation is not adequate. Perhaps this incorrect notion is promoted by the legal department's concern for the state statutes that give significant deference to a land owner's property rights over many proposed City restrictions. I contend that the statutes do not give deference to one citizen's desire to conduct noisy activities (which constitute a nuisance) over his (or several) neighbor's right of peaceful and quiet enjoyment of property. Not all land uses can meet the requirements to accommodate these competing rights, even with attempted mitigation. I maintain that backyard pickleball in densely developed residential areas is not a sufficiently mitigatable land use and should be prohibited.

Second, Staff seems to be of the opinion that effective land use legislation results from the level of effort put into internal "dream sessions", community surveys, and open houses. In my mind, these activities mostly serve to accumulate "poundage" in an attempt to satisfy decision-makers with oversight, if any (Planning Commission and Council), and to help justify and rationalize the provisions and measures drafted by Staff. Volume of material that is purported to support a Staff Report does not reflect the necessarily quality of material.

A Planning Commission must digest meaningful analysis, find the underlying facts and reach a reasonable conclusion in order to approve and forward a defensible recommendation. I do not believe Staff has met its burden of comprehensive analysis and the proposed Code amendments should be sent back to Staff for further analysis in line with my and others' questions, comments and concerns.

In addition to the foregoing, I have the following additional concerns:

1. Staff's Judgment.

I question Staff's knowledge of pickleball and judgement on how it should be regulated. Based on information presented to date, it is obvious that Staff does not fully understand the most basic characteristic... the size of the court and the facility required.

Staff quotes the USA Pickleball Association describing the court size as follows:

A pickleball court is 20' x 44' for both singles and doubles. The net is hung at 36" at the ends and hangs 34" in the middle. A non-volley zone extends 7' back from the net on each side, commonly called "the kitchen."

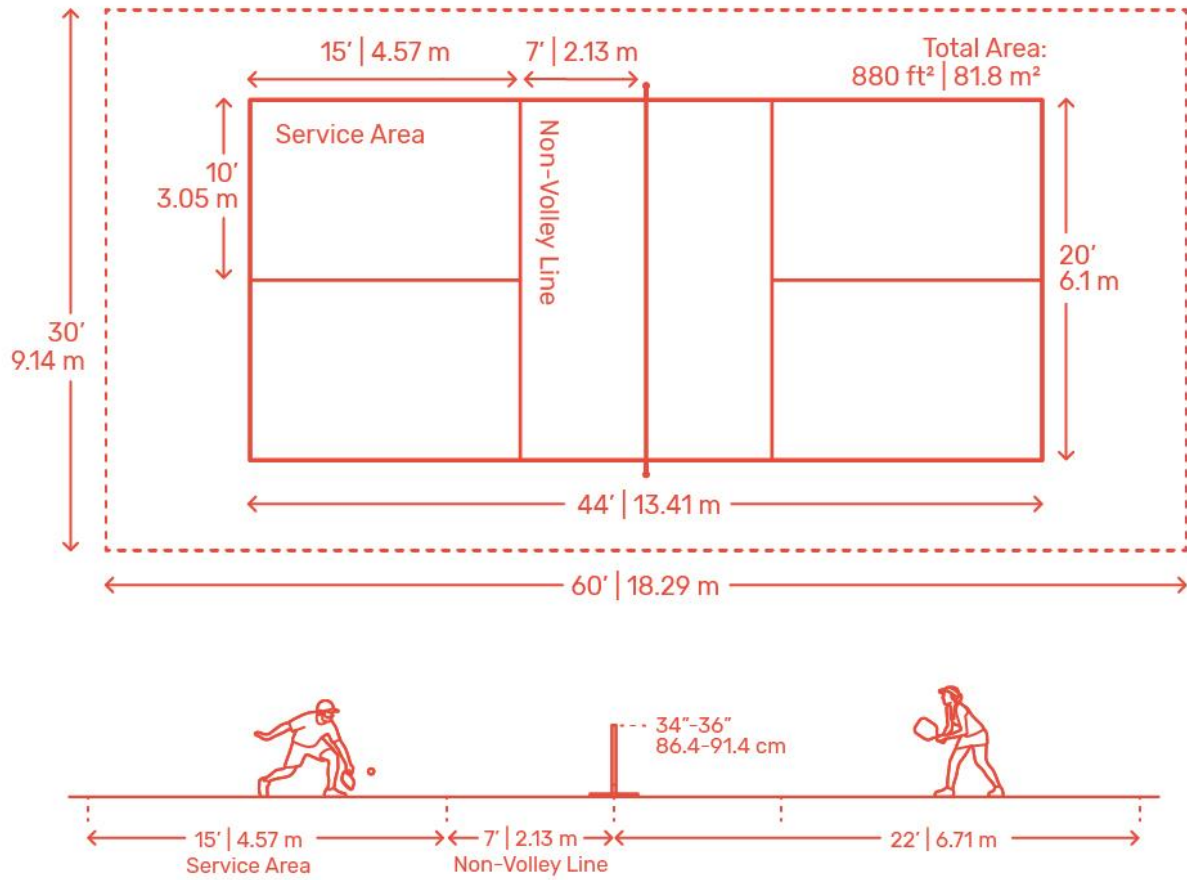
However, Staff fails to acknowledge and disclose that the actual requirement of a regulation, single-court facility requires a concrete pad of at least 30 ft. x 60 ft. which includes the necessary service area, ball-get and safety areas.

The 30' x 60' dimensions do not include the fencing and other incidental elements that may be outside the fenced playing surface that must be disturbed during construction.

This omission of clarification by the planning department is inexcusable.

See images below.

Dimensions.com | Pickleball Court





Furthermore, in connection with the recent Planning Commission CUP hearing on 1961 Venus Court, Staff advised the Applicant to circumvent the current Code by suggesting that the distance relating to a setback be measured from the property boundary lines to the **in-play boundary lines** of 44' x 20' painted on the court. On December 8, 2021, a City planner wrote the Applicant an email, advising:

"First, as you are probably aware, we are requiring Recreation Facilities to adhere to the required 12' side setback...Based on the current configuration of the patio and the dimensions of pickleball courts, it appears that you might be able to paint the sports court on the existing paved surface so that it is at least 12 feet away from the side property line. It would be helpful if you could verify whether that is possible, and potentially submit an additional exhibit showing how the proposed sports court maintains the side setback. "

Apparently, in the planner's mind, this would provide an extra 8 ft. of **effective setback distance** ($60-44=16/2=8$) to achieve "**compliance**". However, I believe the entire area, including that area beyond the in-play boundary lines and any concrete, fencing and ancillary elements should be considered as the "facility".

This notion by the planning department (which I assume is condoned by the Planning Director) is absurd and a prime example of the department's misinterpretation or misapplication of the Code in the pickleball cases which have come before it.

2. Open Houses.

In addition to my concerns about Staff's misunderstanding and/or misrepresentation of the size of a pickleball court, and Staff's improper suggestion to the Applicant regarding Code-avoidance, Staff has conducted on-line open houses to solicit public opinion which I do not believe have been particularly helpful.

As part of the open houses, Staff held breakout sessions with public participation intended to solicit views regarding the proposed Code amendments. One of my neighbors attended two breakout sessions. In the first, another participant used up the entire 10 minute segment (for public input) to question why the City would even regulate residential pickleball. In the second breakout session my neighbor provided his concerns to Staff as he was the only non-city participant. In the one breakout session I attended I listened for most of the 10 minutes to a self-proclaimed sound consultant who modifies shipping containers with various materials to fabricate recording facilities. He suggested that Park City begin a search for products that could be applied to pickleball courts. I responded that the noise issue was such a concern nation-wide, if not world-wide, that major companies had developed the best products on the market and the decibel reductions were widely published. We never discussed the Code amendments.

I believe there were a total of three non-city participants in my breakout session. It's unfortunate that we had to break out because I believe it would be much more informative to hear all those that had beneficial input, if any. It would be interesting to know how many people actually provided input. I have seen nothing to date reflecting the results of the open-house sessions. I would ask Staff to provide the three most significant "suggestions" received.

The Survey

Staff has also made a survey available on the City's website for public input. I believe the survey as worded is of very little use in actually determining public opinion on backyard pickleball. The survey questions are re-stated below in red italic text with my critique and suggested alternate questions that might provide more useful points of view and opinions.

Pickleball Survey

1 - *Do you play pickleball?*

Instead, I would suggest:

- A. Have you ever seen or heard pickleball be played?
- B. If yes, was it from a distance less than 100 feet?
- C. If yes, would you object to hearing a pickleball game played over or through your back yard fence at the whim of your neighbor at any time of day?

2 - *Should outdoor pickleball be allowed outside of daylight hours (approx. 7 AM - 9 PM)?*

Nonsensical, open-ended question... all the specifications must be stated - surrounding neighborhood, lighting, sound mitigation etc.

The better question would be:

Would you object to pickleball being played on a court within 100 feet of your property line during the early morning, late afternoon, and evening or weekend hours?

3 - *Should pickleball courts be allowed on private residential lots?*

To qualify to answer this question, you must have answered **yes** to 1 A, B and C. And, the question must state if the pickleball lot is adjacent or 100 feet or 600 feet from your property.

The better question might be:

Assume pickleball play creates noise impacts in excess of 55dBA within 100 feet (daytime limit for noise in Park City). Are you in favor of permitting pickleball within 100 feet of neighbors' houses? (It is understood that few people know precisely what 55dBA sounds like in comparison to other sound-generating activities.)

4 - *Should properties within a Homeowner Association (HOA) obtain HOA approval before applying for a City permit to construct a pickleball court?*

Yes, but how does this question assist Staff in drafting and adoption of the City's Code amendment?

Some HOAs are disingenuous, do not comply with their own CC&Rs, and disregard City ordinances. I am aware of a subdivision HOA which consists of 6 lot owners. According to the HOA president, all lot owners voted unanimously to **approve a pickleball court** within 5 feet of the owner's property line, outside the platted "Limits of Disturbance Area" within a "Natural Area", on a platted drainage easement without reviewing a site plan or conducting a site visit or maintaining a record of the proceedings. The veracity of the HOA must first be verified before it has any credibility of its reported approvals.

In subdivisions with or without a credible or functioning HOA, the Applicant, after providing a mandatory certified Noise Report to all neighbors, must obtain the written acknowledgement and approval of all neighbors within 300 feet.

5 - The proposed amendments require notice to adjacent property owners when a pickleball court is proposed to be constructed. Should notice be extended beyond adjacent property owners?

Yes. The notice should be extended City-wide so any resident could have the opportunity to review the planning and building department's objectivity, judgement and veracity dealing with each application.

6 Any additional comments on pickleball you would like to share?

Yes, all Planning Staff should be required to enroll in a Critical Thinking class.

To my mind, the City's Code amendment proposal fails to pass the "Critical Thinking" test. In 1987 the National Council for Excellence in Critical Thinking defined "critical thinking" as follows:

Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.

1 Pinpoint the issue...

- 2 *Collect information...*
- 3 *Examine and scrutinize...*
- 4 *Decide what's relevant. ...*
- 5 *Self-evaluate....*
- 6 *Draw conclusions...*
- 7 *Explain your conclusions.*

Considering the open-house sessions, the questions posed in the survey, and having not engaged an acoustical engineer, it appears that Staff has not completed the second task of collecting meaningful information necessary for critical thinking regarding the real impacts of pickleball and the effective measures necessary to mitigate the noise to a decibel level acceptable to adjoining neighbors. Guestimates now and 3 complaints in a year with no recourse or remedy available is not acceptable code provisions. Otherwise, all subsequent evaluations and conclusions have little credibility.

3. The Noise Factor.

The primary consideration of the impacts of any back yard (or community) pickleball facility is the noise...the physical impact of the sound vibrations against the ear drums of others. In my opinion, hearing and smell are the most sensitive senses. I suppose it's because sound and smell permeate many barriers and travel relatively long distances. Within 100 feet of my home, I think the incessant pop- pop-pop sound of a pickleball court would be favored only slightly more than the smell of a broken main sewer line.

For 7 months, since July 6, I have been unnecessarily forced to view a partially constructed, unpermitted pickleball court. The court is located less than 5 feet from the owner's property line, less than 15 feet from my property line and less than 75 feet from my home. Without a single pop of ball, severe impacts to me have already begun. According to my real estate and appraiser associates, the value of my home has been reduced by 20-30% with the **uncertainty of** what might be built. What if I needed to sell my property or apply for a loan immediately? Why must I suffer the consequences of my neighbor's enjoyment of a nuisance? A home neighboring a pickleball court may have "external obsolescence"... where no one will buy it anywhere near market value! This is not an inconsequential impact! How does the City measure and consider this impact?

It would be wise for the City to engage a real estate appraiser to conduct a forensic appraisal detailing the impacts of a "private recreation facility" in a neighbor's back yard. The "external obsolescence" methodology is similar to that for evaluation of power lines, substations, traffic/street noise and other situations commonly found in eminent domain cases. One appraiser to whom I have spoken ventures an average for these situations of 17 to 25% devaluation of comparable value. He has successfully argued valuations before a State's Supreme Court as well as the U.S. Supreme Court. (Name and appraisal firm provided upon request.) This endeavor could be accomplished in conjunction with an expert noise consultant to determine the expected noise levels.

Based on my experience, my lay-person advice to neighbors of any proposed "Recreation Facility" that includes the **potential** for a pickleball court is to prepare for a potential major adverse economic impact to the value of their home, **and** consult with an attorney regarding filing a complaint immediately upon receiving *constructive or actual notice* that an application has been submitted.

I am aware that Lance Willis, a PhD and acoustical engineer, prepared a report regarding the proposed court in Willow Ranch adjacent to my and my neighbor's back yards. The expected decibel levels cited by Dr. Willis are greater than the studies cited by the City. A 12-foot sound wall has little, or no, noise mitigation to the second floor windows of nearby homes. Dr. Willis' report has been made available to numerous City officials. Hopefully it has been circulated and read by all the planners and decision makers.

In the same vein of considering adverse economic impacts, the City should consult with its insurance carrier or self-insurance "pool" attorneys regarding the likelihood of legal actions that may arise in the event Staff or Planning Commission does not diligently conduct appropriate research and adopt Code amendments that consider the rights of many residents of a neighborhood as opposed to the one pickleball Applicant who may think his rights supersede all others. There are many legal cases raising this issue which can be found and reviewed on the internet.

Noise impacts can be measured very accurately with several variables and nuances... neighbors deserve to know more precisely what to expect. It should be a requirement to know the expected level of compliance of any proposed court with the existing Code noise limits of 55 decibels. Is the current maximum of 55 decibels the correct standard for any Code provision?

Before any Code amendment is adopted regarding pickleball, the City **MUST** engage its own expert noise consultant for all proposed courts. And, as part of the proposed Code amendment for private recreation facilities which include a pickleball court (or has a concrete pad with dimensions of approximating 30 x 60 feet), I suggest language similar to the following:

*Residential "backyard" Pickleball applications shall be accompanied by a certified report by an acoustical engineer (noise expert) detailing the expected noise levels measured in decibels within 300 feet at intervals of 50 feet from the edge of the applicant's property boundary. This **mandatory noise impact analysis** shall be submitted to the City as part of the Applicant's package **and** submitted to all residents within 300 feet of the applicant at least 10 days prior to any public hearing by the Planning Commission and/or City Council. "*

In addition, before any Code amendment is adopted, all staff and decision-makers should be required to read or work 100 feet from a pickleball court with 6 players (2 play-in participants) for an hour. The test is not to determine if one can take the noise for an hour (big gold medal for you), but to assist in determining if any residents should be subjected to this noise at any time of day for potentially 8-12 hours a day, 7 days a week, for the enjoyment of your neighbor, their friends, family, kids, grandkids and more?

Exactly, where is the boundary of the rights of private enjoyment (peace and quiet) in one's own back yard versus a neighbor's noisy recreation? Is one not entitled to meditate, perform yoga, tend to gardens, read a book or just take a late-afternoon nap in the shade in your own back yard deck without the aggravating sounds of POP-POP-POP and the attendant YEA-YEA-YEA of the neighbor's pickleball "recreation facility?"

Is it permissible to setup outdoor speakers or play live mariachis, bongos, heavy metal or soothing "screeching" (beginning violin) music at a level significantly greater than 55 decibels, perhaps all day long and into the early evening? The most popular time for any outdoor back yard activity, especially in the hot summer, is between 8-10 am and 4-9 pm. Why should one resident be able to destroy this most enjoyable time of day for many other neighbors?

4. The Upshot.

Unfortunately, based on all of the foregoing, it would appear that pickleball is one sport that must be confined to indoor facilities or in currently active, noisy or

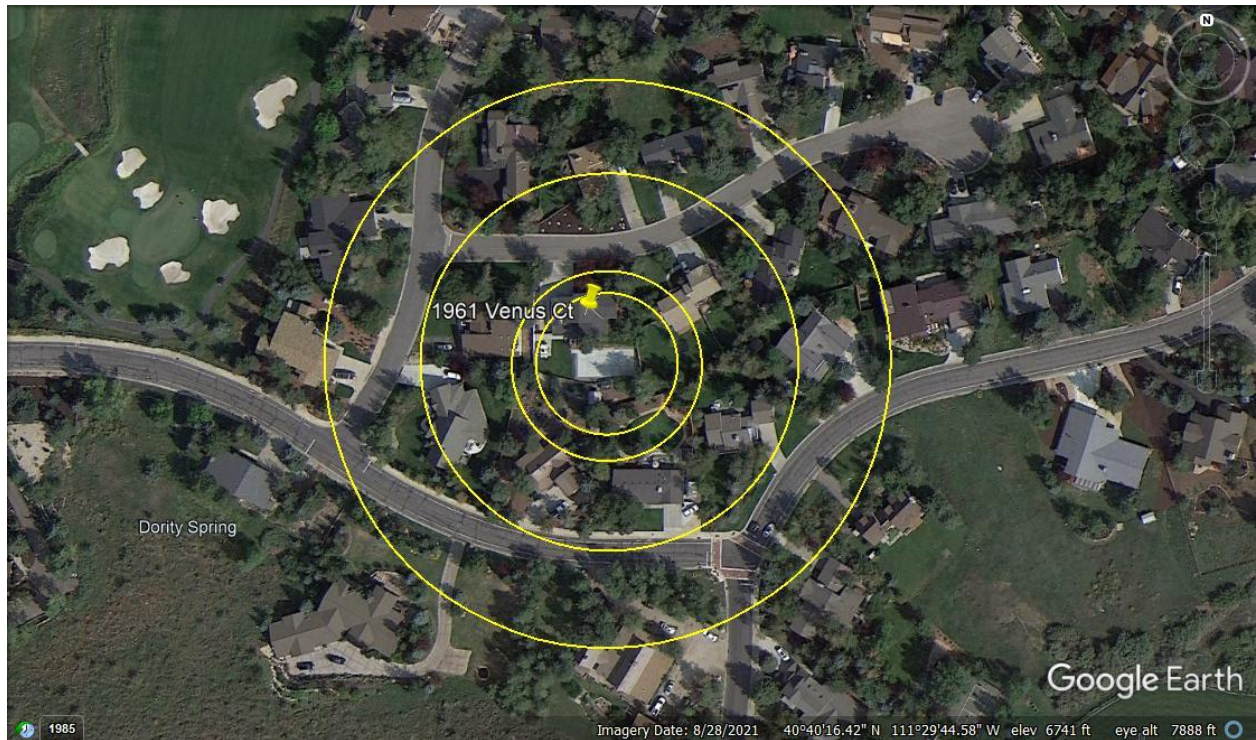
isolated areas. There are local, public and private facilities (perhaps insufficient) that are available for pickleball play. Why not a new complex at Richardson Flat or other City-owned land.

Otherwise, residential pickleball courts --- RIP.

Thank you for your consideration.

Bob Theobald

PS - I would like to see a Staff drawing (retrofit or new site plan) of a 30 ft. x 60 ft. pickleball court on a one-acre lot with 100 ft. side and rear setbacks which includes a 4,000 sq. ft. house with a 28 foot height limit...



Measured from center of court, circles are approximately 75', 100', 200' and 300'.



View of the previously proposed Willow Ranch pickleball court subject to the Willis Noise Report

FRODE JENSEN
2812 HOLIDAY RANCH LOOP ROAD
PARK CITY UT 84060

February 17, 2022

VIA EMAIL TO planning@parkcity.org
AND Michelle.kellogg@parkcity.org

Sarah Hall
Bill Johnson
John Kenworthy
John Phillips
Laura Suesser
Douglas Thimm
Christin Van Dine

Re: Proposed Land Management Code Amendments to Mitigate Pickleball Impacts

Dear Planning Commission Members

I write regarding the proposed Land Management Code amendments (Code Amendments) posted several weeks ago on the City's website. This letter is based on those proposed amendments. I was informed by the Director of the Planning Department on February 15 that the Code Amendments which the Department will propose for your consideration on February 18 differ in several important respects from the proposals which have been posted on the City website for the public to comment on. Nevertheless, I offer the following for your consideration based on the current proposals. I expect to have additional comments on the Code Amendments actually published and proposed to you on February 18.

I would respectfully request that Staff and the City Recorder add this letter to the agenda packet for your February 23, 2022 meeting and to the public record.

Background

I have resided continuously in Park City since 2012. I been concerned about pickleball issues since July 6, 2021, the day I discovered that my neighbor in Park Meadows had commenced construction without a building permit of a private, backyard pickleball court which today stands, partially constructed and unrestored, in violation of the setbacks applicable to his property, less than 5 feet from my property line, less than 25 feet from my house, and within 100 feet of the homes of several of my neighbors.

Following the discovery of this illegal construction, I learned that pickleball play can be very noisy, regularly generating complaints from neighbors and often resulting in time-consuming and expensive litigation. I also learned by consulting with a prominent realtor in Park City that a pickleball court in such close proximity to a home could reduce the market value of the home by up to 20%, a substantial impact in today's market.

To better understand the noise implications of backyard pickleball, I engaged an acoustic expert, R. Lance Willis, PhD, the Principal Acoustical Engineer at Spendiarian & Willis Acoustics & Noise Control, LLC. in Tucson, AZ, to evaluate pickleball noise in a location such as mine. Dr. Willis has extensive experience in pickleball court siting, noise analysis and mitigation. He provided me with a letter explaining many of the noise issues which pickleball courts in residential neighborhoods present, a copy of which was provided to Staff on August 3, 2021. I will refer to Dr. Willis' letter in several places below. I am attaching a copy of Dr. Willis' letter to this letter as Exhibit A for your reference.

On January 24, 2022 I submitted a letter to you expressing my opposition to the Application for Conditional Use Permit to Build a Pickleball Court at 1961 Venus Court (PL-21-05072). Many of the concerns which I raised in the letter are relevant to your further consideration of the proposed Code Amendments. I am attaching an additional copy of my January 24 letter to this letter as Exhibit B for your reference.

I have also prepared a PowerPoint presentation dated January 26, 2022 describing in general pickleball noise issues which I delivered to Mayor Worel, City Manager Dias and Senior City Attorney Harrington several weeks ago. You may find it helpful in understanding why pickleball noise issues are not a trivial concern. I am attaching a copy of this presentation to this letter as Exhibit C for your reference.

Specific Questions, Concerns and Comments

I have the following specific questions, concerns and comments about residential pickleball courts and the proposed Code Amendments.

1. One of Staff's slides presented at the open houses last week describes levels of pickleball noise commonly exceeding 55 decibels and ranging up to 80 decibels or higher. Dr. Willis confirms in his letter these noise levels can be reached during pickleball play. For comparison's sake, please consider that pickleball noise can equal or exceed the noise levels of garbage disposals, alarm clocks, vacuum cleaners and gas lawn mowers, all of which have been measured around 75 to 80 decibels. It is well known that pickleball courts near homes frequently lead to neighbors' complaints, disputes and litigation. I provide numerous examples of pickleball complaints and litigation around the country in the PowerPoint presentation referred to above.

I would first ask Commission to consider, as a threshold issue, whether pickleball courts should even be permitted at all in densely developed residential areas in Park City and, if you are inclined to consider this threshold question, what is the cost-benefit basis for permitting residential courts? To me, when decibel levels can reach 80 dBA, the costs simply outweigh the benefits. In addition to the minimum lot size proposal in the proposed Code Amendments, why not simply also prohibit all backyard pickleball courts in residential areas where there are any homes within, for example, 150 feet of a proposed

court? I think you would find ample support for such a prohibition from experts who have considered pickleball noise.

Furthermore, the public learned in the recent open houses that the City is actively examining the possibility of adding numerous additional municipal courts. If the City can build, for example, sixteen or more new courts in a remote location, in the near future, why permit any private pickleball courts in residential backyards at all? I would ask Commission respectfully to consider why the provision of additional municipal courts would not satisfy the local demand, obviating the need for controversial private courts in densely developed residential areas, and for an ordinance specifically covering residential pickleball.

2. In any event, if the Commission determines that noise associated with pickleball play is a serious concern meriting additional regulation, exactly what noise levels resulting from pickleball play should be considered acceptable? The proposed Code Amendments don't specifically say and the existing provisions of the Code relating to noise levels and, *in particular, noise annoyance*, may not provide clear answers.

Dr. Willis has reviewed Chapter 6-3 of the Park City Code which both regulates maximum permissible sound levels in Section 6-3-9.A and also provides noise disturbance and annoyance restrictions under Section 6-3-9.C. In particular, Section 6-3-9.C.2 of the Code prohibits "any stationary source of sound which emits a pure tone, cyclically varying or repetitive impulsive sound which creates a *noise disturbance*."

A noise disturbance is defined in Section 6-3-1 as "[a]ny sound that *annoys or disturbs* a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s)". Accordingly, "annoyance" is a separate metric for noise assessment for impulsive sound in addition to the maximum permissible sound levels described in Section 6-3-9.A.

Dr. Willis advises that current standards for noise assessment in regard to annoyance for impulsive sound are based on adjusted sound exposure levels and include ANSI S12.9 Part 4 and ISO 1996 Part 1 standards. He concludes that the methodology in ANSI S12.9 Part 4 for assessment of noise annoyance caused by pickleball play may well show violations of the requirements in Section 6-3-9.C.2 of the Code where the placement of courts is in close proximity to neighbors.

The proposed Code Amendments do not consider the existing noise standards under Chapter 6-3 of the Code and, to date, I have seen no analysis regarding acceptable levels of noise underlying the proposed Code Amendments. How are applicants to know when they have provided for sufficient noise mitigation in their permit application? What standards will the Planning Commission apply to determine what a sufficient level of noise mitigation is in considering a CUP? It is hard to imagine that any Code Amendments purporting to provide guidelines for acceptable levels of pickleball noise can be considered or adopted without guidance for applicants on this question.

3. Nearly all of the proposed Code Amendments depend on a clear and coherent understanding of the kinds and levels of noise generated by pickleball play. Before moving to adopt the proposed Code Amendments, Commission should direct Staff to engage a competent, expert noise consultant of Dr. Willis' caliber to assist it in understanding the complexity of the noise issue and in drafting the noise compliance provisions of the proposed Code Amendments.

Because Staff has apparently neither sought nor received any advice or guidance from a competent, expert noise consultant, I would suggest that it is premature for Commission to consider any codification of pickleball noise mitigation standards. It should go without saying that it is entirely inappropriate for Staff, in formulating the proposed Code Amendments, to rely on any noise analysis which may have been done by another municipality or concerned person in another geography under circumstances which may differ significantly from our situation here in Park City.

4. Staff has stated on the City website, in the Staff Report on the Venus Court application, and in the open houses on residential pickleball that a pickleball court is 20' x 44' or 880 square feet.

Commission should understand that this statement is simply inaccurate and is grossly misleading. A pickleball court will typically consume 2,100 square feet or nearly *2 ½ times more surface area* than has been represented. It is true the in-bounds area of a court may be 20' x 44' but the *minimum* recommended playing area is typically 30' x 60'. Moreover, pickleball court builders typically recommend a 34' x 64' (or 2,176 square feet) playing area. If perimeter fencing outside the playing area is included, a standard court could easily exceed 34' x 64'. Thus, a common pickleball court may be nearly *2 ½ times larger* than Staff has represented. See: <https://pickleballfix.com/pickleball-court-dimensions/>. These representations should be corrected in future presentations.

5. Staff has proposed that applications for conditional use permits for pickleball courts would require an Administrative Permit as opposed to a permit granted by the Planning Commission.

Staff should explain why an Administrative Permit process would be appropriate. Why shouldn't permits for highly controversial residential pickleball courts be CUPs, decided by Commission, with all of the legally-mandated requirements applicable to conditional uses, as all other Recreation Facilities are?

6. It was suggested by a representative of the Recreation Department in one of the open houses that the Department has only received one complaint from all the residents of the Racquet Club condos regarding pickleball noise. However, the Recreation Department staff report recently provided to City Council expressly acknowledged the problem of pickleball noise, stating (in respect of noise issues already present at the MARC) "Tennis is a quiet sport and pickleball is *much noisier* both in the game and the social nature of the sport causing incompatibility with most tennis players". Before moving forward with the Code Amendments, as part of its fact-finding obligations, Commission should direct Staff to survey all the residents living within 600 feet of the pickleball courts at the MARC.

7. Staff has stated that the Code Amendments would modify the definition of "Private Recreation Facilities" to identify pickleball courts as a type of facility that requires additional mitigation due to the noise associated with the sport.

I agree that pickleball courts raise mitigation issues resulting from their noisiness (among other mitigation issues) and that it is appropriate to clarify the treatment of pickleball applications, including noise mitigation, in the Code.

However, the Code Amendments should make clear that, in addition to noise mitigation, the items which the Planning Department and/or Planning Commission must review under subsection E of Section 15-1-10, as amended by the Code Amendments, include, but are not limited to (i) Storm Water run-off; (ii) Fencing, Screening, and landscaping to separate Use from adjoining Uses; (iii) usable Open Space; (iv) lighting; (v) physical design and Compatibility with surrounding Structures in mass, scale, style, design, and architectural detailing; (vi) within and adjoining the Site, the appropriateness of the proposed Structure to the existing topography of the Site; and (vii) consistency with the goals and objectives of the Park City General Plan.

In addition, the Code Amendments should be clear that all sports courts (for example, including tennis, basketball, and volleyball courts) require mitigation analysis under subsection E of Section 15-1-10 in connection with noise concerns.

In this vein, the distinction articulated by Staff in a recent open house between *sports courts* and *sports equipment* should be clearly delineated in the Code Amendments.

8. Staff has suggested in its website summary of the proposed Code Amendments that the amendments will include provisions specifically covering mitigation strategies for pickleball courts, including

- (a) Establishing a minimum required lot size of 0.5 acres (21,780 square feet) for pickleball courts.

Commission should ask the Planning Department how it chose 0.5 acres as the minimum required lot size? For example, a square lot of 0.5 acres would be 147' x 147'. As mentioned above pickleball courts are commonly as large as 34' x 64' and consume approximately 2,000 square feet. Based on typical home and garage sizes, and driveway coverages, in residential areas in Park City why is a minimum lot size of 0.5 acres appropriate or sufficient? Why shouldn't the minimum lot size be greater? How many residential lots in Park City equal or exceed 0.5 acres? In addition, should there be a maximum slope and excavation restriction for courts?

- (b) Requiring a minimum 100-foot setback from lot lines of adjacent residential properties for pickleball courts with no noise mitigation.

Commission should inquire on what basis Staff has concluded that a 100-foot setback is an appropriate setback distance and direct Staff to provide its analysis to Commission. Why not a greater setback distance? When my neighbor at 2732 Meadow Creek Dr commenced construction of an unpermitted pickleball court last summer, Dr. Willis opined that noise concerns regularly arise whenever courts are located within 500-600 feet of homes. Given Dr. Willis' opinion, Commission should ask Staff to explain why it has chosen 100 feet as an appropriate distance beyond which courts may be sited with no mitigation required. Shouldn't courts further than 100 feet away from adjacent property lines which generate noise in excess of Park City noise limits or the noise limits adopted by the Code Amendments also be required to show mitigation in order to obtain a CUP?

Based on my reading of many complaints which pickleball courts have given rise to across the country, it appears that many (if not all) disputes could have been avoided with careful court siting and noise mitigation steps taken *in advance* of permitting and construction. The Code Amendments should require that all applicants submit a noise study including a noise mitigation analysis prepared by a duly-qualified expert with and at the time of their CUP application. This requirement would, in fact, not be terribly burdensome on applicants. Noise analyses can be prepared for a fraction of the total cost of a pickleball court installation and would be far cheaper than lengthy litigation. The Planning Department, in consultation with a qualified noise expert engaged by the Department, should establish criteria *in advance* for the contents of this applicant's noise report and incorporate these requirements in the Code Amendments.

Commission should ask Staff to explain why the Code Amendments should not require that applicants be specifically required to engage a qualified noise consultant at the planning and pre-application stage to work with the applicant and the Planning Department to determine optimal siting and whether appropriate levels of noise mitigation can be achieved. This is a 'best practice' which Dr. Willis recommends.

In this regard, the Code Amendments should provide that applicants show sufficient noise mitigation at the time of application and *in advance* of permitting and construction. The proposal on the City's website that noise mitigation be addressed after a permit has been granted and three or more complaints have been received is simply an invitation for disputes and litigation long after mitigation should have been determined. There is also no legal basis for this approach under Section 15-1-10.E. which requires that the Planning Department and/or Planning Commission "**must review**" noise mitigation when considering whether or not the proposed Conditional Use mitigates noise impacts before a CUP is granted.

Furthermore, in respect of the proposed 100-foot setback requirement, the Code Amendments should be clear that any special '100 foot' setback for pickleball courts does not supersede any setbacks (including Code- and Plat-mandated setbacks, drainage and utility easements and Limits of Disturbance Areas) otherwise required by the Code or specific subdivision Plats.

During 2021 I became aware that the Planning Department had taken the position in several applications before the City that a pickleball court is sufficiently similar to a "patio" that it may be approved as an Allowed Use and, specifically, may be built inside the otherwise Code-mandated side and rear setbacks in, for example, the Single Family and Estate districts (the Patio Exception). I have been subsequently informed by Senior City Attorney Harrington in August 2021 that use of the Patio Exception for pickleball courts had been an erroneous interpretation of the Code and that a pickleball court is in fact a Recreation Facility and is not eligible for setback relief under the Patio Exception. So I was very surprised recently to read in the Staff report for the proposed pickleball court at 1961 Venus Court that the Planning Department has revived the Patio Exception to justify a pickleball court site which otherwise clearly violates the applicable setback restrictions. The Code Amendments must make it clear that the Patio Exception for setbacks is not available for pickleball courts and other Private Recreation Facilities.

It has also been suggested by speakers at the open houses that a homeowner could avoid the impact of any forthcoming Code Amendments for pickleball by simply setting up a net and drawing lines on his or her existing (or expanded) driveway. The Code Amendments should clearly provide that anytime a property owner sets up a pickleball court with lines and a net on his or her property, whether s/he calls

it a pickleball court, or a patio, or a concrete pad, or a driveway, if it is used to play pickleball, then it is a pickleball court and a 'conditional use' subject to all of the Code requirements applicable to this conditional use. The Code Amendments also need to be clear that a pickleball court is in all cases a Conditional Use and not an Allowed Use. The Code Amendments should also make it clear that the setback exceptions for Accessory Buildings in, for example, the Single Family and Estate districts, are not available for pickleball courts and other Recreation Facilities.

- (c) Requiring a minimum 50-foot setback from lot lines of residential properties for courts that include a twelve-foot-tall noise reducing fence, noise reduction floor panels, and the recommended use of "quiet" paddles.

Commission should direct Staff to explain on what basis it has concluded that a 50-foot setback is an appropriate setback, for example, where there is a twelve-foot-tall noise reducing fence. On what basis has Staff concluded that noise can be sufficiently mitigated at distances between 50 and 100 feet from neighbors' property lines with a twelve-foot-tall fence? Why not a ten foot fence or a fourteen foot fence? As Dr. Willis explains in his letter, it may be impossible to successfully mitigate noise at certain distances within 100 feet, with or without a fence.

Commission should take note that noise travels in a straight line from the point of paddle/ball impact (and player exclamations) to the noise recipient. For courts located between 50 and 100 feet from a residence, will a twelve-foot-tall fence (no matter how thick) block noise traveling to the second story of a nearby house? Dr. Willis suggests that it may not. Again, Staff should provide Commission with its analysis with support from a qualified expert. And again, as mentioned above, the Code Amendments should require that noise mitigation be considered for all courts proposed to be sited within 600 feet of any home.

The proposed noise-reducing fence requirement in the summary published on the City's website must be clearly defined in the Code Amendments. What kinds of fences will be accepted? It would seem likely that the required fence surrounding a standard court will be at least 180 feet long ($60' + 30' + 60' + 30' = 180'$) with an opaque surface area of 2,160 sq. feet ($180' \times 12' = 2160$ sq. ft.). This would be a very large fence, and apparently larger and more opaque than any kind of fence currently permitted under the Code based on current Code fence provisions. The Code Amendments should specify what types of materials will be required. If a chain link fence will be permitted, will the chain link fence exception for tennis court fences apply to noise-reducing chain link fences? Will the twelve-foot-tall noise reducing fence in fact also be a chain link fence? Commission should direct Staff to consider and propose the kind of noise-reducing fences which will withstand our broiling summer afternoon temperatures, frigid winters, deep snows and high winds and also satisfactorily mitigate noise? Will the noise-reducing materials reflect or absorb so much heat that the court will not be useable on hot days? Would this encourage owners to remove fencing materials? How will any requirement to maintain noise reducing fencing be enforced? How will maintenance of the fence be enforced as it deteriorates over time?

In the Staff report for the pickleball application at 1961 Venus Court, Staff recommended that the applicant "install a twelve foot (12') tall noise reducing fence around the sports court with a minimum noise reduction coefficient (NRC) of approximately 0.75." The proposed Code Amendments are silent as to the noise reducing coefficient which will be required. What standard will applicants be required to meet and what is the basis for any such standard? Will any such standard effectively mitigate pickleball noise at varying distances, including more than 50 feet from property lines? Commission should direct

Staff to provide additional information and analysis on this point.

At the Planning Commission hearing on the 1961 Venus Court application in January a next door neighbor stated that he is more concerned about the visual impact of an unscreened 12 foot high, 180 foot long plastic and metal fence facing his backyard than he necessarily is about the noise the court will generate. The Code Amendments should provide standards for mitigation of the visual impacts on neighbors of any required noise reducing fence and for required landscape screening for such fences.

Staff also proposes in the website summary provisions that additional noise mitigation could be accomplished by requiring the use of 'noise reduction floor panels'. Please identify exactly what kind of noise reduction floor panels would be recommended. Please advise how much noise Staff expects 'noise reduction floor panels' to reduce, especially given the fact that most pickleball noise is apparently generated by paddle/ball impacts and players' voices? Has any analysis of noise reduction by use of noise reduction floor panels been done by Staff? If so, Commission should require that it be provided. Will noise reduction floor panels reduce the noise impact of balls hitting racquets? Will noise reduction floor panels actually work in Park City, with our broiling summer afternoon temperatures, freezing winters, deep snows and Springtime snowmelts and run off? Will the glare, or heat or light absorption or reflection of floor panels impact play? In any event, all noise mitigation strategies contemplated by an applicant should be covered in a noise expert's opinion submitted with the initial application.

Lastly, Staff's proposed Code Amendments would require the use of 'quiet' paddles. It may be true that quiet(er) paddles reduce the level of noise impacts, but an informal survey of internet sources indicates that players generally disfavor non-regulation equipment and are disinclined to use it. It is hard to imagine players in Park City will be any different. In any event, Commission should query whether Staff has studied this issue and/or determined how this mitigation requirement can possibly be enforced as a practical matter.

- (d) Limiting pickleball court use to daylight hours and prohibiting outdoor lighting of the court

The principal problem with this proposal is that given our late sunsets at the western edge of the Mountain Time Zone and hot summer afternoon temperatures in Park City (where temperatures in bright sunlight frequently exceed 90 degrees), court owners will often (always?) want to play after work and later in the afternoon (for example, between 5 pm and 9 pm or later) when temperatures fall. This is exactly the time when nearby neighbors will often want to enjoy peace and quiet in their living rooms with open windows, or on their outdoor patios and decks, or retire early to bed. In mid-Summer twilight in Park City continues until as late as 9:30 pm and play will be possible without lights well past 9 pm. Staff should consider whether permitting pickleball play between 5 pm and sundown in close proximity to neighbors wishing to enjoy peace and quiet isn't simply an unnecessary recipe for conflict. The same kinds of considerations will also apply to weekend play. Owners will often want to play on weekends, at exactly the same time neighbors are off-work and enjoying the peace and quiet of their open windows and backyards. Finally, Commission should inquire if the Code Amendments impose restrictions on evening play, who will enforce them?

- (e) Prohibiting on-street parking for properties with permitted pickleball courts.

While I agree that prohibiting on-street parking is a good idea, it seems wholly impractical and also impossible to enforce. Anybody who lives in Park Meadows knows that residents already park their cars, and their second and third and fourth cars, and their campers and trucks, and their guests' cars, on the street with impunity. It already takes a virtual military campaign to persuade City Hall to rigorously enforce existing on-street parking restrictions. Who will enforce this restriction? Staff should supply Commission with analysis showing why any on-street parking restrictions would be effective.

It was also suggested in one of the open houses that use of a private residential pickleball court should be limited to owners and (presumably) their guests. This is a thoughtful concern. While conducting research on residential pickleball, I learned of a situation (in another locality) where a homeowner built a sports court and established an informal 'club', resulting in continuous 'unhosted' play throughout the day. But, again, how could a restriction requiring owners to be present be enforced? Staff should supply Commission analysis regarding the enforceability of this kind of restriction.

- (f) Requiring Homeowner Association approval for properties that are part of a Homeowner Association

This is another excellent idea which is probably also impractical and unlikely to work. Given the currently proposed 0.5 acre minimum lot size requirement it would seem likely that most qualifying lots will be in Park Meadows and surrounding areas. As Staff may know better than I do many (if not most) HOAs in Park Meadows are inactive or defunct. How will this requirement work for inactive or defunct HOAs? Will the applicant be prevented from making an application because her/his HOA is inactive or defunct? Or will the applicant be permitted to ignore the requirement? Yet, even inactive HOAs may have binding CC&Rs. How can a homeowner who lives in a subdivision with an inactive HOA cause it to enforce its CC&Rs? I am also painfully aware that in some HOAs officers and homeowners simply ignore the limitations contained in their CC&Rs. Commission should direct Staff to give further study to this requirement and determine whether it can reasonably work as intended.

- (g) Requiring further mitigation if three noise complaints are filed within a one-year period of permit issuance.

As mentioned above, this proposal, which would permit noise mitigation to be addressed *after* a permit has been granted and three or more complaints have been received, is simply an invitation for disputes and litigation continuing long after appropriate mitigation should have been determined as part of the CUP review process. There is no basis for this approach under existing Section 15-1-10.E. which requires that sufficient mitigation must be reviewed and determined before a CUP is granted. The noise mitigation analysis should be done *before* the permit is granted, not after expensive construction is completed and neighbors' complaints start to accumulate. This provision violates the existing Code and is simply unworkable.

9. In addition to potentially violating noise regulations, persistent pickleball noise can be an unhealthy nuisance which should be subject to mitigation as part of the Conditional Use review process under the Code Amendments. Commission should direct Staff to consider whether persistent pickleball noise in close proximity to homes in a residential neighborhood is an unhealthy nuisance. There is no evidence that this question has been considered by Staff. Experts have reported that repetitive impulsive sounds can make it difficult for neighbors to relax, concentrate, or sleep soundly without disturbance and can lead to stress, fatigue, and anxiety. Experts have also reported that excessive and repetitive noise has implications for the human cardiovascular, auditory, limbic, nervous, endocrine, and other systems,

adversely impacting good health. I would urge Commission to inform itself now, carefully and comprehensively, regarding all of these health concerns and consider how they might be successfully mitigated before approving any Code Amendments.

I look forward to Commission addressing these concerns at its meeting on Wednesday, February 23. Thank you in advance for your attention and consideration.

Sincerely,



Frode Jensen

Exhibit A – Copy of Letter of R. Lance Willis, PhD, provided to Staff on August 3, 2021

Exhibit B – Copy of Letter of Frode Jensen to Planning Commission dated January 24, 2022

Exhibit C – Copy of Frode Jensen PowerPoint presentation dated January 26, 2022

cc:

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EXHIBIT A

Friday, July 23, 2021

Robert Rosing
Rosing Davidson Frost
136 Heber Ave
Suite 205
Park City, Utah 84060

Mr. Rosing,

This letter comments on the noise impact on surrounding homes resulting from the planned installation of a pickleball court at 2732 Meadow Creek Drive. The planned pickleball court is located within 100 feet of several homes including 2812 Holiday Ranch Loop Road which is directly adjacent to and overlooks the placement of the court.

Qualifications in Regard to Pickleball Sound Abatement

I am the Principal Acoustical Engineer at Spendiarian & Willis Acoustics & Noise Control, LLC. In that capacity, I regularly perform on site acoustical testing, community noise impact assessment, acoustical site planning, and noise abatement design for commercial and industrial sites, often near residential areas. I have been working as a consultant in environmental acoustics and noise control since 2005.

I have Bachelor, Master of Science, and PhD degrees from the Woodruff School of Mechanical Engineering at the Georgia Institute of Technology with a specialization in physical and engineering acoustics. I also received a multidisciplinary certificate in acoustics from the same institute. After finishing my PhD, and while working as an applications engineer in the Advanced Product Technology Center at Motorola, I completed distance learning at the Pennsylvania State University in psychological acoustics and experimental design. This coursework covered the human sensation of hearing and the perception of sound. I have been a member of the Acoustical Society of America and the Audio Engineering Society since 1994.

Since 2010 I have assisted pickleball clubs, site planners, and home owners associations in site selection and noise abatement planning for pickleball courts. Some of these projects include: ABREGO AT GREEN VALLEY, AZ; CANOA RANCH, GREEN VALLEY, AZ; DESERTVIEW AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; RIDGEVIEW AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; MOUNTAINVIEW AT

Spendiarian & Willis Acoustics & Noise Control LLC

July 23, 2021

1 of 10

SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; THE PRESERVE AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; ROBSON AT SUN LAKES / IRON OAKS, PHOENIX, AZ; ROBSON AT PEBBLE CREEK, PHOENIX, AZ; TRILOGY AT ENCANTERRA, PHOENIX, AZ; TRILOGY AT VERDE RIVER, PHOENIX, AZ; TRILOGY AT VISTANCIA, PHOENIX, AZ; SUNFLOWER DEVELOPMENT, TUCSON, AZ; YAVAPAI HILLS HOA, PRESCOTT, AZ; OUTDOOR RECREATION PALM SPRINGS, PALM SPRINGS, CA; ELKHORN HOA, SUN VALLEY, ID; PELICAN PRESERVE, FORT MYERS, FL; and PELICAN LANDING, BONITA SPRINGS, FL.

I have also assisted home owners and home owners associations when pickleball courts have been placed close to residential properties without adequate noise abatement planning. The sites of these pickleball courts were ST MICHAEL'S BY-THE-SEA CHURCH, CARLSBAD, CA; COLUMBINE COUNTRY CLUB, LITTLETON, CO; TRILOGY AT POWER RANCH, GILBERT, AZ; private residence in LOUISVILLE, KY; private residence in CARLSBAD, CA; CHESTNUT WAY PARK, PORT MOODY, BRITISH COLUMBIA; and a park on WATERS END DRIVE, CARLSBAD, CA.

In some instances, failure to plan for noise abatement or select an appropriate pickleball site has resulted in legal action. I have been an expert witness in several cases seeking an injunction against pickleball activities in California, Kentucky, and Colorado. These cases involved courts placed with insufficient buffer distance to neighbors and ad hoc mitigation treatments.

Characteristics of Pickleball Sound

The main concern in regard to noise from the pickleball courts is the sound produced by the impact of the hard plastic ball on the paddles. This sound is characterized by a sudden onset and brief duration, typically on the order of two thousandths of a second for the direct path sound (see Figure 1) thus classifying it as impulsive sound. The spectral content of the paddle impact is narrowband with a center frequency typically between 1,000 and 2,000 Hertz. This is near the most sensitive frequency range of human hearing. Although it does not meet most guidelines for tonal prominence such Annex C of ANSI S12.9 Part 4 or ANSI S1.13, it does impart a vague sensation of pitch. The acoustic radiation pattern of the paddle is more or less a dipole or figure eight pattern.

Using a foam ball such the Foam Quiet Ball made by Gamma can reduce the amount of sound from paddle impacts significantly. Spendiarian & Willis has done a comparative study of this ball and the most common regulation ball, the Dura Fast 40. The foam ball was found to be 8 to 9 dBA quieter. While this will reduce the amount of sound abatement needed, it will not necessary eliminate the need for it completely. This is especially true where homes are within 75 to 100

feet of the pickleball courts. Use of the foam ball can still be expected to produce more noise complaints than tennis.

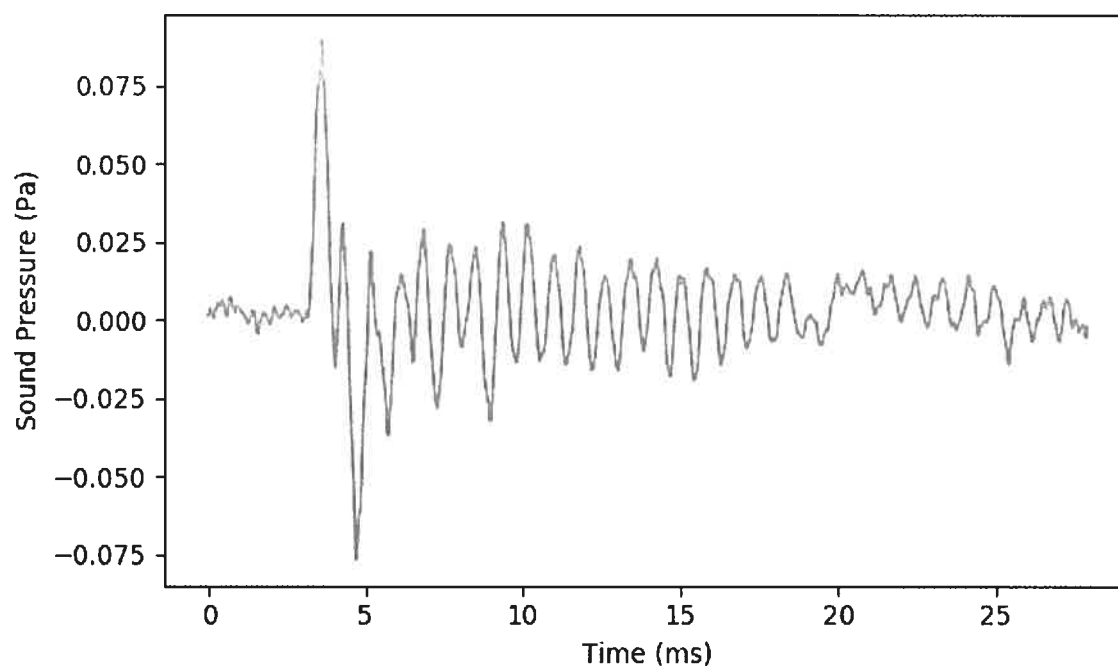


Figure 1. Sound Pressure Impulse Produced by Pickleball and Paddle Impact. Time is in milliseconds (0.001 seconds)

Comparison of Pickleball to Other Activities

There is a common misconception that pickleball is acoustically equivalent to tennis, volleyball, or many of the other activities typically found at outdoor recreation centers and parks. Numerous news articles covering disputes over pickleball noise, many of which originate when existing tennis courts are converted to pickleball, demonstrate that this is not the case:

- Adler, Erin, “Apple Valley neighbors in a pickle over pickleball noise.” Star Tribune, Minneapolis, Minnesota. March 27, 2019. <<http://www.startribune.com/apple-valley-neighbors-in-a-pickle-over-pickleball-noise/507726242/>>

- Bartel, Mario, “Pickleball banished from Port Moody court after neighbours complain of rising stress, anxiety.” The Tri-City News, Coquitlam, British Columbia, Canada. April 24, 2021. <<https://www.tricitynews.com/local-sports/these-games-are-loud-port-moody-pickleball-neighbours-revolt-against-rising-stress-anxiety-3662369>>
- Maryniak, Paul, “Pickleball lights plan puts two HOAs at loggerheads.” Ahwatukee Foothills News, Tempe, Arizona. November 29, 2017. <https://www.ahwatukee.com/news/article_9056a946-d48e-11e7-9838-8b69fb2d50b2.html>
- Bottemiller, Kitty, “Too loud! Pickleball noise upsets neighbors.” Green Valley News, Green Valley, Arizona. August 28, 2013. <https://www.gvnews.com/news/local/too-loud-pickleball-noise-upsets-neighbors/article_542c2aac-0f91-11e3-acdc-0019bb2963f4.html>
- Clay, Joanna, “Woman sues Newport Beach over pickleball noise at park near her home.” Orange County Register, California. April 7, 2016. <<https://www.ocregister.com/2016/04/07/woman-sues-newport-beach-over-pickleball-noise-at-park-near-her-home/>>
- Shanes, Alexis, “Village in a pickle: How Ridgewood plans to tone down the pickleball court noise.” northjersey.com, California. January 16, 2020. <<https://www.northjersey.com/story/news/bergen/ridgewood/2020/01/16/ridgewood-nj-pickleball-noise-reduction-measures/4480463002/>>
- Monterey Herald Staff, “Pickleball noise controversy goes before city leaders Pacific Grove neighbors object to game at nearby tennis courts.” The Mercury News, California. September 19, 2019. <<https://www.mercurynews.com/2019/09/19/pickleball-noise-controversy-goes-before-city-leaders/>>
- Fraser, Patrick and Rodriguez, Ambar, “What to do about constant pickleball noise?” WSVN 7 News Miami, Miami, Florida. March 27, 2019. <<https://wsvn.com/news/help-me-howard/what-to-do-about-constant-pickleball-noise/>>
- Sutphin, Daniel, “Nixing the noise: Sound fence construction underway at Gilchrist pickleball courts.” Port Charlotte Sun, Charlotte Harbor, Florida. May 20, 2019. <https://www.yoursun.com/charlotte/news/nixing-the-noise-sound-fence-construction-underway-at-gilchrist-pickleball/article_79a764de-7b1c-11e9-b4d4-6bcaa919f3f3.html>

It should be clear from the above list of references that pickleball constitutes a significant change in the acoustic environment of the area surrounding the courts in comparison to tennis and must be planned for accordingly. In particular, the impulsive sound produced by the impact of the hard plastic ball on the paddle can cause significant noise impact for those living near the courts.

Effects of Impulsive Sound

Persistent impulsive sounds create annoyance because they are similar to sounds that contain important information about our environment such as footsteps, a door opening, a tap at the window, or speech. We are sensitive to these types of sounds because they alert us to events occurring nearby that we may need to respond to. Continuous false alarms such as the popping sound created by pickleball paddle impacts make it difficult to relax, concentrate, or sleep soundly without disturbance as each time a pop is heard it draws the attention, creating distraction.

While it is well known that high amplitude acoustical pressures can cause hearing impairment as well as other types injury to the body, lower amplitude sound can also have adverse long term physiological effects. The World Health Organization recognizes that low level noise exposure has measurable health effects.

Sound/noise is a psychosocial stressor that activates the sympathetic and endocrine system. Acute noise effects do not only occur at high sound levels in occupational settings, but also at relatively low environmental sound levels when, more importantly, intended activities such as concentration, relaxation or sleep are disturbed. [WHO p. 61]

The sympathetic nervous system is part of the autonomic nervous system and is involved in the body's fight or flight arousal response. Chronic activation of the sympathetic system leads to stress, fatigue, and anxiety.

In addition to nervous system activation, sleep disturbance from noise can involve difficulty in falling asleep as well as awakenings that occur during sleep. Frequent awakenings lead to sleep fragmentation. This disrupts the normal stages of sleep and may lead to further neurocognitive manifestations not limited to daytime tiredness, loss of concentration, morning confusion, irritability, anxiety, and depression. [WHO p. 48, 26]

Environmental noise also has implications for the cardiovascular system, metabolism, and homeostasis, the ability of the body to regulate itself.

The auditory system is continuously analyzing acoustic information, which is filtered and interpreted by different cortical and subcortical brain structures. The limbic

system, including the hippocampus and the amygdala, plays an important role in the emotional processing pathways. It has a close connection to the hypothalamus that controls the autonomic nervous system and the hormonal balance of the body. Laboratory studies found changes in blood flow, [blood pressure] and heart rate in reaction to noise stimuli as well as increases in the release of stress hormones... Acoustic stimulation may act as an unspecific stressor that arouses the autonomic nervous system and the endocrine system... The arousal of the sympathetic and endocrine system is associated with changes in the physiological functions and the metabolism of the organism, including [blood pressure], cardiac output, blood lipids (cholesterol, triglycerides, free fatty acids, phosphatides), carbohydrates (glucose), electrolytes (magnesium, calcium), blood clotting factors (thrombocyte, aggregation, blood viscosity, leukocyte count) and others. In the long term, functional changes and dysregulation may occur, thus increasing the risk of manifest diseases. [WHO p. 62-63]

The effects of stress can take many forms as seen above. Low level noise exposure that disturbs sleep and concentration are known to produce a range of diagnosable illnesses and disorders.

Assessing the Impulsive Sound of the Pickleball Courts

Based on our experience working with pickleball facilities, courts located within 350 feet of residential properties often require noise abatement. Pickleball court sites within 500 to 600 feet of noise sensitive areas should be reviewed by a qualified acoustical engineer in the site selection phase of the project. The acoustical engineer should be familiar with modern methodologies for assessing highly impulsive sound such as ANSI S12.9 Part 4 or ISO 1996 Part 1. Courts located within 150 feet of homes require careful and often extensive noise abatement design to avoid complaints. I have measured peak sound pressure levels from pickleball courts at a distance of approximately 75 feet exceeding 80 dBA. Recurrent peak sound pressure levels this high present a high level of distraction and noise impact for the occupants of the receiving property.

I have been informed that the planned pickleball court pad at 2732 Meadow Creek Drive is within 20 to 25 feet of the house at 2812 Holiday Ranch Loop Road. Pickleball courts located this close to homes can be expected to produce noise complaints from the adjacent residents and have a significant impact on quality of life. At this distance the pickleball paddle impacts easily penetrate the interior of a home or condominium and will prevent the quiet enjoyment of the residents' use of their living rooms, dining rooms, bedrooms, balconies, patios, and other spaces used for rest, family activities, and activities requiring concentration such as reading.

Applicable Codes and Regulations

Chapter 6-3 of the Park City Municipal Code discusses impulsive sound and annoyance. The code specifies fast time weighting for measuring impulsive sound. This is acceptable for speech and some other types of impulses with slower onset rates, but it should be noted that this setting grossly underestimates the noise impact of sounds produced by impact processes such as pickleball paddles.

Section 6-3-9.C.2 prohibits "any stationary source of sound which emits a pure tone, cyclically varying or repetitive impulsive sound which creates a noise disturbance." A noise disturbance is defined in Section 6-3-1 as,

Any sound that annoys or disturbs a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s).

The definition refers to annoyance as a metric for noise assessment in addition to the maximum permissible sound levels described in Section 6-3-9.A. The use of the term, annoyance, can be traced back to the work of Schultz and other researchers in the 1960s and 1970s [Schultz, 1978] and is the basis of federal standards for transportation noise assessment. Current standards for noise assessment in regard to annoyance for impulsive sound are based on the adjusted sound exposure level and include ANSI S12.9 Part 4 and ISO 1996 Part 1. The fast time weighting measurement methodology of the Park City Code does not correlate well with community response to impulsive sounds with sudden onset rate and short duration such as impact processes, including pickleball paddle impacts, and should not be relied on for noise assessment in this application.

Based on our experience in creating noise abatement plans for pickleball facilities using the methodology in ANSI S12.9 for assessment of the annoyance of pickleball paddles, the placement of this court is much closer to other residential land uses than we would recommend and would not satisfy the requirements in Section 6-3-9.C.2 of the Code over the specified 10 minute period.

Noise Abatement Treatments

Mitigation of the sound from the pickleball court is complicated by the short buffer distance and two story construction of the house at 2812 Holiday Ranch Loop Road. Sound walls are a common abatement treatment used for pickleball courts. In order, however, for a sound wall to be effective in attenuating sound it must be high enough to block the line of sight to the players on the court including paddles. Figure 2 shows the view from the second floor window

overlooking the pickleball court pad which is already under construction. As can be seen, a very high wall would be needed to shield the upper level windows of the house from the view of the paddles which radiate the popping sound. The sound wall must block the line of sight to the paddles regardless of the type of equipment used on the court.



Figure 2. View of Pickleball Court Pad from Upper Level Window

Such a wall is not, however, practical to build at this location. If a sound wall will not work for mitigation, a full enclosure will be needed in the form of a building to house the pickleball court. The walls and roof should have no penetrations facing the neighbors.

Conclusions

The addition of pickleball to a neighborhood represents a significant change in the amount of sound entering the surrounding area in comparison to other common recreational activities. This must be carefully planned for.

Based on over 10 years of experience with pickleball noise abatement, Spendiarian & Willis does not recommend this location for an open air pickleball court as being compatible with adjacent residential land uses. Given the insufficient buffer distance, close proximity to homes on multiple sides, and our experience at similar pickleball sites, a noise abatement plan involving a sound wall system will not provide sufficient mitigation at this location. Further, photos taken from the upper level window of the nearest receiving property show that the close proximity of the court and height of the second floor rooms will make an effective sound wall system infeasible. In order for a sound wall to be effective it must block the line of sight from sound sources to the receiving property including upper level windows. An effective noise abatement plan is likely to require the construction of a building with a roof to contain the impulsive sound power levels produced by pickleball.

The use of foam balls will reduce the need for noise abatement; however, given that a sound wall is infeasible for the site, this will not be enough to comply with the noise code. In practice, it has been our observation that enforcement of the use of specific equipment such as foam balls is difficult to ensure.

In summary, Spendiarian & Willis does not recommend the installation of a private, open air pickleball court due to the difficulties in creating an effective noise abatement plan for this site.

regards,



R. Lance Willis, PhD
Principle Acoustical Engineer

References

ANSI S12.9-2005, *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 4: Noise Assessment and Prediction of Long Term Community Response*, American National Standards Institute, 2005.

ISO 1996-1, *Acoustics - Description, measurement and assessment of environmental noise - Part 1: Basic quantities and assessment procedures*, International Organization for Standardization (ISO), 2016.

Schultz, T. J., "Synthesis of Social Surveys on Noise Annoyance," *Journal of the Acoustical Society of America* v. 64, pp. 377-405, 1978.

World Health Organization, *Night Noise Guidelines for Europe*, <http://www.euro.who.int>, 2009.

EXHIBIT B

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January 24, 2022

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**Re: Application for a Conditional Use Permit to Build a Pickleball Court
at 1961 Venus Court (PL-21-05072)**

Dear Planning Commission Members

I write regarding the application of Michelle Denton (Applicant) for a conditional use permit to build a pickleball court at 1961 Venus Court. For the reasons set forth below and based on the record provided, I strongly oppose approval of the application. By copy of this letter to the City Recorder, I ask that this letter be added to the public record.

As the Planning Commission undoubtedly knows, private backyard pickleball courts are increasingly a matter of concern in Park City. I am aware of at least two other courts in Park City which have built (or have been applied for) on residential lots in Park City which may or may not comply with the Park City Land Management Code (LMC or Code) and regarding which the City's correct application of the Code in connection with their approval is uncertain.

Recently, the Planning Department has announced that it will propose amendments to the LMC specifically dealing with backyard pickleball courts in residential neighborhoods.¹ Interestingly, the Applicant's court would fail absolutely under the kinds of regulation the Planning Department is apparently considering. Staff expressly concedes this in the Planning Commission Staff Report (Staff Report) included in the agenda packet.²

While I am a strong proponent of all outdoor recreation, and strongly support the right of property owners to freely enjoy their homes and yards, the Planning Commission must also respect and enforce the duly-enacted laws and codes of the state and of Park City. These laws and codes have been enacted for the benefit of all and must be enforced fairly for the benefit of all, not just individual applicants. If applicable laws are not enforced fairly, trust in government is seriously eroded.

Applications for backyard pickleball courts, including the subject application, which *violate the law* must be denied.

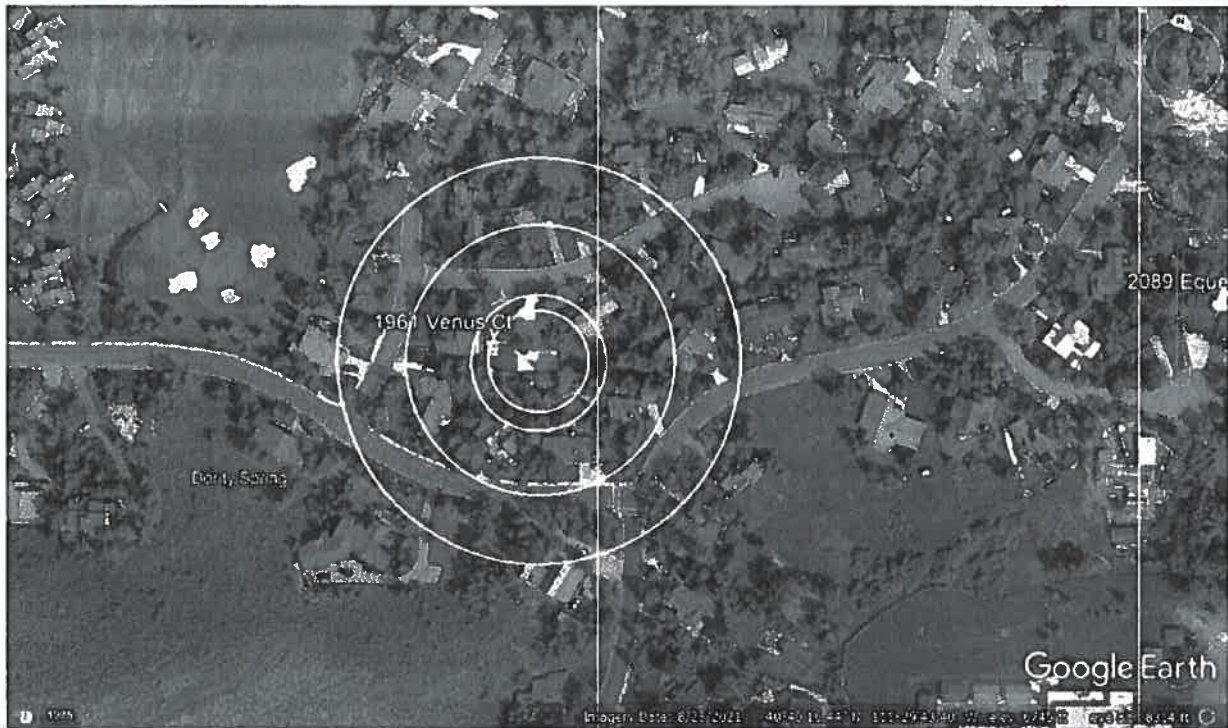
As background, I assume it is agreed by the Applicant, the City and the Planning Commission that

- a. 1961 Venus Court is in the Single Family (SF) District under Section 15-2.11 of the Code.
- b. A Recreation Facility, Private is defined under Section 15-15 of the Code as "Recreation facilities operated on private Property and not open to the general public. Including Recreation Facilities typically associated with a homeowner or Condominium association, such as pools, tennis courts, playgrounds, spas, picnic Areas, similar facilities for the Use by Owners and guests."
- c. A pickleball court on a residential lot in the SF District is a Recreation Facility, Private.
- d. A pickleball court is a Structure.
- e. A Recreation Facility is not an Allowed Use in the SF District under Section 15-2.11-2.A. of the Code.
- f. A Recreation Facility in the SF District is a Conditional Use under Section 15-2.11-2.B. of the Code.

¹ <https://www.parkcity.org/departments/planning/code-amendments/pickleball>

² The copy of the Staff Report included in the agenda packet available on the City's website as of January 23, 2022 may have one or more pages missing. It skips from Condition of Approval 1 on the bottom of page 108 to Condition of Approval 6 at the top of page 109. Conditions of Approval 2 through 5 appear to be missing.

Here, below, for your reference, is a google earth image showing the placement of the concrete pad in the Applicant's backyard and the proximity of nearby houses. The yellow concentric circles represent radii of approximately 75', 100', 200' and 300' from the center of Applicant's proposed court. There are approximately 20 lots within 300 feet of Applicant's proposed court.



I respectfully request the Planning Commission consider the following issues and concerns which I have about the Applicant's proposed pickleball court.

- 1. The site of Applicant's proposed court violates the side setback on the east side of Applicant's lot. There is no exception to the setback requirements under the LMC for a Recreation Facility.**

The minimum Rear Setback applicable to 1961 Venus Court in the Single Family (SF) District is fifteen feet (15'). See Section 15-2.11-3.D. of the LMC. The minimum Side Setback applicable to 1961 Venus Court in the Single Family (SF) District is twelve feet (12'). See Section 15-2.11-3.F. of the LMC.

The subject court (which has already been built without a valid Conditional Use permit) currently violates the 12' side setback on the east side of Applicant's lot.

Based upon the Staff Report and the Findings of Fact set forth in the draft Notice of Planning Commission Action included in the agenda packet, the City has come up with an 'ingenious workaround'. It would propose to ignore the setback requirement and/or permit the Applicant to

paint a line on the sports court on the western portion of the concrete pad so that it maintains a twelve-foot (12') setback from the eastern Side Lot Line.³

I do not believe this 'ingenious workaround' complies with the LMC. The area of a pickleball court is not confined to the space inside the court lines. Players use the entire playing area, inside and outside the playing lines, as part of the court. Since the City proposes to require that the Applicant erect a 12' high acoustic fence around the court it seems pretty obvious and undeniable that the court area will consist of the whole area enclosed by the fence. If this area encroaches on the setback it violates the LMC and cannot be approved.

Staff further states in the Staff Report that "Seven (7') feet of concrete flat work would remain outside the sports court as permitted within the side yard setback exception". While the LMC provides for certain exceptions to the side setback requirements in the SF District under Section 15-2.11-3.G., there is *no exception* under the LMC which would authorize a reduction in the setback limits for a Recreation Facility. The exception for setbacks from Side Lot Lines under Section 15-2.11-3. G.6. of the LMC for Structures is limited to "[p]atios, decks, pathways, steps, and similar Structures not more than thirty inches (30") in height above Final Grade" (the Patio Exception). The Patio Exception is *not* available for a pickleball court, because a pickleball court is simply not a patio or similar Structure. The Patio Exception is certainly not available for a portion of the concrete pad on which a pickleball court has been constructed which happens to extend into a setback. Staff clearly recognizes that this is a dubious, ingenious workaround since it states in the Staff Report that it "recommends in the pending ordinance revisions that this condition is not allowed in the future." What the ingenious workaround is really saying is that this condition is not allowed for Recreation Facilities under the present Code, but Staff chooses to ignore it.

An improvement which encroaches on the legally-mandated setbacks under the Code is illegal and cannot be approved.

³ Interestingly, the idea for this ingenious workaround apparently did not originate with the Applicant, who acknowledged at the time she filed her application that her court violates the east side setback. On December 8, 2021 Browne Seabright, a City planner, wrote the Applicant an email, advising her

"First, as you are probably aware, we are requiring Recreation Facilities to adhere to the required 12' side setback...Based on the current configuration of the patio and the dimensions of pickleball courts, it appears that you might be able to paint the sports court on the existing paved surface so that it is at least 12 feet away from the side property line. It would be helpful if you could verify whether that is possible, and potentially submit an additional exhibit showing how the proposed sports court maintains the side setback."

It is somewhat amazing and incredible to me that it was a City planner, presumably charged with enforcing the LMC, who suggested to the Applicant how to attempt to avoid the otherwise plain application of the setback rules to the pickleball court.

2. All Development in the SF District, including all Conditional Uses, must comply with the Lot and Site Requirements under Section 15-2.11-3 of the LMC, including the Required Setbacks.

A Recreation Facility, Private (Private Recreation Facility) is a Conditional Use in the SF District under Section 15-2.11-2.B. of the Code. If Applicant wishes to obtain a permit for a Private Recreation Facility, Applicant must comply with all of the requirements for a Conditional Use Permit (CUP). However, even if Applicant were to demonstrate compliance with the requirements for a CUP (for example, if satisfactory mitigation measures are adopted), her application must still be denied as a matter of law.

The reason is that Conditional Uses in the SF district, as with Allowed Uses, are also *absolutely* subject to the threshold setback requirements under the LMC. A Conditional Use in the SF District must comply with the side setback restrictions just as an Allowed Use must comply.

Although the Planning Commission must take into account reasonable conditions which are proposed, or can be imposed, to mitigate the reasonably anticipated detrimental effects of a proposed Conditional Use in accordance with applicable standards under Section 15-1-10 of the Code, it may not ignore or modify legally-mandated threshold requirements of the Code, such as the setback requirements.

3. Under Utah law, an application for a CUP must *first* meet any threshold requirements before there is any consideration of detrimental impacts or reasonable conditions to mitigate those impacts under a CUP review process. If a proposed land use cannot satisfy the standards imposed by the LMC, it *cannot* be approved, *regardless* of whether the use is “allowed” or “conditional”.

Utah law is clear that even though a Use may be a Conditional Use, the Use cannot be approved as a Conditional Use if it does not satisfy a *threshold* legal requirement for the Use. Under Utah law, a Conditional Use is a land use with unique characteristics or impacts that warrants special consideration, and conditions to mitigate the impacts. Designating a use as conditional, however, does not remove it from the City’s underlying land management regulations.

While in this case the Conditional Use review process under the LMC (Section 15-1-10) generally dictates the type of conditions that may be imposed, this section does not supplant or override the specific provisions of the LMC which must be satisfied in order for a Conditional Use to be considered.

An application for a CUP must *first* meet any threshold requirements before there is any consideration of detrimental impacts or reasonable conditions to mitigate those impacts. If a proposed land use cannot satisfy the standards imposed by the LMC and the Plat, it *cannot* be approved, *regardless* of whether the use is permitted or conditional.

4. **Neither the City nor the Planning Commission has the authority to ignore the setback provisions of the LMC or any other provision of applicable law in a CUP process.**

Section 509 of the Utah Land Use, Development, and Management Act (LUDMA) mandates that a **“municipality is bound by the terms and standards of applicable land use regulations and shall comply with mandatory provisions of those regulations.”** Utah Code Ann. §10-9a-509.

In other words, under LUDMA, which governs the application of the LMC, neither the City nor the Planning Commission may amend, modify or waive the threshold setback rules unilaterally as part of its conditional use analysis (mitigation) process. In this case, the application filed by the Applicant does not satisfy a *threshold* requirement for the Use, i.e., the 12 ft. side setback requirements applicable to 1961 Venus Court under the LMC, and thus as a matter of law the application *cannot* be approved.

This reading of applicable Utah law is conclusively supported by the opinion of the Utah Office of the Property Rights Ombudsman in *Red Hawk Wildlife Preserve Foundation and Summit County* (Advisory Opinion 116 issued September 20, 2012)

See: <https://propertyrights.utah.gov/advisory-opinions/view-all-advisory-opinions/advisory-opinion-116/>.

Because the Applicant cannot meet the threshold requirements for a CUP and because no permit may be legally granted, regardless of any mitigation arguments Applicant may make in favor of approval, the Planning Commission must deny Applicant’s application now and inform the Applicant of these legal requirements so that additional inevitably fruitless expenditures of time and money in furtherance of the application and any opposition can be avoided.

5. **The City shall not issue a Conditional Use permit unless the Planning Commission concludes that the Application meets the Standards of Review applicable to Conditional Uses under Section 15-1-10.D. of the LMC.**

Section 15-1-10.D. of the Code provides that

“The City shall not issue a Conditional Use permit unless the Planning Commission concludes that:

1. *the Application complies with all requirements of this LMC;*
2. the Use will be Compatible with surrounding Structures in Use, scale, mass and circulation;
3. the effects of any differences in Use or scale have been mitigated through careful planning.”

(emphasis added)

Because the Applicant’s proposal does not comply with the setback requirements under Section 15-2.11-3 of the LMC and thus does not comply “with all requirements of this LMC”, the application fails under Section 15-1-10.D.1. and must be denied.

6. Under the review process for Conditional Use Permits required by Section 15-1-10 of the LMC, the Planning Department and/or Planning Commission must review the specific items enumerated by subsection E of Section 15-1-10 when considering whether or not the proposed Conditional Use mitigates impacts of and addresses such items. Based on the documentation included in the agenda packet, it appears that numerous required items have not been considered or reviewed and no reasonable mitigation has been proposed by Applicant.

The items which the Planning Department and/or Planning Commission must review under subsection E of Section 15-1-10 of the Code in connection with this Conditional Use include, but are not limited to, (i) Storm Water run-off; (ii) Fencing, Screening, and landscaping to separate Use from adjoining Uses; (iii) usable Open Space; (iv) lighting; (v) physical design and Compatibility with surrounding Structures in mass, scale, style, design, and architectural detailing; (vi) noise that might affect people and Property Off-Site; (vii) within and adjoining the Site, the appropriateness of the proposed Structure to the existing topography of the Site; and (viii) consistency with the goals and objectives of the Park City General Plan.

This review is not optional. Under subsection E, the Planning Department and/or Planning Commission **must review** these items (and all items under this subsection) and must make a determination whether the Applicant has addressed and sufficiently mitigated the impacts of these items.

Based upon the Staff Report and the Findings of Fact set forth in the draft Notice of Planning Commission Action included in the agenda packet, there appears to be either no or insufficient evidence that the Applicant, Staff or the Planning Commission has found underlying facts, conducted meaningful analysis, or reached reasonable conclusions regarding:

- (i) Storm Water and Spring Snow Melt Run-off. Have Applicant, Staff or the Commission considered where storm water and Spring snow melt run-off will go from an 1800 square foot impervious concrete patio? On to Applicant's property, or on to neighbors' properties? How will this risk be appropriately mitigated? Water tables are extremely high in many parts of Park Meadows and basements already regularly flood during the Spring run-off. Where will the additional water go?
- (ii) The Fence. Neither Applicant nor Staff has apparently prepared (nor has the Planning Commission considered) any fencing *plan* or *design* for the proposed *12-foot-high*, presumably metal and plastic, acoustic barrier fence around the court. This fence must comply with the fencing provisions of the LMC, including in Section 15-4-2, which appears to prohibit fences higher than 6 feet unless approved for good reason as part of a Conditional Use permit. The standard dimensions of a pickleball court are 30' x 60'. Accordingly, it would appear that Staff is proposing that Applicant erect a 12 foot high, 180 feet long plastic and/or metal fence in the middle of a residential neighborhood backyard. Yet neither Applicant nor Staff provides any details or site plan for this fence.

It is unclear precisely what kind of acoustic barrier fence Staff is recommending. What materials will be used, and what will the color be? What is the cost, the durability, or the effectiveness of this fence? Would the acoustic barrier materials survive hot

summer temperatures, frigid winter temperatures, deep snow or high winds in Park City? Would the enclosing materials reflect or absorb so much heat onto the court in the summer that the Applicant would be inclined to remove the materials? Will the fence reflect glare into neighbors' yards? How will enforcement be managed? Who will require the owner to maintain the fence? The Staff Report answers none of these questions.

- (iii) Site and Landscaping Plan. Applicant has not prepared or provided any schematic site or landscaping plan which I have been able to find in the agenda packet. The Planning Department's form of Conditional Use application⁴ requires that Applicant submit:

"Two (2) 24"x36" *professionally prepared* schematic plans drawn to scale containing items below:

- North arrow and name of project
- Date of drawing
- Adjoining property lines, owners, and uses within 100' of subject property.
- Total acreage of the property, dimensions of all lot lines, all landscaped areas, parking areas, snow storage area. Etc.

-Note: Schematic plans may include, by (sic) are not limited to, *site plan, landscaping plan, floor plans, and elevations.*" (emphasis added in italics)

Applicant has not submitted any "professionally prepared" site, landscaping or design plan for the 1800 square foot concrete pickleball court and 12 foot high and 180 foot long metal and/or plastic fence. Accordingly, Applicant has made no showing that the design and appearance of the court and fence is compatible with surrounding uses (which surrounding uses presently are houses, driveways and lawns, gardens and wooded areas; and the surface square footage of the pickleball court will be *larger* than the surface square footage of most houses and garages in Park Meadows), will be appropriately screened from neighbors, or is an appropriate structure given the natural topography of the surrounding area.

A simple conclusory statement that the use is appropriate or compatible with surrounding uses is not an adequate substitute for analysis and reasonable, thoughtful conclusions.

- (iv) Noise. Neither Applicant nor Staff has shown, based on hard acoustical data or expert reports, that the noise generated by pickleball play on the court will not violate Park City noise ordinances or unreasonably impact neighbors or that by construction of a

⁴ <https://www.parkcity.org/home/showdocument?id=65015>

fence the noise will be reasonably mitigated. I discuss this issue in greater detail below.

- (v) General Plan. Neither Applicant nor Staff has shown there is any compelling argument whatsoever that the addition of a 1800 square foot concrete backyard pickleball court surrounded by a 12 foot high 180 foot long metal and plastic fence to an already densely developed residential area is in any way consistent with the goals and objectives of the General Plan for residential areas. I would submit that the court, as proposed, is totally inconsistent with the goals and objectives of the General Plan.

The application must be denied if it is determined that these aspects of the proposed Conditional Use have not been reviewed, considered, addressed and reasonably sufficiently mitigated.

- 7. In particular, under the review process for Conditional Use Permits required by Section 15-1-10.E.6 of the LMC, the Planning Department and/or Planning Commission must review the noise that will affect people and Property Off-Site. Due to the proximity of the Applicant's proposed pickleball court to neighbors, Planning Commission must determine whether the noise created by pickleball play can be mitigated. If not, the Application must be denied.**

The Planning Department and Planning Commission must consider the following noise-related issues which the subject court will inevitably raise and determine whether the proposed noise mitigation in this case is sufficient or even possible given the near proximity of twenty or more houses:

- a. Applicant's court site is approximately 50 feet from the property line of Applicant's neighbors at 1919 Evening Star Drive, who apparently affirmatively oppose the Application.
- b. Applicant's court site is less than approximately 100 feet from the property lines of five additional neighbors of the Applicant at 2003 Venus Court, 1911 Evening Star Dr., 1950 and 1990 Little Kate Rd, and 2030 Lucky John Dr., several of whom apparently affirmatively oppose this application.
- c. It appears that the property lines of a total of up to 20 homes may be within 300 feet of the Applicant's court, many of whom apparently affirmatively oppose the Application.
- d. I am only aware of one neighbor who affirmatively supports the Applicant's proposal and they apparently may not even be full-time residents of Park City.

Pickleball play is an extremely noisy activity. The Staff Report acknowledges this through its discussion of noise mitigation (See pages 112 et. seq. of the agenda packet). A google search today for "pickleball noise" returns 668,000 results, replete with examples of noise disputes and litigation arising over pickleball court siting and play.

However, the Staff Report is silent or incomplete with respect to many aspects of the pickleball noise issue which the Planning Commission should be aware of and should carefully consider before it approves a pickleball court within 300 feet of up to 20 homes in a densely developed residential area in the SF District.

- 1. It is an indisputable matter of record that pickleball play has led to numerous noise violation claims and nuisance disputes by and against municipalities, neighbors and HOAs across the

country.

2. The Park City Recreation Department staff report recently provided to City Council acknowledged the problem of pickleball noise, stating (in respect of noise issues already present at the MARC) "Tennis is a quiet sport and pickleball is *much noisier* both in the game and the social nature of the sport causing incompatibility with most tennis players. Alarming, what the Recreation Department staff report didn't mention is that the noise issue which gives rise to the incompatibility of outdoor pickleball play with tennis players applies to *everyone* who lives in close proximity to an outdoor pickleball court.

3. There is a common misconception that pickleball is acoustically equivalent to tennis and many other common social and recreational activities. This is not true. Pickleball is much noisier. The sound produced by the impact of the hard plastic ball on the paddle and the loud enthusiasms of the players cause significant noise impacts on residents and properties near outdoor pickleball courts.

4. Numerous anecdotal comments in an online blog about pickleball noise catalog common neighbor complaints. Here are some examples of neighbor complaints from around the country which Planning Commission should be aware of before it opens the door to backyard pickleball play in quiet residential areas in Park City:
 - "I live 80 ft. from...a tennis court that was recently resurfaced [for pickleball]. I can hear clacking in my back bedroom with all the windows down and the air conditioner going. I have an appointment with an attorney...I don't intend to listen to this noise for the rest of my life."

 - "We lived in a quiet neighborhood until the people across the street from us put a pickle ball court in their yard...the court is right by the street. They play for long periods every day and most nights, and they often have friends over who yell and cheer loudly. We can hear it inside our house in all the rooms, not to mention how loud it is in our backyard."

 - "I'm suffering [from] anxiety and depression and the noise is exasperating my system to the point that I need to flee or be a prisoner in my own house."

 - "I am still working and would like to enjoy quiet time on the weekend or evenings and because of the popping of the balls and yelling of the players my quality of life has been affected. I do not want to move but the noise is getting the best of me."

 - "Can you honestly say...YOU know what its like, Waking up to hearing the sound of gunshots/POPS, which never seem to stop, from 8 am every day of the week until dusk 30 feet away?"

 - "30 FEET from your supposed peace and Serenity of your home!!!"

 - "You cannot escape the sound of the noise...There's nowhere in or around the house you cannot hear the ball banging against the paddle, again and again???"

- “Or maybe you invited people over for dinner and you want to be outside enjoying the nice ...weather. Well, do you think you will be able to entertain, when all your guests hear is the POP POP POP of pickleballers?”
 - “It’s only common decency honestly for everyone to have the right to a peaceful sanctuary called home.”
 - “Like the man said, IT’S TORTURE...You tell me what matters more, people playing a game, or the serenity of many many more people in their own home.”
5. While the Staff Report states that “Staff reviewed eight (8) pickleball noise studies conducted by municipalities to evaluate how pickleball courts compared to adopted noise ordinances and what mitigation measures would be most effective”, Staff does not identify six of these eight studies, nor does it include these studies in the agenda packet, nor does it comprehensively summarize them, nor has it made online links available for neighbors to review.
 6. One study which Staff refers to in the Staff Report is the Terravita Pickleball study (agenda packet p. 113). While Staff does not provide a link to the study, I found it and related documentation online at https://eservices.scottsdaleaz.gov/planning/projectsummary/dr_reports/DR_42_DR_1993_3.pdf

I recommend that Commissioners review this study. The situation at Terravita (in Scottsdale, AZ) bears virtually no resemblance to the situation at 1961 Venus Court. Terravita is a country club and the two pickleball courts at issue are in the middle of the club and are surrounded by other club facilities. The courts are apparently a substantial distance from nearby residences. A homeowner opposing the project wrote in an email (p. 83) that the pickleball courts are “100-200 yards [from] many of our homes”. That is 300-600 feet! In fact, the noise abatement proposed in Terravita seemed to be aimed more at reducing the noise between the country club pickleball courts and tennis courts and pool area. The solution proposed for Terravita was to install a 12 foot noise barrier around the courts, which is exactly the same solution which Staff is proposing for 1961 Venus Court. Yet the two situations could not be more different! In Terravita the closest house was apparently 300 feet from the Courts. At 1961 Venus Court the closest house is a two story house at 1911 Little Kate Rd approximately 50 feet from the western edge of the pickleball court. The 12 foot fence proposed by Staff would be ineffective in blocking *any* noise travelling from the point of racquet impact to the second story of the house at 1911 Little Kate Rd because the fence is not high enough.

Nevertheless, the Terravita project should be instructional to the Commission for a different reason. There, the court proponents hired acoustic engineers and spent months and many thousands of dollars to carefully evaluate the noise potentially generated at the actual pickleball site and propose scientifically justified mitigation. At 1961 Venus Court the Applicant has conducted no noise research whatsoever and Staff has simply borrowed research which may or may not be applicable from a completely different situation in Arizona.

7. The second study which Staff refers to is the Morris Dill Courts Study. While Staff does not

provide an internet link to the study, I found a 30 page “technical memorandum” online assessing pickleball noise at the Morris Dill Courts in Pacific Grove, CA

(<https://files.cityofpacificgrove.org/sites/default/files/recreation-board/2019/8-22-2019/recreation-board-8-22-2019-pacific-grove-pickleball-noise-assessment-20190807.pdf>).

The memorandum shows decibel levels of up to 76 dBA at the Morris Dill site, which far exceeds Park City noise limits (see below). I recommend that Commissioners also review this study. I found it impossible based on this memorandum to reach any conclusions regarding likely pickleball noise levels at 1961 Venus Court, or to draw any sensible conclusions about effective abatement in a totally different location.

8. Before approving the subject application, the Planning Commission should require the Applicant an/or Staff to engage an expert acoustic engineer to determine whether the projected noise levels at 1961 Venus Court would exceed City limits and whether an acoustic fence or some other solution would reduce noise levels for affected neighbors to reasonable levels.
9. I have walked around the neighborhoods close by the pickleball courts in the Racquet Club and the Willow Creek courts and spoken to neighbors who have told me they are annoyed and disturbed by pickleball noise and wish the courts were not so close to their homes. Members of the Planning Commission should do the same (after the snow melts) before voting on this application.
10. Based upon the Staff Report and the Findings of Fact set forth in the draft Notice of Planning Commission Action included in the agenda packet there is no evidence that Staff or the Planning Commission has found facts, or analyzed, or concluded on a reasonable basis, that the Applicant has demonstrated that the noise generated by pickleball play at 1961 Venus Court can be satisfactorily mitigated.

Instead, the draft Findings of Fact are totally silent on noise mitigation except in paragraph 15 where the Applicant has agreed to limit the use of the sport court to daylight hours, which are set as 8:00 a.m. to 8:00 p.m. MT. This finding does not address the noise question raised by backyard residential pickleball. There are no other Findings of Fact which address the question of noise.

11. The draft Conditions of Approval (which are not based on any Findings of Fact or other analysis) provide that

“6. The Applicant shall install a twelve foot (12’) tall noise reducing fence around the sports court with a minimum noise reduction coefficient (NRC) of approximately 0.75.”

There is no Finding of Fact which would support this Condition of Approval. The Planning Commission must ask how it was determined that a “twelve foot (12’) tall noise reducing fence around the sports court with a minimum noise reduction coefficient (NRC) of approximately 0.75” will be sufficient to shield the neighbors who live within 100 feet of the court (or closer) from unreasonable noise? Has Applicant, Staff or the Planning Commission consulted a recognized acoustic engineer? Has Applicant or Staff conducted its own noise studies on local courts to determine that the proposed fence will be sufficient to mitigate the noise concern?

12. Based on the conclusions of an expert with whom I have consulted, it seems highly likely that no acoustic fence will actually block pickleball noise from reaching and penetrating the walls of the neighbor at 1911 Little Kate Rd and possibly other immediately proximate neighbors. I discuss this issue further below.

Staff cannot simply make a guess regarding whether a certain height fence with a certain noise reduction coefficient will successfully mitigate the noise created by the proposed court. The reasonable basis for the fence requirement must be supported by credible noise analysis and credible evidence that the proposed noise reduction coefficient is sufficient. There is no evidence in the agenda packet that Applicant or Staff has provided any such information or made such reasonable judgment.

Determinations made by Staff or the Planning Commission which are not supported by factual findings or a reasonable basis are inherently arbitrary and capricious.

13. Furthermore, the draft Conditions of Approval provide that

“4. Within one (1) year of this approval, if the Planning Department receives three (3) noise complaints, then the Applicant will meet with the Planning Commission to review further mitigations.”

This proposed condition fails to meet the standard of review required by Section 15-1-10 of the Code. It is the responsibility of the Planning Commission, based on facts and evidence, to reasonably decide *now* that the noise likely to be generated by the court has been mitigated. It is insufficient for the Commission to say, to the effect that, we don't know how much noise the court will generate, but if it generates a lot of noise and at least three people complain, we will take another look. Then we will do our job. This is especially the case (as facts set forth in this letter demonstrate) where it is widely known that pickleball courts often generate noise in excess of municipal noise ordinance limits, and neighbors often complain. In fact, it appears that more than three neighbors have already complained as part of this Conditional Use review process about the noise that this court will generate.

- 8. Noise from pickleball play at a distance of 75 ft. has been measured by experts at 80 dBA (decibels) and higher, far exceeding noise limits under Park City ordinances. The Planning Commission should not approve a Use with reasonably anticipated noise levels in excess of Code limits as a Conditional Use.**

The Code provides for *both* maximum permissible sound levels and for determination of annoyance as a metric for noise assessment. Section 6-3-9.A of the Code provides for a limit for stationary sources of sound of 55 dBA (decibels) in residential neighborhoods between the hours of 6:00 a.m. and 10:00 p.m. Peak sound pressure levels from pickleball courts have been measured at a distance of approximately 75 feet at 80 dBA (decibels) and higher, which far exceeds Code limitations.

In addition, Section 6-3-9.C.2 of the Code prohibits "any stationary *source of sound* which emits a pure tone, cyclically varying or repetitive impulsive sound *which creates a noise disturbance*."

A *noise disturbance* is defined in Section 6-3-1 of the Code as "Any sound that *annoys or disturbs* a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose,

health, hearing, peace, or safety of another person(s)".

The American National Standards Institute has set standards for noise assessment in regard to *annoyance* for impulsive sounds. Compliance with these standards is an important element in determining whether a reasonable person is exposed to a noise disturbance.

As part of any Conditional Use review process the Planning Commission must determine now whether the placement of a court at various distances in close proximity to homes would satisfy the noise requirements in Sections 6-3-9.A or 6-3-9.C.2 of the Code or reasonably create a noise nuisance.

9. In addition to potentially violating noise regulations, persistent pickleball noise can be an unhealthy nuisance which should be subject to mitigation as part of the Conditional Use review process.

The Planning Department and Planning Commission should consider whether persistent pickleball noise in close proximity to homes in the SF District is an unhealthy nuisance. There is no evidence in the agenda packet that this question has even been considered by Staff or the Planning Commission. Experts have reported that repetitive impulsive sounds can make it difficult for neighbors to relax, concentrate, or sleep soundly without disturbance and can lead to stress, fatigue, and anxiety. Experts have also reported that excessive and repetitive noise has implications for the human cardiovascular, auditory, limbic, nervous, endocrine and other systems, impacting good health.

I urge the Planning Department and the Planning Commission to carefully and comprehensively inform itself now regarding all of these health concerns and consider how they might be successfully mitigated before approving the Application.

10. Ill-Conceived Pickleball Courts Can Be Nuisances Which Can Lead to Costly Disputes and Litigation

There are numerous cases around the country where failure to carefully plan *in advance* for noise abatement or appropriate site selection for pickleball has resulted in claims of 'nuisance' and zoning violations leading to difficult disputes and, often, expensive and protracted legal action. Simple common sense would teach that these disputes are far more difficult to resolve after a pickleball court has been approved without proper analysis and mitigation. A google search reveals numerous news articles describing disputes and litigation over pickleball noise. Here are some examples:

- In Newport Beach, CA, a resident filed a lawsuit against the City claiming that pickleball played *300 feet* from her home is "so raucous and disturbing that she can't live a normal life". In her suit she claimed that the pickleball playing at a neighboring City park is "so noisy that she can't sleep, talk on the phone or 'simply hold a conversation.'" ***The lawsuit was apparently resolved by the City agreeing to remove the courts.***
- In Port Moody, B.C. neighbors complained that pickleball noise on nearby converted tennis courts subjected them "to an almost-daily barrage of noise disruption." The City Manager admitted that the neighbors' noise complaints "*caught staff off-guard*". The Mayor said,

"Sometimes there are unintended consequences." The City Council ultimately removed the courts.

- In Montecito, CA, a neighbor living next door to a country club sued the club when it installed an extensive sports complex, including two pickleball courts, *without permits*, less than **100 feet** from the neighbor's property. The neighbor alleged in his lawsuit that the unpermitted complex **exceeded setbacks** and that the constant noise and disturbances have destroyed his ability to peacefully enjoy his home and surroundings, and on multiple occasions have forced him to retreat inside to escape the ongoing nuisance and disturbance. He claimed that his viewshed has been ruined, and **the adverse impact of the unpermitted activities on his property value is substantial.**
- In Aiken, SC, residents sued a neighboring club which built pickleball courts about **250 feet** from their home for injunctive relief, as well as damages, costs, expenses and prejudgment interest, claiming that the courts **disrupted their quality of life.**
- In Apple Valley, MN residents complained to the City Council about municipal pickleball courts. One resident was quoted by the news report as having sent the city about 90 emails complaining about the noise. Another resident said, "I'm in a pickle...I play the game, it's good for my body and soul. **But it really is an intrusion in our backyards.**" Another resident said about the impending commencement of pickleball season, **"I'm dreading it."**
- In Ahwatuckee, AZ two HOAs clashed over neighboring pickleball courts. The complaining neighbors said that **"most of the houses [near the courts] have their master bedrooms and living rooms closest to the courts, increasing the disturbance."** They claimed that the courts will create 'noise and light' pollution that **"ultimately will reduce the value of their homes."**

The Planning Commission owes a duty to all of its stakeholders to fully review and mitigate the kinds of circumstances which led to the disputes described above *before* any permit can be approved. The Planning Commission should be certain that the negative impacts of pickleball court siting and play have been optimally mitigated before it approves a use which can materially negatively impact the quiet enjoyment and market value of a neighboring home. I have spoken to several leading realtors in town who estimate that the construction of a loud backyard pickleball court could negatively impact the market value of neighboring homes by up to 20%. Lastly, it should not be forgotten that the site for the court at 1961 Venus Court was chosen and the court was built before any Application was filed, making advance site planning and Conditional Use review in this case extremely problematic.

11. Careful Advance Planning is a Critical Part of the Conditional Use review process.

The inevitable noise and nuisance issues surrounding pickleball courts in residential neighborhoods such as the SF District must be carefully examined and planned for in advance as part of the Conditional Use review process under Section 15-1-10.E.

Lance Willis, PhD, is the Principal Acoustical Engineer at Spendiarian & Willis Acoustics & Noise Control, LLC, in Tucson, AZ. In that capacity, he regularly performs on site acoustical testing,

community noise impact assessment, acoustical site planning, and noise abatement design, often near residential areas. He has worked as a consultant in environmental acoustics and noise control since 2005.

With respect to site planning for pickleball courts and noise concerns, he has advised generally⁵ that

- Court sites within **600 feet** of homes should be reviewed in the site selection and planning phase of the project by a qualified acoustical engineer familiar with methodologies for assessing highly impulsive sounds.
- Courts located within **350 feet** of neighbors' residences will require careful noise abatement analysis.
- Courts should ideally be located **greater than 150 feet** distance from neighbors' residences.
- Courts located **less than 150 feet** of neighbors' residences will have a significant impact on neighbors' quality of life and will require *careful and extensive noise abatement measures* to avoid complaints.
- Courts located within **75 feet** of homes will generate noise from play (even with abatement) which penetrates the interior of homes and prevents quiet enjoyment of living rooms, dining rooms, bedrooms, balconies, patios, and other spaces used for rest, family activities, reading and other activities requiring concentration.

As shown on the google earth image above, numerous homes are located within 100 feet of Applicant's proposed court. **Acceptable noise abatement for courts located so close to the court may be impossible.** Where abatement is shown to be impossible a Conditional Use application must be denied.

12. The Planning Commission must consider available noise abatement strategies, and whether they are likely to be effective, as part of the Conditional Use review process

Available abatement strategies include numerous alternatives, including the following list, but all strategies do not work in all cases and each potential solution (such as a 12 foot high acoustic fence) must be carefully evaluated under the specific circumstances present at the site.

Mitigation

- Mitigation of the sound from pickleball courts is theoretically possible through use of unofficial softer paddles and balls, construction of sound barriers and walls, and construction of court enclosure structures. The Commission should be aware that there *are no other commonly used abatement strategies*.

Unofficial Equipment

- Certain 'unofficial equipment', such as 'softer' paddles and balls, may be employed to reduce noise impacts. But, in practice, players resist using unofficial equipment. Accordingly,

⁵ See Willis, "Why Are Your Pickleball Courts Receiving Complaints from Neighbors?" (<https://www.acousticalnoise.com/news/>)

enforcement of equipment restrictions is virtually *impossible* and ineffective. Who is going to enforce equipment restrictions on a private, backyard pickleball court?

Sound Walls and Acoustic Barriers

- Sound walls and acoustic barriers may work to reduce noise from reaching neighbors' properties. However, to be effective in attenuating sound, a wall or barrier must be high enough to block the line of sight from the noise recipient to the height of paddle impact. There has been no showing in the agenda packet that the proposed 12 foot acoustic fence will shield pickleball noise, for example, from the second story of the homes of immediate neighbors.
- Reports indicate that sound walls often do not eliminate all of the noise, or even sufficiently mitigate the noise levels, which may escape through, around and above the sound wall. Any proposed sound wall solution must be evaluated by a qualified acoustic engineer.
- Sound walls are not practical solutions where land use provisions prohibit the design and/or materials necessary to block the sound or the court site is so close to neighbors that the wall cannot be built high enough to block the sound. Is a 12' high metal and plastic fence even permitted in the SF District and is it a use compatible with the neighborhood? Has Staff or the Planning Commission considered this as part of its Conditional Use review process under Section 15-1-10?

Conclusions

In comparison to other common backyard and recreational activities, the addition of a backyard pickleball court to a densely-settled neighborhood represents a significant challenge to owners, neighbors and planners in terms of zoning compliance and noise management.

This kind of Conditional Use must be carefully planned for. In the case of the proposed court there was no advance planning and the mitigations proposed by Staff are largely make-weights used to explain away the lack of careful planning after the court has actually been built.

Zoning regulations must be scrupulously adhered to or time-consuming and costly litigation is inevitable.

If the setback and other requirements are not adhered to an application must be denied.

If conditional use criteria are not appropriately considered and appropriate mitigation cannot be determined, an application must be denied.

If the court site in a densely-developed residential area is simply too close to homes to successfully abate pickleball noise the application for such use must be denied.

The Planning Department and Planning Commission need to anticipate these issues with solid and comprehensive fact-finding. They must seek out and consider expert opinion on such technically complex issues such as noise impacts and decibel levels. In order to avoid an arbitrary or capricious

decision-making process the Planning Commission must be prepared to justify any decisions approving or disapproving use applications on a factual basis with sound analysis.

Thank you for the opportunity to have provided this letter. I would be happy to answer any questions which you may have at the hearing on this application on Wednesday, January 26, 2021.

Sincerely,



Frode Jensen

cc:

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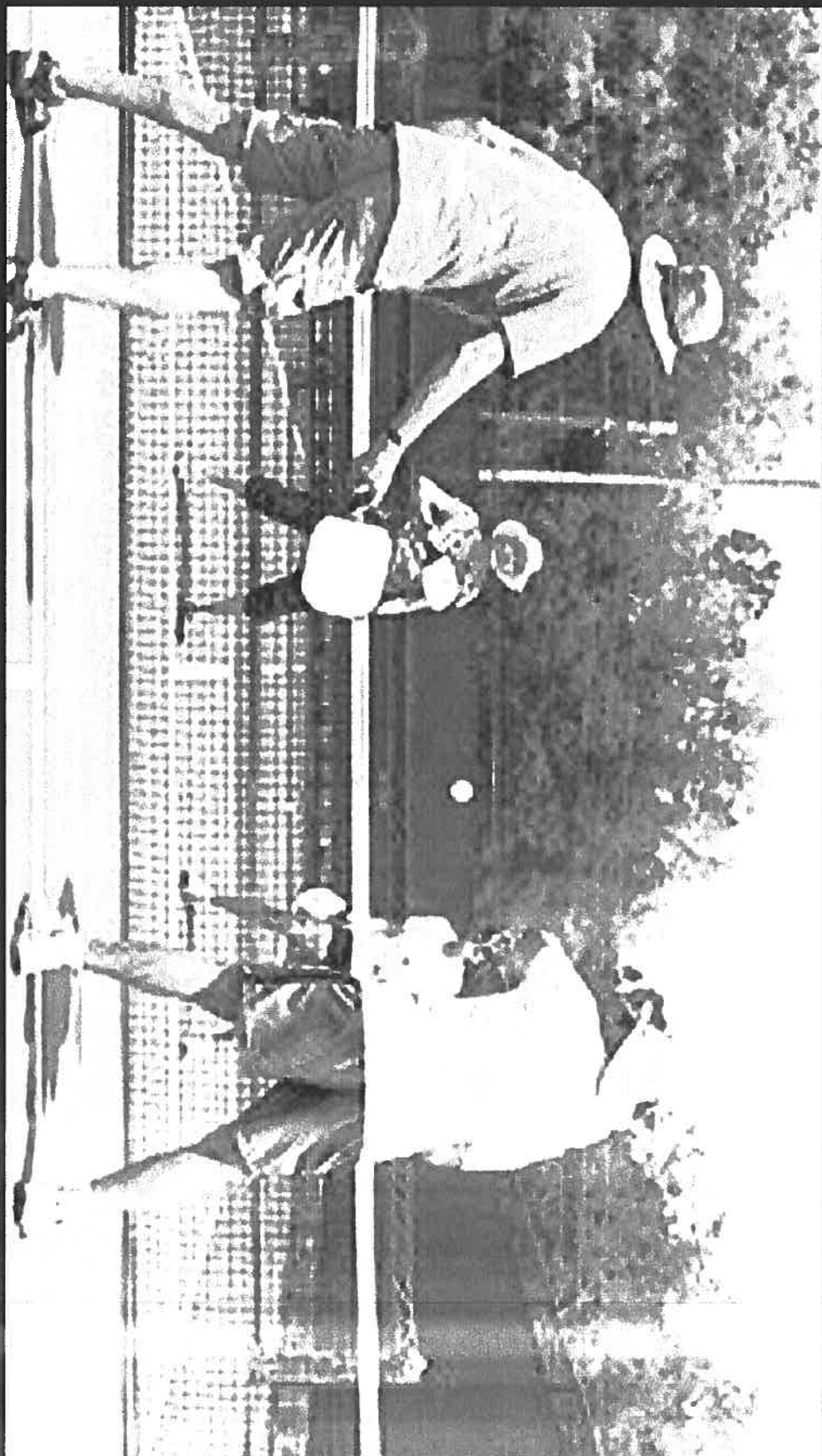
EXHIBIT C

Permitting Pickleball
in
Park City

It's All About the Noise

Frode Jensen

January 26, 2022



Background

In the process of opposing several applications to build backyard pickleball courts in Park City I have become very familiar with the various issues that outdoor pickleball raises under land use codes and nuisance ordinances around the country.

In comparison to other common backyard and recreational activities, and in terms of zoning compliance and noise management, the addition of a backyard pickleball court to a densely-settled neighborhood represents a significant challenge to owners, neighbors and planners.

This must be carefully planned for.

Background

Zoning regulations and conditional use criteria must be scrupulously adhered to or time-consuming and costly litigation is inevitable.

It may be that the setback and other requirements in some residential zones will simply prohibit some proposed court sites and applications for such uses must be denied.

It may also be that some court sites in residential areas are simply too close to neighbors' homes to successfully abate pickleball noise and applications for such uses must be denied.

The Planning Department and Planning Commission need to anticipate these issues and be prepared to justify any decisions approving or disapproving use applications on a factual and legal basis with sound analysis.

If they do not, expensive and time-consuming litigation will inevitably result.

Background

Among the issues which have and will inevitably arise here in Park City are

- Whether pickleball is an Allowed Use or a Conditional Use under our Code
- Whether backyard pickleball courts must comply with Code- and plat-mandated Setbacks and Easements as a threshold matter before Conditional Use review
- Whether a plat amendment or variance will be required prior to Conditional Use review if threshold requirements are not satisfied
- Whether the Planning Department or the Planning Commission has the authority to modify Setbacks in connection with a Conditional Use review
- How the Planning Department will deal with the requirements under the Code to mitigate the potential adverse effects of the Conditional Use.

Conditional Use Review: Mitigation Issues

In respect of mitigation of adverse impacts in connection with a Conditional Use review, numerous issues arise under the Code, including

- Fencing, screening and landscaping to separate Uses,
- Usable Open Space,
- Lighting,
- Design and compatibility with surrounding Structures,
- Appropriateness to existing topography,
- Consistency with goals and objectives of the General Plan, and
- **Existence and mitigation of *Noise***

Conditional Use Review: Mitigation Issues

The Conditional Use review process specifically requires the Planning Department and/or Planning Commission to consider whether or not the proposed Conditional Use mitigates impacts of and addresses

*“noise, vibration, odors, steam, or other mechanical factors
that might affect people and Property Off-Site”.*

If these issues are not studied carefully in advance of consideration of pickleball applications and fairly resolved when applications are made, disputes and litigation are sure to follow.

Pickleball Noise Impacts

Of all the issues which must be considered and resolved under the Code-mandated review process for Conditional Use applications, perhaps the most difficult is the requirement for conditional use review of noise issues.

- Pickleball play is an extremely noisy activity which has led to noise violation claims and nuisance disputes across the country.
- The Recreation Department staff report provided late last year to Council stated

Tennis is a quiet sport and pickleball is *much noisier* both in the game and the social nature of the sport causing incompatibility with most tennis players.

To say the least.

Pickleball Noise Impacts

Alarming, what the Recreation Department staff report didn't mention is the noise issue which gives rise to the incompatibility of outdoor pickleball play with *anyone* – or, perhaps more accurately, *everyone* -- who lives in close proximity to an outdoor pickleball court.

As part of my effort to understand pickleball noise issues, I have consulted with Dr. Lance Willis, a nationally recognized acoustic engineer who has worked on dozens of pickleball projects across the country and in Canada.

He has been engaged by homeowners, builders, pickleball clubs, site planners and HOAs to assist in precautionary site planning and noise abatement.

Here is what I learned.

Pickleball Play is Noisy and Neighbors Will Complain

There is a common misconception that pickleball is acoustically equivalent to tennis and many other common social and recreational activities.

This is not true. It is much noisier.

The sound produced by the impact of the hard plastic ball on the paddle and the loud enthusiasms of the players cause significant noise impacts on residents and properties near outdoor pickleball courts.

Pickleball Play is Noisy and Neighbors Will Complain

- Numerous anecdotal comments in an online blog about pickleball noise catalog common neighbor complaints.
- Here are some examples on the following pages

Pickleball Play is Noisy and Neighbors Will Compla

- “I live 80 *ft.* from...a tennis court that was recently resurfaced [for pickleball]. I can hear clacking in my back bedroom with all the windows down and the air conditioner going. I have an appointment with an attorney...I don’t intend to listen to this noise for the rest of my life.”
- “We lived in a quiet neighborhood until the people across the street from us put a pickle ball court in their yard...the court is right by the street. They play for long periods every day and most nights, and they often have friends over who yell and cheer loudly. We can hear it inside our house in all the rooms, not to mention how loud it is in our backyard.”
- “I’m suffering [from] anxiety and depression and the noise is exasperating my system to the point that I need to flee or be a prisoner in my own house.”

Pickleball Play is Noisy and Neighbors Will Compla i

- “I am still working and would like to enjoy quiet time on the weekend or evenings and because of the popping of the balls and yelling of the players my quality of life has been affected. I do not want to move but the noise is getting the best of me.”
- “Can you honestly say...YOU know what its like, Waking up to hearing the sound of gunshots/POPS, which never seem to stop, from 8 am every day of the week until dusk *30 feet* away?”
- “*30 FEET* from your supposed peace and Serenity of your home!!!”
- “You cannot escape the sound of the noise... There’s nowhere in or around the house you cannot hear the ball banging against the paddle, again and again???”

Pickleball Play is Noisy and Neighbors Will Compla

- “Or maybe you invited people over for dinner and you want to be outside enjoying the nice ... weather. Well, do you think you will be able to entertain, when all your guests hear is the POP POP POP of pickleballers?”
- “It’s only common decency honestly for everyone to have the right to a peaceful sanctuary called home.”
- “Like the man said, IT’S TORTURE... You tell me what matters more, people playing a game, or the serenity of many many more people in their own home.”

Pickleball Play Can Violate Noise Ordinances

The Park City Code provides for *both* maximum permissible sound levels and for determination of annoyance as a metric for noise assessment.

Section 6-3-9.A of the Park City Code provides for a limit for stationary sources of sound of 55 dBA (decibels) in residential neighborhoods between the hours of 6:00 a.m. and 10:00 p.m.

- Peak sound pressure levels from pickleball courts have been measured at a distance of approximately *75 feet* exceeding 80 dBA (decibels), which far exceeds standard noise ordinance limitations.

In addition, Section 6-3-9.C.2 of the Park City Code prohibits

"any stationary *source of sound* which emits a pure tone, cyclically varying or repetitive impulsive sound *which creates a noise disturbance*."

Pickleball Play Can Violate Noise Ordinances

- A *noise disturbance* is defined in Section 6-3-1 as

Any sound that *annoys or disturbs* a reasonable person(s) with normal sensitivity that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s).

- The American National Standards Institute has set standards for noise assessment in regard to annoyance for impulsive sounds. Compliance with these standards will be an important element in determining whether a reasonable person is exposed to a noise disturbance.
- As part of any Conditional Use review process the Planning Commission will have to determine whether the placement of a court at various distances in close proximity to homes would satisfy the requirements in Sections 6-3-9.A or 6-3-9.C.2 of the Code.

Pickleball Noise is a Health Concern

In addition to violating noise regulations, persistent pickleball noise can be an unhealthy nuisance.

- Repetitive impulsive sounds can make it difficult for neighbors to relax, concentrate, or sleep soundly without disturbance and can lead to stress, fatigue, and anxiety.

I have walked around the neighborhoods close by the courts in the Racquet Club and the Willow Creek courts and spoken to neighbors who have told me they are annoyed and disturbed by pickleball noise and wish the courts were not so close to their homes.

- Experts have reported that excessive and repetitive noise has implications for the human cardiovascular, auditory, limbic, nervous, endocrine and other systems, impacting good health.

In short, the effects of excess noise and stress can take many forms.

I urge the City to carefully and comprehensively inform itself *now* regarding all of these health concerns.

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

There are numerous cases around the country where failure to carefully plan for noise abatement or appropriate site selection for pickleball has resulted in difficult disputes and, often, expensive and protracted legal action.

A simple google search reveals numerous news articles describing disputes and litigation over pickleball noise.

Here are some examples:

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

- In Newport Beach, CA, a resident filed a lawsuit against the City claiming that pickleball played *300 feet* from her home is “so raucous and disturbing that she can’t live a normal life”. In her suit she claimed that the pickleball playing at a neighboring City park is “so noisy that she can’t sleep, talk on the phone or ‘simply hold a conversation.’”

The lawsuit was apparently resolved by the *City agreeing to remove the courts*.

- In Port Moody, B.C. neighbors complained that pickleball noise on nearby converted tennis courts subjected them “to an almost-daily barrage of noise disruption.” The City Manager admitted that the neighbors’ noise complaints “*caught staff off-guard*”.

The Mayor said, “*Sometimes there are unintended consequences*.”

The City Council ultimately removed the courts.

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

- In Montecito, CA, a neighbor living next door to a country club sued the club when it installed an extensive sports complex, including two pickleball courts, *without permits*, less than *100 feet* from the neighbor's property.

The neighbor alleged in his lawsuit that the unpermitted complex *exceeded setbacks* and that the constant noise and disturbances have destroyed his ability to peacefully enjoy his home and surroundings, and that multiple occasions have forced him to retreat inside to escape the ongoing nuisance and disturbance.

He claimed that his viewshed has been ruined, and *the adverse impact of the unpermitted activities on his property value is substantial*.

- In Aiken, SC, residents sued a neighboring club which built pickleball courts about *250 feet* from their home for injunctive relief, as well as damages, costs, expenses and prejudgment interest, claiming that the courts *disrupted their quality of life*.

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

- In Apple Valley, MN residents, including a resident who lives *20 feet* from the nearest court, complained to the City Council about municipal pickleball courts. One resident was quoted as having sent the city about **90 emails** complaining about the noise.

Another resident said, “I’m in a pickle...I play the game, it’s good for my body and soul. **But it really is an intrusion in our backyards.**”

Another resident said about the impending commencement of pickleball season, **“I’m dreading it.”**

- In Ahwatuckee, AZ two HOAs clashed over neighboring pickleball courts. The complaining neighbor said that *“most of the houses [near the courts] have their master bedrooms and living rooms closest to the courts, increasing the disturbance.”*

They claimed that the courts will create ‘noise and light’ pollution that *“ultimately will reduce the value of their homes.”*

Careful Advance Planning is Critical

The inevitable noise and nuisance issues surrounding outdoor pickleball must be carefully examined and planned for in advance if disputes are to be avoided. With respect to noise concerns, experts advise generally that

- Court sites within **600 feet** of neighbors' homes should be reviewed in the site selection and planning phase of the project by a qualified acoustical engineer familiar with methodologies for assessing highly impulsive sounds.
- Courts located within **350 feet** of residential properties will require careful noise abatement analysis.
- Courts should ideally be located at least **150 feet** distance from residences.
- Courts located within **150 feet** of homes will have a significant impact on neighbors' quality of life and *will require careful and extensive noise abatement measures to avoid complaints.*
- Courts located within **75 feet** of homes will generate noise from play which penetrates the interior of homes and prevents quiet enjoyment of living rooms, dining rooms, bedrooms, balconies, patios, and other spaces used for rest, family activities, reading and other activities requiring concentration.

Acceptable noise abatement for courts located in close proximity to homes may be impossible.

Abatement Strategies

Mitigation of the sound from pickleball courts is theoretically possible through use of unofficial softer paddles and balls, construction of sound barriers and walls, and construction of court enclosure structures.

- *There are no other commonly used abatement strategies.*

Unofficial Equipment

- In practice players resist using unofficial equipment and enforcement of equipment restrictions is virtually *impossible*. This abatement strategy is generally unworkable.

Sound Walls and Acoustic Barriers

- To be effective in attenuating sound, a wall or barrier must be high enough to block the line of sight from the noise recipient to the height of paddle impact.
- Anecdotal reports indicate that even a sound wall does not eliminate all of the noise which may escape through the sound barrier.
- Sound walls are not practical where land use provisions prohibit the design and/or materials necessary to block the sound or the court site is so close to neighbors that the wall cannot be built high enough to block the sound.

Abatement Strategies

Full Enclosures

- If a sound wall will not work for mitigation, a full enclosure will be needed in the form of a building to house the pickleball court. The walls and roof of the building should have no penetrations facing the neighbors.
- Full enclosures present applicants and planning authorities with additional code compliance issues.

Browne Sebright

From: Alexandra Ananth
Sent: Wednesday, February 16, 2022 4:38 PM
To: Bill Johnson; Christin VanDine; Douglas Thimm; John Kenworthy; John Phillips; Laura Suesser; Mark Harrington; Planning_Mail; Sarah Hall
Subject: FW: [External] Comments on three issues before the Commission

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Pickleball LMC Public Comment

From: planning <planning@parkcity.org>
Sent: Wednesday, February 16, 2022 3:35 PM
To: Alexandra Ananth <alexandra.ananth@parkcity.org>
Subject: FW: [External] Comments on three issues before the Commission

From: Brian Schiller <2zayschiller@gmail.com>
Sent: Wednesday, February 16, 2022 3:29 PM
To: planning <planning@parkcity.org>; beandfit@aol.com; schillerbt@aol.com; skipjen@aol.com
Subject: [External] Comments on three issues before the Commission

[CAUTION] This is an external email.

Dear Ms. Milliken and Members of the Commission:

Please accept the following comments regarding issues before you.

1. Pickleball-please accept this comment regarding the conditional use application for the conversion of a concrete “patio” located at 1961 Venus Court, Park Meadows to a pickleball court. The applicant has cited the idea that private pickleball courts contribute to the notion of building community. Access to private pickleball courts is generally limited to family, friends, and invited participants-such courts are rarely open to neighborhood or public use. As such it is not unreasonable to find such private facilities akin to gated communities-only owners and invited others are welcome. All others are purposely excluded. This does not seem to be community building. Community building has been less than evident of late in regard to this particular conditional use application in that one of the adult sons (over 18) of the owner of 1961 Venus Court, has taken to saluting us with his middle finger whenever he may encounter us outside on our property or walking on the public streets and sidewalks in our neighborhood. If this is the kind of community building engendered with private pickleball courts and their many concomitant issues, perhaps such courts should not be approved as evidently they do not build community.
2. Building moratorium-a positive idea in the midst of what some describe as explosive growth in our community. Slowing things down is always a good idea as it provides time for information gathering, study, reflection, input, planning and, finally, decision making. A year or longer moratorium should not be an issue,

particularly as extant approvals granted over 30 or 40 years ago have not been exercised in a timely manner. Perhaps a focus of work during such a moratorium should be on legislating a seven year sunset provision on all growth approvals/permits. If no shovel is in the ground within seven years, a reasonable timeline to secure plans and financial support, a project must start the entire approval process again.

3. PEG proposal for the parking lots at the Resort-see the preceding comment. I have lived in Park City for 40 years. I am aghast at the proposed PEG development. I urge the Planning Commission to visit Sugarhouse in SLC, specifically the southwest corner of Eleventh East and 21st South. This is what 90 feet of high density housing looks and, perhaps more importantly, feels like. Whilst there, take a stroll through the walks- in, around and through these projects. Try to see and feel like residents of Old Town in PC will see and feel, what veteran residents of Park City will see and feel. The proposed PEG project is not a beginning but it may well be the end of the community we know and love.

Thank you for reading.

Sincerely,

Brian Schiller

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Park City, Utah 84060

801-209-6845

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schillerbt@aol.com

Sent from [Mail](#) for Windows

FRODE JENSEN
2812 HOLIDAY RANCH LOOP ROAD
PARK CITY UT 84060

February 17, 2022

VIA EMAIL TO planning@parkcity.org
AND Michelle.kellogg@parkcity.org

Sarah Hall
Bill Johnson
John Kenworthy
John Phillips
Laura Suesser
Douglas Thimm
Christin Van Dine

Re: Proposed Land Management Code Amendments to Mitigate Pickleball Impacts

Dear Planning Commission Members

I write regarding the proposed Land Management Code amendments (Code Amendments) posted several weeks ago on the City's website. This letter is based on those proposed amendments. I was informed by the Director of the Planning Department on February 15 that the Code Amendments which the Department will propose for your consideration on February 18 differ in several important respects from the proposals which have been posted on the City website for the public to comment on. Nevertheless, I offer the following for your consideration based on the current proposals. I expect to have additional comments on the Code Amendments actually published and proposed to you on February 18.

I would respectfully request that Staff and the City Recorder add this letter to the agenda packet for your February 23, 2022 meeting and to the public record.

Background

I have resided continuously in Park City since 2012. I been concerned about pickleball issues since July 6, 2021, the day I discovered that my neighbor in Park Meadows had commenced construction without a building permit of a private, backyard pickleball court which today stands, partially constructed and unrestored, in violation of the setbacks applicable to his property, less than 5 feet from my property line, less than 25 feet from my house, and within 100 feet of the homes of several of my neighbors.

Following the discovery of this illegal construction, I learned that pickleball play can be very noisy, regularly generating complaints from neighbors and often resulting in time-consuming and expensive litigation. I also learned by consulting with a prominent realtor in Park City that a pickleball court in such close proximity to a home could reduce the market value of the home by up to 20%, a substantial impact in today's market.

To better understand the noise implications of backyard pickleball, I engaged an acoustic expert, R. Lance Willis, PhD, the Principal Acoustical Engineer at Spendiarian & Willis Acoustics & Noise Control, LLC. in Tucson, AZ, to evaluate pickleball noise in a location such as mine. Dr. Willis has extensive experience in pickleball court siting, noise analysis and mitigation. He provided me with a letter explaining many of the noise issues which pickleball courts in residential neighborhoods present, a copy of which was provided to Staff on August 3, 2021. I will refer to Dr. Willis' letter in several places below. I am attaching a copy of Dr. Willis' letter to this letter as Exhibit A for your reference.

On January 24, 2022 I submitted a letter to you expressing my opposition to the Application for Conditional Use Permit to Build a Pickleball Court at 1961 Venus Court (PL-21-05072). Many of the concerns which I raised in the letter are relevant to your further consideration of the proposed Code Amendments. I am attaching an additional copy of my January 24 letter to this letter as Exhibit B for your reference.

I have also prepared a PowerPoint presentation dated January 26, 2022 describing in general pickleball noise issues which I delivered to Mayor Worel, City Manager Dias and Senior City Attorney Harrington several weeks ago. You may find it helpful in understanding why pickleball noise issues are not a trivial concern. I am attaching a copy of this presentation to this letter as Exhibit C for your reference.

Specific Questions, Concerns and Comments

I have the following specific questions, concerns and comments about residential pickleball courts and the proposed Code Amendments.

1. One of Staff's slides presented at the open houses last week describes levels of pickleball noise commonly exceeding 55 decibels and ranging up to 80 decibels or higher. Dr. Willis confirms in his letter these noise levels can be reached during pickleball play. For comparison's sake, please consider that pickleball noise can equal or exceed the noise levels of garbage disposals, alarm clocks, vacuum cleaners and gas lawn mowers, all of which have been measured around 75 to 80 decibels. It is well known that pickleball courts near homes frequently lead to neighbors' complaints, disputes and litigation. I provide numerous examples of pickleball complaints and litigation around the country in the PowerPoint presentation referred to above.

I would first ask Commission to consider, as a threshold issue, whether pickleball courts should even be permitted at all in densely developed residential areas in Park City and, if you are inclined to consider this threshold question, what is the cost-benefit basis for permitting residential courts? To me, when decibel levels can reach 80 dBA, the costs simply outweigh the benefits. In addition to the minimum lot size proposal in the proposed Code Amendments, why not simply also prohibit all backyard pickleball courts in residential areas where there are any homes within, for example, 150 feet of a proposed

court? I think you would find ample support for such a prohibition from experts who have considered pickleball noise.

Furthermore, the public learned in the recent open houses that the City is actively examining the possibility of adding numerous additional municipal courts. If the City can build, for example, sixteen or more new courts in a remote location, in the near future, why permit any private pickleball courts in residential backyards at all? I would ask Commission respectfully to consider why the provision of additional municipal courts would not satisfy the local demand, obviating the need for controversial private courts in densely developed residential areas, and for an ordinance specifically covering residential pickleball.

2. In any event, if the Commission determines that noise associated with pickleball play is a serious concern meriting additional regulation, exactly what noise levels resulting from pickleball play should be considered acceptable? The proposed Code Amendments don't specifically say and the existing provisions of the Code relating to noise levels and, *in particular, noise annoyance*, may not provide clear answers.

Dr. Willis has reviewed Chapter 6-3 of the Park City Code which both regulates maximum permissible sound levels in Section 6-3-9.A and also provides noise disturbance and annoyance restrictions under Section 6-3-9.C. In particular, Section 6-3-9.C.2 of the Code prohibits "any stationary source of sound which emits a pure tone, cyclically varying or repetitive impulsive sound which creates a *noise disturbance*."

A noise disturbance is defined in Section 6-3-1 as "[a]ny sound that *annoys or disturbs* a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s)". Accordingly, "annoyance" is a separate metric for noise assessment for impulsive sound in addition to the maximum permissible sound levels described in Section 6-3-9.A.

Dr. Willis advises that current standards for noise assessment in regard to annoyance for impulsive sound are based on adjusted sound exposure levels and include ANSI S12.9 Part 4 and ISO 1996 Part 1 standards. He concludes that the methodology in ANSI S12.9 Part 4 for assessment of noise annoyance caused by pickleball play may well show violations of the requirements in Section 6-3-9.C.2 of the Code where the placement of courts is in close proximity to neighbors.

The proposed Code Amendments do not consider the existing noise standards under Chapter 6-3 of the Code and, to date, I have seen no analysis regarding acceptable levels of noise underlying the proposed Code Amendments. How are applicants to know when they have provided for sufficient noise mitigation in their permit application? What standards will the Planning Commission apply to determine what a sufficient level of noise mitigation is in considering a CUP? It is hard to imagine that any Code Amendments purporting to provide guidelines for acceptable levels of pickleball noise can be considered or adopted without guidance for applicants on this question.

3. Nearly all of the proposed Code Amendments depend on a clear and coherent understanding of the kinds and levels of noise generated by pickleball play. Before moving to adopt the proposed Code Amendments, Commission should direct Staff to engage a competent, expert noise consultant of Dr. Willis' caliber to assist it in understanding the complexity of the noise issue and in drafting the noise compliance provisions of the proposed Code Amendments.

Because Staff has apparently neither sought nor received any advice or guidance from a competent, expert noise consultant, I would suggest that it is premature for Commission to consider any codification of pickleball noise mitigation standards. It should go without saying that it is entirely inappropriate for Staff, in formulating the proposed Code Amendments, to rely on any noise analysis which may have been done by another municipality or concerned person in another geography under circumstances which may differ significantly from our situation here in Park City.

4. Staff has stated on the City website, in the Staff Report on the Venus Court application, and in the open houses on residential pickleball that a pickleball court is 20' x 44' or 880 square feet.

Commission should understand that this statement is simply inaccurate and is grossly misleading. A pickleball court will typically consume 2,100 square feet or nearly *2 ½ times more surface area* than has been represented. It is true the in-bounds area of a court may be 20' x 44' but the *minimum* recommended playing area is typically 30' x 60'. Moreover, pickleball court builders typically recommend a 34' x 64' (or 2,176 square feet) playing area. If perimeter fencing outside the playing area is included, a standard court could easily exceed 34' x 64'. Thus, a common pickleball court may be nearly *2 ½ times larger* than Staff has represented. See: <https://pickleballfix.com/pickleball-court-dimensions/>. These representations should be corrected in future presentations.

5. Staff has proposed that applications for conditional use permits for pickleball courts would require an Administrative Permit as opposed to a permit granted by the Planning Commission.

Staff should explain why an Administrative Permit process would be appropriate. Why shouldn't permits for highly controversial residential pickleball courts be CUPs, decided by Commission, with all of the legally-mandated requirements applicable to conditional uses, as all other Recreation Facilities are?

6. It was suggested by a representative of the Recreation Department in one of the open houses that the Department has only received one complaint from all the residents of the Racquet Club condos regarding pickleball noise. However, the Recreation Department staff report recently provided to City Council expressly acknowledged the problem of pickleball noise, stating (in respect of noise issues already present at the MARC) "Tennis is a quiet sport and pickleball is *much noisier* both in the game and the social nature of the sport causing incompatibility with most tennis players". Before moving forward with the Code Amendments, as part of its fact-finding obligations, Commission should direct Staff to survey all the residents living within 600 feet of the pickleball courts at the MARC.

7. Staff has stated that the Code Amendments would modify the definition of "Private Recreation Facilities" to identify pickleball courts as a type of facility that requires additional mitigation due to the noise associated with the sport.

I agree that pickleball courts raise mitigation issues resulting from their noisiness (among other mitigation issues) and that it is appropriate to clarify the treatment of pickleball applications, including noise mitigation, in the Code.

However, the Code Amendments should make clear that, in addition to noise mitigation, the items which the Planning Department and/or Planning Commission must review under subsection E of Section 15-1-10, as amended by the Code Amendments, include, but are not limited to (i) Storm Water run-off; (ii) Fencing, Screening, and landscaping to separate Use from adjoining Uses; (iii) usable Open Space; (iv) lighting; (v) physical design and Compatibility with surrounding Structures in mass, scale, style, design, and architectural detailing; (vi) within and adjoining the Site, the appropriateness of the proposed Structure to the existing topography of the Site; and (vii) consistency with the goals and objectives of the Park City General Plan.

In addition, the Code Amendments should be clear that all sports courts (for example, including tennis, basketball, and volleyball courts) require mitigation analysis under subsection E of Section 15-1-10 in connection with noise concerns.

In this vein, the distinction articulated by Staff in a recent open house between *sports courts* and *sports equipment* should be clearly delineated in the Code Amendments.

8. Staff has suggested in its website summary of the proposed Code Amendments that the amendments will include provisions specifically covering mitigation strategies for pickleball courts, including

- (a) Establishing a minimum required lot size of 0.5 acres (21,780 square feet) for pickleball courts.

Commission should ask the Planning Department how it chose 0.5 acres as the minimum required lot size? For example, a square lot of 0.5 acres would be 147' x 147'. As mentioned above pickleball courts are commonly as large as 34' x 64' and consume approximately 2,000 square feet. Based on typical home and garage sizes, and driveway coverages, in residential areas in Park City why is a minimum lot size of 0.5 acres appropriate or sufficient? Why shouldn't the minimum lot size be greater? How many residential lots in Park City equal or exceed 0.5 acres? In addition, should there be a maximum slope and excavation restriction for courts?

- (b) Requiring a minimum 100-foot setback from lot lines of adjacent residential properties for pickleball courts with no noise mitigation.

Commission should inquire on what basis Staff has concluded that a 100-foot setback is an appropriate setback distance and direct Staff to provide its analysis to Commission. Why not a greater setback distance? When my neighbor at 2732 Meadow Creek Dr commenced construction of an unpermitted pickleball court last summer, Dr. Willis opined that noise concerns regularly arise whenever courts are located within 500-600 feet of homes. Given Dr. Willis' opinion, Commission should ask Staff to explain why it has chosen 100 feet as an appropriate distance beyond which courts may be sited with no mitigation required. Shouldn't courts further than 100 feet away from adjacent property lines which generate noise in excess of Park City noise limits or the noise limits adopted by the Code Amendments also be required to show mitigation in order to obtain a CUP?

Based on my reading of many complaints which pickleball courts have given rise to across the country, it appears that many (if not all) disputes could have been avoided with careful court siting and noise mitigation steps taken *in advance* of permitting and construction. The Code Amendments should require that all applicants submit a noise study including a noise mitigation analysis prepared by a duly-qualified expert with and at the time of their CUP application. This requirement would, in fact, not be terribly burdensome on applicants. Noise analyses can be prepared for a fraction of the total cost of a pickleball court installation and would be far cheaper than lengthy litigation. The Planning Department, in consultation with a qualified noise expert engaged by the Department, should establish criteria *in advance* for the contents of this applicant's noise report and incorporate these requirements in the Code Amendments.

Commission should ask Staff to explain why the Code Amendments should not require that applicants be specifically required to engage a qualified noise consultant at the planning and pre-application stage to work with the applicant and the Planning Department to determine optimal siting and whether appropriate levels of noise mitigation can be achieved. This is a 'best practice' which Dr. Willis recommends.

In this regard, the Code Amendments should provide that applicants show sufficient noise mitigation at the time of application and *in advance* of permitting and construction. The proposal on the City's website that noise mitigation be addressed after a permit has been granted and three or more complaints have been received is simply an invitation for disputes and litigation long after mitigation should have been determined. There is also no legal basis for this approach under Section 15-1-10.E. which requires that the Planning Department and/or Planning Commission "**must review**" noise mitigation when considering whether or not the proposed Conditional Use mitigates noise impacts before a CUP is granted.

Furthermore, in respect of the proposed 100-foot setback requirement, the Code Amendments should be clear that any special '100 foot' setback for pickleball courts does not supersede any setbacks (including Code- and Plat-mandated setbacks, drainage and utility easements and Limits of Disturbance Areas) otherwise required by the Code or specific subdivision Plats.

During 2021 I became aware that the Planning Department had taken the position in several applications before the City that a pickleball court is sufficiently similar to a "patio" that it may be approved as an Allowed Use and, specifically, may be built inside the otherwise Code-mandated side and rear setbacks in, for example, the Single Family and Estate districts (the Patio Exception). I have been subsequently informed by Senior City Attorney Harrington in August 2021 that use of the Patio Exception for pickleball courts had been an erroneous interpretation of the Code and that a pickleball court is in fact a Recreation Facility and is not eligible for setback relief under the Patio Exception. So I was very surprised recently to read in the Staff report for the proposed pickleball court at 1961 Venus Court that the Planning Department has revived the Patio Exception to justify a pickleball court site which otherwise clearly violates the applicable setback restrictions. The Code Amendments must make it clear that the Patio Exception for setbacks is not available for pickleball courts and other Private Recreation Facilities.

It has also been suggested by speakers at the open houses that a homeowner could avoid the impact of any forthcoming Code Amendments for pickleball by simply setting up a net and drawing lines on his or her existing (or expanded) driveway. The Code Amendments should clearly provide that anytime a property owner sets up a pickleball court with lines and a net on his or her property, whether s/he calls

it a pickleball court, or a patio, or a concrete pad, or a driveway, if it is used to play pickleball, then it is a pickleball court and a 'conditional use' subject to all of the Code requirements applicable to this conditional use. The Code Amendments also need to be clear that a pickleball court is in all cases a Conditional Use and not an Allowed Use. The Code Amendments should also make it clear that the setback exceptions for Accessory Buildings in, for example, the Single Family and Estate districts, are not available for pickleball courts and other Recreation Facilities.

- (c) Requiring a minimum 50-foot setback from lot lines of residential properties for courts that include a twelve-foot-tall noise reducing fence, noise reduction floor panels, and the recommended use of "quiet" paddles.

Commission should direct Staff to explain on what basis it has concluded that a 50-foot setback is an appropriate setback, for example, where there is a twelve-foot-tall noise reducing fence. On what basis has Staff concluded that noise can be sufficiently mitigated at distances between 50 and 100 feet from neighbors' property lines with a twelve-foot-tall fence? Why not a ten foot fence or a fourteen foot fence? As Dr. Willis explains in his letter, it may be impossible to successfully mitigate noise at certain distances within 100 feet, with or without a fence.

Commission should take note that noise travels in a straight line from the point of paddle/ball impact (and player exclamations) to the noise recipient. For courts located between 50 and 100 feet from a residence, will a twelve-foot-tall fence (no matter how thick) block noise traveling to the second story of a nearby house? Dr. Willis suggests that it may not. Again, Staff should provide Commission with its analysis with support from a qualified expert. And again, as mentioned above, the Code Amendments should require that noise mitigation be considered for all courts proposed to be sited within 600 feet of any home.

The proposed noise-reducing fence requirement in the summary published on the City's website must be clearly defined in the Code Amendments. What kinds of fences will be accepted? It would seem likely that the required fence surrounding a standard court will be at least 180 feet long ($60' + 30' + 60' + 30' = 180'$) with an opaque surface area of 2,160 sq. feet ($180' \times 12' = 2160$ sq. ft.). This would be a very large fence, and apparently larger and more opaque than any kind of fence currently permitted under the Code based on current Code fence provisions. The Code Amendments should specify what types of materials will be required. If a chain link fence will be permitted, will the chain link fence exception for tennis court fences apply to noise-reducing chain link fences? Will the twelve-foot-tall noise reducing fence in fact also be a chain link fence? Commission should direct Staff to consider and propose the kind of noise-reducing fences which will withstand our broiling summer afternoon temperatures, frigid winters, deep snows and high winds and also satisfactorily mitigate noise? Will the noise-reducing materials reflect or absorb so much heat that the court will not be useable on hot days? Would this encourage owners to remove fencing materials? How will any requirement to maintain noise reducing fencing be enforced? How will maintenance of the fence be enforced as it deteriorates over time?

In the Staff report for the pickleball application at 1961 Venus Court, Staff recommended that the applicant "install a twelve foot (12') tall noise reducing fence around the sports court with a minimum noise reduction coefficient (NRC) of approximately 0.75." The proposed Code Amendments are silent as to the noise reducing coefficient which will be required. What standard will applicants be required to meet and what is the basis for any such standard? Will any such standard effectively mitigate pickleball noise at varying distances, including more than 50 feet from property lines? Commission should direct

Staff to provide additional information and analysis on this point.

At the Planning Commission hearing on the 1961 Venus Court application in January a next door neighbor stated that he is more concerned about the visual impact of an unscreened 12 foot high, 180 foot long plastic and metal fence facing his backyard than he necessarily is about the noise the court will generate. The Code Amendments should provide standards for mitigation of the visual impacts on neighbors of any required noise reducing fence and for required landscape screening for such fences.

Staff also proposes in the website summary provisions that additional noise mitigation could be accomplished by requiring the use of 'noise reduction floor panels'. Please identify exactly what kind of noise reduction floor panels would be recommended. Please advise how much noise Staff expects 'noise reduction floor panels' to reduce, especially given the fact that most pickleball noise is apparently generated by paddle/ball impacts and players' voices? Has any analysis of noise reduction by use of noise reduction floor panels been done by Staff? If so, Commission should require that it be provided. Will noise reduction floor panels reduce the noise impact of balls hitting racquets? Will noise reduction floor panels actually work in Park City, with our broiling summer afternoon temperatures, freezing winters, deep snows and Springtime snowmelts and run off? Will the glare, or heat or light absorption or reflection of floor panels impact play? In any event, all noise mitigation strategies contemplated by an applicant should be covered in a noise expert's opinion submitted with the initial application.

Lastly, Staff's proposed Code Amendments would require the use of 'quiet' paddles. It may be true that quiet(er) paddles reduce the level of noise impacts, but an informal survey of internet sources indicates that players generally disfavor non-regulation equipment and are disinclined to use it. It is hard to imagine players in Park City will be any different. In any event, Commission should query whether Staff has studied this issue and/or determined how this mitigation requirement can possibly be enforced as a practical matter.

- (d) Limiting pickleball court use to daylight hours and prohibiting outdoor lighting of the court

The principal problem with this proposal is that given our late sunsets at the western edge of the Mountain Time Zone and hot summer afternoon temperatures in Park City (where temperatures in bright sunlight frequently exceed 90 degrees), court owners will often (always?) want to play after work and later in the afternoon (for example, between 5 pm and 9 pm or later) when temperatures fall. This is exactly the time when nearby neighbors will often want to enjoy peace and quiet in their living rooms with open windows, or on their outdoor patios and decks, or retire early to bed. In mid-Summer twilight in Park City continues until as late as 9:30 pm and play will be possible without lights well past 9 pm. Staff should consider whether permitting pickleball play between 5 pm and sundown in close proximity to neighbors wishing to enjoy peace and quiet isn't simply an unnecessary recipe for conflict. The same kinds of considerations will also apply to weekend play. Owners will often want to play on weekends, at exactly the same time neighbors are off-work and enjoying the peace and quiet of their open windows and backyards. Finally, Commission should inquire if the Code Amendments impose restrictions on evening play, who will enforce them?

- (e) Prohibiting on-street parking for properties with permitted pickleball courts.

While I agree that prohibiting on-street parking is a good idea, it seems wholly impractical and also impossible to enforce. Anybody who lives in Park Meadows knows that residents already park their cars, and their second and third and fourth cars, and their campers and trucks, and their guests' cars, on the street with impunity. It already takes a virtual military campaign to persuade City Hall to rigorously enforce existing on-street parking restrictions. Who will enforce this restriction? Staff should supply Commission with analysis showing why any on-street parking restrictions would be effective.

It was also suggested in one of the open houses that use of a private residential pickleball court should be limited to owners and (presumably) their guests. This is a thoughtful concern. While conducting research on residential pickleball, I learned of a situation (in another locality) where a homeowner built a sports court and established an informal 'club', resulting in continuous 'unhosted' play throughout the day. But, again, how could a restriction requiring owners to be present be enforced? Staff should supply Commission analysis regarding the enforceability of this kind of restriction.

- (f) Requiring Homeowner Association approval for properties that are part of a Homeowner Association

This is another excellent idea which is probably also impractical and unlikely to work. Given the currently proposed 0.5 acre minimum lot size requirement it would seem likely that most qualifying lots will be in Park Meadows and surrounding areas. As Staff may know better than I do many (if not most) HOAs in Park Meadows are inactive or defunct. How will this requirement work for inactive or defunct HOAs? Will the applicant be prevented from making an application because her/his HOA is inactive or defunct? Or will the applicant be permitted to ignore the requirement? Yet, even inactive HOAs may have binding CC&Rs. How can a homeowner who lives in a subdivision with an inactive HOA cause it to enforce its CC&Rs? I am also painfully aware that in some HOAs officers and homeowners simply ignore the limitations contained in their CC&Rs. Commission should direct Staff to give further study to this requirement and determine whether it can reasonably work as intended.

- (g) Requiring further mitigation if three noise complaints are filed within a one-year period of permit issuance.

As mentioned above, this proposal, which would permit noise mitigation to be addressed *after* a permit has been granted and three or more complaints have been received, is simply an invitation for disputes and litigation continuing long after appropriate mitigation should have been determined as part of the CUP review process. There is no basis for this approach under existing Section 15-1-10.E. which requires that sufficient mitigation must be reviewed and determined before a CUP is granted. The noise mitigation analysis should be done *before* the permit is granted, not after expensive construction is completed and neighbors' complaints start to accumulate. This provision violates the existing Code and is simply unworkable.

9. In addition to potentially violating noise regulations, persistent pickleball noise can be an unhealthy nuisance which should be subject to mitigation as part of the Conditional Use review process under the Code Amendments. Commission should direct Staff to consider whether persistent pickleball noise in close proximity to homes in a residential neighborhood is an unhealthy nuisance. There is no evidence that this question has been considered by Staff. Experts have reported that repetitive impulsive sounds can make it difficult for neighbors to relax, concentrate, or sleep soundly without disturbance and can lead to stress, fatigue, and anxiety. Experts have also reported that excessive and repetitive noise has implications for the human cardiovascular, auditory, limbic, nervous, endocrine, and other systems,

adversely impacting good health. I would urge Commission to inform itself now, carefully and comprehensively, regarding all of these health concerns and consider how they might be successfully mitigated before approving any Code Amendments.

I look forward to Commission addressing these concerns at its meeting on Wednesday, February 23. Thank you in advance for your attention and consideration.

Sincerely,



Frode Jensen

Exhibit A – Copy of Letter of R. Lance Willis, PhD, provided to Staff on August 3, 2021

Exhibit B – Copy of Letter of Frode Jensen to Planning Commission dated January 24, 2022

Exhibit C – Copy of Frode Jensen PowerPoint presentation dated January 26, 2022

cc:

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EXHIBIT A

Friday, July 23, 2021

Robert Rosing
Rosing Davidson Frost
136 Heber Ave
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Park City, Utah 84060

Mr. Rosing,

This letter comments on the noise impact on surrounding homes resulting from the planned installation of a pickleball court at 2732 Meadow Creek Drive. The planned pickleball court is located within 100 feet of several homes including 2812 Holiday Ranch Loop Road which is directly adjacent to and overlooks the placement of the court.

Qualifications in Regard to Pickleball Sound Abatement

I am the Principal Acoustical Engineer at Spendiarian & Willis Acoustics & Noise Control, LLC. In that capacity, I regularly perform on site acoustical testing, community noise impact assessment, acoustical site planning, and noise abatement design for commercial and industrial sites, often near residential areas. I have been working as a consultant in environmental acoustics and noise control since 2005.

I have Bachelor, Master of Science, and PhD degrees from the Woodruff School of Mechanical Engineering at the Georgia Institute of Technology with a specialization in physical and engineering acoustics. I also received a multidisciplinary certificate in acoustics from the same institute. After finishing my PhD, and while working as an applications engineer in the Advanced Product Technology Center at Motorola, I completed distance learning at the Pennsylvania State University in psychological acoustics and experimental design. This coursework covered the human sensation of hearing and the perception of sound. I have been a member of the Acoustical Society of America and the Audio Engineering Society since 1994.

Since 2010 I have assisted pickleball clubs, site planners, and home owners associations in site selection and noise abatement planning for pickleball courts. Some of these projects include: ABREGO AT GREEN VALLEY, AZ; CANOA RANCH, GREEN VALLEY, AZ; DESERTVIEW AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; RIDGEVIEW AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; MOUNTAINVIEW AT

Spendiarian & Willis Acoustics & Noise Control LLC

July 23, 2021

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SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; THE PRESERVE AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; ROBSON AT SUN LAKES / IRON OAKS, PHOENIX, AZ; ROBSON AT PEBBLE CREEK, PHOENIX, AZ; TRILOGY AT ENCANTERRA, PHOENIX, AZ; TRILOGY AT VERDE RIVER, PHOENIX, AZ; TRILOGY AT VISTANCIA, PHOENIX, AZ; SUNFLOWER DEVELOPMENT, TUCSON, AZ; YAVAPAI HILLS HOA, PRESCOTT, AZ; OUTDOOR RECREATION PALM SPRINGS, PALM SPRINGS, CA; ELKHORN HOA, SUN VALLEY, ID; PELICAN PRESERVE, FORT MYERS, FL; and PELICAN LANDING, BONITA SPRINGS, FL.

I have also assisted home owners and home owners associations when pickleball courts have been placed close to residential properties without adequate noise abatement planning. The sites of these pickleball courts were ST MICHAEL'S BY-THE-SEA CHURCH, CARLSBAD, CA; COLUMBINE COUNTRY CLUB, LITTLETON, CO; TRILOGY AT POWER RANCH, GILBERT, AZ; private residence in LOUISVILLE, KY; private residence in CARLSBAD, CA; CHESTNUT WAY PARK, PORT MOODY, BRITISH COLUMBIA; and a park on WATERS END DRIVE, CARLSBAD, CA.

In some instances, failure to plan for noise abatement or select an appropriate pickleball site has resulted in legal action. I have been an expert witness in several cases seeking an injunction against pickleball activities in California, Kentucky, and Colorado. These cases involved courts placed with insufficient buffer distance to neighbors and ad hoc mitigation treatments.

Characteristics of Pickleball Sound

The main concern in regard to noise from the pickleball courts is the sound produced by the impact of the hard plastic ball on the paddles. This sound is characterized by a sudden onset and brief duration, typically on the order of two thousandths of a second for the direct path sound (see Figure 1) thus classifying it as impulsive sound. The spectral content of the paddle impact is narrowband with a center frequency typically between 1,000 and 2,000 Hertz. This is near the most sensitive frequency range of human hearing. Although it does not meet most guidelines for tonal prominence such Annex C of ANSI S12.9 Part 4 or ANSI S1.13, it does impart a vague sensation of pitch. The acoustic radiation pattern of the paddle is more or less a dipole or figure eight pattern.

Using a foam ball such the Foam Quiet Ball made by Gamma can reduce the amount of sound from paddle impacts significantly. Spendiarian & Willis has done a comparative study of this ball and the most common regulation ball, the Dura Fast 40. The foam ball was found to be 8 to 9 dBA quieter. While this will reduce the amount of sound abatement needed, it will not necessary eliminate the need for it completely. This is especially true where homes are within 75 to 100

feet of the pickleball courts. Use of the foam ball can still be expected to produce more noise complaints than tennis.

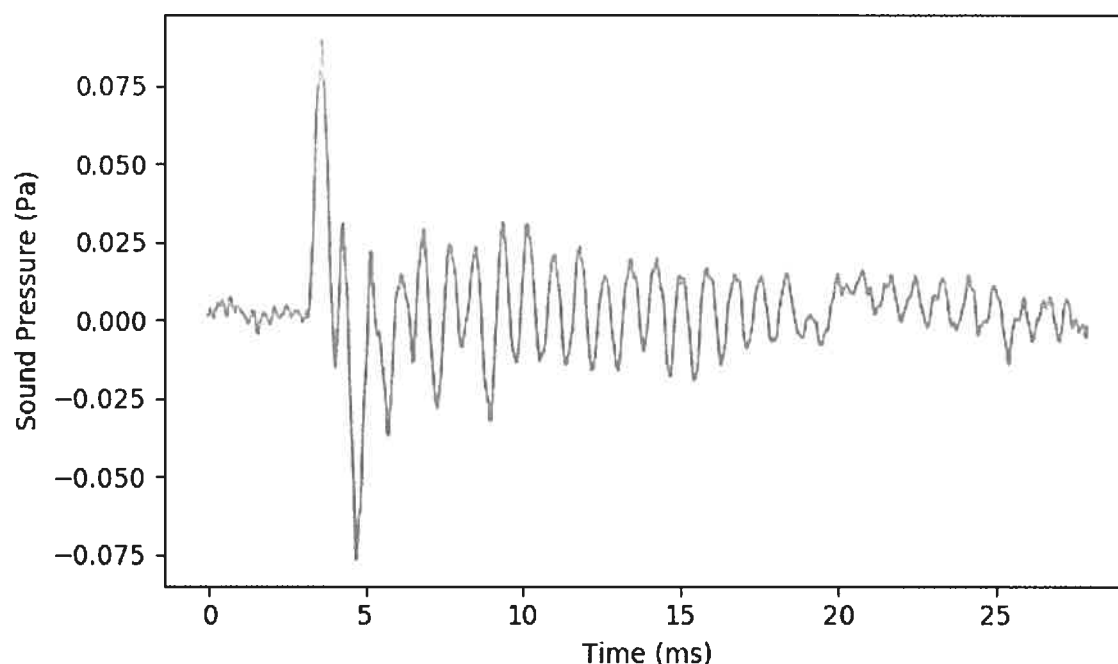


Figure 1. Sound Pressure Impulse Produced by Pickleball and Paddle Impact. Time is in milliseconds (0.001 seconds)

Comparison of Pickleball to Other Activities

There is a common misconception that pickleball is acoustically equivalent to tennis, volleyball, or many of the other activities typically found at outdoor recreation centers and parks. Numerous news articles covering disputes over pickleball noise, many of which originate when existing tennis courts are converted to pickleball, demonstrate that this is not the case:

- Adler, Erin, “Apple Valley neighbors in a pickle over pickleball noise.” Star Tribune, Minneapolis, Minnesota. March 27, 2019. <<http://www.startribune.com/apple-valley-neighbors-in-a-pickle-over-pickleball-noise/507726242/>>

- Bartel, Mario, “Pickleball banished from Port Moody court after neighbours complain of rising stress, anxiety.” The Tri-City News, Coquitlam, British Columbia, Canada. April 24, 2021. <<https://www.tricitynews.com/local-sports/these-games-are-loud-port-moody-pickleball-neighbours-revolt-against-rising-stress-anxiety-3662369>>
- Maryniak, Paul, “Pickleball lights plan puts two HOAs at loggerheads.” Ahwatukee Foothills News, Tempe, Arizona. November 29, 2017. <https://www.ahwatukee.com/news/article_9056a946-d48e-11e7-9838-8b69fb2d50b2.html>
- Bottemiller, Kitty, “Too loud! Pickleball noise upsets neighbors.” Green Valley News, Green Valley, Arizona. August 28, 2013. <https://www.gvnews.com/news/local/too-loud-pickleball-noise-upsets-neighbors/article_542c2aac-0f91-11e3-acdc-0019bb2963f4.html>
- Clay, Joanna, “Woman sues Newport Beach over pickleball noise at park near her home.” Orange County Register, California. April 7, 2016. <<https://www.ocregister.com/2016/04/07/woman-sues-newport-beach-over-pickleball-noise-at-park-near-her-home/>>
- Shanes, Alexis, “Village in a pickle: How Ridgewood plans to tone down the pickleball court noise.” northjersey.com, California. January 16, 2020. <<https://www.northjersey.com/story/news/bergen/ridgewood/2020/01/16/ridgewood-nj-pickleball-noise-reduction-measures/4480463002/>>
- Monterey Herald Staff, “Pickleball noise controversy goes before city leaders Pacific Grove neighbors object to game at nearby tennis courts.” The Mercury News, California. September 19, 2019. <<https://www.mercurynews.com/2019/09/19/pickleball-noise-controversy-goes-before-city-leaders/>>
- Fraser, Patrick and Rodriguez, Ambar, “What to do about constant pickleball noise?” WSVN 7 News Miami, Miami, Florida. March 27, 2019. <<https://wsvn.com/news/help-me-howard/what-to-do-about-constant-pickleball-noise/>>
- Sutphin, Daniel, “Nixing the noise: Sound fence construction underway at Gilchrist pickleball courts.” Port Charlotte Sun, Charlotte Harbor, Florida. May 20, 2019. <https://www.yoursun.com/charlotte/news/nixing-the-noise-sound-fence-construction-underway-at-gilchrist-pickleball/article_79a764de-7b1c-11e9-b4d4-6bcaa919f3f3.html>

It should be clear from the above list of references that pickleball constitutes a significant change in the acoustic environment of the area surrounding the courts in comparison to tennis and must be planned for accordingly. In particular, the impulsive sound produced by the impact of the hard plastic ball on the paddle can cause significant noise impact for those living near the courts.

Effects of Impulsive Sound

Persistent impulsive sounds create annoyance because they are similar to sounds that contain important information about our environment such as footsteps, a door opening, a tap at the window, or speech. We are sensitive to these types of sounds because they alert us to events occurring nearby that we may need to respond to. Continuous false alarms such as the popping sound created by pickleball paddle impacts make it difficult to relax, concentrate, or sleep soundly without disturbance as each time a pop is heard it draws the attention, creating distraction.

While it is well known that high amplitude acoustical pressures can cause hearing impairment as well as other types injury to the body, lower amplitude sound can also have adverse long term physiological effects. The World Health Organization recognizes that low level noise exposure has measurable health effects.

Sound/noise is a psychosocial stressor that activates the sympathetic and endocrine system. Acute noise effects do not only occur at high sound levels in occupational settings, but also at relatively low environmental sound levels when, more importantly, intended activities such as concentration, relaxation or sleep are disturbed. [WHO p. 61]

The sympathetic nervous system is part of the autonomic nervous system and is involved in the body's fight or flight arousal response. Chronic activation of the sympathetic system leads to stress, fatigue, and anxiety.

In addition to nervous system activation, sleep disturbance from noise can involve difficulty in falling asleep as well as awakenings that occur during sleep. Frequent awakenings lead to sleep fragmentation. This disrupts the normal stages of sleep and may lead to further neurocognitive manifestations not limited to daytime tiredness, loss of concentration, morning confusion, irritability, anxiety, and depression. [WHO p. 48, 26]

Environmental noise also has implications for the cardiovascular system, metabolism, and homeostasis, the ability of the body to regulate itself.

The auditory system is continuously analyzing acoustic information, which is filtered and interpreted by different cortical and subcortical brain structures. The limbic

system, including the hippocampus and the amygdala, plays an important role in the emotional processing pathways. It has a close connection to the hypothalamus that controls the autonomic nervous system and the hormonal balance of the body. Laboratory studies found changes in blood flow, [blood pressure] and heart rate in reaction to noise stimuli as well as increases in the release of stress hormones... Acoustic stimulation may act as an unspecific stressor that arouses the autonomic nervous system and the endocrine system... The arousal of the sympathetic and endocrine system is associated with changes in the physiological functions and the metabolism of the organism, including [blood pressure], cardiac output, blood lipids (cholesterol, triglycerides, free fatty acids, phosphatides), carbohydrates (glucose), electrolytes (magnesium, calcium), blood clotting factors (thrombocyte, aggregation, blood viscosity, leukocyte count) and others. In the long term, functional changes and dysregulation may occur, thus increasing the risk of manifest diseases. [WHO p. 62-63]

The effects of stress can take many forms as seen above. Low level noise exposure that disturbs sleep and concentration are known to produce a range of diagnosable illnesses and disorders.

Assessing the Impulsive Sound of the Pickleball Courts

Based on our experience working with pickleball facilities, courts located within 350 feet of residential properties often require noise abatement. Pickleball court sites within 500 to 600 feet of noise sensitive areas should be reviewed by a qualified acoustical engineer in the site selection phase of the project. The acoustical engineer should be familiar with modern methodologies for assessing highly impulsive sound such as ANSI S12.9 Part 4 or ISO 1996 Part 1. Courts located within 150 feet of homes require careful and often extensive noise abatement design to avoid complaints. I have measured peak sound pressure levels from pickleball courts at a distance of approximately 75 feet exceeding 80 dBA. Recurrent peak sound pressure levels this high present a high level of distraction and noise impact for the occupants of the receiving property.

I have been informed that the planned pickleball court pad at 2732 Meadow Creek Drive is within 20 to 25 feet of the house at 2812 Holiday Ranch Loop Road. Pickleball courts located this close to homes can be expected to produce noise complaints from the adjacent residents and have a significant impact on quality of life. At this distance the pickleball paddle impacts easily penetrate the interior of a home or condominium and will prevent the quiet enjoyment of the residents' use of their living rooms, dining rooms, bedrooms, balconies, patios, and other spaces used for rest, family activities, and activities requiring concentration such as reading.

Applicable Codes and Regulations

Chapter 6-3 of the Park City Municipal Code discusses impulsive sound and annoyance. The code specifies fast time weighting for measuring impulsive sound. This is acceptable for speech and some other types of impulses with slower onset rates, but it should be noted that this setting grossly underestimates the noise impact of sounds produced by impact processes such as pickleball paddles.

Section 6-3-9.C.2 prohibits "any stationary source of sound which emits a pure tone, cyclically varying or repetitive impulsive sound which creates a noise disturbance." A noise disturbance is defined in Section 6-3-1 as,

Any sound that annoys or disturbs a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s).

The definition refers to annoyance as a metric for noise assessment in addition to the maximum permissible sound levels described in Section 6-3-9.A. The use of the term, annoyance, can be traced back to the work of Schultz and other researchers in the 1960s and 1970s [Schultz, 1978] and is the basis of federal standards for transportation noise assessment. Current standards for noise assessment in regard to annoyance for impulsive sound are based on the adjusted sound exposure level and include ANSI S12.9 Part 4 and ISO 1996 Part 1. The fast time weighting measurement methodology of the Park City Code does not correlate well with community response to impulsive sounds with sudden onset rate and short duration such as impact processes, including pickleball paddle impacts, and should not be relied on for noise assessment in this application.

Based on our experience in creating noise abatement plans for pickleball facilities using the methodology in ANSI S12.9 for assessment of the annoyance of pickleball paddles, the placement of this court is much closer to other residential land uses than we would recommend and would not satisfy the requirements in Section 6-3-9.C.2 of the Code over the specified 10 minute period.

Noise Abatement Treatments

Mitigation of the sound from the pickleball court is complicated by the short buffer distance and two story construction of the house at 2812 Holiday Ranch Loop Road. Sound walls are a common abatement treatment used for pickleball courts. In order, however, for a sound wall to be effective in attenuating sound it must be high enough to block the line of sight to the players on the court including paddles. Figure 2 shows the view from the second floor window

overlooking the pickleball court pad which is already under construction. As can be seen, a very high wall would be needed to shield the upper level windows of the house from the view of the paddles which radiate the popping sound. The sound wall must block the line of sight to the paddles regardless of the type of equipment used on the court.



Figure 2. View of Pickleball Court Pad from Upper Level Window

Such a wall is not, however, practical to build at this location. If a sound wall will not work for mitigation, a full enclosure will be needed in the form of a building to house the pickleball court. The walls and roof should have no penetrations facing the neighbors.

Conclusions

The addition of pickleball to a neighborhood represents a significant change in the amount of sound entering the surrounding area in comparison to other common recreational activities. This must be carefully planned for.

Based on over 10 years of experience with pickleball noise abatement, Spendiarian & Willis does not recommend this location for an open air pickleball court as being compatible with adjacent residential land uses. Given the insufficient buffer distance, close proximity to homes on multiple sides, and our experience at similar pickleball sites, a noise abatement plan involving a sound wall system will not provide sufficient mitigation at this location. Further, photos taken from the upper level window of the nearest receiving property show that the close proximity of the court and height of the second floor rooms will make an effective sound wall system infeasible. In order for a sound wall to be effective it must block the line of sight from sound sources to the receiving property including upper level windows. An effective noise abatement plan is likely to require the construction of a building with a roof to contain the impulsive sound power levels produced by pickleball.

The use of foam balls will reduce the need for noise abatement; however, given that a sound wall is infeasible for the site, this will not be enough to comply with the noise code. In practice, it has been our observation that enforcement of the use of specific equipment such as foam balls is difficult to ensure.

In summary, Spendiarian & Willis does not recommend the installation of a private, open air pickleball court due to the difficulties in creating an effective noise abatement plan for this site.

regards,



R. Lance Willis, PhD
Principle Acoustical Engineer

References

ANSI S12.9-2005, *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 4: Noise Assessment and Prediction of Long Term Community Response*, American National Standards Institute, 2005.

ISO 1996-1, *Acoustics - Description, measurement and assessment of environmental noise - Part 1: Basic quantities and assessment procedures*, International Organization for Standardization (ISO), 2016.

Schultz, T. J., "Synthesis of Social Surveys on Noise Annoyance," *Journal of the Acoustical Society of America* v. 64, pp. 377-405, 1978.

World Health Organization, *Night Noise Guidelines for Europe*, <http://www.euro.who.int>, 2009.

EXHIBIT B

11000 1000000
 2812 HOLIDAY RANCH LOOP ROAD
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January 24, 2022

VIA EMAIL

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**Re: Application for a Conditional Use Permit to Build a Pickleball Court
 at 1961 Venus Court (PL-21-05072)**

Dear Planning Commission Members

I write regarding the application of Michelle Denton (Applicant) for a conditional use permit to build a pickleball court at 1961 Venus Court. For the reasons set forth below and based on the record provided, I strongly oppose approval of the application. By copy of this letter to the City Recorder, I ask that this letter be added to the public record.

As the Planning Commission undoubtedly knows, private backyard pickleball courts are increasingly a matter of concern in Park City. I am aware of at least two other courts in Park City which have built (or have been applied for) on residential lots in Park City which may or may not comply with the Park City Land Management Code (LMC or Code) and regarding which the City's correct application of the Code in connection with their approval is uncertain.

Recently, the Planning Department has announced that it will propose amendments to the LMC specifically dealing with backyard pickleball courts in residential neighborhoods.¹ Interestingly, the Applicant's court would fail absolutely under the kinds of regulation the Planning Department is apparently considering. Staff expressly concedes this in the Planning Commission Staff Report (Staff Report) included in the agenda packet.²

While I am a strong proponent of all outdoor recreation, and strongly support the right of property owners to freely enjoy their homes and yards, the Planning Commission must also respect and enforce the duly-enacted laws and codes of the state and of Park City. These laws and codes have been enacted for the benefit of all and must be enforced fairly for the benefit of all, not just individual applicants. If applicable laws are not enforced fairly, trust in government is seriously eroded.

Applications for backyard pickleball courts, including the subject application, which *violate the law* must be denied.

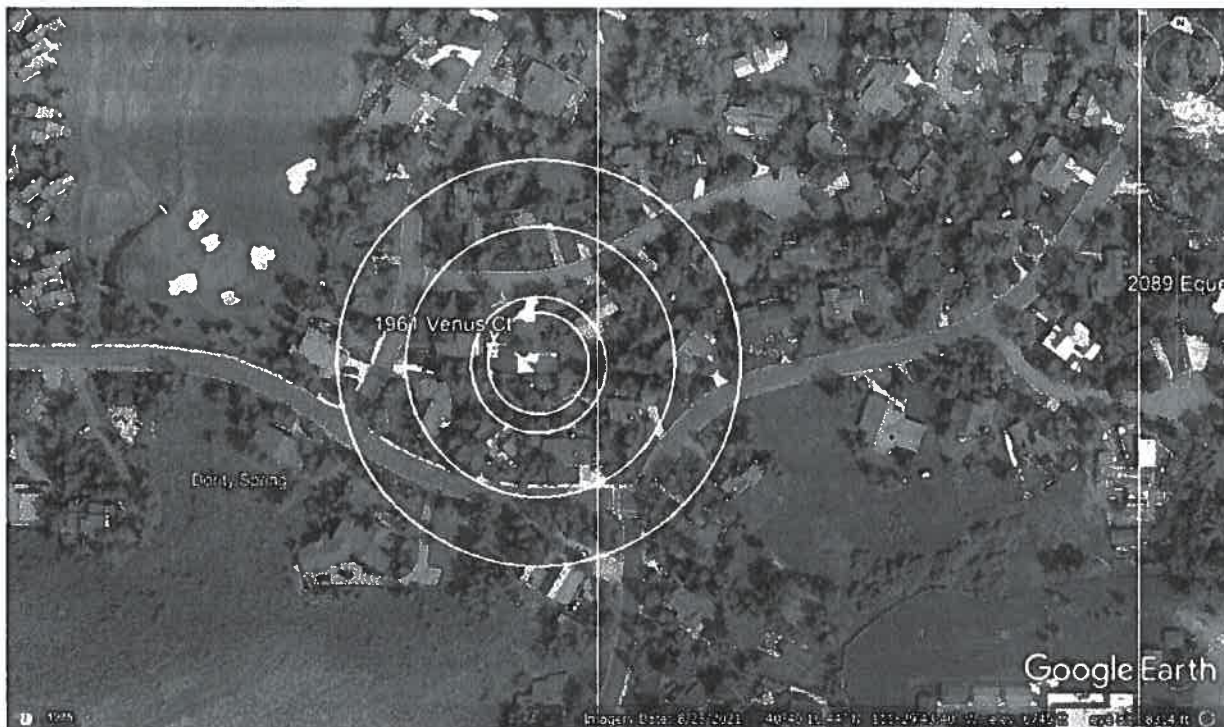
As background, I assume it is agreed by the Applicant, the City and the Planning Commission that

- a. 1961 Venus Court is in the Single Family (SF) District under Section 15-2.11 of the Code.
- b. A Recreation Facility, Private is defined under Section 15-15 of the Code as "Recreation facilities operated on private Property and not open to the general public. Including Recreation Facilities typically associated with a homeowner or Condominium association, such as pools, tennis courts, playgrounds, spas, picnic Areas, similar facilities for the Use by Owners and guests."
- c. A pickleball court on a residential lot in the SF District is a Recreation Facility, Private.
- d. A pickleball court is a Structure.
- e. A Recreation Facility is not an Allowed Use in the SF District under Section 15-2.11-2.A. of the Code.
- f. A Recreation Facility in the SF District is a Conditional Use under Section 15-2.11-2.B. of the Code.

¹ <https://www.parkcity.org/departments/planning/code-amendments/pickleball>

² The copy of the Staff Report included in the agenda packet available on the City's website as of January 23, 2022 may have one or more pages missing. It skips from Condition of Approval 1 on the bottom of page 108 to Condition of Approval 6 at the top of page 109. Conditions of Approval 2 through 5 appear to be missing.

Here, below, for your reference, is a google earth image showing the placement of the concrete pad in the Applicant's backyard and the proximity of nearby houses. The yellow concentric circles represent radii of approximately 75', 100', 200' and 300' from the center of Applicant's proposed court. There are approximately 20 lots within 300 feet of Applicant's proposed court.



I respectfully request the Planning Commission consider the following issues and concerns which I have about the Applicant's proposed pickleball court.

- 1. The site of Applicant's proposed court violates the side setback on the east side of Applicant's lot. There is no exception to the setback requirements under the LMC for a Recreation Facility.**

The minimum Rear Setback applicable to 1961 Venus Court in the Single Family (SF) District is fifteen feet (15'). See Section 15-2.11-3.D. of the LMC. The minimum Side Setback applicable to 1961 Venus Court in the Single Family (SF) District is twelve feet (12'). See Section 15-2.11-3.F. of the LMC.

The subject court (which has already been built without a valid Conditional Use permit) currently violates the 12' side setback on the east side of Applicant's lot.

Based upon the Staff Report and the Findings of Fact set forth in the draft Notice of Planning Commission Action included in the agenda packet, the City has come up with an 'ingenious workaround'. It would propose to ignore the setback requirement and/or permit the Applicant to

paint a line on the sports court on the western portion of the concrete pad so that it maintains a twelve-foot (12') setback from the eastern Side Lot Line.³

I do not believe this 'ingenious workaround' complies with the LMC. The area of a pickleball court is not confined to the space inside the court lines. Players use the entire playing area, inside and outside the playing lines, as part of the court. Since the City proposes to require that the Applicant erect a 12' high acoustic fence around the court it seems pretty obvious and undeniable that the court area will consist of the whole area enclosed by the fence. If this area encroaches on the setback it violates the LMC and cannot be approved.

Staff further states in the Staff Report that "Seven (7') feet of concrete flat work would remain outside the sports court as permitted within the side yard setback exception". While the LMC provides for certain exceptions to the side setback requirements in the SF District under Section 15-2.11-3.G., there is *no exception* under the LMC which would authorize a reduction in the setback limits for a Recreation Facility. The exception for setbacks from Side Lot Lines under Section 15-2.11-3. G.6. of the LMC for Structures is limited to "[p]atios, decks, pathways, steps, and similar Structures not more than thirty inches (30") in height above Final Grade" (the Patio Exception). The Patio Exception is *not* available for a pickleball court, because a pickleball court is simply not a patio or similar Structure. The Patio Exception is certainly not available for a portion of the concrete pad on which a pickleball court has been constructed which happens to extend into a setback. Staff clearly recognizes that this is a dubious, ingenious workaround since it states in the Staff Report that it "recommends in the pending ordinance revisions that this condition is not allowed in the future." What the ingenious workaround is really saying is that this condition is not allowed for Recreation Facilities under the present Code, but Staff chooses to ignore it.

An improvement which encroaches on the legally-mandated setbacks under the Code is illegal and cannot be approved.

³ Interestingly, the idea for this ingenious workaround apparently did not originate with the Applicant, who acknowledged at the time she filed her application that her court violates the east side setback. On December 8, 2021 Browne Seabright, a City planner, wrote the Applicant an email, advising her

"First, as you are probably aware, we are requiring Recreation Facilities to adhere to the required 12' side setback...Based on the current configuration of the patio and the dimensions of pickleball courts, it appears that you might be able to paint the sports court on the existing paved surface so that it is at least 12 feet away from the side property line. It would be helpful if you could verify whether that is possible, and potentially submit an additional exhibit showing how the proposed sports court maintains the side setback."

It is somewhat amazing and incredible to me that it was a City planner, presumably charged with enforcing the LMC, who suggested to the Applicant how to attempt to avoid the otherwise plain application of the setback rules to the pickleball court.

2. All Development in the SF District, including all Conditional Uses, must comply with the Lot and Site Requirements under Section 15-2.11-3 of the LMC, including the Required Setbacks.

A Recreation Facility, Private (Private Recreation Facility) is a Conditional Use in the SF District under Section 15-2.11-2.B. of the Code. If Applicant wishes to obtain a permit for a Private Recreation Facility, Applicant must comply with all of the requirements for a Conditional Use Permit (CUP). However, even if Applicant were to demonstrate compliance with the requirements for a CUP (for example, if satisfactory mitigation measures are adopted), her application must still be denied as a matter of law.

The reason is that Conditional Uses in the SF district, as with Allowed Uses, are also *absolutely* subject to the threshold setback requirements under the LMC. A Conditional Use in the SF District must comply with the side setback restrictions just as an Allowed Use must comply.

Although the Planning Commission must take into account reasonable conditions which are proposed, or can be imposed, to mitigate the reasonably anticipated detrimental effects of a proposed Conditional Use in accordance with applicable standards under Section 15-1-10 of the Code, it may not ignore or modify legally-mandated threshold requirements of the Code, such as the setback requirements.

3. Under Utah law, an application for a CUP must *first* meet any threshold requirements before there is any consideration of detrimental impacts or reasonable conditions to mitigate those impacts under a CUP review process. If a proposed land use cannot satisfy the standards imposed by the LMC, it *cannot* be approved, *regardless* of whether the use is “allowed” or “conditional”.

Utah law is clear that even though a Use may be a Conditional Use, the Use cannot be approved as a Conditional Use if it does not satisfy a *threshold* legal requirement for the Use. Under Utah law, a Conditional Use is a land use with unique characteristics or impacts that warrants special consideration, and conditions to mitigate the impacts. Designating a use as conditional, however, does not remove it from the City’s underlying land management regulations.

While in this case the Conditional Use review process under the LMC (Section 15-1-10) generally dictates the type of conditions that may be imposed, this section does not supplant or override the specific provisions of the LMC which must be satisfied in order for a Conditional Use to be considered.

An application for a CUP must *first* meet any threshold requirements before there is any consideration of detrimental impacts or reasonable conditions to mitigate those impacts. If a proposed land use cannot satisfy the standards imposed by the LMC and the Plat, it *cannot* be approved, *regardless* of whether the use is permitted or conditional.

4. **Neither the City nor the Planning Commission has the authority to ignore the setback provisions of the LMC or any other provision of applicable law in a CUP process.**

Section 509 of the Utah Land Use, Development, and Management Act (LUDMA) mandates that a **“municipality is bound by the terms and standards of applicable land use regulations and shall comply with mandatory provisions of those regulations.”** Utah Code Ann. §10-9a-509.

In other words, under LUDMA, which governs the application of the LMC, neither the City nor the Planning Commission may amend, modify or waive the threshold setback rules unilaterally as part of its conditional use analysis (mitigation) process. In this case, the application filed by the Applicant does not satisfy a *threshold* requirement for the Use, i.e., the 12 ft. side setback requirements applicable to 1961 Venus Court under the LMC, and thus as a matter of law the application *cannot* be approved.

This reading of applicable Utah law is conclusively supported by the opinion of the Utah Office of the Property Rights Ombudsman in *Red Hawk Wildlife Preserve Foundation and Summit County* (Advisory Opinion 116 issued September 20, 2012)

See: <https://propertyrights.utah.gov/advisory-opinions/view-all-advisory-opinions/advisory-opinion-116/>.

Because the Applicant cannot meet the threshold requirements for a CUP and because no permit may be legally granted, regardless of any mitigation arguments Applicant may make in favor of approval, the Planning Commission must deny Applicant’s application now and inform the Applicant of these legal requirements so that additional inevitably fruitless expenditures of time and money in furtherance of the application and any opposition can be avoided.

5. **The City shall not issue a Conditional Use permit unless the Planning Commission concludes that the Application meets the Standards of Review applicable to Conditional Uses under Section 15-1-10.D. of the LMC.**

Section 15-1-10.D. of the Code provides that

“The City shall not issue a Conditional Use permit unless the Planning Commission concludes that:

1. *the Application complies with all requirements of this LMC;*
2. *the Use will be Compatible with surrounding Structures in Use, scale, mass and circulation;*
3. *the effects of any differences in Use or scale have been mitigated through careful planning.”*

(emphasis added)

Because the Applicant’s proposal does not comply with the setback requirements under Section 15-2.11-3 of the LMC and thus does not comply “with all requirements of this LMC”, the application fails under Section 15-1-10.D.1. and must be denied.

6. Under the review process for Conditional Use Permits required by Section 15-1-10 of the LMC, the Planning Department and/or Planning Commission must review the specific items enumerated by subsection E of Section 15-1-10 when considering whether or not the proposed Conditional Use mitigates impacts of and addresses such items. Based on the documentation included in the agenda packet, it appears that numerous required items have not been considered or reviewed and no reasonable mitigation has been proposed by Applicant.

The items which the Planning Department and/or Planning Commission must review under subsection E of Section 15-1-10 of the Code in connection with this Conditional Use include, but are not limited to, (i) Storm Water run-off; (ii) Fencing, Screening, and landscaping to separate Use from adjoining Uses; (iii) usable Open Space; (iv) lighting; (v) physical design and Compatibility with surrounding Structures in mass, scale, style, design, and architectural detailing; (vi) noise that might affect people and Property Off-Site; (vii) within and adjoining the Site, the appropriateness of the proposed Structure to the existing topography of the Site; and (viii) consistency with the goals and objectives of the Park City General Plan.

This review is not optional. Under subsection E, the Planning Department and/or Planning Commission **must review** these items (and all items under this subsection) and must make a determination whether the Applicant has addressed and sufficiently mitigated the impacts of these items.

Based upon the Staff Report and the Findings of Fact set forth in the draft Notice of Planning Commission Action included in the agenda packet, there appears to be either no or insufficient evidence that the Applicant, Staff or the Planning Commission has found underlying facts, conducted meaningful analysis, or reached reasonable conclusions regarding:

- (i) Storm Water and Spring Snow Melt Run-off. Have Applicant, Staff or the Commission considered where storm water and Spring snow melt run-off will go from an 1800 square foot impervious concrete patio? On to Applicant's property, or on to neighbors' properties? How will this risk be appropriately mitigated? Water tables are extremely high in many parts of Park Meadows and basements already regularly flood during the Spring run-off. Where will the additional water go?
- (ii) The Fence. Neither Applicant nor Staff has apparently prepared (nor has the Planning Commission considered) any fencing *plan* or *design* for the proposed *12-foot-high*, presumably metal and plastic, acoustic barrier fence around the court. This fence must comply with the fencing provisions of the LMC, including in Section 15-4-2, which appears to prohibit fences higher than 6 feet unless approved for good reason as part of a Conditional Use permit. The standard dimensions of a pickleball court are 30' x 60'. Accordingly, it would appear that Staff is proposing that Applicant erect a 12 foot high, 180 feet long plastic and/or metal fence in the middle of a residential neighborhood backyard. Yet neither Applicant nor Staff provides any details or site plan for this fence.

It is unclear precisely what kind of acoustic barrier fence Staff is recommending. What materials will be used, and what will the color be? What is the cost, the durability, or the effectiveness of this fence? Would the acoustic barrier materials survive hot

summer temperatures, frigid winter temperatures, deep snow or high winds in Park City? Would the enclosing materials reflect or absorb so much heat onto the court in the summer that the Applicant would be inclined to remove the materials? Will the fence reflect glare into neighbors' yards? How will enforcement be managed? Who will require the owner to maintain the fence? The Staff Report answers none of these questions.

- (iii) Site and Landscaping Plan. Applicant has not prepared or provided any schematic site or landscaping plan which I have been able to find in the agenda packet. The Planning Department's form of Conditional Use application⁴ requires that Applicant submit:

"Two (2) 24"x36" *professionally prepared* schematic plans drawn to scale containing items below:

- North arrow and name of project
- Date of drawing
- Adjoining property lines, owners, and uses within 100' of subject property.
- Total acreage of the property, dimensions of all lot lines, all landscaped areas, parking areas, snow storage area. Etc.

-Note: Schematic plans may include, by (sic) are not limited to, *site plan, landscaping plan, floor plans, and elevations.*" (emphasis added in italics)

Applicant has not submitted any "professionally prepared" site, landscaping or design plan for the 1800 square foot concrete pickleball court and 12 foot high and 180 foot long metal and/or plastic fence. Accordingly, Applicant has made no showing that the design and appearance of the court and fence is compatible with surrounding uses (which surrounding uses presently are houses, driveways and lawns, gardens and wooded areas; and the surface square footage of the pickleball court will be *larger* than the surface square footage of most houses and garages in Park Meadows), will be appropriately screened from neighbors, or is an appropriate structure given the natural topography of the surrounding area.

A simple conclusory statement that the use is appropriate or compatible with surrounding uses is not an adequate substitute for analysis and reasonable, thoughtful conclusions.

- (iv) Noise. Neither Applicant nor Staff has shown, based on hard acoustical data or expert reports, that the noise generated by pickleball play on the court will not violate Park City noise ordinances or unreasonably impact neighbors or that by construction of a

⁴ <https://www.parkcity.org/home/showdocument?id=65015>

fence the noise will be reasonably mitigated. I discuss this issue in greater detail below.

- (v) General Plan. Neither Applicant nor Staff has shown there is any compelling argument whatsoever that the addition of a 1800 square foot concrete backyard pickleball court surrounded by a 12 foot high 180 foot long metal and plastic fence to an already densely developed residential area is in any way consistent with the goals and objectives of the General Plan for residential areas. I would submit that the court, as proposed, is totally inconsistent with the goals and objectives of the General Plan.

The application must be denied if it is determined that these aspects of the proposed Conditional Use have not been reviewed, considered, addressed and reasonably sufficiently mitigated.

- 7. In particular, under the review process for Conditional Use Permits required by Section 15-1-10.E.6 of the LMC, the Planning Department and/or Planning Commission must review the noise that will affect people and Property Off-Site. Due to the proximity of the Applicant's proposed pickleball court to neighbors, Planning Commission must determine whether the noise created by pickleball play can be mitigated. If not, the Application must be denied.**

The Planning Department and Planning Commission must consider the following noise-related issues which the subject court will inevitably raise and determine whether the proposed noise mitigation in this case is sufficient or even possible given the near proximity of twenty or more houses:

- a. Applicant's court site is approximately 50 feet from the property line of Applicant's neighbors at 1919 Evening Star Drive, who apparently affirmatively oppose the Application.
- b. Applicant's court site is less than approximately 100 feet from the property lines of five additional neighbors of the Applicant at 2003 Venus Court, 1911 Evening Star Dr., 1950 and 1990 Little Kate Rd, and 2030 Lucky John Dr., several of whom apparently affirmatively oppose this application.
- c. It appears that the property lines of a total of up to 20 homes may be within 300 feet of the Applicant's court, many of whom apparently affirmatively oppose the Application.
- d. I am only aware of one neighbor who affirmatively supports the Applicant's proposal and they apparently may not even be full-time residents of Park City.

Pickleball play is an extremely noisy activity. The Staff Report acknowledges this through its discussion of noise mitigation (See pages 112 et. seq. of the agenda packet). A google search today for "pickleball noise" returns 668,000 results, replete with examples of noise disputes and litigation arising over pickleball court siting and play.

However, the Staff Report is silent or incomplete with respect to many aspects of the pickleball noise issue which the Planning Commission should be aware of and should carefully consider before it approves a pickleball court within 300 feet of up to 20 homes in a densely developed residential area in the SF District.

- 1. It is an indisputable matter of record that pickleball play has led to numerous noise violation claims and nuisance disputes by and against municipalities, neighbors and HOAs across the

country.

2. The Park City Recreation Department staff report recently provided to City Council acknowledged the problem of pickleball noise, stating (in respect of noise issues already present at the MARC) "Tennis is a quiet sport and pickleball is *much noisier* both in the game and the social nature of the sport causing incompatibility with most tennis players. Alarming, what the Recreation Department staff report didn't mention is that the noise issue which gives rise to the incompatibility of outdoor pickleball play with tennis players applies to *everyone* who lives in close proximity to an outdoor pickleball court.

3. There is a common misconception that pickleball is acoustically equivalent to tennis and many other common social and recreational activities. This is not true. Pickleball is much noisier. The sound produced by the impact of the hard plastic ball on the paddle and the loud enthusiasms of the players cause significant noise impacts on residents and properties near outdoor pickleball courts.

4. Numerous anecdotal comments in an online blog about pickleball noise catalog common neighbor complaints. Here are some examples of neighbor complaints from around the country which Planning Commission should be aware of before it opens the door to backyard pickleball play in quiet residential areas in Park City:
 - "I live *80 ft.* from...a tennis court that was recently resurfaced [for pickleball]. I can hear clacking in my back bedroom with all the windows down and the air conditioner going. I have an appointment with an attorney...I don't intend to listen to this noise for the rest of my life."

 - "We lived in a quiet neighborhood until the people across the street from us put a pickle ball court in their yard...the court is right by the street. They play for long periods every day and most nights, and they often have friends over who yell and cheer loudly. We can hear it inside our house in all the rooms, not to mention how loud it is in our backyard."

 - "I'm suffering [from] anxiety and depression and the noise is exasperating my system to the point that I need to flee or be a prisoner in my own house."

 - "I am still working and would like to enjoy quiet time on the weekend or evenings and because of the popping of the balls and yelling of the players my quality of life has been affected. I do not want to move but the noise is getting the best of me."

 - "Can you honestly say...YOU know what its like, Waking up to hearing the sound of gunshots/POPS, which never seem to stop, from 8 am every day of the week until dusk *30 feet* away?"

 - "*30 FEET* from your supposed peace and Serenity of your home!!!"

 - "You cannot escape the sound of the noise...There's nowhere in or around the house you cannot hear the ball banging against the paddle, again and again???"

- “Or maybe you invited people over for dinner and you want to be outside enjoying the nice ...weather. Well, do you think you will be able to entertain, when all your guests hear is the POP POP POP of pickleballers?”
 - “It’s only common decency honestly for everyone to have the right to a peaceful sanctuary called home.”
 - “Like the man said, IT’S TORTURE...You tell me what matters more, people playing a game, or the serenity of many many more people in their own home.”
5. While the Staff Report states that “Staff reviewed eight (8) pickleball noise studies conducted by municipalities to evaluate how pickleball courts compared to adopted noise ordinances and what mitigation measures would be most effective”, Staff does not identify six of these eight studies, nor does it include these studies in the agenda packet, nor does it comprehensively summarize them, nor has it made online links available for neighbors to review.
 6. One study which Staff refers to in the Staff Report is the Terravita Pickleball study (agenda packet p. 113). While Staff does not provide a link to the study, I found it and related documentation online at https://eservices.scottsdaleaz.gov/planning/projectsummary/dr_reports/DR_42_DR_1993_3.pdf

I recommend that Commissioners review this study. The situation at Terravita (in Scottsdale, AZ) bears virtually no resemblance to the situation at 1961 Venus Court. Terravita is a country club and the two pickleball courts at issue are in the middle of the club and are surrounded by other club facilities. The courts are apparently a substantial distance from nearby residences. A homeowner opposing the project wrote in an email (p. 83) that the pickleball courts are “100-200 yards [from] many of our homes”. That is 300-600 feet! In fact, the noise abatement proposed in Terravita seemed to be aimed more at reducing the noise between the country club pickleball courts and tennis courts and pool area. The solution proposed for Terravita was to install a 12 foot noise barrier around the courts, which is exactly the same solution which Staff is proposing for 1961 Venus Court. Yet the two situations could not be more different! In Terravita the closest house was apparently 300 feet from the Courts. At 1961 Venus Court the closest house is a two story house at 1911 Little Kate Rd approximately 50 feet from the western edge of the pickleball court. The 12 foot fence proposed by Staff would be ineffective in blocking *any* noise travelling from the point of racquet impact to the second story of the house at 1911 Little Kate Rd because the fence is not high enough.

Nevertheless, the Terravita project should be instructional to the Commission for a different reason. There, the court proponents hired acoustic engineers and spent months and many thousands of dollars to carefully evaluate the noise potentially generated at the actual pickleball site and propose scientifically justified mitigation. At 1961 Venus Court the Applicant has conducted no noise research whatsoever and Staff has simply borrowed research which may or may not be applicable from a completely different situation in Arizona.

7. The second study which Staff refers to is the Morris Dill Courts Study. While Staff does not

provide an internet link to the study, I found a 30 page “technical memorandum” online assessing pickleball noise at the Morris Dill Courts in Pacific Grove, CA

(<https://files.cityofpacificgrove.org/sites/default/files/recreation-board/2019/8-22-2019/recreation-board-8-22-2019-pacific-grove-pickleball-noise-assessment-20190807.pdf>).

The memorandum shows decibel levels of up to 76 dBA at the Morris Dill site, which far exceeds Park City noise limits (see below). I recommend that Commissioners also review this study. I found it impossible based on this memorandum to reach any conclusions regarding likely pickleball noise levels at 1961 Venus Court, or to draw any sensible conclusions about effective abatement in a totally different location.

8. Before approving the subject application, the Planning Commission should require the Applicant an/or Staff to engage an expert acoustic engineer to determine whether the projected noise levels at 1961 Venus Court would exceed City limits and whether an acoustic fence or some other solution would reduce noise levels for affected neighbors to reasonable levels.
9. I have walked around the neighborhoods close by the pickleball courts in the Racquet Club and the Willow Creek courts and spoken to neighbors who have told me they are annoyed and disturbed by pickleball noise and wish the courts were not so close to their homes. Members of the Planning Commission should do the same (after the snow melts) before voting on this application.
10. Based upon the Staff Report and the Findings of Fact set forth in the draft Notice of Planning Commission Action included in the agenda packet there is no evidence that Staff or the Planning Commission has found facts, or analyzed, or concluded on a reasonable basis, that the Applicant has demonstrated that the noise generated by pickleball play at 1961 Venus Court can be satisfactorily mitigated.

Instead, the draft Findings of Fact are totally silent on noise mitigation except in paragraph 15 where the Applicant has agreed to limit the use of the sport court to daylight hours, which are set as 8:00 a.m. to 8:00 p.m. MT. This finding does not address the noise question raised by backyard residential pickleball. There are no other Findings of Fact which address the question of noise.

11. The draft Conditions of Approval (which are not based on any Findings of Fact or other analysis) provide that

“6. The Applicant shall install a twelve foot (12’) tall noise reducing fence around the sports court with a minimum noise reduction coefficient (NRC) of approximately 0.75.”

There is no Finding of Fact which would support this Condition of Approval. The Planning Commission must ask how it was determined that a “twelve foot (12’) tall noise reducing fence around the sports court with a minimum noise reduction coefficient (NRC) of approximately 0.75” will be sufficient to shield the neighbors who live within 100 feet of the court (or closer) from unreasonable noise? Has Applicant, Staff or the Planning Commission consulted a recognized acoustic engineer? Has Applicant or Staff conducted its own noise studies on local courts to determine that the proposed fence will be sufficient to mitigate the noise concern?

12. Based on the conclusions of an expert with whom I have consulted, it seems highly likely that no acoustic fence will actually block pickleball noise from reaching and penetrating the walls of the neighbor at 1911 Little Kate Rd and possibly other immediately proximate neighbors. I discuss this issue further below.

Staff cannot simply make a guess regarding whether a certain height fence with a certain noise reduction coefficient will successfully mitigate the noise created by the proposed court. The reasonable basis for the fence requirement must be supported by credible noise analysis and credible evidence that the proposed noise reduction coefficient is sufficient. There is no evidence in the agenda packet that Applicant or Staff has provided any such information or made such reasonable judgment.

Determinations made by Staff or the Planning Commission which are not supported by factual findings or a reasonable basis are inherently arbitrary and capricious.

13. Furthermore, the draft Conditions of Approval provide that

“4. Within one (1) year of this approval, if the Planning Department receives three (3) noise complaints, then the Applicant will meet with the Planning Commission to review further mitigations.”

This proposed condition fails to meet the standard of review required by Section 15-1-10 of the Code. It is the responsibility of the Planning Commission, based on facts and evidence, to reasonably decide *now* that the noise likely to be generated by the court has been mitigated. It is insufficient for the Commission to say, to the effect that, we don’t know how much noise the court will generate, but if it generates a lot of noise and at least three people complain, we will take another look. Then we will do our job. This is especially the case (as facts set forth in this letter demonstrate) where it is widely known that pickleball courts often generate noise in excess of municipal noise ordinance limits, and neighbors often complain. In fact, it appears that more than three neighbors have already complained as part of this Conditional Use review process about the noise that this court will generate.

- 8. Noise from pickleball play at a distance of 75 ft. has been measured by experts at 80 dBA (decibels) and higher, far exceeding noise limits under Park City ordinances. The Planning Commission should not approve a Use with reasonably anticipated noise levels in excess of Code limits as a Conditional Use.**

The Code provides for *both* maximum permissible sound levels and for determination of annoyance as a metric for noise assessment. Section 6-3-9.A of the Code provides for a limit for stationary sources of sound of 55 dBA (decibels) in residential neighborhoods between the hours of 6:00 a.m. and 10:00 p.m. Peak sound pressure levels from pickleball courts have been measured at a distance of approximately 75 feet at 80 dBA (decibels) and higher, which far exceeds Code limitations.

In addition, Section 6-3-9.C.2 of the Code prohibits "any stationary *source of sound* which emits a pure tone, cyclically varying or repetitive impulsive sound *which creates a noise disturbance*."

A *noise disturbance* is defined in Section 6-3-1 of the Code as "Any sound that *annoys or disturbs* a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose,

health, hearing, peace, or safety of another person(s)".

The American National Standards Institute has set standards for noise assessment in regard to *annoyance* for impulsive sounds. Compliance with these standards is an important element in determining whether a reasonable person is exposed to a noise disturbance.

As part of any Conditional Use review process the Planning Commission must determine now whether the placement of a court at various distances in close proximity to homes would satisfy the noise requirements in Sections 6-3-9.A or 6-3-9.C.2 of the Code or reasonably create a noise nuisance.

9. In addition to potentially violating noise regulations, persistent pickleball noise can be an unhealthy nuisance which should be subject to mitigation as part of the Conditional Use review process.

The Planning Department and Planning Commission should consider whether persistent pickleball noise in close proximity to homes in the SF District is an unhealthy nuisance. There is no evidence in the agenda packet that this question has even been considered by Staff or the Planning Commission. Experts have reported that repetitive impulsive sounds can make it difficult for neighbors to relax, concentrate, or sleep soundly without disturbance and can lead to stress, fatigue, and anxiety. Experts have also reported that excessive and repetitive noise has implications for the human cardiovascular, auditory, limbic, nervous, endocrine and other systems, impacting good health.

I urge the Planning Department and the Planning Commission to carefully and comprehensively inform itself now regarding all of these health concerns and consider how they might be successfully mitigated before approving the Application.

10. Ill-Conceived Pickleball Courts Can Be Nuisances Which Can Lead to Costly Disputes and Litigation

There are numerous cases around the country where failure to carefully plan *in advance* for noise abatement or appropriate site selection for pickleball has resulted in claims of 'nuisance' and zoning violations leading to difficult disputes and, often, expensive and protracted legal action. Simple common sense would teach that these disputes are far more difficult to resolve after a pickleball court has been approved without proper analysis and mitigation. A google search reveals numerous news articles describing disputes and litigation over pickleball noise. Here are some examples:

- In Newport Beach, CA, a resident filed a lawsuit against the City claiming that pickleball played *300 feet* from her home is "so raucous and disturbing that she can't live a normal life". In her suit she claimed that the pickleball playing at a neighboring City park is "so noisy that she can't sleep, talk on the phone or 'simply hold a conversation.'" ***The lawsuit was apparently resolved by the City agreeing to remove the courts.***
- In Port Moody, B.C. neighbors complained that pickleball noise on nearby converted tennis courts subjected them "to an almost-daily barrage of noise disruption." The City Manager admitted that the neighbors' noise complaints "*caught staff off-guard*". The Mayor said,

"Sometimes there are unintended consequences." The City Council ultimately removed the courts.

- In Montecito, CA, a neighbor living next door to a country club sued the club when it installed an extensive sports complex, including two pickleball courts, *without permits*, less than **100 feet** from the neighbor's property. The neighbor alleged in his lawsuit that the unpermitted complex **exceeded setbacks** and that the constant noise and disturbances have destroyed his ability to peacefully enjoy his home and surroundings, and on multiple occasions have forced him to retreat inside to escape the ongoing nuisance and disturbance. He claimed that his viewshed has been ruined, and **the adverse impact of the unpermitted activities on his property value is substantial.**
- In Aiken, SC, residents sued a neighboring club which built pickleball courts about **250 feet** from their home for injunctive relief, as well as damages, costs, expenses and prejudgment interest, claiming that the courts **disrupted their quality of life.**
- In Apple Valley, MN residents complained to the City Council about municipal pickleball courts. One resident was quoted by the news report as having sent the city about 90 emails complaining about the noise. Another resident said, "I'm in a pickle...I play the game, it's good for my body and soul. **But it really is an intrusion in our backyards.**" Another resident said about the impending commencement of pickleball season, **"I'm dreading it."**
- In Ahwatuckee, AZ two HOAs clashed over neighboring pickleball courts. The complaining neighbors said that **"most of the houses [near the courts] have their master bedrooms and living rooms closest to the courts, increasing the disturbance."** They claimed that the courts will create 'noise and light' pollution that **"ultimately will reduce the value of their homes."**

The Planning Commission owes a duty to all of its stakeholders to fully review and mitigate the kinds of circumstances which led to the disputes described above *before* any permit can be approved. The Planning Commission should be certain that the negative impacts of pickleball court siting and play have been optimally mitigated before it approves a use which can materially negatively impact the quiet enjoyment and market value of a neighboring home. I have spoken to several leading realtors in town who estimate that the construction of a loud backyard pickleball court could negatively impact the market value of neighboring homes by up to 20%. Lastly, it should not be forgotten that the site for the court at 1961 Venus Court was chosen and the court was built before any Application was filed, making advance site planning and Conditional Use review in this case extremely problematic.

11. Careful Advance Planning is a Critical Part of the Conditional Use review process.

The inevitable noise and nuisance issues surrounding pickleball courts in residential neighborhoods such as the SF District must be carefully examined and planned for in advance as part of the Conditional Use review process under Section 15-1-10.E.

Lance Willis, PhD, is the Principal Acoustical Engineer at Spendiarian & Willis Acoustics & Noise Control, LLC, in Tucson, AZ. In that capacity, he regularly performs on site acoustical testing,

community noise impact assessment, acoustical site planning, and noise abatement design, often near residential areas. He has worked as a consultant in environmental acoustics and noise control since 2005.

With respect to site planning for pickleball courts and noise concerns, he has advised generally⁵ that

- Court sites within **600 feet** of homes should be reviewed in the site selection and planning phase of the project by a qualified acoustical engineer familiar with methodologies for assessing highly impulsive sounds.
- Courts located within **350 feet** of neighbors' residences will require careful noise abatement analysis.
- Courts should ideally be located **greater than 150 feet** distance from neighbors' residences.
- Courts located **less than 150 feet** of neighbors' residences will have a significant impact on neighbors' quality of life and will require *careful and extensive noise abatement measures* to avoid complaints.
- Courts located within **75 feet** of homes will generate noise from play (even with abatement) which penetrates the interior of homes and prevents quiet enjoyment of living rooms, dining rooms, bedrooms, balconies, patios, and other spaces used for rest, family activities, reading and other activities requiring concentration.

As shown on the google earth image above, numerous homes are located within 100 feet of Applicant's proposed court. **Acceptable noise abatement for courts located so close to the court may be impossible.** Where abatement is shown to be impossible a Conditional Use application must be denied.

12. The Planning Commission must consider available noise abatement strategies, and whether they are likely to be effective, as part of the Conditional Use review process

Available abatement strategies include numerous alternatives, including the following list, but all strategies do not work in all cases and each potential solution (such as a 12 foot high acoustic fence) must be carefully evaluated under the specific circumstances present at the site.

Mitigation

- Mitigation of the sound from pickleball courts is theoretically possible through use of unofficial softer paddles and balls, construction of sound barriers and walls, and construction of court enclosure structures. The Commission should be aware that there *are no other commonly used abatement strategies*.

Unofficial Equipment

- Certain 'unofficial equipment', such as 'softer' paddles and balls, may be employed to reduce noise impacts. But, in practice, players resist using unofficial equipment. Accordingly,

⁵ See Willis, "Why Are Your Pickleball Courts Receiving Complaints from Neighbors?" (<https://www.acousticalnoise.com/news/>)

enforcement of equipment restrictions is virtually *impossible* and ineffective. Who is going to enforce equipment restrictions on a private, backyard pickleball court?

Sound Walls and Acoustic Barriers

- Sound walls and acoustic barriers may work to reduce noise from reaching neighbors' properties. However, to be effective in attenuating sound, a wall or barrier must be high enough to block the line of sight from the noise recipient to the height of paddle impact. There has been no showing in the agenda packet that the proposed 12 foot acoustic fence will shield pickleball noise, for example, from the second story of the homes of immediate neighbors.
- Reports indicate that sound walls often do not eliminate all of the noise, or even sufficiently mitigate the noise levels, which may escape through, around and above the sound wall. Any proposed sound wall solution must be evaluated by a qualified acoustic engineer.
- Sound walls are not practical solutions where land use provisions prohibit the design and/or materials necessary to block the sound or the court site is so close to neighbors that the wall cannot be built high enough to block the sound. Is a 12' high metal and plastic fence even permitted in the SF District and is it a use compatible with the neighborhood? Has Staff or the Planning Commission considered this as part of its Conditional Use review process under Section 15-1-10?

Conclusions

In comparison to other common backyard and recreational activities, the addition of a backyard pickleball court to a densely-settled neighborhood represents a significant challenge to owners, neighbors and planners in terms of zoning compliance and noise management.

This kind of Conditional Use must be carefully planned for. In the case of the proposed court there was no advance planning and the mitigations proposed by Staff are largely make-weights used to explain away the lack of careful planning after the court has actually been built.

Zoning regulations must be scrupulously adhered to or time-consuming and costly litigation is inevitable.

If the setback and other requirements are not adhered to an application must be denied.

If conditional use criteria are not appropriately considered and appropriate mitigation cannot be determined, an application must be denied.

If the court site in a densely-developed residential area is simply too close to homes to successfully abate pickleball noise the application for such use must be denied.

The Planning Department and Planning Commission need to anticipate these issues with solid and comprehensive fact-finding. They must seek out and consider expert opinion on such technically complex issues such as noise impacts and decibel levels. In order to avoid an arbitrary or capricious

decision-making process the Planning Commission must be prepared to justify any decisions approving or disapproving use applications on a factual basis with sound analysis.

Thank you for the opportunity to have provided this letter. I would be happy to answer any questions which you may have at the hearing on this application on Wednesday, January 26, 2021.

Sincerely,



Frode Jensen

cc:

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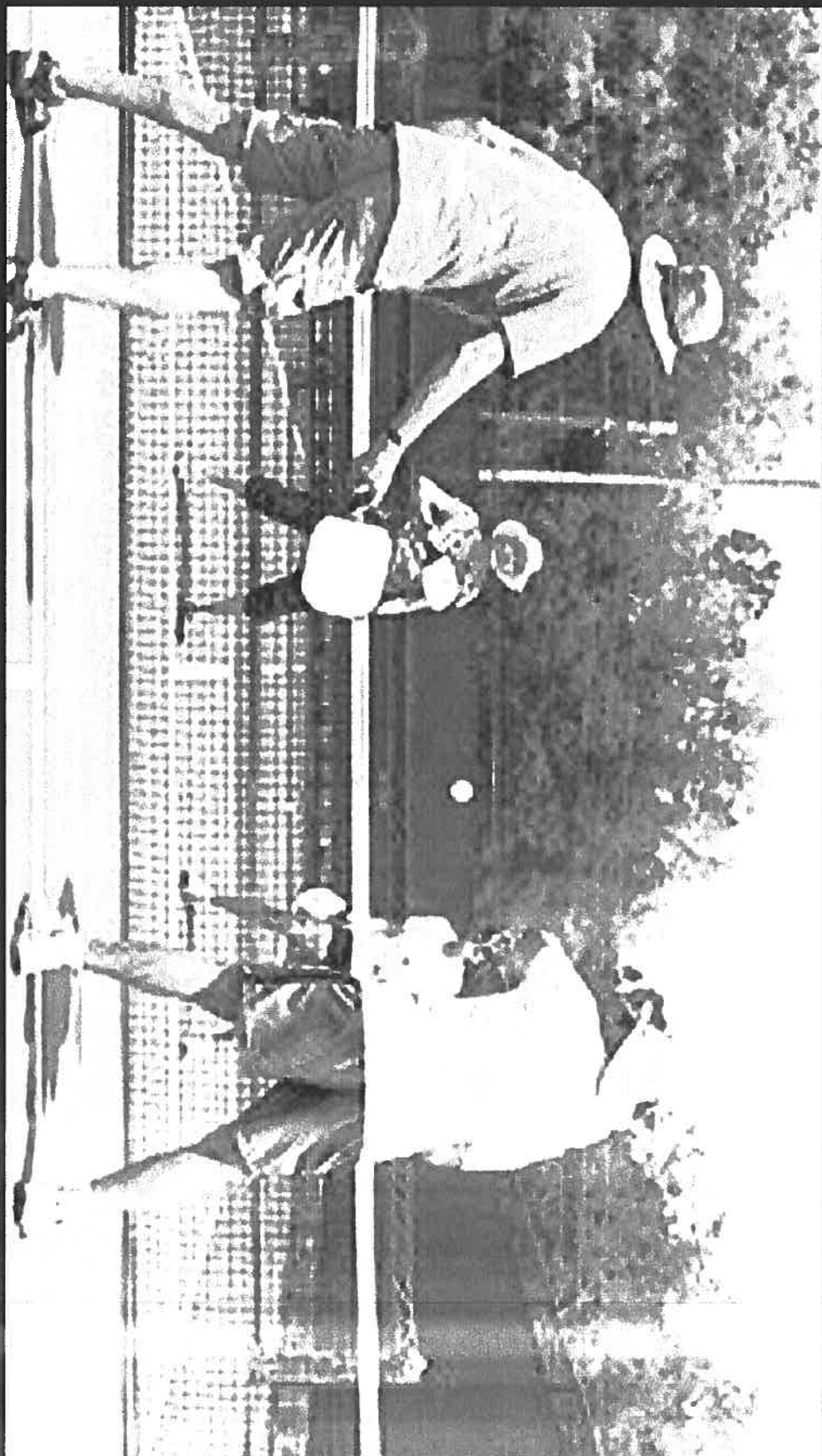
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EXHIBIT C

Permitting Pickleball
in
Park City

It's All About the Noise

Frode Jensen
January 26, 2022



Background

In the process of opposing several applications to build backyard pickleball courts in Park City I have become very familiar with the various issues that outdoor pickleball raises under land use codes and nuisance ordinances around the country.

In comparison to other common backyard and recreational activities, and in terms of zoning compliance and noise management, the addition of a backyard pickleball court to a densely-settled neighborhood represents a significant challenge to owners, neighbors and planners.

This must be carefully planned for.

Background

Zoning regulations and conditional use criteria must be scrupulously adhered to or time-consuming and costly litigation is inevitable.

It may be that the setback and other requirements in some residential zones will simply prohibit some proposed court sites and applications for such uses must be denied.

It may also be that some court sites in residential areas are simply too close to neighbors' homes to successfully abate pickleball noise and applications for such uses must be denied.

The Planning Department and Planning Commission need to anticipate these issues and be prepared to justify any decisions approving or disapproving use applications on a factual and legal basis with sound analysis.

If they do not, expensive and time-consuming litigation will inevitably result.

Background

Among the issues which have and will inevitably arise here in Park City are

- Whether pickleball is an Allowed Use or a Conditional Use under our Code
- Whether backyard pickleball courts must comply with Code- and plat-mandated Setbacks and Easements as a threshold matter before Conditional Use review
- Whether a plat amendment or variance will be required prior to Conditional Use review if threshold requirements are not satisfied
- Whether the Planning Department or the Planning Commission has the authority to modify Setbacks in connection with a Conditional Use review
- How the Planning Department will deal with the requirements under the Code to mitigate the potential adverse effects of the Conditional Use.

Conditional Use Review: Mitigation Issues

In respect of mitigation of adverse impacts in connection with a Conditional Use review, numerous issues arise under the Code, including

- Fencing, screening and landscaping to separate Uses,
- Usable Open Space,
- Lighting,
- Design and compatibility with surrounding Structures,
- Appropriateness to existing topography,
- Consistency with goals and objectives of the General Plan, and
- **Existence and mitigation of *Noise***

Conditional Use Review: Mitigation Issues

The Conditional Use review process specifically requires the Planning Department and/or Planning Commission to consider whether or not the proposed Conditional Use mitigates impacts of and addresses

*“noise, vibration, odors, steam, or other mechanical factors
that might affect people and Property Off-Site”.*

If these issues are not studied carefully in advance of consideration of pickleball applications and fairly resolved when applications are made, disputes and litigation are sure to follow.

Pickleball Noise Impacts

Of all the issues which must be considered and resolved under the Code-mandated review process for Conditional Use applications, perhaps the most difficult is the requirement for conditional use review of noise issues.

- Pickleball play is an extremely noisy activity which has led to noise violation claims and nuisance disputes across the country.
- The Recreation Department staff report provided late last year to Council stated

Tennis is a quiet sport and pickleball is *much noisier* both in the game and the social nature of the sport causing incompatibility with most tennis players.

To say the least.

Pickleball Noise Impacts

Alarming, what the Recreation Department staff report didn't mention is the noise issue which gives rise to the incompatibility of outdoor pickleball play with *anyone* – or, perhaps more accurately, *everyone* -- who lives in close proximity to an outdoor pickleball court.

As part of my effort to understand pickleball noise issues, I have consulted with Dr. Lance Willis, a nationally recognized acoustic engineer who has worked on dozens of pickleball projects across the country and in Canada.

He has been engaged by homeowners, builders, pickleball clubs, site planners and HOAs to assist in precautionary site planning and noise abatement.

Here is what I learned.

Pickleball Play is Noisy and Neighbors Will Complain

There is a common misconception that pickleball is acoustically equivalent to tennis and many other common social and recreational activities.

This is not true. It is much noisier.

The sound produced by the impact of the hard plastic ball on the paddle and the loud enthusiasms of the players cause significant noise impacts on residents and properties near outdoor pickleball courts.

Pickleball Play is Noisy and Neighbors Will Complain

- Numerous anecdotal comments in an online blog about pickleball noise catalog common neighbor complaints.
- Here are some examples on the following pages

Pickleball Play is Noisy and Neighbors Will Compla

- “I live 80 *ft.* from...a tennis court that was recently resurfaced [for pickleball]. I can hear clacking in my back bedroom with all the windows down and the air conditioner going. I have an appointment with an attorney...I don’t intend to listen to this noise for the rest of my life.”
- “We lived in a quiet neighborhood until the people across the street from us put a pickle ball court in their yard...the court is right by the street. They play for long periods every day and most nights, and they often have friends over who yell and cheer loudly. We can hear it inside our house in all the rooms, not to mention how loud it is in our backyard.”
- “I’m suffering [from] anxiety and depression and the noise is exasperating my system to the point that I need to flee or be a prisoner in my own house.”

Pickleball Play is Noisy and Neighbors Will Compla i

- “I am still working and would like to enjoy quiet time on the weekend or evenings and because of the popping of the balls and yelling of the players my quality of life has been affected. I do not want to move but the noise is getting the best of me.”
- “Can you honestly say...YOU know what its like, Waking up to hearing the sound of gunshots/POPS, which never seem to stop, from 8 am every day of the week until dusk *30 feet* away?”
- “*30 FEET* from your supposed peace and Serenity of your home!!!”
- “You cannot escape the sound of the noise... There’s nowhere in or around the house you cannot hear the ball banging against the paddle, again and again???”

Pickleball Play is Noisy and Neighbors Will Compla

- “Or maybe you invited people over for dinner and you want to be outside enjoying the nice ... weather. Well, do you think you will be able to entertain, when all your guests hear is the POP POP POP of pickleballers?”
- “It’s only common decency honestly for everyone to have the right to a peaceful sanctuary called home.”
- “Like the man said, IT’S TORTURE... You tell me what matters more, people playing a game, or the serenity of many many more people in their own home.”

Pickleball Play Can Violate Noise Ordinances

The Park City Code provides for *both* maximum permissible sound levels and for determination of annoyance as a metric for noise assessment.

Section 6-3-9.A of the Park City Code provides for a limit for stationary sources of sound of 55 dBA (decibels) in residential neighborhoods between the hours of 6:00 a.m. and 10:00 p.m.

- Peak sound pressure levels from pickleball courts have been measured at a distance of approximately *75 feet* exceeding 80 dBA (decibels), which far exceeds standard noise ordinance limitations.

In addition, Section 6-3-9.C.2 of the Park City Code prohibits

"any stationary *source of sound* which emits a pure tone, cyclically varying or repetitive impulsive sound *which creates a noise disturbance*."

Pickleball Play Can Violate Noise Ordinances

- A *noise disturbance* is defined in Section 6-3-1 as

Any sound that *annoys or disturbs* a reasonable person(s) with normal sensitivities that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s).

- The American National Standards Institute has set standards for noise assessment in regard to annoyance for impulsive sounds. Compliance with these standards will be an important element in determining whether a reasonable person is exposed to a noise disturbance.
- As part of any Conditional Use review process the Planning Commission will have to determine whether the placement of a court at various distances in close proximity to homes would satisfy the requirements in Sections 6-3-9.A or 6-3-9.C.2 of the Code.

Pickleball Noise is a Health Concern

In addition to violating noise regulations, persistent pickleball noise can be an unhealthy nuisance.

- Repetitive impulsive sounds can make it difficult for neighbors to relax, concentrate, or sleep soundly without disturbance and can lead to stress, fatigue, and anxiety.

I have walked around the neighborhoods close by the courts in the Racquet Club and the Willow Creek courts and spoken to neighbors who have told me they are annoyed and disturbed by pickleball noise and wish the courts were not so close to their homes.

- Experts have reported that excessive and repetitive noise has implications for the human cardiovascular, auditory, limbic, nervous, endocrine and other systems, impacting good health.

In short, the effects of excess noise and stress can take many forms.

I urge the City to carefully and comprehensively inform itself *now* regarding all of these health concerns.

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

There are numerous cases around the country where failure to carefully plan for noise abatement or appropriate site selection for pickleball has resulted in difficult disputes and, often, expensive and protracted legal action.

A simple google search reveals numerous news articles describing disputes and litigation over pickleball noise.

Here are some examples:

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

- In Newport Beach, CA, a resident filed a lawsuit against the City claiming that pickleball played *300 feet* from her home is “so raucous and disturbing that she can’t live a normal life”. In her suit she claimed that the pickleball playing at a neighboring City park is “so noisy that she can’t sleep, talk on the phone or ‘simply hold a conversation.’”

The lawsuit was apparently resolved by the *City agreeing to remove the courts*.

- In Port Moody, B.C. neighbors complained that pickleball noise on nearby converted tennis courts subjected them “to an almost-daily barrage of noise disruption.” The City Manager admitted that the neighbors’ noise complaints “*caught staff off-guard*”.

The Mayor said, “*Sometimes there are unintended consequences*.”

The City Council ultimately removed the courts.

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

- In Montecito, CA, a neighbor living next door to a country club sued the club when it installed an extensive sports complex, including two pickleball courts, *without permits*, less than *100 feet* from the neighbor's property.

The neighbor alleged in his lawsuit that the unpermitted complex *exceeded setbacks* and that the constant noise and disturbances have destroyed his ability to peacefully enjoy his home and surroundings, and that multiple occasions have forced him to retreat inside to escape the ongoing nuisance and disturbance.

He claimed that his viewshed has been ruined, and *the adverse impact of the unpermitted activities on his property value is substantial*.

- In Aiken, SC, residents sued a neighboring club which built pickleball courts about *250 feet* from their home for injunctive relief, as well as damages, costs, expenses and prejudgment interest, claiming that the courts *disrupted their quality of life*.

Ill-Conceived Pickleball Courts Lead to Costly Disputes and Litigation

- In Apple Valley, MN residents, including a resident who lives *20 feet* from the nearest court, complained to the City Council about municipal pickleball courts. One resident was quoted as having sent the city about **90 emails** complaining about the noise.

Another resident said, “I’m in a pickle...I play the game, it’s good for my body and soul. **But it really is an intrusion in our backyards.**”

Another resident said about the impending commencement of pickleball season, **“I’m dreading it.”**

- In Ahwatuckee, AZ two HOAs clashed over neighboring pickleball courts. The complaining neighbor said that *“most of the houses [near the courts] have their master bedrooms and living rooms closest to the courts, increasing the disturbance.”*

They claimed that the courts will create ‘noise and light’ pollution that *“ultimately will reduce the value of their homes.”*

Careful Advance Planning is Critical

The inevitable noise and nuisance issues surrounding outdoor pickleball must be carefully examined and planned for in advance if disputes are to be avoided. With respect to noise concerns, experts advise generally that

- Court sites within **600 feet** of neighbors' homes should be reviewed in the site selection and planning phase of the project by a qualified acoustical engineer familiar with methodologies for assessing highly impulsive sounds.
- Courts located within **350 feet** of residential properties will require careful noise abatement analysis.
- Courts should ideally be located at least **150 feet** distance from residences.
- Courts located within **150 feet** of homes will have a significant impact on neighbors' quality of life and *will require careful and extensive noise abatement measures to avoid complaints.*
- Courts located within **75 feet** of homes will generate noise from play which penetrates the interior of homes and prevents quiet enjoyment of living rooms, dining rooms, bedrooms, balconies, patios, and other spaces used for rest, family activities, reading and other activities requiring concentration.

Acceptable noise abatement for courts located in close proximity to homes may be impossible.

Abatement Strategies

Mitigation of the sound from pickleball courts is theoretically possible through use of unofficial softer paddles and balls, construction of sound barriers and walls, and construction of court enclosure structures.

- *There are no other commonly used abatement strategies.*

Unofficial Equipment

- In practice players resist using unofficial equipment and enforcement of equipment restrictions is virtually *impossible*. This abatement strategy is generally unworkable.

Sound Walls and Acoustic Barriers

- To be effective in attenuating sound, a wall or barrier must be high enough to block the line of sight from the noise recipient to the height of paddle impact.
- Anecdotal reports indicate that even a sound wall does not eliminate all of the noise which may escape through the sound barrier.
- Sound walls are not practical where land use provisions prohibit the design and/or materials necessary to block the sound or the court site is so close to neighbors that the wall cannot be built high enough to block the sound.

Abatement Strategies

Full Enclosures

- If a sound wall will not work for mitigation, a full enclosure will be needed in the form of a building to house the pickleball court. The walls and roof of the building should have no penetrations facing the neighbors.
- Full enclosures present applicants and planning authorities with additional code compliance issues.

Bob Theobald
2810 Holiday Ranch Loop
RoadPark City, Utah 84060
435-714-0301

Date: February 17, 2022

To: Planning Staff and Planning Commissioners

RE: Comments to Code Amendment - Pickleball Courts

As currently written, I am in opposition to the proposed LMC amendment. I believe there are two threshold issues which must be considered and they are of equal importance.

First, the Planning Department's preconception in proposing the Code amendment doesn't hold up. The Director and Staff apparently have a notion that the City is obligated to accommodate a property owner's proposed use when **an attempt** is made to mitigate the adverse impacts even though mitigation is not adequate. Perhaps this incorrect notion is promoted by the legal department's concern for the state statutes that give significant deference to a land owner's property rights over many proposed City restrictions. I contend that the statutes do not give deference to one citizen's desire to conduct noisy activities (which constitute a nuisance) over his (or several) neighbor's right of peaceful and quiet enjoyment of property. Not all land uses can meet the requirements to accommodate these competing rights, even with attempted mitigation. I maintain that backyard pickleball in densely developed residential areas is not a sufficiently mitigatable land use and should be prohibited.

Second, Staff seems to be of the opinion that effective land use legislation results from the level of effort put into internal "dream sessions", community surveys, and open houses. In my mind, these activities mostly serve to accumulate "poundage" in an attempt to satisfy decision-makers with oversight, if any (Planning Commission and Council), and to help justify and rationalize the provisions and measures drafted by Staff. Volume of material that is purported to support a Staff Report does not reflect the necessarily quality of material.

A Planning Commission must digest meaningful analysis, find the underlying facts and reach a reasonable conclusion in order to approve and forward a defensible recommendation. I do not believe Staff has met its burden of comprehensive analysis and the proposed Code amendments should be sent back to Staff for further analysis in line with my and others' questions, comments and concerns.

In addition to the foregoing, I have the following additional concerns:

1. Staff's Judgment.

I question Staff's knowledge of pickleball and judgement on how it should be regulated. Based on information presented to date, it is obvious that Staff does not fully understand the most basic characteristic... the size of the court and the facility required.

Staff quotes the USA Pickleball Association describing the court size as follows:

A pickleball court is 20' x 44' for both singles and doubles. The net is hung at 36" at the ends and hangs 34" in the middle . A non-volley zone extends 7' back from the net on each side, commonly called "the kitchen."

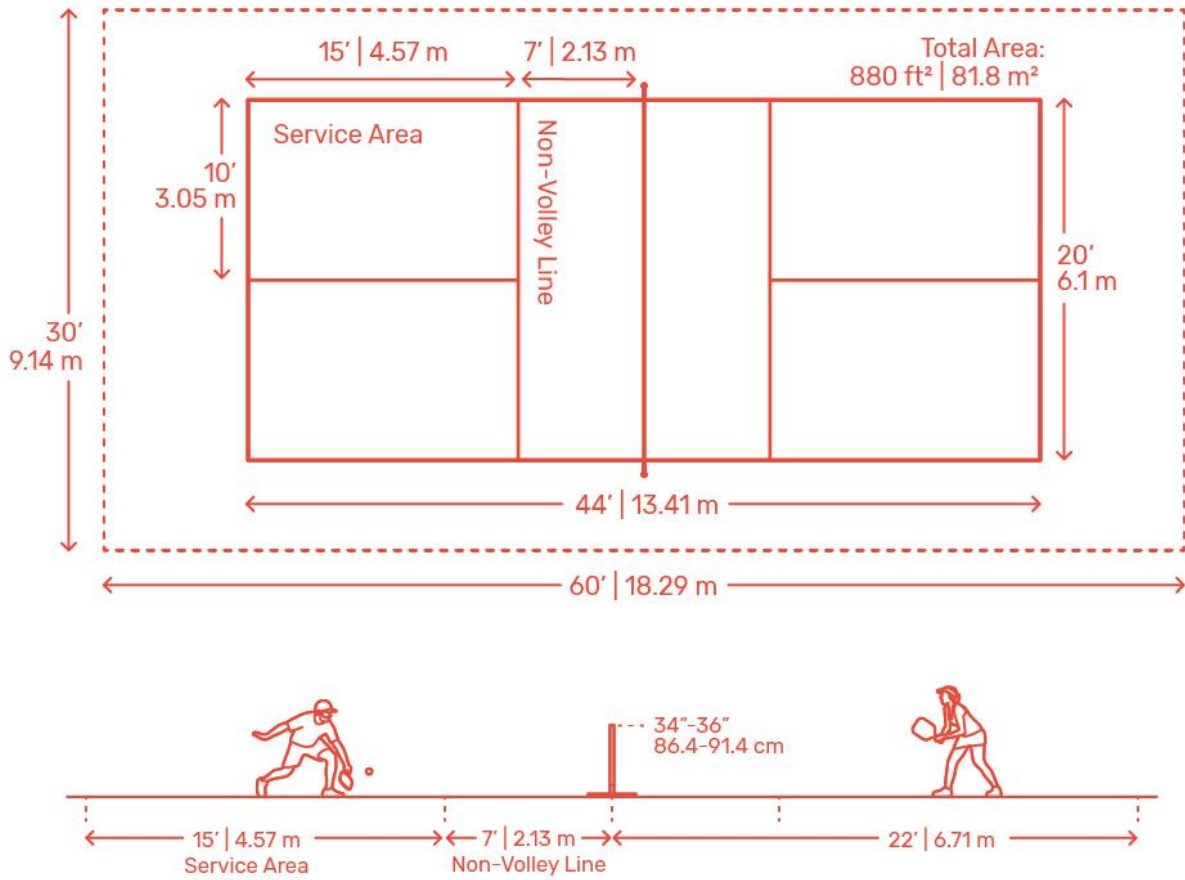
However, Staff fails to acknowledge and disclose that the actual requirement of a regulation, single-court facility requires a concrete pad of at least 30 ft. x 60 ft. which includes the necessary service area, ball-get and safety areas.

The 30' x 60' dimensions do not include the fencing and other incidental elements that may be outside the fenced playing surface that must be disturbed during construction.

This omission of clarification by the planning department is inexcusable.

See images below.

Dimensions.com | Pickleball Court





Furthermore, in connection with the recent Planning Commission CUP hearing on 1961 Venus Court, Staff advised the Applicant to circumvent the current Code by suggesting that the distance relating to a setback be measured from the property boundary lines to the **in-play boundary lines** of 44' x 20' painted on the court. On December 8, 2021, a City planner wrote the Applicant an email, advising:

"First, as you are probably aware, we are requiring Recreation Facilities to adhere to the required 12' side setback...Based on the current configuration of the patio and the dimensions of pickleball courts, it appears that you might be able to paint the sports court on the existing paved surface so that it is at least 12 feet away from the side property line. It would be helpful if you could verify whether that is possible, and potentially submit an additional exhibit showing how the proposed sports court maintains the side setback. "

Apparently, in the planner's mind, this would provide an extra 8 ft. of **effective setback distance** ($60-44=16/2=8$) to achieve "**compliance**". However, I believe the entire area, including that area beyond the in-play boundary lines and any concrete, fencing and ancillary elements should be considered as the "facility".

This notion by the planning department (which I assume is condoned by the Planning Director) is absurd and a prime example of the department's misinterpretation or misapplication of the Code in the pickleball cases which have come before it.

2. Open Houses.

In addition to my concerns about Staff's misunderstanding and/or misrepresentation of the size of a pickleball court, and Staff's improper suggestion to the Applicant regarding Code-avoidance, Staff has conducted on-line open houses to solicit public opinion which I do not believe have been particularly helpful.

As part of the open houses, Staff held breakout sessions with public participation intended to solicit views regarding the proposed Code amendments. One of my neighbors attended two breakout sessions. In the first, another participant used up the entire 10 minute segment (for public input) to question why the City would even regulate residential pickleball. In the second breakout session my neighbor provided his concerns to Staff as he was the only non-city participant. In the one breakout session I attended I listened for most of the 10 minutes to a self-proclaimed sound consultant who modifies shipping containers with various materials to fabricate recording facilities. He suggested that Park City begin a search for products that could be applied to pickleball courts. I responded that the noise issue was such a concern nation-wide, if not world-wide, that major companies had developed the best products on the market and the decibel reductions were widely published. We never discussed the Code amendments.

I believe there were a total of three non-city participants in my breakout session. It's unfortunate that we had to break out because I believe it would be much more informative to hear all those that had beneficial input, if any. It would be interesting to know how many people actually provided input. I have seen nothing to date reflecting the results of the open-house sessions. I would ask Staff to provide the three most significant "suggestions" received.

The Survey

Staff has also made a survey available on the City's website for public input. I believe the survey as worded is of very little use in actually determining public opinion on backyard pickleball. The survey questions are re-stated below in red italic text with my critique and suggested alternate questions that might provide more useful points of view and opinions.

Pickleball Survey

1 - *Do you play pickleball?*

Instead, I would suggest:

- A. Have you ever seen or heard pickleball be played?
- B. If yes, was it from a distance less than 100 feet?
- C. If yes, would you object to hearing a pickleball game played over or through your back yard fence at the whim of your neighbor at any time of day?

2 - *Should outdoor pickleball be allowed outside of daylight hours (approx. 7 AM - 9 PM)?*

Nonsensical, open-ended question... all the specifications must be stated - surrounding neighborhood, lighting, sound mitigation etc.

The better question would be:

Would you object to pickleball being played on a court within 100 feet of your property line during the early morning, late afternoon, and evening or weekend hours?

3 - *Should pickleball courts be allowed on private residential lots?*

To qualify to answer this question, you must have answered **yes** to 1 A, B and C. And, the question must state if the pickleball lot is adjacent or 100 feet or 600 feet from your property.

The better question might be:

Assume pickleball play creates noise impacts in excess of 55dBA within 100 feet (daytime limit for noise in Park City). Are you in favor of permitting pickleball within 100 feet of neighbors' houses? (It is understood that few people know precisely what 55dBA sounds like in comparison to other sound-generating activities.)

4 - *Should properties within a Homeowner Association (HOA) obtain HOA approval before applying for a City permit to construct a pickleball court?*

Yes, but how does this question assist Staff in drafting and adoption of the City's Code amendment?

Some HOAs are disingenuous, do not comply with their own CC&Rs, and disregard City ordinances. I am aware of a subdivision HOA which consists of 6 lot owners. According to the HOA president, all lot owners voted unanimously to **approve a pickleball court** within 5 feet of the owner's property line, outside the platted "Limits of Disturbance Area" within a "Natural Area", on a platted drainage easement without reviewing a site plan or conducting a site visit or maintaining a record of the proceedings. The veracity of the HOA must first be verified before it has any credibility of its reported approvals.

In subdivisions with or without a credible or functioning HOA, the Applicant, after providing a mandatory certified Noise Report to all neighbors, must obtain the written acknowledgement and approval of all neighbors within 300 feet.

5 - The proposed amendments require notice to adjacent property owners when a pickleball court is proposed to be constructed. Should notice be extended beyond adjacent property owners?

Yes. The notice should be extended City-wide so any resident could have the opportunity to review the planning and building department's objectivity, judgement and veracity dealing with each application.

6 Any additional comments on pickleball you would like to share?

Yes, all Planning Staff should be required to enroll in a Critical Thinking class.

To my mind, the City's Code amendment proposal fails to pass the "Critical Thinking" test. In 1987 the National Council for Excellence in Critical Thinking defined "critical thinking" as follows:

Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.

1 Pinpoint the issue...

- 2 *Collect information...*
- 3 *Examine and scrutinize...*
- 4 *Decide what's relevant. ...*
- 5 *Self-evaluate....*
- 6 *Draw conclusions...*
- 7 *Explain your conclusions.*

Considering the open-house sessions, the questions posed in the survey, and having not engaged an acoustical engineer, it appears that Staff has not completed the second task of collecting meaningful information necessary for critical thinking regarding the real impacts of pickleball and the effective measures necessary to mitigate the noise to a decibel level acceptable to adjoining neighbors. Guestimates now and 3 complaints in a year with no recourse or remedy available is not acceptable code provisions. Otherwise, all subsequent evaluations and conclusions have little credibility.

3. The Noise Factor.

The primary consideration of the impacts of any back yard (or community) pickleball facility is the noise...the physical impact of the sound vibrations against the ear drums of others. In my opinion, hearing and smell are the most sensitive senses. I suppose it's because sound and smell permeate many barriers and travel relatively long distances. Within 100 feet of my home, I think the incessant pop-pop-pop sound of a pickleball court would be favored only slightly more than the smell of a broken main sewer line.

For 7 months, since July 6, I have been unnecessarily forced to view a partially constructed, unpermitted pickleball court. The court is located less than 5 feet from the owner's property line, less than 15 feet from my property line and less than 75 feet from my home. Without a single pop of ball, severe impacts to me have already begun. According to my real estate and appraiser associates, the value of my home has been reduced by 20-30% with the **uncertainty of** what might be built. What if I needed to sell my property or apply for a loan immediately? Why must I suffer the consequences of my neighbor's enjoyment of a nuisance? A home neighboring a pickleball court may have "external obsolescence"... where no one will buy it anywhere near market value! This is not an inconsequential impact! How does the City measure and consider this impact?

It would be wise for the City to engage a real estate appraiser to conduct a forensic appraisal detailing the impacts of a "private recreation facility" in a neighbor's back yard. The "external obsolescence" methodology is similar to that for evaluation of power lines, substations, traffic/street noise and other situations commonly found in eminent domain cases. One appraiser to whom I have spoken ventures an average for these situations of 17 to 25% devaluation of comparable value. He has successfully argued valuations before a State's Supreme Court as well as the U.S. Supreme Court. (Name and appraisal firm provided upon request.) This endeavor could be accomplished in conjunction with an expert noise consultant to determine the expected noise levels.

Based on my experience, my lay-person advice to neighbors of any proposed "Recreation Facility" that includes the **potential** for a pickleball court is to prepare for a potential major adverse economic impact to the value of their home, **and** consult with an attorney regarding filing a complaint immediately upon receiving *constructive or actual notice* that an application has been submitted.

I am aware that Lance Willis, a PhD and acoustical engineer, prepared a report regarding the proposed court in Willow Ranch adjacent to my and my neighbor's back yards. The expected decibel levels cited by Dr. Willis are greater than the studies cited by the City. A 12-foot sound wall has little, or no, noise mitigation to the second floor windows of nearby homes. Dr. Willis' report has been made available to numerous City officials. Hopefully it has been circulated and read by all the planners and decision makers.

In the same vein of considering adverse economic impacts, the City should consult with its insurance carrier or self-insurance "pool" attorneys regarding the likelihood of legal actions that may arise in the event Staff or Planning Commission does not diligently conduct appropriate research and adopt Code amendments that consider the rights of many residents of a neighborhood as opposed to the one pickleball Applicant who may think his rights supersede all others. There are many legal cases raising this issue which can be found and reviewed on the internet.

Noise impacts can be measured very accurately with several variables and nuances... neighbors deserve to know more precisely what to expect. It should be a requirement to know the expected level of compliance of any proposed court with the existing Code noise limits of 55 decibels. Is the current maximum of 55 decibels the correct standard for any Code provision?

Before any Code amendment is adopted regarding pickleball, the City **MUST** engage its own expert noise consultant for all proposed courts. And, as part of the proposed Code amendment for private recreation facilities which include a pickleball court (or has a concrete pad with dimensions of approximating 30 x 60 feet), I suggest language similar to the following:

*Residential "backyard" Pickleball applications shall be accompanied by a certified report by an acoustical engineer (noise expert) detailing the expected noise levels measured in decibels within 300 feet at intervals of 50 feet from the edge of the applicant's property boundary. This **mandatory noise impact analysis** shall be submitted to the City as part of the Applicant's package **and** submitted to all residents within 300 feet of the applicant at least 10 days prior to any public hearing by the Planning Commission and/or City Council. "*

In addition, before any Code amendment is adopted, all staff and decision-makers should be required to read or work 100 feet from a pickleball court with 6 players (2 play-in participants) for an hour. The test is not to determine if one can take the noise for an hour (big gold medal for you), but to assist in determining if any residents should be subjected to this noise at any time of day for potentially 8-12 hours a day, 7 days a week, for the enjoyment of your neighbor, their friends, family, kids, grandkids and more?

Exactly, where is the boundary of the rights of private enjoyment (peace and quiet) in one's own back yard versus a neighbor's noisy recreation? Is one not entitled to meditate, perform yoga, tend to gardens, read a book or just take a late-afternoon nap in the shade in your own back yard deck without the aggravating sounds of POP-POP-POP and the attendant YEA-YEA-YEA of the neighbor's pickleball "recreation facility?"

Is it permissible to setup outdoor speakers or play live mariachis, bongos, heavy metal or soothing "screeching" (beginning violin) music at a level significantly greater than 55 decibels, perhaps all day long and into the early evening? The most popular time for any outdoor back yard activity, especially in the hot summer, is between 8-10 am and 4-9 pm. Why should one resident be able to destroy this most enjoyable time of day for many other neighbors?

4. The Upshot.

Unfortunately, based on all of the foregoing, it would appear that pickleball is one sport that must be confined to indoor facilities or in currently active, noisy or

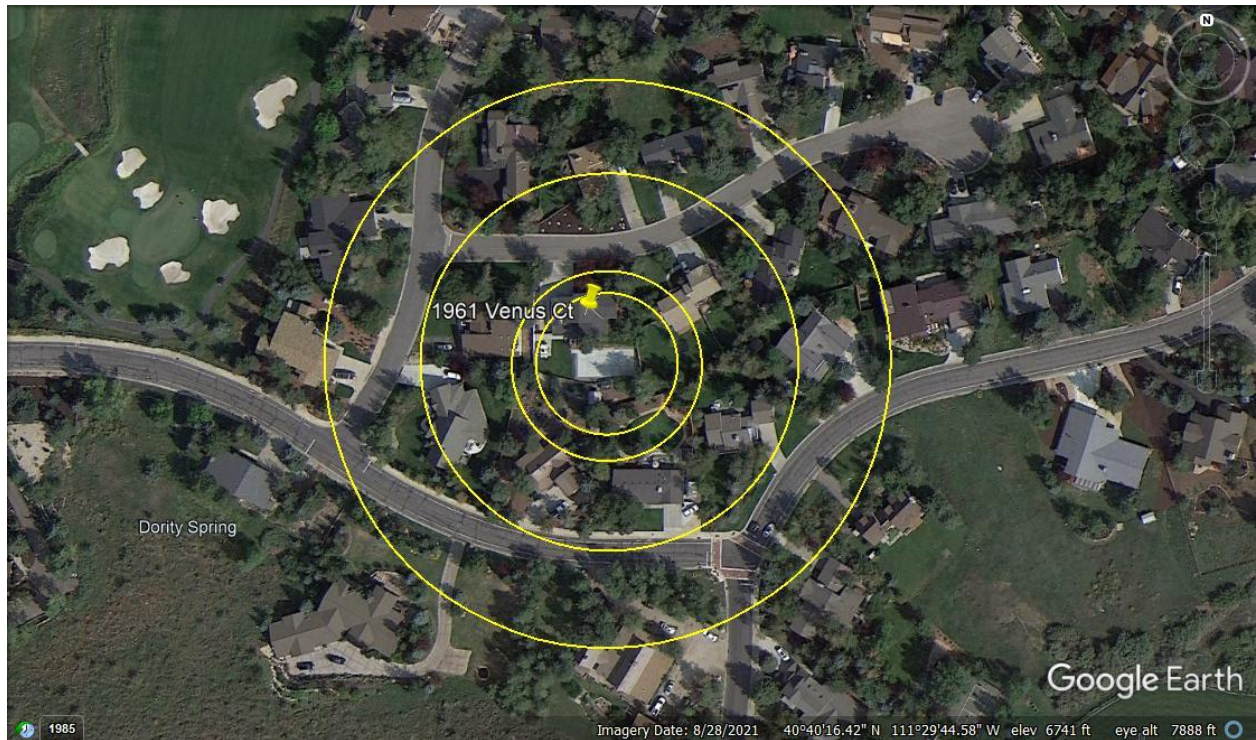
isolated areas. There are local, public and private facilities (perhaps insufficient) that are available for pickleball play. Why not a new complex at Richardson Flat or other City-owned land.

Otherwise, residential pickleball courts --- RIP.

Thank you for your consideration.

Bob Theobald

PS - I would like to see a Staff drawing (retrofit or new site plan) of a 30 ft. x 60 ft. pickleball court on a one-acre lot with 100 ft. side and rear setbacks which includes a 4,000 sq. ft. house with a 28 foot height limit...



Measured from center of court, circles are approximately 75', 100', 200' and 300'.



View of the previously proposed Willow Ranch pickleball court subject to the Willis Noise Report

PUBLIC HEARING

PROPERTY ADDRESS:	Primarily Residential Zoning Districts
PERMIT #:	PL-21-05062
APPLICATION:	Land Management Code Amendments - Pickleball Courts
REVIEW AUTHORITY:	Planning Commission and City Council
HEARING DATE:	Planning Commission: 2/23/2022, 5:30 PM; City Council: 3/3/2022, 6:00 PM
LOCATION:	www.parkcity.org/public-meetings
PROJECT DESCRIPTION:	Amendments to Land Management Code Section 15-15-1, and enacting a new section 15-4-22, are proposed for pickleball court land use regulation in residential Zoning Districts to mitigate pickleball court impacts. We want to hear from you! Attend a virtual open house on February 7 at 5:00 PM or February 8 at 12:30 PM and complete our survey on www.engageparkcity.org by February 16, 2022. For more information, visit www.parkcity.org
PROJECT PLANNER:	Browne Sebright browne.sebright@parkcity.org 435-615-5063



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APPLICATION:	Land Management Code Amendments - Potentially Courts
REVIEW AUTHORITY:	Planning Commission and City Council
HEARING DATE:	Planning Commission: 2/3/2022 5:30 PM City Council: 3/5/2022 6:00 PM
LOCATION:	www.parkcity.org/public-meetings
PROJECT DESCRIPTION:	Amendments to Land Management Code Section 15-15-1, and creating a new section 15-6-22, are proposed for potential court land-use regulation in residential Zoning Districts to mitigate potential court impacts. We want to hear from you! Attend a virtual open house on February 1 at 1-5:00 PM. https://www.parkcity.org/land-use-regulation or February 3 at 11:30 PM and complete our survey on www.engageparkcity.org . By February 18, 2022. For more information, visit www.parkcity.org .
PROJECT PLANNER:	Bryanne Selznig bryanne_selznig@parkcity.org 801.611.5003
For further information, please contact the Project Planner or visit the Planning Department at 445 Main Street, Park City, UT	

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Noise Survey:

Pickleball Courts at Abrego Drive

Prepared for:

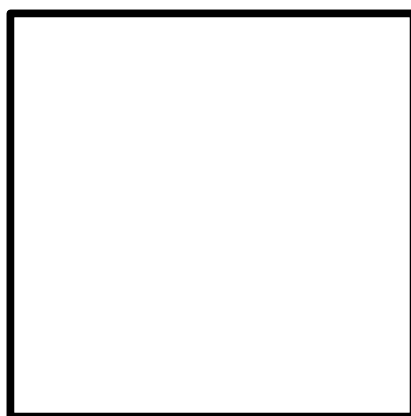
Green Valley Recreation, Inc.

1070 S Calle de Las Casitas

Green Valley, AZ 85614

Project Manager

Guy Sundvik, Facilities Director



Lance Willis, PhD

Thomas Spendiarian, B. Arch, RA

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R. 0, October 15, 2014

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1. Overview

1.1 Summary

The impact of the proposed pickleball courts on neighboring residences on Abrego Drive has been assessed using ANSI S12.9 Parts 4 and 5. Recommendations are made for abatement treatments to minimize the impact on surrounding residences.

Three, five, and seven court options were analyzed. The three and five court options were found to be feasible with appropriate abatement treatments. The seven court option is not recommended for this site.

2. Land Use Compatibility Analysis

2.1 Methodology

Land use compatibility has been analyzed using the methodology in ANSI S12.9 Parts 4 and 5. This procedure isolates the impact sound of the pickleball paddles and applies adjustments to account for the increased community impact of the highly impulsive nature of the sound and the fact that residents are generally home during the times when the activity occurs.

Because the impact sound of the paddles can not be represented accurately with an averaged sound pressure level (LAeq) measurement, the A-weighted sound exposure level (ASEL) is used instead. This quantity includes only the impulsive sound and is a function of both the average acoustic pressure of the impulse and its duration.

Acoustical measurements have not been carried out for this site since it is undeveloped and the final court configuration was not known beforehand. The sound power for the pickleball paddles measured at the existing Canoa Ranch courts has been used instead.

Part 4 of the standard calls for a 12 dB adjustment to the ASEL for highly impulsive sounds such as impacts. In addition, Part 4 includes a 5 dB adjustment for weekend activities that occur when residents are generally home. Due to the characteristic lifestyle of a retirement community, this adjustment has been included as well for a total adjustment of 17 dB.

Part 5 of the standard recommends a maximum 55 dB DNL, or in this case impulse adjusted LAeq since the courts will operate during daytime hours, at adjacent residential property lines during the hours of operation of the pickleball courts.

2.2 Abatement Options

Court layouts with three, five, and seven courts were analyzed. Due to the close proximity of homes, sound walls are recommended for all cases. Since the walls cannot cross the east property line to join the existing wall enclosing the water maintenance yard, sound absorbing panels will need to be installed on the existing water maintenance yard wall at the north and south ends of the pickleball courts screen wall to control reflections from the water maintenance yard wall.

Splaying the proposed screen walls at the north and south ends is recommended to avoid parallel reflecting surfaces in the direction of play where most of the sound goes. By constructing the end walls at oblique angles to each other, the need for absorbing panels on the end walls can be avoided.

Brief summaries of the court layouts analyzed and abatement strategies are given below. Detailed recommendations are listed in the chapter covering recommendations.

2.2.1 7 Court Configuration

This layout is not recommended. The two courts on the north end are too close to the property line for a practical wall system to reduce the sound pressure level to 55 dBA.

2.2.2 5 Court Configuration

A 5 court layout is feasible if the courts are enclosed by a sound wall on the north, west, and south sides. The wall height will need to be 10 feet above the playing surface bordering the two north courts and 8 feet above for the remaining run.

Sound absorbing panels will need to be installed on the existing water maintenance yard wall at the north and south ends of the pickleball courts area to control reflections at the screen wall ends. From the closest point on the existing wall to the end of the screen wall, the absorbing panels should run 30 feet to the interior and 10 feet to the exterior of the courts along the existing wall.

2.2.3 3 Court Configuration

A 3 court layout is also feasible if the courts are enclosed by a sound wall on the north, west, and south sides. The wall height will need to be 8 feet above the playing surface on all sides.

Sound absorbing panels will need to be installed on the existing water maintenance yard wall at the north and south ends of the pickleball courts area to control reflections at the screen wall ends. From the closest point on the existing wall to the end of the screen wall, the absorbing panels should run 20 feet to the interior and 10 feet to the exterior of the courts along the existing wall.

2.3 Spectral Response of Pickleball and Paddle Impact Noise

The sound power spectrum of the pickleball and paddle impact has two basic shapes depending on how the ball is hit. Figure 2.1 and Figure 2.2 show the power spectra of a 'sharp' hit and a 'dull' hit. The curves are not calibrated for absolute level, but can be compared relatively.

The sharp hit spectrum shows a characteristic tonal signature. The frequency of the peak was seen to vary between roughly 1,000 and 2,000 Hz. The energy in the dull hit is more spread out, but still peaks between 1,000 and 2,000 Hz. The most audible frequencies are therefore also in this range. The lower frequency components contribute less to the perception of loudness as the ear is less sensitive to these frequencies.

A sound wall design will require effective attenuation at 1,000 Hz and above.

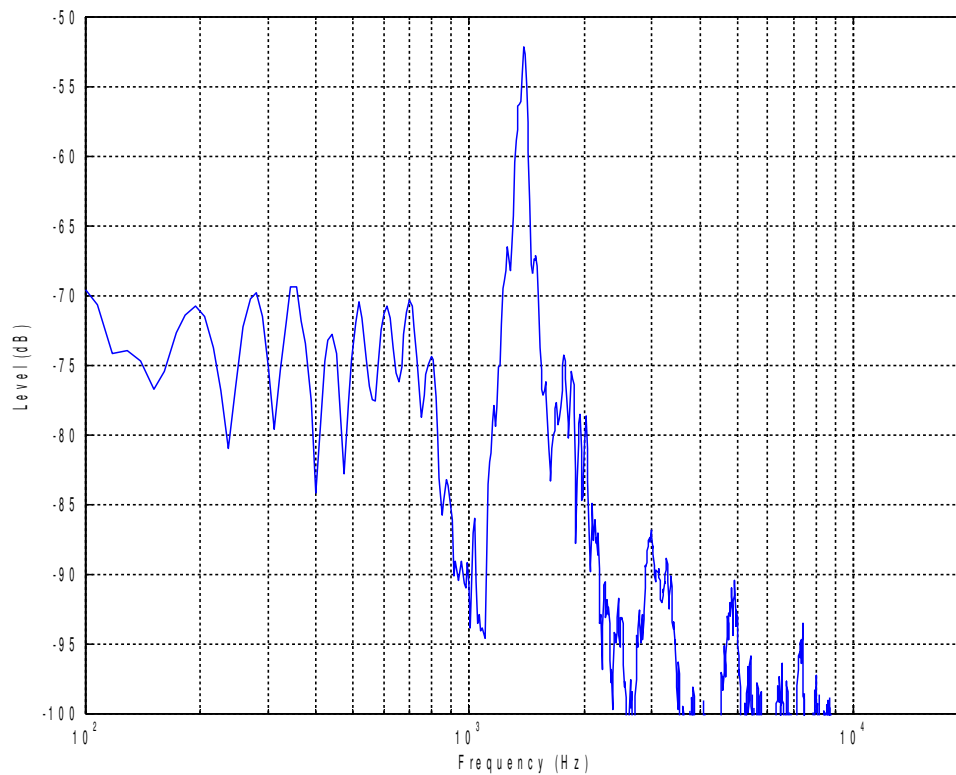


Figure 2.1. Spectral Response of a Sharp Hit

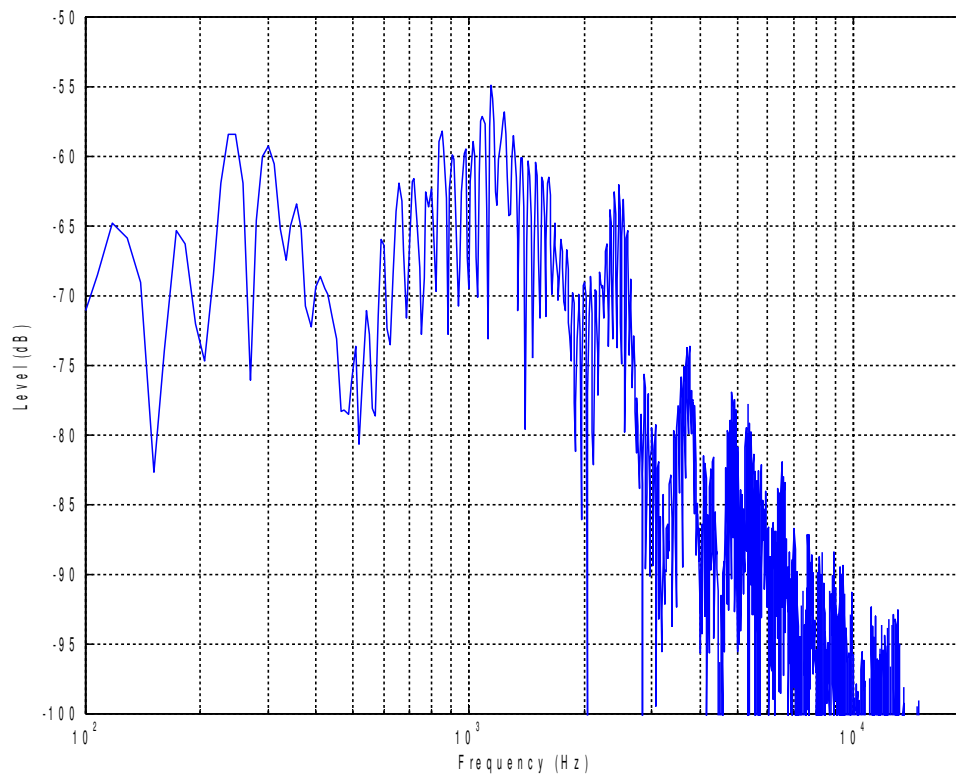


Figure 2.2. Spectral Response of a Dull Hit

3. Conclusions and Recommendations

3.1 Recommendations for Pickleball Courts Operation

Sound radiated from a pickleball paddle is directional with a bipolar directivity pattern, i.e. a figure 8 pattern. The analysis here has been carried out with the direction of play of the proposed courts being parallel to Abrego Drive.

Operation during nighttime hours is not recommended.

3.2 General Recommendations for Sound Wall Configuration

3.2.1 Wall Construction

The surface density of the sound wall should be at least 3.0 lb / ft². Due to the short acoustic wavelengths created by pickleball paddles, a greater density is not required to achieve sufficient transmission loss through the sound wall. Perforation of the wall should be limited to 1%.

3.2.2 Sound Absorbing Panels

Sound absorbing panels should have a minimum absorption coefficient of 0.9 in the 1 and 2 kHz octave bands. NRC 0.90 is also acceptable. Outdoor absorption products such as Rockwool and QuietPerf panels will meet these requirements.

There should be no gaps between panels.

3.3 Recommended Abatement Treatments

The dimensions in the figures below are approximate. The critical dimensions are the height of the sound wall and the locations of the end points. The drawings have been prepared by the project architect, Scott Rumel, RA. Additional drawing notes are indicated by red squares.

3.3.1 7 Court Configuration

This layout is not recommended. The two courts on the north end are too close to the property line for a practical wall system to reduce the sound pressure level to 55 dBA.

3.3.2 5 Court Configuration

A 5 court layout is feasible if the courts are enclosed by a sound wall on the north, west, and south as shown in Figure 3.1, key notes 12, 13, and 15. The wall will need to be 10 feet above

the playing surface bordering the two north courts (key note 13) and 8 feet above for the remaining runs (key notes 12 and 15). Parallel surfaces should be avoided where possible to maintain the performance of the sound wall.

Sound absorbing panels will need to be installed on the existing water maintenance yard wall at the north and south ends of the pickleball courts area to control reflections at the screen wall ends. From the closest point on the existing wall to the end of the screen wall, the absorbing panels should run 30 feet to the interior and 10 feet to the exterior of the courts along the existing wall (see Figure 3.1, key note 14). Since the north end of the screen wall is close to the end of the water maintenance yard, the absorbing panels should run to the end of the existing wall.

Panels are typically available in four foot high sections. These should be hung two feet above the playing surface so that the top of the panel reaches at least six feet above the playing surface.

3.3.3 3 Court Configuration

A 3 court layout is also feasible if the courts are enclosed by a sound wall on the north, west, and south sides as shown in Figure 3.2, key notes 8 and 12. The wall will need to be 8 feet above the playing surface for all runs. Parallel surfaces should be avoided where possible to maintain the performance of the sound wall.

Sound absorbing panels will need to be installed on the existing water maintenance yard wall at the north and south ends of the pickleball courts area to control reflections at the screen wall ends. From the closest point on the existing wall to the end of the screen wall, the absorbing panels should run 20 feet to the interior and 10 feet to the exterior of the courts along the existing wall (see Figure 3.2, key note 13).

Panels are typically available in four foot high sections. These should be hung two feet above the playing surface so that the top of the panel reaches at least six feet above the playing surface.

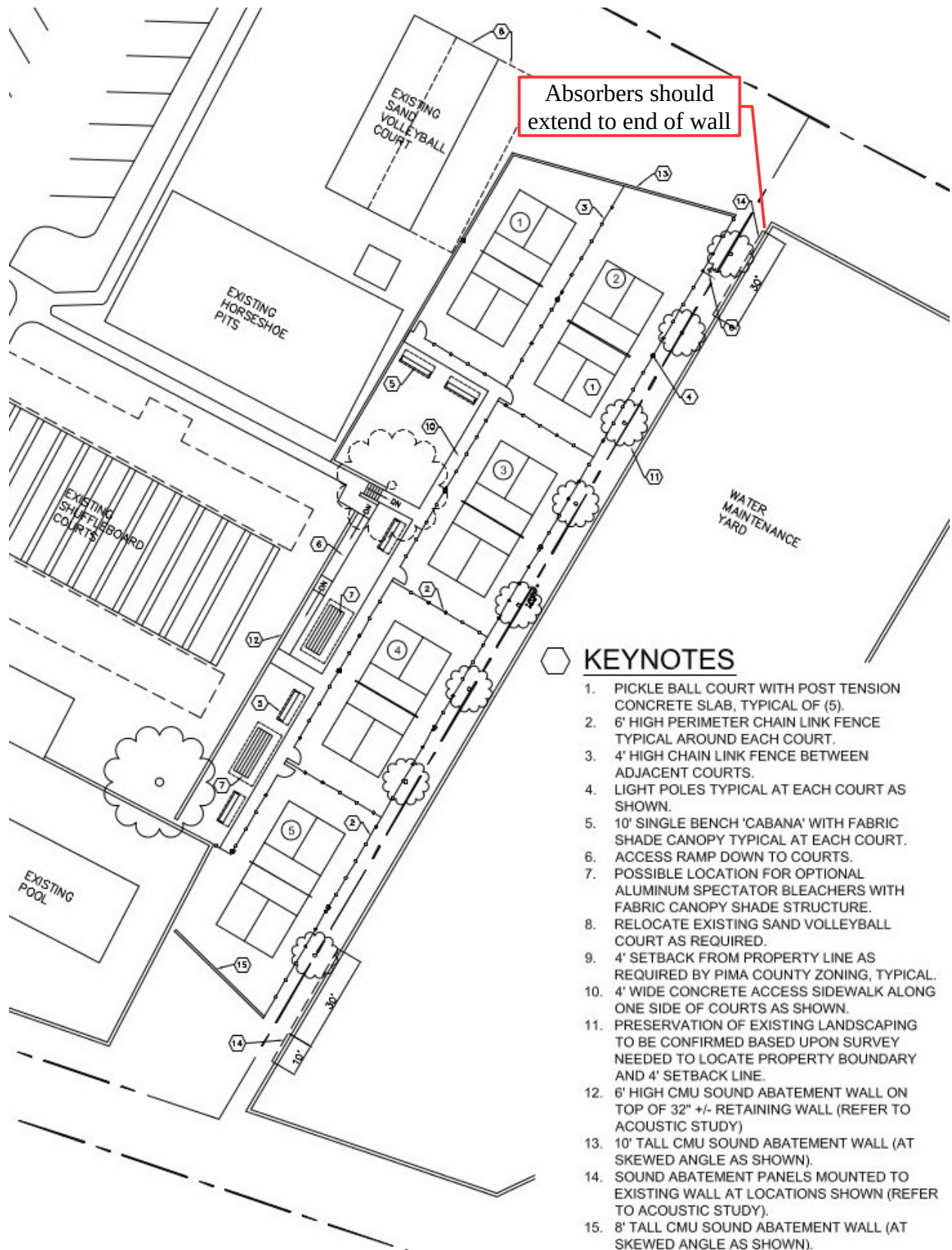


Figure 3.1. 5 Court Configuration

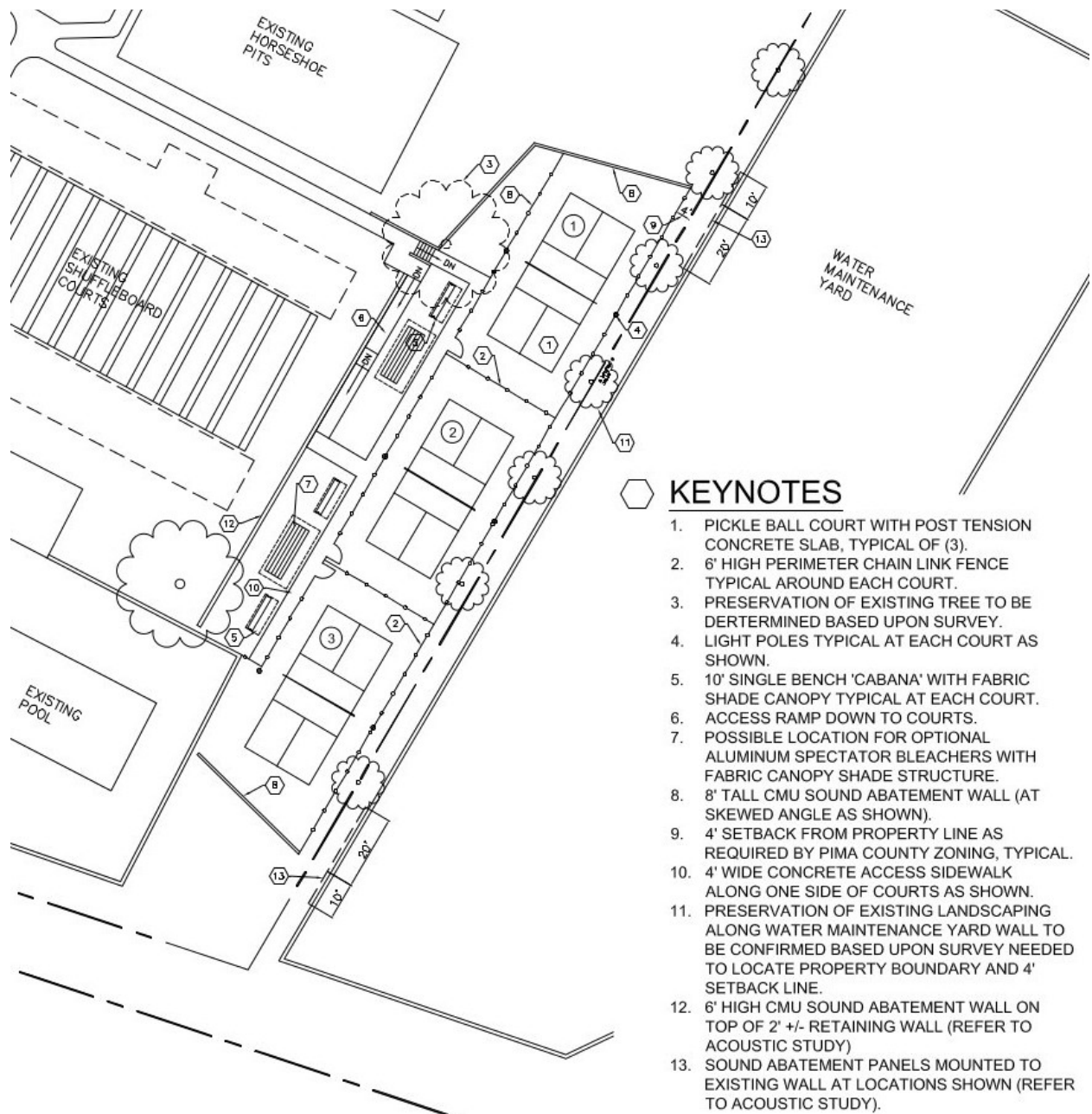


Figure 3.2. 3 Court Configuration

3.4 Compliance with Pima County Code

Pima County does not provide an objective standard for noise compliance. The sound pressure level recommendations presented here are based on ANSI S12.9 "Quantities and Procedures for Description and Measurement of Environmental Sound, Part 5: Sound Level Descriptors for

Determination of Compatible Land Use.” This is a national standard for long term community noise impact and land use compatibility.

Appendix

A1. Glossary of Acoustical Terms and Abbreviations

A1.1 Abbreviations

AI: articulation index

ASEL: A-weighted sound exposure level

ASTC: apparent sound transmission class

dB: decibel

DNL: day - night level

FSTC: field sound transmission class

Hz: Hertz

IIC: impact insulation class

kHz: kilohertz

L_{eq} , LA_{eq} , LC_{eq} : equivalent sound pressure level

NC: noise criteria

NIC: noise isolation class

NIPTS: noise induced permanent threshold shift

NR: noise reduction

Pa: Pascal

POE: probable occupant evaluation (see room criteria)

PTS: permanent threshold shift

PWL: sound power level

QAI: quality assessment index (see room criteria)

RC: room criteria

RT_{60} : reverberation time

SEL: sound exposure level

SII: speech interference index

SIL: speech interference level

SLM: sound level meter

SPI: speech privacy index

SPL: sound pressure level

STI: speech transmission index

TTS: temporary threshold shift

A1.2 Terms

A-weighting: see frequency weighting

absorption coefficient: see sound absorption coefficient

acoustical coupler: a cavity of predetermined shape and volume used for the calibration of earphones or microphones in conjunction with a calibrated microphone adapted to measure the sound pressure developed within the cavity

anechoic room: a room whose boundaries absorb practically all of the sound incident thereon, thereby providing essentially freefield conditions

articulation index (AI): a number (ranging from 0 to 1) which is a measure of the intelligibility of speech- the higher the number the greater the intelligibility. This metric has been replaced by the Speech Intelligibility Index (SII) defined in ANSI S3.5.

average sound level: see equivalent continuous sound level

background noise: the total noise from all sound sources other than a particular sound that is of interest

band: a subsection of the frequency spectrum

C-weighting: see frequency weighting

coupler: see acoustical coupler

day-night level (DNL): the 24 hour equivalent (average) A-weighted sound pressure level. A 10 dBA penalty is incurred between the hours of 10:00 PM and 7:00 AM. The DNL system has been adopted by the U.S. Department of Housing and Urban Development, the Department of Defense, and the Federal Aviation Administration.

decibel (dB): a unit of level which denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the common logarithm (base 10) of this ratio.

diffuse field: a sound field which has statistically uniform energy density and in which the directions of propagation of the sound waves are randomly distributed. In a practical sense, the sound pressure levels at all points in the room are nearly the same except near the room

boundaries and a sound wave reaching a given point in the room is equally likely to arrive from all directions.

direct sound: sound which reaches a given location in a direct line from the source without any reflections.

equivalent continuous sound level (L_{eq}): the level of steady sound which, in a stated time period and at a stated location, has the same sound energy as the time varying sound. If frequency weighting is applied, the equivalent continuous sound level may be designated LA_{eq} to indicate A-weighting or LC_{eq} to indicate C-weighting, etc. See also frequency weighting.

field sound transmission class (FSTC): a single number rating similar to sound transmission class (STC), except that the transmission loss values used to derive this class are measured in the field. FSTC ratings are typically lower than STC ratings which are measured under laboratory conditions.

flanking path: A wall or floor/ceiling construction that permits sound to be transmitted along its surface; or any opening, which permits the direct transmission of sound through the air.

freefield: a sound field in which the boundaries have negligible effect over the frequency range of interest.

frequency: the number of times that a waveform repeats itself in a given period of time, usually one second, i.e. the number of cycles per second). Unit: Hz.

frequency weighting: a prescribed frequency dependent attenuation or amplification applied to measured sound data usually intended to better approximate the sensation of loudness in a human listener. For example, A, B, and C weighting approximate the frequency dependent shape of the equal loudness contours for soft, moderate, and loud sounds.

Hertz (Hz): unit of frequency, cycles per second.

impact insulation class (IIC): a single number metric used to compare the effectiveness of floor-ceiling assemblies in providing reduction of impact-generated sounds such as footsteps. This rating is derived from values of normalized impact sound pressure levels in accordance with ASTM E492.

insertion loss: the reduction in sound level at the location of the receiver when a noise reduction measure such as a barrier, attenuator, muffler, etc. is inserted into the transmission path between the source and receiver. Unit: dB.

level: the logarithm of the ratio of a given quantity to the reference quantity of the same kind. Levels represent physical quantities such as sound pressure on a logarithmic scale and are therefore expressed in decibels. Unit: dB.

loudness: that attribute of auditory sensation in terms of which sounds may be ordered on a scale extending from soft to loud. Unit: sone.

masking: the process by which the threshold of hearing for one sound is raised by the presence of another sound.

noise criteria (NC): a single number criteria for the HVAC or mechanical noise level in a room derived from measured octave band data. The octave bands are weighted to de-emphasize low frequencies because the human ear is least sensitive to these frequencies. This metric is not valid for outdoor measurements.

noise induced permanent threshold shift (NIPTS): the permanent hearing loss resulting from noise exposure.

noise isolation class (NIC): a single number rating derived from measured values of noise reduction between two enclosed spaces that are connected by one or more paths. This rating is not adjusted or normalized to a standard reverberation time.

noise reduction (NR): the difference in sound pressure level between any two points along the path of sound propagation, e.g. the difference in level between the interior and exterior of a building where the sound level inside is due only to exterior noise.

octave: the frequency interval between two tones whose frequency ratio is 2.

omnidirectional microphone: a microphone whose response is independent of the direction of the incident sound wave.

Pascal (Pa): a unit of pressure. 1 Pascal = 1 Newton per square meter (1 N / m²).

permanent threshold shift (PTS): a permanent increase in the threshold of hearing at a given frequency.

point source: a source that radiates sound as if from a single point.

receiver: a person (or persons) or equipment which is affected by sound.

refraction: (1) the phenomenon by which the direction of propagation of a sound wave is changed as a result of a spatial variation in the speed of sound. (2) The angular change in direction of a sound wave as it passes obliquely from one medium to another having different sound speed.

reverberation time (RT₆₀): of an enclosure, for a sound of a given frequency or frequency band, the time that is required for the sound pressure level in the enclosure to decrease by 60 dB after the source has stopped. Unit: second.

room criteria (RC, RC Mark II): an octave band metric for evaluating HVAC noise inside a room. RC is a two dimensional metric consisting of a curve number that is the arithmetic average of the 500, 1000, and 2000 Hz octave band sound pressure levels and a qualitative descriptor identifying the character of the sound spectrum. The descriptor can be (N) for neutral, (LF) for low frequency dominance (rumble), (MF) for midfrequency dominance (roar), and (HF) for high frequency dominance (hiss). In addition, acoustically induced vibration can be designated by (LFV_B) for moderate, but perceptible vibration and (LFV_A) for clearly perceptible vibration. As an example, the maximum RC prerequisite for LEED is designated as RC 37(N) indicating curve number 37 with a neutral spectrum.

Further, two intermediary metrics are used in calculating the room criteria. The quality assessment index (QAI) is a measure of the deviation from the given RC curve. The probable

occupant evaluation (POE) is based on the magnitude of the QAI and can be 'Acceptable,' 'Marginal,' or Objectionable.'

Sabin: a unit of measure of sound absorption; a measure of sound absorption of a surface. It is the equivalent of 1 square foot of a perfectly absorbing surface; a metric Sabin is the equivalent of 1 square meter of a perfectly absorbing surface.

sone: the unit of loudness. One sone is the loudness of a pure tone presented frontally at a frequency of 1000 Hz and a sound pressure level of 40 dB referenced to 20 micropascals.

sound absorption coefficient (α): ideally, the fraction of diffusely incident sound power that is absorbed (or otherwise not reflected) by a material or surface.

sound exposure level (SEL): over a stated time period or event, 10 times the logarithm base 10 of the ratio of the time integral of the sound pressure squared to the product of the reference sound pressure, 20 μ Pa, squared and the reference time, one second. This quantity is used to characterize single events of short duration where the averaged level (L_{eq}) is inadequate.

sound level meter (SLM): an instrument that is used to measure sound level, with a standard frequency weighting and standard exponentially weighted time averaging.

sound power level (PWL): the total acoustical power emitted from a sound source expressed in decibels relative to 10^{-12} Watts.

sound pressure level (SPL): the acoustical pressure amplitude expressed in decibels relative to 20 micropascals.

sound transmission class (STC): a single number rating used to compare sound insulation properties of walls, floors, ceilings, windows, or doors. See also field sound transmission class.

speech intelligibility index (SII): metric defined under ANSI S3.5 to quantify the intelligibility of speech under adverse listening conditions such as noise masking, spectral filtering, and reverberation. The SII is defined for a scale of 0 to 1 where values greater than 0.75 indicate good communication and values below 0.45 indicate generally poor communication conditions.

speech intelligibility test: a procedure that measures the portion of test items (such as syllables, monosyllabic words, or sentences) that are heard correctly.

speech interference level (SIL): an index for assessing the interference effects of noise on the intelligibility of speech, derived from measurements of the background noise level of contiguous octave bands; i.e. the arithmetic average of the octave band sound levels for the bands centered at 500, 1000, 2000, and 4000 Hz (four band method) or the corresponding average for the octave bands centered at 500, 1000, and 2000 Hz (three band method). If other octave bands are used they must be specified. Unit: dB.

speech privacy index (SPI): The SPI is essentially the opposite of the speech intelligibility index and is defined as $1 - \text{SII}$ and usually represented as a percentage. An SPI above 80% is considered normal privacy while an SPI above 95% would meet the requirements of confidential privacy.

speech transmission index (STI): an index for rating the intelligibility of speech that takes both

noise and reverberation into account.

temporary threshold shift (TTS): a temporary increase in the threshold of hearing at a given frequency.

threshold of hearing: for a given listener, the minimum sound pressure level of a specified sound that is capable of evoking an auditory sensation. The sound reaching the ears from other sources is assumed negligible.

transducer: a device designed to receive an input signal of a given kind and to furnish an output signal of a different kind in such a manner that the desired characteristics of the input signal appear in the output signal. For example, a microphone takes an acoustic pressure as an input and produces an electrical voltage as an output that is direct proportion to the instantaneous acoustic pressure amplitude. Other common examples in noise measurement would be a loudspeaker, accelerometer, or laser Doppler vibrometer (LDV).

transmission loss: the reduction in sound level from one side of a partition to the other.

wavelength: the distance a sound wave travels in the time it takes to complete one cycle.

weighting: see frequency weighting

A2. General Acoustics

Sound Pressure Level (SPL)

Sound is small, rapidly varying perturbations of atmospheric pressure with respect to the slowly changing ambient pressure. The ambient pressure is measured with a barometer while the small acoustic perturbations are measured with a microphone.

The unit of sound pressure is the Pascal (Pa). However, due to the wide range of acoustic amplitudes that can be heard by the human ear, sound pressure is normally expressed on a logarithmic scale having units of decibels (dB). Sound pressure expressed this way is known as the sound pressure level (SPL) and has the following relation to sound pressure.

$$SPL = 20 \log_{10} \left(\frac{p}{p_{ref}} \right) \quad (A2.1)$$

Here p is the sound pressure in Pascals. p_{ref} is a reference pressure, the threshold of hearing at 1000 Hertz (Hz), 20×10^{-6} Pa.

A-Weighting

The above formulation of SPL is a purely physical quantity. Due to the nonlinear and frequency dependent characteristics of the human ear it does not always correlate well with the perception of loudness. To improve the correlation for noise assessment purposes, a frequency weighting is often applied called A-weighting. The A-weighting function is based on listening tests in which human subjects adjusted tones throughout a range of frequencies to have equal loudness compared to a tone having an SPL of 40 dB at 1000 Hz. 2.1 shows equal loudness contours as measured by Fletcher and Munson.

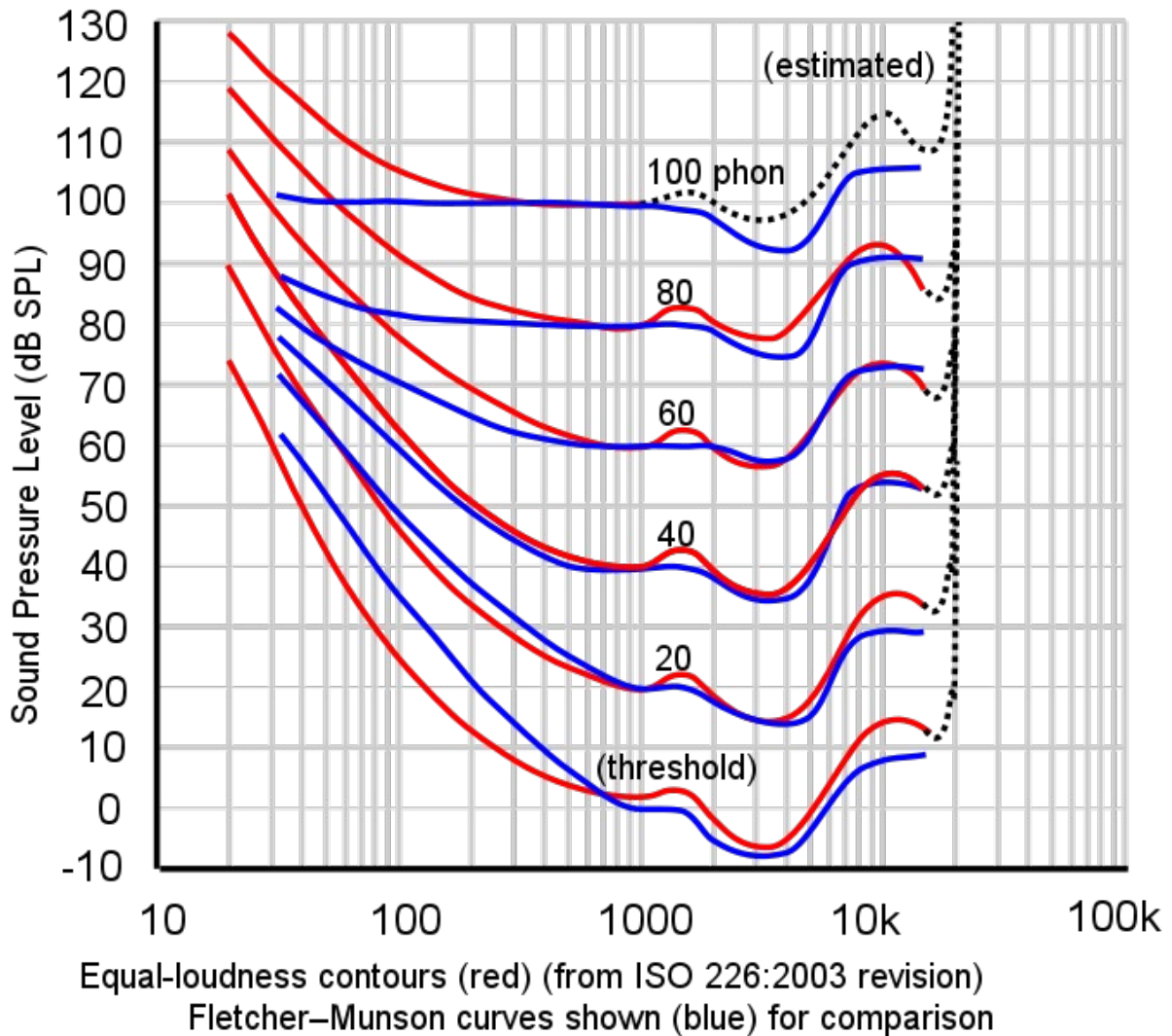


Figure A2.1. Equal Loudness Contours

Source: <https://en.wikipedia.org/wiki/File:Lindos4.svg>

Thus applying A-weighting to measured sound pressures more closely represents the frequency response of the human ear. Sound pressure levels that have been A-weighted are denoted by the symbol, dBA. 2.2 shows the A frequency weighting and several other common weightings.

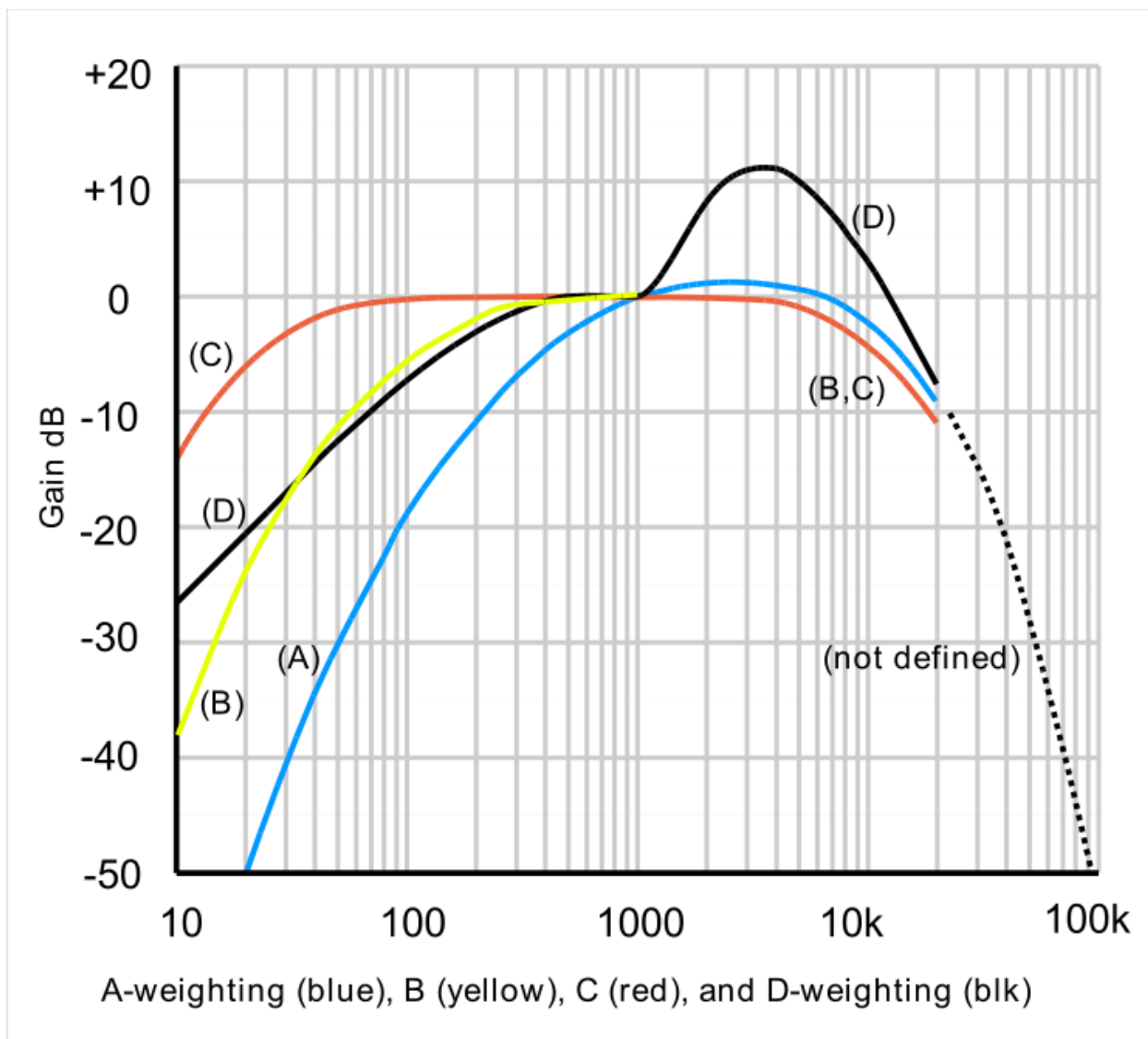


Figure A2.2. Frequency Weighting Filter Curves

Source: [https://en.wikipedia.org/wiki/File:Acoustic_weighting_curves_\(1\).svg](https://en.wikipedia.org/wiki/File:Acoustic_weighting_curves_(1).svg)

The Perception of Sound

The most basic descriptions of sound are loudness (amplitude) and pitch (frequency). The frequency range of human hearing is roughly 20 to 20,000 Hz, although most people can not hear this full range because high frequencies are lost as a natural part of aging and other factors such as illness and exposure to high levels of noise that may cause permanent hearing loss.

Figures A2.3 and A2.4 illustrate the amplitude and frequency ranges of some common acoustical sources.



Figure A2.3. SPL Produced by Various Sources
(Bruel and Kjaer)

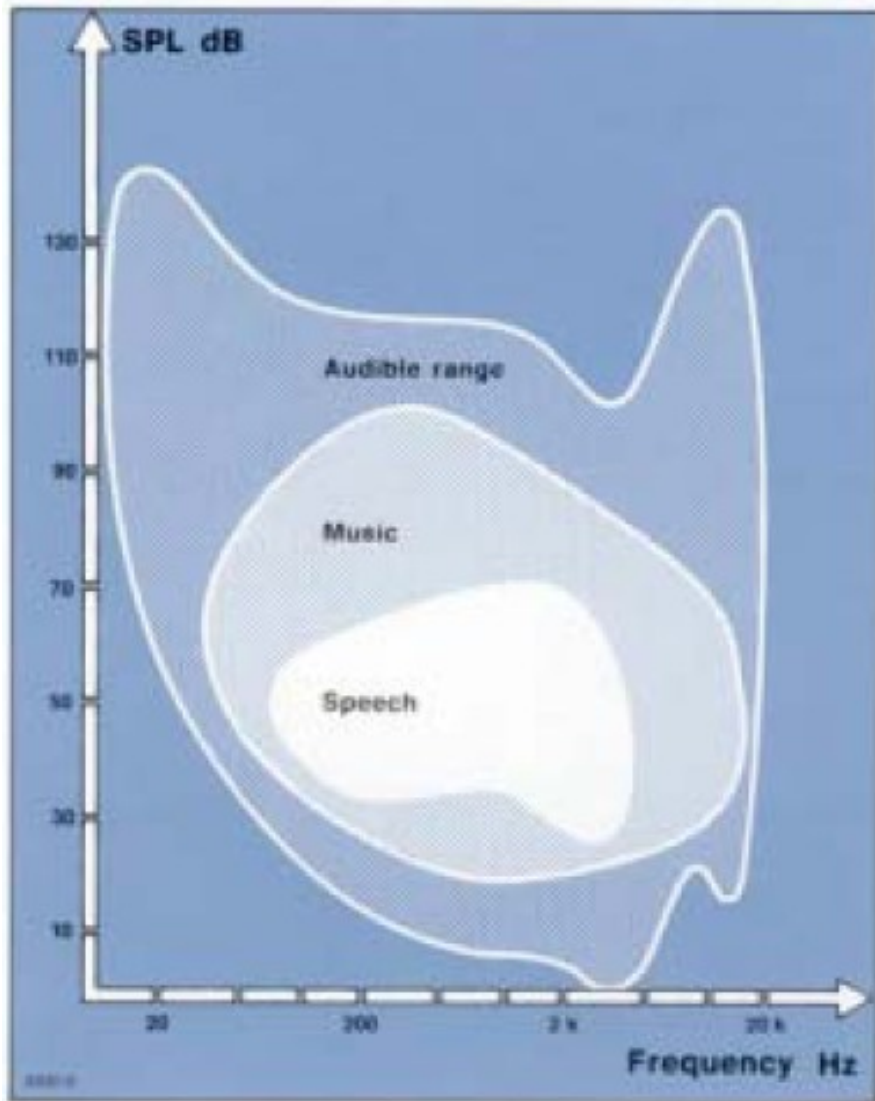


Figure A2.4. Amplitude and Frequency Ranges of Speech and Music
(Brüel and Kjaer)

Amplitude Attenuation with Distance

Sound originating from a small point source will spread spherically in all directions, absent any

Distance from Source (ft)	SPL (dBA)	SPL Loss Relative to 10 ft
10	90	
20	84	6
40	78	12
80	72	18
160	66	24
320	60	30

Table A2.1. Decrease of SPL with Distance Due to Spherical Spreading

nearby surfaces. The conservation of energy requires the sound pressure spreading out from such a source to decrease by half with each doubling of distance. This is known as the inverse square law and is demonstrated in 2.1 and 2.5.

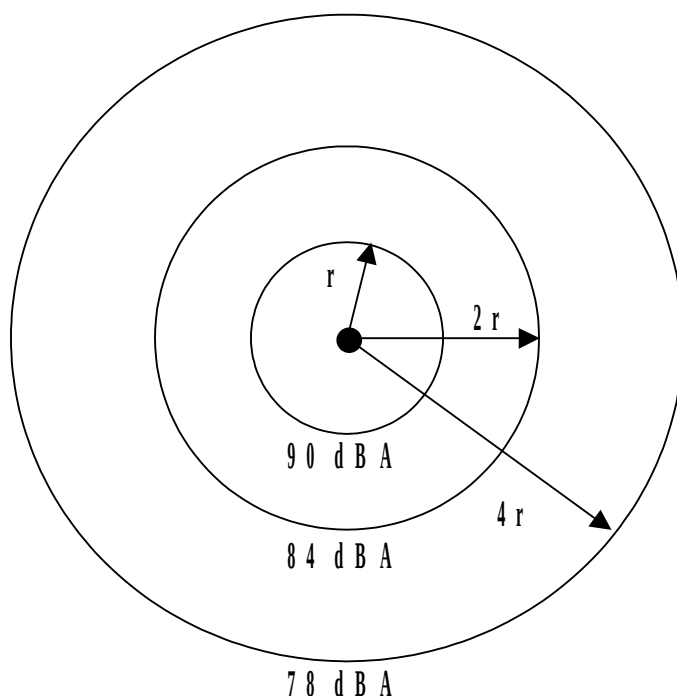


Figure A2.5. Decrease of SPL with Distance Due to Spherical Spreading

Adding Decibels

Summing the contributions from multiple sound sources to obtain the total SPL is *not* done simply by adding the decibel levels because SPL is a logarithmic quantity.

Imagine a fan produces a moderate SPL of 65 dBA at 6 feet. If a second identical fan were turned on the resulting SPL would not be 130 dBA. This would be equivalent to a commercial jetliner taking off at close range.

The correct method of adding the SPL from each source is to sum the acoustic power produced by each source. This implies that each time the number of sources having equal SPL is doubled, the SPL will increase by 3 dBA. Therefore, in the example with two fans, the correct total SPL would be 68 dBA. More examples with multiple sources producing equal SPL are shown in 2.6.

$$65 \text{ dBA} + 65 \text{ dBA} \neq 130 \text{ dBA} \quad \textbf{WRONG} \quad (\text{A2.2})$$

$$65 \text{ dBA} + 65 \text{ dBA} = 68 \text{ dBA} \quad \textbf{RIGHT} \quad (\text{A2.3})$$

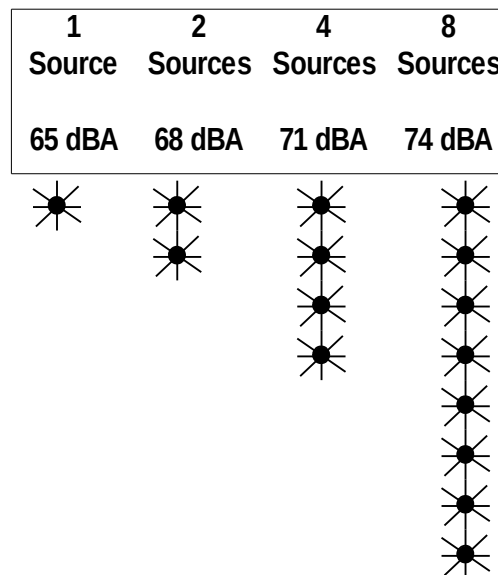


Figure A2.6. Total SPL from Multiple Sources with Equal SPL Output

Further Reading

Bruel and Kjaer, “Measuring Sound.” Covers topics in this appendix in more detail. Available on the Bruel and Kjaer website, www.bkhome.com. Find this and other primers under the library section of the site.

Cyril M. Harris, Ed. Handbook of Acoustical Measurements and Noise Control, 3rd Edition. Acoustical Society of America, Melville, NY, 1998.

A3. Pima County Noise Code Excerpt

9.30.040 Impermissible sound levels.

In addition to the prohibited noises described in 9.30.050 [Loud radios, sound sets, etc.], 9.30.060 [Vehicular noise] and 9.30.070 [Construction of buildings and other projects], it shall be unlawful for any person to make or continue, or cause or permit to be made or continued, any excessive, unnecessary or offensive noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitivity residing in the area.

(Ord. 2001-127 § 1 (part), 2001; Ord. 1999-61 § 1 (part), 1999)



Administrative Report

DISCUSSION ITEM

TO: HONORABLE CITY COUNCIL

FROM: James Vega, City Manager
Renee Peace, Recreation Manager

DATE REPORT PREPARED: February 14, 2020

MEETING DATE: February 25, 2020

SUBJECT: Pickleball Sound Mitigation Options

Recommendation

That the City Council:

1. Receive a report of pickleball sound mitigation options;
2. Direct staff to install Pickleball court signage stating hours of play; and
3. Determine whether to proceed with any additional mitigation efforts.

Background

On August 27, 2019, the City Council received the Pickleball Ad-Hoc Committee's recommendation to designate the tennis courts at City Hall for use as pickleball facilities. The courts were previously tennis courts, and have been identified as part of Libbey Park. City Council approved the recommendation and designated \$10,000 in funds for the overlay of the courts as part of the City's paving plan. Although noise was discussed as a potential issue for pickleball, ultimately, because the area used for pickleball was buffered by the rest of the City Hall campus (with the demonstration garden to the south, the Children's Memorial to the West, City Hall to the North, and the Police Station to the East), and because it would repurpose the previously existing tennis courts which would have similar impacts, the Ad-Hoc Committee recommended utilizing the site for Pickleball. It was also stated by Ad-Hoc Committee members and pickleball players at that time that low-noise equipment is available if noise were to prove an issue.

The courts were paved, and on January 11, 2020, pickleball enthusiasts were invited to play on the newly resurfaced tennis courts while awaiting new asphalt and sealer scheduled for late spring. Since play began on January 11, 2020, the City has received two complaints regarding the pickleball courts, mostly focused on noise, from residents on South Ventura Street. The City has also received positive feedback from several residents.

In response to the complaints, City staff utilized a decibel meter to gauge the sound level of pickleball play. Staff measured from 20 feet away from the courts. Staff reported that the decibel

reading did not exceed 60 decibels in those 5 minutes. All 4 courts were in use at the time that the decibel level was measured. As noted on Attachment B, 60 decibels falls within the range of normal conversation or laughter. Staff also measured the decibel level for 5 minutes when the courts were not in use, and the decibel level was between 55 and 56 decibels. This indicates an approximate 3 to 4 decibel increase when the courts are in use, although some residents note that there is a “popping” noise made by the pickleball that causes some irritation. A recent article on Mail Tribune found similar noise levels when measured by decibel meters. (Attachment D)

Section 5-11.03 of the City Code includes general noise regulations, and states that it is unlawful for any person to make any noise which *unreasonably* disturbs the peace and quiet of any neighborhood (emphasis added). It states several factors that should be considered in determining whether a noise violation exists, such as the sound level of the noise and ambient noise, proximity to sleeping facilities, nature and zoning of the area, number of persons affected, time of day or night, whether it is continuous or intermittent, whether it is commercial or non-commercial activity, and whether its plainly audible by code enforcement officers from 50 feet away.

In this case, as mentioned above, the noise is an increase of a few decibels for limited hours, typically from 8 to 10 a.m. and 2:30 p.m. to 4:30 p.m. (except for Saturday, which also includes mid-day play). The noise does not occur at night, is non-commercial, and is occurring on the City Hall campus (which has also been identified as a part of Libbey Park). The noise level does not appear to be unreasonable for a public park or public facility. Other cities, such as Hurricane City, Utah, have had challenges due to allowing their courts to stay open until 10 or 11 p.m. Limiting available court hours would help to ensure that the usage is not considered “unreasonable.”

Discussion

Staff has identified mitigation options, including clear park signage (which would allow for enforcement if needed), relocation of the portapotty away from residential property lines, and, potentially, use of low noise equipment, each discussed below. Other mitigation options, such as sound barriers, could be considered but at a higher cost.

Libbey Park Pickleball Court Rules and Regulations

Staff identified a need for new signage for the Libbey Park Pickleball Court to clearly state allowed hours of usage. Attachment A of this report shows the signage, and recommends that the courts only be open from 8 a.m. to 6 p.m. As noted above, play does not typically occur mid-day on weekdays, although it is not prohibited. Residents have raised concerns that, during summer months, pickleball play would continue until 9 or even 10 p.m. Limiting play to between 8 a.m. to 6 p.m. would help ensure that this issue does not occur. During winter months, play typically ceases at sunset (approximately 5:30 currently). Council could choose to modify these times, develop separate summer/winter hours, or limit which days of the week play could occur.

Requirement for Low-Sound Equipment

Using sound-deadening paddles and equipment is another available option. As mentioned above, this was noted as a possibility when Council considered and approved the pickleball courts. Other cities have issued restrictions on the type of equipment used during play. Pickleball equipment companies have taken notice of the problem and are marketing paddles that are quiet and “Green Zone” friendly. Sun City Grand, a community in Arizona, recently developed an approved list of

quiet paddles, a list that contains 52 different paddles, many of which are from top manufactures of Pickleball racquets (Attachment C).

Although enforcement of use of low-sound equipment can be difficult, since most pickleball play at this time stems from the Ojai Pickleball Club, this may allow for better coordination between the City and pickleball players.

Wall Systems and Fencing

Some cities have installed fencing or walls to mitigate sound, such as a plastic wind screen similar to what is placed on a tennis court, or a fence constructed from a heavy perforated material. The Sun City Grand community used a material to alleviate noise, but reported that the heavy material confined the air space on the court and created a hot environment for players. This material was removed after players reported discomfort during practice. Sun City has now installed wind screens on the courts and reported no reduction of noise.

Various municipalities around the county have implemented other types of restrictions to address the acoustics, recommendations from acoustical engineers recommend prefabricated concrete walls around the ball courts, at a cost of about \$100 a linear foot. Staff could investigate these options, but funding would need to be identified.

Other Mitigation Efforts

Staff has relocated the temporary portapotty further from residences, and worked with the Ojai Pickleball Club to address parking issues.

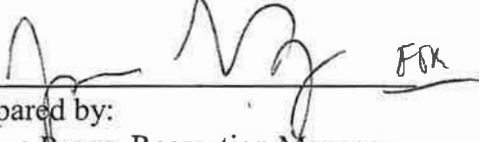
Recommendations

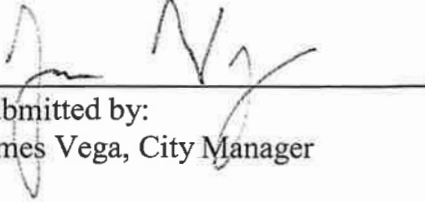
Staff recommends proceeding with one option immediately: installation of Pickleball Court signage and enforcement of rules listed on signage, including hours of play. This will ensure that play does not occur early in the morning or late at night. Council may consider additional options if there are concerns, such as requiring the “low noise” equipment during certain hours or limiting play hours at the courts further.

The residents who filed the complaint noted that Pickleball is still allowed at Matilija Jr. High School for most of the year. Staff has reached out to the School District and confirmed this. Council could choose to allow play certain days or times at the City’s court, requiring players to play at Matilija or another location on other dates.

Fiscal Impact

Several mitigation options are low cost. Park signage and low-noise pickleballs could be purchased by the City for between \$100 - \$500. Some options are more costly: the cost of fencing or other type of materials in designated areas of the Libbey Park Pickleball court would be approximately \$100 per foot.


Prepared by:
Renee Peace, Recreation Manager


Submitted by:
James Vega, City Manager

Attachment:

- A – Libbey Park Pickleball Court Sign
- B – Decibel Examples
- C – List of Quiet Paddles Developed by Sun City Grand
- D – Article from Mail Tribune noting Pickleball Decibel Reading



CITY OF OJAI
PARK RULES AND REGULATIONS
Libbey Park Pickleball Courts

REFER TO CHAPTER 3 SECTION 4-3 AND CHAPTER 12 SECTION 4-12.01 OF THE OJAI MUNICIPAL CODE
FOR COMPLETE PARK RULES AND REGULATIONS, INCLUDING RULES FOR THE SKATE PARK
WWW.OJAICITY.ORG

HOURS OF OPERATION: Pickleball Courts open from 8:00 a.m. to 6:00 p.m.

** Various park facilities are closed during inclement weather**

**"THE FOLLOWING ACTIVITIES ARE
PROHIBITED IN CITY PARKS"**

- Alcoholic beverages (permit only)
- Smoking
- Dogs off leash
- Amplified sound (Libbey Park with permit)
- Disorderly conduct (including indecent language)
- Open flame (City Park barbeques only)
- Commercial Filming (permit only)
- Vending or other commercial
- Camping
- Golf
- Archery
- Motorized vehicles
- Motor driven or remote controlled model airplanes, rockets, drones or other similar flying objects
- Bounce houses, food trucks, performers or other attractions (permit only)
- Activities inconsistent with the intended use of the park or park facility (i.e. playing Soccer on a basketball or tennis court)

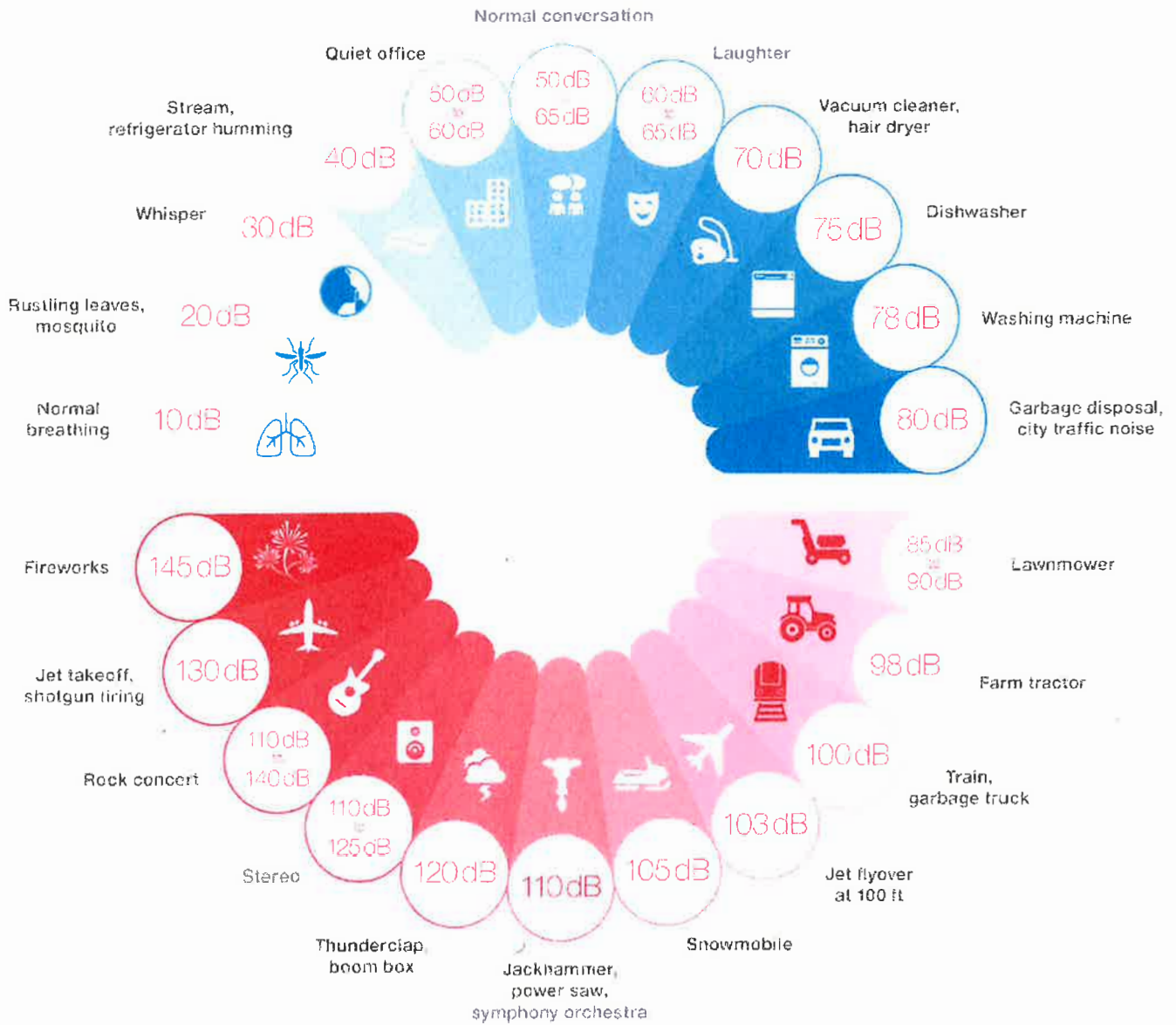
A PARK RENTAL PERMIT IS REQUIRED FOR ANY ORGANIZED ACTIVITY; ANY ACTIVITY THAT IS HELD ON A REGULAR BASIS OR REOCCURRING BASIS; FOR ANY PROFIT OR FEE BASED ACTIVITIES; OR FOR EXCLUSIVE USE OF A PARK FACILITY. VISIT OJAICITY.ORG OR CALL 805 646-5581 X 390 FOR MORE INFORMATION.

ALL APPLICABLE CITY ORDINANCES, RULES, AND REGULATIONS WILL BE ENFORCED, VIOLATIONS ARE SUBJECT TO A CITATION IN ACCORDANCE WITH OJAI MUNICIPAL CODE.

TO REPORT ANY POTENTIALLY HAZARDOUS CONDITIONS, OR VIOLATIONS OF THESE RULES, CALL THE RECREATION DEPARTMENT WEEKDAYS AT (805) 646-5581 X 390 OR THE POLICE AT (805) 654-9511. IN THE EVENT OF AN EMERGENCY CALL 911

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Decibels/Noise Levels



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SCG News - Pickleball Paddle Approved/Banned List

Sun City Grand®

Community Association Management

Dear Sun City Grand Community Association Members,

In an effort to reduce the recreational noise caused by the game of Pickleball, the Sun City Grand Board of Directors contracted with a sound study company to try and determine which paddles were creating sound at a decibel that some residents living in the area found unacceptable. While we acknowledge that most recreational sports create noise, we also acknowledge that changes in the manufacturing of paddles used in the game of Pickleball have also changed the noise created by the game, compared to several years ago.

In addition to the sound study performed by an independent company, the Sun City Grand Pickleball Club provided assistance by testing the most commonly used paddles, allowing us to create a chart so those playing the game or thinking of playing the game would know what paddles are allowed on Sun City Grand Pickleball Courts. One thing pointed out and also observed is that a simple "ear" test (listening to play) will also alert those monitoring the use when a player is using a paddle that is much louder than the approved paddles.

Below is a chart sorted into Green and Red Zones:

Green Zone - Those paddles fall within acceptable noise levels and are approved for use on the Sun City Grand Pickleball Courts. If you are looking to buy a new paddle, you would be safe to choose a paddle from this zone.

Green Zone paddles are the only paddles approved for use on SCG PB Courts.

Red Zone - These paddles are not allowed on the courts in Sun City Grand under any circumstances.

Sincerely,
SCG Board of Directors

The paddle testing we perform is for our communities use and is only made available to other communities as a courtesy. It is not, and never will be, a perfect test but it has reduced the noise from paddle use on our courts significantly and is therefore an important part of our communities desire to reduce the noise at our courts.

Grand Pickleball Club Paddle Sound Study

Sort by Manufacturer and Model - November 21, 2019

Brand	Model	Usage
Aero Paddles	Swift	Green Zone Approved for use in Sun City Grand. ONLY BUY PADDLES LISTED IN THE GREEN ZONE. Paddles not on this list may not be used on SCG Pickleball courts.
Aero Paddles	Swift 2.0	
Amazin' Aces	AA Pro Series Cambria	
Amazin' Aces	Quality Sporting Goods Graphite	
Amazin' Aces	Signature	
Athlete Ratings	Play Hard	
Darin's Pickleball Paddle	Pro Shop	
Dink Sports	Black and Blue	
Eastport Pickleball	Champion	
Engage Pickleball	Elite Pro	
Engage Pickleball	Encore	
Engage Pickleball	Encore Blade	
Engage Pickleball	Encore Lite	
Engage Pickleball	Encore Pro	
Engage Pickleball	Encore X Series	
Engage Pickleball	Guardian	
Engage Pickleball	Guardian II	
Engage Pickleball	Mystic	
Engage Pickleball	Pulse	
Engage Pickleball	Spartan	
Engage Pickleball	Tear Drop	
Engage Pickleball	Ultimate	
Engage Pickleball	Ultimate	
Engage Pickleball	Ultra	
Gamma	Proton	
Gamma	Razor	
Gamma	Twister	
Gearbox	GX5 Control	
Gearbox	GX5 Power	
Gearbox	GX6 Control	
Gearbox	GX6 Power	
Head	Extreme Elite	
Head	Extreme Lite	
Head	Margaritaville Changes	
Head	Margaritaville FINS	
Head	Margaritaville It's 5 O'Clock Somewhere	
Head	Margaritaville Washed in the Ocean	
Head	Radical Tour L	
Head	Radical XL	
Head	Extreme Pro	
Head	Extreme Pro L	
Head	Extreme Tour	
Head	Radical Elite	

Head	Radical Pro
Head	Radical Tour
Laser Sport Products	1402 (Wood)
Laser Sport Products	1403 (Wood)
Laser Sport Products	1404 (Wood)
Manta	Cylon
Manta	Extreme
Manta	Matrix
Manta	Tornado F5 Edgeless (GGG) Poly Core
Monarch	Dragon Slayer
Monarch	Mercenary Graphite
Onix Sports	Attitude
Onix Sports	Evoke Graphite
Onix Sports	Evoke Oval
Onix Sports	Evoke Premier
Onix Sports	Evoke Premier Light
Onix Sports	Evoke Pro
Onix Sports	Evoke Square
Onix Sports	Graphite Phantom Widebody
Onix Sports	Graphite Zen
Onix Sports	Outbreak
Onix Sports	React
Onix Sports	Signature
Onix Sports	Summit
Onix Sports	Voyager
Onix Sports	Voyager Pro
Onix Sports	Wood
Onix Sports	Z5 Widebody Graphite
Onix Sports/S-Type	Core 2 Graphite
Onix Sports/S-Type	Slammer Graphite
Onix Sports/S-Type	Z5 Widebody
PaddleBoardZ	Tracker
Paddletek	Bantam EX-L
Paddletek	Bantam EX-L Pro
Paddletek	Bantam Sabre Pro
Paddletek	Bantam TS-5
Paddletek	Element
Paddletek	Phoenix G6
Paddletek	Phoenix Genesis
Paddletek	Phoenix Genesis Pro
Paddletek	Phoenix Pro
Paddletek	Power Pro Play
Paddletek	Stratus
Paddletek	Sweet Spot
Paddletek	Tempest
Paddletek	Tempest Wave Pro
Paddletek	Ultra Sweet Spot

Paddletek	Ultra Warp 9
Paddletek	Wave II
Pickle-Ball Inc	Champion Eclipse
Pickle-Ball Inc	Champion Graphite Elite
Pickle-Ball Inc	Champion Graphite X
Pickle-Ball Inc	Champion Graphite XL
Pickle-Ball Inc	Champion PolyPro
Pickle-Ball Inc	Champion Spark
Pickle-Ball Inc.	Attack (Graphite - Aluminum)
Pickle-Ball Inc.	Attack 2.0
Pickle-Ball Inc.	Elite (Graphite - Aluminum)
Pickle-Ball Inc.	Elite Finesse
Pickle-Ball Inc.	Elite Power
Pickle-Ball Inc.	Elite Skill
Pickle-Ball Inc.	Venom
Pickleball Now	Classic Lite (edgeless, discontinued)
Pickleball Now	Classic Metalite
Pickleball Now	Club (wood)
Pickleball Now	Force Classic
Pickleball Now	PN2000
Pickleball Now	The Edge
Pickleball Now	The Force Metalite
Pickleball Now	Whomper
Pickleball Now	XL Lite
PickleballCentral	Rally Flare
PickleballCentral	Rally Graphite Power 5.0
PickleballCentral	Rally PX Graphite
PickleballCentral	Rally PXL Graphite
PickleballCentral	Rally PXT Graphite
PickleballCentral	Rally Tyro 2
PickleballCentral	Rally Tyro 2 Pro
PicklePaddles Plus	Hyper Wide
PicklePaddles Plus	Nexus Alloy
PicklePro	Barricade
POP	Aluminum AMHC
POP	ATHC Aluminum Tear Drop Honeycomb
POP	AXLHC
ProLite Sports	Apex Power
Prolite Sports	Bolt
ProLite Sports	Chrome N-R-G
ProLite Sports	Covert
ProLite Sports	Crush Power Spin
ProLite Sports	Cypher Pro
ProLite Sports	Enforcer Graphite
ProLite Sports	Groove
ProLite Sports	Magnum XP
ProLite Sports	Power

ProLite Sports	Rebel Power Spin
ProLite Sports	Rocket XL
ProLite Sports	Rockstar
ProLite Sports	Supernova Black Diamond Series Pro
ProLite Sports	Surface NRG
ProLite Sports	Titan
ProLite Sports	Titan Pro
RiverStyks	Fox Orange
RiverStyks	Fox Purple
RiverStyks	Rubicon
Selkirk Sport	200PXL
Selkirk Sport	300AXL
Selkirk Sport	Amp X5 Invikta McGuffin
Selkirk Sport	EPIC 20PXL Composite
Selkirk Sport	Epic 30PXL Graphite
Selkirk Sport	Epic Amped X5 Fiberflex
Selkirk Sport	Latitude Composite Wide Body
Selkirk Sport	Maxima 21P MXO
Selkirk Sport	Maxima Amped X5 Fiberflex
Selkirk Sport	Neo
Selkirk Sport	Omni
Selkirk Sport	Omni Amped X5 Fiberflex
Selkirk Sport	Pro S1C
Selkirk Sport	Pro S1C+
Selkirk Sport	Pro S1G
Selkirk Sport	Pro S1G+
Selkirk Sport	S2 Amped X5 Fiberflex
Third Shot Drop	Chaos TSD-CE
Third Shot Drop	Chaos TSD-CH
Third Shot Drop	Chaos TSD-CI
Third Shot Drop	Kratos TSD KB
Third Shot Drop	Kratos TSD KE
Third Shot Drop	Kratos TSD KG
Third Shot Drop	Kratos TSD KH
Third Shot Drop	Kratos TSD KI
TMPR Sports	Sports Tantrum V
TMPR Sports	Tantrum GXT Enhanced Graphite
Topp	Graphite XJ-900
Topp	Reacher Graphite
Topp	Revive
Topp	Viper
Topp	XJ-900
Topp	Reacher
Wilson	Champ
Wilson	Surge
ZZT	Carbon Fiber Weave
ZZT	Contour Thin (lite)

ZZT	EVO Classic-Q
ZZT	EVO II
ZZT	EVO II Vinyl Cover
ZZT	Fuzion
ZZT	Fuzion Pro
ZZT	Graphic
ZZT	Original
ZZT	Z

Grand Pickleball Club Paddle Sound Study

Sort by Manufacturer and Model - March 12, 2019

Brand	Model	Usage
Coach Mo	Sweet Spot	Red Zone Paddles banned for use in Sun City Grand. <u>DO NOT BUY THESE</u> <u>PADDLES.</u>
Coach Mo	Sweet Spot Lite	
Engage Pickleball	Encore GP	
Engage Pickleball	Encore Max	
Engage Pickleball	Encore XL	
Engage Pickleball	Raven Wide Body	
Gamma	Atomic	
Gamma	Fusion	
Gamma	Ion	
Gamma	Micron	
Gamma	Mirage	
Gamma	Voltage	
Head	Extreme Elite	
Head	Radical Pro L	
Manta	Pro-Team	
Manta	Stingray	
Manta	Tornado F5 & Manta Ray Nomex Core	
Onix Sports	Phantom Widebody	
Onix Sports/S-Type	Core 2 Composite	
Onix Sports/S-Type	Storm	
Onix Sports/S-Type	Storm Graphite	
Onix Sports/S-Type	Stryker Graphite	
Paddletek	Warp 9	
Pickleball Depot	Victory CF3	
Pickle-Ball Inc.	Champion (Fiberglass-Aluminum)	
Pickle-Ball Inc.	Champion (Graphite-Nomex)	
Pickle-Ball Inc.	Champion Aluminum	
Pickle-Ball Inc.	Champion Graphite	
Pickle-Ball Inc.	Elite (Graphite - New Paper Core)	
Pickle-Ball Inc.	Legacy	
Pickle-Ball Inc.	Revolution (Graphite - Nomex)	
Pickle-Ball Inc.	Tracer	
Pickle-Ball Inc.	Vortex 2.0	
Pickleball Now	Classic Lite II (2013 model with edge guard)	
Pickleball Now	Competition	
Pickleball Now	XL Carbon	
Pickleball Now	XL Lite	
PickleballPaddlesPlus	Hyper Lite	
PicklePaddles Plus	Nexus Carbon	
PicklePro	Classic	
POP	4.0 Touch	
POP	5.0 Touch	
POP	7.5 Dual Touch	
POP	E-glass /HC	

POP	Graphite Tear Honeycomb
ProLite Sports	Aero-D Graphite
ProLite Sports	Blaster 2 Alloy
ProLite Sports	Classic
ProLite Sports	Graphite Blaster
ProLite Sports	Impact
ProLite Sports	Intercept 1 Series
ProLite Sports	Magnum Composite
ProLite Sports	Magnum Graphite (Used)
RiverStyks	Kicking Horse
RiverStyks	Kicking Horse 2.0
RiverStyks	Tigris
Selkirk Sport	200AL
Selkirk Sport	200AXL
Third Shot Drop	Chaos TSD-CA
Third Shot Drop	Chaos TSD-CB
Third Shot Drop	Chaos TSD-CC
Third Shot Drop	Chaos TSD-CD
Third Shot Drop	Chaos TSD-CF
Third Shot Drop	Chaos TSD-CG
Third Shot Drop	Kratos TSD KA
Third Shot Drop	Kratos TSD KC
Third Shot Drop	Kratos TSD KD
Third Shot Drop	Kratos TSD KF
Viking	Re-Ignite
Viking	Re-Ignite Lite
Viking	Synergy
WhipperSnapper	Light
WhipperSnapper	Medium Weight (2 weeks old)
WhipperSnapper	Medium Weight (Used - Detuned)
WhipperSnapper	New model 2014
WhipperSnapper	PT
WhipperSnapper	X Heavy
WhipperSnapper	XX Heavy
Wilson	BLX
Wilson	BLX
Wilson	Energy
Wilson	XCEL
ZZT	Classic Thin (lite)
ZZT	EVO Classic

SCG Paddle Rule Questions and Answers

Q & A (Small print disclosure: These are club interpretations of the rule and are subject to clarification if CAM disagrees)

Q: When does this rule start?

A: This rule is effective immediately.

Q: Where is the Paddle Approved/Banned list posted?

A: The list is posted on our website at <http://pball.grandpickleball.org/paddlerule.pdf> and on the bulletin board at the courts. Monitors should refer inquiries to the bulletin board or our website.

Q: My paddle is not on the list, can I use it?

A: No.

Q: What if I ignore this rule and continue to play with any paddle I choose during club events?

A: If you ignore the rule during club events, you will be breaking a Community rule that our club must enforce under the Charter Club Rules and Regulations. That could lead to suspension of club play for a period of time and continued use could lead to a suspension of all resident privileges by CAM.

Q: What if I ignore this rule and continue to play with any paddle I choose during non club events?

A: The Association will monitor the courts for non compliance, either by personally visiting the courts or by neighborhood complaints. Violators will be asked to stop using banned or noisy paddles. Failure to comply could lead to suspension of all resident privileges by CAM.

Observations at the courts have shown that most of you are complying with the rules. It is obvious and very easy to pick out someone who is using a banned paddle.

We have received compliments from CAM for our clubs willingness to reduce noise from the courts, Thank you to everyone that has complied. We have an outstanding club.

[Home Page](#)

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Just how loud is pickleball?

by Damian Mann of the Mail Tribune

Tuesday, September 11th 2018

Pickleball is about as loud as one person whispering to another person, according to a decibel test conducted by a Southern Oregon Pickleball Association official.

David Johnson, director of player development, tested the sound of a pickleball match at Lithia Park in Ashland Monday and found the reading hit 51 decibels, quieter than a household refrigerator and quieter than the people talking on the court.

"If I was standing a foot away and whispered to you loud enough for you to hear, but quiet enough that you couldn't hear across the room, that would be no louder than 50 decibels," Johnson said.

A normal conversation is about 60 to 70 decibels, he said.

Johnson conducted the tests with a decibel meter because of concerns about the noise being made by pickleball. He found that a car passing by at 15 mph was more than 60 decibels. He was standing across the roadway from the tennis courts at Lithia Park.

Some residents near a new park in southeast Medford have complained about plans to install two new pickleball courts next to Shamrock Street, east of North Phoenix Road and north of Barnett Road, citing noise and traffic.

Other residents have come forward voicing support for the pickleball court at Village Center Park.

"I feel that a playground would be great, and pickleball would be a great addition to the park," wrote resident Sarah Evans in an email to the Mail Tribune.

Another resident, Brad Pederson, wrote, "In my opinion, if you are going to be bothered by the noise of people playing pickleball in the park, you are also going to be the person complaining to the city that kids are too loud while playing in the park."

Johnson, who lives near Grants Pass and formerly worked as an acoustician, said that in his experience other sports played in parks can be louder than pickleball.

"They're not worried about the basketball court, but they're worried about the pickleball court," he said.

He said there have been times that pickleball games have been stopped because of the noise from a basketball game nearby.

"We play at Don Jones Park, but sometimes we have to leave when a dozen or so kids show up," he said. "They're having fun, but they'll bring the big boom box and crank it up."

Unfortunately, the foul language from the boom box is too much, he said.

"People cussing in pickleball — I've never heard of it," Johnson said.

Johnson said he drove his Mazda on a newly paved stretch of Interstate 5 near Grants Pass and his decibel meter hit 72. When he drove it over a rougher stretch between Medford and Central Point, it hit 86.



ACOUSTICS GROUP, INC.
Consultants in Acoustics, Noise & Vibration

September 9, 2012

Mitzi Mills
Sun City Grand
Community Association Management
19726 N. Remington Dr.
Surprise, AZ 85374

Subject: Noise Study for the Cimarron Pickleball Courts in Surprise, AZ.

Dear Ms. Mills:

Acoustics Group, Inc., has reviewed the Sun City Noise Ordinance, conducted ambient and operations noise level measurements, analyzed the future noise levels from the Cimarron facility, assessed the impact of the future operations and evaluated noise control measures. The following provides the results of our work:

NOISE AND THE A-WEIGHTED SOUND LEVEL

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perceptibility is subjective and the physical response to sound complicates the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB).

The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human, frequency-dependent response, the A-weighting filter system is used to adjust measured sound levels. The A-weighted sound level is expressed in "dBA" or "dB(A)." Figure 1 provides typical A-weighted sound levels measured for various sources, as well as people's responses to these levels.

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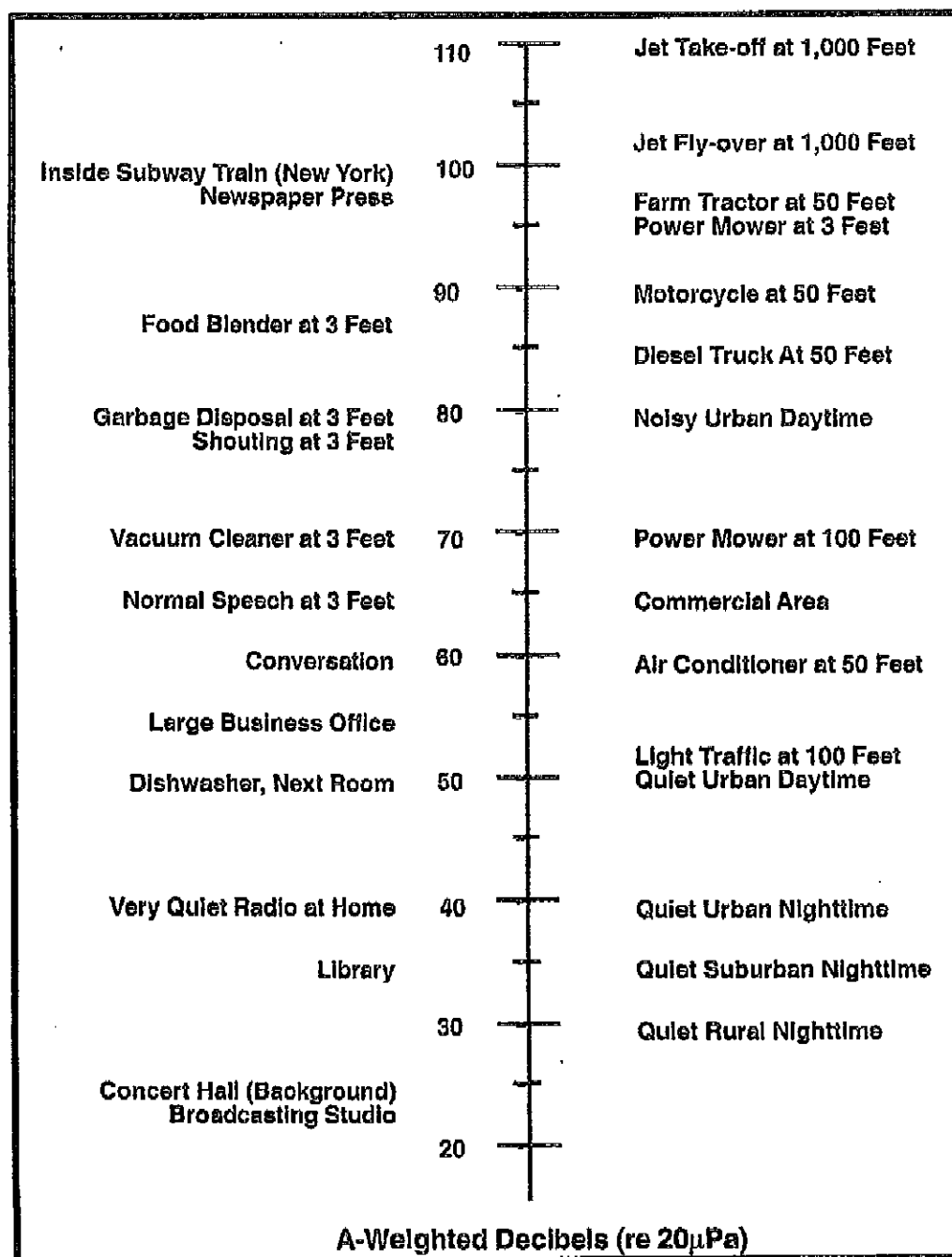


Figure 1. Typical A-weighted Sound Levels from Indoor and Outdoor Noise Sources.



When sound is measured for distinct time intervals, the statistical distribution of the overall sound level can be obtained during that period. The energy-equivalent sound level (Leq) is the most common parameter associated with such measurements. The Leq metric is a single-number noise descriptor which represents the average sound level over a given period of time, where the actual sound level varies with time. Lmax, Lmin, and Lxx are also common noise descriptors. Lmax and Lmin are the maximum and minimum noise levels, respectively, and Lxx, known as a statistical sound level, is the time-varying noise level which would be exceeded xx percent of the time.

NOISE STANDARDS & GUIDELINES

The City of Surprise Municipal Code does not specifically adopt noise standards to regulate noise from recreational activity within parks. However, the 2030 General Plan cites the World Health Organization's *"Guidelines for Community Noise, 1999"* as a guideline for the city to implement noise regulations. A noise level limit of 50 – 55 dBA at outdoor living areas is identified as a limit of acceptable noise exposure in the general plan.

AMBIENT SURVEY AND NOISE MEASUREMENTS

Ambient Survey

AGI conducted an ambient noise survey on June 10-11, 2012 to document the baseline ambient noise levels directly east of the Cimarron Pickleball Courts. A noise measurement was conducted at the front yard of 18692 W Marcos De Niza Drive, directly facing the pickleball court area. The measurement was conducted with a Larson Davis Model 870 Noise Analyzer and the instrument was operated in accordance with manufacturer's standards. Construction operations occurred during the late night hours between midnight and 9 am and the measurement data obtained during the construction period was omitted from this report.

The Leq measured during the ambient survey ranged from 40.8 to 49.5 dBA. The sources of noise that contributed to the ambient baseline were distant traffic, wildlife birds, and insects. Noise levels during the evening period were generally between 44 and 47 dBA. During the late night and early morning hours, the ambient baseline dropped to nearly 40 dBA. The measured baseline ambient noise levels are considered very quiet for a residential community. Table 1 summarizes the ambient noise measurement data. Figure 2 shows the location of the noise measurement relative to the Cimarron Pickleball courts and the nearby residences.

SUN CITY GRAND PICKLEBALL NOISE STUDY



Table 1
Measured Ambient Noise Levels Adjacent to the Cimarron Pickleball Courts

Date	Time	Leq, dBA	Description
June 10, 2012	7:00 pm	44.2	Evening Ambient Distant Traffic, Wildlife, Insects
June 10, 2012	8:00 pm	45.3	" "
June 10, 2012	9:00 pm	46.6	" "
June 10, 2012	10:00 pm	43.5	Nighttime Ambient Distant Traffic, Wildlife, Insects
June 10, 2012	11:00 pm	40.8	" "
June 11, 2012	10:00 am	49.5	Morning Ambient Distant Traffic, Wildlife, Insects

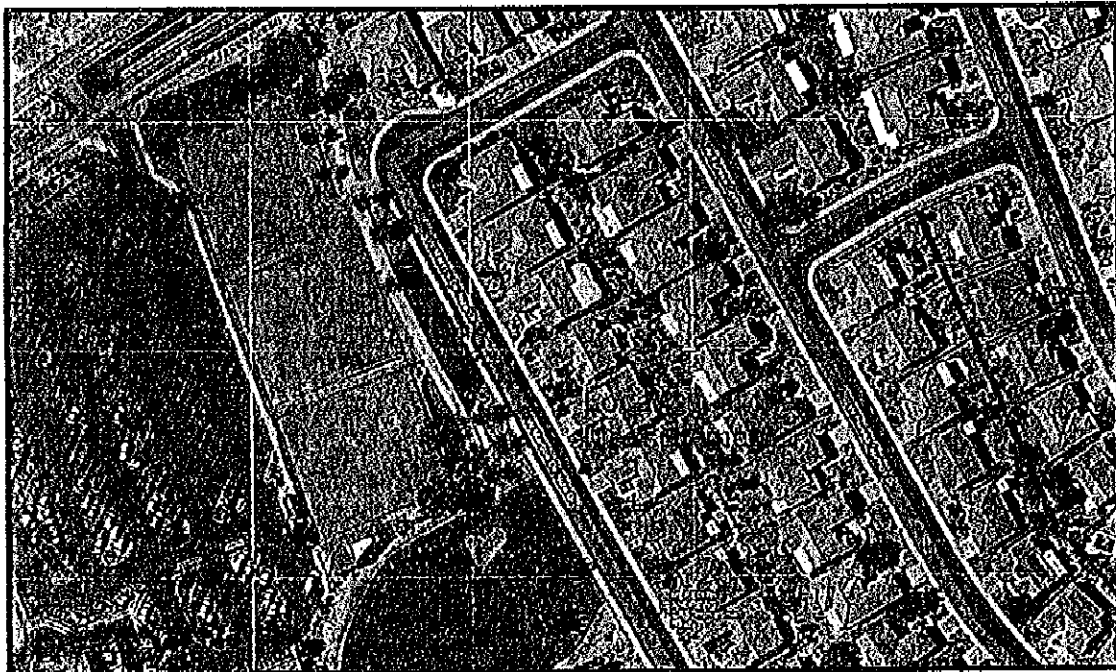


Figure 2. Location of the Ambient Noise Measurement

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Pickleball Noise Measurements

AGI conducted acoustical tests on June 12 and 20, 2012 to measure the noise from pickleball operations, different paddle types, and a noise barrier system. The measurements were conducted at a nearby facility while the Cimarron courts were being renovated. A controlled test was conducted on June 12, 2012 with 32 players playing pickleball simultaneously. Noise measurements were also conducted with four players playing pickleball with various paddle types. The tests were then repeated on June 20, 2012 after the installation of an Acoustifence noise barrier system. On August 22, 2012, additional noise measurements were conducted utilizing 8 different pickleball paddles, but without the Acoustifence. For each acoustical test, both A-weighted sound level and One-Third Octave Band Sound Levels were measured from a position 10 feet from the sideline fence.

The initial test conducted with 32 players resulted in an Leq of 66.9 dBA. Paddle tests with the Whipper Snapper, Graphite, ZZT, Blaster, Striker, Graphite Magnum, Prolite Magnum, and Paddle Tech, resulted in an Leq of 64.7, 60.1, 57.0, 61.4, 61.3, 57.9, 62.8, and 59.3 dBA, respectively. After the installation of acoustifence, the 32 players test resulted in an Leq of 51.1 dBA. The Paddle tests with the Whipper Snapper, Graphite, ZZT, Blaster, Striker, Graphite Magnum, Prolite Magnum, and Paddle Tech paddles resulted in an Leq of 54.9, 48.8, 46.7, 50.9, 49.1, 46.2, 50.8, and 49.4 dBA, respectively. As a result of the acoustifence, noise reductions of 15.8, 9.8, 11.3, 10.3, 10.5, 12.2, 11.7, 12.0, and 9.9 dB were achieved for the 32 players and the respective paddles. The average noise reduction achieved by the acoustifence was approximately 13 dB. Table 2 summarizes the test data and noise reduction for each paddle type.

Additional paddle tests were conducted on August 22, 2012, but without acoustifence. The paddle tests with the Pro Lite Enforcer, Pro Lite Aero D, Pro Lite Power, Brian Jensen Designs, Pickleball Now Classic Lite, Pickleball Now MetaLite, Pickleball Now Force, and Pickleball Now The Force resulted in an Leq of 58.9, 61.4, 60.1, 61.0, 63.3, 58.1, 64.0, and 57.2 dBA, respectively. Table 3 summarizes the test data for the eight additional paddles. Refer to the Appendix for plots of the noise measurement data.

ESTIMATED CIMARRON COURT NOISE LEVELS

Future pickleball noise at the Cimarron Courts was analyzed using the measurement data and the layout of the new facility and relative geometry to the nearby residences. As summarized in Table 4, the pickleball noise is estimated to be approximately 61 dBA at the front yard of the residences on W Marcos De Niza Drive, which directly face the courts. When compared with the City's General Plan noise guideline of 50 dBA, the noise would exceed the guideline.

SUN CITY GRAND PICKLEBALL NOISE STUDY



Table 2
Measured A-Weighted Sound Levels
at Sun City Grand's Pickleball Courts with and without Acoustifence

Test Description/ Paddle	Pickleball Noise Level, Leg, dBA at 10-ft from edge of court		Noise Reduction
	Without Acoustifence	With Acoustifence	
32 players	66.9	51.1	15.8 dB
Whipper Snapper	64.7	54.9	9.8 dB
Graphite	60.1	48.8	11.3 dB
ZZT	57.0	46.7	10.3 dB
Blaster	61.4	50.9	10.5 dB
Striker	61.3	49.1	12.2 dB
Graphite Magnum	57.9	46.2	11.7 dB
Prolite Magnum	62.8	50.8	12.0 dB
Paddle Tech	59.3	49.4	9.9 dB

Table 3
Measured A-Weighted Sound Levels at Sun City Grand's
Pickleball Courts with Additional Paddles - without Acoustifence

Paddle	Pickleball Noise Level, Leg, dBA at 10-ft from edge of court
Pro Lite Enforcer	58.9
Pro Lite Aero D	61.4
Pro Lite Power	60.1
Brian Jensen Designs	61.0
Pickleball Now Classic Lite	63.3
Pickleball Now MetaLite	58.1
Pickleball Now Force	64.0
Pickleball Now The Force	57.2

Table 4
Estimated Pickleball Noise from Cimarron Courts with and without Acoustifence

Description/Paddle	Pickleball Noise Level, Leg, dBA at 100-ft from edge of court		Noise Guideline
	Without Acoustifence	With Acoustifence	
32 players	61	48	50 dBA

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NOISE CONTROL MEASURES

The following measures are identified to minimize pickleball noise at the nearest homes to the Cimarron Courts:

1. Install a full height (minimum height of 10-ft) continuous noise barrier on the north, east and south sides of the chain link fence surrounding the pickleball courts. A material acoustically equivalent to the Acoustifence product should provide the sound transmission needed.
2. Require pickleball players at the Cimarron Courts to only use the quietest or quieter paddles identified in Table 5.
3. Consider limiting the hours of pickleball play to time periods that are less intrusive to nearby homeowners.

Table 5
Ranking of the Tested Pickleball Paddles by Sound Level

Paddle	Pickleball Noise Level, Leq, dBA at 10-ft from edge of court	Description
ZZT	57.0	Quietest
Pickleball Now The Force	57.2	Quietest
Graphite Magnum	57.9	Quieter
Pickleball Now MetaLite	58.1	Quieter
Pro Lite Enforcer	58.9	Quieter
Paddle Tech	59.3	Quieter
Graphite	60.1	Moderately Quiet
Pro Lite Power	60.1	Moderately Quiet
Brian Jensen Designs	61.0	Moderately Quiet
Striker	61.3	Moderately Quiet
Blaster	61.4	Moderately Quiet
Pro Lite Aero D	61.4	Moderately Quiet
Pro Lite Magnum	62.8	Moderately Quiet
Pickleball Now Classic Lite	63.3	Loudest
Pickleball Now Force	64.0	Loudest
Whipper Snapper	64.7	Loudest

SUN CITY GRAND PICKLEBALL NOISE STUDY



CONCLUSION

AGI has reviewed the Sun City Noise Ordinance, conducted ambient and operations noise level measurements, analyzed the future noise levels from the Cimarron facility, assessed the impact of the future operations and evaluated noise control measures. Noise control measures have been identified for reducing the future noise at the Cimarron Courts.

Please contact Mr. Robert Woo at 602-635-6196 if you have any questions regarding this report.

Sincerely,
ACOUSTICS GROUP, INC.

Robert Woo
Principal Consultant

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APPENDIX

PLOTS OF THE PADDLE TEST DATA

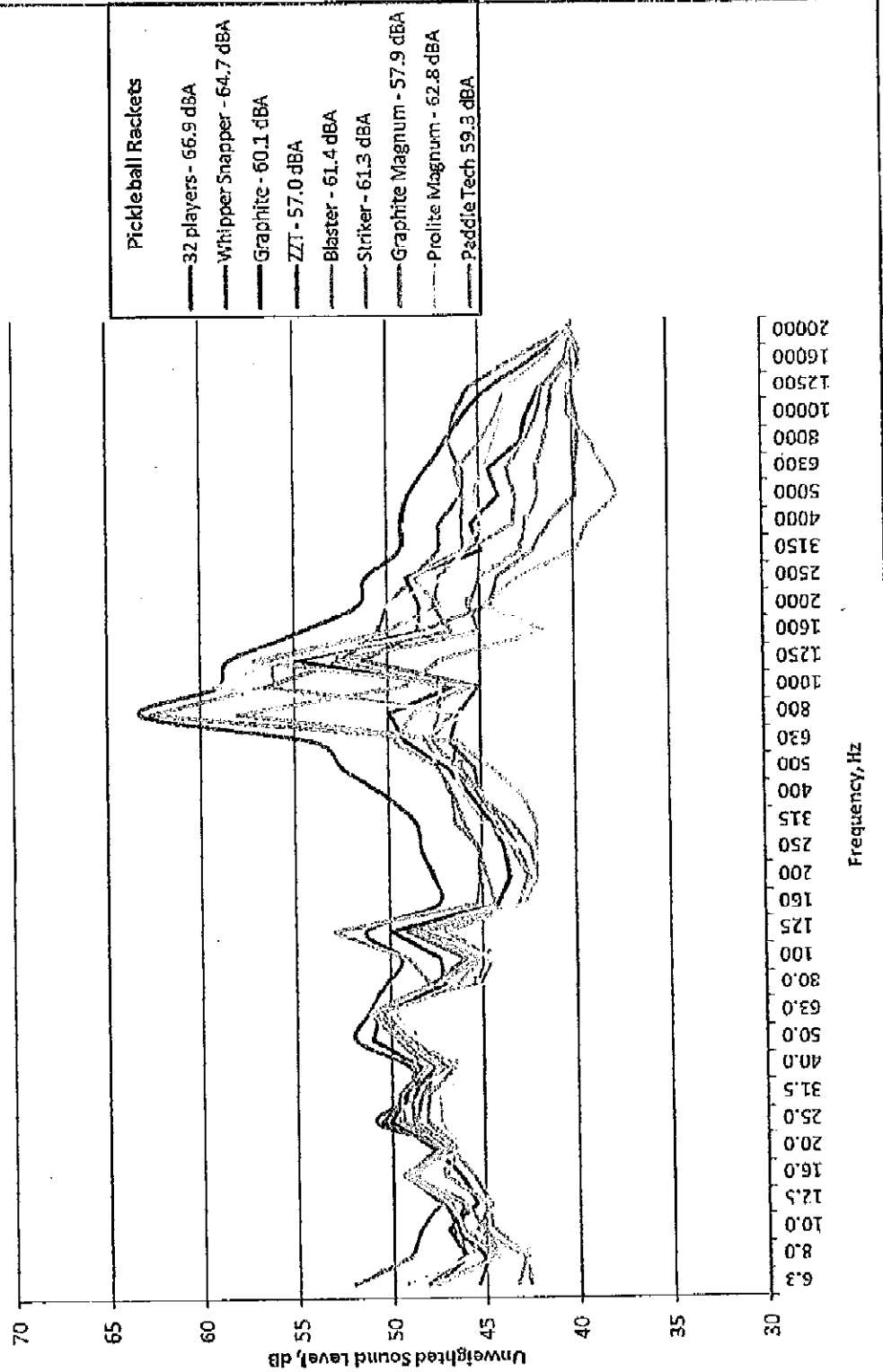
Figure X-1 depicts the measured one-third octave band sound levels without acoustifence and Figure X-2 depicts the measured one-third octave band sound levels with acoustifence. Figure X-3 compares the measured sound levels of the 32 players with and without acoustifence. Figure X-4 through X-11 compares the measured sound levels of the paddles with and without acoustifence.

Figure X-12 represents the measured one-third octave band sound levels from eight additional paddles tested on August 22, 2012. Figures X-13 through X-20 depict the frequency data for each paddle individually.



SUN CITY GRAND PICKLEBALL NOISE STUDY

Figure X-1. Measured One-Third Octave Band Sound Levels without Acoustifence - 6/12/12

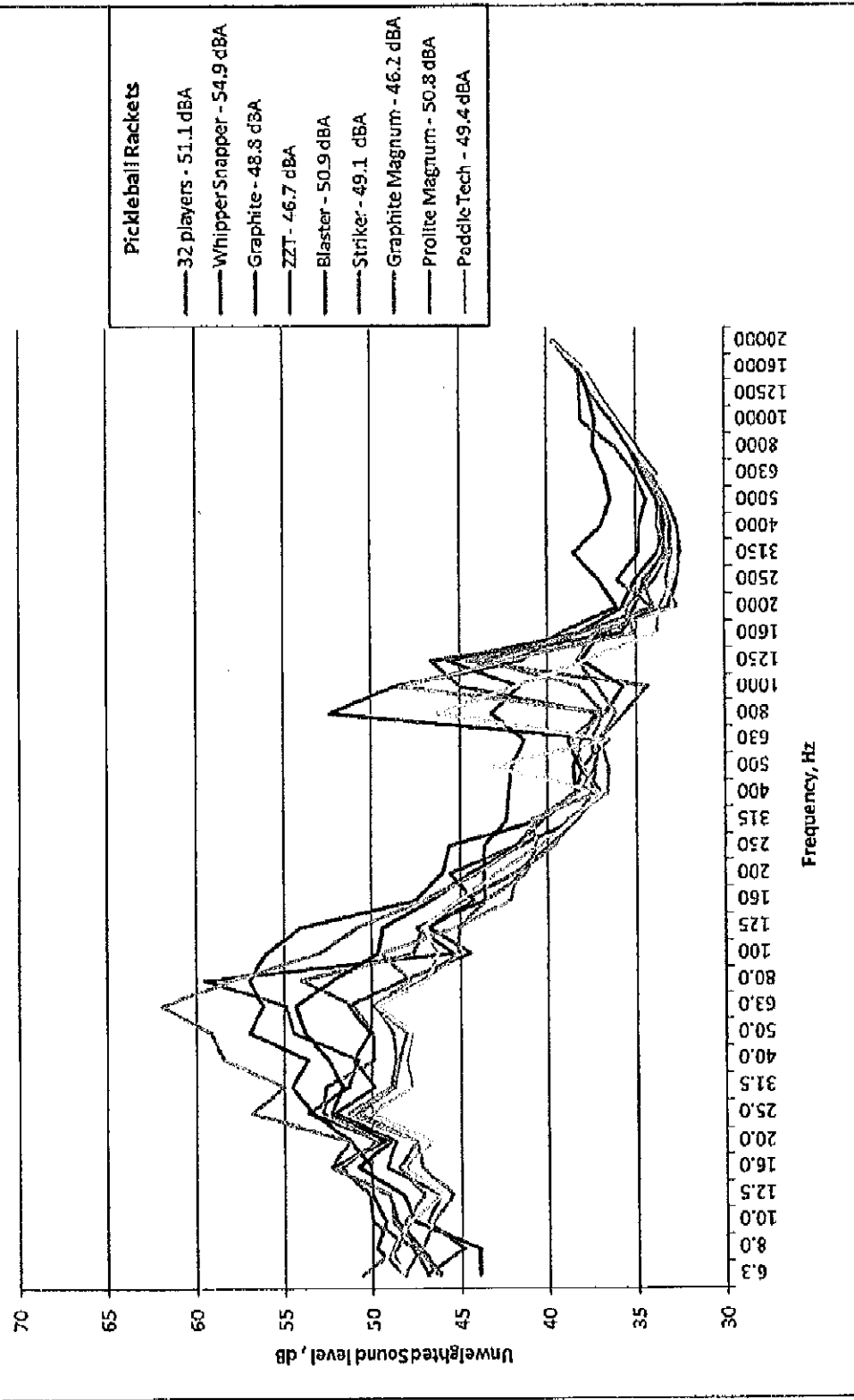


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Figure X-2. Measured One-Third Octave Band Sound Levels with Acoustifence - 6/20/12

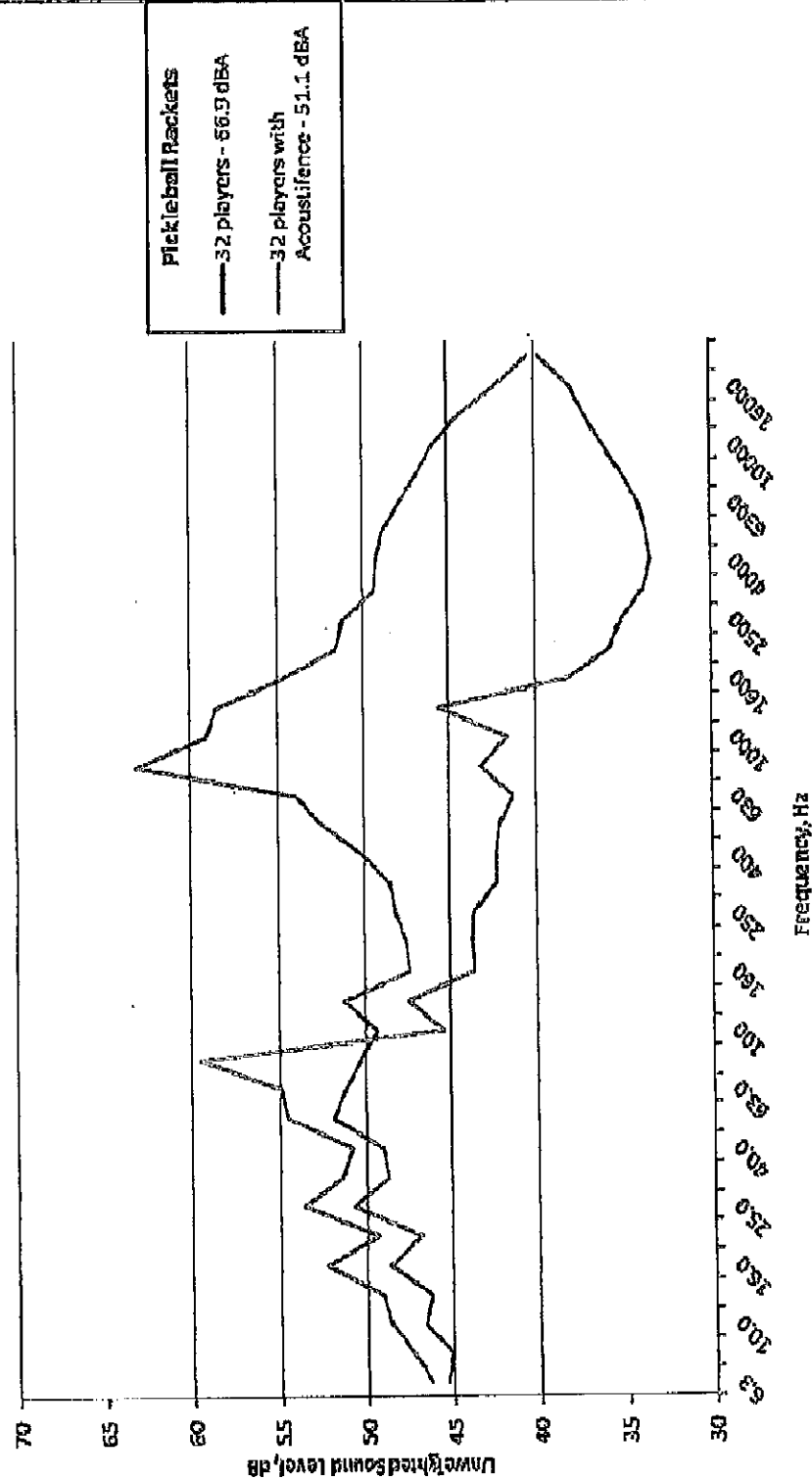


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Figure X-3. Measured One-Third Octave Band Sound Levels with and without Acoustifence

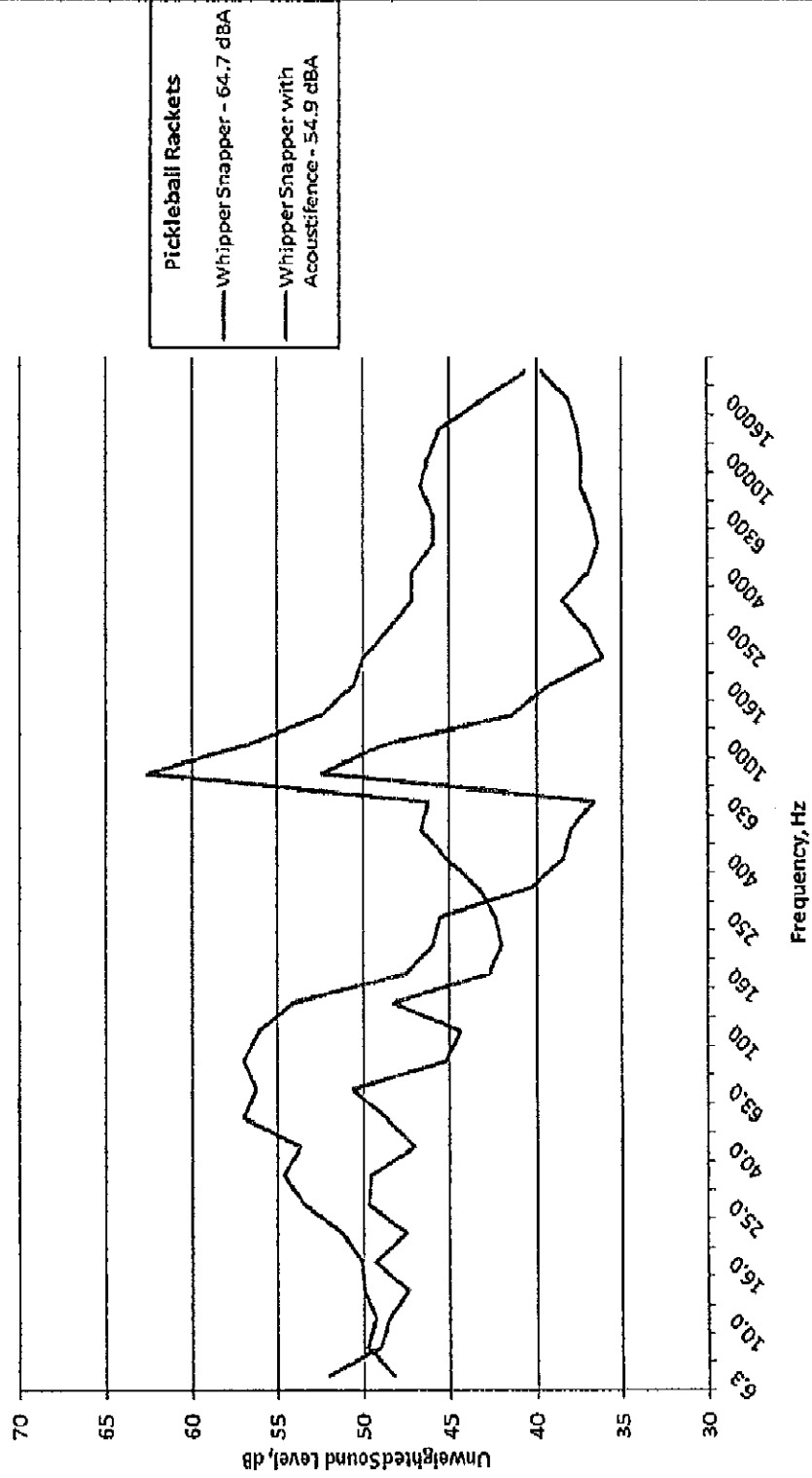


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Figure X-4. Measured One-Third Octave Band Sound Levels with and without Acoustifence

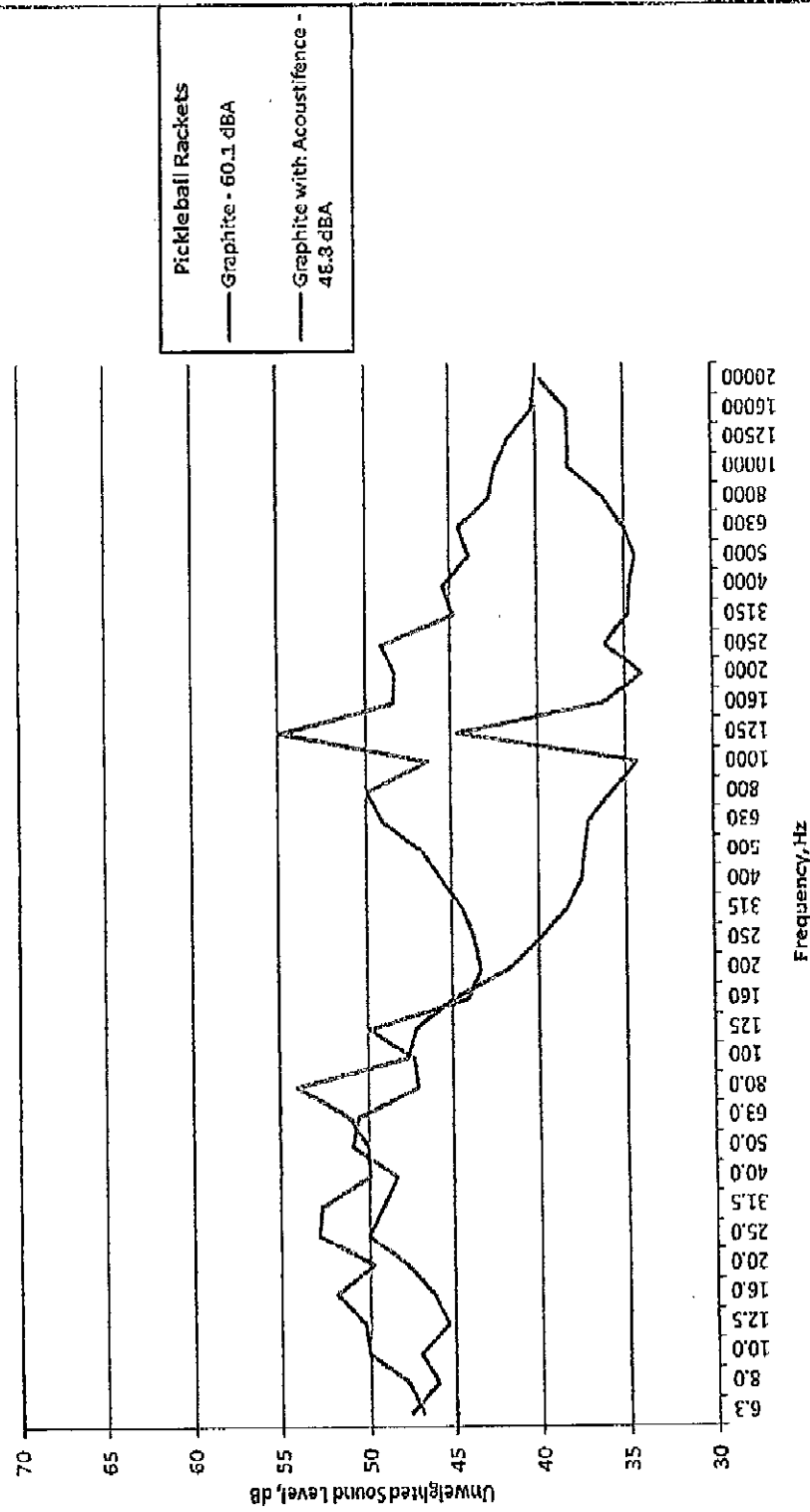


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Figure X-5. Measured One-Third Octave Band Sound Levels with and without Acoustifence



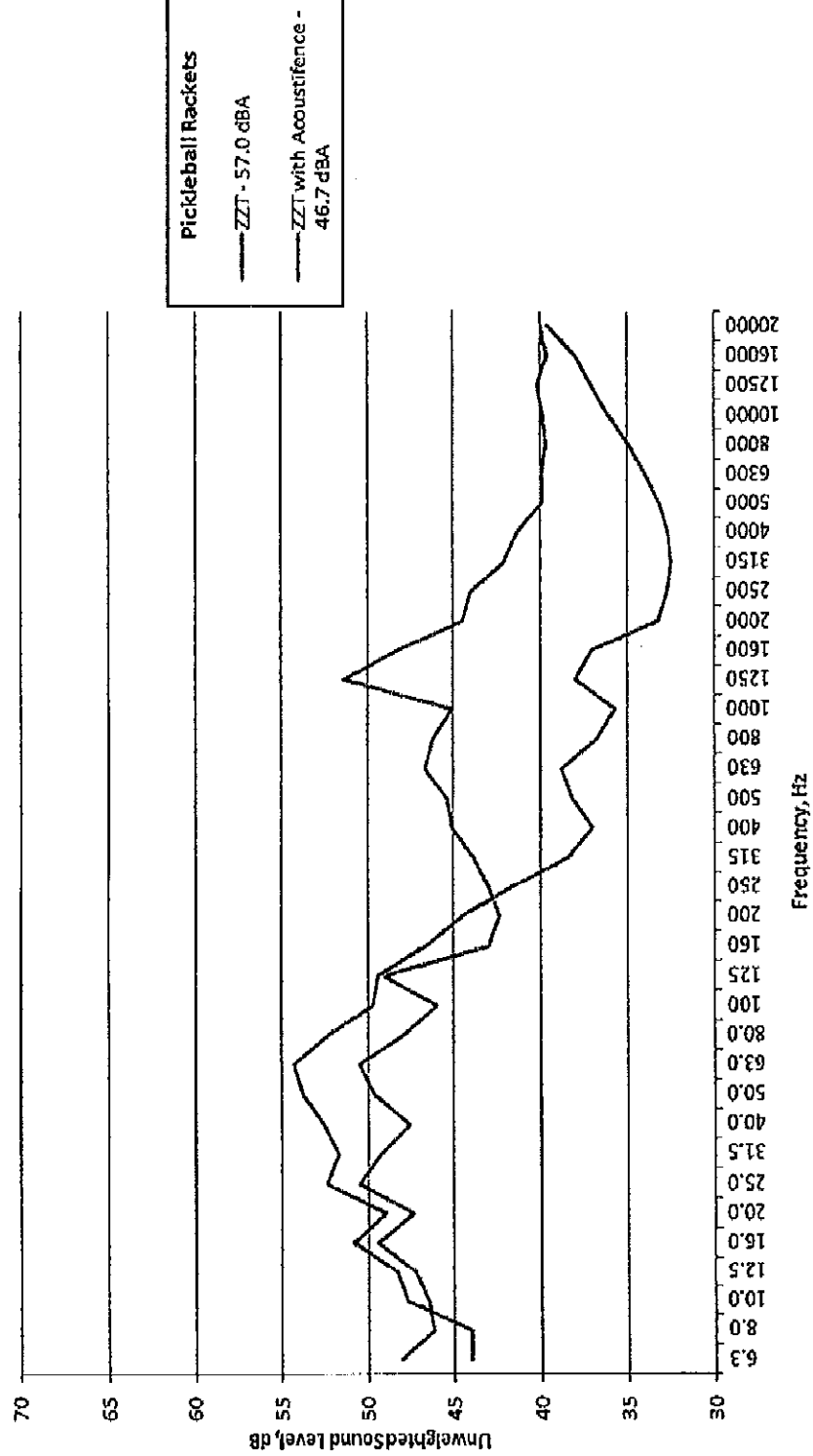
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Figure X-6. Measured One-Third Octave Band Sound Levels with and without Acoustifence

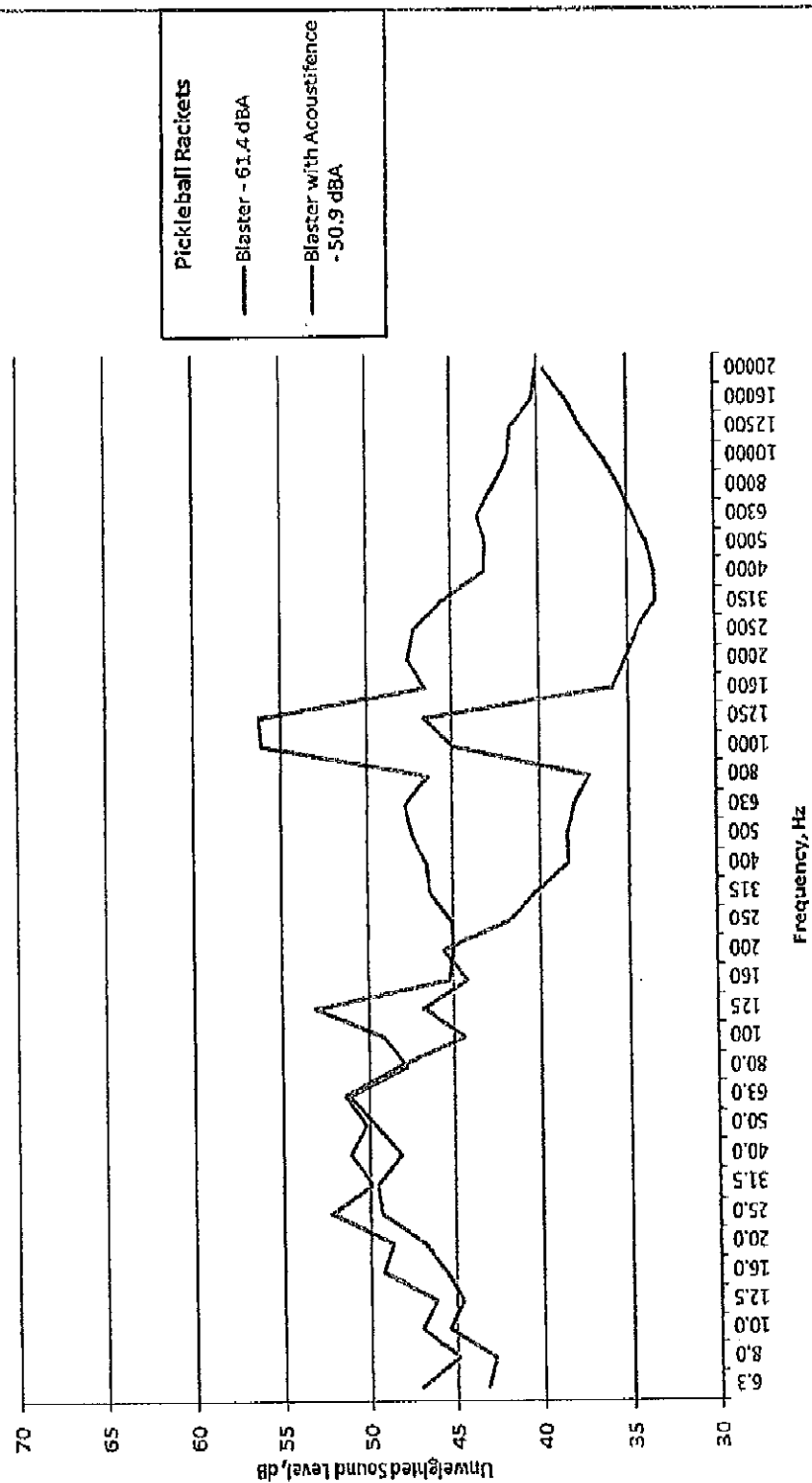


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Figure X-7. Measured One-Third Octave Band Sound Levels with and without Acoustifence

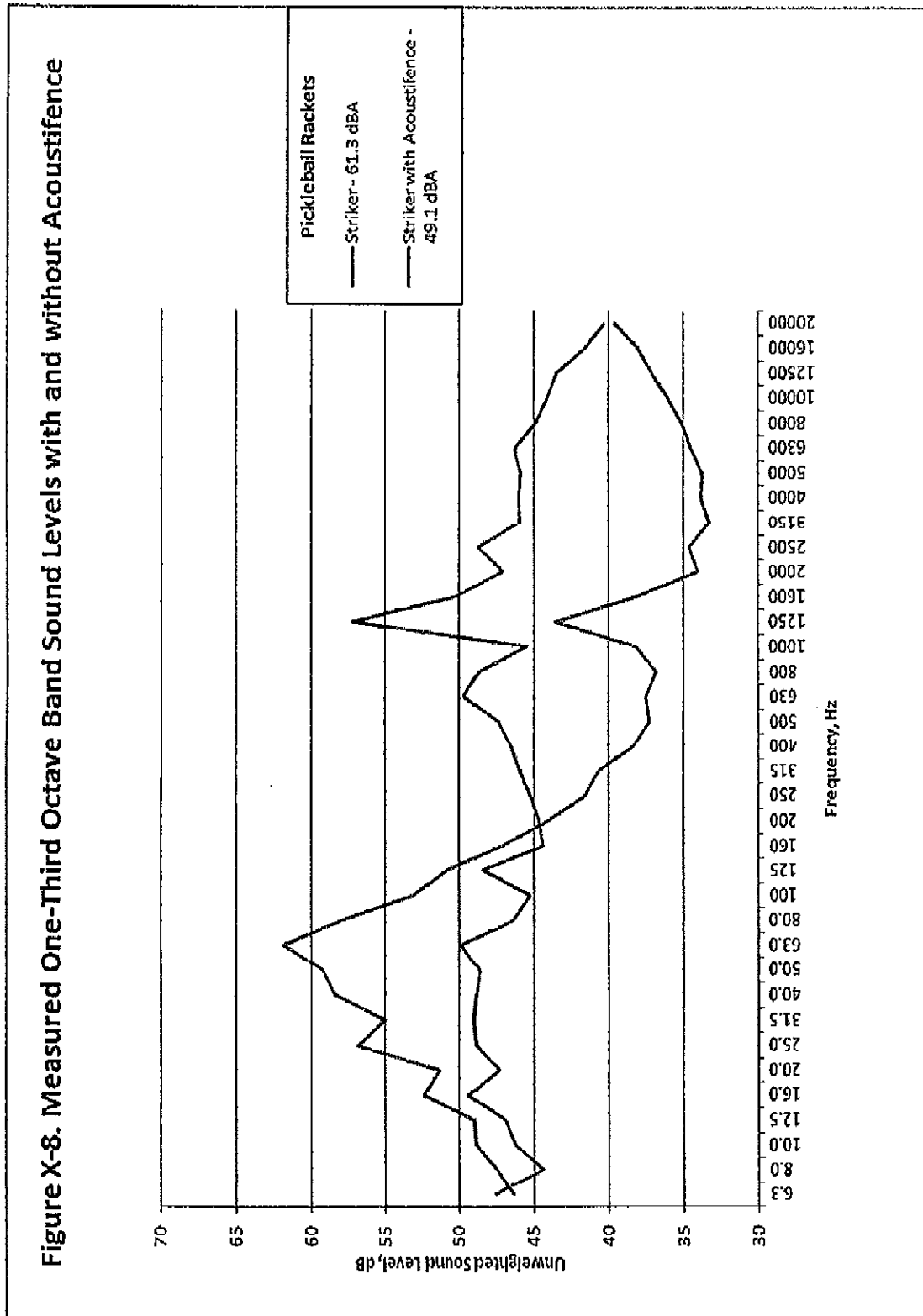


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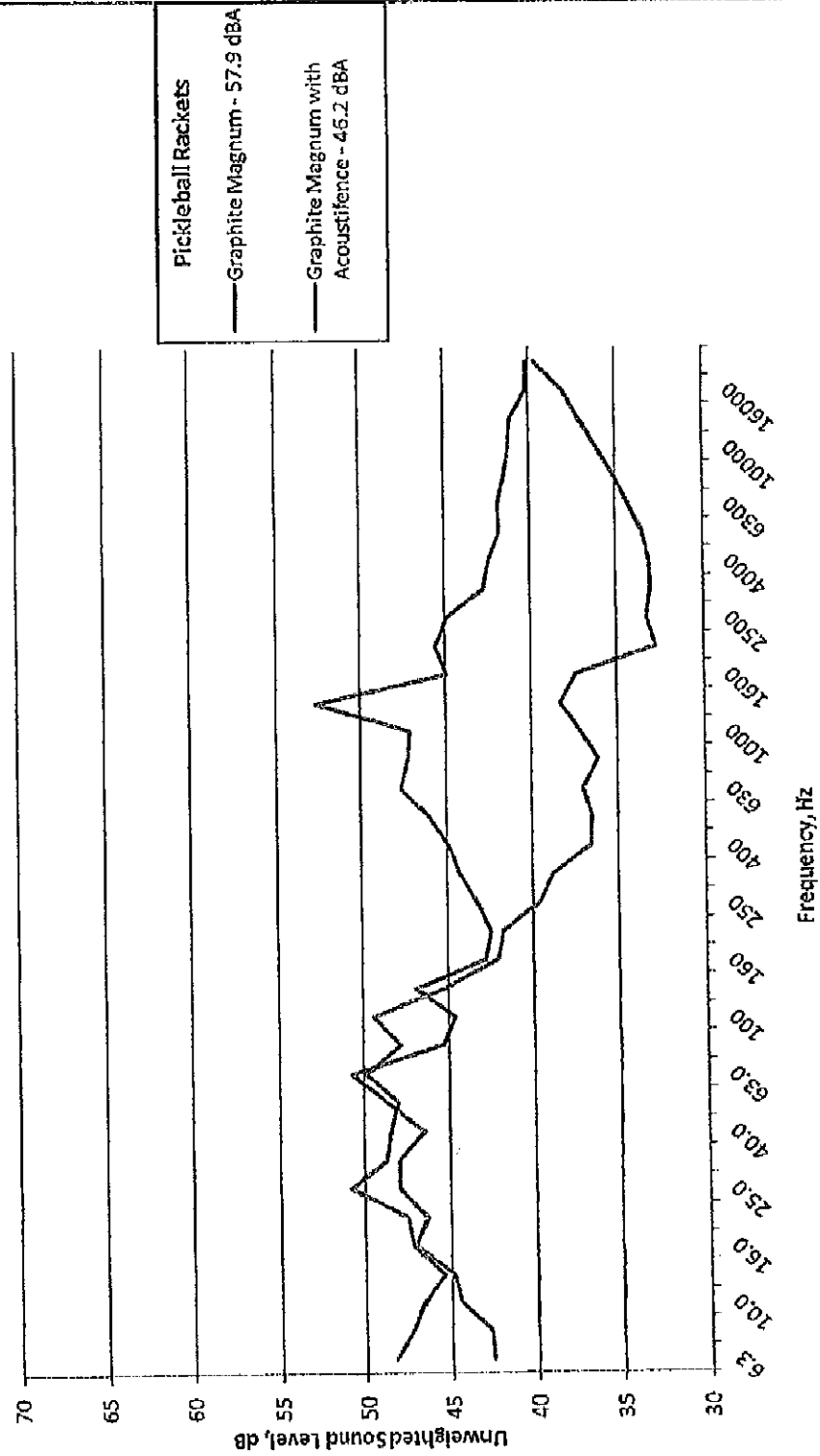


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Figure X-9. Measured One-Third Octave Band Sound Levels with and without Acoustifence

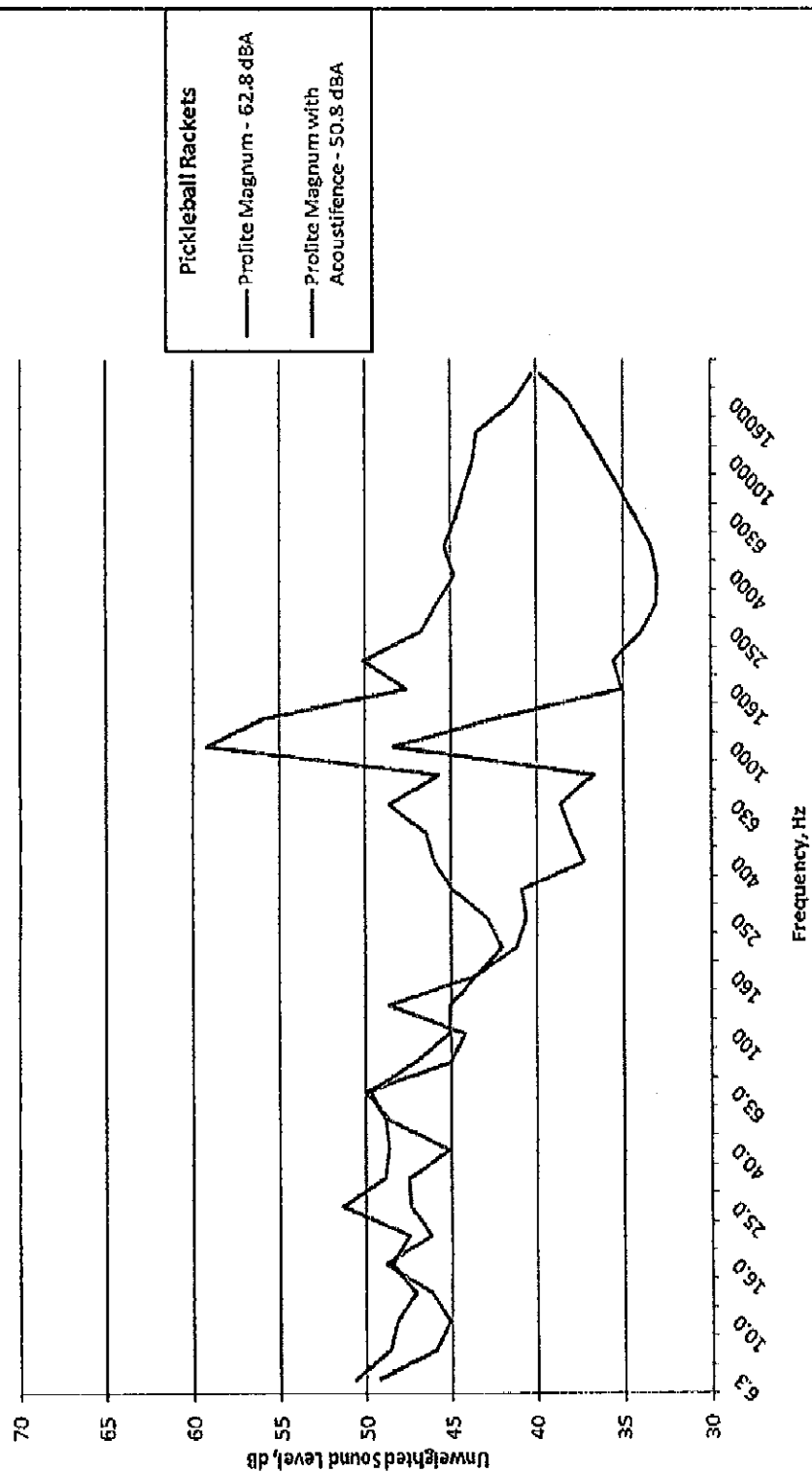


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Figure X-10. Measured One-Third Octave Band Sound Levels with and without Acoustifence



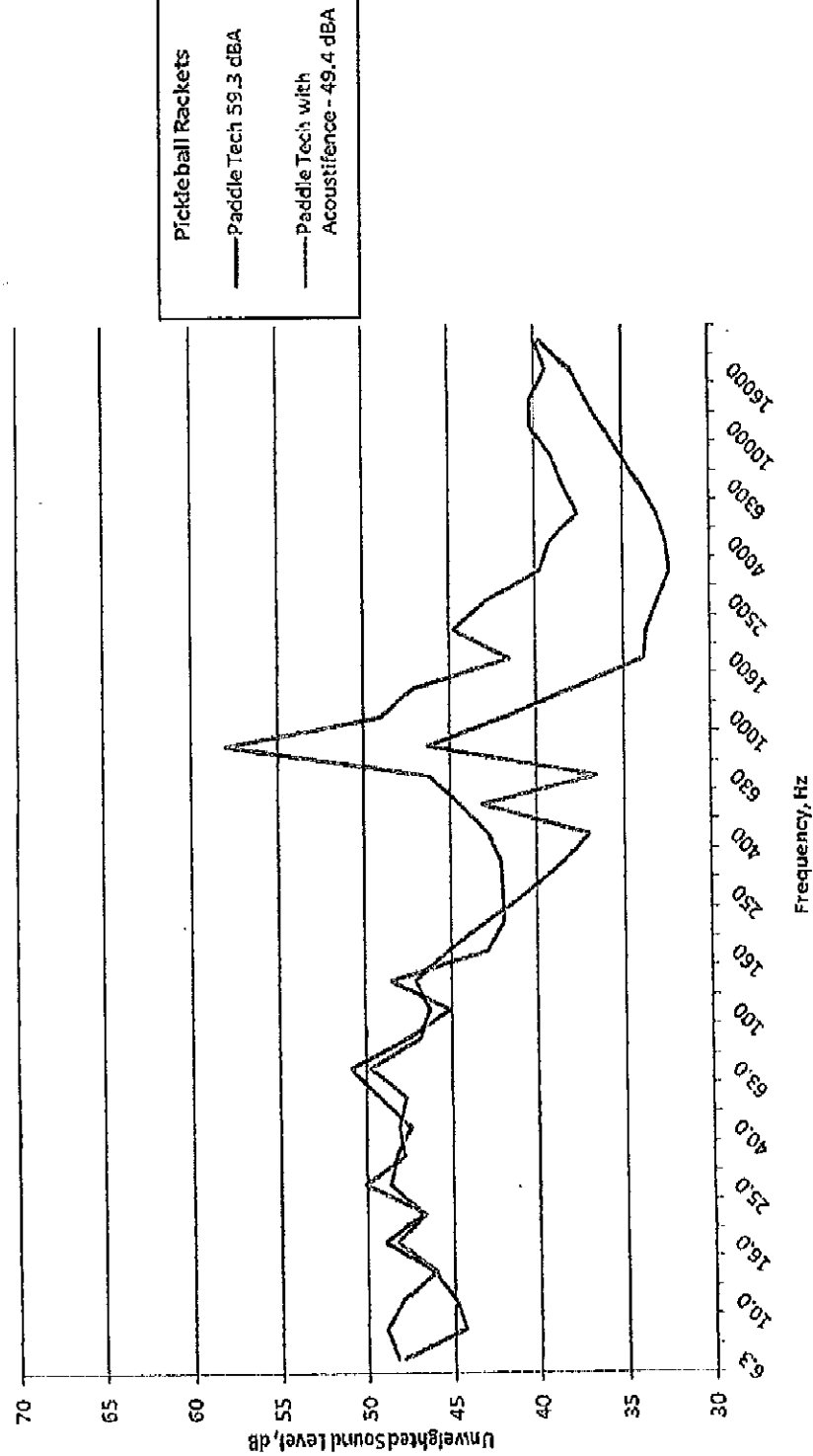
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Figure X-11. Measured One-Third Octave Band Sound Levels with and without Acoustifence



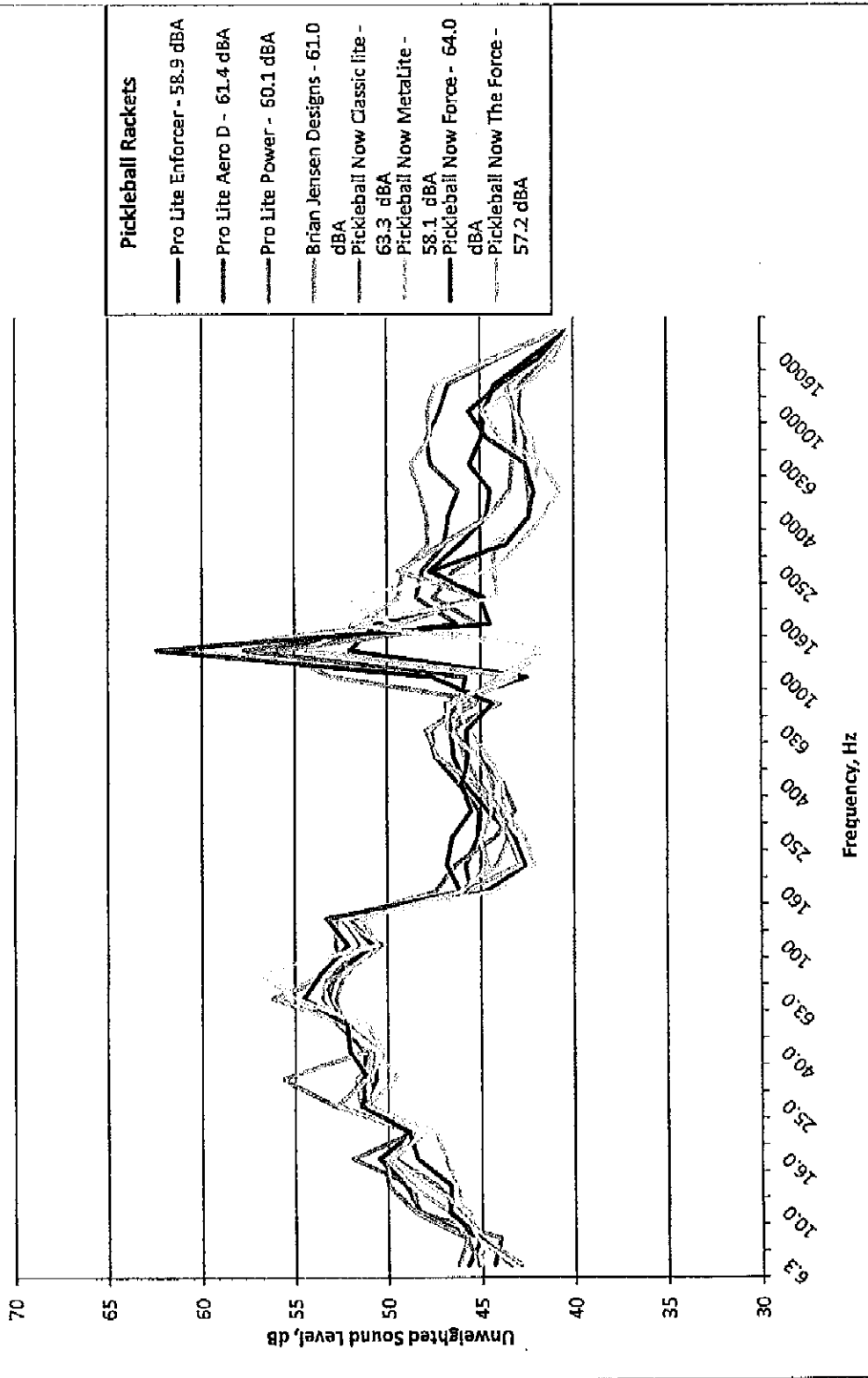
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Figure X-12. Measured One-Third Octave Band Sound Levels with New Racket Types
without Acoustifence - 8/22/12

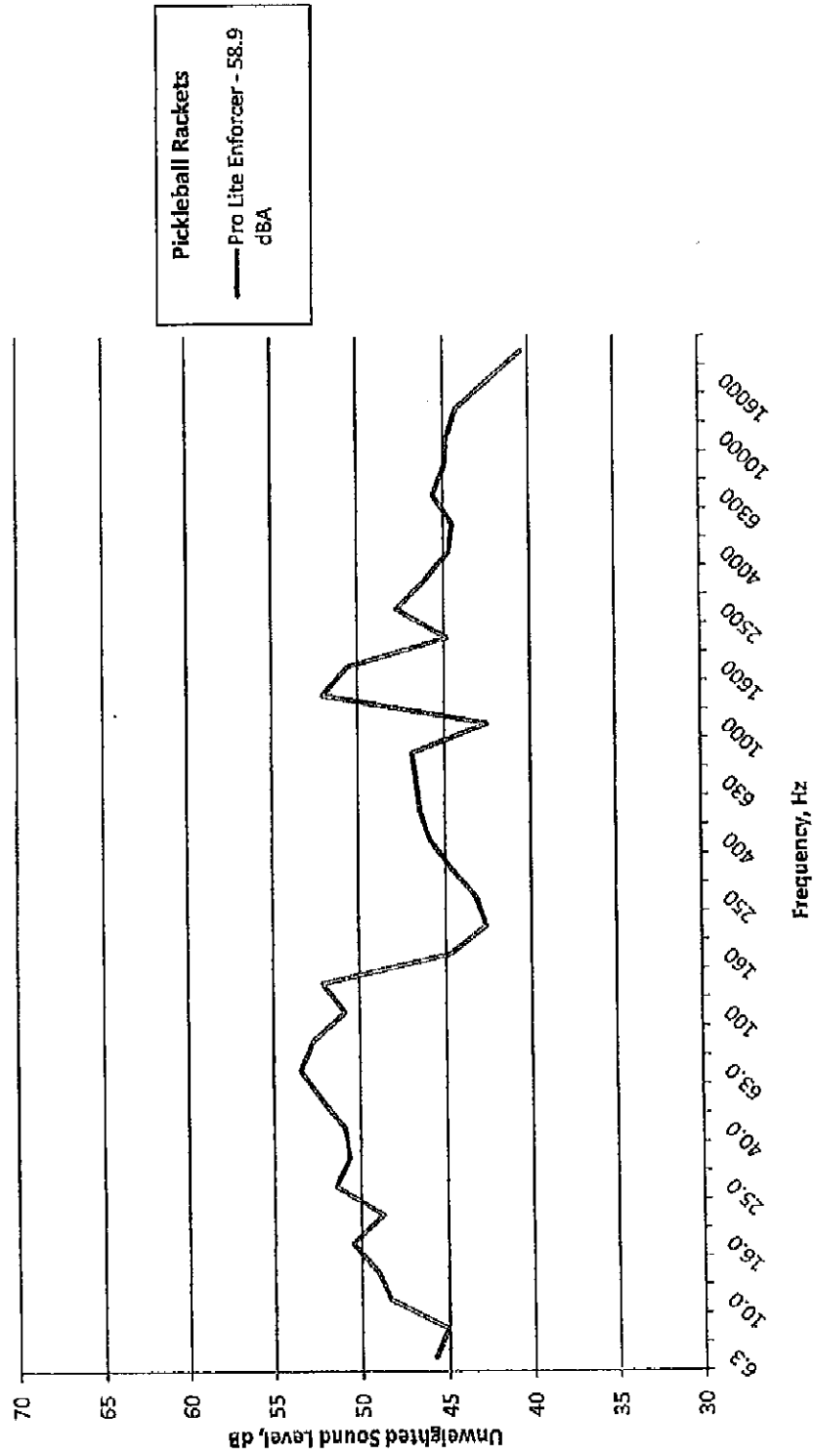


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Figure X-13. Measured One-Third Octave Band Sound Levels with Pro Lite Enforcer



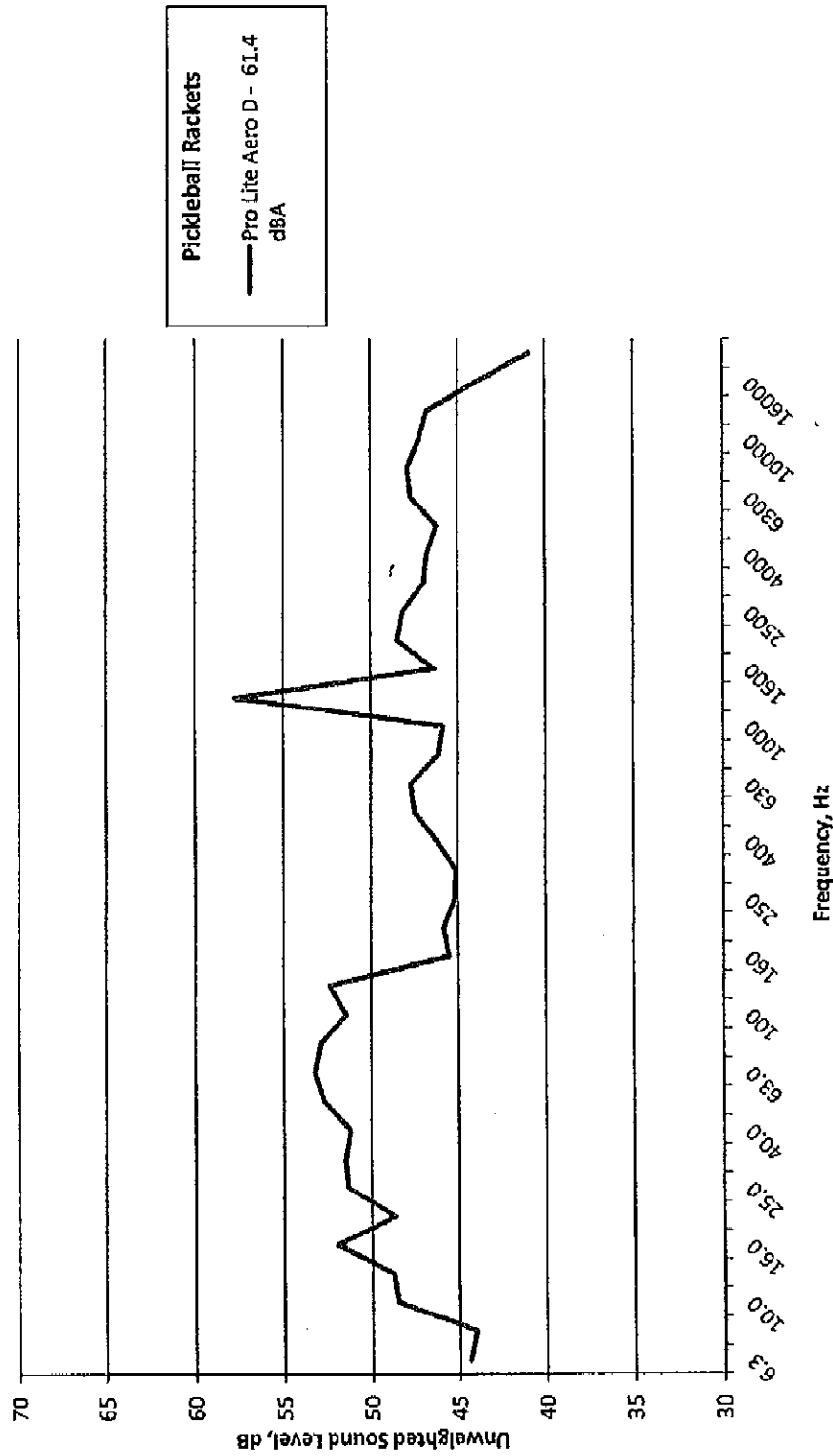
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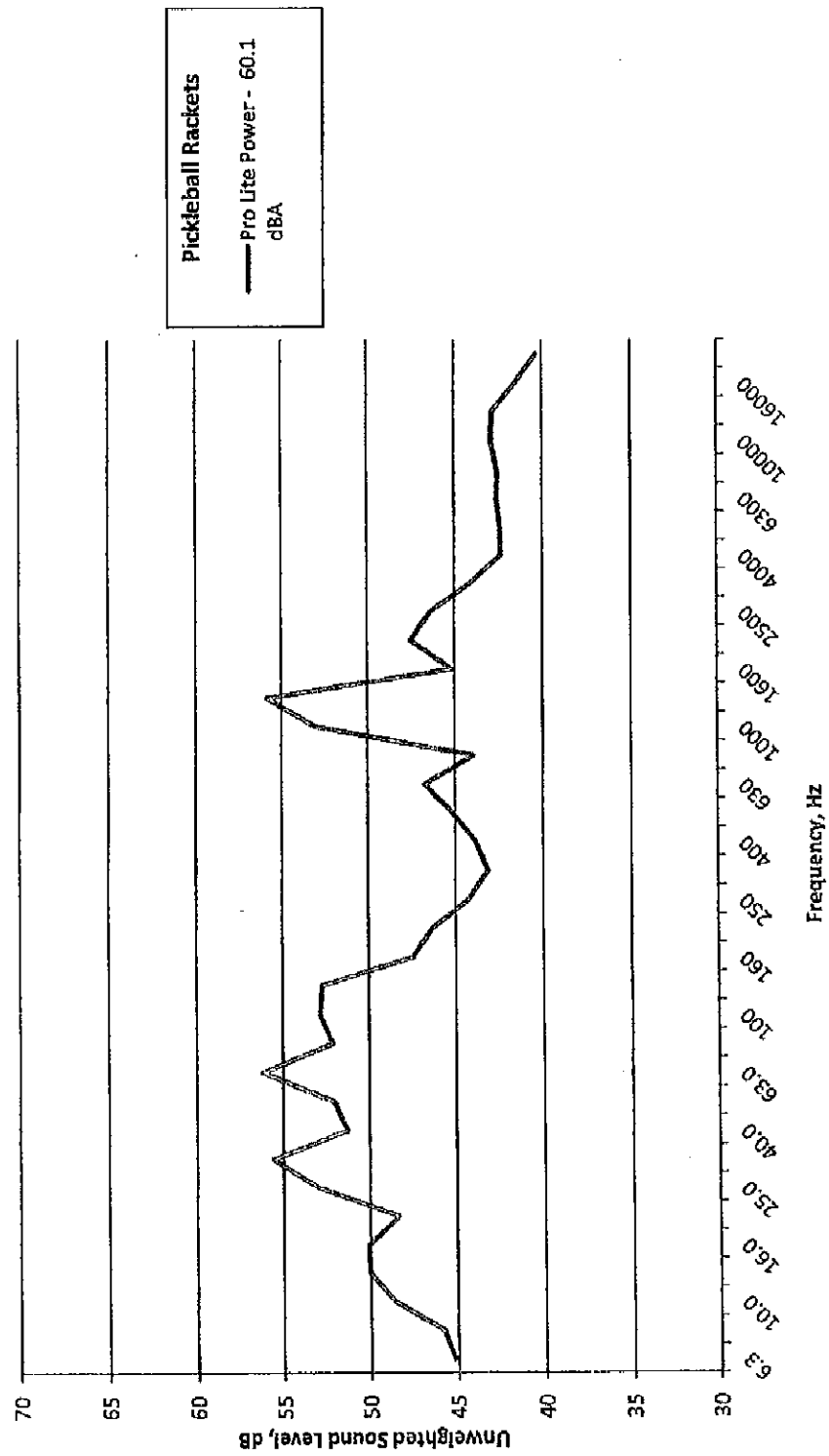
Figure X-14. Measured One-Third Octave Band Sound Levels with Pro Lite Aero D



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Figure X-15. Measured One-Third Octave Band Sound Levels with Pro Lite Power

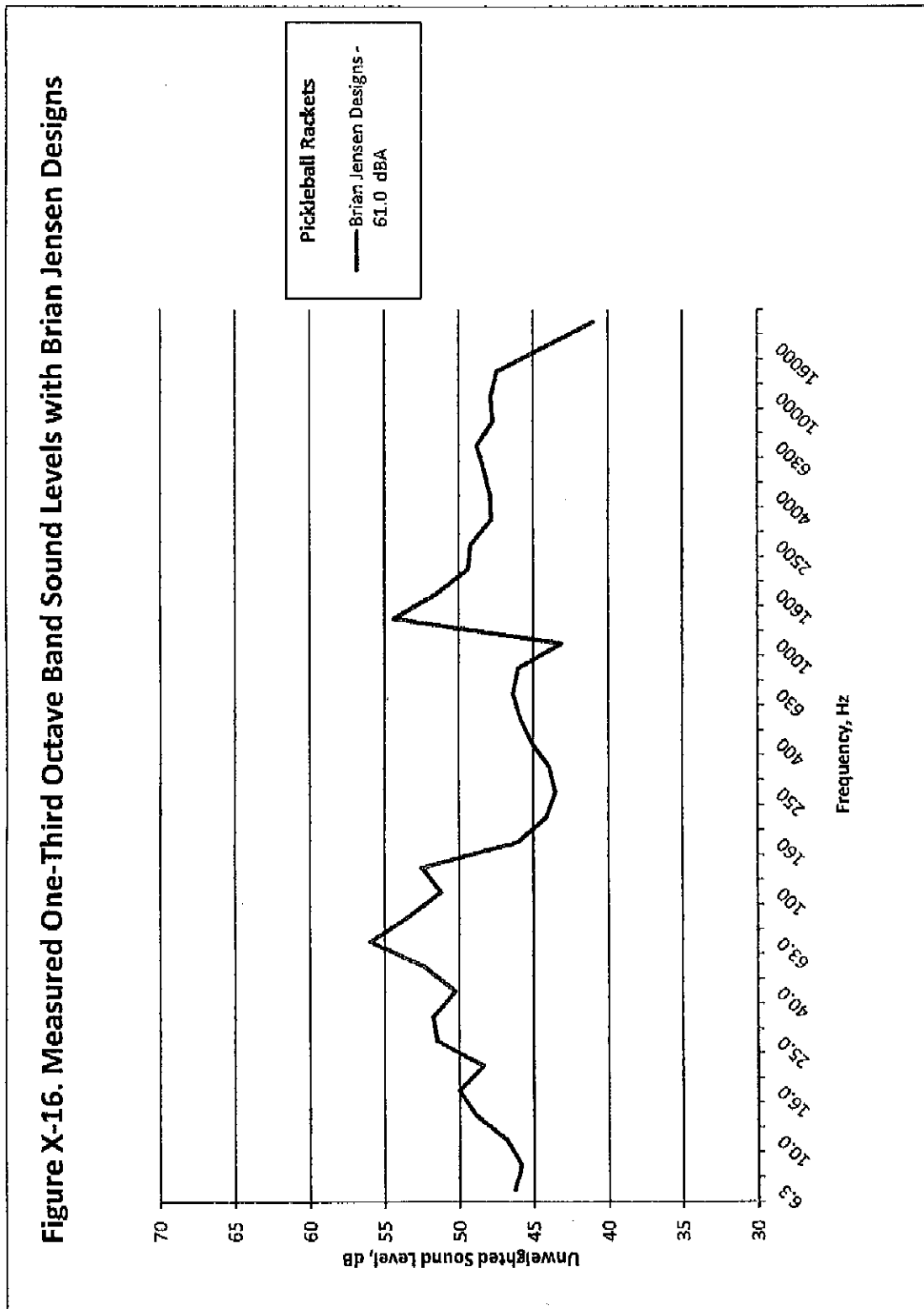


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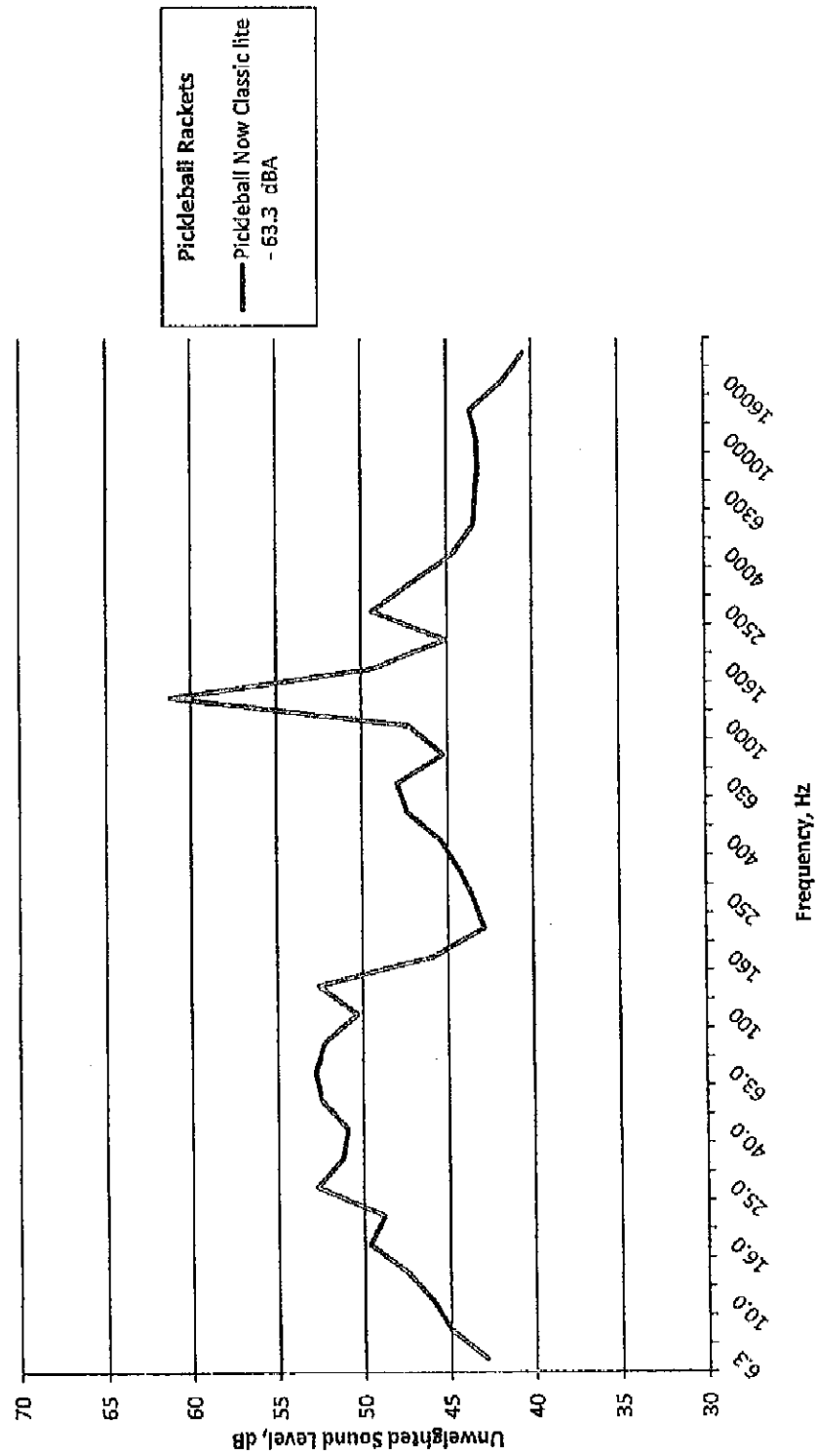


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Figure X-17. Measured One-Third Octave Band Sound Levels with Pickleball Now Classic lite

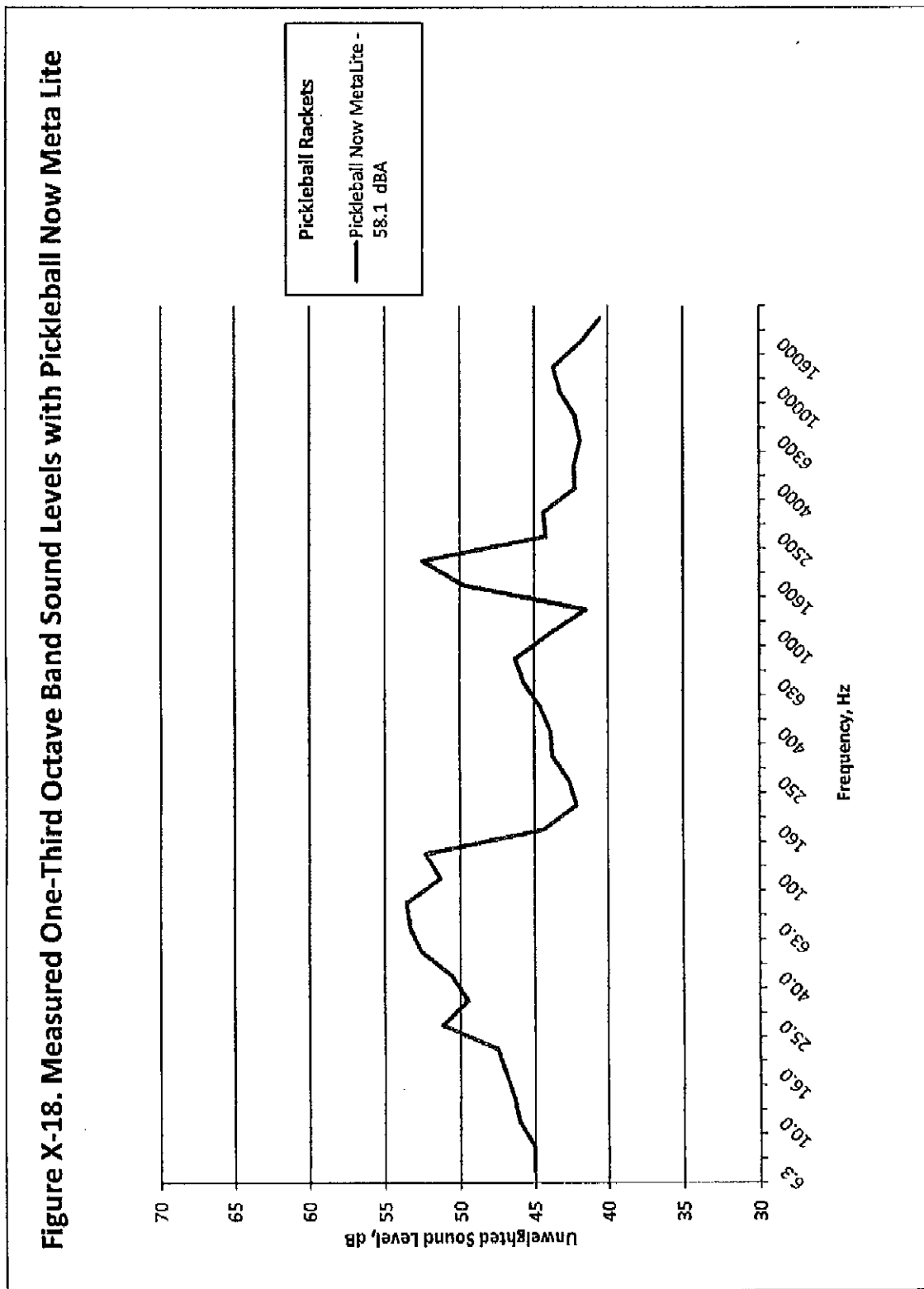


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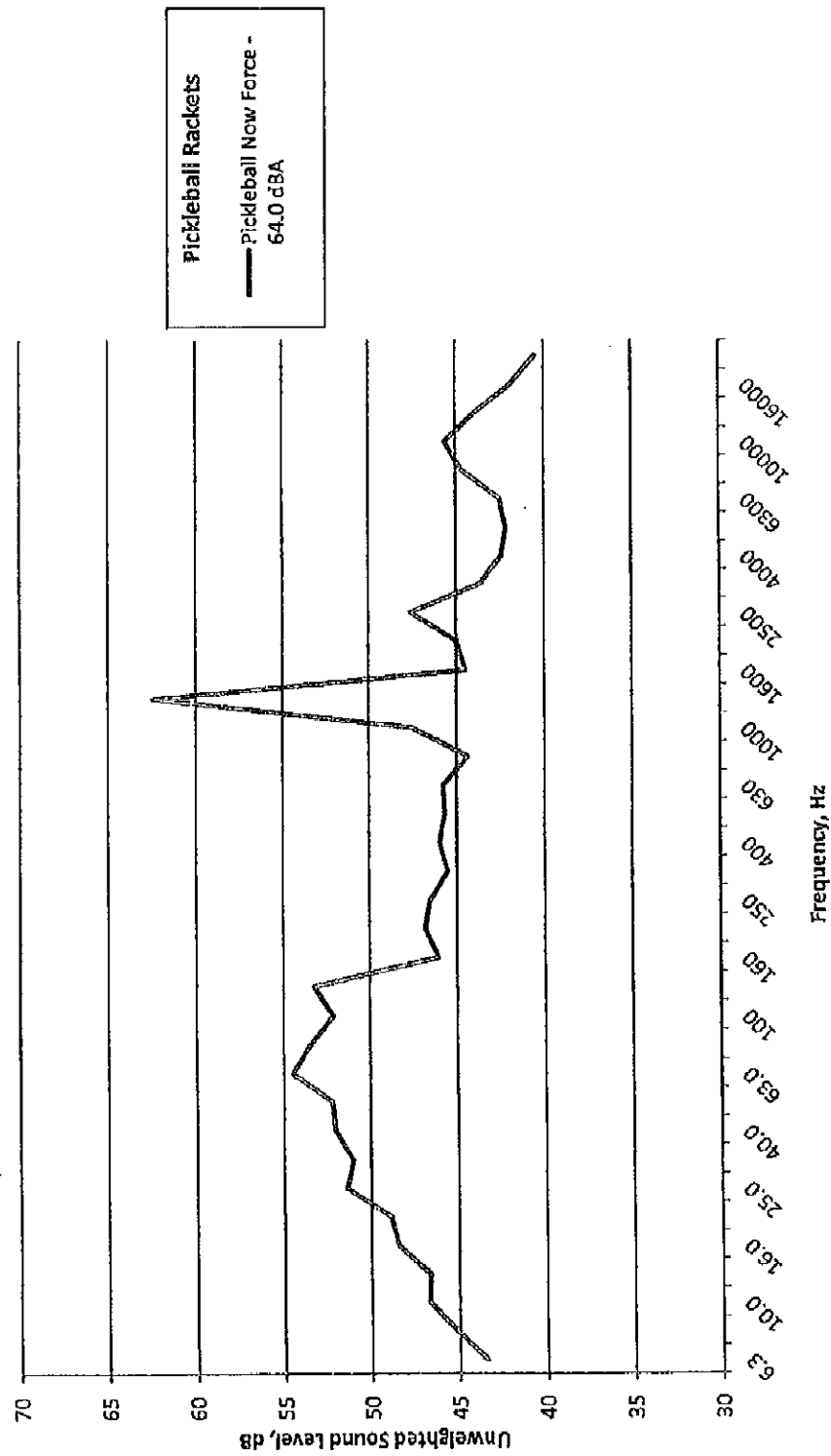
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Figure X-19. Measured One-Third Octave Band Sound Levels with Pickleball Now Force

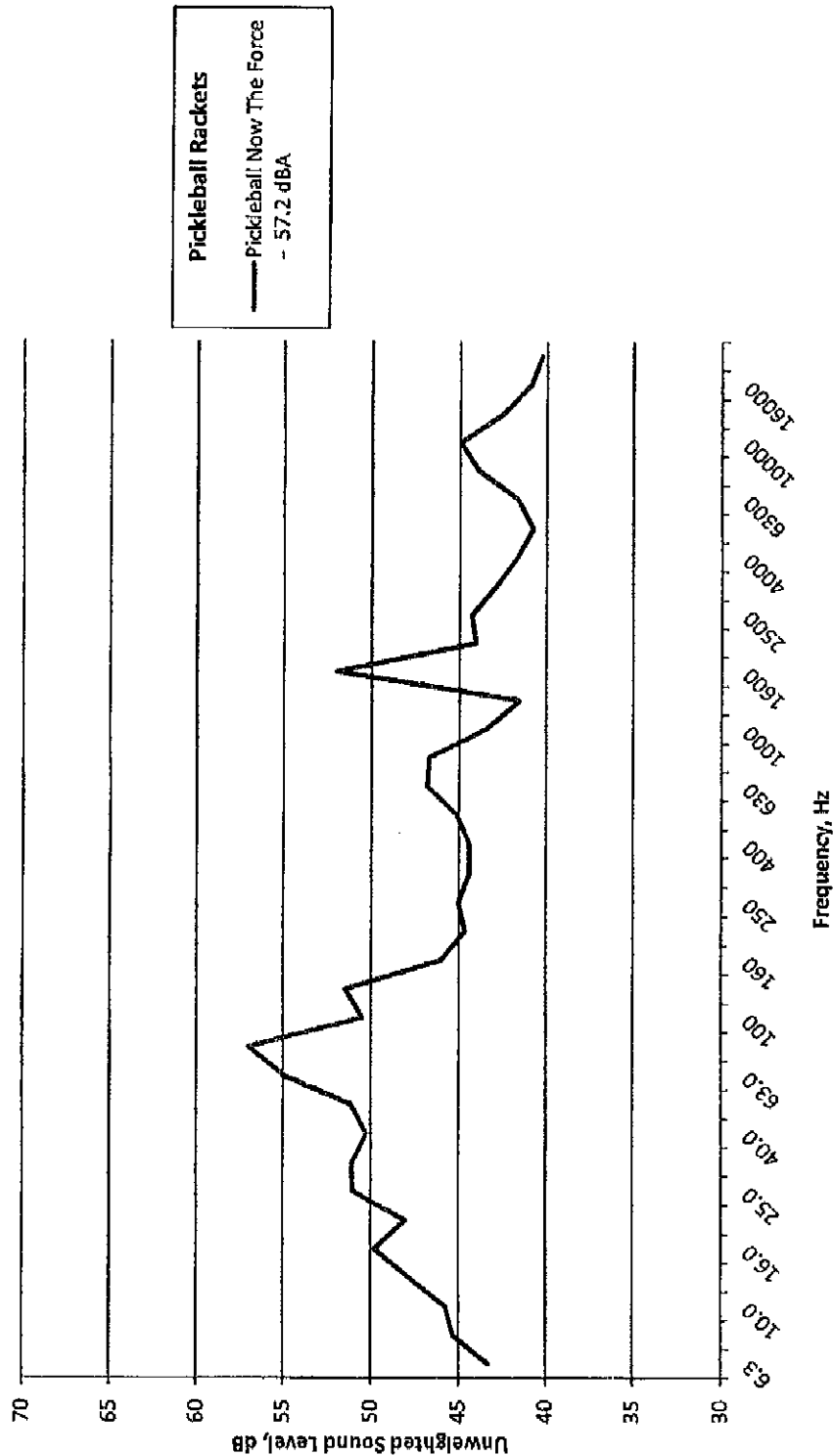


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Figure X-20. Measured One-Third Octave Band Sound Levels with Pickleball Now The Force



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TECHNICAL MEMORANDUM

August 7, 2019

Caleb Schneider
Management Analyst

City of Pacific Grove
300 Forest Avenue
Pacific Grove, CA 93950

Transmitted electronically to: cschneider@cityofpacificgrove.org

Subject: Environmental Noise Assessment – Morris Dill Courts Pickleball Noise
Reference: Extant Project No. 190423.01

1 Introduction

The City of Pacific Grove has received comments from residence surrounding the Morris Dill Courts (courts), expressing concern over the noise generated by the on-going pickleball at the Courts. As a result of the expressed concern over the pickleball noise, the City of Pacific Grove is evaluating treatment options for helping control the noise levels in the surrounding community. Extant Acoustical Consulting LLC (Extant) was retained to conduct site specific noise assessment for the project location, prepare a computerized noise model to evaluate potential noise barrier configurations and provide a recommended treatment option. This memorandum presents the approach and methodology for the analysis, applicable regulatory criteria and the findings of the analysis. Appendix A provides a description of the metrics and terminology used in this report along with a discussion of acoustical fundamentals.

2 Regulatory Setting

The City of Pacific Grove has developed goals, policies, programs and thresholds with the intent of controlling and diminishing environmental noise and protecting inhabitants from exposure to excessive noise levels. These standards and guidelines are contained in the City of Pacific Grove General Plan and Municipal Code.

General Plan noise standards applicable to this project are contained within the Noise section of the Health and Safety Element (Chapter 10.14). Specifically, General Plan Program LL requires new proposed stationary noise sources to not exceed average hourly noise levels of 50 dBA or 45 dBA respectively during Daytime and Nighttime periods; and maximum noise levels of 70 dBA or 65 dBA during Daytime and Nighttime periods respectively. Program PP of the General Plan works to maintain consistency of the City's noise ordinance with the General Plan. And Program QQ provides for continued support of the City's noise ordinance as a means of enforcing inappropriate or unnecessary noise.

The primary noise standards contained within the City of Pacific Grove Municipal Code are enumerated in section 11.96.010. The standards provide a subjective basis for evaluating noise within the City, and are presented below:

- (a) *The level of the noise;*
- (b) *The intensity of the noise;*

- (c) Whether the nature of the noise is usual or unusual;*
- (d) Whether the origin of the noise is natural or unnatural;*
- (e) The level and intensity of the background noise, if any;*
- (f) The proximity of the noise to residential sleeping facilities;*
- (g) The nature and zoning of the area within which the noise emanates;*
- (h) The density of the inhabitation of the area within which the noise emanates;*
- (i) The time of the day or night the noise occurs;*
- (j) The duration of the noise;*
- (k) Whether the noise is recurrent, intermittent, or constant; and*
- (l) Whether the noise is produced by a commercial or noncommercial activity.*

2.1 Additional Criteria Discussion

As presented above, the City of Pacific Grove General Plan noise standards include 24-hour day-night noise levels (Ldn), hourly equivalent average noise levels (Leq) and maximum noise levels (Lmax). Due to the nature of the pickleball hit/impact, evaluating the sounds based on an averaged sound pressure level does not accurately represent the level of annoyance or human perception. The maximum noise level standard contained within Figure 10-7 of the General Plan would be the most appropriate City of Pacific Grove noise standard currently in place. However, sounds that are impulsive and tonal nature, such as the pickleball impacts are often more readily perceptible in the background noise environment, leading to a greater level of annoyance. To account for this increased perception many jurisdictions apply a 5 dB penalty to sounds that are tonal or impulsive, as called out in the ASTM International E1686. The more current American National Standards Institute (ANSI) S12.9, Part 4 also calls for a 5 dB adjustment to the sound exposure level of regularly impulsive sounds.

The noise standards contained within the City of Pacific Grove Municipal code, for the determination of unlawful noises provide significant context for the evaluation of noise within the City; however, the subjective nature of the standards are not easily transited for use in a quantitative evaluation of noise. As such, the Municipal Code noise standards are not applied within this analysis.

To aid in the evaluation of the pickleball noise mitigation effectiveness, this analysis will rely on the application of the City of Pacific Grove maximum stationary noise criteria and ANSI S12.9 Parts 4 and 5.

3 Noise Monitoring Survey

An existing noise survey was conducted by Extant from May 27th to May 29th, 2019 to document the existing noise environment in the neighborhood surrounding the Morris Dill Courts. Specific consideration was given to document existing noise sources levels of the pickleball activities at the Morris Dill Courts and at nearby noise-sensitive uses. Noise measurements were performed in accordance with ANSI and ASTM International guidelines. Measurements were performed at a total of nine measurement locations in the study area.

Noise measurements were performed using Larson Davis Laboratories (LDL) Model 831, Type 1 precision integrating sound level meters (SLMs). Field calibrations were performed on the SLMs with acoustic calibrators before and after the measurements. Equipment used meets all pertinent specifications of ANSI S1.4-1983 (R2006) for Type 1 SLMs. All instrumentation components, including microphones, preamplifiers and field calibrators have laboratory certified calibrations traceable to the National Institute of Standards and Technology (NIST).

Figure 1 shows the locations of each of the noise measurement sites on an aerial photograph of the study area, with the project location shown for context. On the figure, the long-term noise measurement sites are represented as LT-1; short-term measurement sites are represented as ST-1 through ST-8. Microphones were located 5 ft. above the ground, an average height for a person standing. The following sections separately discuss and report the results for the long-term and short-term monitoring.

3.1 Long-Term Monitoring

As noted above and shown in Figure 1, long-term noise monitoring was positioned and conducted to characterize and provide a representative sample of the pickleball source-noise levels. The noise measurements at long-term site spanned from May 27th through May 29th, 2019. Weather during the measurement period was fair. Winds during the measurement period ranged from calm to periods with wind ranging from 0-8 mph, with a few periods of isolated gusts. The temperature averaged 58°F for the measurement period. No precipitation was experienced during the measurement period.

Noise monitoring data is summarized below in Table 1 – Noise Monitoring Summary; detailed results from the Long-term monitoring are presented in Appendix B, in both tabular and graphical form. Monitoring results are described using noise level descriptors: Leq, which is the average sound level with equivalent sound energy as a continuous sound at that level; Lmax, which is the maximum sound level that occurred during the measurement period; and L90, the sound level exceeded 90% of the time, which also closely represents the background noise environment.

The long-term monitoring location was affected by traffic on the local roadway network, general community noise (pedestrians, dogs, kids playing, etc.), aircraft overflights, and noise levels from use of the Morris Dill Courts. Day-night noise levels were approximately 55 to 56 dBA Ldn with hourly average noise levels ranging from 33 dBA Leq to 61 dBA Leq.

3.2 Short-Term Noise Monitoring

Short-term noise monitoring was conducted to provide additional insight into the noise environment within the study area. Additionally, the short-term noise monitoring data provides key information about behavior of sound in the surrounding community and relative exposure at various locations in the project vicinity.

Short-term noise monitoring was performed by Extant on May 28th, 2019 during two (2) scheduled pickleball sessions. The short-term monitoring program documented the existing noise environment and source at eight (8) locations surrounding the Morris Dill Courts. Ambient-noise survey locations are shown in Figure 1. Noise levels and observations for the measurement environment were documented; noise levels recorded at each short-term noise monitoring location are presented in Table 1.

The primary noise source affecting the noise monitoring locations was vehicular traffic on the local roadway network and activity at the Morris Dill Courts (pickleball). Additional noise sources experienced during the noise-monitoring program included general community activities and aircraft overflights. Average noise levels during the short-term monitoring periods ranged from approximately 47 to 61 dBA Leq.

Environmental Noise Assessment – Morris Dill Courts Pickleball Noise**Table 1 – Noise Monitoring Summary**

				Average Noise Level, dBA ¹			
Site	Location	Start Time	Ldn	Leq	Lmax	L50	L90
Long-term Monitoring							
LT-1	Western edge of Morris Dill Courts	05/27/2019 – 05/28/2019	54.9	55.4 (43.8)	72.5 (61.7)	45.6 (35.1)	40.7 (33.5)
		05/28/2019 – 05/29/2019	55.9	55.0 (47.0)	75.4 (64.5)	45.2 (34.6)	40.6 (33.1)
Short-term Monitoring – 05/28/2019							
ST-1	609 Fountain Avenue	9:30 AM	-	61.1	75.9	57.4	50.8
ST-2	Fountain Apartments	9:30 AM	-	53.0	69.9	47.6	43.5
ST-3	523 Gibson Avenue	10:10 AM	-	55.4	72.0	51.6	45.3
ST-4	511-515 Gibson Avenue	10:10 AM	-	54.6	69.4	49.4	43.6
ST-5	488 Gibson Avenue	11:00 AM	-	49.3	64.5	45.9	42.7
ST-6	605 14 th Street	11:00 AM	-	48.7	67.5	45.1	42.6
ST-7	465-475 Gibson Avenue	11:40 AM	-	49.6	64.5	42.0	40.0
ST-8	502-520 Sinex Avenue	11:40 AM	-	46.8	59.3	42.7	40.8

Notes: dBA = A-weighted decibels; Ldn = average day-night level; Leq = average equivalent noise level; Lmax = maximum noise level; L50 = sound level exceeded 50% of the period; L90 = sound level exceeded 90% of the period.

Locations of noise monitoring sites are shown on Figure 1.

1- Average noise levels expressed for the long-term monitoring location are: daytime (nighttime)

Source: Extant Acoustical Consulting LLC, 2019

3.3 Pickleball Noise Levels

The noise monitoring data was post-processed to extract the pickleball specific noise levels experienced at each of the monitoring locations. Noise levels generated by the pickleball impacts ranged considerably depending on the player, paddle and ball. Documenting the specific paddles or balls in use at the time of the noise monitoring was beyond the scope of this analysis; however, noise levels are estimated to have been documented from several thousand hits/impacts over the course of the monitoring period. As such, the documented pickleball noise levels are considered to be representative of the paddle and ball combinations used at the Morris Dill Courts.

During the short-term monitoring period, noise levels directly attributable to pickleball hits/impacts were notated at each of the monitoring locations. The average and maximum sound pressure levels (SPL) that were directly attributable to the pickleball impact are summarized below in Table 2. Pickleball noise levels at the short-term monitoring location ST-8 were noted to be less than the existing background noise levels and did not result in a noticeable change in the SPL at that location; however, the pickleball hits remained audible on occasion.

As shown in Table 2, pickleball noise levels ranged from below background noise levels to approximately 76 dBA at the residential parcel nearest the Courts (609 Fountain Avenue). With the exception of the 609 Fountain Avenue residence, pickleball noise levels did not exceed the City of Pacific Grove General Plan Maximum Allowable Stationary Noise Level standard of 70 dBA Lmax.

The Pacific Grove 50 dBA Leq (equivalent hourly average) daytime noise level standard for stationary sources was approached or exceeded at short-term sites ST-1 through ST-5 and at ST-7; however, the overall average noise levels documented during the short-term monitoring periods were driven by the ambient background noise levels in the study area and not directly attributable to the pickleball activities. Pickleball noise levels at the long-term reference location documented pickleball source levels ranging from 58.2 to 60.2 dBA Leq during pickleball play. Using standard point source

Environmental Noise Assessment – Morris Dill Courts Pickleball Noise

propagation, this would result in pickleball noise levels at the short-term receivers ranging from approximately 40 to 57 dBA Leq. Propagated pickleball noise levels would exceed the City of Pacific Grove 50 dBA Leq standard at receivers ST1 (51.2 dBA), ST2 (52.6 dBA) and ST3 (56.7 dBA). Achieving compliance with the City of Pacific Grove 50 dBA Leq standard would require reductions of noise levels of by approximately 1, 3 and 7 dBA at ST-1 through 3 respectively.

Table 2 – Pickleball Impact Noise Levels

Site	Location	Sound Pressure Level, dBA				Required NLR ²
		Average	Max	Adjusted ¹	Design Threshold	
LT-1	Western edge of Morris Dill Courts	73.3	83.2	-	-	-
ST-1	609 Fountain Avenue	69.4	76.2	74.4	50	24
ST-2	Fountain Apartments	49.5	53.8	54.5	50	5
ST-3	523 Gibson Avenue	55.5	59.6	60.5	50	10
ST-4	511-515 Gibson Avenue	54.8	61.0	59.8	50	10
ST-5	488 Gibson Avenue	47.9	49.1	52.9	50	3
ST-6	605 14th Street	47.1	53.7	52.1	50	2
ST-7	465-475 Gibson Avenue	43.0	46.5	48.0	50	-
ST-8	502-520 Sinex Avenue	≤ ³	≤ ³	-	-	-

Notes: dBA = A-weighted decibels.

Locations of noise monitoring sites are shown on Figure 1.

1- Average sound pressure level with ANSI/ASTM impact adjustment.

2- Noise Level Reduction

3- Noise levels directly attributable to pickleball impacts were at or below the background noise levels or 38 to 40 dBA.

Source: Extant Acoustical Consulting LLC, 2019

As previously discussed, the impulsive nature of the pickleball hits would lend itself to a higher level of human perception within the ambient noise environment and annoyance. Application of the 5 dB adjustment as suggested in ANSI S12.9 would result in average adjusted pickleball noise levels ranging from approximately 48 dBA to 74 dBA at the measurement locations representing nearby noise-sensitive receptors.

ANSI 12.9 Part 5 recommends a design threshold of 55 dB; however, the ambient noise level in the vicinity of the Morris Dill Courts is relatively quiet and so the design threshold of 50 dB was used. The required noise level reduction to achieve the design thresholds was calculated to range from 2 to 24 dB. Achieving noise level reductions greater than 15 dB is not typically feasible with the use of barriers, as a result the analysis will focus on mitigation and treatment options to achieve up to 10 dB at the nearby noise-sensitive receptors.

4 Barrier Analysis

Extant Acoustical developed a three-dimensional computerized noise simulation model to evaluate the behavior of the pickleball noise within the surrounding area and the effectiveness of potential treatment options. The pickleball net configurations documented during the field survey and the recorded pickleball noise levels were used as the basis for the noise simulation modeling. Additional inputs to the model were based on a digital terrain model of the surrounding area and aerial photography. Pickleball noise sources were located within the model based on the observed configuration. Noise prediction receivers representing the noise monitoring locations and nearby noise-sensitive receptors were located within the model for reference.

Within the noise simulation model, two barrier layouts were evaluated for effectiveness. Based on our correspondence with the City, they intend to utilize a product that could be attached to the existing fence. The first barrier layout would include placing the barrier material on the fence of the western-most courts that were used for pickleball during the measurement and observation period; separated from the main portion of tennis courts by the existing interior fence. The second barrier layout would include placing the barrier material along the entirety of the Morris Dill Courts perimeter fencing. The barrier layouts are presented on Figure 2 and Figure 3.

The original material which was discussed for use for the fence treatment barrier was a non-absorptive reinforced visco-elastic polymer designed specifically for this purpose. However, as it would be necessary to apply the barrier material to all four sides of the Courts, use of a non-absorptive acoustical treatment option would result in a “parallel barrier effect” that would compromise the effectiveness of the barrier. A parallel barrier effect occurs when, as the name implies, multiple barriers are placed in a manner (typically parallel) in which the acoustic energy of a source in between the barriers is reinforced by the barriers themselves. To limit the compromising impact of the parallel barrier effect on the proposed barrier treatment, the barrier configuration can be modified, or an acoustically absorptive material can be used on the interior facing portions of the barriers. Information on potential barrier materials is provided as an attachment in Appendix C.

The barrier analysis evaluated various configurations, heights and absorption applications to develop the most effective configurations for the potential options. A summary of the barrier effectiveness analysis is provided in Table 3.

Environmental Noise Assessment – Morris Dill Courts Pickleball Noise**Table 3 – Barrier Effectiveness Analysis Summary**

Receiver		Noise Level Reduction (dB)					
		Inner Barrier			Outer Barrier		
No.	Description	Existing Fence Height	10-15 ft Non-Absorptive	8-12 ft Absorptive	Existing Fence Height	10-16 ft Non-Absorptive	8-13 ft Absorptive
ST-1	609 Fountain Ave	12	10	13	13	13	14
ST-2	Fountain Apartments	2	3	5	5	5	5
ST-3	523 Gibson Ave	6	10	10	6	11	10
ST-4	511-515 Gibson Ave	6	10	10	5	10	10
ST-5	488 Gibson Ave	8	10	12	5	4	6
ST-6	605 14th Street	8	9	11	6	4	6
ST-7	465-475 Gibson Ave	6	8	11	3	5	5
ST-8	502-520 Sinex Ave	1	2	3	2	3	3

Notes: dB = decibels.

Bold/Highlighted = Meets design criteria

Source: Extant Acoustical Consulting LLC, 2019

As shown above in Table 3, mounting the treatment along the existing fence heights, for both the inner and outer fence perimeter layouts, would not result in noise level reductions sufficient to meet the design goals for the project. Increasing the barrier height to range between 10 and 15 feet at the inner fence layout would meet the design goals of the project at all receivers with the exception of ST-1 and ST-2. Incorporating an absorptive treatment along the interior of the inner fence layout would allow for existing fence heights on the north, east and west fence lines, with the barrier height on the southern fence line being raised to 12 feet in height. The 8 to 12-foot absorptive treatment option would meet the project design goals at all receptors with the exception of ST1; which would not be feasible to achieve regardless of treatment.

For the outer perimeter fence layout, the most effective non-absorptive barrier configuration would require the installation of barrier material at heights ranging from 10 to 16 feet. With the incorporation of acoustically absorptive treatment on the interior of the barrier the required barrier heights to achieve the design goals would range from 8 to 13 feet. The acoustically absorptive barrier would allow for existing fence heights on the north, east and west fence lines, with the barrier height on the southern fence line being raised to 13 feet in height.

5 Conclusion

Extant Acoustical performed an assessment of the noise levels generated by the pickleball activity at the Morris Dill Courts in Pacific Grove. The noise level generated by the pickleball activity was documented at nine (9) locations in the vicinity of the Courts. The average noise level found to be generated by the pickleball paddle/ball impact during play was used as the basis for the noise source within the analysis. It should be noted that due to the variability in impacts from different paddle makes and models, it is expected that noise levels may be above or below the levels used in the analysis.

Pickleball noise levels generated at the Morris Dill Courts during the monitoring period were found to exceed the City of Pacific Grove Maximum Allowable Stationary Noise Level Standards at three of the receivers representing nearby noise-sensitive uses. Achieving compliance with the stationary noise standards is not expected to result in an appreciable reduction in the community reaction to the pickleball activity noise. To aid in the evaluation of community reaction, ANSI S12.9 part 4 and 5 were applied to develop project specific design goals anticipated to result in a more positive community reaction.

A computerized noise simulation model was developed and implemented to evaluate the pickleball noise levels and the effectiveness of various treatment options. The treatment options were evaluated based on their ability to achieve the design goals developed through the application of ANSI S12.9 part 4; with a goal of achieving feasible noise level reductions up to 10 dB in the surrounding community.

The findings of the barrier and treatment option analysis are summarized in Table 3. If the preferred option is to treat only the western-most court, the design goals can be met at 6 of the 8 receptors with a non-absorptive barrier or at 7 of the 8 receptors with an absorptive barrier. If the preferred option is to treat the entire outer perimeter of the Courts, the design goals can be met at 7 of the 8 receptors with either a non-absorptive barrier or absorptive barrier. It is our recommendation to incorporate an acoustically absorptive noise barrier to help limit the “parallel barrier effect”. The recommended barrier configurations for the inner and outer barrier layouts are presented in Figure 2 and Figure 3.

It should be noted that achieving the design goals developed for this project, based on ANSI S12.9 part 4, would result in significant reductions in pickleball noise levels in the surrounding community. However, due to the tonal and repetitive impact nature of the noise, it is reasonable to expect the pickleball impacts to remain audible during quiet ambient noise periods.

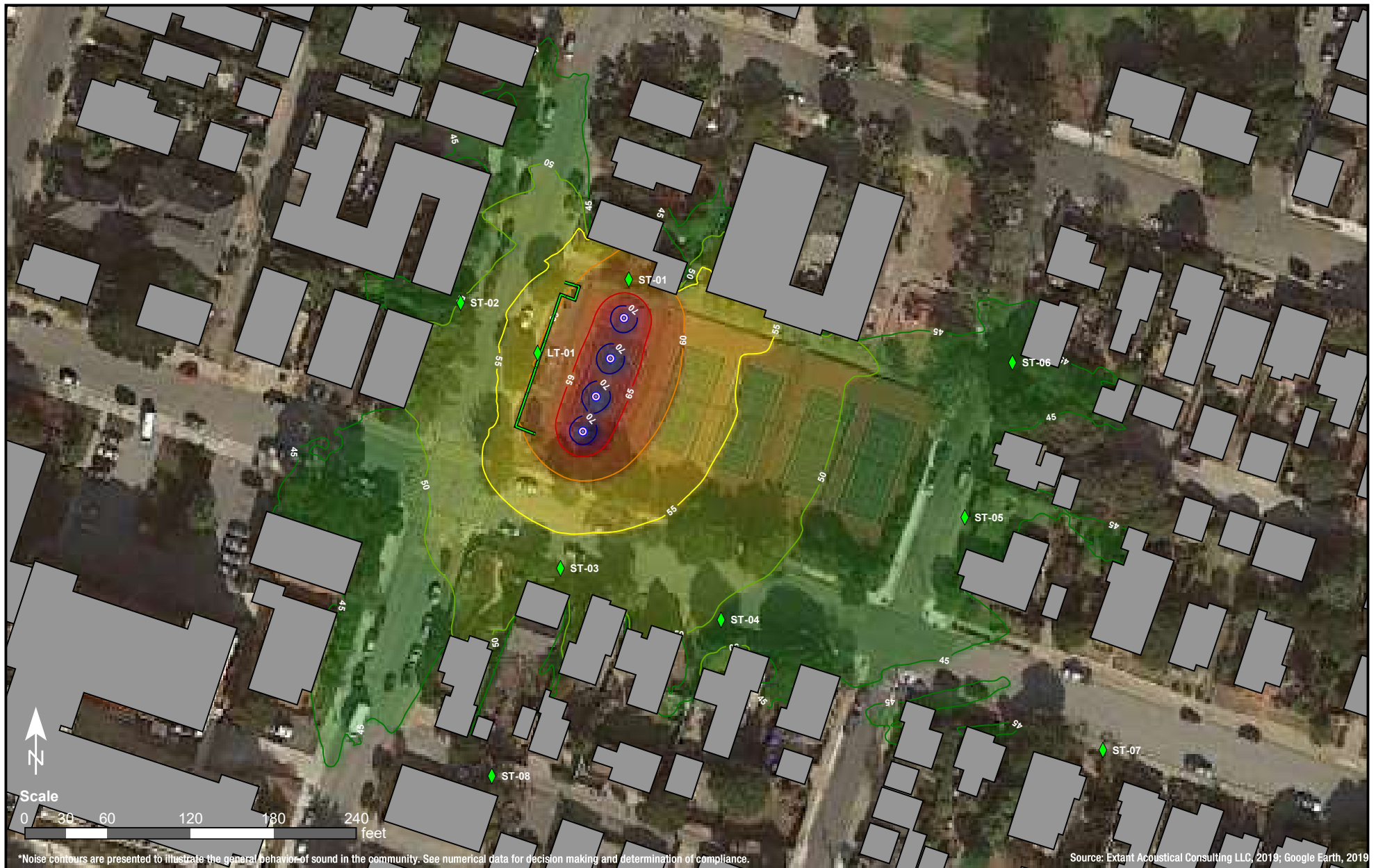
If you should have any questions or would like to discuss any aspect of this memorandum, please contact me via email at mcarr@extantacoustical.com or via phone at (916) 520-4322.

Respectfully,

EXTANT ACOUSTICAL CONSULTING LLC



Michael J. Carr, INCE, CTS
Principal Consultant



Signs and Symbols

- Point source
- Receiver
- Building
- Wall

Noise Level Leq,1h, dB(A)

	45 - 50
	50 - 55
	55 - 60
	60 - 65
	65 - 70
	>= 70

Figure 1

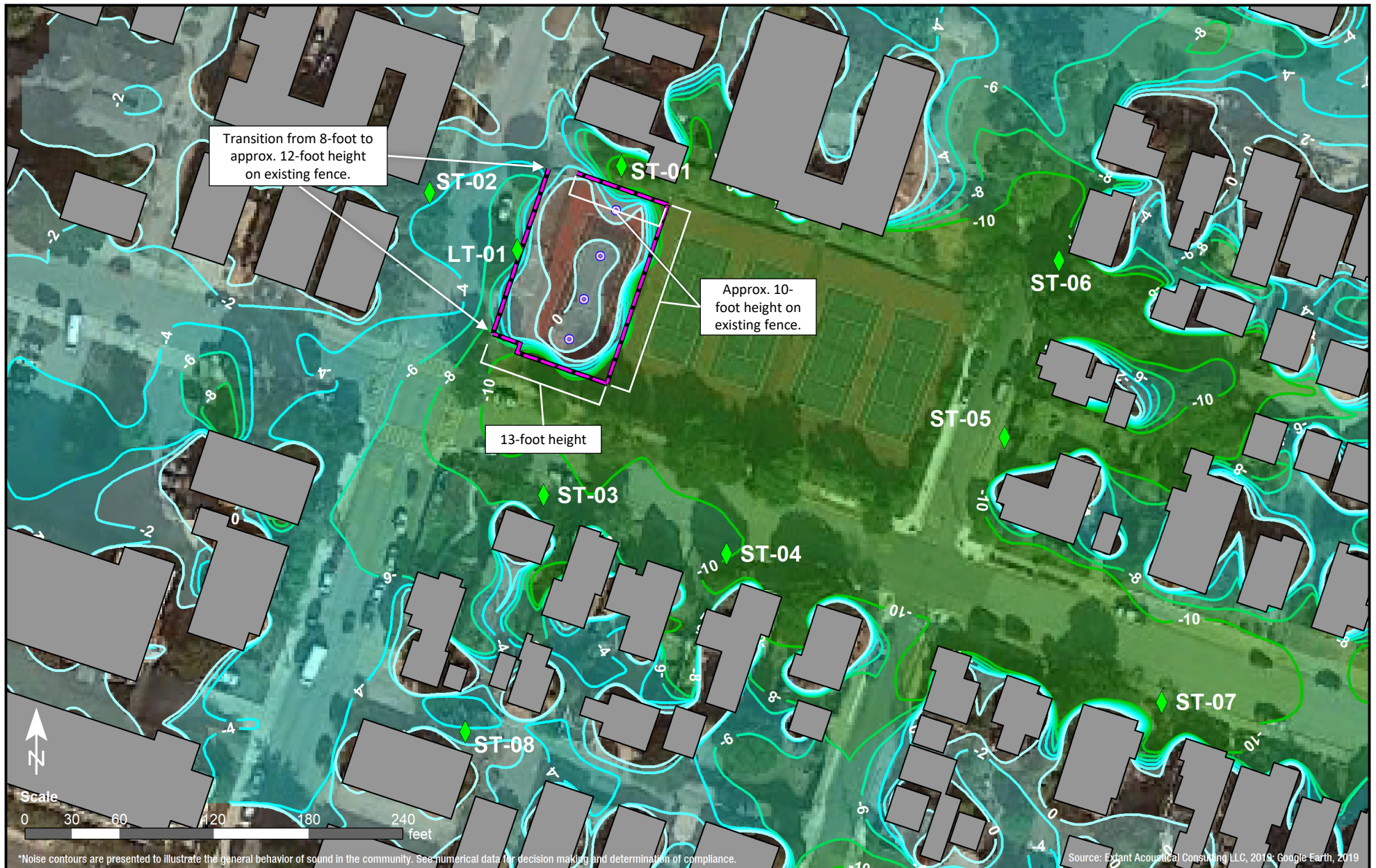
Noise Monitoring Locations and Existing Pickleball Conditions
Loudest Hourly Noise Level Contours, dBA Leq,1h
Additional Description

City of Pacific Grove
 Morris Dill Pickleball

City of Pacific Grove, CA

EXTANT ACOUSTICAL
 CONSULTING LLC

Published: 8/1/2019
 Engineer: MJC



Signs and Symbols

- Point source
- Receiver
- Building
- Noise Barrier

Difference level in dB(A)

	≤ -10
	$-10 < \leq -8$
	$-8 < \leq -6$
	$-6 < \leq -4$
	$-4 < \leq -2$
	$-2 < \leq 0$
	$0 <$

Figure 2

Noise Level Reductions - Inner Barrier Layout

8-13 foot tall Absorptive Noise Barrier
Noise Level Difference Contours, dB

City of Pacific Grove
Morris Dill Pickleball

City Pacific Grove, CA

EXTANT ACOUSTICAL
CONSULTING LLC

Published: 8/1/2019
Engineer: MJC



Signs and Symbols

- Point source
- Receiver
- Building
- Noise Barrier

Difference level in dB(A)

	≤ -10
	$-10 < \leq -8$
	$-8 < \leq -6$
	$-6 < \leq -4$
	$-4 < \leq -2$
	$-2 < \leq 0$
	$0 <$

Figure 3

Noise Level Reductions - Outer Barrier Layout

8-12 foot tall Absorptive Noise Barrier
Noise Level Difference Contours, dB

City of Pacific Grove
Morris Dill Pickleball

City Pacific Grove, CA

EXTANTACOUSTICAL
CONSULTING LLC

Published: 8/1/2019
Engineer: MJC

Appendix A

Noise Fundamentals and Description of Noise Metrics

A.1 Noise Fundamentals

A.1.1 A-weighted Sound Level, dBA

Loudness is a subjective quantity that enables a listener to order the magnitude of different sounds on a scale from soft to loud. Although the perceived loudness of a sound is based somewhat on its frequency and duration, chiefly it depends upon the sound pressure level. Sound pressure level is a measure of the sound pressure at a point relative to a standard reference value; sound pressure level is always expressed in decibels (dB), a logarithmic quantity.

Another important characteristic of sound is its frequency, or “pitch.” This is the rate of repetition of sound pressure oscillations as they reach our ears. Frequency is expressed in units known as Hertz (abbreviated “Hz” and equivalent to one cycle per second). Sounds heard in the environment usually consist of a range of frequencies. The distribution of sound energy as a function of frequency is termed the “frequency spectrum.” The frequency spectrum of sound is often represented as the sum of the sound energy in frequency bands that are one octave or 1/3-octave wide. An octave represents a doubling of frequency.

The human ear does not respond equally to identical noise levels at different frequencies. Although the normal frequency range of hearing for most people extends from a low of about 20 Hz to a high of 10,000 Hz to 20,000 Hz, people are most sensitive to sounds in the voice range, between about 500 Hz to 2,000 Hz. Therefore, to correlate the amplitude of a sound with its level as perceived by people, the sound energy spectrum is adjusted, or “weighted.”

The weighting system most commonly used to correlate with people's response to noise is “A-weighting” (or the “A-filter”) and the resultant noise level is called the “A-weighted noise level” (dBA). A-weighting significantly de-emphasizes those parts of the frequency spectrum from a noise source that occurs both at lower frequencies (those below about 500 Hz) and at very high frequencies (above 10,000 Hz) where we do not hear as well. The filter has very little effect, or is nearly “flat,” in the middle range of frequencies between 500 and 10,000 Hz. A-weighted sound levels have been found to correlate better than other weighting networks with human perception of “noisiness.” One of the primary reasons for this is that the A-weighting network emphasizes the frequency range where human speech occurs, and noise in this range interferes with speech communication. The figure below shows common indoor and outdoor A-weighted sound levels and the environments or sources that produce them.

A.1.2 Equivalent Sound Level, Leq

The Equivalent Sound Level, abbreviated Leq, is a measure of the total exposure resulting from the accumulation of A-weighted sound levels over a particular period of interest -- for example, an hour, an 8-hour school day, nighttime, or a full 24-hour day. However, because the length of the period can be different depending on the time frame of interest, the applicable period should always be identified or clearly understood when discussing the metric. Such durations are often identified through a subscript, for example Leq1h, or Leq (24).

Leq may be thought of as a constant sound level over the period of interest that contains as much sound energy as (is “equivalent” to) the actual time-varying sound level with its normal peaks and valleys. It is important to recognize, however, that the two signals (the constant one and the time-varying one) would sound very different from each other. Also, the “average” sound level suggested by Leq is not an arithmetic value, but a logarithmic, or “energy-averaged” sound level. Thus, the loudest events may dominate the noise environment described by the metric, depending on the relative loudness of the events.

A.1.3 Statistical Sound Level Descriptors, Ln

Statistical descriptors of the time-varying sound level are often used instead of, or in addition to Leq to provide more information about how the sound level varied during the time period of interest. The descriptor includes a subscript that indicates the percentage of time the sound level is exceeded during the period. The L50 is an example, which represents the sound level exceeded 50 percent of the time, and equals the median sound level. Another commonly used descriptor is the L10, which represents the sound level exceeded 10 percent of the measurement period and describes the sound level during the louder portions of the period. The L90 is often used to describe the quieter background sound levels that occurred, since it represents the level exceeded 90 percent of the period.

A.1.4 DNL (Day-Night Noise Level)

The 24-hour Leq with a 10 dB “penalty” applied during nighttime noise-sensitive hours, 10:00 p.m. through 7:00 a.m. The DNL attempts to account for the fact that noise during this specific period of time is a potential source of disturbance with respect to normal sleeping hours.

A.1.5 CNEL (Community Noise Equivalent Level)

The CNEL is similar to the DNL described above, but with an additional 5 dB “penalty” for the noise-sensitive hours between 7:00 p.m. to 10:00 p.m., which are typically reserved for relaxation, conversation, reading, and television. If using the same 24-hour noise data, the CNEL is typically 0.5 dB higher than the DNL.

A.1.6 SEL (Sound Exposure Level)

The SEL describes the cumulative exposure to sound energy over a stated period of time. Typically used to compare dissimilar noise events or to determine the effect of exposure to multiple events.

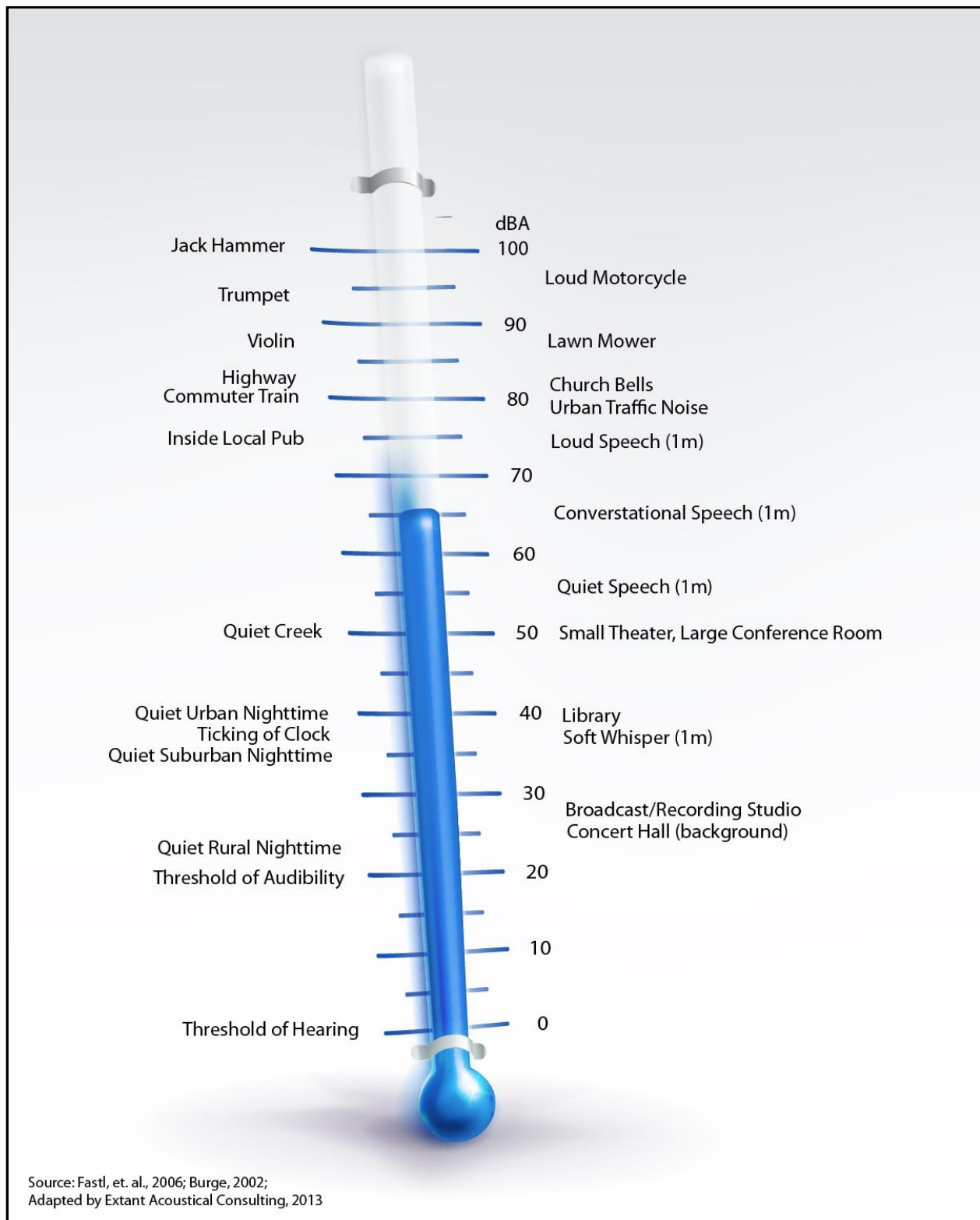


Exhibit 1 – Typical Noise Levels

A.1.7 Sound Propagation

As sound (or noise) propagates from the source to the receptor, the attenuation, or manner of noise reduction in relation to distance, depends on surface characteristics, atmospheric conditions, and the presence of physical barriers. The inverse square law describes the attenuation caused by the pattern of sound traveling from the source to the receptor. Sound travels uniformly outward from a point source in a spherical pattern with an attenuation rate of 6 dBA per doubling of distance. However, from a line source (e.g., a road), sound travels uniformly outward in a cylindrical pattern with an attenuation rate of 3 dBA per doubling of distance. The surface characteristics between the source and the receptor may result in additional sound absorption and/or reflection. Atmospheric conditions such as wind speed, temperature, and humidity may affect noise levels.

Furthermore, the presence of a barrier between the source and the receptor may also attenuate noise levels. The actual amount of attenuation depends on the barrier size and frequency of the noise. A noise barrier may be any natural or human-made feature such as a hill, tree, building, wall, or berm.

A.1.8 Effects of Noise on Humans

Excessive and chronic exposure to elevated noise levels can result in auditory and non-auditory effects in humans. Auditory effects of noise on people are those relating to temporary or permanent noise induced hearing loss. Non-auditory effects of exposure to elevated noise levels are those relating to behavioral and physiological effects. The non-auditory behavioral effects of noise on humans is primarily associated with the subjective effects of annoyance, nuisance, and dissatisfaction; which lead to interference with activities such as communications, sleep, and learning. The non-auditory physiological health effects of noise on humans has been the subject of considerable research efforts attempting to discover correlations between exposure to elevated noise levels and health problems, such as hypertension, and cardiovascular disease. The mass of research infers that noise-related health issues are predominantly the result of behavioral stressors (physiological) and not a direct noise-induced response. The degree to which noise contributes to non-auditory health effects remains a subject of considerable research, with no definitive conclusions.

The degree to which noise results in annoyance and interference, is highly subjective and may be influenced by a number of non-acoustic factors. The number and effect of these non-acoustic environmental and physical factors varies depending on individual characteristics of the noise environment including sensitivity, level of activity, location, time of day, length of exposure, etc. One key aspect in the prediction of human response to new noise environments is the individual level of adaptation to an existing noise environment. The greater change in noise levels which are attributed to a new noise source, relative to the environment an individual has become accustomed too, the less tolerable new noise source will be viewed.

With regard to human perception of increases in sound levels expressed in dB, a change of 1 dB is generally not perceivable excluding controlled conditions and pure tones. Outside of controlled laboratory conditions the average human ear barely perceives a change of 3 dB. A change of 5 dB generally fosters a noticeable change in human response, and an increase of 10 dB is subjectively heard as a doubling of loudness.

Appendix B

Long-term Noise Monitoring Data

Appendix B-1
Long-Term 24 Hour Continuous Noise Monitoring



Project: Pacific Grove - Morris Dill Pickleball Courts

Date: May 27, 2019 to May 28, 2019

Site:

Hour	Leq	Lmax	L50	L90		
12:00	60.9	76.6	44.0	38.7		
13:00	52.3	74.3	43.7	38.6		
14:00	50.0	71.2	44.4	40.3	Daytime (7 a.m. - 10 p.m.)	
15:00	51.1	72.3	44.6	40.3	Nighttime (10 p.m. - 7 a.m.)	
16:00	55.0	74.7	48.4	40.6		
17:00	51.9	72.8	44.7	40.6		
18:00	48.2	70.2	41.8	37.5	Daytime (7 a.m. - 10 p.m.)	
19:00	49.8	69.5	41.0	36.5	Nighttime (10 p.m. - 7 a.m.)	
20:00	48.3	69.1	36.4	34.4		
21:00	46.1	69.4	35.6	34.2		
22:00	45.5	68.3	35.1	33.8		
23:00	39.6	63.3	35.0	33.7	Daytime (7 a.m. - 10 p.m.)	
0:00	38.3	62.8	34.0	32.9	Nighttime (10 p.m. - 7 a.m.)	
1:00	36.0	54.3	34.5	33.1		
2:00	36.2	49.0	34.3	33.3		
3:00	35.3	56.1	33.6	32.8		
4:00	37.5	61.6	34.4	32.8		
5:00	45.3	68.2	36.0	34.4		
6:00	50.6	72.1	38.7	34.8		
7:00	51.4	73.4	42.1	35.8		
8:00	54.7	71.9	48.6	42.3		
9:00	59.6	71.5	57.0	51.5		
10:00	59.1	74.5	56.7	51.9		
11:00	58.2	76.2	54.8	47.1		

Lowermost Level			
Leq	Lmax	L50	L90
46.1	69.1	35.6	34.2
35.3	49.0	33.6	32.8

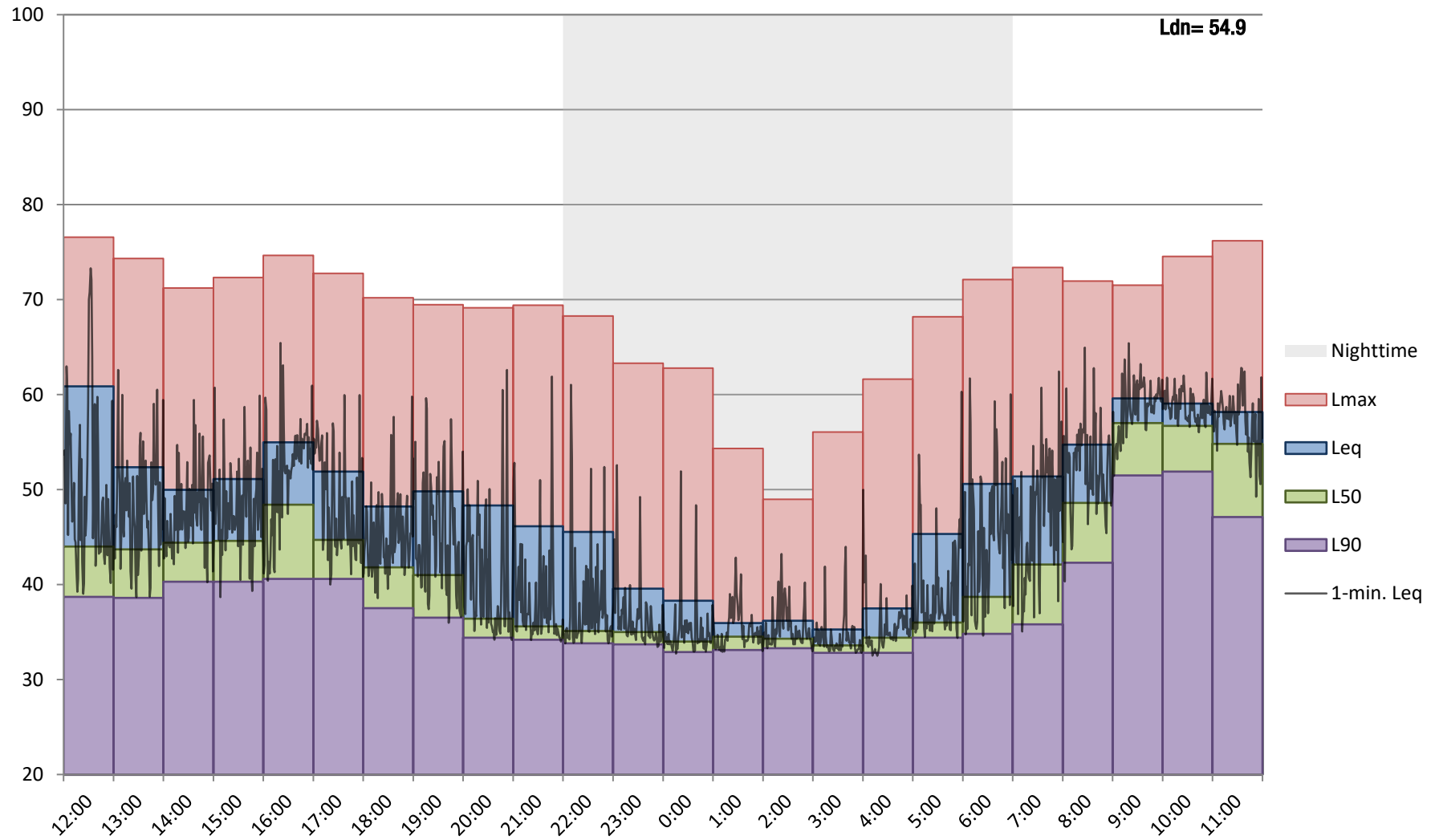
Average Level			
Leq	Lmax	L50	L90
55.4	72.5	45.6	40.7
43.8	61.7	35.1	33.5

Uppermost-Level			
Leq	Lmax	L50	L90
60.9	76.6	57.0	51.9
50.6	72.1	38.7	34.8

Energy Distribution	
Daytime	96%
Nighttime	4%

Calculated L _{dn} , dBA
54.9

Appendix B-1
Pacific Grove - Morris Dill Pickleball Courts -
May 27, 2019 to May 28, 2019



Appendix B-2
Long-Term 24 Hour Continuous Noise Monitoring



Project: Pacific Grove - Morris Dill Pickleball Courts

Date: May 28, 2019 to May 29, 2019

Site:

Hour	Leq	Lmax	L50	L90		
12:00	53.0	77.2	46.9	41.9		
13:00	55.1	79.3	45.9	41.4		
14:00	53.7	74.3	46.5	40.9	Daytime (7 a.m. - 10 p.m.)	
15:00	59.9	75.2	57.5	52.7	Nighttime (10 p.m. - 7 a.m.)	
16:00	60.2	77.8	57.6	52.3		
17:00	55.4	74.9	46.7	39.5		
18:00	54.2	80.3	41.6	37.8	Daytime (7 a.m. - 10 p.m.)	
19:00	50.6	76.1	40.0	37.0	Nighttime (10 p.m. - 7 a.m.)	
20:00	48.5	71.8	37.4	35.7		
21:00	49.5	74.7	37.1	34.7		
22:00	47.7	74.6	36.0	34.5		
23:00	42.0	64.1	34.9	33.3	Daytime (7 a.m. - 10 p.m.)	
0:00	39.3	61.9	33.2	32.6	Nighttime (10 p.m. - 7 a.m.)	
1:00	36.0	60.8	33.4	32.7		
2:00	33.4	43.4	33.3	32.8		
3:00	38.3	64.1	32.6	31.9		
4:00	53.2	74.8	33.6	32.7		
5:00	43.0	65.2	34.2	33.1		
6:00	51.1	71.9	39.8	34.7		
7:00	55.0	79.0	42.5	36.4		
8:00	54.5	74.0	47.1	39.1		
9:00	52.2	71.3	43.5	38.9		
10:00	50.8	69.5	43.4	39.4		
11:00	52.5	75.6	44.8	41.1		

Lowermost Level			
Leq	Lmax	L50	L90
48.5	69.5	37.1	34.7
33.4	43.4	32.6	31.9

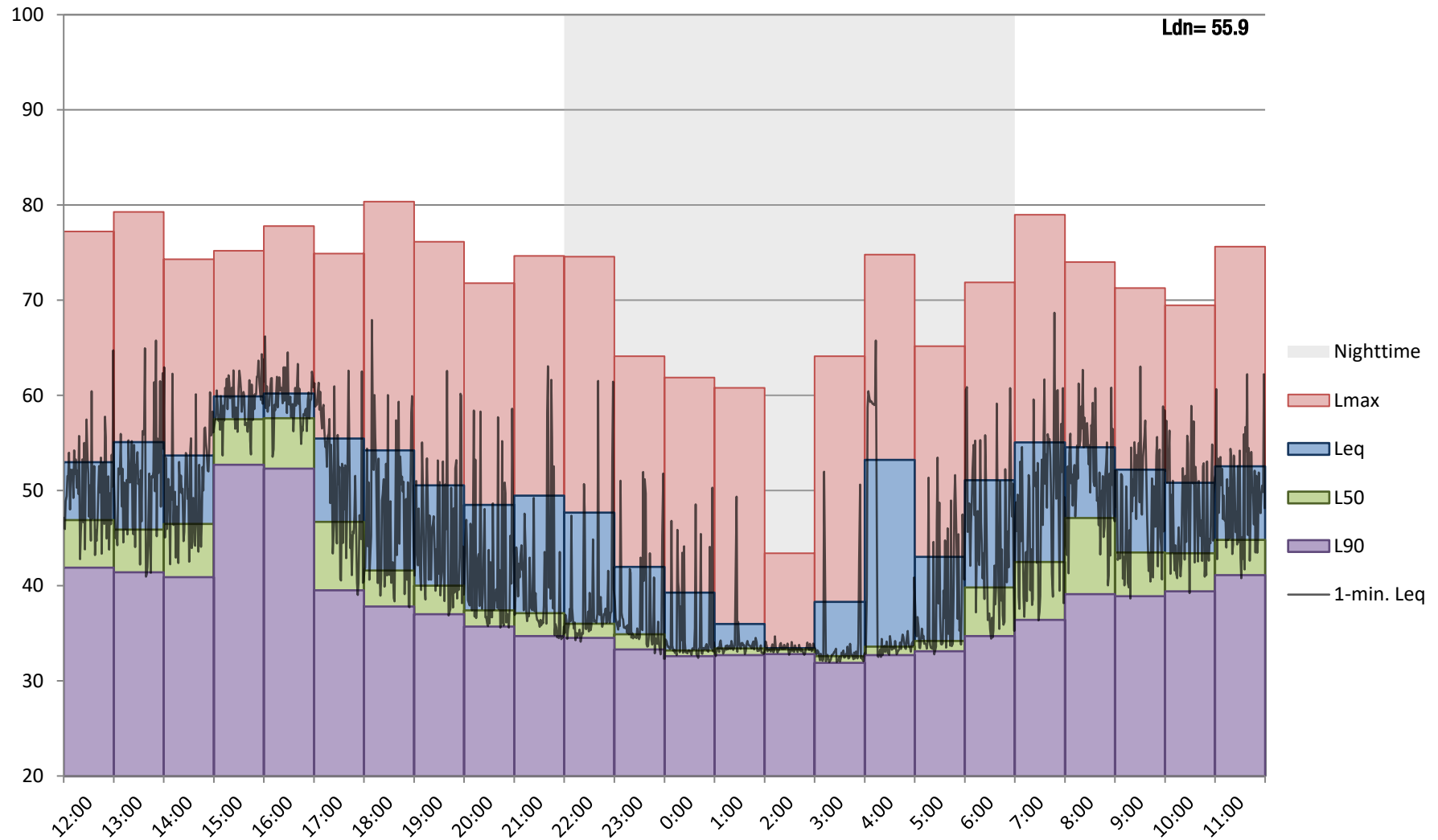
Average Level			
Leq	Lmax	L50	L90
55.0	75.4	45.2	40.6
47.0	64.5	34.6	33.1

Uppermost-Level			
Leq	Lmax	L50	L90
60.2	80.3	57.6	52.7
53.2	74.8	39.8	34.7

Energy Distribution	
Daytime	91%
Nighttime	9%

Calculated L _{dn} , dBA
55.9

Appendix B-2
Pacific Grove - Morris Dill Pickleball Courts -
May 28, 2019 to May 29, 2019



Appendix C

Product Information

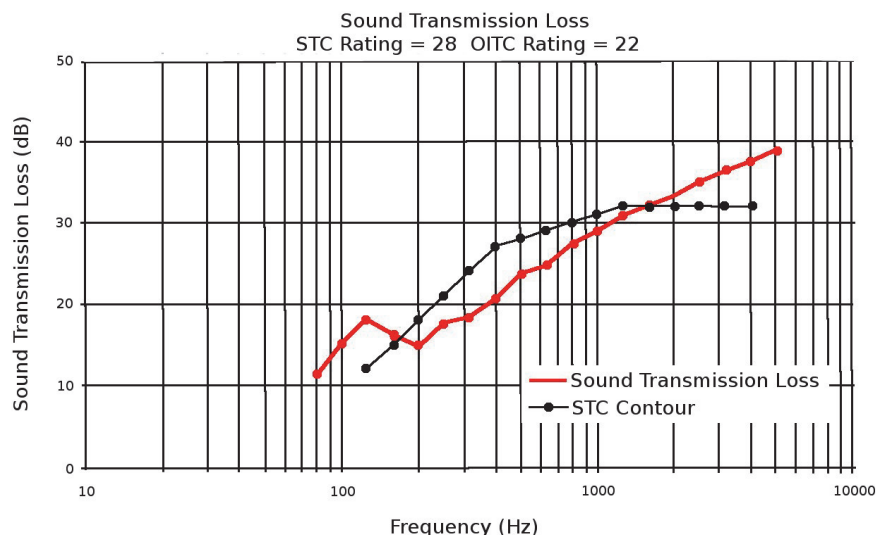
Acoustifence® Benefits and Specifications

- The material itself is lab tested STC value of 28, which represents over an 80% reduction in sound to the human ear. (Your results will be less as sound reflects off all surrounding materials or structures, i.e., buildings, trees, etc.)
- Works extraordinarily well at blocking direct line of sight sound.
- Far less sound reflected than solid walls.
- Installed or removed in less than one hour.
- To store, Acoustifence easily rolls up like a carpet into 12 in. roll.
- UV tolerant and does not support mold.
- Virtually indestructible, very resilient material.
- 100% recyclable
- Comprised of 100% recycled materials.
- Will accept most paint finishes.
- Includes qty. 70, 11 in. heavy duty 120 lb. (black) nylon ties; stainless steel ties are available.
- Can blend in with any background using our Acoustifence-Landscapes®.



Material Specifications – Part # “Acoustifence 6x30 Industrial”

Acoustical Rating	STC 28 / OITC 22
Size	6 ft. (1.83m) x 30 ft. (9.14m) x 0.125 in. (3mm) 180 ft² (16.72m²)
Weight	185 lbs. (84Kg)
Fastening	Black brass grommets every 6 in. (152mm) along top edge with four grommets spaced along the bottom edge. Commonly installed horizontally.
Color	Black or Forest Green
(This is an industrial product and minor surface blemishes are a possibility.)	



(Specifications and prices subject to change without notice.)

Acoustifence Installation Pictures

Below are pictures of installed Acoustifence for various types of projects.



King Fence, Inglewood, CA



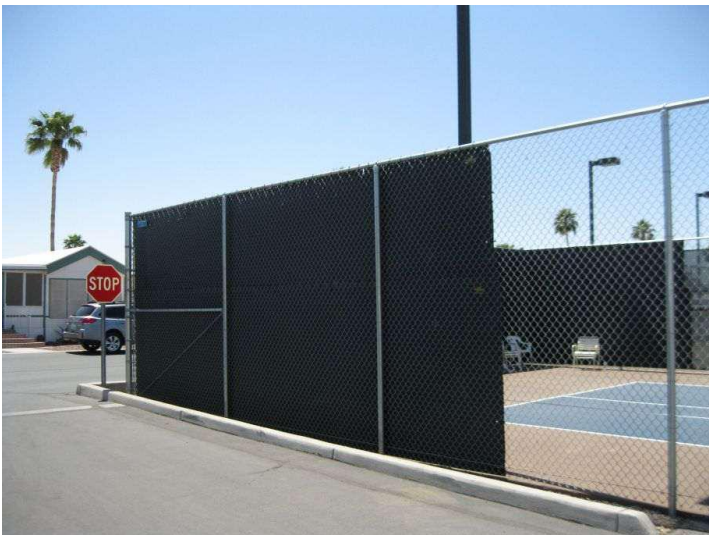
King Fence, Inglewood, CA



Residential installation on Chain Link



Commercial Installation around electrical Equipment



Pickle Ball Court



Dog Park

Spec Data Sheet

BBC-SERIES
NOISE BARRIERS/SOUND
ABSORBER COMPOSITES

BBC-13 Noise Barrier/Sound Absorber Composite

Sound Seal's BBC-13 offers the benefits of a noise barrier and a sound absorber. The BBC-13 consists of a reinforced 1-lb psf loaded vinyl noise barrier bonded to a 1" fiberglass that is quilted with a vinyl-coated-fiberglass-cloth facing. Curtain panels are constructed with grommets across the top and Velcro along the vertical edges. Rolls are available 54" wide x 25' long and can be supplied with edges bound or unbound.



- Class A flammability rated per ASTM E84
- Available facing colors: gray, tan, or black
- Available barrier colors: gray, tan, blue or olive

Applications:

Typically used as modular curtain panels in acoustical curtain enclosures where abuse resistance and excellent durability is required. Also used as sliding acoustical doors, durable acoustical jacket on fans or as sound curtain panels on outdoor construction projects. This composite material absorbs sound within an enclosed space and reduces the transmission of noise from that space.

Product Data:

Description	Vinyl coated fiberglass cloth facing quilted on 1" fiberglass/ 1lb-psf reinforced loaded vinyl barrier
Flammability	Flame Spread: 23.0 Smoke density: 30.0
Nominal thickness	1.0 inch
Temperature range	-20° to +180° F
Standard Roll size	54" wide x 25' long
Weight	1.22 lbs. psf

Acoustical Performance:

Sound Transmission Loss

Product	OCTAVE BAND FREQUENCIES (Hz)						STC
	125	250	500	1000	2000	4000	
BBC-13	11	16	24	30	35	35	27

ASTM E-90 & E 413

Sound Absorption Data

Product	OCTAVE BAND FREQUENCIES (Hz)						NRC
	125	250	500	1000	2000	4000	
BBC-13	.12	.47	.85	.84	.64	.62	.70

ASTM C 423

DEVELOPMENT REVIEW BOARD REPORT



Meeting Date: September 16, 2021
General Plan Element: *Character and Design*
General Plan Goal: *Foster quality design that enhances Scottsdale as a unique southwestern desert community.*

ACTION

Terravita Pickleball and Bocce Courts 42-DR-1993#3	Request for approval to add two (2) pickleball courts and two (2) bocce courts to replace an existing croquet lawn.
---	---

SUMMARY

Staff Recommendation

Approve, subject to the attached stipulations (Attachment #6)

Key Issues

- None

Items for Consideration

- Conformance with Development Review Board Criteria
- Integration of Sensitive Design Principles
- Over 400 comment letters received as of the date of this report – over 290 in support of the request, 1 neutral comment, and over 110 in opposition of the request

BACKGROUND

Location: 34036 N 69th Wy

Zoning: R1-10 ESL

Adjacent Uses

North: Single-family residential dwellings zoned R1-10 ESL, directly adjacent to the property line

East: Single-family residential dwellings zoned R1-10 ESL, approximately 350 feet from the property line

South: Terravita Country Club open space zoned OS-ESL

West: Single-family residential dwellings zoned R1-10 ESL, approximately 280 feet from the property line



Property Owner

Terravita Country Club

Applicant

Richard Riffle, Terravita Country Club
(847) 873-5433

Acoustic Consultant

Robert Woo, Acoustic Group, Inc.

Engineer

Graham Engineering and Surveying, Inc.

DEVELOPMENT PROPOSAL

The applicant is requesting approval for two new pickleball courts and two new bocce ball courts to replace an existing croquet lawn at Terravita Country Club. Additionally, the applicant proposes to add twelve (12) foot tall noise reducing fencing around the pickleball courts to match the existing tennis courts. No new lighting is proposed.

The request was presented to the Development Review Board on July 15, 2021. The Board voted to continue the application to a later hearing date to allow the applicant additional time to address concerns regarding potential sound from the new courts.

The request was then presented to the Development Review Board on August 19, 2021. To address previous concerns, the sound engineer for the project, The Acoustic Group, and a subject matter expert engineer were present at the second hearing. The Board voted to continue the application to a later hearing date to allow the applicant additional time to meet with the Terravita homeowners to discuss concerns regarding sound from the new courts.

As of the writing of this report, staff has received over 290 comment letters in support of the request and over 110 comment letters in opposition of the request.

Development Review Board Criteria

Staff confirms that the development proposal generally meets the applicable Development Review Board Criteria. For a detailed analysis of the Criteria, please see Attachment #4.

STAFF RECOMMENDED ACTION

Staff recommends that the Development Review Board approve the Terravita Pickleball and Bocce Courts development proposal per the attached stipulations, finding that the Character and Design Element of the General Plan and Development Review Board Criteria have been met.

RESPONSIBLE DEPARTMENTS

Planning and Development Services
Current Planning Services

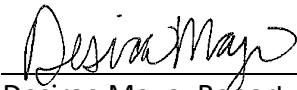
Community and Economic Development
Stormwater Management

STAFF CONTACTS

Desirae Mayo
Planner
480-312-4218 dmayo@ScottsdaleAZ.gov

Richard Anderson
Stormwater Engineering Manager
480-312-2729 Email: rianderson@scottsdaleaz.gov

APPROVED BY



Desirae Mayo, Report Author

8/25/2021

Date



Brad Carr, AICP, LEED-AP, Planning & Development Area Manager
Development Review Board Liaison

9/3/2021

Date

Phone: 480-312-7713

Email: bcarr@scottsdaleaz.gov



Randy Grant, Executive Director
Planning, Economic Development, and Tourism

9/8/2021

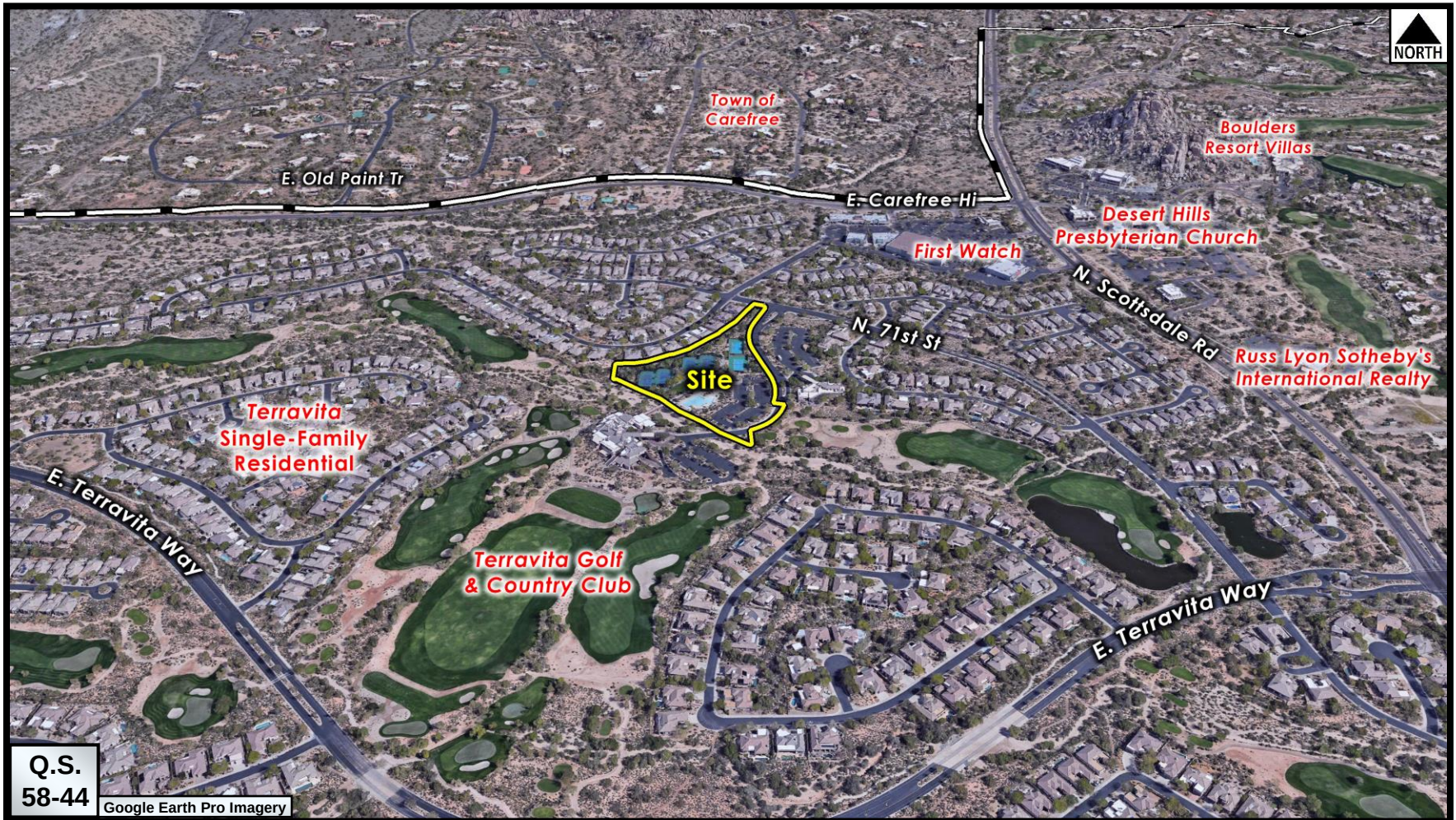
Date

Phone: 480-312-2664

Email: rgrant@scottsdaleaz.gov

ATTACHMENTS

1. Context Aerial
2. Close-up Aerial
3. Applicant's Narrative
4. Development Review Board Criteria Analysis
5. Development Information
6. Stipulations / Zoning Ordinance Requirements
7. Proposed Site Plan and Improvements
8. Grading & Drainage Plan
9. Proposed Fence Detail
10. Pickleball Noise Analysis
11. AcoustiFence Noise Reducing Fences Product Detail
12. Native Plant Inventory
13. Zoning Map
14. Community Involvement
15. Public Comment
16. City Notification Map



Context Aerial

42-DR-1993#3



Close-up Aerial

42-DR-1993#3



28 May 2021

APPLICATION NARRATIVE

Project Name: Terravita Pickleball and Bocce Courts

Property Address: 34036 N. 69th Way, Scottsdale, AZ 85266

Terravita Country Club is applying to build pickleball and bocce courts on what is currently the club's croquet lawn. This area is in the center of the amenity campus and it is underutilized.

The construction of the 2 pickleball and 2 bocce courts would be complimentary to the existing structures in material used and color. Our plan is to add 10' fencing to the pickleball courts, which will match the existing tennis courts. The area is accessible by the current path and that will not change.

DEVELOPMENT REVIEW BOARD CRITERIA ANALYSIS

Per Section 1.904. of the Zoning Ordinance, in considering any application for development, the Development Review Board shall be guided by the following criteria:

1. The Board shall examine the design and theme of the application for consistency with the design and character components of the applicable guidelines, development standards, Design Standards and Policies Manual, master plans, character plan and General Plan.
 - *The applicant states that the proposed pickleball fencing will match the existing tennis courts.*
 - *Staff finds that the proposal is consistent with the City's design guidelines.*
2. The architectural character, landscaping and site design of the proposed development shall:
 - a. Promote a desirable relationship of structures to one another, to open spaces and topography, both on the site and in the surrounding neighborhood;
 - b. Avoid excessive variety and monotonous repetition;
 - c. Recognize the unique climatic and other environmental factors of this region to respond to the Sonoran Desert environment, as specified in the Sensitive Design Principles;
 - d. Conform to the recommendations and guidelines in the Environmentally Sensitive Lands (ESL) Ordinance, in the ESL Overlay District; and
 - e. Incorporate unique or characteristic architectural features, including building height, size, shape, color, texture, setback or architectural details, in the Historic Property Overlay District.
 - *The applicant states that the proposed pickleball fencing will match the existing tennis courts.*
 - *Staff finds that the proposal is consistent with the City's design guidelines.*
3. Ingress, egress, internal traffic circulation, off-street parking facilities, loading and service areas and pedestrian ways shall be designed as to promote safety and convenience.
 - *This criterion is not applicable.*
4. If provided, mechanical equipment, appurtenances and utilities, and their associated screening shall be integral to the building design.
 - *This criterion is not applicable.*
5. Within the Downtown Area, building and site design shall:
 - a. Demonstrate conformance with the Downtown Plan Urban Design & Architectural Guidelines;
 - b. Incorporate urban and architectural design that address human scale and incorporate pedestrian-oriented environment at the street level;
 - c. Reflect contemporary and historic interpretations of Sonoran Desert architectural traditions, by subdividing the overall massing into smaller elements, expressing small scale details, and recessing fenestrations;
 - d. Reflect the design features and materials of the urban neighborhoods in which the development is located; and
 - e. Incorporate enhanced design and aesthetics of building mass, height, materials and intensity with transitions between adjacent/abutting Type 1 and Type 2 Areas, and adjacent/abutting Type 2 Areas and existing development outside the Downtown Area.
 - *This criterion is not applicable.*
6. The location of artwork provided in accordance with the Cultural Improvement Program or Public Art Program shall address the following criteria:
 - a. Accessibility to the public;

- b. Location near pedestrian circulation routes consistent with existing or future development or natural features;
 - c. Location near the primary pedestrian or vehicular entrance of a development;
 - d. Location in conformance with Design Standards and Policies Manual for locations affecting existing utilities, public utility easements, and vehicular sight distance requirements; and
 - e. Location in conformance to standards for public safety.
- *This criterion is not applicable.*

DEVELOPMENT INFORMATION

Zoning History

The site was annexed into the City in 1984 (Ord. #1655) and zoned to the R1-43 zoning designation through case 2-Z-85. Since initial rezoning of the site, the site has been rezoned to R1-10 ESL and OS ESL through zoning case 59-ZN-1992.

Community Involvement

With the submittal of the application, staff notified all property owners within 750 feet of the site. In addition, the applicant has been in communication with property owners surrounding the site. As of the publishing of this report, staff has received over 400 public comment letters regarding the application. The public comment letters express over 290 letters in support of the request, 1 neutral comment, and over 110 letters in opposition of the request.

Context

The property is located west of North Scottsdale Road between East Carefree Highway on the north and the private road of East Terravita Way on the south. The site is situated in an area devoted almost exclusively to residential uses. Surrounding uses include single-family residential uses within the Terravita subdivision, single-family residential uses in the Town of Carefree to the north, multi-family residential uses to the east, single-family residential uses in Maricopa County to the south, and single-family residential uses to the west.

Project Data

- Existing Use: Terravita Country Club open space
- Parcel Size: 264,020 square feet / 6.06 acre (gross)

**Stipulations for the
Development Review Board Application:
Terravita Pickleball and Bocce Courts
Case Number: 42-DR-1993#3**

These stipulations are intended to protect the public health, safety, welfare, and the City of Scottsdale.

APPLICABLE DOCUMENTS AND PLANS:

1. Except as required by the Scottsdale Revised Code (SRC), the Design Standards and Policies Manual (DSPM), and the other stipulations herein, the site design and construction shall substantially conform to the following documents:
 - a. Architectural elements, including dimensions, materials, form, color, and texture shall be constructed to be consistent with the building elevations submitted by Terravita Country Club, with a city staff date of 6/9/2021.
 - b. The location and configuration of all site improvements shall be consistent with the site plan submitted by Graham Surveying & Engineering, Inc., with a city staff date of 6/9/2021.

RELEVANT CASES:

Ordinance

- A. At the time of review, the applicable Zoning case for the subject site was 59-ZN-1992.

ARCHAEOLOGICAL RESOURCES:

Ordinance

- B. Any development on the property is subject to the requirements of Scottsdale Revised Code, Chapter 46, Article VI, Section 46-134 - Discoveries of archaeological resources during construction.

LANDSCAPE DESIGN:

Ordinance

- C. The property owner shall obtain approval of a Salvage/Native Plant Plan Application, and obtain a permit to remove any tree.

DRB Stipulations

2. Prior to the issuance of any building permit for the development project, the property owner shall submit landscape improvement plans that demonstrate how the salvaged vegetation from the site will be incorporated into the design of the landscape improvements.

EXTRIOR LIGHTING:

DRB Stipulations

3. No exterior lighting is permitted with the new court improvements. Any future lighting for the proposed courts shall require a separate submittal, review and approval.



**Terravita Country Club
Proposed Site Plan**

Terravita Country Club

February 2021

ATTACHMENT #7



42-DR-1993#3
6/9/2021



**Terravita Country Club
Proposed Improvements**

Terravita Country Club

August 2021





**Terravita Country Club
Proposed Improvements**

Terravita Country Club

August 2021



CITY OF SCOTTSDALE

42. POOLS REQUIRE SEPARATE APPROVAL AND PERMIT.
43. POOLS SHALL NOT BE EMPTIED OR BACKWASHED INTO WASHES, STREETS, NAOS, SCENIC CORRIDORS, ON TO AN ADJACENT LOT, OR TRACT OF LAND. (ZO SEC. 6.1100.B.1.; AND DS&PM 2-2.501.D.4.C.)
44. ALL MECHANICAL EQUIPMENT (AIR CONDITIONER, POOL EQUIP. ETC.) SHALL BE SCREENED A MINIMUM OF 1 FOOT ABOVE THE HIGHEST PORTION OF THE EQUIPMENT FROM ALL SIDES AND SHALL BE COMPATIBLE WITH THE ADJACENT BUILDING. SHOW LOCATION OF EQUIPMENT ON SITE PLAN.
45. A GUESTHOUSE SHALL NEVER BE OFFERED FOR RENT. (ZO SEC. 5.012.A.6.C. AND SEC. 5.102.A.6.C.)
46. A GUESTHOUSE SHALL NOT EXCEED A GROSS FOOTPRINT SIZE GREATER THAN 50% OF THE FOOT PRINT SIZE OF THE PRINCIPAL BUILDING. (ZO SEC. 5.012.A.6.B. AND SEC. 5.102.A.6.B.)
47. EXTERIOR MATERIALS AND PAINT COLORS SHALL NOT EXCEED A VALUE AND/OR CHROMA OF 6 AS INDICATED IN THE MUNSEL BOOK OF COLOR ON FILE IN THE CITY OF SCOTTSDALE'S PLANNING & DEVELOPMENT DEPARTMENT. THE CITY MAY REQUIRE COLOR SAMPLES TO VERIFY COMPLIANCE. (ZO SEC. 6.1070.G.1.H.)
48. MATERIALS USED FOR EXTERIOR SURFACES OF ALL STRUCTURES SHALL BLEND IN COLOR, HUE, AND TONE WITH THE SURROUNDING NATURAL DESERT SETTING TO AVOID HIGH CONTRAST. (ZO SEC. 6.1070.G.1.C.)
49. SURFACE MATERIALS OF WALLS, RETAINING WALLS OR FENCES SHALL BE SIMILAR TO AND COMPATIBLE WITH THOSE OF THE ADJACENT MAIN BUILDINGS. (ZO SEC. 6.1070.G.1.D.)
50. PLANT MATERIALS NOT INDIGENOUS TO THE ESL AREA SHALL BE LIMITED TO ENCLOSED YARD AREAS AND NON-INDIGENOUS PLANTS THAT HAVE THE POTENTIAL OF EXCEEDING TWENTY (20) FEET IN HEIGHT ARE PROHIBITED. TURF SHALL BE LIMITED TO ENCLOSED AREAS NOT VISIBLE FROM A LOWER ELEVATION. (ZO SEC. 6.1070.G.1.I-J.)
51. REFLECTIVE BUILDING MATERIALS ARE PROHIBITED. (DS&PM 2-2.501.A.2.)
52. REFLECTIVE BUILDING AND ROOFING MATERIALS (OTHER THAN WINDOWS AND SOLAR PANELS) INCLUDING MATERIALS WITH HIGH GLOSS FINISHES AND BRIGHT, UNTARNISHED COPPER, ALUMINUM, GALVANIZED STEEL OR OTHER METALLIC SURFACES, SHALL BE TEXTURED OR HAVE A MATTE OR NON-REFLECTIVE SURFACE TREATMENT TO REDUCE THE REFLECTIONS OF SUNLIGHT ONTO OTHER PROPERTY. (ZO SEC. 6.1070.G.1.B.)
53. MIRRORRED SURFACES OR ANY TREATMENTS THAT CHANGE ORDINARY GLASS INTO A MIRRORRED SURFACE ARE PROHIBITED. (ZO SEC. 6.1070.G.1.A.)
54. THE OWNER SHALL INCORPORATE DEVELOPMENT DESIGN AND CONSTRUCTION TECHNIQUES THAT BLEND IN SCALE, FORM AND VISUAL CHARACTER TO MINIMIZE EXPOSED SCARS TO THE SATISFACTION OF THE PLANNING & DEVELOPMENT DEPARTMENT. (ZO SEC. 6.1070.G.1.E.)
55. ANY PROPOSED MODIFICATIONS TO NATURAL WATERCOURSES AND ALL WALLS AND FENCES CROSSING NATURAL WATERCOURSES SHALL BE DESIGNED IN ACCORDANCE WITH THE STANDARDS AND POLICIES SPECIFIED IN CHAPTER 37 (DRAINAGE AND FLOODPLAIN ORDINANCE) OF THE SCOTTSDALE REVISED CODE. (ZO SEC. 6.1070.G.1.L.)
56. LAND DESIGNATED AS NAOS SHALL BE PERMANENTLY MAINTAINED AS OPEN SPACE. THE PROPERTY OWNER SHALL MAINTAIN ALL DESIGNATED NAOS. (ZO SEC. 6.1060.A.3-4 AND SEC. 6.1100.B.1.)
57. ALL EXTERIOR LIGHTING BELOW 3 FEET IN HEIGHT SHALL BE FULLY SHIELDED. ALL EXTERIOR LIGHTING ABOVE 3 FEET IN HEIGHT SHALL CONSIST OF HORIZONTAL FULL- CUTOFF FIXTURES AND DIRECTED DOWNWARD, EXCEPT LIGHTS UTILIZED FOR SECURITY PURPOSES. (ZO SEC. 6.1070.G.1.F.)
58. EXTERIOR LIGHTING SHOULD BE LOW SCALE AND DIRECTED DOWNWARD, RECESSED OR SHIELDED SO THAT THE LIGHT SOURCE IS NOT VISIBLE FROM RESIDENTIAL DEVELOPMENTS IN THE AREA OR FROM A PUBLIC VIEWPOINT. EXTERIOR FIXTURES SHALL NOT GENERALLY EXCEED A HEIGHT OF 6 FEET MEASURED FROM THE NEAREST ADJACENT GRADE TO THE TOP OF THE FIXTURE (LOWER HEIGHTS MAY BE REQUIRED BY THE INSPECTION OR CODE ENFORCEMENT STAFF). (ZO SEC. 6.1070.G.1.F.)
59. WHERE ON-SITE WALLS ARE PLACED ADJACENT TO NAOS AREAS AT LEAST 50 PERCENT OF THE WALL SURFACE SHALL BE A VIEW FENCE. (DS&PM 2-2.501.B.2.B.)
60. TEMPORARY/SECURITY FENCING THAT IS REQUIRED OR IS OPTIONALLY PROVIDED SHALL BE IN ACCORDANCE WITH THE ZONING ORDINANCE AND THE DESIGN STANDARDS AND POLICIES MANUAL. (ZO SEC. 7.700 AND SEC. 6.1071.A.6, AND DS&PM 1- 1.407)
61. IN ACCORDANCE WITH THE ZONING ORDINANCE, A REGISTERED SURVEYOR SHALL STAKE AND ROPE THE MOST RESTRICTIVE AREA DEFINED BY THE CONSTRUCTION ENVELOPE AND NAOS EASEMENT AS SHOWN ON THE SITE PLAN. (ZO SEC. 6.1070.A.5)
62. NO PAINT COLOR OR SURFACE TREATMENT SHALL BE USED WHICH HAS A LIGHT REFLECTIVE VALUE (LRV) GREATER THAN 35%(ZO SEC. 6.1070.G.1.G.&k)
- PROPERTIES THAT ARE EXEMPT FROM THE ESL AREAS IN ACCORDANCE WITH THE 2004 AMENDMENT TO THE ESL OVERLAY (ESL EXEMPTIONS SCHEDULE SEC. 6.1022.B.) SHALL REPLACE # 62 AND # 63 WITH #64 AND #65 RESPECTIVELY.

63. A REGISTERED SURVEYOR SHALL STAKE AND ROPE OR FENCE THE NAOS EASEMENT IN ACCORDANCE WITH THE SITE PLAN AND THE EASEMENT LEGAL DESCRIPTION.
64. NO PAINT COLORS SHALL BE USED WHICH HAVE A LIGHT REFLECTIVE VALUE (LRV) GREATER THAN 40%.
65. SITE WALLS MUST BE SETBACK 15 FEET FROM SIDE AND REAR PROPERTY LINES. THIS APPLIES ONLY TO RESIDENTIAL PARCELS CONTAINING AN AREA OF 35,000 SQ FT OR LARGER. (SEC. 6.1071.A.4.)
66. WASHES OF 50 CFS OR GREATER FLOW SHALL BE IDENTIFIED AND WATERCOURSE(S) SHALL BE UNALTERED. IF WATERCOURSE(S) ARE ALTERED, PROVIDE A COPY OF THE WASH MODIFICATION APPROVAL LETTER AND REFERENCE THE CASE NUMBER ON THE SITE PLAN. (ZO SEC. 6.1070.G.1.L. AND 6.1091.A.4.B.)
67. APPLICATIONS THAT HAVE RECEIVED A HARDSHIP EXEMPTION SHALL PROVIDE THE CASE NUMBER ON THE SITE PLAN. (ZO SEC. 6.1022.D)
68. SITE WALLS SHALL NOT BE PROVIDED IN NAOS AREAS OR DISRUPT THE CONTINUITY OF NAOS CORRIDORS. (ZO SEC. 6.1071.A.2.A.)
69. IDENTIFY THE SPECIFIC LOCATION OF THE CONSTRUCTION ENVELOPE ON SITE PLAN. THE CONSTRUCTION ENVELOPE CONSISTS OF AN AREA ENCLOSED BY A LINE EXTENDING 15 FEET OUT FROM ALL DISTURBANCES ON LOT. (ZO SEC. 6.1071.A.6. AND SEC. 6.1070.A.3, FIGURE 6.1070.B)

BENCHMARK:

UNIQUE POINT ID: 5876
FND 1" IRON PIPE IN HANDHOLE 1.75" DOWN W 2 1/2" GLO BRASS CAP STAMPED "T5N R4E S3 S2 S10 S11 1919" AT THE NORTHEAST CORNER OF SECTION 10, T5N, R4E.
ELEVATION=2279.55' (NAVD88)

T.B.M.:

FND BRASS CAP FLUSH AT THE POINT OF TANGENCY TO THE SOUTHEAST (S 18°22'27" E 213.48') ON THE MONUMENT LINE OF 69TH WAY.
ELEVATION=2236.32' (NAVD88)

BENCHMARK CERTIFICATION:

I HEREBY CERTIFY THAT ALL ELEVATIONS REPRESENTED ON THIS PLAN ARE BASED ON NAVD 1988 AND MEET THE FEMA BENCHMARK MAINTENANCE (BMM) CRITERIA

NOTES:

IF A DISCREPANCY IS FOUND BETWEEN ENGINEER'S PLAN OR SURVEYOR'S STAKING AND THE ARCHITECTURAL PLAN, ENGINEER SHALL BE NOTIFIED IMMEDIATELY. FAILURE TO NOTIFY ENGINEER SHALL NEGATE ENGINEER'S LIABILITY.

ALL DISTURBED AREAS ARE TO BE ROPED AND ROPING MUST MATCH PLAN.

THIS SITE PLAN IS NOT A BOUNDARY SURVEY.

BEARINGS AND DISTANCES ARE RECORD PER PLAT UNLESS OTHERWISE NOTED.

ANY FUTURE IMPROVEMENTS SHOWN HEREON SHALL REQUIRE A SEPARATE PERMIT.

ALL EXISTING UTILITIES TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION, CALL BLUE STAKE AT 602-263-1100.
ANY POINTS OF DRAINAGE CONCENTRATION SHOULD BE PROTECTED AGAINST EROSION WITH NATIVE STONE.

THIS PLAN IS DESIGNED TO SHOW SITE GRADING AND DRAINAGE. CONTRACTOR SHALL USE THE ARCHITECTURAL SITE PLAN TO DETERMINE FINAL HOUSE, WALL, STEP, ETC., LOCATIONS AND ELEVATIONS.

ALL DRAINAGE FACILITIES TO BE MAINTAINED BY HOMEOWNER.

TOP OF FOOTING ELEVATIONS SHOWN IN PLAN ARE APPROXIMATE ONLY. ACTUAL TOP OF FOOTINGS TO BE DETERMINED AT TIME OF CONSTRUCTION AND TO BE A MINIMUM OF SIX INCHES BELOW EXISTING NATURAL GRADE OR FINISHED GRADE WHICHEVER IS LOWER (TYPICAL).

VEGETATION OUTSIDE OF CONSTRUCTION AREA TO REMAIN.

ALL DRAINAGE PROTECTIVE DEVICES SUCH AS SWALES, INTERCEPTOR DITCHES, PIPES, PROTECTIVE BERMS, CONCRETE CHANNELS OR ANY OTHER MEASURES DESIGNED TO PROTECT BUILDINGS OR OTHER PROPERTIES FROM STORM RUNOFF MUST BE COMPLETED PRIOR TO ANY STRUCTURES BEING BUILT.

ALL STORM DRAINAGE FACILITIES, INCLUDING WASHES, THAT EXIST PRIOR TO CONSTRUCTION MUST REMAIN OPEN AND FUNCTIONAL WITHOUT DIMINISHED CAPACITY FOR THE DURATION OF CONSTRUCTION AND UNTIL FINAL DRAINAGE FEATURES ARE COMPLETED.

HYDROLOGIC ANALYSIS OF THIS SITE INCLUDES SURFACE RUNOFF ONLY.

ANY PROPOSED PIPES ON THIS PLAN SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

LEGEND:

- A/C AIR CONDITIONING EQUIPMENT
BAR BARREL CACTUS
BLDR BOULDER
BJ BOULDER JUMBLE
BSL BUILDING SETBACK LINE
C CABLE TELEVISION
CFS CUBIC FEET PER SECOND
CTE CABLE TELEVISION EASEMENT
(C) DENOTES CALCULATED
(M) DENOTES MEASURED
(R) DENOTES RECORDED
DIRECTION OF DRAINAGE
DRAINAGE EASEMENT
EDGE OF DISTURBED AREA
EDGE OF PAVEMENT
(EXIST)
ELEC. ELECTRIC
00- EXISTING CONTOUR
(00.0) EXISTING ELEVATION
(EXIST)
FND FOUND
◇ FOUND BUILDING ENVELOPE STAKE
● FOUND MONUMENT
IW IRONWOOD
[ICV] IRRIGATION CONTROL VALVE
LF LOWEST FINISHED FLOOR
MCR MARICOPA COUNTY RECORDS
MESQ MESQUITE
NAOS NATURAL AREA OPEN SPACE
OCO OCOTILLO
PV PALO VERDE
PMUT PUBLIC MULTI-USE TRAIL
P POWER LINES
P PROPOSED CONTOUR
PTE PROPOSED ELEVATION
PUE PRIVATE TRAIL EASEMENT
PUBLIC UTILITIES EASEMENT
R RECORD MONUMENT
O ROCK OUTCROP
SAG SAGUARO CACTUS
SWE SIDEWALK EASEMENT
(EXIST)
T/TB TELEPHONE RISER
T/B/C TOP BACK OF CURB
TF TOP OF FOOTING
TR TOP OF RAIL
TW TOP OF WALL
TOF TOP OF FENCE
VNAE VEHICULAR NON-ACCESS EASEMENT
(1) WALL OPENING FOR DRAINAGE (8"x16")
WM WATER METER BOX
WMS WATER METER BOX WITH SERVICE
WV WATER VALVE

CIVIL GRADING & DRAINAGE PLAN FOR PICKLEBALL COURTS

TRACT "G" CLUBHOUSE

RECORDED IN BOOK 404 OF MAPS, PAGE 32 MCR

SITUATED IN NE 1/4 OF SECTION 10

TOWNSHIP 5 NORTH, RANGE 4 EAST,

OF THE GILA AND SALT RIVER BASE AND MERIDIAN, SCOTTSDALE, MARICOPA COUNTY, ARIZONA.

FLOOD INSURANCE RATE MAP (FIRM) INFORMATION:

COMMUNITY NUMBER	PANEL NUMBER AND DATE	SUFFIX	DATE OF FIRM INDEX	FIRM ZONE	BASE FLOOD ELEV (IN AO ZONE, USE DEPTH)
045012	895 10/16/2013	L	9/18/2020	X	NA

ENGINEER'S CERTIFICATION: THE LOWEST FLOOR ELEVATION(S) AND/OR FLOOD PROOFING ELEVATION(S) ON THIS PLAN, ARE SUFFICIENTLY HIGH TO PROVIDE PROTECTION FROM FLOODING CAUSED BY A 100 YEAR STORM, AND ARE IN ACCORDANCE WITH CITY OF SCOTTSDALE FLOODWAYS AND FLOODPLAIN ORDINANCE, CHAPTER 37, S.R.C..

PLANT SALVAGE NOTE:

ON-SITE PLANT SALVAGE INFORMATION SHOWN HEREON IS FOR CITY OF SCOTTSDALE PLAN APPROVAL PURPOSES ONLY. ENGINEER ASSUMES NO LIABILITY FOR THE EVALUATION, SALVAGE ABILITY, REMOVAL AND/OR RELOCATION OF ON-SITE PLANT MATERIALS. CONTACT SALVAGE CONTRACTOR FOR MORE INFORMATION.

GUEST HOUSE NOTE:

GUEST HOUSE SHALL NEVER BE OFFERED FOR RENT. GUEST HOMES ON LOTS UNDER 35,000 SQ. FT. MAY NOT PROVIDE COOKING FACILITIES.

A GUESTHOUSE OR ACCESSORY STRUCTURE SHALL NOT EXCEED A GROSS FOOTPRINT SIZE GREATER THAN 50% OF THE FOOT PRINT SIZE OF THE PRINCIPAL BUILDING.

UTILITIES NOTE:

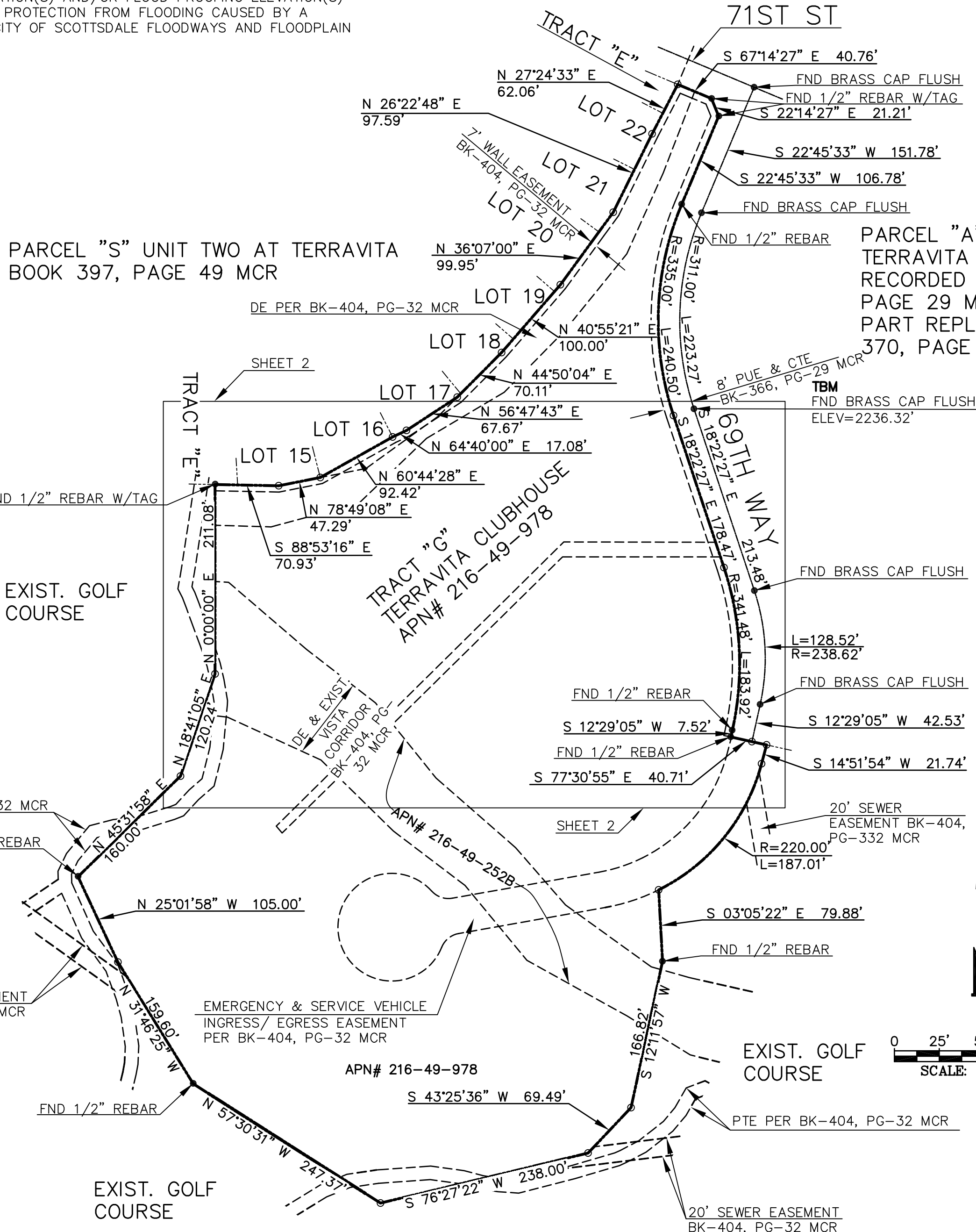
HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES SHOWN IN THE PLAN ARE APPROXIMATE ONLY AND WILL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO START OF CONSTRUCTION WORK. CALL BLUE STAKE @ 811 OR GO TO ARIZONA811.COM

LOT DATA:

AREA= 508,635 S.F. / 11.67 ACRES ±
SLOPE= PRE-ENGINEERED
NAOS REQUIRED= 0 S.F.
NAOS PROVIDED= S.F.
LANDFORM= UPPER-DESERT

POOL ENCLOSURES:

AN OUTDOOR SWIMMING POOL, INCLUDING AN IN-GROUND, ABOVEGROUND OR ON-GROUND POOL, HOT TUB OR SPA SHALL BE PROVIDED WITH A BARRIER MEETING THE REQUIREMENTS OF SCOTTSDALE ORDINANCE #3096 ADOPTED BY THE SCOTTSDALE CITY COUNCIL ON MARCH 18, 1998. POOL SHALL BE SECURED FROM UNWANTED ACCESS AND APPROVED THROUGH SEPARATE PERMIT.



ENGINEERS CERTIFICATION:

THIS IS TO CERTIFY THAT THE ENGINEERING INFORMATION SHOWN HEREON WAS EXECUTED UNDER MY DIRECTION.



VICINITY MAP

CLIENT:

TERRAVITA COUNTRY CLUB
34034 N 69TH WAY
SCOTTSDALE, AZ. 85266

SITE ADDRESS:

34036 N 69TH WAY
SCOTTSDALE, AZ. 85266

ASSESSORS PCL. NO.:

216-49-978

ZONING:

OS ESL

C.O.S. QUARTER SECTION NO.:

58-44

DATE:

PHASE 1	3/30/21	MP
COURTS	05-06-2021	PS
COS	08-23-2021	PS
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GRAHAM SURVEYING & ENGINEERING INC.

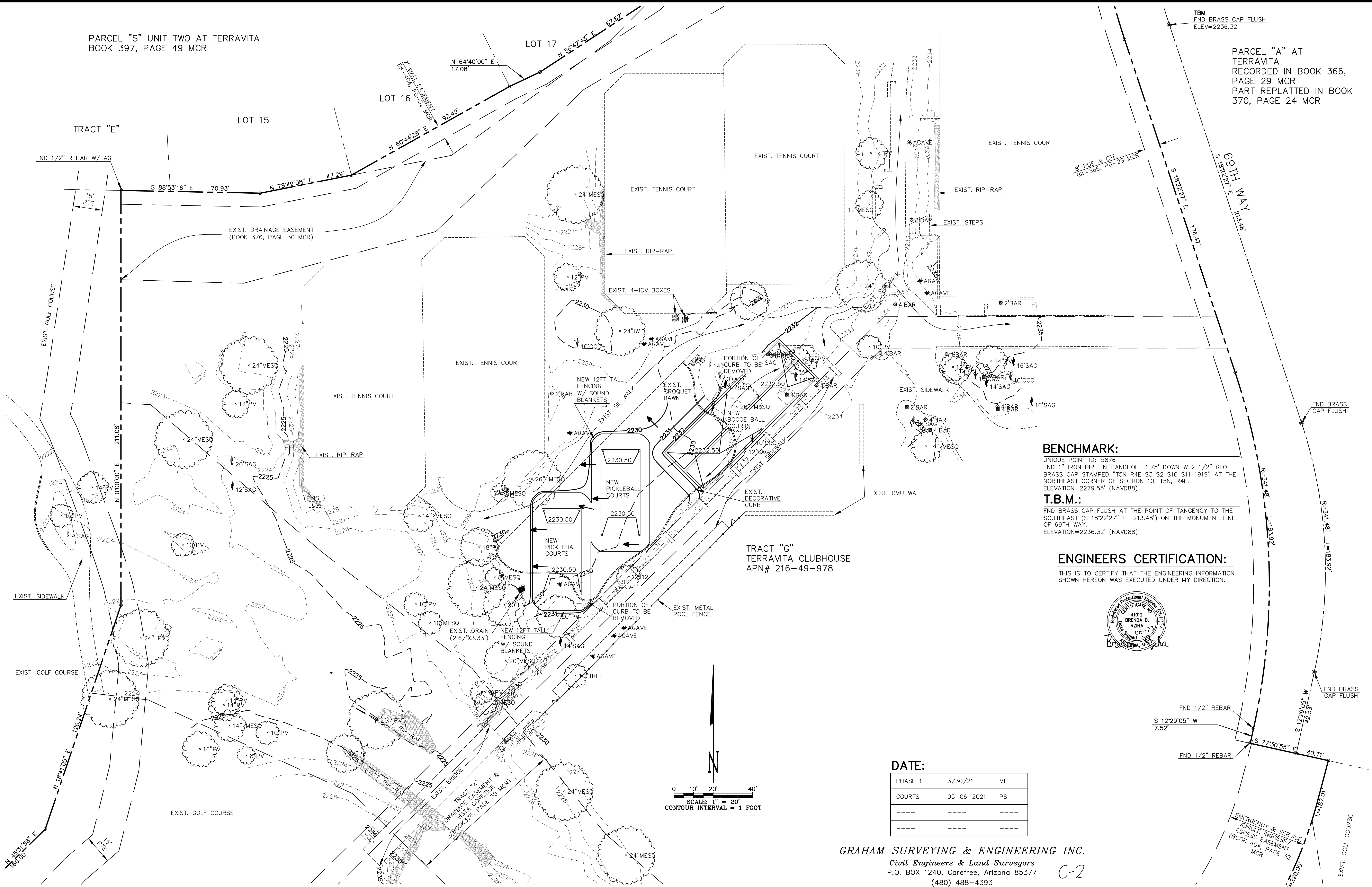
Civil Engineers & Land Surveyors

P.O. BOX 1240, Carefree, Arizona 85377

(480) 488-4393

PARCEL "S" UNIT TWO AT TERRAVITA
BOOK 397, PAGE 49 MCR

PARCEL "A" AT
TERRAVITA
RECORDED IN BOOK 366,
PAGE 29 MCR
PART REPLATTED IN BOOK
370, PAGE 24 MCR



BENCHMARK:

UNIQUE POINT ID: 5876
FND 1" IRON PIPE IN HANDHOLE 1.75' DOWN W 2 1/2" GLO
BRASS CAP STAMPED "T5N R4E S3 S2 S10 S11 1919" AT THE
NORTHEAST CORNER OF SECTION 10, T5N, R4E.
ELEVATION=2279.55' (NAVD88)

T.B.M.:

FND BRASS CAP FLUSH AT THE POINT OF TANGENCY TO THE
SOUTHEAST (S 18°22'27" E 213.48') ON THE MONUMENT LINE
OF 69TH WAY.
ELEVATION=2236.32' (NAVD88)

ENGINEERS CERTIFICATION:

THIS IS TO CERTIFY THAT THE ENGINEERING INFORMATION
SHOWN HEREON WAS EXECUTED UNDER MY DIRECTION.

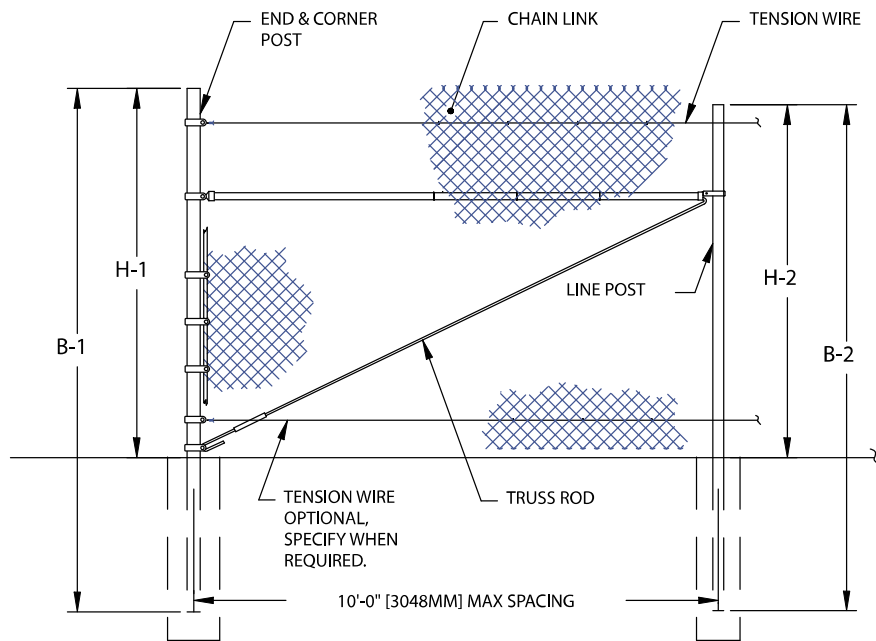


DATE:

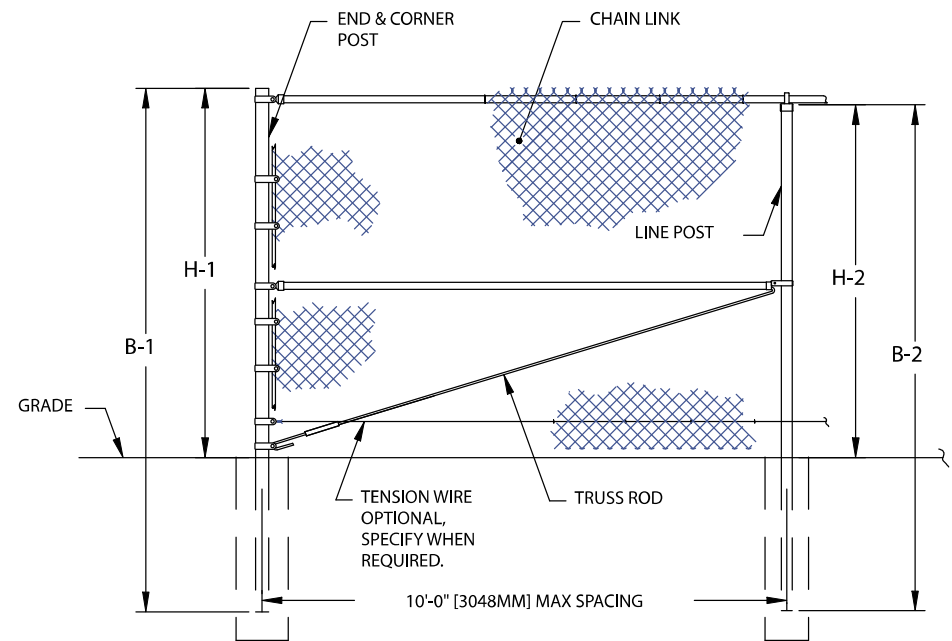
PHASE 1	3/30/21	MP
COURTS	05-06-2021	PS
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GRAHAM SURVEYING & ENGINEERING INC.
Civil Engineers & Land Surveyors
P.O. BOX 1240, Carefree, Arizona 85377
(480) 488-4393

C-2



FENCE SECTION ELEVATION
WITHOUT TOP RAIL & WITHOUT BARBED WIRE



FENCE SECTION ELEVATION
WITH TOP RAIL & WITHOUT BARBED WIRE

FENCE HEIGHT NOMINAL HEIGHT	END & CORNER POSTS		LINE POSTS	
	B-1 BAR LENGTH	H-1 HEIGHT ABOVE GRADE	B-2 BAR LENGTH	H-2 HEIGHT ABOVE GRADE
5'-0" [1524MM]	8'-0" [2438MM]	5'-0 5/8" [1540MM]	7'-8" [2337MM]	4'-8 7/8" [1445MM]
6'-0" [1829MM]	9'-0" [2743MM]	6'-0 5/8" [1845MM]	8'-8" [2642MM]	5'-8 7/8" [1749MM]
7'-0" [2134MM]	10'-0" [3048MM]	7'-0 5/8" [2150MM]	9'-8" [2946MM]	6'-8 7/8" [2054MM]
8'-0" [2438MM]	11'-0" [3353MM]	8'-0 5/8" [2454MM]	10'-8" [3251MM]	7'-8 7/8" [2359MM]
9'-0" [2743MM]	12'-0" [3658MM]	9'-0 5/8" [2759MM]	11'-8" [3556MM]	8'-8 7/8" [2664MM]
10'-0" [3048MM]	13'-0" [3962MM]	10'-0 5/8" [3064MM]	12'-8" [3861MM]	9'-8 7/8" [2969MM]
11'-0" [3353MM]	14'-0" [4267MM]	11'-0 5/8" [3369MM]	13'-8" [4166MM]	10'-8 7/8" [3273MM]
12'-0" [3658MM]	15'-0" [4572MM]	12'-0 5/8" [3674MM]	14'-8" [4470MM]	11'-8 7/8" [3578MM]

TYPICAL HIGH FENCE WITHOUT BARBED WIRE

DIMENSIONS & SPECIFICATIONS

BY:

DATE:

REV:

REV DATE:

DWG:

LAYER:

1

SCALE:

1/4" = 1'-0"



ACOUSTICS GROUP, INC.
Consultants in Acoustics, Noise & Vibration

December 15, 2020

Rich Riffle
Terravita Country Club
34034 North 69th Way
Scottsdale, AZ 85266

Subject: Pickleball Noise Analysis for Terravita Country Club in Scottsdale, AZ.

Dear Mr. Riffle

Terravita Country Club retained Acoustic Group Inc. (AGI) to update the 2014 and 2015 noise studies that were conducted to evaluate the noise generated by Pickleball play at the club. AGI has over 33 years of directly related past project experience, past work with Terravita Country Club and numerous other pickleball court projects where pickleball was added after the initial community development and noise level reduction was successfully obtained.

This study will predict the Pickleball noise level near houses that are adjacent to the tennis court area. The noise level from Pickleball play will be evaluated based on several noise control measures including 1) locating the Pickleball courts at a new location further away from the homes 2) evaluation of noise control material around the court at an appropriate height to reduce propagation 3) use of new pickleball equipment (rackets) specifically designed to reduce noise and 4) orientation of the direction of the courts to minimize noise. The results of this study provides a comparison of the actual measured sound levels when play was measured on several different courts in 2014, to the predicted value of the sound levels at the same locations with each of the four (4) noise reduction measures outlined above.

December 15, 2020

For Terravita Country Club Use Only

1

ACOUSTICS GROUP, INC.
877.595.9988 – Voice
www.AcousticsGroupInc.com

ATTACHMENT #10

42-DR-1993#3
6/9/2021



NOISE AND THE A-WEIGHTED SOUND LEVEL

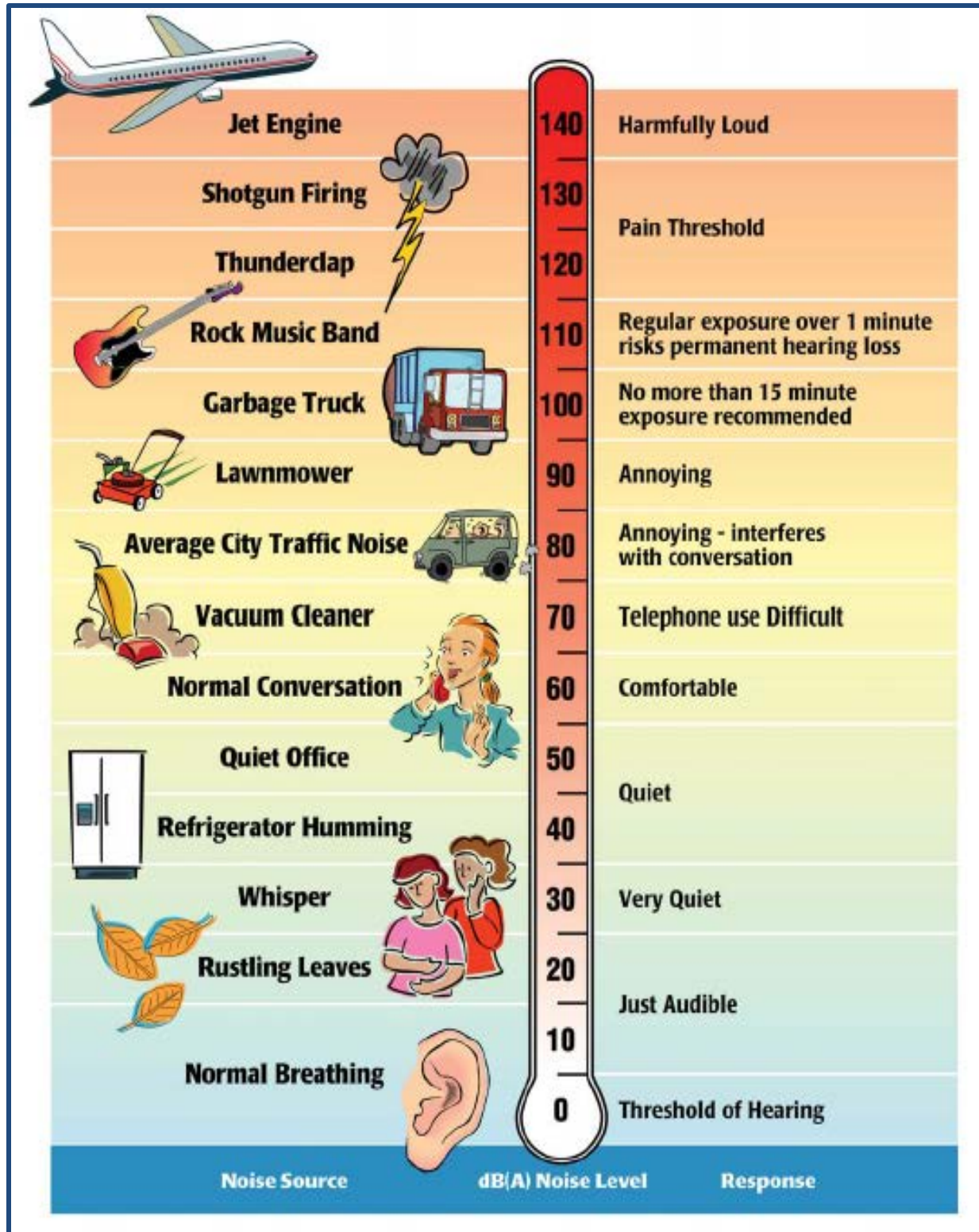
Noise is most often defined as unwanted sound. Although sound can be easily measured, the perceptibility is subjective and the physical response to sound complicates the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.” Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB).

The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human, frequency-dependent response, the A-weighting filter system is used to adjust measured sound levels. The A-weighted sound level is expressed in “dBA” or “dB(A).” Figure 1 provides typical A-weighted sound levels measured for various sources, as well as people’s responses to these levels.

When sound is measured for distinct time intervals, the statistical distribution of the overall sound level can be obtained during that period. The energy-equivalent sound level (Leq) is the most common parameter associated with such measurements. The Leq metric is a single-number noise descriptor which represents the average sound level over a given period of time, where the actual sound level varies with time. Lmax, Lmin, and Lxx are also common noise descriptors. Lmax and Lmin are the maximum and minimum noise levels, respectively, and Lxx, known as a statistical sound level, is the time-varying noise level which would be exceeded xx percent of the time.

NOISE STANDARDS & GUIDELINES

The City of Scottsdale Municipal Code does not specifically adopt noise standards to regulate noise from recreational activity within parks. However, an appropriate noise level limit would be 50 – 55 dBA at outdoor living areas. The acceptance of any noise guideline would be subject to the approval of the HOA board and or the City of Scottsdale.



Source: Melville Branch and R. Beland, 1970. EPA/ONAC 550/9-74-004, March 1974.

Figure 1. Typical A-weighted Noise Levels



SUMMARY OF 2014 STUDY

AGI previously conducted a noise survey on February 17, 2014 to document the noise levels from Tennis and Pickleball activities at the Terravita Tennis and Pickleball Courts¹. Hourly noise measurements were conducted at the rear yard of 6847 E Amber Sun Drive (NM1). Hourly noise measurements were also conducted along the rear yard fence of 6863 E Amber Sun Drive (NM2). The measurement was conducted with a Larson Davis Model 831 Noise Analyzer and the instrument was operated in accordance with manufacturer's standards. Figure 2 shows the location of the noise measurement relative to the Tennis and Pickleball courts and the nearby residences.

The Leq measured during the survey ranged from 40.4 to 45.4 dBA at NM1. The sources of noise that contributed to the measurement data were tennis and pickleball play, basketball play, distant traffic, wildlife birds, aircraft, talking, and homeowner activity. At location NM2, the Leq ranged from 46.9 to 48.3 dBA. Noise from tennis and pickleball play, basketball play, distant traffic, wildlife birds, aircraft, talking, and homeowner activity also were measured at this location. Table 1 summarizes the noise measurement data. Table 2 summarizes the noise from individual noise events measured at each location.

Tennis Noise

Noise associated with Tennis play was measured at locations NM1 and NM2 during the survey. During the tennis play, all 6 courts were active with doubles play at each court. There were a total of 24 players on the courts during the survey. At location NM1, tennis ball impact noise ranged from 40 to 58 dBA. At location NM2, tennis ball impact noise ranged from 39 to 53 dBA. Players talking and shouting were also noticeable noise sources at each location. Talking generated noise levels ranging from 40 to 55 dBA at NM1 and 37 to 42 dBA at NM2. Shouting generated noise levels at approximately 65 dBA at NM1.

Pickleball Noise

Noise associated with Pickleball play was measured at locations NM1 and NM2 during the survey. During the pickleball play, Court 6 was active with doubles play at each pickleball court. There were a total of 8 players on the courts during the survey. At location NM1, pickleball impact noise ranged from 39 to 53 dBA. At location NM2, pickleball ball impact noise ranged from 47 to 65 dBA. Players talking were also a noticeable noise source at each location. Talking generated noise levels ranging from 35 to 57 dBA at NM1 and 45 to 52 dBA at NM2.

¹ AGI letter Report for the Terravita Country Club Tennis and Pickleball Courts in Scottsdale, AZ, dated February 21, 2014.

Basketball Noise

Noise associated with basketball play was measured at locations NM1 and NM2 during the survey. Basketball play was demonstrated by one player located at Court 6. At location NM1, basketball impact noise ranged from 35 to 54 dBA. At location NM2, basketball impact noise ranged from 39 to 65 dBA.

Other Noise

Other noise sources experienced at NM1 and NM2 included birds, homeowners, aircraft, golf carts, cars, and trucks. Overall, at both measurement locations the ambient noise was 35 dBA. Birds created sound levels of 45 to 53 dBA. Nearby homeowners created sound levels ranging from 38 to 62 dBA. Aircrafts passing generated a sound level ranging from 42 to 53 dBA. A golf cart passing has a sound level of 45 dBA. A car passing has a sound level ranging from 42 to 45 dBA. Trucks passing had a sound level of 58 dBA. Based on the results of the noise survey, the noise from the pickleball and tennis courts had a range of sound levels ranging from 35 to 65 dBA.

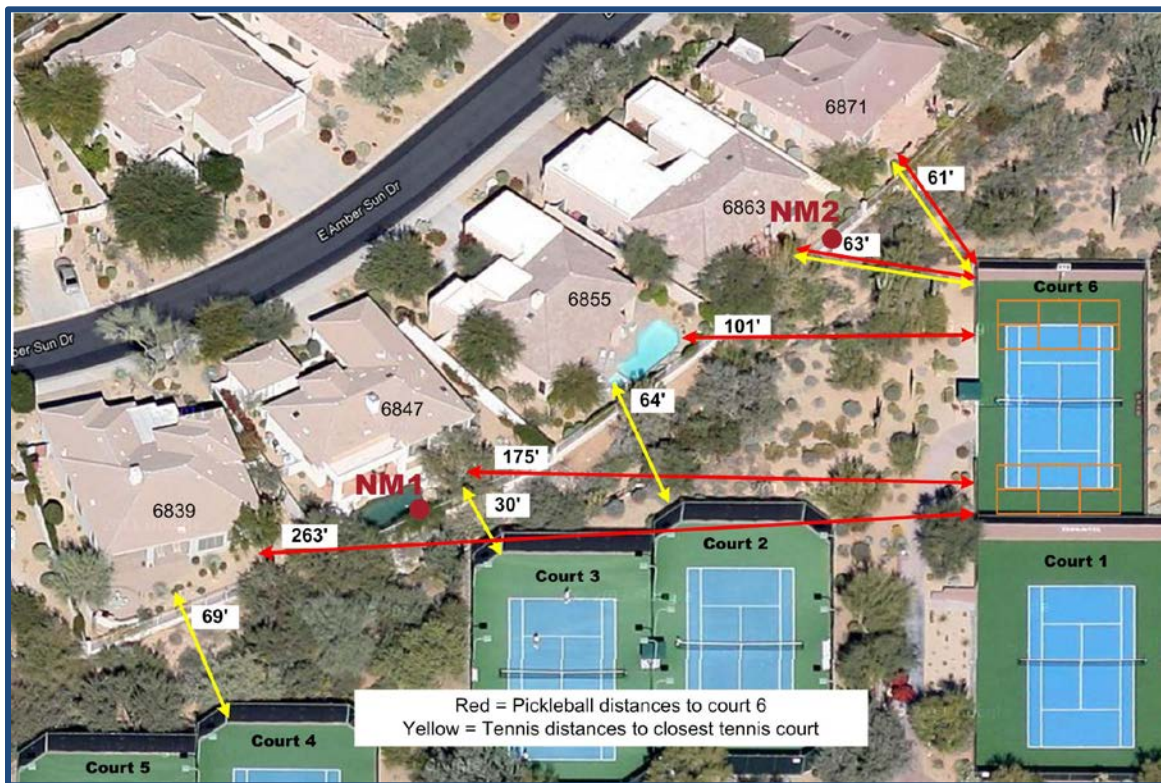


Figure 2. Location of the Noise Measurements



Table 1. Summary of the Statistical Noise Measurement Data

Description	Time	Leq, dBA	Lmax, dBA	Lmin, dBA
6847 E Amber Sun Drive (NM1)	11:00 AM - 12:00 PM	45.1	62.7	35.4
	2:00 PM - 3:00 PM	42.1	66.1	34.2
	3:00 PM - 3:10 PM	40.4	50.2	33.6
6863 E Amber Sun Drive (NM2)	12:00 PM - 1:00 PM	46.9	64.3	33.8
	1:00 PM - 1:05 PM	48.3	59.5	38.9
	1:00 PM - 2:00 PM	48.3	65.7	34.2

Table 2. Summary of Individual Noise Events by Location

Sources	Event Sound Level by Location and Time				
	Location NM1	Location NM2	Location NM2	Location NM1	Location NM1
	11 AM - 12 PM	12 PM - 1 PM	1 PM - 2 PM	2 PM - 3 PM	3 PM - 4 PM
Ambient	35	35	35	35	35
Birds	-	-	-	43-53	-
Homeowner	-	-	-	38-62	-
Basketball	-	39-45	45-65	-	35-54
Pickleball Ball Impact	-	-	47-65	39-53	-
Pickleball Players Talking	-	-	45-52	35-57	-
Tennis Ball Impact	42-58	39-53	-	40-50	-
Tennis Net/Fence Strike	46-50	42	-	-	-
Tennis Players Shouting	65	-	-	-	-
Tennis Players Talking	40-55	37-42	-	-	-
Aircraft	-	45	43-53	42-48	-
Car	-	42-45	-	-	-
Cart	-	-	45	-	-
Truck	-	-	58	-	-



SUMMARY OF 2015 STUDY

The noise from the proposed Pickleball activity at Court #5 was previously analyzed in AGI's 2015 noise study². Table 3 summarizes the results of the previous noise analysis. The noise associated with pickleball activity at Court #5 are within the 50 to 55 dBA guideline for residential noise impact assessment at R1 and R4 – R6. The noise at R2 and R2 are above the guideline. However, based on the noise measurement data, the background noise at the residences is relatively low at around 35 dBA, and pickleball noise levels would be audible and clearly discernible to the nearest homeowners on E Amber Sun Drive.

Table 3. Pickleball Noise Analysis for Court #5

Noise Sensitive Receivers	Pickleball Noise Level from Court #5 with No Noise Control, dBA
R1	51.7
R2	59.2
R3	58.9
R4	53.7
R5	49.5
R6	46.6

Note: Pickleball noise analysis based on 2 pickleball courts with a total of 8 players.

NEW PICKLEBALL LOCATION NOISE ANALYSIS

For the 2015 Court #5 study and the new pickleball location analysis, the methodology used to analyze and predict operations noise involved the use of the CadnaA computer noise model. CadnaA can simulate the physical environment by factoring in x, y, and z geometrics of a particular site to simulate the buildings, obstacles, and typography. The model uses industry recognized algorithms (ISO 9613) to perform acoustical analyses. The noise generated by future pickleball courts were calculated by inputting acoustical sources at the project site. AGI's measurement data from the pickleball noise measurements were used for the modeling inputs. The CadnaA Noise Model was also used to evaluate noise control options. This model has been validated by over 15 years and millions of successful test cases around the world.

AGI has analyzed the noise from the proposed Pickleball activity at the new proposed location shown in Figure 3. With no noise barriers, the future pickleball courts would produce noise levels ranging from 41.4 to 46.0 dBA at the nearest noise sensitive receptors. Table 4 summarizes the predicted pickleball noise levels at the nearest noise sensitive receptors.

² AGI Report - Summary of Pickleball Noise Analysis at Court #5 for Terravita Country Club in Scottsdale, AZ, dated June 23, 2015

Based on the noise measurement data from tennis and pickleball play, the noise associated with these activities are below the 50 to 55 dBA guideline for residential noise impact assessment. However, the background noise at the residences is relatively low at around 35 dBA, and pickleball noise levels would still be clearly discernible to the nearest homeowners on E Amber Sun Drive.

Table 4. Noise Analysis for New Pickleball Locations, dBA

Noise Sensitive Receivers	Pickleball Noise Level with No Noise Control, dBA
R1	41.4
R2	45.6
R3	46.0
R4	45.8
R5	43.9
R6	41.5

Note: Pickleball noise analysis based on 2 pickleball courts with a total of 8 players.

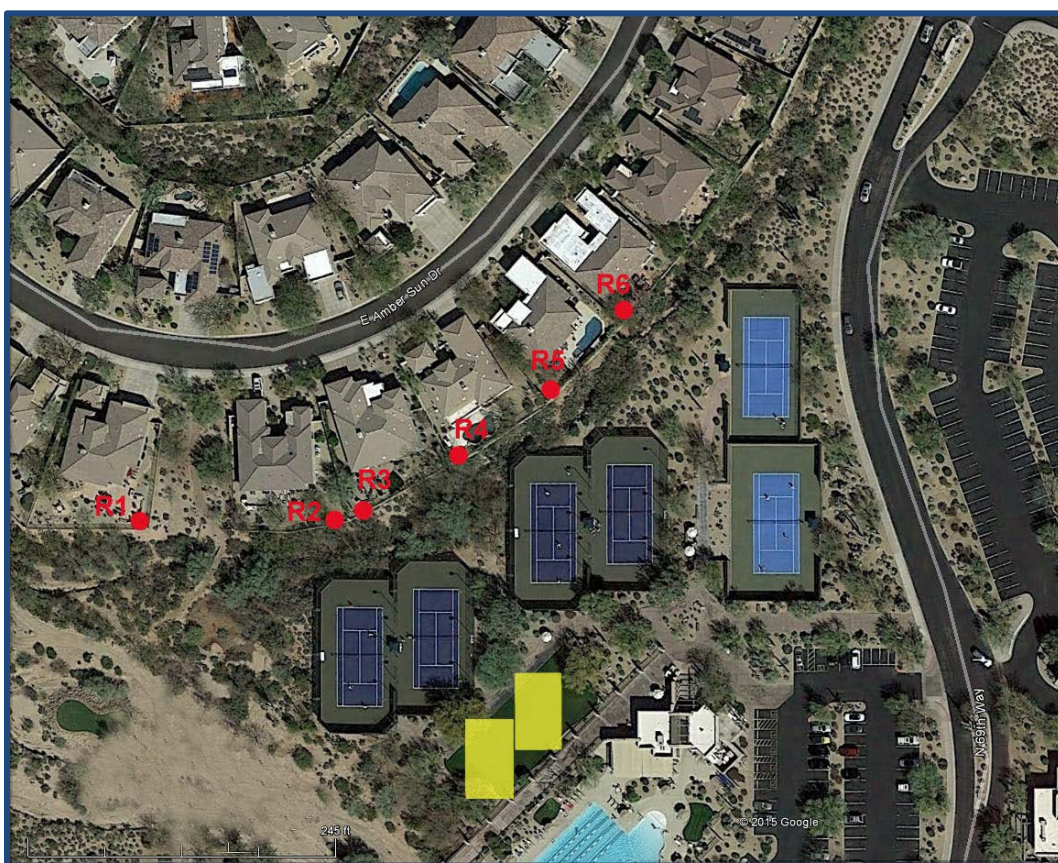


Figure 3. Proposed Pickleball Court Location



Compared to locating the pickleball courts on Court #5, the new pickleball court location further from the residences will result in a significantly noticeable reduction of noise levels ranging from 5.1 to 13.6 dB. Refer to Table 5 for a comparison of the pickleball noise levels from Court #5 and the new proposed pickleball location.

Table 5. Comparison of Pickleball Noise Levels from Court #5 and New Pickleball Location

Noise Sensitive Receivers	Pickleball Noise Level from Court #5 with No Noise Control, dBA	Pickleball Noise Level from New Location with No Noise Control, dBA	Delta, dB
R1	51.7	41.4	-10.3
R2	59.2	45.6	-13.6
R3	58.9	46.0	-12.9
R4	53.7	45.8	-7.9
R5	49.5	43.9	-5.6
R6	46.6	41.5	-5.1

Note: Pickleball noise analysis based on 2 pickleball courts with a total of 8 players.

Noise Control

The following measures were evaluated to minimize pickleball noise at the nearest homes from the proposed Pickleball Courts:

Noise Control Option 1

As the recommended option, a continuous solid noise barrier should be installed on the western and northern boundary of the pickleball courts as per Figure 4. Materials such as concrete block, plexiglass, or acoustical blanket (e.g. Acoustical Solutions Noise S.T.O.P Soundproof Blanket STC 33, NRC 0.75) should be used to provide the sound transmission needed. Figure 4 displays the recommended noise barrier location relative to the noise sensitive receivers. Table 6 summarizes the results of the noise barrier analysis.

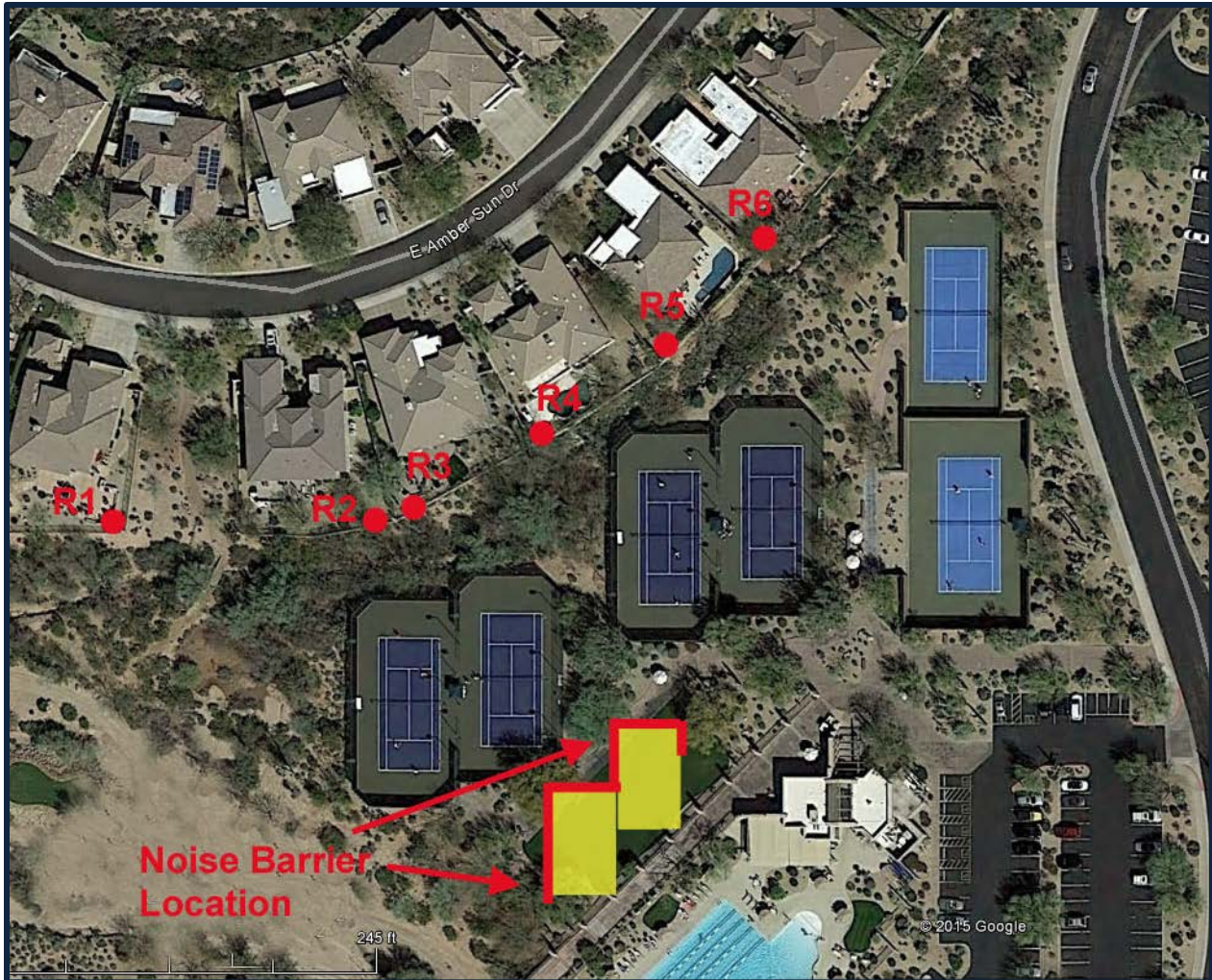


Figure 4. Recommended Noise Barrier Location

Table 6. Pickleball Noise Control Analysis – Solid Noise Barrier

Noise Sensitive Receivers	No Wall	Alternative Noise Barrier Heights, ft		
		10	12	14
R1	41.4	35.8	33.5	31.7
R2	45.6	39.6	37.3	35.5
R3	46.0	40.1	37.8	36.0
R4	45.8	40.1	37.9	36.1
R5	43.9	38.5	36.4	34.7
R6	41.5	37.3	36.0	35.0

Note: Pickleball noise analysis based on 2 pickleball courts with a total of 8 players.



Based on the results summarized in Table 6, a noise barrier of at least 12-feet in height is needed to provide a noticeable noise reduction at the nearby residences represented by Receptors 1 through 6. With a 12-foot high noise barrier, locating the new pickleball courts would result in noise levels of 33.5, 37.3, 37.8, 37.9, 36.4, and 36.0 dBA, at receptors R1 through R6, respectively. Compared to locating the pickleball courts on Court #5, the new pickleball courts with a 12-ft high solid noise barrier will result in noise levels ranging from 10.6 to 21.9 dB less than then noise levels from Court #5. Refer to Table 7 for a comparison of the pickleball noise levels from Court #5 and the new proposed pickleball location with the 12-foot high solid noise barrier.

With the solid 12-foot high barrier, the pickleball noise would be below the 50 to 55 dBA guidelines for residential noise impact assessment. Additionally, the pickleball noise levels would less than 3 dB higher than the ambient noise level at around 35 dBA. Because of the characteristics of the Pickleball impact noise, the sounds will be audible to the nearest residences.

Table 7. Comparison of Pickleball Noise Levels from Court #5 and New Pickleball Location with the 12-ft High Solid Noise Barrier

Noise Sensitive Receivers	Pickleball Noise Level from Court #5 with No Noise Control, dBA	Pickleball Noise Level from New Location with 12-ft High Solid Noise Barrier, dBA	Delta, dB
R1	51.7	33.5	-18.2
R2	59.2	37.3	-21.9
R3	58.9	37.8	-21.1
R4	53.7	37.9	-15.8
R5	49.5	36.4	-13.1
R6	46.6	36.0	-10.6

Note: Pickleball noise analysis based on 2 pickleball courts with a total of 8 players.

Noise Control Option 2

As an alternative to Option 1, install lightweight acoustical fencing (Acoustiblok or AcoustiFence) to the north, east, west, and south sides of the chain link fence surrounding the pickleball courts, as per Figure 5. The AcoustiFence (Figure 6), or acoustical equivalent should provide a minimum STC 28 rating or greater. The estimated barrier insertion loss values are consistent with AGI's field observations at similar pickleball facilities. Table 8 summarizes the pickleball noise levels with acoustical fencing surrounding the courts.

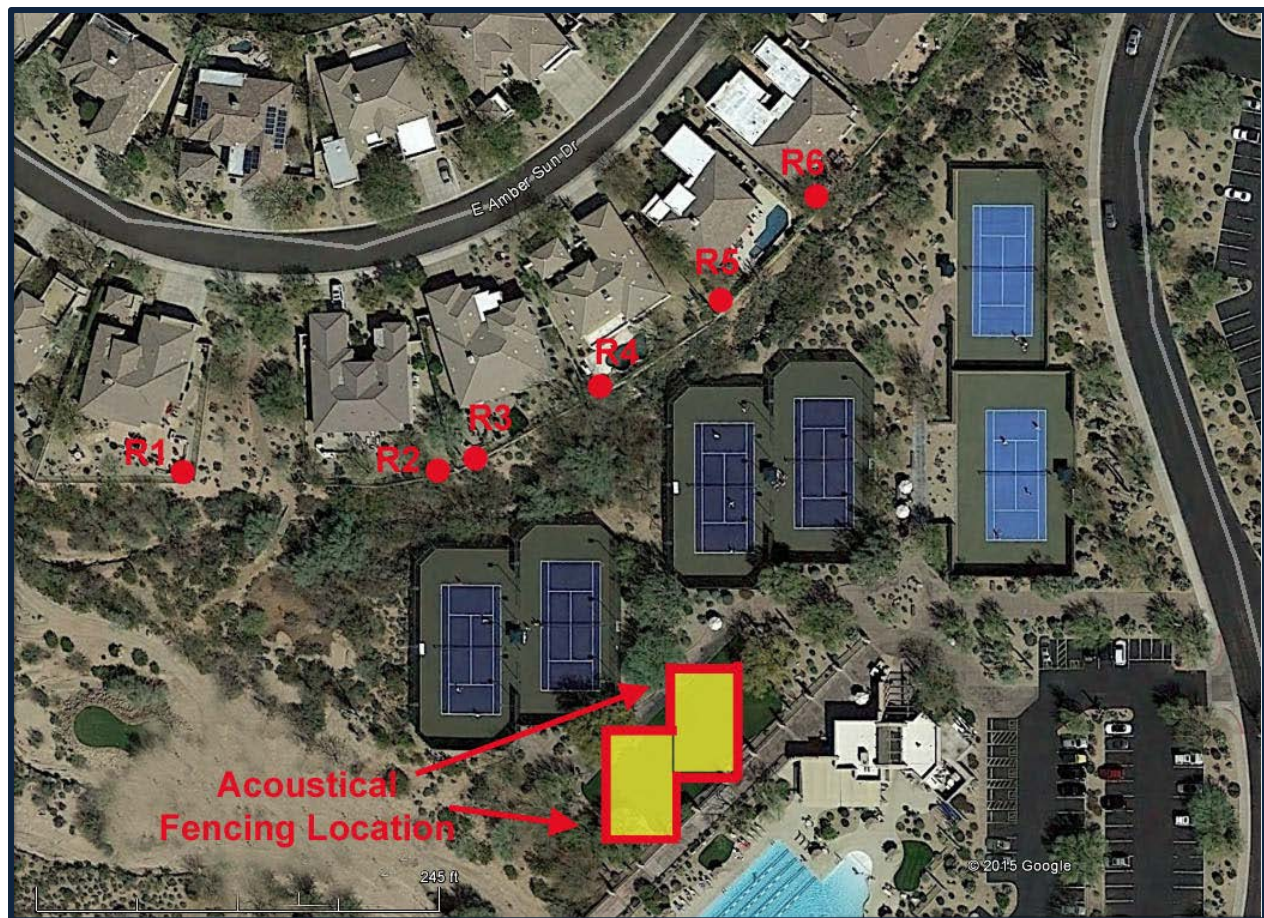


Figure 5. Recommended Acoustical Fencing Location Surrounding Pickleball Courts



Figure 6. AcoustiFence Surrounding Pickleball Courts

**Table 8. Pickleball Noise Control Analysis – Acoustical Fencing**

Noise Sensitive Receivers	No Wall	Alternative Acoustical Fencing Heights, ft		
		10	12	14
R1	41.4	37.2	36.8	36.6
R2	45.6	41.2	40.9	40.7
R3	46.0	41.7	41.3	41.2
R4	45.8	41.5	41.1	41.0
R5	43.9	39.5	39.1	38.9
R6	41.5	36.9	36.4	36.2

Note: Pickleball noise analysis based on 2 pickleball courts with a total of 8 players.

Based on the results summarized in Table 8, acoustical fencing of at least 12-feet in height is needed to provide a noticeable noise reduction at the nearby residences represented by Receptors 1 through 6. With a 12-foot high noise barrier, locating the new pickleball courts would result in noise levels of 36.8, 40.9, 41.3, 41.1, 39.1, and 36.4 dBA, at receptors R1 through R6, respectively. Compared to a solid noise barrier, acoustical fencing does not provide as significant amount of noise reduction.

Compared to locating the pickleball courts on Court #5, the new pickleball courts with a 12-ft high acoustic fencing will result in noise levels ranging from 10.2 to 18.3 dB less than then noise levels from Court #5. Refer to Table 7 for a comparison of the pickleball noise levels from Court #5 and the new proposed pickleball location with the 12-foot high acoustic fencing.

With the 12-foot high acoustic fencing, the pickleball noise would be below the 50 to 55 dBA guidelines for residential noise impact assessment. However, the pickleball noise levels would be approximately 6 dB higher than the ambient noise level at around 35 dBA and audible to the nearest residences.

Table 9. Comparison of Pickleball Noise Levels from Court #5 and New Pickleball Location with the 12-ft High Acoustic Fencing

Noise Sensitive Receivers	Pickleball Noise Level from Court #5 with No Noise Control, dBA	Pickleball Noise Level from New Location with 12-ft High Acoustic Fencing, dBA	Delta, dB
R1	51.7	36.8	-14.9
R2	59.2	40.9	-18.3
R3	58.9	41.3	-17.6
R4	53.7	41.1	-12.6
R5	49.5	39.1	-10.4
R6	46.6	36.4	-10.2

Note: Pickleball noise analysis based on 2 pickleball courts with a total of 8 players.



Noise Control Option 3

In addition to either Noise Control Option 1 or Noise Control Option 2, Terravita Country Club could enforce the requirement of the newer “Quietest” or “Quieter” Pickleball paddles. Table 10 lists the noise levels from pickleball paddles. Depending on the equipment type used, the noise level from pickleball noise could be reduced by 5.4 to 7.7 dB.

Table 10. Ranking of the Tested Pickleball Paddles by Sound Level

Paddle	Pickleball Noise Level, Leq, dBA at 10-ft from edge of court	Description
ZZT	57.0	Quietest
Pickleball Now The Force	57.2	Quietest
Graphite Magnum	57.9	Quieter
Pickleball Now MetaLite	58.1	Quieter
Pro Lite Enforcer	58.9	Quieter
Paddle Tech	59.3	Quieter
Graphite	60.1	Moderately Quiet
Pro Lite Power	60.1	Moderately Quiet
Brian Jensen Designs	61.0	Moderately Quiet
Striker	61.3	Moderately Quiet
Blaster	61.4	Moderately Quiet
Pro Lite Aero D	61.4	Moderately Quiet
Prolite Magnum	62.8	Moderately Quiet
Pickleball Now Classic Lite	63.3	Loudest
Pickleball Now Force	64.0	Loudest
Whipper Snapper	64.7	Loudest

Noise Control Option 4

Depending on the orientation of the Pickleball Courts, the noise produced by the ball and paddle impact can exhibit a small amount of directivity. The noise experienced along the baseline of the Pickleball Courts can be approximately 2 dB higher than the noise along the sideline directions. To minimize the affect of directivity, the courts can be orientated such that the sidelines face the nearest residences and thus further reduce the noise in the direction of the nearest homes. This would involve an approximately 90-degree rotation of the courts.



SUMMARY OF NOISE CONTROL OPTIONS

Compared to locating the pickleball courts on Court #5, the new pickleball courts with a 12-ft high solid noise barrier will result in noise levels ranging from 10.6 to 21.9 dB less than then noise levels from Court #5. Compared to locating the pickleball courts on Court #5, the new pickleball courts with a 12-ft high acoustical fencing will result in noise levels ranging from 10.2 to 18.3 dB less than then noise levels from Court #5. Compared to a solid noise barrier, acoustical fencing does not provide as significant amount of noise reduction. Depending on the equipment type used, the noise level from using newer “Quietest” or “Quieter” pickleball paddles could be reduced 5.4 to 7.7 dB. Additionally, if the angle of the proposed courts was rotated 90 degrees, noise levels could be reduced an additional 2 dB. Table 11 summarizes the noise control options evaluated for the new pickleball location.

Table 11. Summary of Noise Control Options

Noise Control Option	Noise Reduction, dB	Description
(1) 12-ft High Solid Noise Barrier	10.6 to 21.9 ¹	Significantly Noticeable
(2) 12-ft High Acoustical Fencing	10.2 to 18.3 ¹	Clearly Noticeable
(3) Quiet Paddles	5.4 to 7.7	Noticeable
(4) Angle of Court Play	2	Not Noticeable

¹ Compared to Pickleball Play on Court #5 with No Noise Control

RECOMMENDATIONS

The following recommendations are identified to provide a substantial reduction of the pickleball noise at the nearest residences:

1. A 12-foot high noise barrier (barrier height is relative to the court elevation) should be constructed along the western and northern boundary of the pickleball courts as shown in Figure 4, to reduce the pickleball noise at Receptors 1 through 6. Materials such as concrete block, plexiglass, or acoustical blanket (e.g. Acoustical Solutions Noise S.T.O.P Soundproof Blanket STC 33, NRC 0.75) should be used to provide the sound transmission needed.
2. As an alternative, a 12-ft high acoustical fencing (acoustical fencing height is relative to the court elevation) can be constructed surrounding the proposed pickle court location as shown in Figure 5. Acoustiblok, AcoustiFence, or acoustical equivalent should provide a minimum STC 28 rating or greater.
3. Require pickleball players to use the newest “Quietest” or “Quieter” paddles. Require an inspection of the paddles and ball prior to begin of play.
4. Rotate the design of the Pickleball Courts by 90 degrees, so that the baselines are perpendicular to the residences to the North.
5. Consider limiting the days and hours of pickleball play to time periods that are less intrusive to nearby homeowners.



6. The engineering design of the noise barrier should be reviewed by a licensed engineer to ensure compliance with all applicable codes.

CONCLUSION

AGI has analyzed the pickleball noise from the new proposed pickleball courts and the potential noise reduction that could be achieved with a noise barrier along the western and northern edge of the courts or acoustical fencing surrounding the courts. The analysis has determined that a 12-foot high noise barrier would provide a significant and substantial noise reduction compared to the no noise barrier case. Alternatively, a 12-ft high acoustical fencing would provide a clearly noticeable noise reduction compared to the no noise barrier case. Requiring pickleball players to use quiet paddles and rotation of the court by 90 degrees would further reduce noise levels. Because the Terra Vita community is located in a quiet ambient environment, noise from the pickleball play will not be reduced to an inaudible level by constructing a noise barrier and additional noise control measures. However, the recommended noise control options could be collectively employed to provide a substantial reduction in the pickleball noise.

Please contact Mr. Robert Woo at 877-595-9988 if you have any questions regarding this summary.

Sincerely,

ACOUSTICS GROUP, INC.

A handwritten signature in black ink, appearing to read 'R. Woo'.

Robert Woo
Principal Consultant

A handwritten signature in black ink, appearing to read 'Angelica Nguyen'.

Angelica Nguyen
Senior Consultant

Product Name

AcoustiFence® Noise Reducing Fences

For Manufacturer Info:

Contact:

Acoustiblok, Inc.
6900 Interbay Boulevard
Tampa, FL 33616
Call - (813) 980-1400
Fax - (813)849-6347
Email - sales@acoustiblok.com
www.acoustiblok.com

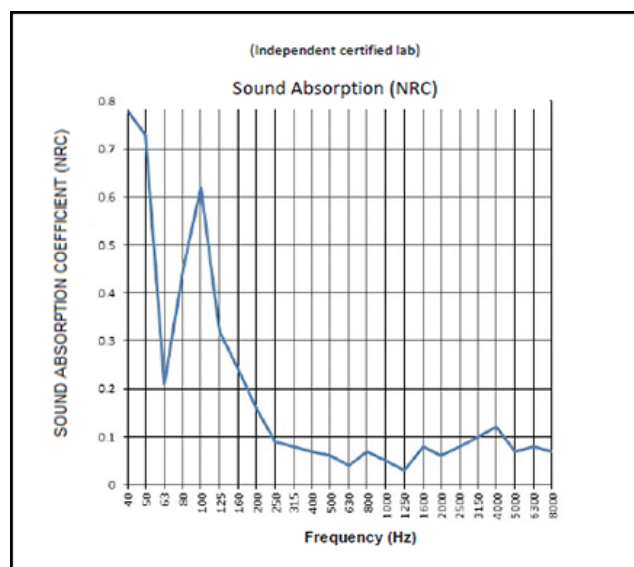
Product Description

Basic Use

AcoustiFence was originally developed by Acoustiblok, Inc. for noise isolation on offshore oil rigs, but has since proven successful in many other demanding outdoor settings, such as construction sites, commercial/industrial facilities, and residential communities.

AcoustiFence Noise Reducing Fences

AcoustiFence is a unique, heavy-mineral filled, barium free, viscoelastic acoustical material that is made in the U.S.A. Unlike fences or shrubs, this material does extraordinarily well in blocking direct sound, and a unique characteristic of the material sets it apart from other sound barriers when dealing with very low frequencies.



Sound Absorption Test Results

Benefits:

- Effectively reduces exterior noise
- Over 300 UL Classifications
- Easy to install
- Resistant to UV, dirt and water
- Resistant to corrosion, mold and mildew



Product Name

AcoustiFence® Noise Reducing Fences

AcoustiFence Noise Reducing Fences continued...

In frequencies of 50Hz and below, the heavy limp AcoustiFence material actually begins to vibrate from low frequency sound waves. In essence it is transforming these low frequency sound waves into mechanical movement and internal friction energy. Laboratory tests indicate that this transformation process inhibits these lower frequencies from penetrating AcoustiFence, reducing their level by over 60 percent relative to the human ear. In addition, AcoustiFence becomes an absorbent material in these frequencies with test results show an NRC (noise reduction coefficient) as high as 0.78 (with 1.00 being the max). As such it is clear that AcoustiFence not only reduces sound as a barrier, but also acts as an acoustical absorbent material in very low frequencies, as opposed to reflecting those frequencies back like most other barriers. It is worth noting that lead sheets (which are toxic) work in the same manner.

Green AcoustiFence has the same sound deadening properties and features as our original black AcoustiFence. In addition, this new version features advanced reinforced edging and stainless steel cable ties. Made and sourced in the USA, It comes in 6x30 foot sections and is one of the most effective first steps in reducing noise for industrial, commercial and residential projects.

Green AcoustiFence

One of Acoustiblok's most popular products, designed as an advanced sound barrier that easily attaches to most types of fencing, is now available in a new green shade that easily blends into the environment. This makes it ideal for landscaping projects, residential home use and any outdoor applications where blending into the natural foliage is a concern.

Product Name

AcoustiFence® Noise Reducing Fences

Sound Transmission Class (STC)

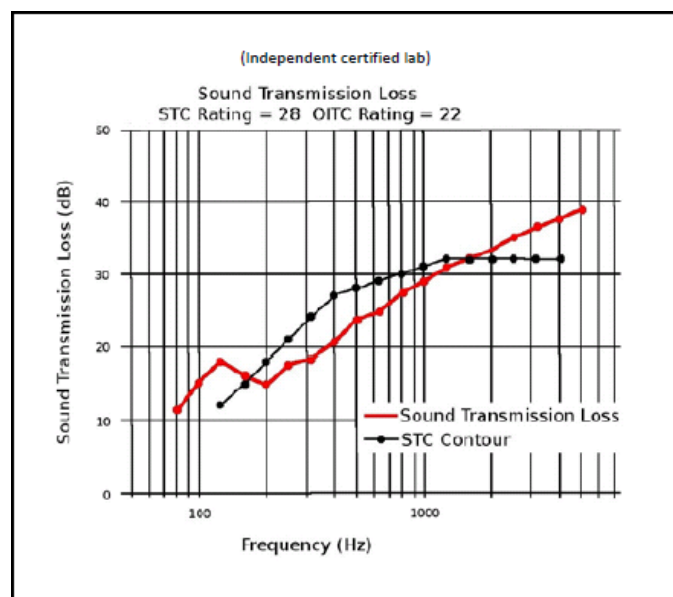
Sound Transmission Class (STC) is a single number that represents the sound blocking capacity of a partition such as a wall or ceiling.

STC numbers are often called out in architectural specifications, to assure that partitions will reduce noise levels adequately. For performance similar to laboratory test numbers, it is necessary to adhere closely to the construction materials and techniques used in the tested partition.

STC is calculated by comparing the actual sound loss measured when 18 test frequencies pass through a partition, with fixed values for each STC level. The highest STC curve that the measured sound loss numbers fit under, determines the STC rating of the partition.

STC calculations emphasize sound frequencies that match the human voice. A high STC partition will block the sound of human speech and block noise that interferes with human speech. To estimate high and low frequency performance, consult the Sound Transmission Loss graph included in STC test reports. Impact Insulation Class (IIC) measure transmitted impact noise and are specified for floor-ceiling assemblies only.

Acoustical test reports for numerous wall and floor/ceiling designs are available from Acoustiblok on request. All our test data is taken directly from independent 3rd party laboratories under NVLAP certification.



Sound Transmission Loss Test Results

Product Name

AcoustiFence® Noise Reducing Fences

Physical Properties

- Barium free
- Minimum STC 28 per ASTM E90-02 & ASTM E413-87
- Minimum sound attenuation 24 dBA @ 100Hz & 16dBA @ 40Hz
- Size - 6 ft.(1.83m) x 30 ft.(9.14m) x 0.125 in. (.3mm) – 180 ft² (16.83m²)
- Color - black or green
- High UV resistance
- Heat tolerance: 200°F (93°C) for 7 days, less than 1% shrinkage with no deformation.
- Freezes at -40°F (-40°C). Do not unroll or flex frozen material. Properties not affected by freeze/thaw cycles.
- No fungal or algal growth and no visible disfigurement, per ASTM D3273 and ASTM D3274 (rating=10)
- Tensile Strength - min. 365 PSI
- Weight per section: 185 lbs. (84Kg)

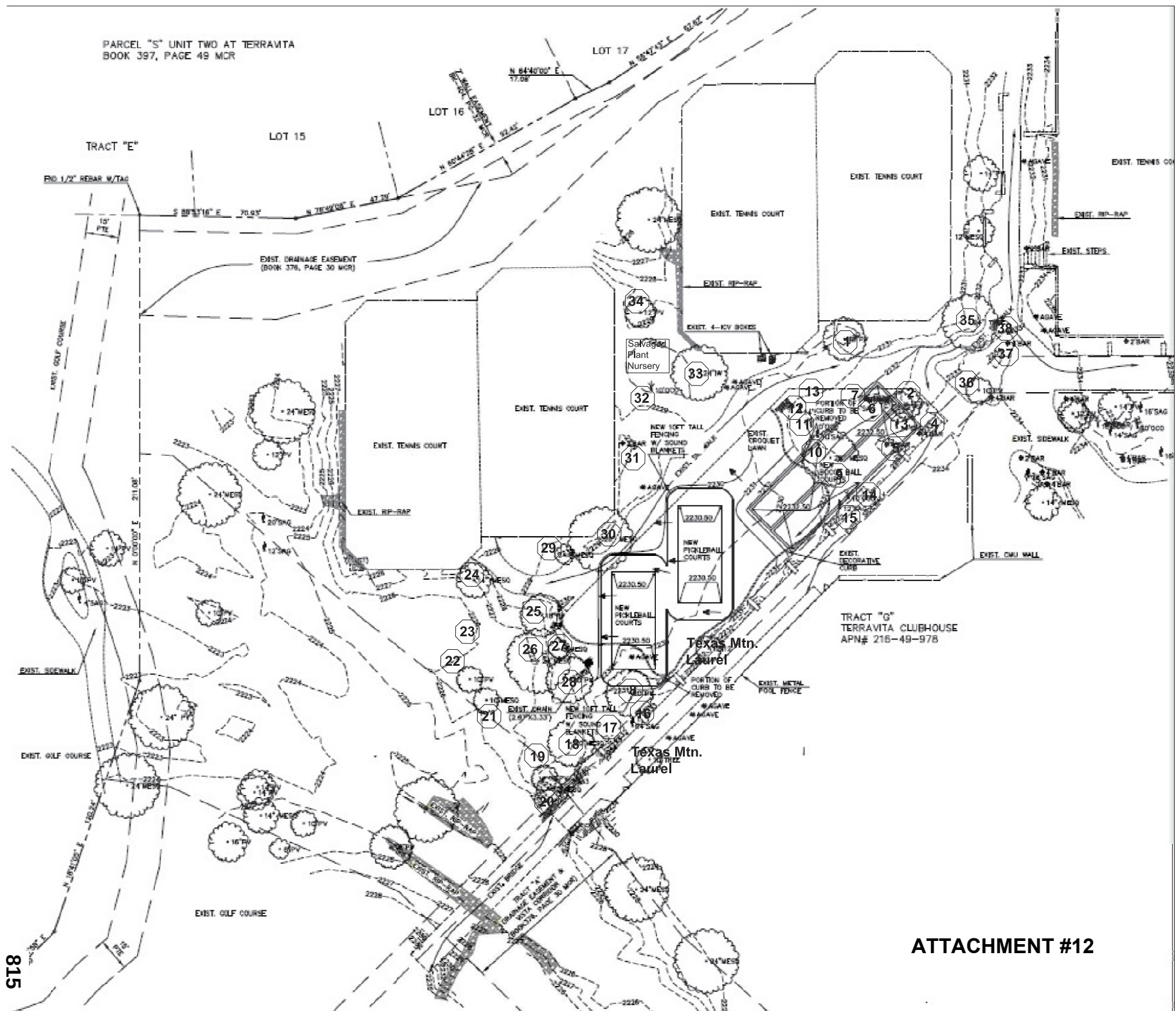
Material Specifications – Part # “Acoustifence 6x30 Industrial”

Acoustical Rating	STC 28 / OITC 22
Size	6 ft. (1.83m) x 30 ft. (9.14m) x 0.125 in. (.3mm) 180 ft ² (16.72m ²)
Weight	185 lbs. (84Kg)
Fastening	Black brass grommets every 6 in. (152mm) along top edge with four grommets spaced along the bottom edge. Commonly installed horizontally.
Color	Black
(This is an industrial product and minor surface blemishes are a possibility.)	



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Telephone: (813)980-1440
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NATIVE PLANT INVENTORY PLAN



NATIVE PLANT INVENTORY
TREE RELOCATORS, INC.
6502 N. 81st Place Scottsdale, AZ 85230
Office: 480-947-6118
Cell: 480-361-4824
Fax: 480-361-4824
treerelocators@cox.net

To: Planning Department
City of Scottsdale

Subject: Terravita Country Club
"Pickleball Courts"
34036 N. 69th Way

Date: 5-21-2021

ORDERED BY: Rich Ruffe

Tag Colors: Red - Salvage
Blue - Unsavagable
White - Remain in Place

Tag#	Size	Species	Condition	Disposition	# Arms	Height	Width	Comments
1	15"	Palo Verde	Poor	Remain in Place				
2	17"	Palo Verde	Poor	Unsavagable				Multiple Trunks
3	30"	L.F. Saguaro	Good	Salvageable	2			
4	5"	Barrel	Good	Salvageable				
5	4"	Barrel	Good	Salvageable				
6	13"	L.F. Barrel's	Good	Salvageable	3			
7	32"	L.F. Saguaro	Good	Salvageable	3			
8	16"	Palo Verde	Poor	Unsavagable				Trunk Disease
9	20"	Mequite	Poor	Unsavagable				Split Trunk
10	15"	Saguaro	Good	Salvageable				
11	14"	Ocotillo	Good	Salvageable				
12	21"	Saguaro	Good	Remain in Place				
13	5"	Barrel	Good	Remain in Place				
14	15"	Ocotillo	Good	Salvageable				
15	21"	L.F. Saguaro	Good	Remain in Place				
16	31"	L.F. Saguaro	Good	Remain in Place	3			
17	45"	L.F. Saguaro	Good	Remain in Place				
18	16"	Mequite	Fair	Remain in Place	4			
19	8"	Palo Verde	Good	Remain in Place				
20	8"	Desert Willow	Poor	Remain in Place				
21	10"	Mequite	Poor	Remain in Place				
22	10"	Palo Verde	Poor	Remain in Place				
23	18"	Mequite	Poor	Remain in Place				
24	17"	Mequite	Fair	Remain in Place				
25	14"	Palo Verde	Fair	Remain in Place				
26	17"	Mequite	Poor	Remain in Place				
27	8"	Desert Willow	Good	Remain in Place				
28	13"	Palo Verde	Good	Remain in Place				
29	8"	Desert Willow	Good	Remain in Place				
30	20"	Mequite	Poor	Unsavagable				Exposed Roots
31	5"	Barrel	Fair	Remain in Place				
32	15"	Ocotillo	Good	Remain in Place				

NATIVE PLANT INVENTORY									
TREE RELOCATORS, INC.									
Tag#	Caliper	Species	Condition	Disposition	# Arms	Height	Width	Comments	
33	10"	Ironwood	Good	Remain in Place					
34	22"	Palo Verde	Poor	Remain in Place					
35	24"	Ironwood	Good	Remain in Place					
36	8"	Palo Verde	Good	Remain in Place					
37	5"	Barrel	Good	Remain in Place					
38	5"	Barrel	Good	Remain in Place					

L.F. = Linear Feet

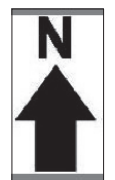
Native Plant Summary				
Plant Totals	Tree	Cacti	Overall Totals	
Remain in Place	17	9	Remain in Place	26
Salvage	0	6	Salvage	6
Destroy	4	0	Destroy	4
Total	15	17	Total	38

34036 N. 69th Way Scottsdale, AZ

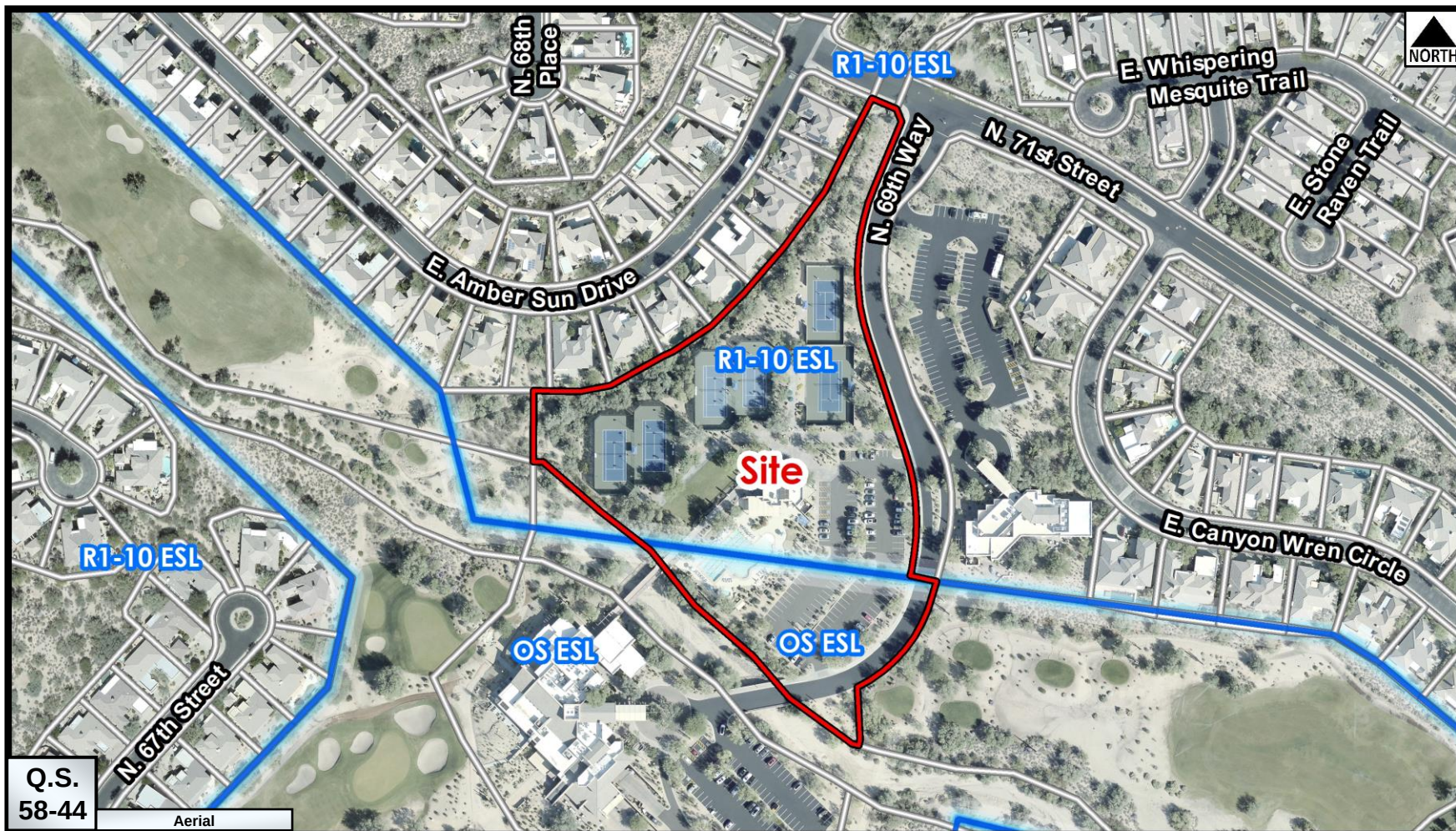
Terravita Country Club "Pickleball Courts"

* "See ReVeg Plan or Landscape Plan (done by others) for Final Locations of Relocated Salvage Plants"

Indicates Existing Native Plant



PLANT SALVAGE CONTRACTOR:
Tree Relocators, Inc.
6502 N. 81st Place
Scottsdale, AZ
O. 480-947-6118 F. 480-361-4824
E. treerelocators@cox.net



Zoning Aerial

42-DR-1993#3

Terravita Country Club

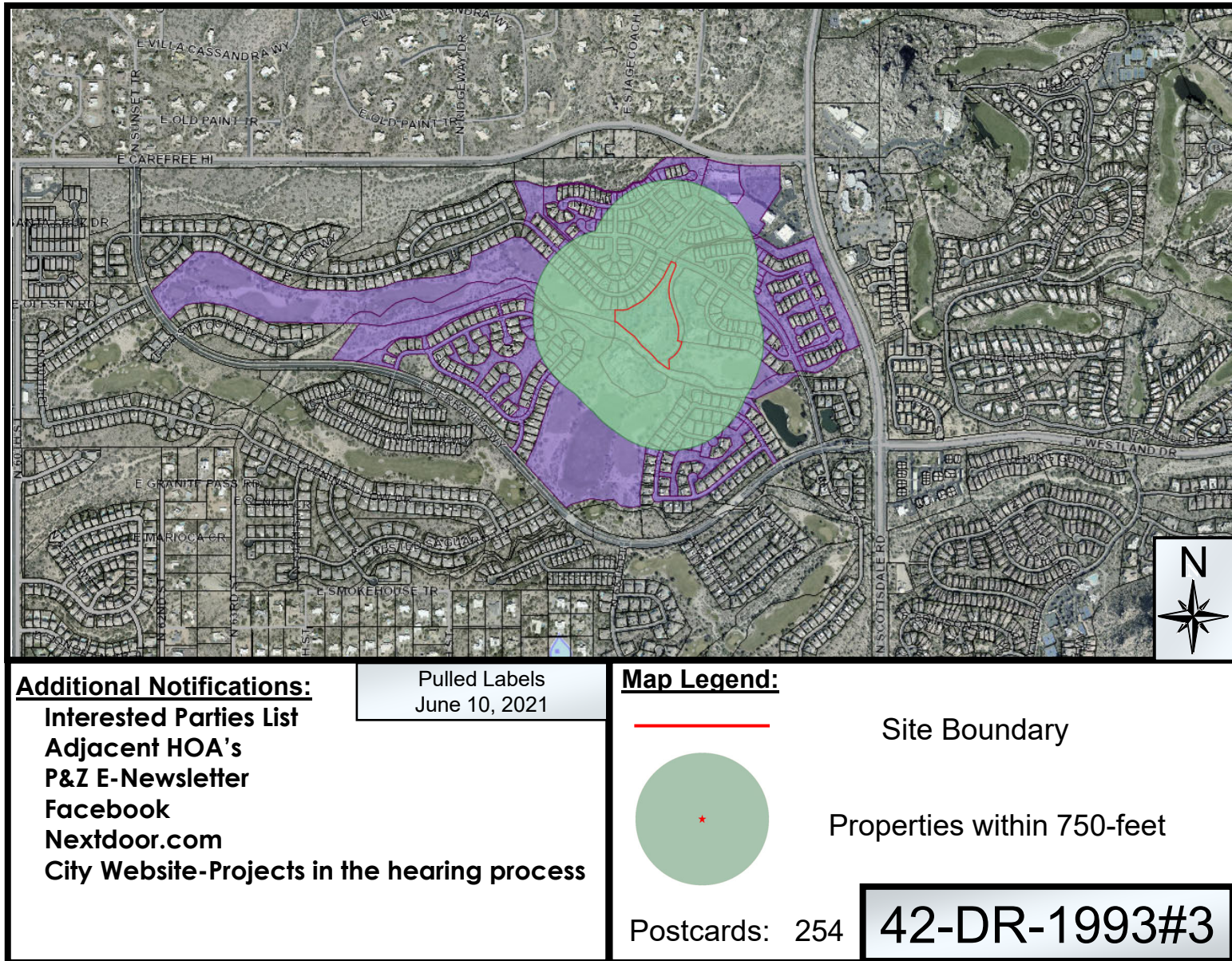
Pickleball and Bocce Court Project

Public Participation Process

Overview:

- Notification Letter to all parties within 750' of proposed construction
- Committee Activity Summary (all meetings are open to all Members)
- Website Notices of all Committee Meetings (open to All Members)
- Member Registrations for January and February Board Meetings (held virtually by Zoom because of COVID restrictions)
- Pickleball Presentation from the January Board of Directors Meeting
- Pickleball Committee Q&A Follow Up from Board Meeting
- Additional Communication on Pickleball Development via monthly emailed President's Letter
- Member registrations for February Town Halls. (Meetings were held in person and open to all Members, but limited to 50 attendees because of COVID restrictions)

City Notifications – Mailing List Selection Map Terravita Pickleball and Bocce Courts



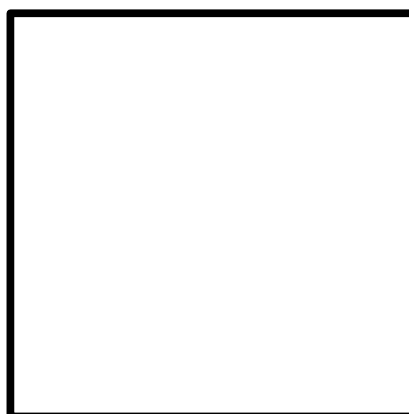


Noise Survey: **Proposed Pickleball Courts** **Iron Oaks at Sun Lakes**

Prepared for:

Sun Lakes HOA #3
24218 S Oakwood Blvd
Sun Lakes, AZ 85248

Project Manager
Randy Ankeny, General Manager



Lance Willis, PhD

Thomas Spendiarian, B. Arch, RA

© Spendiarian & Willis Acoustics & Noise Control LLC

R. 0, September 7, 2012

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1. Overview

1.1 Summary

Acoustical measurements were carried out near the Racquet Club at Iron Oaks at Sun Lakes Robson Resort Community on the morning of Friday, August 17, 2012. Three courts proposed for conversion from tennis to pickleball were tested at five locations including one interior measurement for compliance with Maricopa County Code P-23.

The impact on neighboring residences has been assessed using ANSI S12.9 Parts 4 and 5. The proposed east tennis court location is recommended for conversion to pickleball. A sound wall will be required. Operation during nighttime hours is not recommended.

The practice court is also an acceptable location with additional abatement. The proposed west tennis location is not recommended based on current data.

Measured sound pressure levels were below the Maricopa County noise criteria at 24022 Berrybrook; however, the nearest residence to the east tennis court location was not tested on the interior, but is expected to require mitigation at the courts boundary to comply with the Maricopa County Code based on measurements outside the home.

2. Acoustical Measurements Description and Results

2.1 Test Description

2.1.1 Purpose

A series of acoustical measurements was carried out at the property lines of the homes nearest to the sites of the proposed pickleball courts to determine the sound levels produced by the pickleball play. A measurement was also performed inside one home as specified by Maricopa County Code P-23 to test for compliance.

2.1.2 Measurements and Equipment

A-weighted acoustical data was logged with a Bruel and Kjaer Type 2236 integrating sound level meter using fast time constant setting. Simultaneous, calibrated digital recordings were also made to document existing sound sources. These recordings were used for more detailed analysis of the impulsive sound of the pickleball and paddle impact. The microphone height was 60 inches unless otherwise noted. A three inch diameter wind screen was placed over the microphone.

Because the impact sound of the paddles can not be represented accurately with an averaged sound pressure level (LAeq) measurement, the A-weighted sound exposure level (SEL) is used instead. This quantity includes only the impulsive sound and is a function of both the average acoustic pressure of the impulse and its duration.

For each measurement of the paddle impacts, 16 players played with four balls on the proposed tennis courts areas except on the west tennis court while measuring at 9747 Sunvista. In this test there were 10 players and four balls in play. On the practice court there were eight players and two balls in play. The players maintained constant play during measurements labeled 'during play' or 'play'.

Meteorological observations were made at the proposed court site during the time of the acoustical measurements using a Kestrel 4500 weather station. Temperature, humidity, wind, and pressure data were logged every 20 seconds. This data is displayed in the appendix.

2.1.3 Measurement Locations

Figure 2.1 shows the locations of the five measurement points which included four points near residences and one inside the residence at 24022 Berrybrook (point 2). The microphone was placed at the nearest residential property lines where applicable. The surfaces of the proposed

courts sites were painted asphalt.

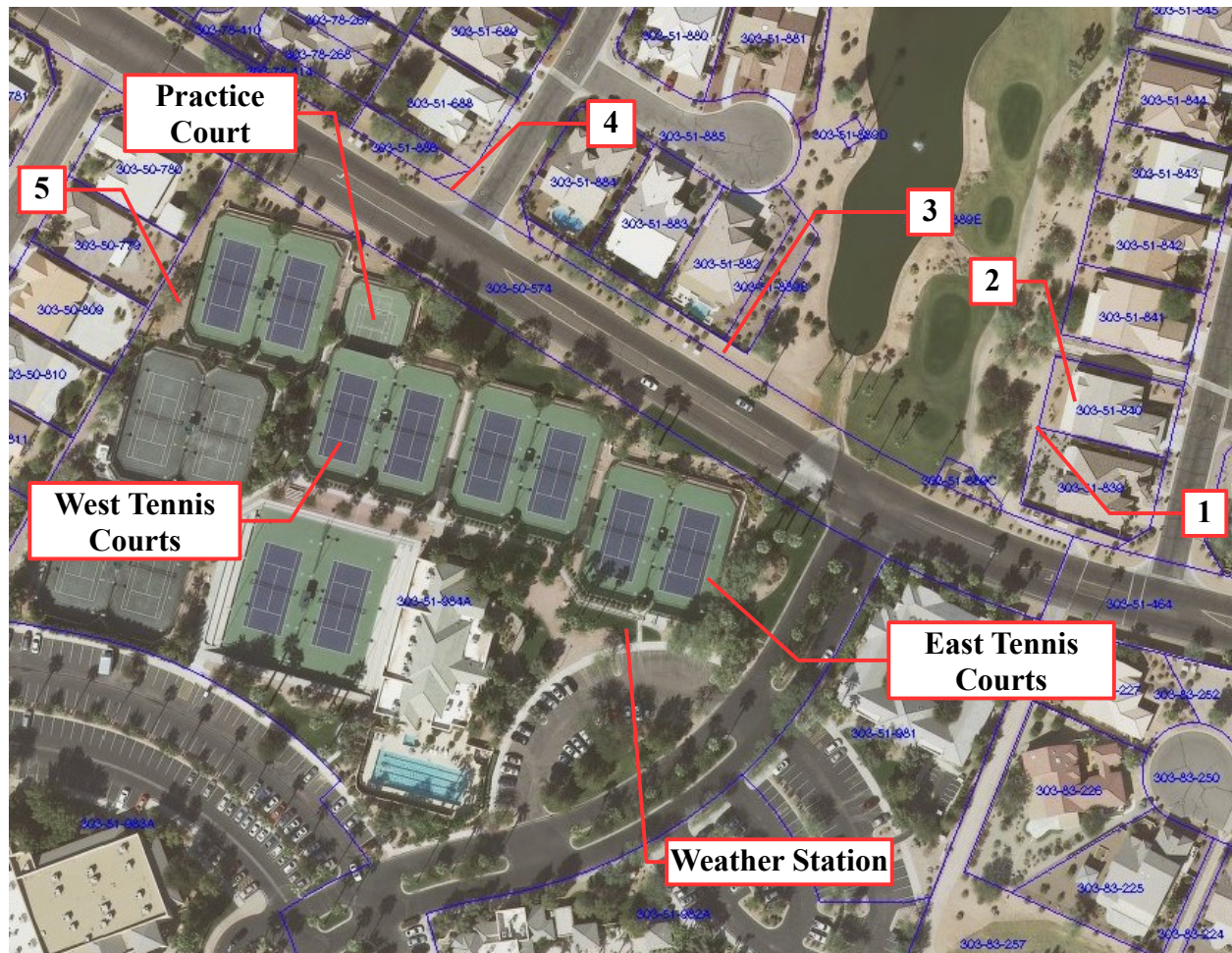


Figure 2.1. Proposed Court Sites and Measurement Locations

2.1.4 Environmental Conditions

The measurements were carried out on the morning of Friday, August 17, 2012. Meteorological conditions in the area were overcast with light winds from the northwest.

The weather station was set up near the southern end of east tennis courts site on the lawn outside the fence.

2.2 Proposed East Tennis Court Location

2.2.1 Point 1, 24022 Berrybrook

At the southwest corner of 24022 Berrybrook, 70 feet from Robson Blvd. 330 feet from center of proposed east tennis court location. Ground was moist soil.

Figure 2.2 shows that the sound pressure level was in the 45 to 50 dBA range during play. Background noise levels, seen in Figure 2.3, were similar with a fairly constant stream of traffic on Robson Blvd.

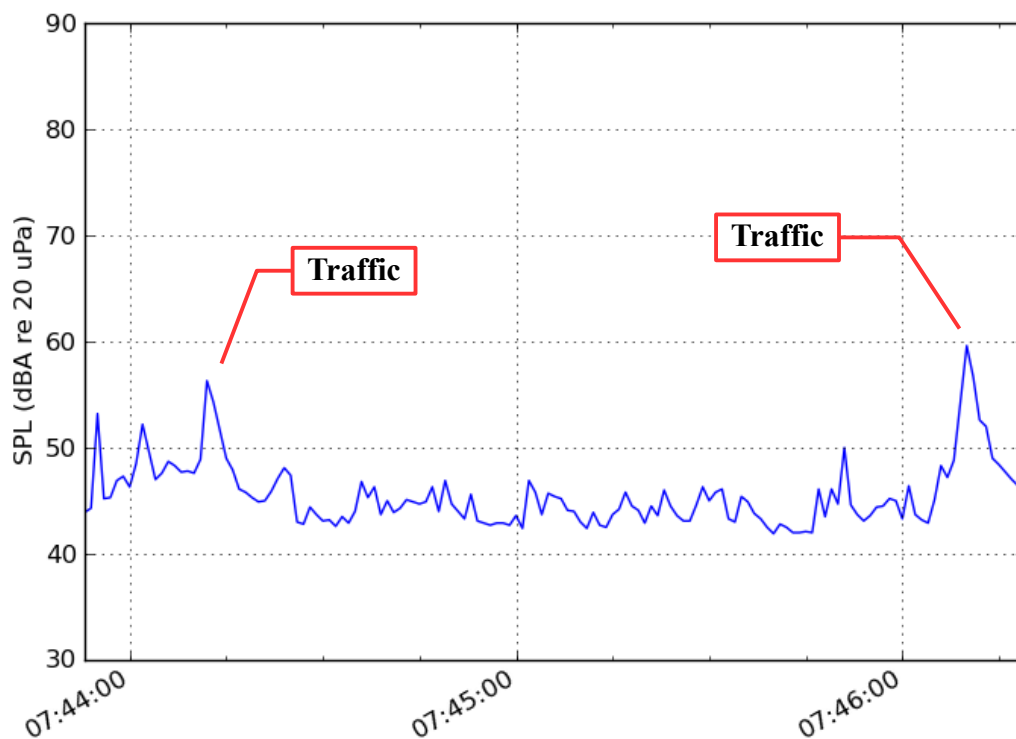


Figure 2.2. Sound Pressure Level at 24022 Berrybrook (Players on East Tennis Court)

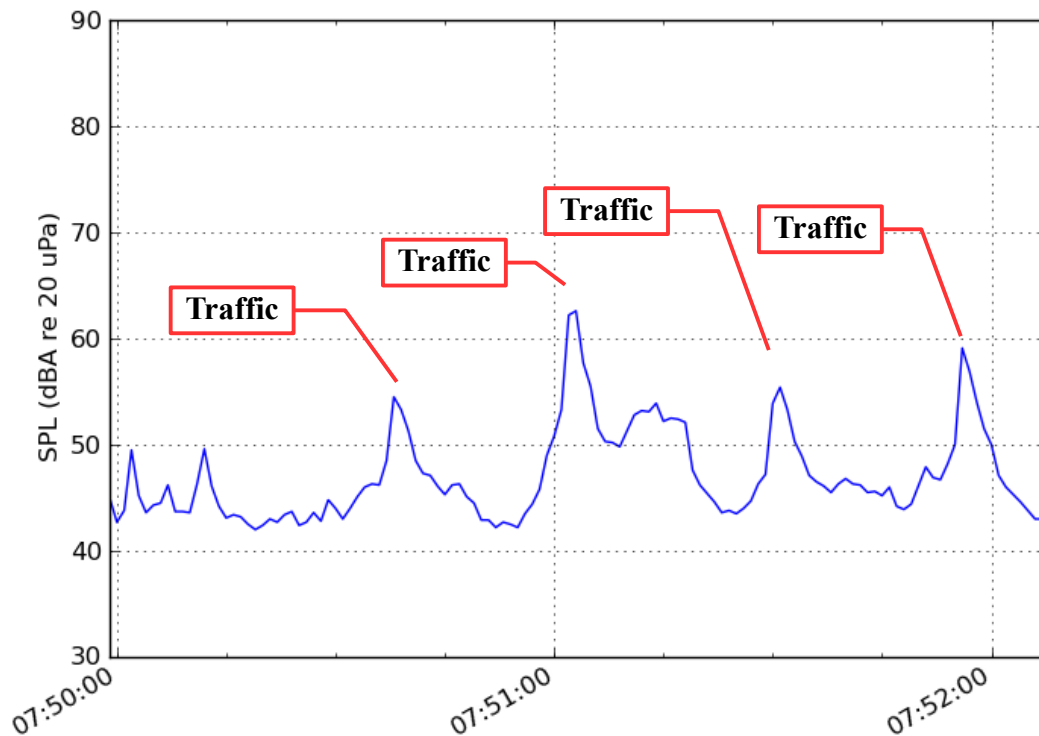


Figure 2.3. Background Noise Level at 24022 Berrybrook

The sound pressure level data at this location is shown in Table 2.1. The pickleball paddles did not contribute to average sound pressure at this location.

Location	Start Time	End Time	LAeq	C.I. 95%	LAmin	LAmx	L10	L50	L90
Play	07:43:53	07:46:19	47.3	3.8	41.9	59.6	48.9	44.9	42.8
Background	07:49:59	07:52:08	50.2	4.3	42.0	62.6	53.3	46.1	42.9

Table 2.1. Sound Pressure Level Data at 24022 Berrybrook (Players on East Tennis Court)

Table 2.2 summarizes the ASEL data for the paddle impacts. For the ASEL results, vehicle traffic was removed from the data to prevent detection failure due to masking by the road noise. The resulting measurement time is noted in the table.

The number of hits detected and the rate are listed next. The total ASEL includes all impacts detected in the data set. This is then normalized to the number of hits. Finally, the LAeq for just the paddles is shown as calculated from the total ASEL and measurement time.

Measurement Time (sec)	Hits per Minute	Hits per Minute	Total ASEL	ASEL per Hit	Paddle LAeq
127.523	63	29.6	58.5	40.5	37.5

Table 2.2. Sound Exposure Level Data at 24022 Berrybrook (Players on East Tennis Court)

2.2.2 Point 2, 24022 Berrybrook (Interior)

At approximately the center of the family room / dining room space. 360 feet from center of proposed east tennis court location.

This measurement was carried out to evaluate compliance with the Maricopa County Noise Ordinance P-23. This code states that a noise is a disturbance if it “can be heard from within closed residential structures located within 500 feet of the boundary of the property from which such noise emanates.”

Figure 2.4 and Figure 2.5 show the sound pressure level with and without pickleball play. Figure 2.6 shows the sound pressure level during play with the back door open; however, this measurement does not comply with the test specification in Maricopa ordinance P-23. Background noise heard inside the house included traffic on Robson Blvd and a refrigerator.

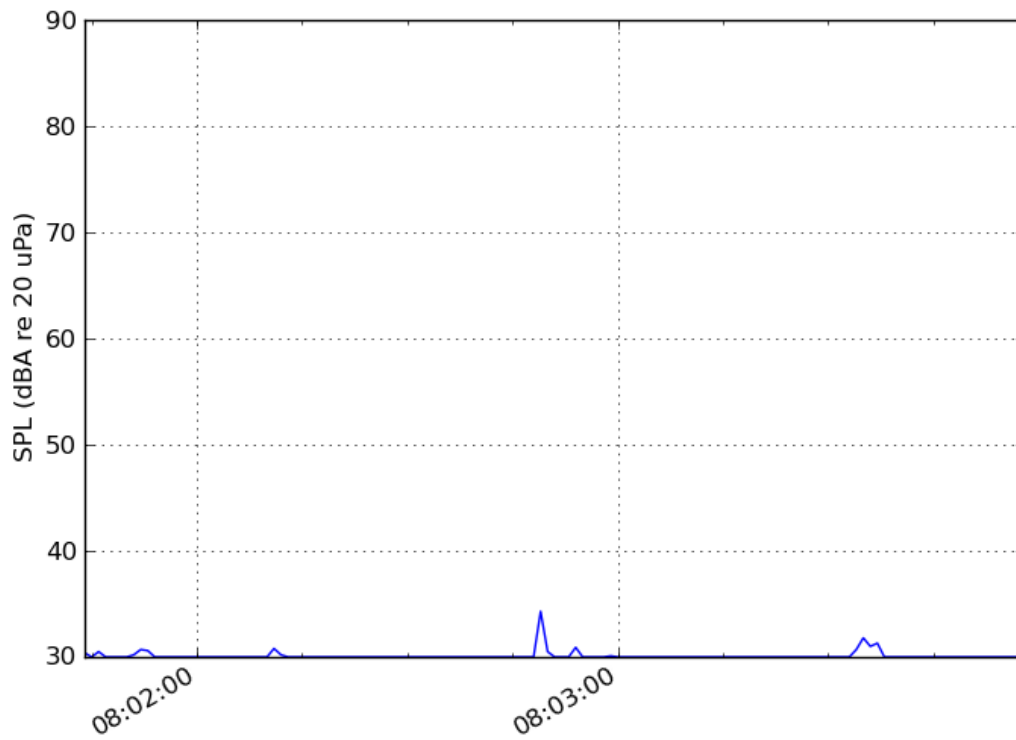


Figure 2.4. Sound Pressure Level Inside 24022 Berrybrook (Players on East Tennis Court)

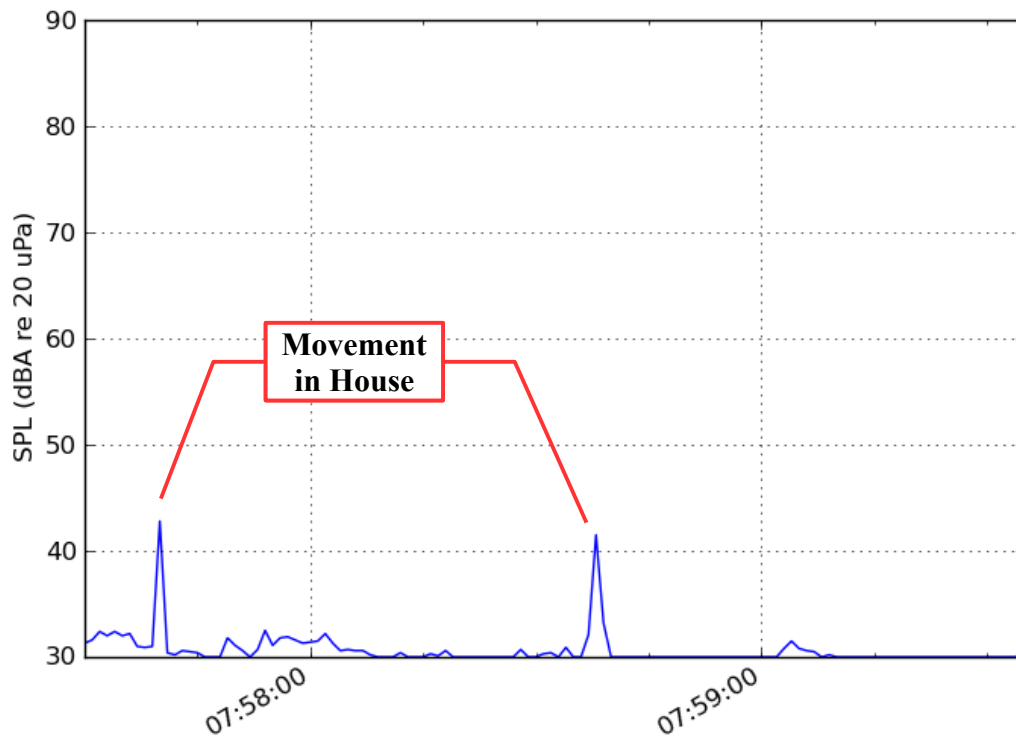


Figure 2.5. Background Noise Level Inside 24022 Berrybrook

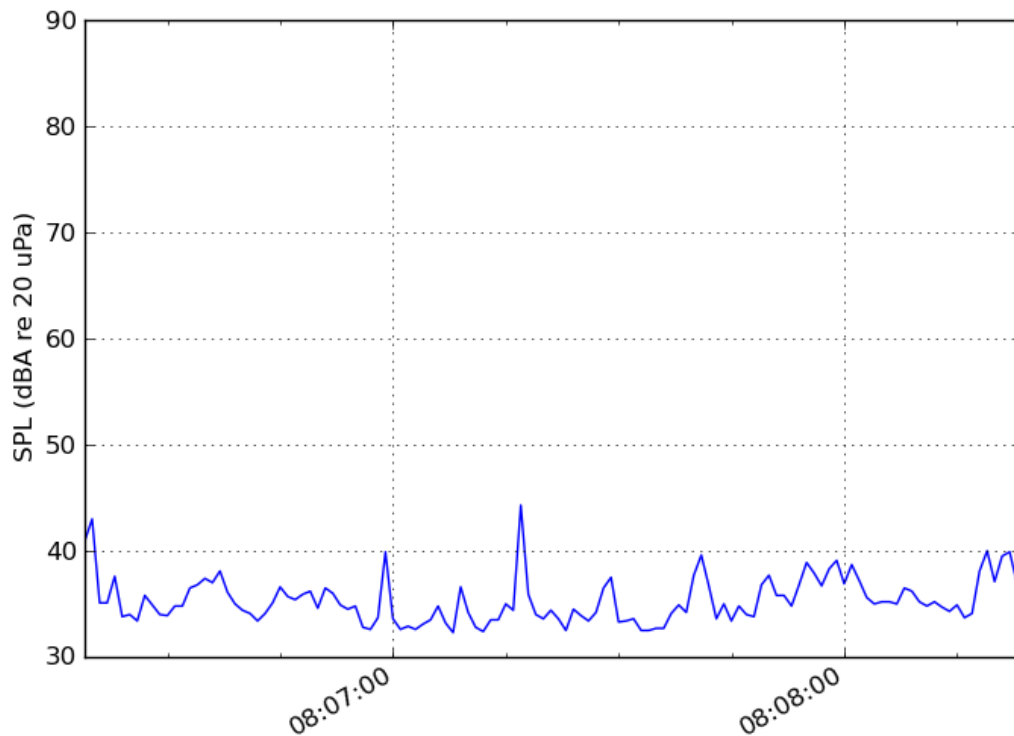


Figure 2.6. Sound Pressure Level Inside 24022 Berrybrook (Players on East Tennis Court, Back Door Open)

The sound pressure level data at this location is shown in Table 2.3. The interior of the house was extremely quiet and for part of the measurement time the level was below the range of the meter.

Location	Start Time	End Time	LAeq	C.I. 95%	LAmin	LAmx	L10	L50	L90
Play	08:01:44 AM	08:03:58 AM	30.2	2.2	30.0	34.3	30.3	30.0	30.0
Background	07:57:30 AM	07:59:35 AM	31.4	3.6	30.0	42.8	31.9	30.0	30.0
Play (open door)	08:06:19 AM	08:08:24 AM	36.1	2.9	32.3	44.3	38.5	34.9	33.0

Table 2.3. Sound Pressure Level Data Inside 24022 Berrybrook (Players on East Tennis Court)

Maricopa County Noise Ordinance P-23 Testing

During the 2:14 minute exposure inside the house with all doors and windows closed, two faint hits were just audible at the center of the family room / dining room area. The sound from the east tennis court could only be heard by standing perfectly still and listening carefully for the

paddle impacts.

2.2.3 Point 3, 9747 Sunburst

At the southeast corner of 9747 Sunburst, 16 feet from privacy wall. 190 feet from center of proposed east tennis court location. Ground was course gravel.

Figure 2.7 shows that the sound pressure level was in the 50 to 60 dBA range during play with the primary sounds being pickleball paddles and traffic on Robson Blvd. Background noise levels, seen in Figure 2.8, were similar.

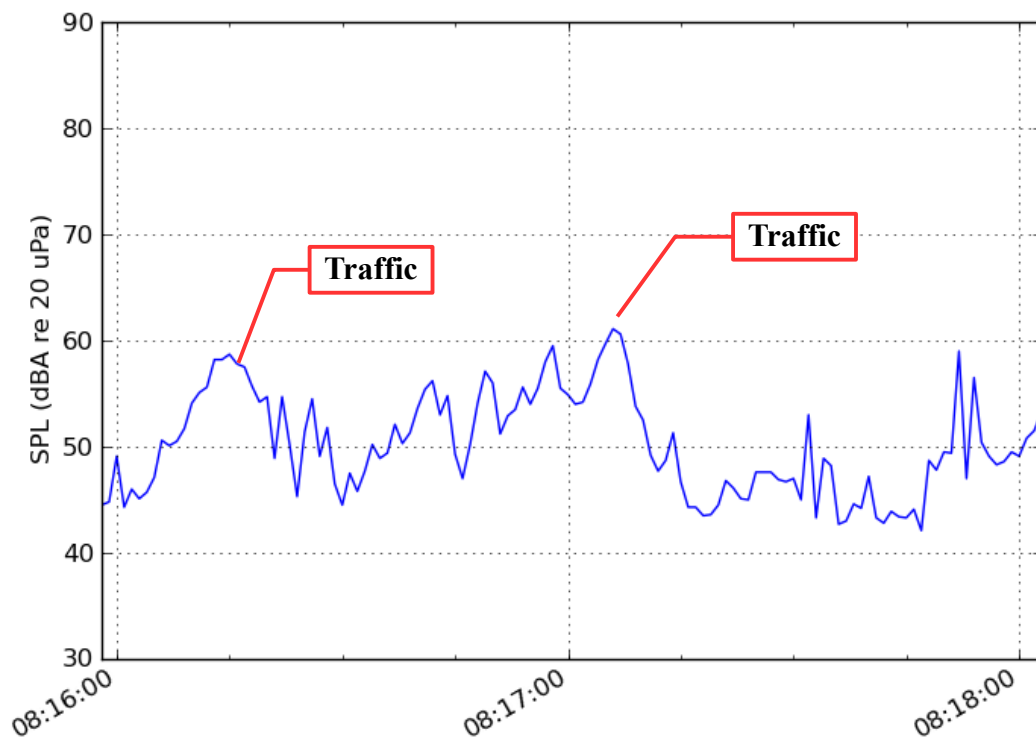


Figure 2.7. Sound Pressure Level at 9747 Sunburst (Players on East Tennis Court)

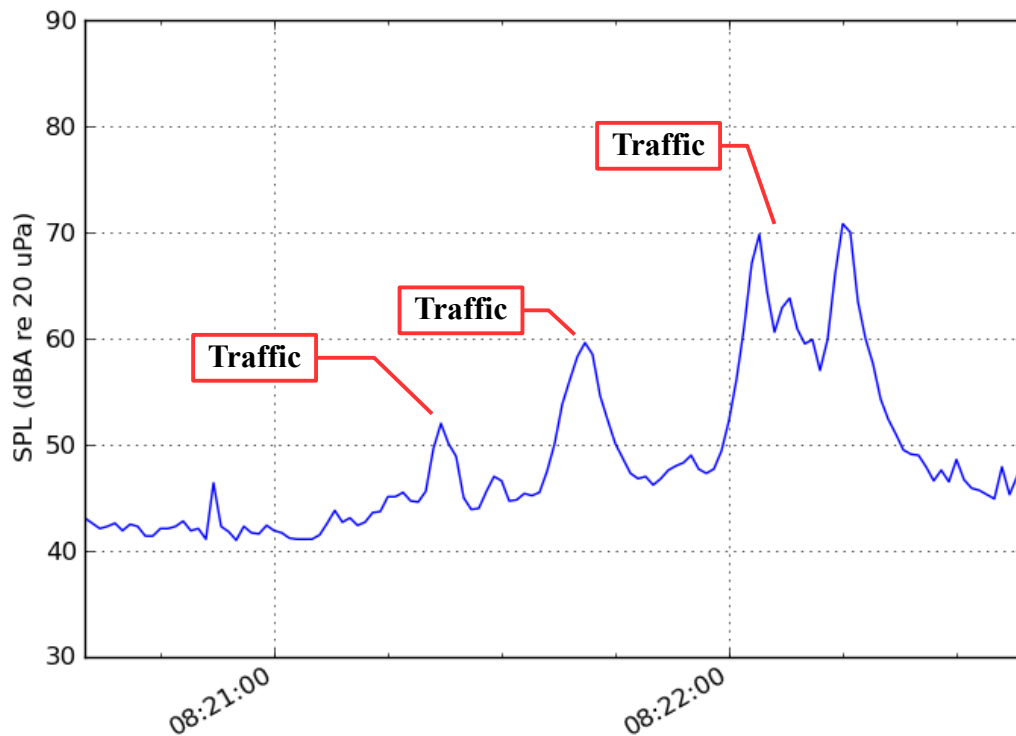


Figure 2.8. Background Noise Level at 9747 Sunburst

The sound pressure level data at this location is shown in Table 2.4. The pickleball paddles did not contribute to average sound pressure.

Location	Start Time	End Time	LAeq	C.I. 95%	L Amin	L Amax	L10	L50	L90
Play	08:15:58 AM	08:18:03 AM	52.9	3.3	42.1	61.1	57.6	49.5	44.3
Background	08:20:35 AM	08:22:39 AM	57.3	5.2	41.0	70.8	60.3	46.6	41.9

Table 2.4. Sound Pressure Level Data at 9747 Sunburst (Players on East Tennis Court)

Table 2.5 summarizes the ASEL data for the paddle impacts.

Measurement Time (sec)	Hits Hits	per Minute	Total ASEL	ASEL per Hit	Paddle LAeq
111.922	62	33.2	68.2	50.3	47.7

Table 2.5. Sound Exposure Level Data at 9747 Sunburst (Players on East Tennis Court)

2.2.4 Point 4, 23926 Glenburn

At the southeast corner of 23926 Glenburn, 24 feet from Robson Blvd and Glenburn. 390 feet from center of proposed east tennis court location. Ground was course gravel.

Figure 2.9 shows that the sound pressure level was in the 50 to 70 dBA range during play with the primary sounds being traffic on Robson Blvd. Background noise levels, seen in Figure 2.10, were similar.

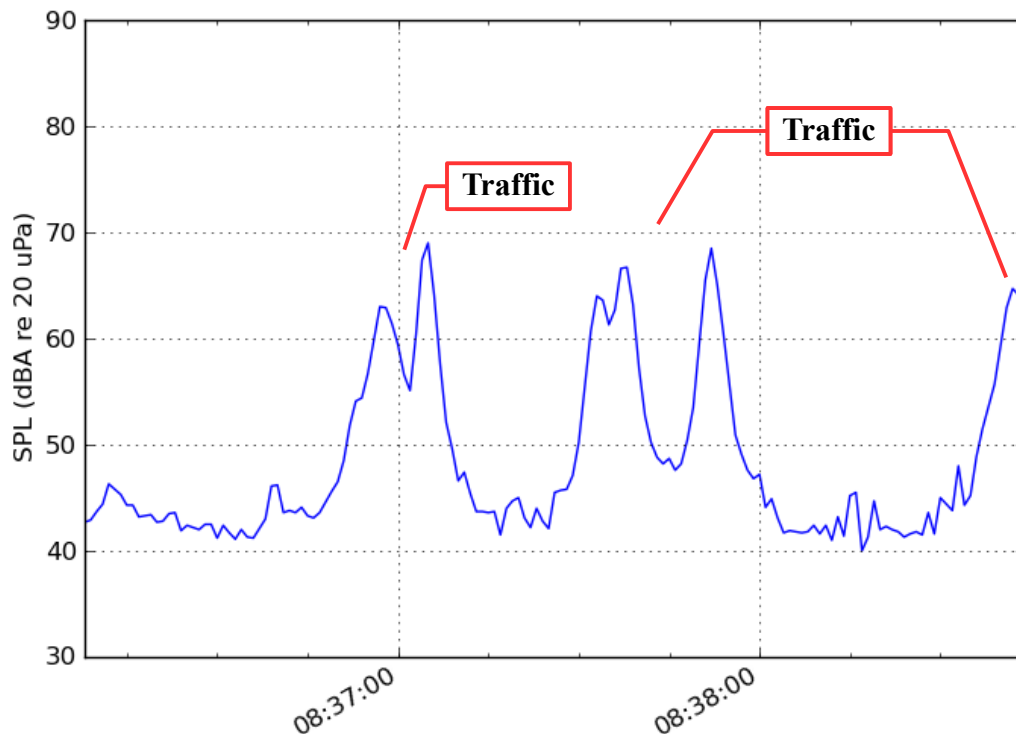


Figure 2.9. Sound Pressure Level at 23926 Glenburn During Play (Players on East Tennis Court)

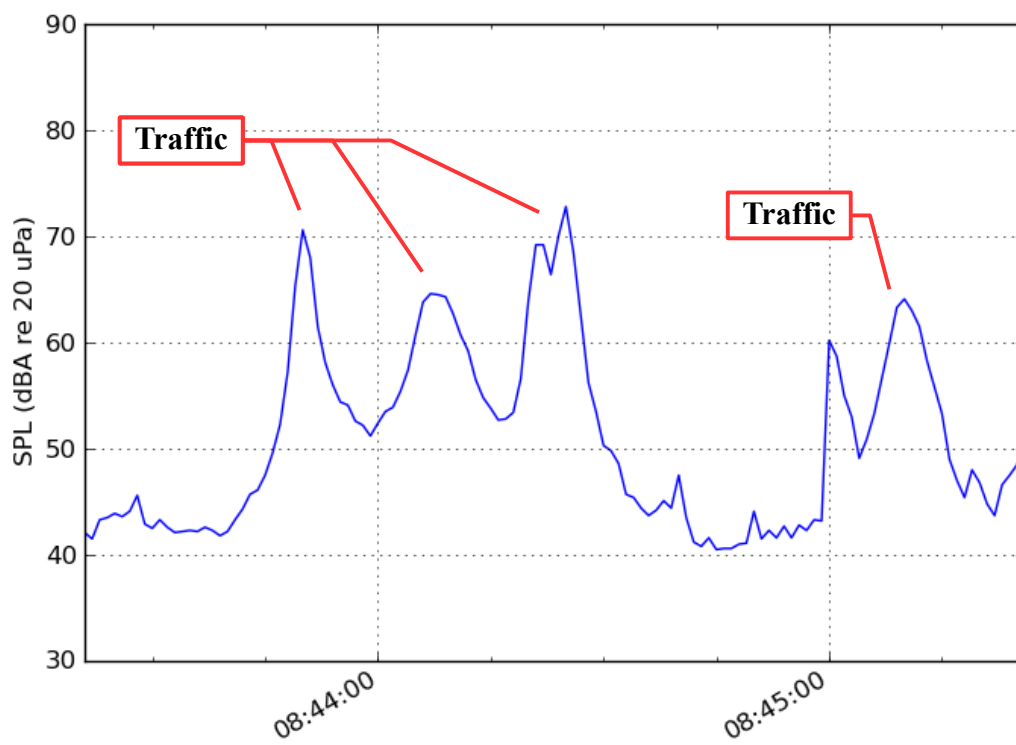


Figure 2.10. Background Noise Level at 23926 Glenburn

The sound pressure level data at this location is shown in Table 2.6. The pickleball paddles did not contribute to average sound pressure.

Location	Start Time	End Time	LAeq	C.I. 95%	L Amin	L Amax	L10	L50	L90
Play	08:36:08 AM	08:38:44 AM	57.1	4.3	40.0	69.0	62.9	45.0	41.7
Background	08:43:21 AM	08:45:26 AM	59.9	4.7	40.5	72.8	64.2	49.1	42.0

Table 2.6. Sound Pressure Level Data at 23926 Glenburn (Players on East Tennis Court)

Table 2.7 summarizes the ASEL data for the paddle impacts.

Measurement Time (sec)	Hits Hits	per Minute	Total ASEL	ASEL per Hit	Paddle LAeq
114.429	56	29.4	55.7	38.2	35.1

Table 2.7. Sound Exposure Level Data at 23926 Glenburn (Players on East Tennis Court)

2.3 Proposed West Tennis Court Location

2.3.1 Point 4, 23926 Glenburn

At the southeast corner of 23926 Glenburn, 24 feet from Robson Blvd and Glenburn. 225 feet from center of proposed west tennis court location. Ground was course gravel.

Figure 2.11 shows that the sound pressure level was in the 50 to 70 dBA range during play with the primary sounds being traffic on Robson Blvd, pickleball paddles, and tennis racquets. Background noise levels, seen in Figure 2.10, were similar.

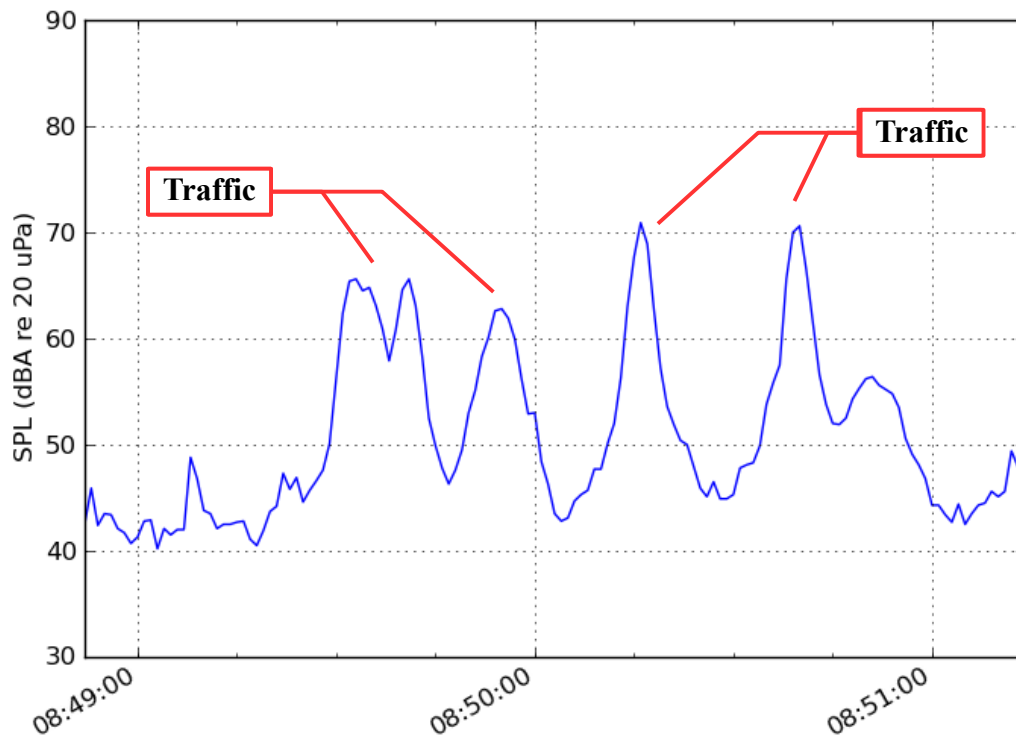


Figure 2.11. Sound Pressure Level at 23926 Glenburn During Play (Players on West Tennis Court)

The sound pressure level data at this location is shown in Table 2.8. The pickleball paddles did not contribute to average sound pressure.

Location	Start Time	End Time	LAeq	C.I. 95%	LAmin	LAmaz	L10	L50	L90
Play	08:48:52 AM	08:51:14 AM	58.8	4.5	40.2	70.9	63.1	48.2	42.5
Background	08:43:21 AM	08:45:26 AM	59.9	4.7	40.5	72.8	64.2	49.1	42.0

Table 2.8. Sound Pressure Level Data at 23926 Glenburn (Players on West Tennis Court)

Table 2.9 summarizes the ASEL data for the paddle impacts.

Measurement Time (sec)	Hits per Minute	Hits per Minute	Total ASEL	ASEL per Hit	Paddle LAeq
82.326	61	44.5	58.9	41.1	39.8

Table 2.9. Sound Exposure Level Data at 23926 Glenburn (Players on West Tennis Court)

2.3.2 Point 5, 23907 Sunvista

20 feet from the rear privacy wall at 23907 Sunvista. 180 feet from center of proposed west tennis court location. Ground was moist soil.

Figure 2.12 shows that the sound pressure level was in the 50 to 60 dBA range during play with the primary sounds being pickleball paddles, tennis racquets on the nearest court, and traffic on Robson Blvd. Background noise levels, seen in Figure 2.13, were slightly lower. The higher reading during play was partly due to a slow moving groundskeeping vehicle; however, the LAeq of the pickleball paddles in Table 2.11 show that they were also a significant contributor.

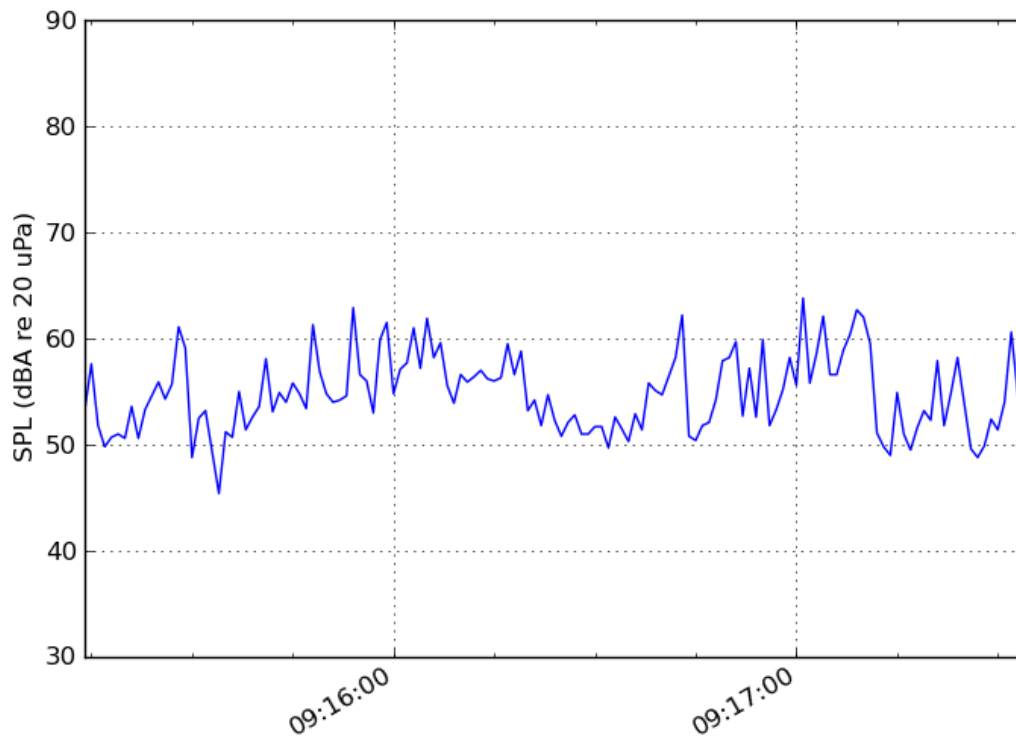


Figure 2.12. Sound Pressure Level at 23907 Sunvista During Play (Players on West Tennis Court)

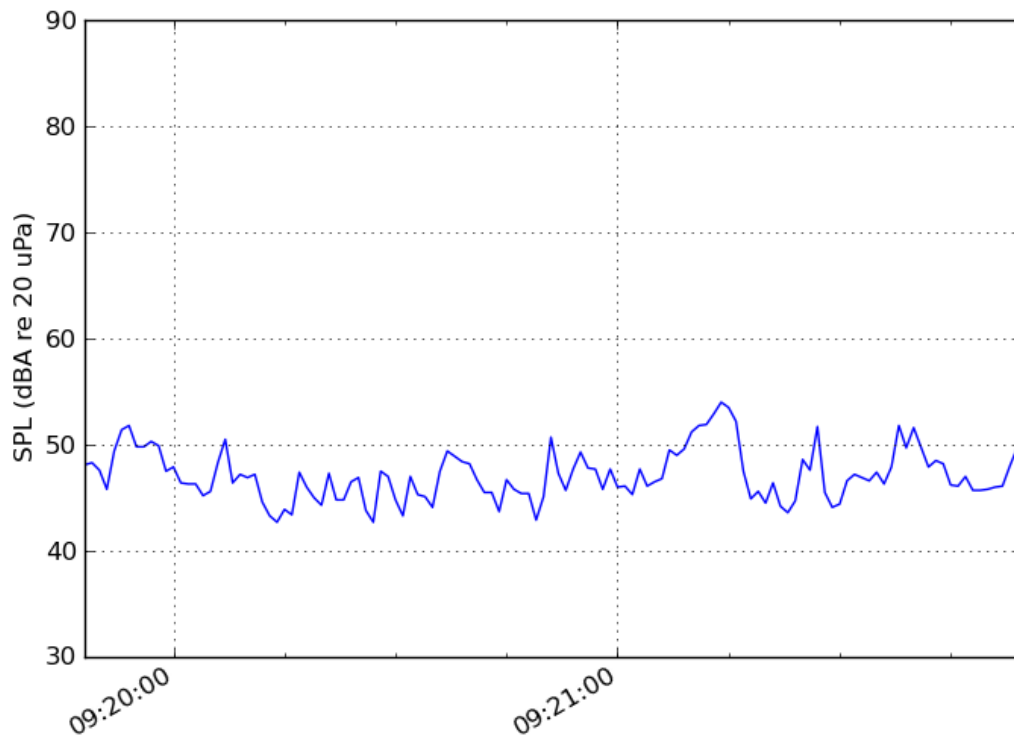


Figure 2.13. Background Noise Level at 23907 Sunvista

The sound pressure level data at this location is shown in Table 2.10.

Location	Start Time	End Time	LAeq	C.I. 95%	LAmin	LAmix	L10	L50	L90
Play	09:15:14 AM	09:17:34 AM	56.4	3.1	45.4	63.8	59.9	54.6	50.6
Background	09:19:48 AM	09:21:55 AM	47.9	2.8	42.7	54.0	50.8	46.9	44.3

Table 2.10. Sound Pressure Level Data at 23907 Sunvista (Players on West Tennis Court)

Table 2.11 summarizes the ASEL data for the paddle impacts. There was a strong reflection from the privacy wall that was not included in the SEL's. This effect would not be present on the other side of the wall.

Measurement Time (sec)	Hits Hits	per Minute	Total ASEL	ASEL per Hit	Paddle LAeq
139.402	107	46.1	74.8	54.5	53.3

Table 2.11. Sound Exposure Level Data at 23907 Sunvista (Players on West Tennis Court)

2.4 Proposed Practice Court Location

2.4.1 Point 4, 23926 Glenburn

At the southeast corner of 23926 Glenburn, 24 feet from Robson Blvd and Glenburn. 130 feet from center of proposed practice court location. Ground was coarse gravel.

Figure 2.14 shows that the sound pressure level was in the 50 to 70 dBA range during play with the primary sounds being traffic on Robson Blvd, pickleball paddles, and tennis racquets. Background noise levels, seen in Figure 2.10, were similar.

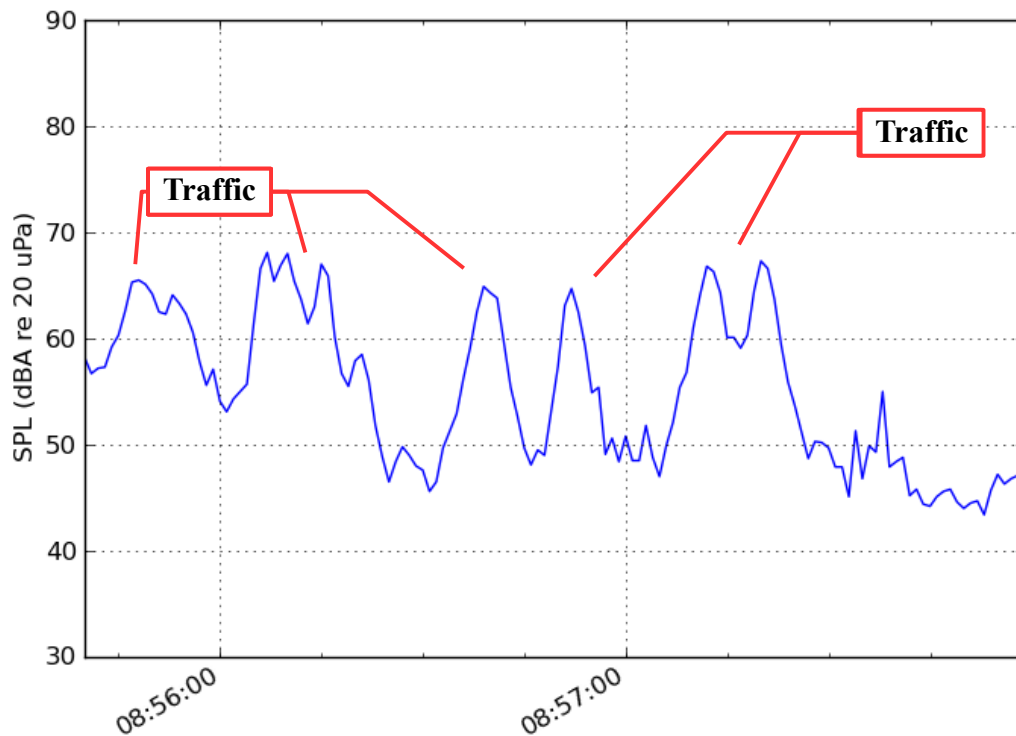


Figure 2.14. Sound Pressure Level at 23926 Glenburn During Play (Players on Practice Court)

The sound pressure level data at this location is shown in Table 2.12. The pickleball paddles did not contribute to average sound pressure.

Location	Start Time	End Time	LAeq	C.I. 95%	LAmin	LAmix	L10	L50	L90
Play	08:55:40 AM	08:57:59 AM	60.1	3.5	43.4	68.1	65.3	55.4	45.8
Background	08:43:21 AM	08:45:26 AM	59.9	4.7	40.5	72.8	64.2	49.1	42.0

Table 2.12. Sound Pressure Level Data at 23926 Glenburn (Players on Practice Court)

Table 2.13 summarizes the ASEL data for the paddle impacts.

Measurement Time (sec)	Hits per Minute	Hits per Minute	Total ASEL	ASEL per Hit	Paddle LAeq
100.325	52	31.1	66.2	49.1	46.2

Table 2.13. Sound Exposure Level Data at 23926 Glenburn (Players on Practice Court)

2.4.2 Point 5, 23907 Sunvista

20 feet from the rear privacy wall at 23907 Sunvista. 175 feet from center of proposed practice court location. Ground was moist soil.

Figure 2.15 shows that the sound pressure level was in the 50 to 60 dBA range during play with the primary sounds being pickleball paddles, tennis racquets on the nearest court, and traffic on Robson Blvd. Background noise levels, seen in Figure 2.13, were similar.

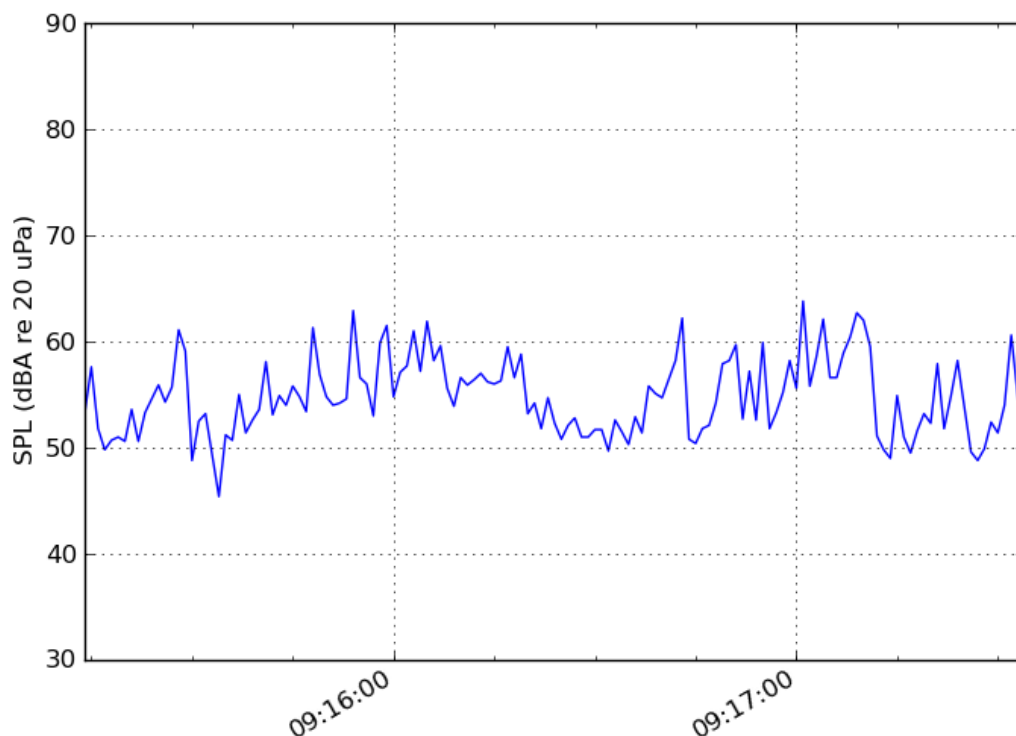


Figure 2.15. Sound Pressure Level at 23907 Sunvista During Play (Players on Practice Court)

The sound pressure level data at this location is shown in Table 2.14. The pickleball paddles did not contribute to average sound pressure.

Location	Start Time	End Time	LAeq	C.I. 95%	L Amin	L Amax	L10	L50	L90
Play	09:08:27 AM	09:10:57 AM	50.2	3.0	42.2	58.9	52.9	49.2	45.7
Background	09:19:48 AM	09:21:55 AM	47.9	2.8	42.7	54.0	50.8	46.9	44.3

Table 2.14. Sound Pressure Level Data at 23907 Sunvista (Players on Practice Court)

Table 2.17 summarizes the ASEL data for the paddle impacts. There was a strong reflection from the privacy wall that was not included in the SEL's. This effect would not be present on the other side of the wall.

Measurement	Hits		ASEL		Paddle
Time (sec)	Hits	per Minute	Total ASEL	per Hit	LAeq
137.729	45	19.6	60.9	44.3	39.5

Table 2.15. Sound Exposure Level Data at 23907 Sunvista (Players on Practice Court)

2.5 Summary of Sound Pressure Levels

The A-weighted equivalent sound pressure levels, LAeq, at each measurement location are shown in Table 2.17. Sound exposure level results are shown in Table 2.18. Table 2.16 gives the definitions of abbreviations used in the tables. Locations of the numbered measurement points are shown in Figure 2.1.

BGN	background noise
Pt 1	24022 Berrybrook
Pt 2	24022 Berrybrook interior
Pt 2 open	24022 Berrybrook interior w/ door open
Pt 3	9747 Sunburst
Pt 4	23926 Glenburn
Pt 5	23907 Sunvista
ETC	proposed east tennis court location
WTC	proposed west tennis court location
PC	practice court

Table 2.16. Key to Measurement and Source Location Abbreviations

Measurement	Start Time	End Time	LAeq	C.I. 95%	Lamin	Lamax	L10	L50	L90
Pt 1, ETC	07:43:53	07:46:19	47.3	3.8	41.9	59.6	48.9	44.9	42.8
Pt 1, BGN	07:49:59	07:52:08	50.2	4.3	42.0	62.6	53.3	46.1	42.9
Pt 2, BGN	07:57:30	07:59:35	31.4	3.6	30.0	42.8	31.9	30.0	30.0
Pt 2, ETC	08:01:44	08:03:58	30.2	2.2	30.0	34.3	30.3	30.0	30.0
Pt 2 open, ETC	08:06:19	08:08:24	36.1	2.9	32.3	44.3	38.5	34.9	33.0
Pt 3, ETC	08:15:58	08:18:03	52.9	3.3	42.1	61.1	57.6	49.5	44.3
Pt 3, BGN	08:20:35	08:22:39	57.3	5.2	41.0	70.8	60.3	46.6	41.9
Pt 4, ETC	08:36:08	08:38:44	57.1	4.3	40.0	69.0	62.9	45.0	41.7
Pt 4, BGN	08:43:21	08:45:26	59.9	4.7	40.5	72.8	64.2	49.1	42.0
Pt 4, WTC	08:48:52	08:51:14	58.8	4.5	40.2	70.9	63.1	48.2	42.5
Pt 4, PC	08:55:40	08:57:59	60.1	3.5	43.4	68.1	65.3	55.4	45.8
Pt 5, PC	09:08:27	09:10:57	50.2	3.0	42.2	58.9	52.9	49.2	45.7
Pt 5, WTC	09:15:14	09:17:34	56.4	3.1	45.4	63.8	59.9	54.6	50.6
Pt 5, BGN	09:19:48	09:21:55	47.9	2.8	42.7	54.0	50.8	46.9	44.3

Table 2.17. Sound Pressure Level Data for All Source and Measurement Locations

Data Set	Distance (ft)	Measurement Time (sec)	Hits	Hits per Minute	Total ASEL	ASEL per Hit	Paddle LAeq
Pt 1, ETC	330	127.523	63	29.6	58.5	40.5	37.5
Pt 3, ETC	190	111.922	62	33.2	68.2	50.3	47.7
Pt 4, ETC	390	114.429	56	29.4	55.7	38.2	35.1
Pt 4, WTC	225	82.326	61	44.5	58.9	41.1	39.8
Pt 4, PC	130	100.325	52	31.1	66.2	49.1	46.2
Pt 5, PC	175	137.729	45	19.6	60.9	44.3	39.5
Pt 5, WTC	180	139.402	107	46.1	74.8	54.5	53.3

Table 2.18. Paddle Sound Exposure Level Data for All Source and Measurement Locations

Comparing the levels in Table 2.18 indicates 9747 Sunburst with pickleball on the proposed east tennis court, 23926 Glenburn with pickleball on the practice court, and 23907 Sunvista with pickleball on the proposed west tennis court have the highest paddle LAeq levels.

With the exception of the practice court testing, each measurement was conducted with four balls in play. The number of hits per minute on the proposed east tennis court location was about 30. On the west tennis court, however, the number of hits per minute increased to about 45. With two balls in play the hits per minutes would be expected to be about 15, but again it is 50 % to 100 % greater. The courts were not generally visible from the measurement positions so it is not certain what would account for the discrepancy.

The mean hits per minute per ball is 10.1 with a standard deviation of 2.9. The sound exposure level scales as $10\log_{10}(N)$ where N is the number of impact events. The uncertainty in the hits rate will introduce an additional 1.3 dB uncertainty in the LAeq of the paddles.

2.6 Spectral Response of Pickleball and Paddle Impact Noise

The sound power spectrum of the pickleball and paddle impact has two basic shapes depending on how the ball is hit. Figure 2.16 and Figure 2.17 show the power spectra of a 'sharp' hit and a 'dull' hit. The curves are not calibrated for absolute level, but can be compared relatively.

The sharp hit spectrum shows a characteristic tonal signature. The frequency of the peak was seen to vary between roughly 1,000 and 2,000 Hz. The energy in the dull hit is more spread out, but still peaks between 1,000 and 2,000 Hz. The most audible frequencies are therefore also in this range. The lower frequency components contribute less to the perception of loudness as the ear is less sensitive to these frequencies.

A sound wall design will require effective attenuation at 1,000 Hz and above.

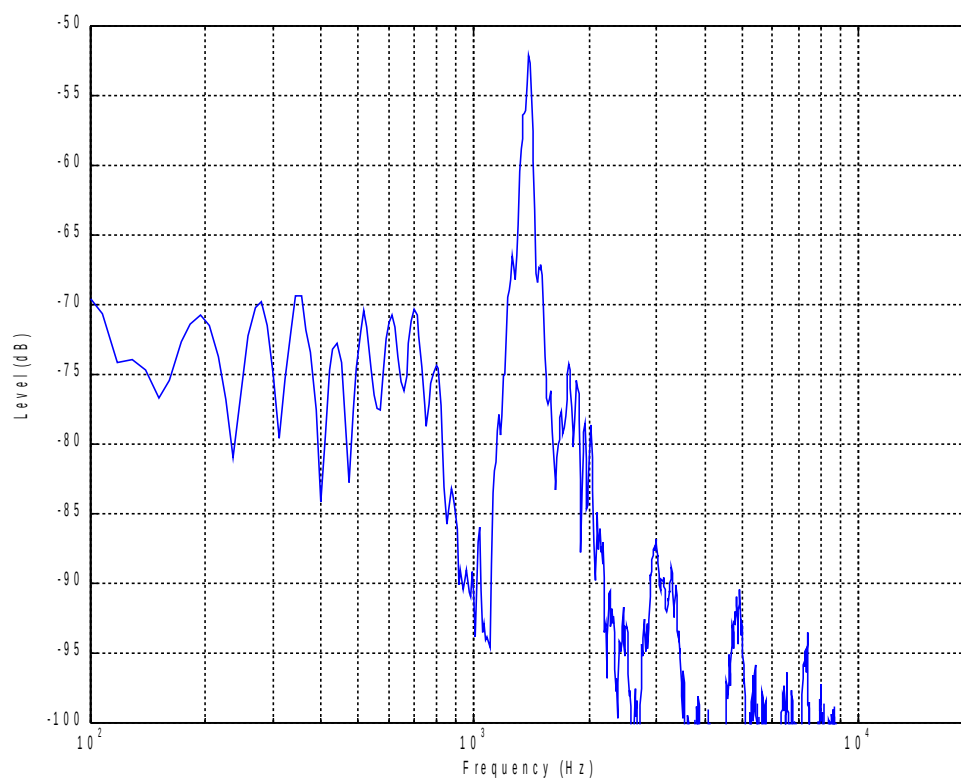


Figure 2.16. Spectral Response of a Sharp Hit

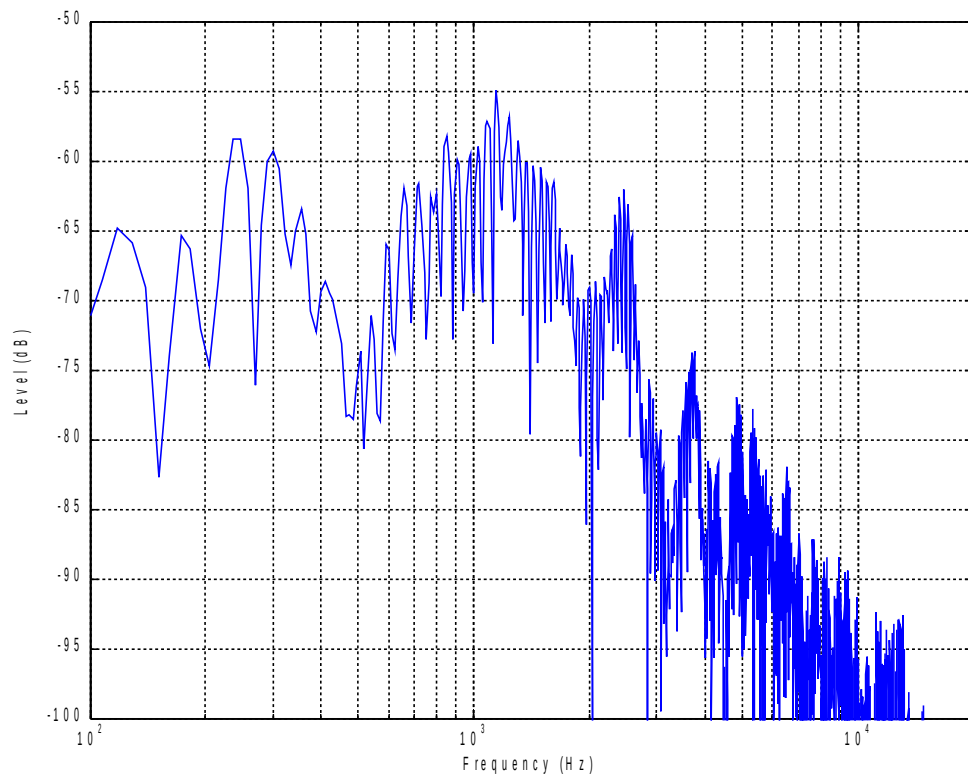


Figure 2.17. Spectral Response of a Dull Hit

3. Land Use Compatibility Analysis

3.1 Methodology

Land use compatibility has been analyzed using the methodology in ANSI S12.9 Parts 4 and 5. This procedure isolates the impact sound of the pickleball paddles and applies adjustments to account for the increased community impact of the highly impulsive nature of the sound and the fact that residents are generally home during the times when the activity occurs.

Because the impact sound of the paddles can not be represented accurately with an averaged sound pressure level (LAeq) measurement, the A-weighted sound exposure level (ASEL) is used instead. This quantity includes only the impulsive sound and is a function of both the average acoustic pressure of the impulse and its duration.

Part 4 of the standard calls for a 12 dB adjustment to the SEL for highly impulsive sounds such as impacts. In addition, Part 4 includes a 5 dB adjustment for weekend activities that occur when residents are generally home. Due to the characteristic lifestyle of a retirement community, this adjustment has been included as well for a total adjustment of 17 dB.

Part 5 of the standard recommends a maximum 55 dB DNL, or in this case LAeq since the courts will operate during daytime hours, at adjacent residential property lines during the hours of operation of the pickleball courts.

3.2 Analysis

The ANSI S12.9 analysis is summarized in Table 3.1 using the data set abbreviations listed in Table 2.16. The distance is from the center of the given proposed court location to the measurement position.

Data Set	Distance (ft)	Paddle LAeq	Total Adjustments (dB)	Adjusted Paddle LAeq	Back- ground LAeq	Recommended Attenuation (dB)
Pt 1, ETC	330	37.5	17	54.5	50.2	6.0
Pt 3, ETC	190	47.7	17	64.7	57.3	11.0
Pt 4, ETC	390	35.1	17	52.1	59.9	0.0
Pt 4, WTC	225	39.8	17	56.8	59.9	1.8
Pt 4, PC	130	46.2	17	63.2	59.9	8.2
Pt 5, PC	175	39.5	17	56.5	47.9	6.5
Pt 5, WTC	180	53.3	17	70.3	47.9	20.3

Table 3.1. Paddle LAeq Adjustments and Recommended Attenuation

The analysis begins with the paddle LAeq as calculated from the sound exposure levels given in the previous chapter (see Table 2.18). This level represents the contribution only from the paddle impacts. An adjustment of 17 dB is added to the paddle LAeq as described in the previous section.

Recommendations for abatement are based on ANSI S12.9 Part 5, Figure A1. For residential land use a maximum daytime LAeq of 55 dBA is recommended for the adjusted paddle LAeq. There is, however, a heightened perception of quiet in retirement communities. For background noise levels between 50 and 55 dBA, the actual background noise level is used as the limiting value for the adjusted paddle LAeq. However, for background noise levels below 50 dBA, 50 dBA is used. This is an implementation of ANSI S12.9 Part 4, Annex F.3.4.2.

3.3 Discussion

The attenuation recommendations for the proposed east tennis court location can be achieved by a wall of sufficient height and span.

The recommended attenuation for the practice court is also achievable with a sound wall system. In this case, however, reflections from the existing 9.5 foot wall will need to be addressed by covering the wall with an absorptive acoustical treatment.

The paddle LAeq at Point 5 for the proposed west tennis court location was abnormally high. Insufficient information is available to pinpoint the cause. Based on the available data, however, conversion of this court to pickleball is not recommended. Achieving 20.3 dB attenuation from a sound wall is generally not practical. In addition, relocating the concrete walkway will likely be required to achieve adequate coverage by a wall as well as ingress to the existing tennis courts.

4. Conclusions and Recommendations

4.1 Compliance with Maricopa County Code P-23

The sound pressure levels produced by the pickleball paddles inside 24022 Berrybrook were below the level at which a person engaged in normal household activities would notice. It is therefore concluded that the proposed east tennis court location in its current configuration is in compliance with Maricopa County code P-23 at this residence.

No interior testing was performed at the closest residence, 9747 Sunburst. Exterior testing indicated that the sound levels from the east tennis courts are approximately 10 dBA higher at this location than at 24022 Berrybrook. Court mitigation is expected to be needed to comply with Maricopa County code at this location.

4.2 Recommendations for Abatement

4.2.1 Proposed East Tennis Court Location

The east tennis court (see Figure 2.1) is the best location to convert to pickleball. Measurements at 24022 Berrybrook, 9747 Sunburst, and 23926 Glenburn show that the new pickleball courts will need to be partially enclosed by a sound wall that can achieve an insertion loss of 11 dB at 1,000 Hz and above.

4.2.2 Proposed West Tennis Court Location

The proposed west tennis court location is not recommended for conversion to pickleball.

4.2.3 Practice Court

A sound wall that wraps around the east and west sides of the practice court will be needed to convert the court to pickleball. In addition, reflections from the existing 9.5 foot wall will require absorptive treatment to prevent degradation of the sound wall performance. The sound wall will need to produce at least 8.5 dB of insertion loss at 1,000 Hz.

4.2.4 Hours of Operation

Pickleball activities during nighttime hours are not recommended. Nighttime hours are not defined in Maricopa County Code P-23, but are generally defined as being from 10:00 PM to 7:00 AM. Using existing schedule restrictions for groundskeeping activities may be a more practical solution to allow some seasonal flexibility.

Appendix

A1. Glossary of Acoustical Terms and Abbreviations

A1.1 Abbreviations

AI: articulation index

ASEL: A-weighted sound exposure level

ASTC: apparent sound transmission class

dB: decibel

DNL: day - night level

FSTC: field sound transmission class

Hz: Hertz

IIC: impact insulation class

kHz: kilohertz

L_{eq}, LA_{eq}, LC_{eq}: equivalent sound pressure level

NC: noise criteria

NIC: noise isolation class

NIPTS: noise induced permanent threshold shift

NR: noise reduction

Pa: Pascal

POE: probable occupant evaluation (see room criteria)

PTS: permanent threshold shift

PWL: sound power level

QAI: quality assessment index (see room criteria)

RC: room criteria

RT₆₀: reverberation time

SEL: sound exposure level

SII: speech interference index

SIL: speech interference level

SLM: sound level meter

SPI: speech privacy index

SPL: sound pressure level

STI: speech transmission index

TTS: temporary threshold shift

A1.2 Terms

A-weighting: see frequency weighting

absorption coefficient: see sound absorption coefficient

acoustical coupler: a cavity of predetermined shape and volume used for the calibration of earphones or microphones in conjunction with a calibrated microphone adapted to measure the sound pressure developed within the cavity

anechoic room: a room whose boundaries absorb practically all of the sound incident thereon, thereby providing essentially freefield conditions

articulation index (AI): a number (ranging from 0 to 1) which is a measure of the intelligibility of speech- the higher the number the greater the intelligibility. This metric has been replaced by the Speech Intelligibility Index (SII) defined in ANSI S3.5.

average sound level: see equivalent continuous sound level

background noise: the total noise from all sound sources other than a particular sound that is of interest

band: a subsection of the frequency spectrum

C-weighting: see frequency weighting

coupler: see acoustical coupler

day-night level (DNL): the 24 hour equivalent (average) A-weighted sound pressure level. A 10 dBA penalty is incurred between the hours of 10:00 PM and 7:00 AM. The DNL system has been adopted by the U.S. Department of Housing and Urban Development, the Department of Defense, and the Federal Aviation Administration.

decibel (dB): a unit of level which denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the common logarithm (base 10) of this ratio.

diffuse field: a sound field which has statistically uniform energy density and in which the directions of propagation of the sound waves are randomly distributed. In a practical sense, the sound pressure levels at all points in the room are nearly the same except near the room

boundaries and a sound wave reaching a given point in the room is equally likely to arrive from all directions.

direct sound: sound which reaches a given location in a direct line from the source without any reflections.

equivalent continuous sound level (L_{eq}): the level of steady sound which, in a stated time period and at a stated location, has the same sound energy as the time varying sound. If frequency weighting is applied, the equivalent continuous sound level may be designated LA_{eq} to indicate A-weighting or LC_{eq} to indicate C-weighting, etc. See also frequency weighting.

field sound transmission class (FSTC): a single number rating similar to sound transmission class (STC), except that the transmission loss values used to derive this class are measured in the field. FSTC ratings are typically lower than STC ratings which are measured under laboratory conditions.

flanking path: A wall or floor/ceiling construction that permits sound to be transmitted along its surface; or any opening, which permits the direct transmission of sound through the air.

freefield: a sound field in which the boundaries have negligible effect over the frequency range of interest.

frequency: the number of times that a waveform repeats itself in a given period of time, usually one second, i.e. the number of cycles per second). Unit: Hz.

frequency weighting: a prescribed frequency dependent attenuation or amplification applied to measured sound data usually intended to better approximate the sensation of loudness in a human listener. For example, A, B, and C weighting approximate the frequency dependent shape of the equal loudness contours for soft, moderate, and loud sounds.

Hertz (Hz): unit of frequency, cycles per second.

impact insulation class (IIC): a single number metric used to compare the effectiveness of floor-ceiling assemblies in providing reduction of impact-generated sounds such as footsteps. This rating is derived from values of normalized impact sound pressure levels in accordance with ASTM E492.

insertion loss: the reduction in sound level at the location of the receiver when a noise reduction measure such as a barrier, attenuator, muffler, etc. is inserted into the transmission path between the source and receiver. Unit: dB.

level: the logarithm of the ratio of a given quantity to the reference quantity of the same kind. Levels represent physical quantities such as sound pressure on a logarithmic scale and are therefore expressed in decibels. Unit: dB.

loudness: that attribute of auditory sensation in terms of which sounds may be ordered on a scale extending from soft to loud. Unit: sone.

masking: the process by which the threshold of hearing for one sound is raised by the presence of another sound.

noise criteria (NC): a single number criteria for the HVAC or mechanical noise level in a room derived from measured octave band data. The octave bands are weighted to de-emphasize low frequencies because the human ear is least sensitive to these frequencies. This metric is not valid for outdoor measurements.

noise induced permanent threshold shift (NIPTS): the permanent hearing loss resulting from noise exposure.

noise isolation class (NIC): a single number rating derived from measured values of noise reduction between two enclosed spaces that are connected by one or more paths. This rating is not adjusted or normalized to a standard reverberation time.

noise reduction (NR): the difference in sound pressure level between any two points along the path of sound propagation, e.g. the difference in level between the interior and exterior of a building where the sound level inside is due only to exterior noise.

octave: the frequency interval between two tones whose frequency ratio is 2.

omnidirectional microphone: a microphone whose response is independent of the direction of the incident sound wave.

Pascal (Pa): a unit of pressure. 1 Pascal = 1 Newton per square meter (1 N / m²).

permanent threshold shift (PTS): a permanent increase in the threshold of hearing at a given frequency.

point source: a source that radiates sound as if from a single point.

receiver: a person (or persons) or equipment which is affected by sound.

refraction: (1) the phenomenon by which the direction of propagation of a sound wave is changed as a result of a spatial variation in the speed of sound. (2) The angular change in direction of a sound wave as it passes obliquely from one medium to another having different sound speed.

reverberation time (RT₆₀): of an enclosure, for a sound of a given frequency or frequency band, the time that is required for the sound pressure level in the enclosure to decrease by 60 dB after the source has stopped. Unit: second.

room criteria (RC, RC Mark II): an octave band metric for evaluating HVAC noise inside a room. RC is a two dimensional metric consisting of a curve number that is the arithmetic average of the 500, 1000, and 2000 Hz octave band sound pressure levels and a qualitative descriptor identifying the character of the sound spectrum. The descriptor can be (N) for neutral, (LF) for low frequency dominance (rumble), (MF) for midfrequency dominance (roar), and (HF) for high frequency dominance (hiss). In addition, acoustically induced vibration can be designated by (LFV_B) for moderate, but perceptible vibration and (LFV_A) for clearly perceptible vibration. As an example, the maximum RC prerequisite for LEED is designated as RC 37(N) indicating curve number 37 with a neutral spectrum.

Further, two intermediary metrics are used in calculating the room criteria. The quality

assessment index (QAI) is a measure of the deviation from the given RC curve. The probable occupant evaluation (POE) is based on the magnitude of the QAI and can be 'Acceptable,' 'Marginal,' or 'Objectionable.'

Sabin: a unit of measure of sound absorption; a measure of sound absorption of a surface. It is the equivalent of 1 square foot of a perfectly absorbing surface; a metric Sabin is the equivalent of 1 square meter of a perfectly absorbing surface.

sone: the unit of loudness. One sone is the loudness of a pure tone presented frontally at a frequency of 1000 Hz and a sound pressure level of 40 dB referenced to 20 micropascals.

sound absorption coefficient (α): ideally, the fraction of diffusely incident sound power that is absorbed (or otherwise not reflected) by a material or surface.

sound exposure level (SEL): over a stated time period or event, 10 times the logarithm base 10 of the ratio of the time integral of the sound pressure squared to the product of the reference sound pressure, 20 μ Pa, squared and the reference time, one second. This quantity is used to characterize single events of short duration where the averaged level (L_{eq}) is inadequate.

sound level meter (SLM): an instrument that is used to measure sound level, with a standard frequency weighting and standard exponentially weighted time averaging.

sound power level (PWL): the total acoustical power emitted from a sound source expressed in decibels relative to 10^{-12} Watts.

sound pressure level (SPL): the acoustical pressure amplitude expressed in decibels relative to 20 micropascals.

sound transmission class (STC): a single number rating used to compare sound insulation properties of walls, floors, ceilings, windows, or doors. See also field sound transmission class.

speech intelligibility index (SII): metric defined under ANSI S3.5 to quantify the intelligibility of speech under adverse listening conditions such as noise masking, spectral filtering, and reverberation. The SII is defined for a scale of 0 to 1 where values greater than 0.75 indicate good communication and values below 0.45 indicate generally poor communication conditions.

speech intelligibility test: a procedure that measures the portion of test items (such as syllables, monosyllabic words, or sentences) that are heard correctly.

speech interference level (SIL): an index for assessing the interference effects of noise on the intelligibility of speech, derived from measurements of the background noise level of contiguous octave bands; i.e. the arithmetic average of the octave band sound levels for the bands centered at 500, 1000, 2000, and 4000 Hz (four band method) or the corresponding average for the octave bands centered at 500, 1000, and 2000 Hz (three band method). If other octave bands are used they must be specified. Unit: dB.

speech privacy index (SPI): The SPI is essentially the opposite of the speech intelligibility index and is defined as $1 - \text{SII}$ and usually represented as a percentage. An SPI above 80% is considered normal privacy while an SPI above 95% would meet the requirements of confidential privacy.

speech transmission index (STI): an index for rating the intelligibility of speech that takes both noise and reverberation into account.

temporary threshold shift (TTS): a temporary increase in the threshold of hearing at a given frequency.

threshold of hearing: for a given listener, the minimum sound pressure level of a specified sound that is capable of evoking an auditory sensation. The sound reaching the ears from other sources is assumed negligible.

transducer: a device designed to receive an input signal of a given kind and to furnish an output signal of a different kind in such a manner that the desired characteristics of the input signal appear in the output signal. For example, a microphone takes an acoustic pressure as an input and produces an electrical voltage as an output that is direct proportion to the instantaneous acoustic pressure amplitude. Other common examples in noise measurement would be a loudspeaker, accelerometer, or laser Doppler vibrometer (LDV).

transmission loss: the reduction in sound level from one side of a partition to the other.

wavelength: the distance a sound wave travels in the time it takes to complete one cycle.

weighting: see frequency weighting

A2. General Acoustics

Sound Pressure Level (SPL)

Sound is small, rapidly varying perturbations of atmospheric pressure with respect to the slowly changing ambient pressure. The ambient pressure is measured with a barometer while the small acoustic perturbations are measured with a microphone.

The unit of sound pressure is the Pascal (Pa). However, due to the wide range of acoustic amplitudes that can be heard by the human ear, sound pressure is normally expressed on a logarithmic scale having units of decibels (dB). Sound pressure expressed this way is known as the sound pressure level (SPL) and has the following relation to sound pressure.

$$SPL = 20 \log_{10} \left(\frac{p}{p_{ref}} \right) \quad (A2.1)$$

Here p is the sound pressure in Pascals. p_{ref} is a reference pressure, the threshold of hearing at 1000 Hertz (Hz), 20×10^{-6} Pa.

A-Weighting

The above formulation of SPL is a purely physical quantity. Due to the nonlinear and frequency dependent characteristics of the human ear it does not always correlate well with the perception of loudness. To improve the correlation for noise assessment purposes, a frequency weighting is often applied called A-weighting. The A-weighting function is based on listening tests in which human subjects adjusted tones throughout a range of frequencies to have equal loudness compared to a tone having an SPL of 40 dB at 1000 Hz. Figure A2.1 shows equal loudness contours as measured by Fletcher and Munson.

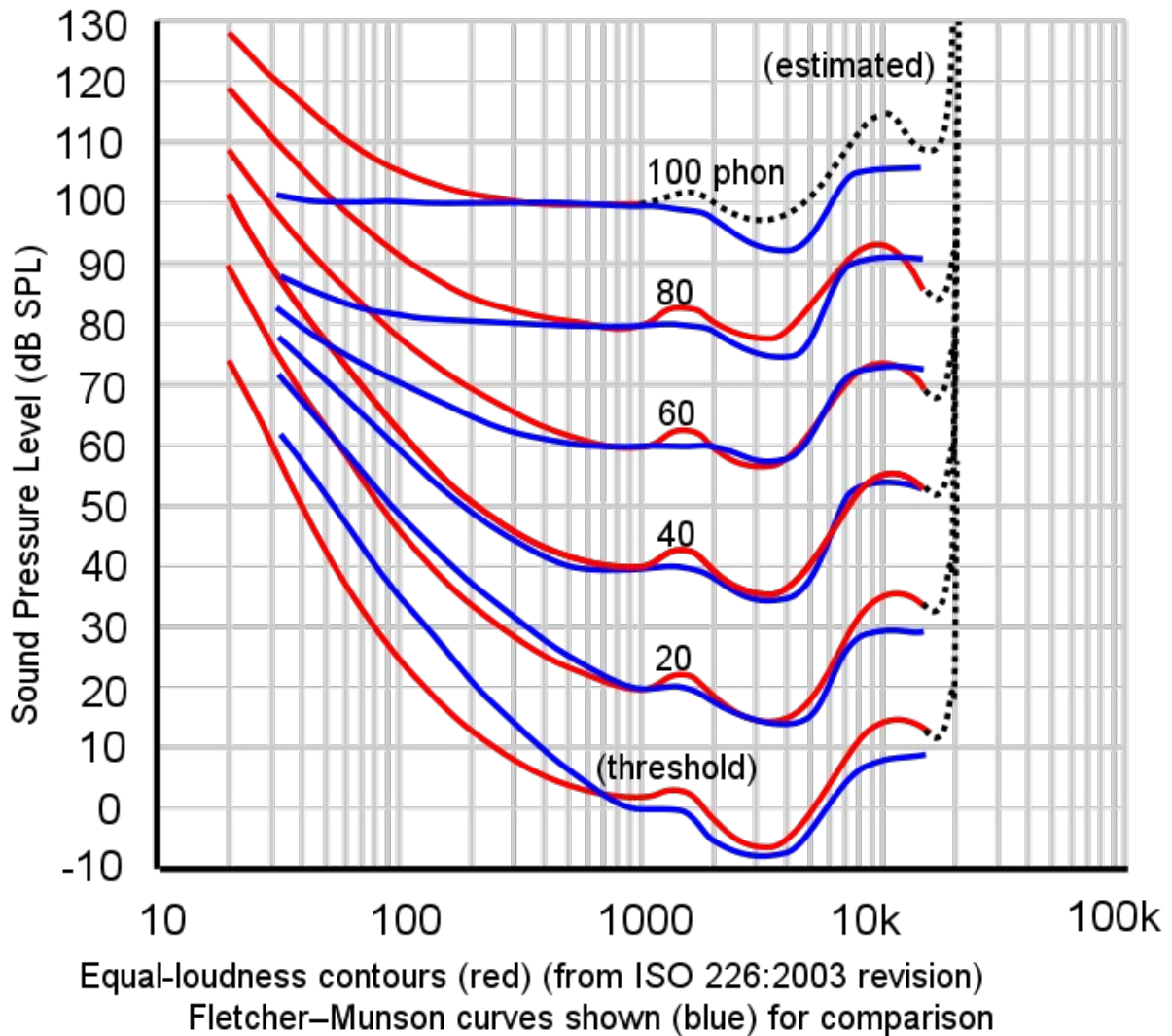


Figure A2.1. Equal Loudness Contours

Source: <https://en.wikipedia.org/wiki/File:Lindos4.svg>

Thus applying A-weighting to measured sound pressures more closely represents the frequency response of the human ear. Sound pressure levels that have been A-weighted are denoted by the symbol, dBA. Error: Reference source not found shows the A frequency weighting and several other common weightings.

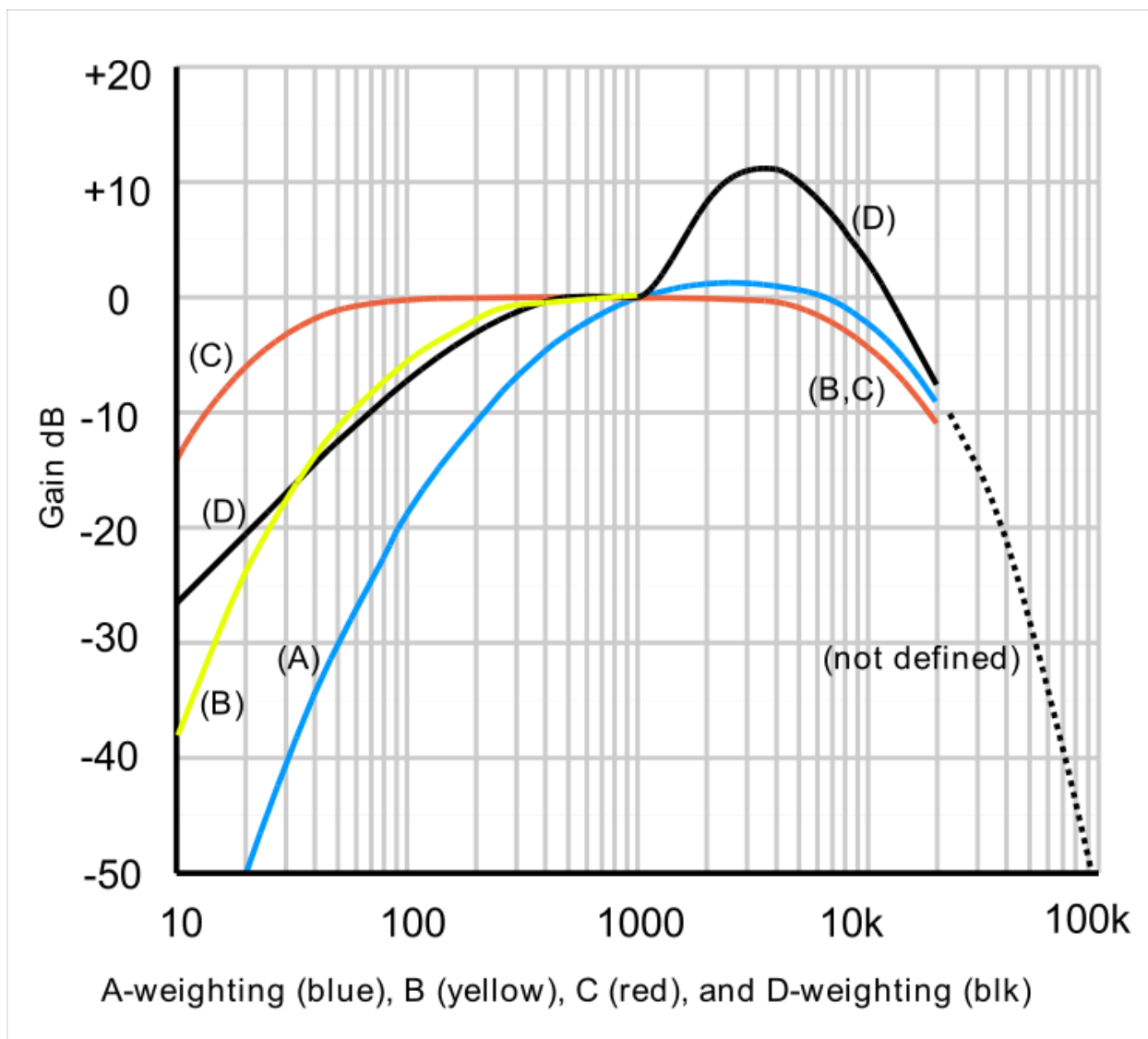


Figure A2.2. Frequency Weighting Filter Curves

Source: [https://en.wikipedia.org/wiki/File:Acoustic_weighting_curves_\(1\).svg](https://en.wikipedia.org/wiki/File:Acoustic_weighting_curves_(1).svg)

The Perception of Sound

The most basic descriptions of sound are loudness (amplitude) and pitch (frequency). The frequency range of human hearing is roughly 20 to 20,000 Hz, although most people can not hear this full range because high frequencies are lost as a natural part of aging and other factors such as illness and exposure to high levels of noise that may cause permanent hearing loss.

Figures A2.3 and A2.4 illustrate the amplitude and frequency ranges of some common acoustical sources.



Figure A2.3. SPL Produced by Various Sources
(Bruel and Kjaer)

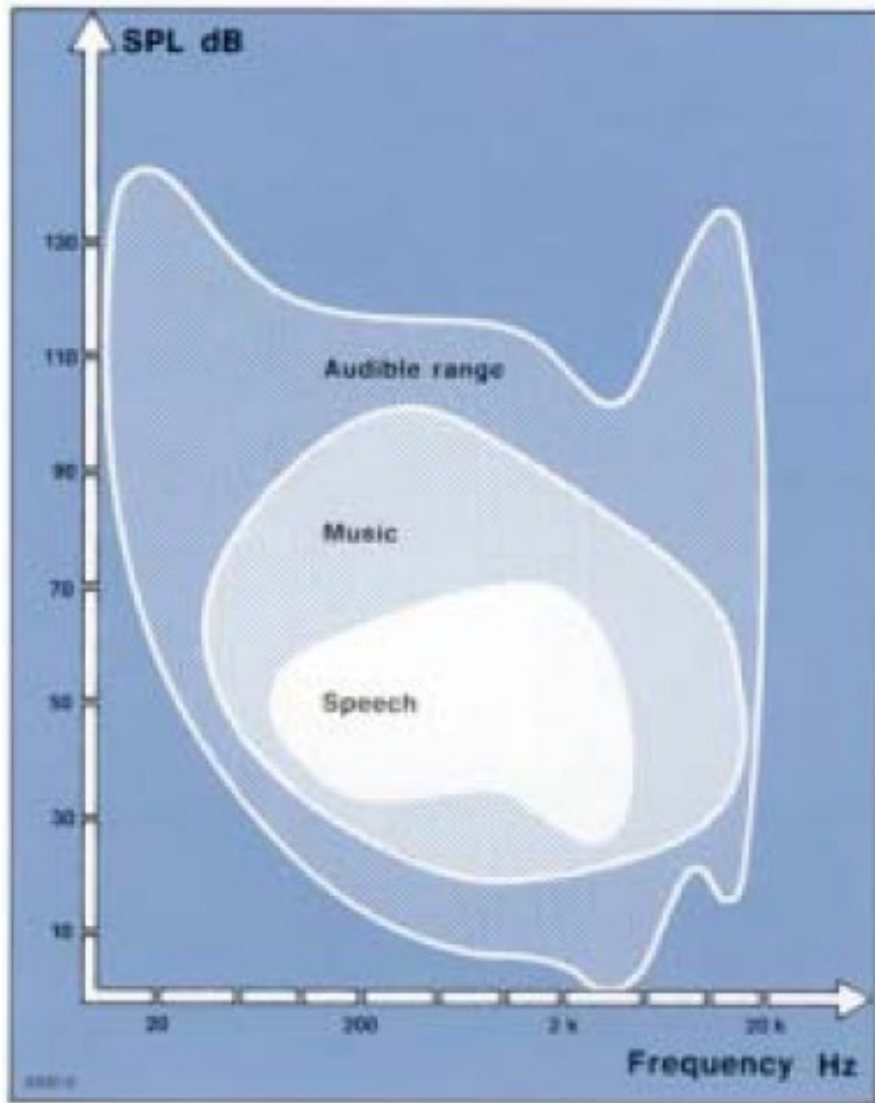


Figure A2.4. Amplitude and Frequency Ranges of Speech and Music
(Brüel and Kjaer)

Amplitude Attenuation with Distance

Sound originating from a small point source will spread spherically in all directions, absent any

Distance from Source (ft)	SPL (dBA)	SPL Loss Relative to 10 ft
10	90	
20	84	6
40	78	12
80	72	18
160	66	24
320	60	30

Table A2.1. Decrease of SPL with Distance Due to Spherical Spreading

nearby surfaces. The conservation of energy requires the sound pressure spreading out from such a source to decrease by half with each doubling of distance. This is known as the inverse square law and is demonstrated in Table A2.1 and Figure A2.5.

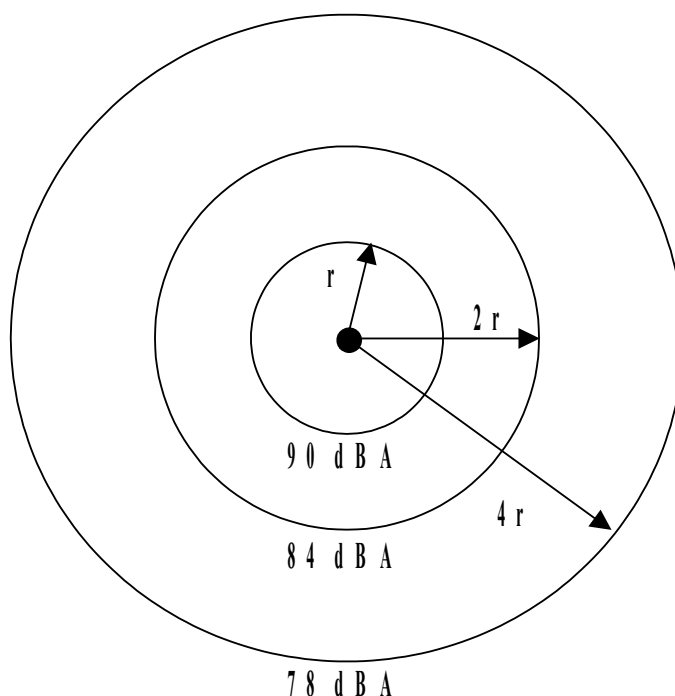


Figure A2.5. Decrease of SPL with Distance Due to Spherical Spreading

Adding Decibels

Summing the contributions from multiple sound sources to obtain the total SPL is *not* done simply by adding the decibel levels because SPL is a logarithmic quantity.

Imagine a fan produces a moderate SPL of 65 dBA at 6 feet. If a second identical fan were turned on the resulting SPL would not be 130 dBA. This would be equivalent to a commercial jetliner taking off at close range.

The correct method of adding the SPL from each source is to sum the acoustic power produced by each source. This implies that each time the number of sources having equal SPL is doubled, the SPL will increase by 3 dBA. Therefore, in the example with two fans, the correct total SPL would be 68 dBA. More examples with multiple sources producing equal SPL are shown in Figure A2.6.

$$65 \text{ dBA} + 65 \text{ dBA} \neq 130 \text{ dBA} \quad \textbf{WRONG} \quad (\text{A2.2})$$

$$65 \text{ dBA} + 65 \text{ dBA} = 68 \text{ dBA} \quad \textbf{RIGHT} \quad (\text{A2.3})$$

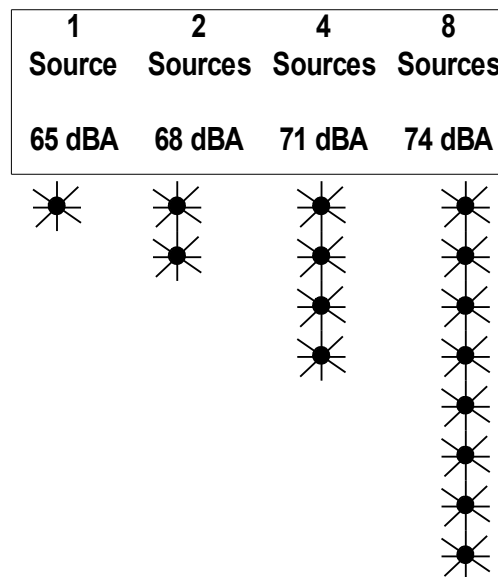


Figure A2.6. Total SPL from Multiple Sources with Equal SPL Output

Further Reading

Bruel and Kjaer, “Measuring Sound.” Covers topics in this appendix in more detail. Available on the Bruel and Kjaer website, www.bkhome.com. Find this and other primers under the library section of the site.

Cyril M. Harris, Ed. Handbook of Acoustical Measurements and Noise Control, 3rd Edition. Acoustical Society of America, Melville, NY, 1998.

A3. P-23 Maricopa County Noise Code Excerpt

V. Public Disturbances

A. It shall be unlawful for any person to cause, or for any person in possession of property to allow to originate from the property, any noise which disturbs the peace or quiet of any neighborhood if such noise can be heard from within closed residential structures located within 500 feet of the boundary of the property from which such noise emanates. This subsection shall not apply to noise produced in the normal conduct of business provided that such noise occurs within the normal and customary hours for the conduct of such business, which is based on the normal and customary hours of operation of similar, existing businesses, and the operation is legally conducted within the scope of all ordinances, laws, and statutes of Maricopa County and the State of Arizona.

A4. Site Conditions

A4.1 Weather: August 17, 2012

Meteorological conditions in the area were overcast with light winds from the northwest.

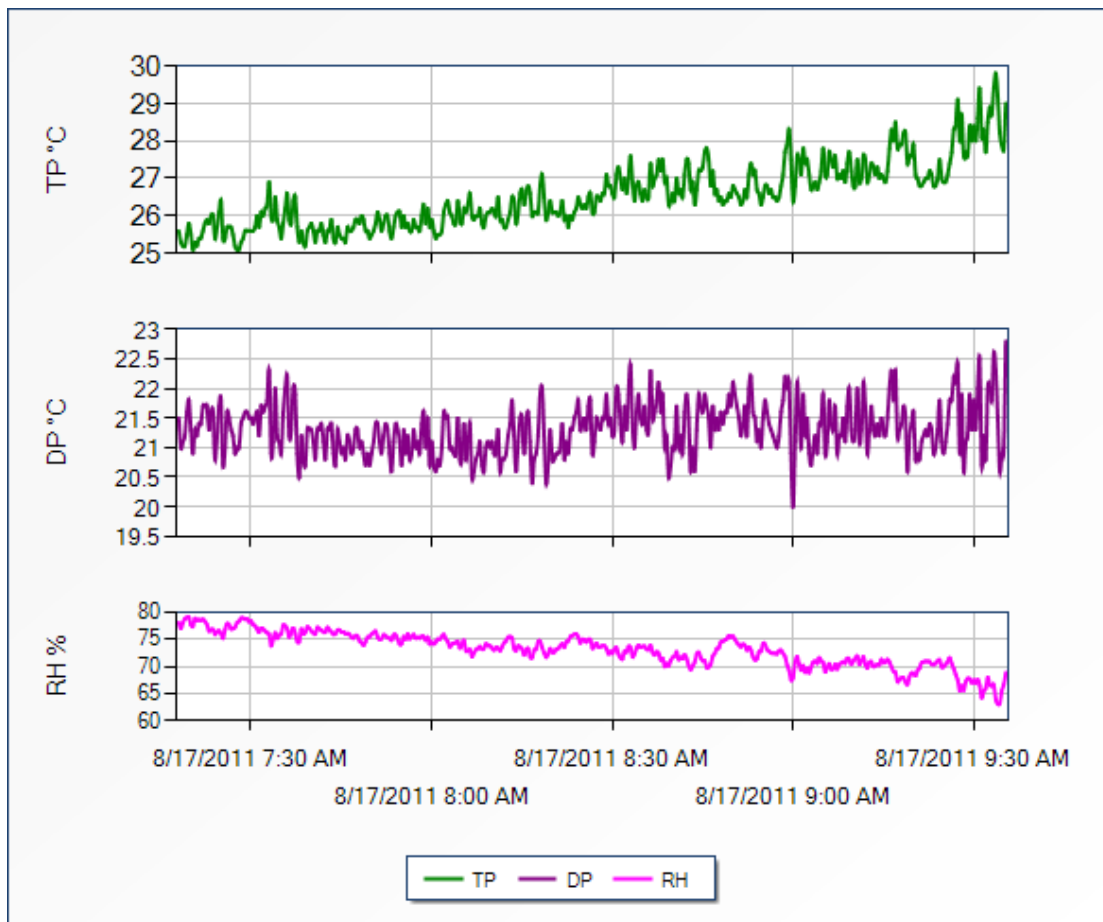


Figure A4.1. Temperature, Dew Point, and Relative Humidity on August 17, 2012

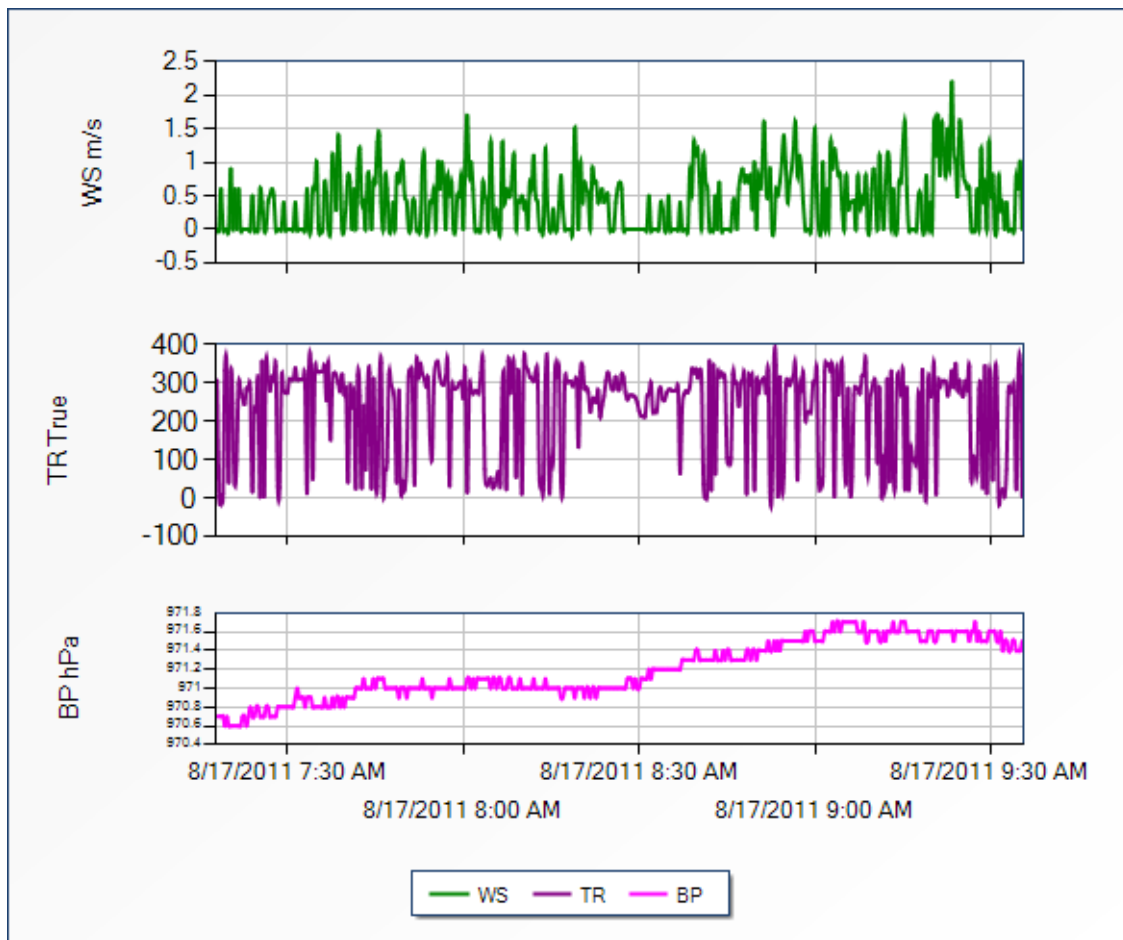


Figure A4.2. Wind Speed, Heading, and Station Pressure on August 17, 2012

A4.2 Site Photos



Figure A4.3. Weather Station, SW of Proposed East Tennis Court Location



Figure A4.4. Sound Level Meter at Point 1, 24022 Berrybrook



Figure A4.5. Sound Level Meter at Point 2, 24022 Berrybrook (Interior)



Figure A4.6. Sound Level Meter at Point 3, 9747 Sunburst



Figure A4.7. Sound Level Meter at Point 4, 23926 Glenburn



Figure A4.8. Sound Level Meter at Point 5, 23907 Sunvista



Figure A4.9. 9.5 Foot Wall at South End of Practice Court

A5. Equipment List

SOUND LEVEL METER

- Brüel & Kjær Type 2236, Precision Integrating Sound Level Meter
Serial #: 1849710
Calibration: June 27, 2012, Odin Metrology
- Brüel & Kjær Microphone Type 4188
Serial #: 1857777
Calibration: June 30, 2012, Odin Metrology

MICROPHONE CALIBRATOR

- ACO Pacific 521 Calibrator [1 kHz, 94 dB]
Serial #: 47365
Calibration: June 27, 2012, Odin Metrology

PORTABLE DIGITAL RECORDER

- Edirol R-09HR
Serial #: ZW73981

WEATHER

- Nielsen-Kellerman Kestrel 4500 with wind vane
Serial #: 570551
 - Temperature: $\pm 1.8^{\circ}\text{F}$, -20 to 158 $^{\circ}\text{F}$ (1.0 $^{\circ}\text{C}$, -29 to 70 $^{\circ}\text{C}$)
 - Humidity: $\pm 3\%$ RH, 5 to 95 % non-condensing
 - Pressure: ± 1.5 hPa, 750 to 1100 hPa
 - Wind speed: larger of $\pm 3\%$ of reading or least significant digit
 - Wind direction: $\pm 5^{\circ}$

COMPUTER

- MSI MS-16332 / AMD Turion TL-56 Laptop Computer

SOFTWARE

- Brüel & Kjær Reporter 7815, sound application software
- Syntrillium Software, Cool Edit Pro 2.1, digital audio editing software
- Perception Acoustics, Acoustic Tools Data Acquisition Suite, 2.0

Why Are Your Pickleball Courts Receiving Complaints from Neighbors?

by [Lance Willis](#)
Posted on [April 25, 2018](#)

[Home](#) [News](#) [About Us](#) [Contact](#)

Pickleball is a game played with a paddle and ball on a converted tennis court or dedicated asphalt pad. It has become very popular in retirement resort communities and other recreation centers.



Unfortunately, some developers of pickleball courts have not adequately addressed the sound produced by the impact of the hard paddle and ball which creates a sharp pop. This has led to controversy between facility owners and neighbors when new pickleball courts are planned.

Here in Arizona and elsewhere we have planned and mitigated many of these sites. We have had the opportunity to work with both pickleball clubs and home owners associations. In this post we will outline the process we have developed to evaluate the noise impact of pickleball courts and to enable pickleball to coexist with the surrounding community.

Characteristics of Pickleball Sound

The sound produced by the impact between a pickleball and paddle is characterized by a sudden onset and brief duration, typically on the order of two milliseconds for the direct path sound. Figure 1 shows a time trace of a pickleball paddle impact measured near Phoenix, Arizona. The main part of the direct sound impulse can be seen to be less than two milliseconds followed a rapid decay and some later reverberant arrivals.

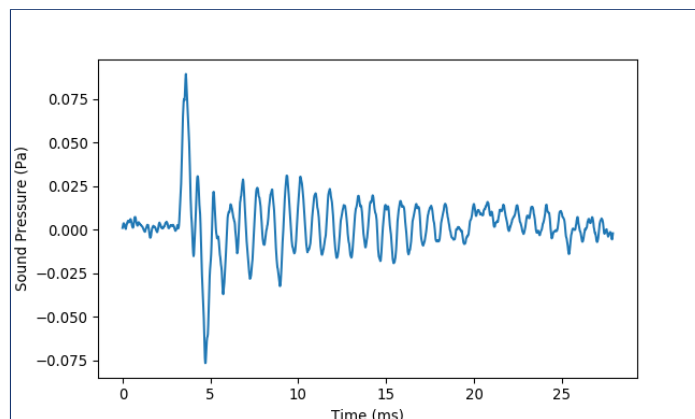


Figure 1. Paddle Impact Time Trace

The spectral content of the paddle impact is narrowband with a center frequency typically between 1,000 and 2,000 Hertz (see

Figure 2). Although it does not meet most guidelines for tonal prominence such as Annex C of ANSI S12.9 Part 4 or ANSI S1.13, it does impart a vague sensation of pitch similar to a musical wood block percussion instrument. The radiation pattern of the paddle is more or less a dipole, i.e. the sound from the front and back of the paddle is of opposite polarity and cancels itself in the plane of the paddle. Therefore, orienting the courts so that the direction of play faces away from noise sensitive areas can provide some attenuation.

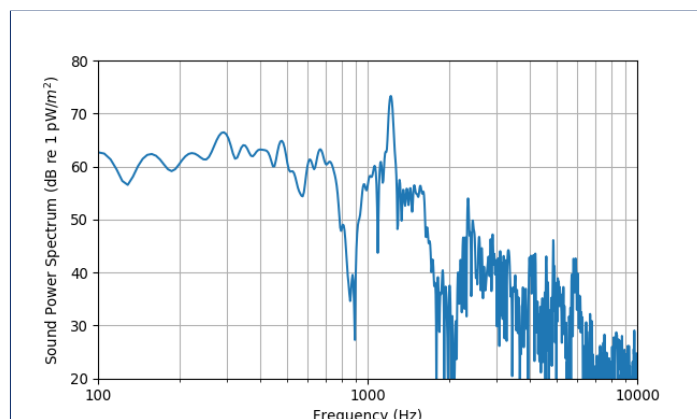


Figure 2. Paddle Impact Power Spectrum

Measuring Pickleball Sound

Due to the short duration of the impact, averaging sound pressure level metrics such as equivalent level (L_{eq}) and even maximum fast exponential time weighted level (L_{max}) fail to accurately represent the perceived loudness of the impact. The fast exponential time weighting filter is a first order lowpass filter with a 125 millisecond time constant applied to the square of the acoustic pressure waveform. If a tone burst is applied to the squaring circuit and filter, after two milliseconds the filter output will only rise to a level that is 18 dB lower than the root-mean-square or equivalent level of the input signal. Because the short impulse is being significantly attenuated by the averaging in the sound level meter, in practice it is in general not possible to distinguish pickleball paddle impacts from the background noise when measuring L_{eq} or L_{max} using an integrating sound level meter even though the paddle impacts may be identified by a listener as the primary sound source.

The paddle impact sound pressure level is better represented by the sound exposure level (SEL). This involves windowing the measured sound pressure in time to include only the paddle impact and reflections from nearby surfaces. The equivalent sound pressure level of the windowed impact is then normalized to the length of the window giving a representation of the energy

in the impact alone. Appropriate adjustments for impulsive sounds can then be applied to the impacts as described next.

Most acoustical standards for sound pressure levels with regard to compatible land use provide adjustment factors for different types of sound, e.g. impulsive, tonal, time of day, etc. Each of these categories of sound produces different levels of community impact and annoyance due to their temporal or spectral characteristics in comparison to a broadband sound that does not vary in level or frequency content with time. The purpose of the adjustment factors is to normalize these types of sound to a neutral broadband sound pressure level so that they can be reasonably compared to a defined sound pressure level limit or the background noise level.

ANSI S12.9 Part 4 gives criteria for assigning adjustment factors to a variety of impulsive sounds. Sounds produced by many impact processes are classified as 'highly impulsive' and assigned a 12 dB adjustment. Although not specifically enumerated in definition 3.4.1 of the standard, experience has shown that pickleball paddle impacts should be adjusted as highly impulsive sounds in order to set appropriate performance goals for abatement treatments. Inadequate abatement treatment may lead to ongoing complaints, strained relations with neighbors, legal action, the need for continued involvement on the part of authorities, additional retrofitting, and possibly demolition costs to improve the abatement later.

Site Planning Considerations for Pickleball

Based on our experience working with pickleball facilities, courts located within 350 feet of residential structures often require abatement. Courts located within 150 feet require careful abatement design to avoid complaints.

Abatement treatments usually consist of freestanding walls strategically placed to shield noise sensitive areas from the pickleball courts. To be effective, the walls must block the line of sight to the paddles during play. On level terrain this means a minimum wall height of eight feet above the playing surface. The cost of the walls can be reduced by lowering the courts into the ground and using the excess soil to build a berm around the courts. Placing the wall on top of the berm will lower the required height of the wall itself, reducing construction costs. The wall may be masonry or a solid fence system having sufficient mass for effective sound insulation.

For pickleball courts located in the middle of a residential area with houses on more than two sides, screen walls may be required on opposite sides of the courts. When these walls are parallel to each other, reflections between them can degrade the

performance of the walls significantly. In this case, sound absorbing panels may need to be installed on one or both walls to stop multiple reflections from amplifying the sound going over the walls. This can almost double the cost of the walls and may make the site financially unfeasible.

Court orientation also plays a role. More sound propagates in the direction of play than to the sides of the pickleball court. By positioning the courts so that the line of the net runs through the most noise sensitive area, a noticeable reduction in sound pressure level can be achieved at this location.

When to Hire an Acoustical Consultant

We recommend that pickleball courts to be located within 500 to 600 feet of residential properties or other noise sensitive areas be reviewed by an acoustical engineer during the site selection phase in order to avoid choosing a site that is expensive to mitigate, results in unexpected limitations on court use, or leads to ongoing disputes with neighbors. For sites that have a water feature or golf course as part of the intervening ground between the courts and homes or for sites located in a valley, it may be necessary to consider abatement at buffer distances greater than 500 to 600 feet due to additional refraction effects created in these situations.

The abatement plan for the site should be prepared by an acoustical engineer with experience in assessing the community impact of short duration impulsive sounds such as those produced by pickleball paddle impacts. As can be seen from procedure outlined above, properly measuring sound from pickleball courts is not a simple matter of setting up a sound level meter and logging an equivalent sound pressure level (L_{eq}). The short duration impulses produced by the paddle impacts require a detailed process of applying a metric that can accurately represent the community noise impact of the pickleball courts.

If you are in the process of planning pickleball for your site, consulting an acoustician can reveal unforeseen issues with the selected courts site or the site plan before investing tens or hundreds of thousands of dollars in design and construction. Preparing a formal abatement plan can also ease concerns of neighbors about the community noise impact of the courts.

If you would like us to help plan or mitigate your pickleball courts, [contacts us](#) today for more information.

This entry was posted in [Noise Control](#). Bookmark the [permalink](#).

4 Responses to *Why Are Your Pickleball Courts Receiving Complaints from Neighbors?*

Patrick T Neary says:

September 26, 2018 at 7:12 am

Hello,

I live on the property line of the Yellowstone Golf and COUNTRY CLUB in Billings, MT. The Club proposes to place a pickleball court extremely close to my property line, within 50 feet! I have apprised them of the problem and referred them and their architect to your studies. I am also seeking legal counsel. The club manager states they were not aware of the problem. Do you have a comprehensive list of the pickleball studies you have performed nationally, or other information concerning the volume of complaints, lawsuits, etc. related to pickleball nationally? I am obviously, trying to build a case for redesign, distancing from my (and others') property, mitigation, etc. Thank you.

Lance Willis says:

September 26, 2018 at 9:30 am

50 feet is very close. Pickleball courts placed at this distance from residential properties usually result in complaints without significant mitigation. A list of some of our [environmental acoustics projects](#) is available on the website. We'll try to put up a category for pickleball in the near future. The best way to proceed would be for the country club to contact us and discuss doing a noise abatement plan for the proposed courts site. That would enable them to address any community noise impact issues before they become a problem that is expensive to retrofit.

Linda waldman says:

January 23, 2019 at 8:55 am

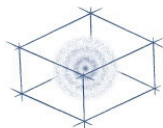
Pickle ball courts were built within forty feet of our residence. Not only is the pickle ball noise loud, but the players scream as loud as possible while playing. Can anything be done legally.

Lance Willis says:

January 23, 2019 at 10:52 am

This will depend on the noise legislation for your area. Every county and municipality has a different standard for defining nuisance noise and how to measure it. In most cases, regulations for impulsive sound are not defined by these ordinances and so we rely on the ANSI standards mentioned in the post. Enforcement is usually handled through your local police or department of developmental services. If the site owners would like to mitigate the impact on neighboring properties they can contact us to discuss creating a noise abatement plan.

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4335 N Alvernon Way, Tucson, Arizona 85718
(520) 623-6003



Friday, July 23, 2021

Robert Rosing
Rosing Davidson Frost
136 Heber Ave
Suite 205
Park City, Utah 84060

Mr. Rosing,

This letter comments on the noise impact on surrounding homes resulting from the planned installation of a pickleball court at 2732 Meadow Creek Drive. The planned pickleball court is located within 100 feet of several homes including 2812 Holiday Ranch Loop Road which is directly adjacent to and overlooks the placement of the court.

Qualifications in Regard to Pickleball Sound Abatement

I am the Principal Acoustical Engineer at Spendiarian & Willis Acoustics & Noise Control, LLC. In that capacity, I regularly perform on site acoustical testing, community noise impact assessment, acoustical site planning, and noise abatement design for commercial and industrial sites, often near residential areas. I have been working as a consultant in environmental acoustics and noise control since 2005.

I have Bachelor, Master of Science, and PhD degrees from the Woodruff School of Mechanical Engineering at the Georgia Institute of Technology with a specialization in physical and engineering acoustics. I also received a multidisciplinary certificate in acoustics from the same institute. After finishing my PhD, and while working as an applications engineer in the Advanced Product Technology Center at Motorola, I completed distance learning at the Pennsylvania State University in psychological acoustics and experimental design. This coursework covered the human sensation of hearing and the perception of sound. I have been a member of the Acoustical Society of America and the Audio Engineering Society since 1994.

Since 2010 I have assisted pickleball clubs, site planners, and home owners associations in site selection and noise abatement planning for pickleball courts. Some of these projects include: ABREGO AT GREEN VALLEY, AZ; CANOA RANCH, GREEN VALLEY, AZ; DESERTVIEW AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; RIDGEVIEW AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; MOUNTAINVIEW AT

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SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; THE PRESERVE AT SADDLEBROOKE ROBSON RESORT COMMUNITY, AZ; ROBSON AT SUN LAKES / IRON OAKS, PHOENIX, AZ; ROBSON AT PEBBLE CREEK, PHOENIX, AZ; TRILOGY AT ENCANTERRA, PHOENIX, AZ; TRILOGY AT VERDE RIVER, PHOENIX, AZ; TRILOGY AT VISTANCIA, PHOENIX, AZ; SUNFLOWER DEVELOPMENT, TUCSON, AZ; YAVAPAI HILLS HOA, PRESCOTT, AZ; OUTDOOR RECREATION PALM SPRINGS, PALM SPRINGS, CA; ELKHORN HOA, SUN VALLEY, ID; PELICAN PRESERVE, FORT MYERS, FL; and PELICAN LANDING, BONITA SPRINGS, FL.

I have also assisted home owners and home owners associations when pickleball courts have been placed close to residential properties without adequate noise abatement planning. The sites of these pickleball courts were ST MICHAEL'S BY-THE-SEA CHURCH, CARLSBAD, CA; COLUMBINE COUNTRY CLUB, LITTLETON, CO; TRILOGY AT POWER RANCH, GILBERT, AZ; private residence in LOUISVILLE, KY; private residence in CARLSBAD, CA; CHESTNUT WAY PARK, PORT MOODY, BRITISH COLUMBIA; and a park on WATERS END DRIVE, CARLSBAD, CA.

In some instances, failure to plan for noise abatement or select an appropriate pickleball site has resulted in legal action. I have been an expert witness in several cases seeking an injunction against pickleball activities in California, Kentucky, and Colorado. These cases involved courts placed with insufficient buffer distance to neighbors and ad hoc mitigation treatments.

Characteristics of Pickleball Sound

The main concern in regard to noise from the pickleball courts is the sound produced by the impact of the hard plastic ball on the paddles. This sound is characterized by a sudden onset and brief duration, typically on the order of two thousandths of a second for the direct path sound (see Figure 1) thus classifying it as impulsive sound. The spectral content of the paddle impact is narrowband with a center frequency typically between 1,000 and 2,000 Hertz. This is near the most sensitive frequency range of human hearing. Although it does not meet most guidelines for tonal prominence such as Annex C of ANSI S12.9 Part 4 or ANSI S1.13, it does impart a vague sensation of pitch. The acoustic radiation pattern of the paddle is more or less a dipole or figure eight pattern.

Using a foam ball such as the Foam Quiet Ball made by Gamma can reduce the amount of sound from paddle impacts significantly. Spendiarian & Willis has done a comparative study of this ball and the most common regulation ball, the Dura Fast 40. The foam ball was found to be 8 to 9 dBA quieter. While this will reduce the amount of sound abatement needed, it will not necessarily eliminate the need for it completely. This is especially true where homes are within 75 to 100

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feet of the pickleball courts. Use of the foam ball can still be expected to produce more noise complaints than tennis.

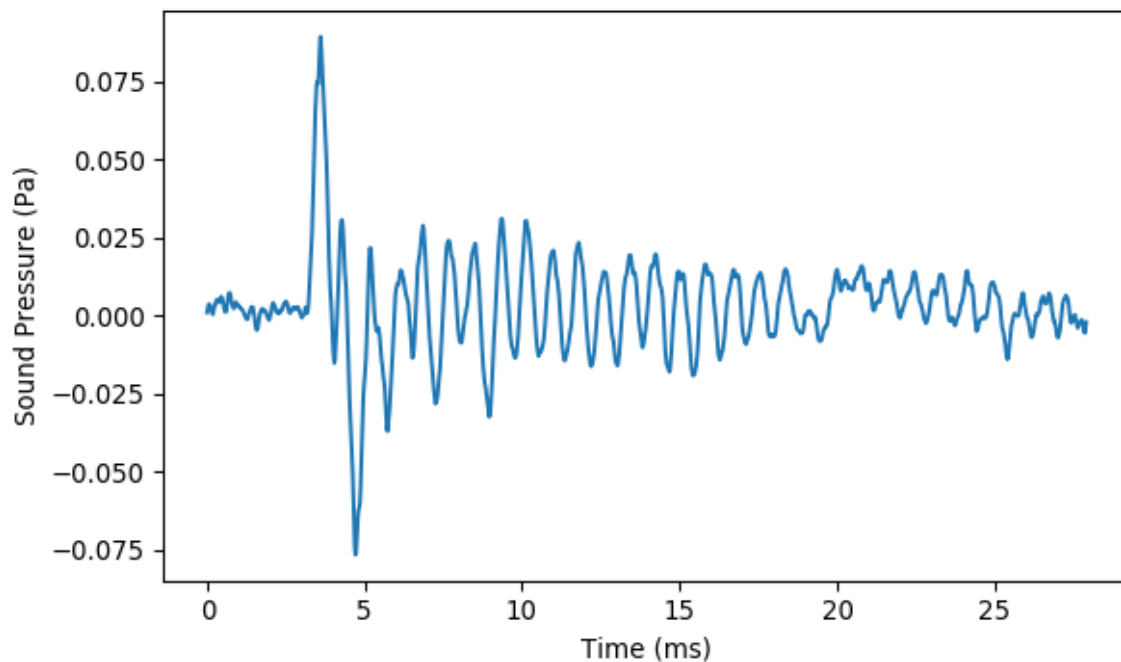


Figure 1. Sound Pressure Impulse Produced by Pickleball and Paddle Impact. Time is in milliseconds (0.001 seconds)

Comparison of Pickleball to Other Activities

There is a common misconception that pickleball is acoustically equivalent to tennis, volleyball, or many of the other activities typically found at outdoor recreation centers and parks. Numerous news articles covering disputes over pickleball noise, many of which originate when existing tennis courts are converted to pickleball, demonstrate that this is not the case:

- Adler, Erin, “Apple Valley neighbors in a pickle over pickleball noise.” *Star Tribune*, Minneapolis, Minnesota. March 27, 2019. <<http://www.startribune.com/apple-valley-neighbors-in-a-pickle-over-pickleball-noise/507726242/>>

- Bartel, Mario, “Pickleball banished from Port Moody court after neighbours complain of rising stress, anxiety.” The Tri-City News, Coquitlam, British Columbia, Canada. April 24, 2021. <<https://www.tricitynews.com/local-sports/these-games-are-loud-port-moody-pickleball-neighbours-revolt-against-rising-stress-anxiety-3662369>>
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- Sutphin, Daniel, “Nixing the noise: Sound fence construction underway at Gilchrist pickleball courts.” Port Charlotte Sun, Charlotte Harbor, Florida. May 20, 2019. <https://www.yoursun.com/charlotte/news/nixing-the-noise-sound-fence-construction-underway-at-gilchrist-pickleball/article_79a764de-7b1c-11e9-b4d4-6bcaa919f3f3.html>

It should be clear from the above list of references that pickleball constitutes a significant change in the acoustic environment of the area surrounding the courts in comparison to tennis and must be planned for accordingly. In particular, the impulsive sound produced by the impact of the hard plastic ball on the paddle can cause significant noise impact for those living near the courts.

Effects of Impulsive Sound

Persistent impulsive sounds create annoyance because they are similar to sounds that contain important information about our environment such as footsteps, a door opening, a tap at the window, or speech. We are sensitive to these types of sounds because they alert us to events occurring nearby that we may need to respond to. Continuous false alarms such as the popping sound created by pickleball paddle impacts make it difficult to relax, concentrate, or sleep soundly without disturbance as each time a pop is heard it draws the attention, creating distraction.

While it is well known that high amplitude acoustical pressures can cause hearing impairment as well as other types injury to the body, lower amplitude sound can also have adverse long term physiological effects. The World Health Organization recognizes that low level noise exposure has measurable health effects.

Sound/noise is a psychosocial stressor that activates the sympathetic and endocrine system. Acute noise effects do not only occur at high sound levels in occupational settings, but also at relatively low environmental sound levels when, more importantly, intended activities such as concentration, relaxation or sleep are disturbed. [WHO p. 61]

The sympathetic nervous system is part of the autonomic nervous system and is involved in the body's fight or flight arousal response. Chronic activation of the sympathetic system leads to stress, fatigue, and anxiety.

In addition to nervous system activation, sleep disturbance from noise can involve difficulty in falling asleep as well as awakenings that occur during sleep. Frequent awakenings lead to sleep fragmentation. This disrupts the normal stages of sleep and may lead to further neurocognitive manifestations not limited to daytime tiredness, loss of concentration, morning confusion, irritability, anxiety, and depression. [WHO p. 48, 26]

Environmental noise also has implications for the cardiovascular system, metabolism, and homeostasis, the ability of the body to regulate itself.

The auditory system is continuously analyzing acoustic information, which is filtered and interpreted by different cortical and subcortical brain structures. The limbic

system, including the hippocampus and the amygdala, plays an important role in the emotional processing pathways. It has a close connection to the hypothalamus that controls the autonomic nervous system and the hormonal balance of the body. Laboratory studies found changes in blood flow, [blood pressure] and heart rate in reaction to noise stimuli as well as increases in the release of stress hormones... Acoustic stimulation may act as an unspecific stressor that arouses the autonomic nervous system and the endocrine system... The arousal of the sympathetic and endocrine system is associated with changes in the physiological functions and the metabolism of the organism, including [blood pressure], cardiac output, blood lipids (cholesterol, triglycerides, free fatty acids, phosphatides), carbohydrates (glucose), electrolytes (magnesium, calcium), blood clotting factors (thrombocyte, aggregation, blood viscosity, leukocyte count) and others. In the long term, functional changes and dysregulation may occur, thus increasing the risk of manifest diseases. [WHO p. 62-63]

The effects of stress can take many forms as seen above. Low level noise exposure that disturbs sleep and concentration are known to produce a range of diagnosable illnesses and disorders.

Assessing the Impulsive Sound of the Pickleball Courts

Based on our experience working with pickleball facilities, courts located within 350 feet of residential properties often require noise abatement. Pickleball court sites within 500 to 600 feet of noise sensitive areas should be reviewed by a qualified acoustical engineer in the site selection phase of the project. The acoustical engineer should be familiar with modern methodologies for assessing highly impulsive sound such as ANSI S12.9 Part 4 or ISO 1996 Part 1. Courts located within 150 feet of homes require careful and often extensive noise abatement design to avoid complaints. I have measured peak sound pressure levels from pickleball courts at a distance of approximately 75 feet exceeding 80 dBA. Recurrent peak sound pressure levels this high present a high level of distraction and noise impact for the occupants of the receiving property.

I have been informed that the planned pickleball court pad at 2732 Meadow Creek Drive is within 20 to 25 feet of the house at 2812 Holiday Ranch Loop Road. Pickleball courts located this close to homes can be expected to produce noise complaints from the adjacent residents and have a significant impact on quality of life. At this distance the pickleball paddle impacts easily penetrate the interior of a home or condominium and will prevent the quiet enjoyment of the residents' use of their living rooms, dining rooms, bedrooms, balconies, patios, and other spaces used for rest, family activities, and activities requiring concentration such as reading.

Applicable Codes and Regulations

Chapter 6-3 of the Park City Municipal Code discusses impulsive sound and annoyance. The code specifies fast time weighting for measuring impulsive sound. This is acceptable for speech and some other types of impulses with slower onset rates, but it should be noted that this setting grossly underestimates the noise impact of sounds produced by impact processes such as pickleball paddles.

Section 6-3-9.C.2 prohibits "any stationary source of sound which emits a pure tone, cyclically varying or repetitive impulsive sound which creates a noise disturbance." A noise disturbance is defined in Section 6-3-1 as,

Any sound that annoys or disturbs a reasonable person(s) with normal sensitivities or that injures or endangers the comfort, repose, health, hearing, peace, or safety of another person(s).

The definition refers to annoyance as a metric for noise assessment in addition to the maximum permissible sound levels described in Section 6-3-9.A. The use of the term, annoyance, can be traced back to the work of Schultz and other researchers in the 1960s and 1970s [Schultz, 1978] and is the basis of federal standards for transportation noise assessment. Current standards for noise assessment in regard to annoyance for impulsive sound are based on the adjusted sound exposure level and include ANSI S12.9 Part 4 and ISO 1996 Part 1. The fast time weighting measurement methodology of the Park City Code does not correlate well with community response to impulsive sounds with sudden onset rate and short duration such as impact processes, including pickleball paddle impacts, and should not be relied on for noise assessment in this application.

Based on our experience in creating noise abatement plans for pickleball facilities using the methodology in ANSI S12.9 for assessment of the annoyance of pickleball paddles, the placement of this court is much closer to other residential land uses than we would recommend and would not satisfy the requirements in Section 6-3-9.C.2 of the Code over the specified 10 minute period.

Noise Abatement Treatments

Mitigation of the sound from the pickleball court is complicated by the short buffer distance and two story construction of the house at 2812 Holiday Ranch Loop Road. Sound walls are a common abatement treatment used for pickleball courts. In order, however, for a sound wall to be effective in attenuating sound it must be high enough to block the line of sight to the players on the court including paddles. Figure 2 shows the view from the second floor window

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overlooking the pickleball court pad which is already under construction. As can be seen, a very high wall would be needed to shield the upper level windows of the house from the view of the paddles which radiate the popping sound. The sound wall must block the line of sight to the paddles regardless of the type of equipment used on the court.



Figure 2. View of Pickleball Court Pad from Upper Level Window

Such a wall is not, however, practical to build at this location. If a sound wall will not work for mitigation, a full enclosure will be needed in the form of a building to house the pickleball court. The walls and roof should have no penetrations facing the neighbors.

Conclusions

The addition of pickleball to a neighborhood represents a significant change in the amount of sound entering the surrounding area in comparison to other common recreational activities. This must be carefully planned for.

Based on over 10 years of experience with pickleball noise abatement, Spendiarian & Willis does not recommend this location for an open air pickleball court as being compatible with adjacent residential land uses. Given the insufficient buffer distance, close proximity to homes on multiple sides, and our experience at similar pickleball sites, a noise abatement plan involving a sound wall system will not provide sufficient mitigation at this location. Further, photos taken from the upper level window of the nearest receiving property show that the close proximity of the court and height of the second floor rooms will make an effective sound wall system infeasible. In order for a sound wall to be effective it must block the line of sight from sound sources to the receiving property including upper level windows. An effective noise abatement plan is likely to require the construction of a building with a roof to contain the impulsive sound power levels produced by pickleball.

The use of foam balls will reduce the need for noise abatement; however, given that a sound wall is infeasible for the site, this will not be enough to comply with the noise code. In practice, it has been our observation that enforcement of the use of specific equipment such as foam balls is difficult to ensure.

In summary, Spendiarian & Willis does not recommend the installation of a private, open air pickleball court due to the difficulties in creating an effective noise abatement plan for this site.

regards,



R. Lance Willis, PhD
Principle Acoustical Engineer

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ISO 1996-1, *Acoustics - Description, measurement and assessment of environmental noise - Part 1: Basic quantities and assessment procedures*, International Organization for Standardization (ISO), 2016.

Schultz, T. J., "Synthesis of Social Surveys on Noise Annoyance," *Journal of the Acoustical Society of America* v. 64, pp. 377-405, 1978.

World Health Organization, Night Noise Guidelines for Europe, <http://www.euro.who.int>, 2009.

Wintzer

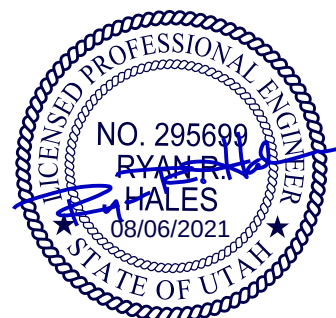
Traffic Impact Study



Park City, Utah

August 6, 2021

UT21-1940



EXECUTIVE SUMMARY

This study addresses the traffic impacts associated with Phase I of the proposed Wintzer development located in Park City, Utah. The Wintzer development is located on the north side of Iron Horse Drive to the southeast of the bend at Homestake Road.

The purpose of this traffic impact study is to analyze traffic operations at key intersections for existing (2021) and future (2026) conditions with and without the proposed project and to recommend mitigation measures as needed. The evening peak hour level of service (LOS) results are shown in Table ES-1. Recommended storage lengths are shown in Table ES-2.

Table ES-1: Evening Peak Hour Level of Service Results

Intersection		Level of Service													
		Existing (2021)						Future (2026)							
		Background		Plus Project				Background				Plus Project			
		AM	PM	AM		PM		AM		PM		AM		PM	
		-	-	w/o Link	w/ Link	w/o Link	w/ Link	w/o Mit	w/ Mit	w/o Mit	w/ Mit	w/o Link	w/ Link	w/o Link	w/ Link
1	Homestake Road / S.R. 224	c	e	c	d	e	d	d	d	f	f	d	d	f	e
2	Iron Horse Drive / S.R. 224	c	f	c	c	d	e	c	c	d	f	d	d	d	e
3	S-4 & N-5 (West Access) / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
4	S-3 & N-4 / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
5	S-2 & N-3 / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
6	N-2 / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
7	S-1 / Iron Horse Drive	a	a	a	a	a	a	a	a	a	a	a	a	a	a
8	N-1 / Iron Horse Drive	a	c	a	a	a	d	a	a	c	a	a	a	a	a
9	Iron Horse Drive / Bonanza Drive	c	f	c	c	f	f	c	A	f	A	A	A	A	A
10	East Access / Bonanza Drive	b	c	b	b	c	c	c	b	d	c	c	c	c	c
11	Bonanza Drive / Kearns Boulevard (S.R. 248)	C	D	C	C	D	D	C	C	E	C	C	C	C	C
12	West Access / Homestake Drive	-	-	-	a	-	a	-	-	-	-	-	a	-	a
Note: "w/o Mit" refers to the scenario without mitigations and "Mit" refers to the scenario with mitigations															

Note: "w/o Mit" refers to the scenario without mitigations and "Mit" refers to the scenario with mitigations

Table ES-2: Recommended Storage Length

Intersection		Recommended Storage Lengths (feet)															
		Northeast-bound				Southeast-bound				Southwest-bound				Northwest-bound			
		LT		RT		LT		RT		LT		RT		LT		RT	
		E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
11	Bonanza Drive / Kearns Boulevard (S.R. 248)	-	-	-	225	-	-	-	-	100	325	-	-	-	-	-	-

1. Storage lengths are based on 2040 95th percentile queue lengths and do not include required deceleration / taper distances

2. E = Existing storage length (approximate), if applicable; P = proposed storage length for new turn lanes or changes to existing turn lanes, if applicable

Source: Hales Engineering, August 2021

SUMMARY OF KEY FINDINGS & RECOMMENDATIONS

Project Conditions

- The development will consist of multifamily residential units, office and retail space, and a restaurant.
- The project is anticipated to generate approximately 582 weekday daily trips, including 35 trips in the morning peak hour, and 51 trips in the evening peak hour

2021	Background	Plus Project
Assumptions	• None	• Scenarios with and without link between Iron Horse Dr and Homestake Rd analyzed ◦ In the scenario with the link, some background traffic volumes were rerouted through it • Traffic volumes from existing buildings on the project site were removed from the roadway network
Findings	• Poor LOS at Homestake Rd / S.R. 224, Iron Horse Dr / S.R. 224, and Iron Horse Dr / Bonanza Dr intersections • Excessive queueing at the Bonanza Dr / Kearns Blvd (S.R. 248) intersection	• Poor LOS at Homestake Rd / S.R. 224, Iron Horse Dr / S.R. 224, and Iron Horse Dr / Bonanza Dr intersections
Mitigations	• Bonanza Dr / Kearns Blvd (S.R. 248): Install SWB dual left-turn lanes per UDOT's preferred alternative ◦ This will require a second receiving lane, which is shown as ending as a left-turn trap at Prospector Ave	• None
2026	Background	Plus Project
Findings	• Poor LOS at Homestake Rd / S.R. 224, Iron Horse Dr / Bonanza Dr, and Bonanza Dr / Kearns Blvd (S.R. 248) intersections	• Poor LOS at Homestake Rd / S.R. 224 and Iron Horse Dr / S.R. 224 intersections
Mitigations	• Bonanza Dr / Kearns Blvd (S.R. 248): Install NWB free right-turn and NEB right-turn pocket per UDOT's preferred alternative ◦ It is also recommended that this signal be coordinated • Kearns Blvd (S.R. 248): Extend 5-lane cross-section past current bottleneck at Sidewinder Dr per UDOT's preferred alternative • Iron Horse Dr / Bonanza Dr: Signalize	• None

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I. INTRODUCTION

A. Purpose

This study addresses the traffic impacts associated with Phase I of the proposed Wintzer development located in Park City, Utah. The proposed project is located on the north side of Iron Horse Drive to the southeast of the bend at Homestake Road. Figure 1 shows a vicinity map of the proposed development.

The purpose of this traffic impact study is to analyze traffic operations at key intersections for existing (2021) and future (2026) conditions with and without the proposed project and to recommend mitigation measures as needed.

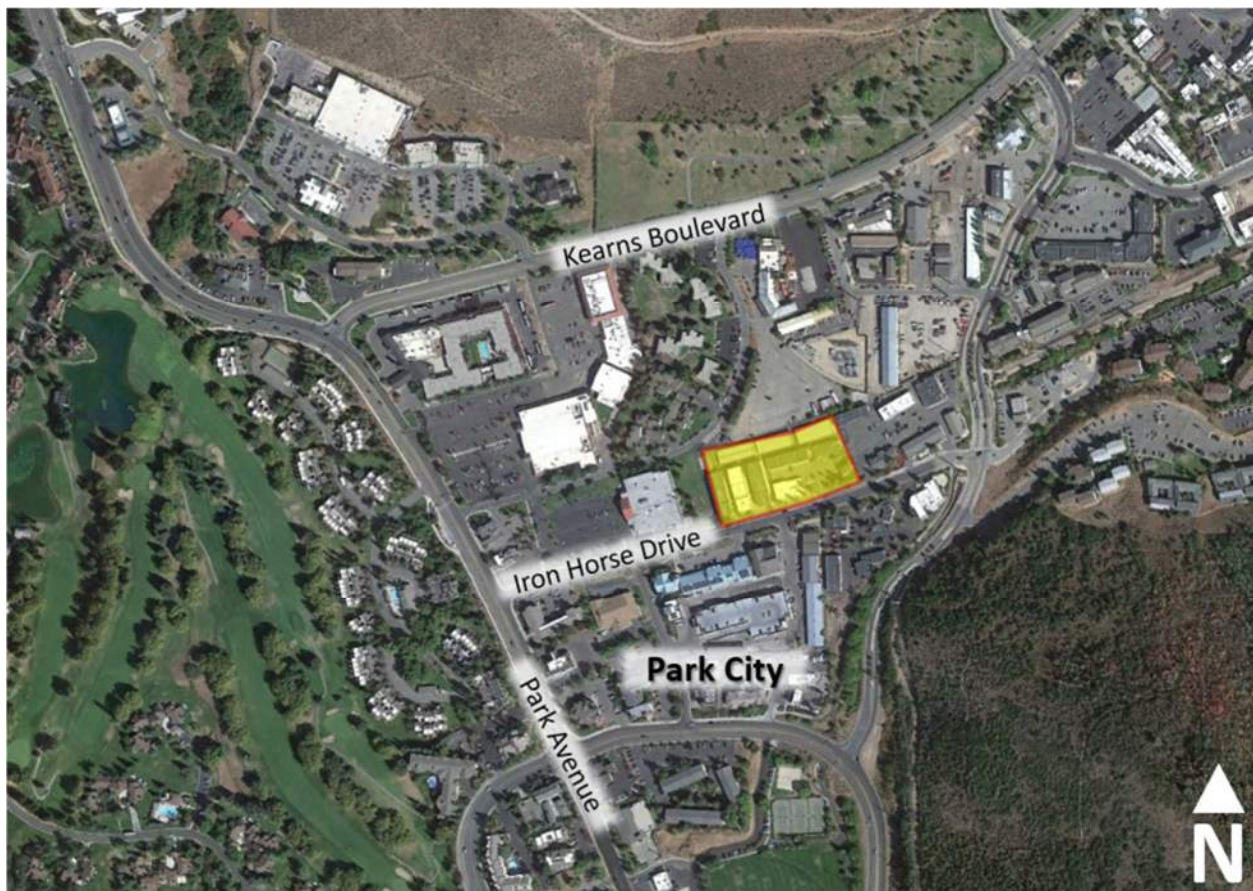


Figure 1: Vicinity map showing the project location in Park City, Utah

B. Scope

The study area was defined based on conversations with the development team. This study was scoped to evaluate the traffic operational performance impacts of the project on the following intersections:

- Homestake Road / S.R. 224
- Iron Horse Drive / S.R. 224
- Accesses along Iron Horse Drive between project and Bonanza Drive
- Iron Horse Drive / Bonanza Drive
- East Access / Bonanza Drive
- Bonanza Drive / Kearns Boulevard (S.R. 248)

C. Analysis Methodology

Level of service (LOS) is a term that describes the operating performance of an intersection or roadway. LOS is measured quantitatively and reported on a scale from A to F, with A representing the best performance and F the worst. Table 1 provides a brief description of each LOS letter designation and an accompanying average delay per vehicle for both signalized and unsignalized intersections.

The *Highway Capacity Manual* (HCM), 6th Edition, 2016 methodology was used in this study to remain consistent with “state-of-the-practice” professional standards. This methodology has different quantitative evaluations for signalized and unsignalized intersections. For signalized, roundabout, and all-way stop-controlled (AWSC) intersections, the LOS is provided for the overall intersection (weighted average of all approach delays). For all other unsignalized intersections, LOS is reported based on the worst movement.

Using Synchro/SimTraffic software, which follow the HCM methodology, the peak hour LOS was computed for each study intersection. Multiple runs of SimTraffic were used to provide a statistical evaluation of the interaction between the intersections. The detailed LOS reports are provided in Appendix B. Hales Engineering also calculated the 95th percentile queue lengths for the study intersections using SimTraffic. The detailed queue length reports are provided in Appendix D.

D. Level of Service Standards

For the purposes of this study, a minimum acceptable intersection performance for each of the study intersections was set at LOS D. If levels of service E or F conditions exist, an explanation and/or mitigation measures will be presented. A LOS D threshold is consistent with “state-of-the-practice” traffic engineering principles for urbanized areas.

Table 1: Level of Service Description

LOS		Description of Traffic Conditions	Average Delay (seconds/vehicle)	
			Signalized Intersections	Unsignalized Intersections
A		Free Flow / Insignificant Delay	≤ 10	≤ 10
B		Stable Operations / Minimum Delays	> 10 to 20	> 10 to 15
C		Stable Operations / Acceptable Delays	> 20 to 35	> 15 to 25
D		Approaching Unstable Flows / Tolerable Delays	> 35 to 55	> 25 to 35
E		Unstable Operations / Significant Delays	> 55 to 80	> 35 to 50
F		Forced Flows / Unpredictable Flows / Excessive Delays	> 80	> 50

Source: Hales Engineering Descriptions, based on the *Highway Capacity Manual* (HCM), 6th Edition, 2016 Methodology (Transportation Research Board)

II. EXISTING (2021) BACKGROUND CONDITIONS

A. Purpose

The purpose of the background analysis is to study the intersections and roadways during the peak travel periods of the day with background traffic and geometric conditions. Through this analysis, background traffic operational deficiencies can be identified, and potential mitigation measures recommended. This analysis provides a baseline condition that may be compared to the build conditions to identify the impacts of the development.

B. Roadway System

The primary roadways that will provide access to the project site are described below:

Iron Horse Drive – is a city-maintained roadway which is classified by the Park City Transportation Master Plan (October 2011) as a “commercial collector.” The roadway has one travel lane in each direction. The posted speed limit is 25 mph in the study area.

Homestake Road – is a city-maintained roadway which is classified as a local street. The roadway has one travel lane in each direction. The posted speed limit is 25 mph in the study area.

C. Traffic Volumes

Weekday morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak period traffic counts were performed at the following intersections:

- Homestake Road / S.R. 224
- Iron Horse Drive / S.R. 224
- Accesses along Iron Horse Drive between project and Bonanza Drive
- Iron Horse Drive / Bonanza Drive
- East Access / Bonanza Drive
- Bonanza Drive / Kearns Boulevard (S.R. 248)

The counts were performed on Tuesday, June 29, 2021, Thursday, July 22, 2021, and Thursday, July 29, 2021. The morning peak hour was determined to be between 8:00 and 9:00 a.m., and the evening peak hour was determined to be between 4:30 and 5:30 p.m. Detailed count data are included in Appendix A.

Hales Engineering considered the possibility of seasonal adjustments to the observed traffic volumes. Monthly traffic volume data were obtained from a nearby UDOT automatic traffic recorder (ATR) on S.R. 224 (ATR #605). In recent years, traffic volumes in June have been on par with average traffic volumes and July volumes have been equal to approximately 110% of average traffic volumes. July volumes are on par with winter volumes. For this reason, no seasonal adjustments were made.

The traffic counts were collected during the COVID-19 pandemic when traffic volumes were slightly reduced in some areas due to social distancing measures. According to the UDOT COVID-19 Data Reporting website, the traffic volumes in June and July 2021 in Summit County were higher than volumes in June and July 2019. Therefore, no adjustments were made.

For the purposes of the modeling software, it was necessary to consolidate some of the low volume accesses near the project that are spaced closely together. These accesses are numbered and designated an “N” or an “S” depending whether they are on the north or south side of Iron Horse Drive.

Figure 2 and Figure 3 show the existing morning and evening peak hour volumes as well as intersection geometry at the study intersections.

D. Level of Service Analysis

Hales Engineering determined that the Homestake Road / S.R. 224, Iron Horse Drive / S.R. 224, and Iron Horse Drive / Bonanza Drive intersections are currently operating at poor levels of service during the evening peak hour, as shown in Table 2. These results serve as a baseline condition for the impact analysis of the proposed development during existing (2021) conditions.

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Significant 95th percentile queue lengths during the evening peak hour are summarized as follows:

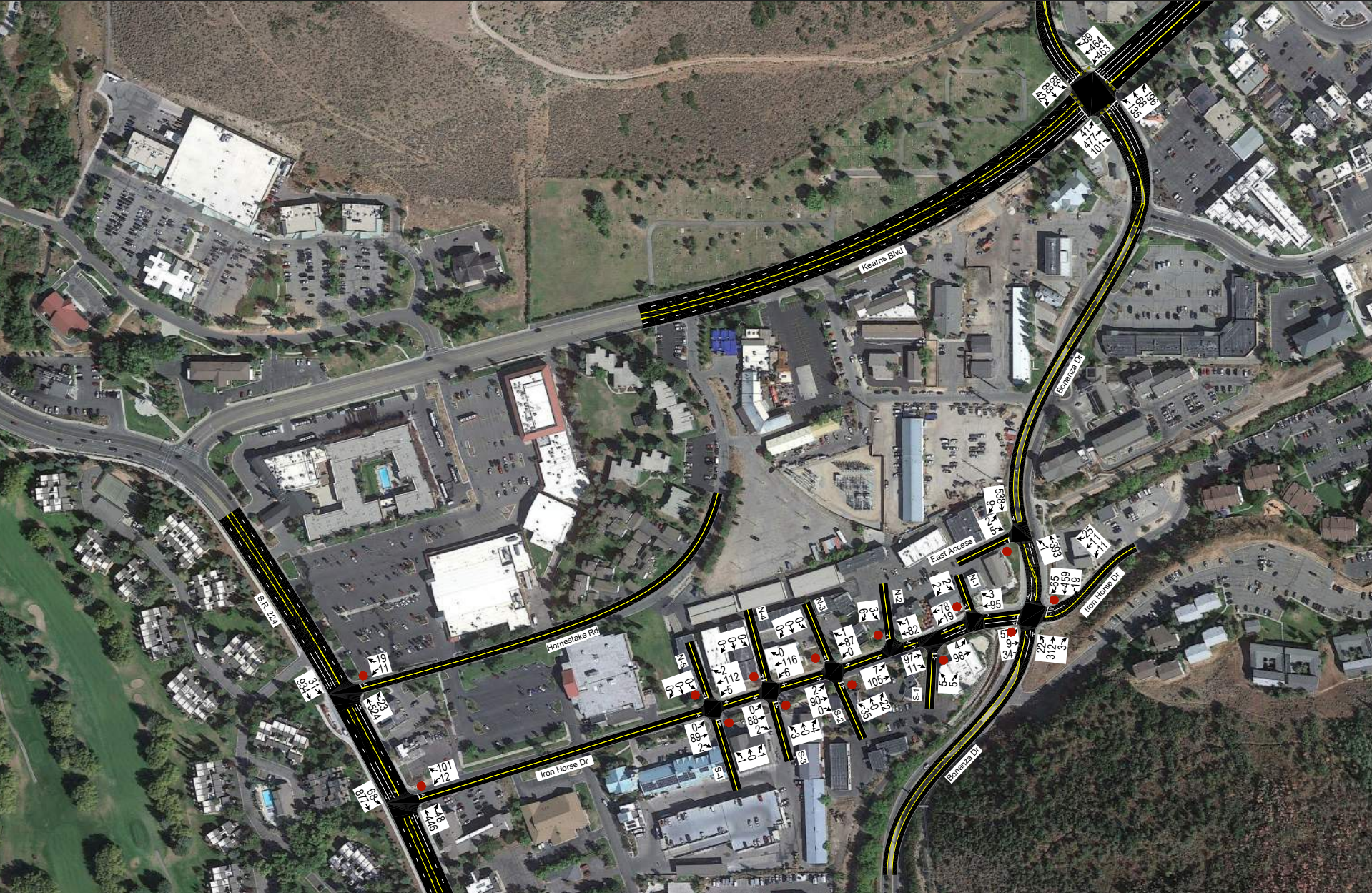
- Bonanza Dr / Kearns Blvd (S.R. 248):
 - Northeast-bound: 600 feet
 - Northwest-bound: >1,000 feet

F. Mitigation Measures

According to the UDOT environmental assessment for S.R. 248, the alternative listed as “preferred” shows significant improvements at the Bonanza Drive / Kearns Boulevard (S.R. 248) intersection. Based on the improvements listed in this alternative, it is recommended that dual left-turn lanes be installed on the southwest-bound approach to mitigate the excessive queueing, which are currently warranted according to UDOT left-turn guidelines. This will require a second receiving lane on Bonanza Drive, which is planned to be carried through as a trap left-turn lane at Prospector Avenue. This improvement will allow more green time to be allocated to other movements.

With the proposed improvement, it is anticipated that the queueing at the Bonanza Drive / Kearns Boulevard (S.R. 248) intersection will reduce to 550 feet on the northeast-bound approach and 300 feet on the northwest-bound approach.

Signalization is not recommended on any of the intersections with a poor LOS, either because they do not meet warrants for a signal or because they are located too close to an existing signalized intersection. Drivers will learn to adapt and reroute.



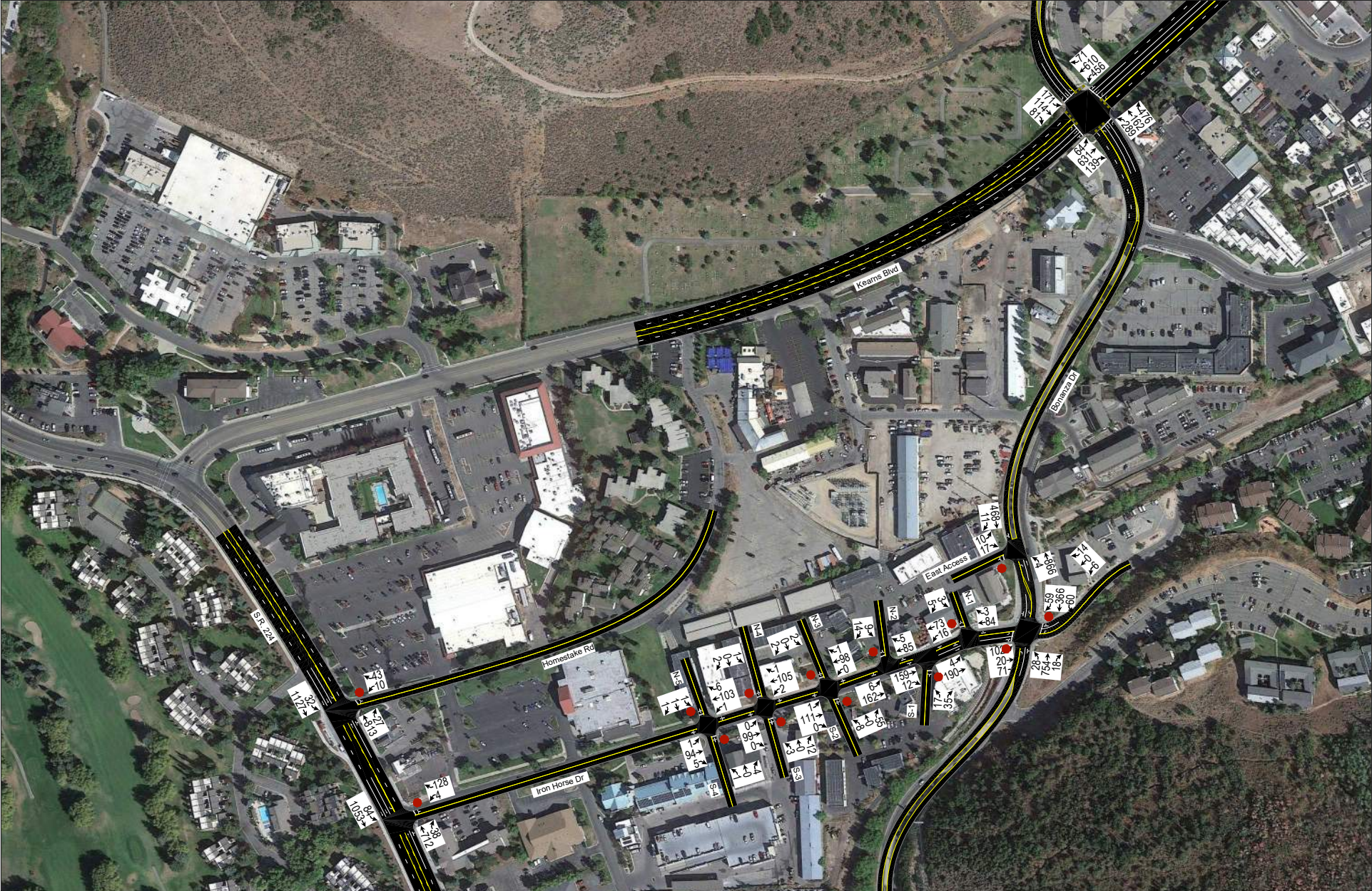


Table 2: Existing (2021) Background Peak Hour LOS

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	c (22.5) / WBL	e (40.2) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (21.5) / WBL	f (>50) / WBL
S-4 & N-5 / Iron Horse Drive	NB/SB Stop	a (2.2) / NBR	a (5.1) / SBT
S-3 & N-4 / Iron Horse Drive	NB/SB Stop	a (5.1) / NBL	a (3.9) / NBL
S-2 & N-3 / Iron Horse Drive	NB/SB Stop	a (4.7) / NBL	a (5.0) / SBL
N-2 / Iron Horse Drive	SB Stop	a (4.1) / SBL	a (7.0) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.5) / NBL	a (9.8) / NBR
N-1 / Iron Horse Drive	SB Stop	a (4.5) / SBL	c (21.2) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	c (17.0) / EBL	f (>50) / EBL
East Access / Bonanza Drive	EB Stop	b (12.8) / EBL	c (21.0) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (23.3)	D (46.0)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

III. PROJECT CONDITIONS

A. Purpose

The project conditions discussion explains the type and intensity of development. This provides the basis for trip generation, distribution, and assignment of project trips to the surrounding study intersections defined in Chapter I.

B. Project Description

Phase I of the proposed Wintzer development is located on the north side of Iron Horse Drive to the southeast of the bend at Homestake Road. The development will consist of residential multifamily units, office space, commercial / retail space, and a restaurant. A concept plan for the proposed development is provided in Appendix C. The proposed land use for the development has been identified in Table 3.

Table 3: Project Land Uses

Land Use	Intensity
Multifamily housing	58 Units
Office	2,152 sq. ft.
Restaurant	2,992 sq. ft.
Commercial / Retail	2,152 sq. ft.

C. Trip Generation

Trip generation for the development was calculated using trip generation rates published in the Institute of Transportation Engineers (ITE), *Trip Generation*, 10th Edition, 2017. Because of the mixed-use nature of the development, internal capture reductions were made as it is likely several trips will be made via walking internal to the development. These reductions were calculated using standard ITE methodology and reductions of 5% and 30% were produced for the morning and evening peak hours, respectively. To be conservative, the evening peak hour internal capture was reduced to 25% for this analysis. There is currently a Park City transit route that runs near the project on Bonanza Drive, and the project itself has potential for a bus stop. To be conservative, no transit reductions were made to the trip generation. Trip generation for the proposed project is included in Table 4.

The total new trip generation for the development is as follows:

- Daily Trips: 582
- Morning Peak Hour Trips: 35
- Evening Peak Hour Trips: 51

Table 4: Trip Generation

Trip Generation Park City - Wintzer TIS											
Weekday Daily Land Use ¹	# of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Internal Capture	New Trips Entering	New Trips Exiting	Total New Daily Trips
Multifamily Housing (Mid-Rise) (221)	58	Dwelling Units	316	50%	50%	158	158	15%	134	134	268
Quality Restuaruant (931)	3.0	1,000 Sq. Ft. GFA	252	50%	50%	126	126	15%	107	107	214
Shopping Center (820)	2.2	1,000 Sq. Ft. GLA	82	50%	50%	41	41	15%	35	35	70
Small Office Building (712)	2.2	1,000 Sq. Ft. GLA	36	50%	50%	18	18	15%	15	15	30
Total			686			343	343		291	291	582
Morning Peak Hour Land Use ¹	# of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Internal Capture	New Trips Entering	New Trips Exiting	Total New AM Trips
Multifamily Housing (Mid-Rise) (221)	58	Dwelling Units	22	26%	74%	6	16	5%	6	15	21
Quality Restuaruant (931)	3.0	1,000 Sq. Ft. GFA	4	50%	50%	2	2	5%	2	2	4
Shopping Center (820)	2.2	1,000 Sq. Ft. GLA	4	62%	38%	2	2	5%	2	2	4
Small Office Building (712)	2.2	1,000 Sq. Ft. GLA	6	83%	17%	5	1	5%	5	1	6
Total			36			15	21		15	20	35
Evening Peak Hour Land Use ¹	# of Units	Unit Type	Trip Generation	% Entering	% Exiting	Trips Entering	Trips Exiting	Internal Capture	New Trips Entering	New Trips Exiting	Total New PM Trips
Multifamily Housing (Mid-Rise) (221)	58	Dwelling Units	26	61%	39%	16	10	25%	12	8	20
Quality Restuaruant (931)	3.0	1,000 Sq. Ft. GFA	24	67%	33%	16	8	25%	12	6	18
Shopping Center (820)	2.2	1,000 Sq. Ft. GLA	10	48%	52%	5	5	25%	4	4	8
Small Office Building (712)	2.2	1,000 Sq. Ft. GLA	6	32%	68%	2	4	25%	2	3	5
Total			66			39	27		30	21	51

1. Land Use Code from the Institute of Transportation Engineers (ITE) *Trip Generation*, 10th Edition, 2017.

SOURCE: Hales Engineering, July 2021

D. Trip Distribution and Assignment

Project traffic is assigned to the roadway network based on the type of trip and the proximity of project access points to major streets, high population densities, and regional trip attractions. Existing travel patterns observed during data collection also provide helpful guidance to establishing these distribution percentages, especially near the site. The resulting distribution of project generated trips during the evening peak hour is shown in Table 5.

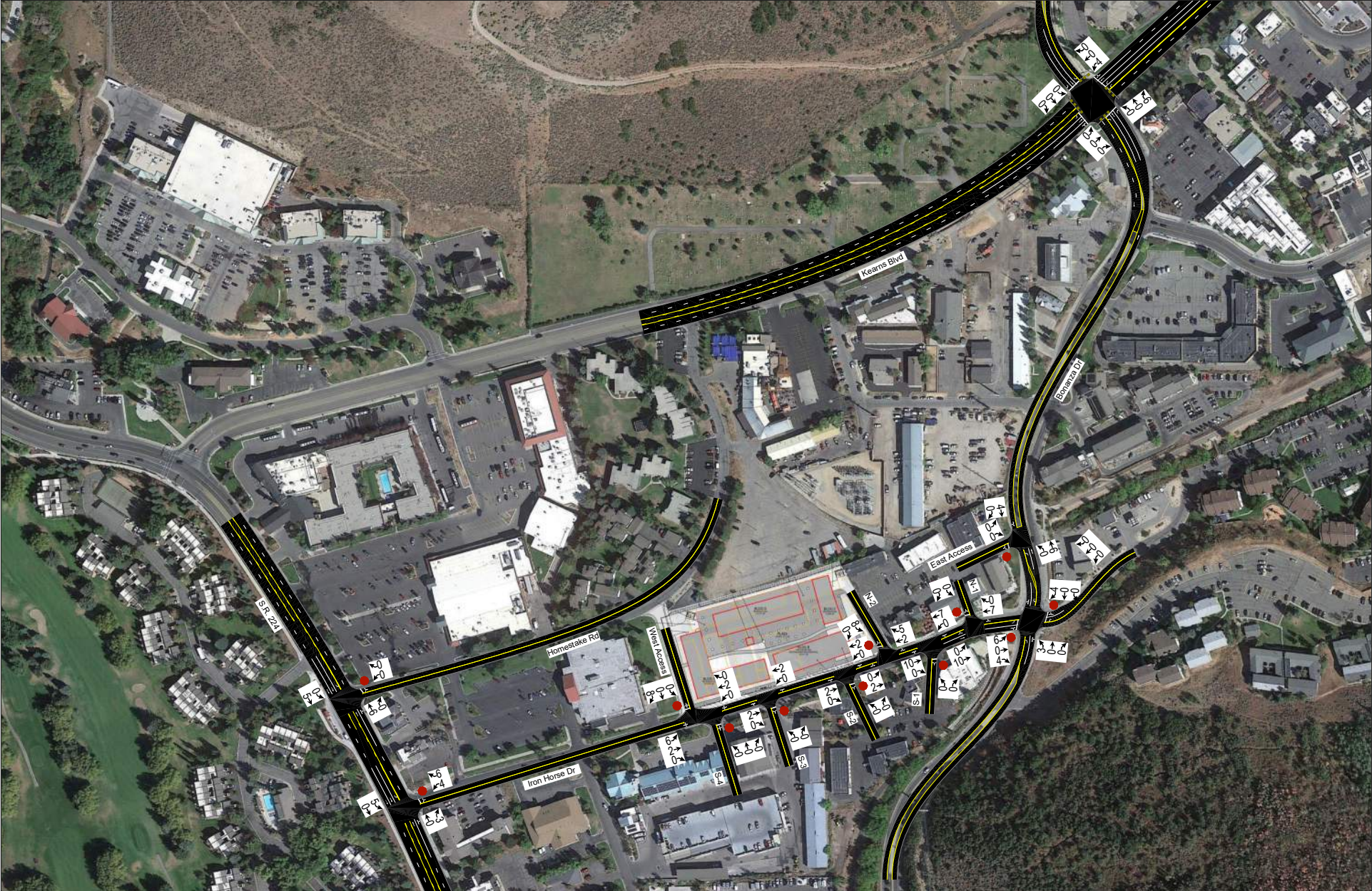
Table 5: Trip Distribution

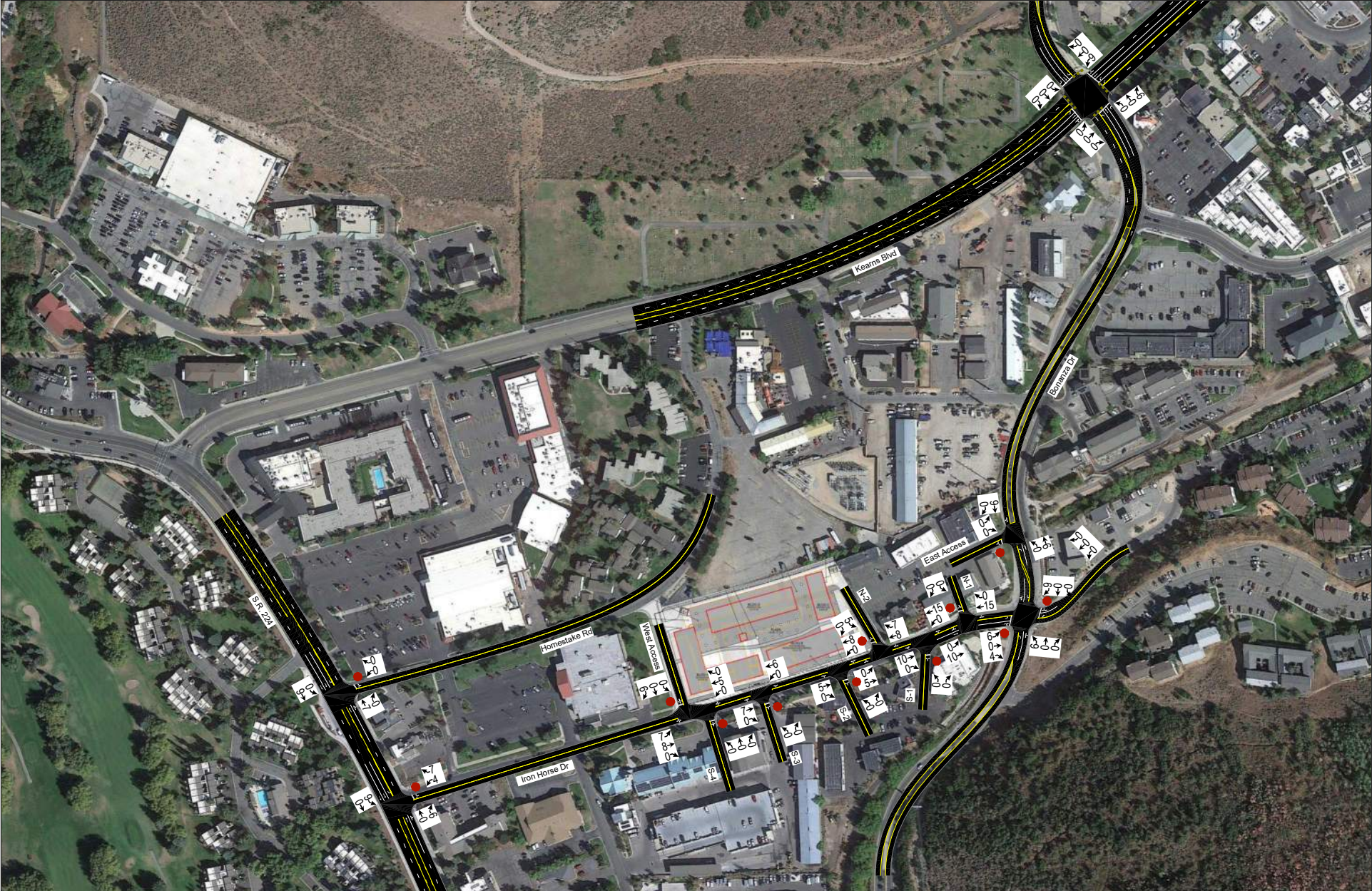
Direction	% To/From Project
North (S.R. 224)	30%
East (S.R. 248)	30%
South (S.R. 224)	20%
South (Bonanza)	20%

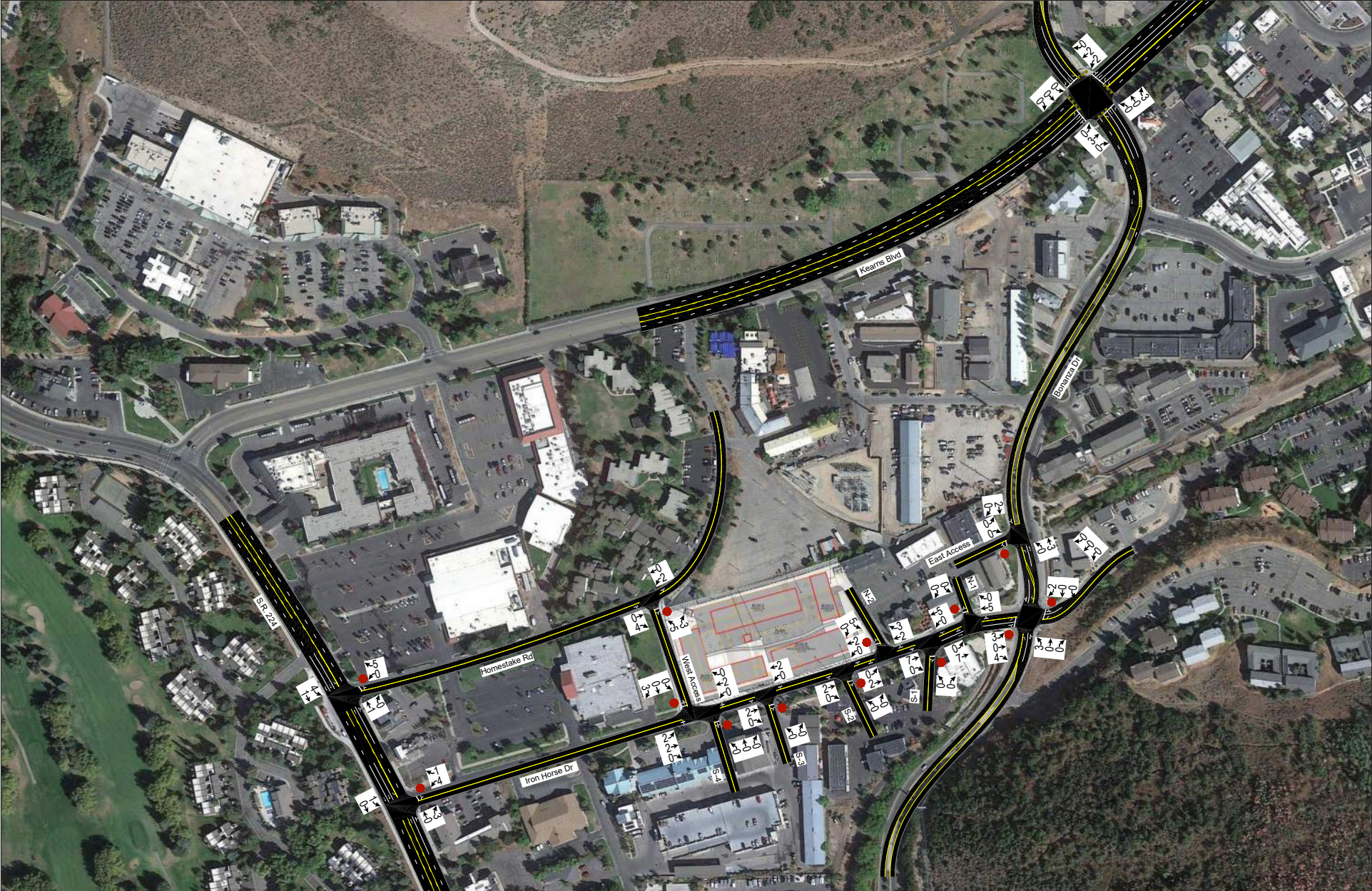
These trip distribution assumptions were used to assign the morning and evening peak hour generated traffic at the study intersections to create trip assignment for the proposed development. Two separate scenarios were analyzed within the existing and future plus project

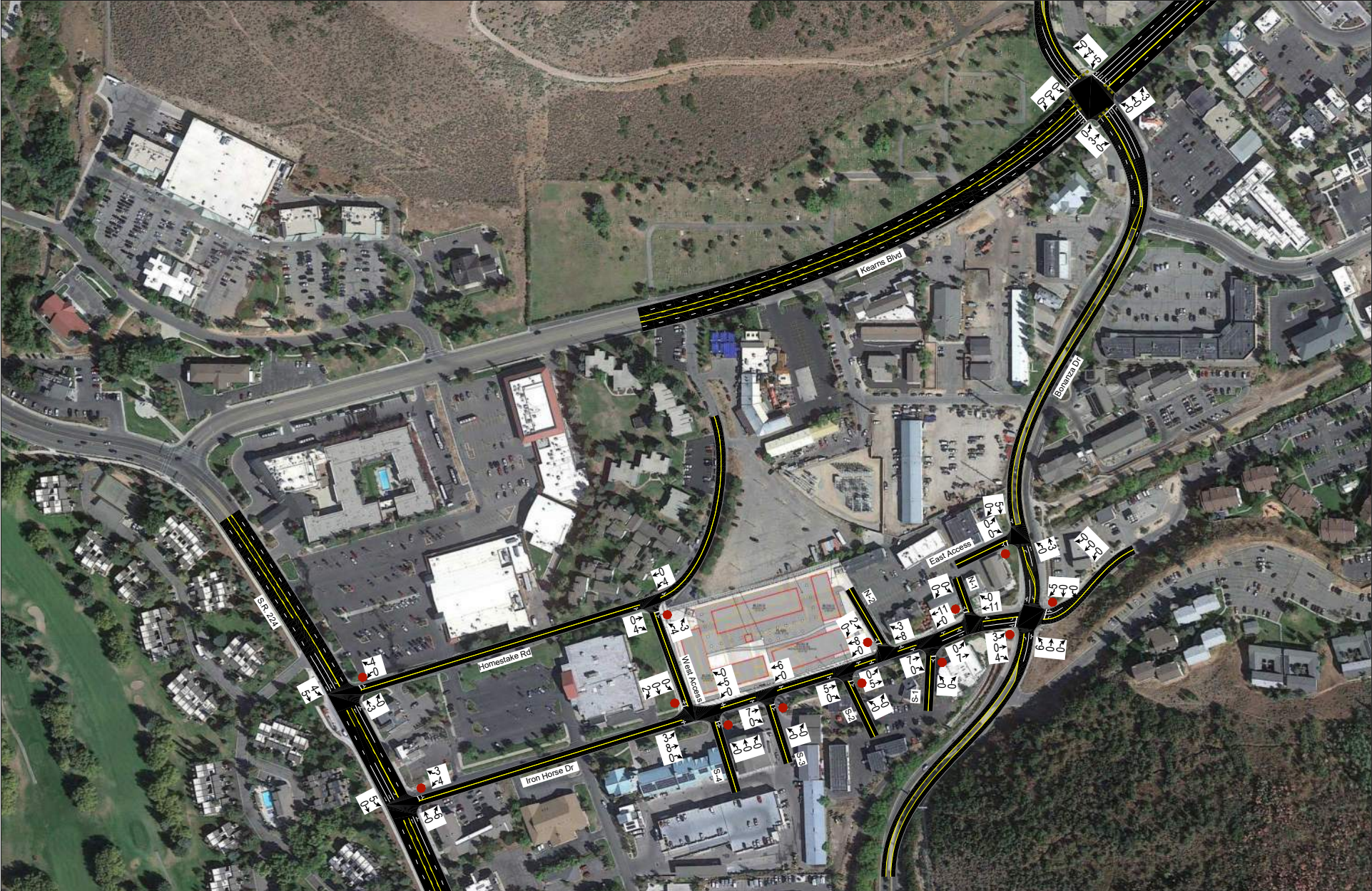
conditions as a link between Homestake Road and Iron Horse Drive is being planned along the west edge of the project.

Trip assignment for the development with the existing roadway configuration is shown in Figure 4 and Figure 5 and trip assignment with the new link is shown in Figure 6 and Figure 7. It was assumed that the retail and restaurant trips will utilize the on-street parking in front of the development rather than the project access points. The office and residential land uses were assumed to use the access points. The medians shown on Iron Horse Drive in the site plan were not included in the analysis due to conflicts with the accesses on the south side. If these medians are eventually installed, the project accesses in this area are likely to perform even better; however, the islands will need to be strategically placed.









E. Access

The proposed access for the site will be gained at the following locations (see also concept plan in Appendix C):

Iron Horse Drive:

- The access on the eastern edge of the property will take the place of the access in the figures labeled “N-2.” It is anticipated that the adjacent property to the east will have use of this access as well. It is anticipated that the access will be stop-controlled.
- The West Access will be located approximately 730 feet east of the Iron Horse Drive / S.R. 224 intersection. It will access the project on the north side of Iron Horse Drive. It is anticipated that the access will be stop-controlled.

Homestake Road:

- The West Access is anticipated to continue perpendicularly from its intersection with Iron Horse Drive along the property boundary and connect with Homestake Road. Scenarios with and without this connection were analyzed to demonstrate its effects. It is anticipated that the access will be stop-controlled.

IV. EXISTING (2021) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the existing (2021) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for existing background traffic and geometric conditions plus the net trips generated by the proposed development both with and without the proposed link between Iron Horse Drive and Homestake Road at the west end of the property. This scenario provides valuable insight into the potential impacts of the proposed project on background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the existing (2021) background traffic volumes to predict turning movement volumes for existing (2021) plus project conditions. Trips from the existing accesses at the project site were removed from the model. It was assumed that the adjacent property to the east would have an easement to the access on the east edge of the project property, so these trips remained at N-2.

In the scenario with the added link between Iron Horse Drive and Homestake Road, 15 background trips during the morning peak hour and 20 trips during the evening peak hour were rerouted through this link. It was assumed that these trips would mostly comprise of vehicles traveling between Fresh Market or the condos on Homestake Road and Deer Valley. Existing (2021) plus project morning and evening peak hour turning movement volumes are shown in Figure 8 through Figure 11.

C. Level of Service Analysis

Hales Engineering determined that the Iron Horse Drive / Bonanza Drive intersection is anticipated to operate at a poor LOS during the evening peak hour with project traffic added, both with and without the link to Homestake Road, as shown in Table 6 and Table 7. The Homestake Road / S.R. 224 intersection is anticipated to perform at a poor LOS without the link and the Iron Horse Dr / S.R. 224 intersection is anticipated to perform at a poor LOS with the link. Any slight improvement in delay is most likely due to the randomness introduced by the average of the simulation runs or the rerouting of traffic.

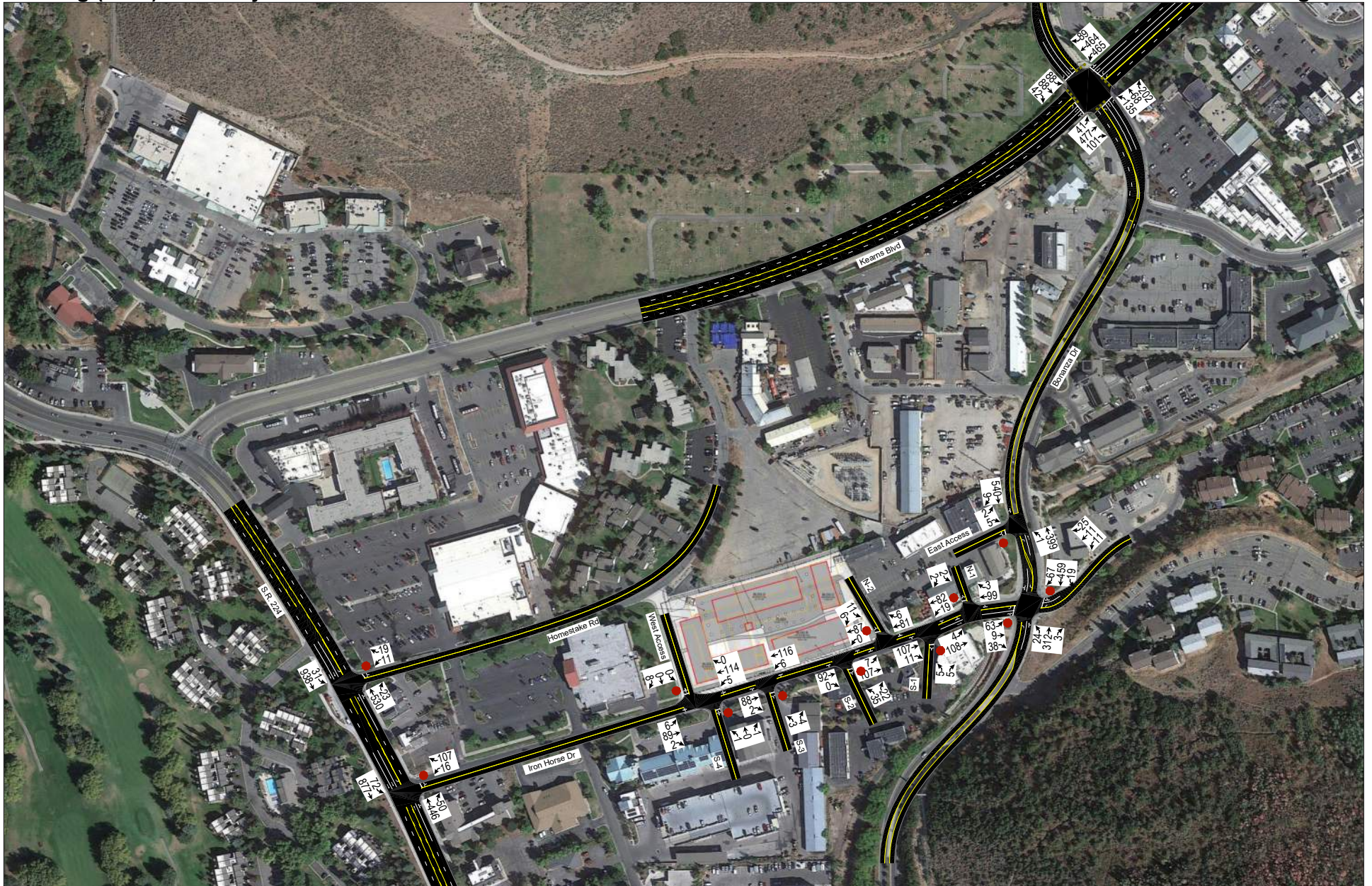
D. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Significant 95th percentile queue lengths during the evening peak hour are summarized as follows:

- Bonanza Drive / Kearns Boulevard (S.R. 248):
 - Northeast-bound: 625 feet with link, 725 feet without link
 - Southwest-bound: 525 feet without link (not significant with link)

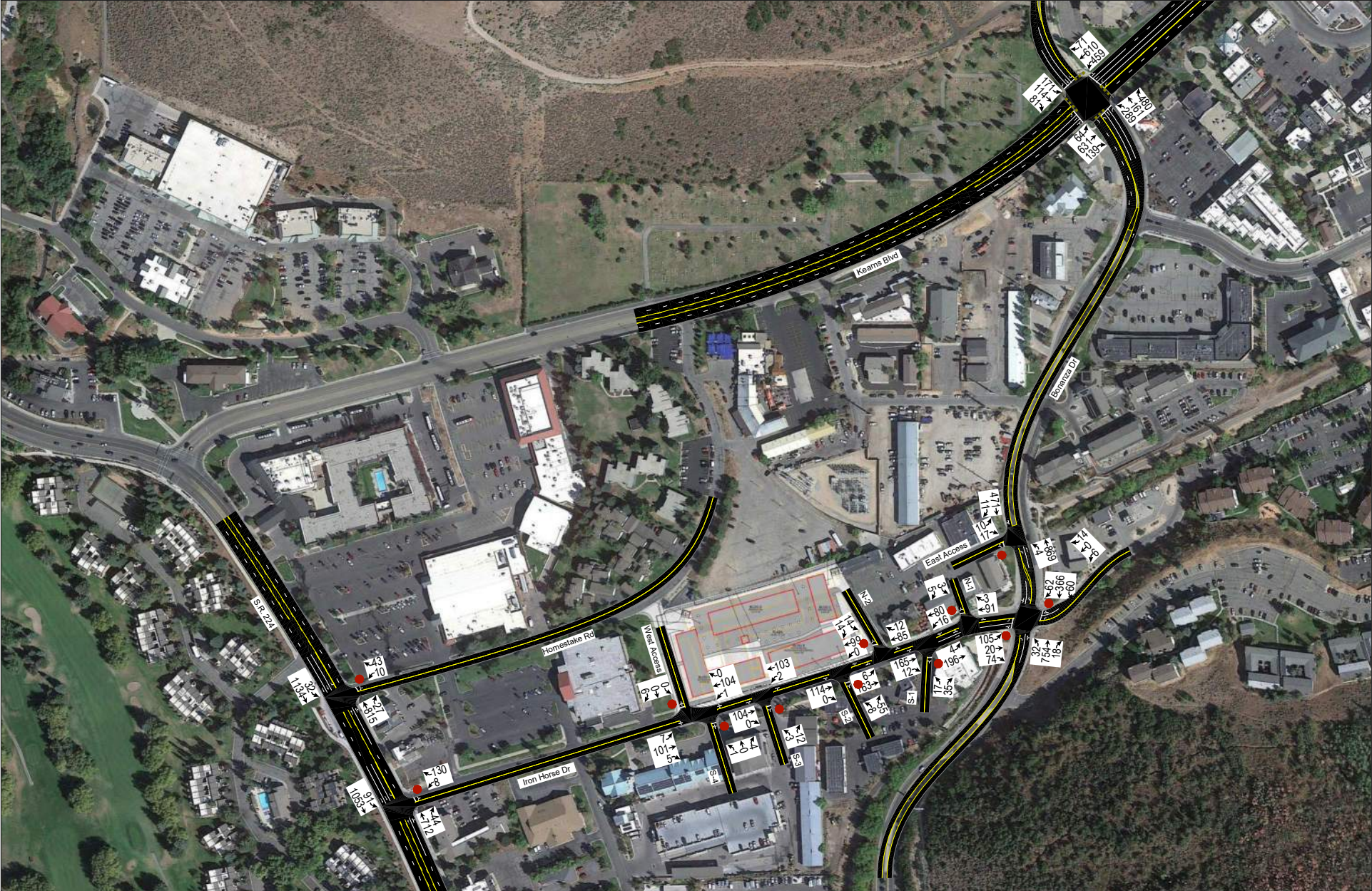
E. Mitigation Measures

No mitigation measures are recommended.



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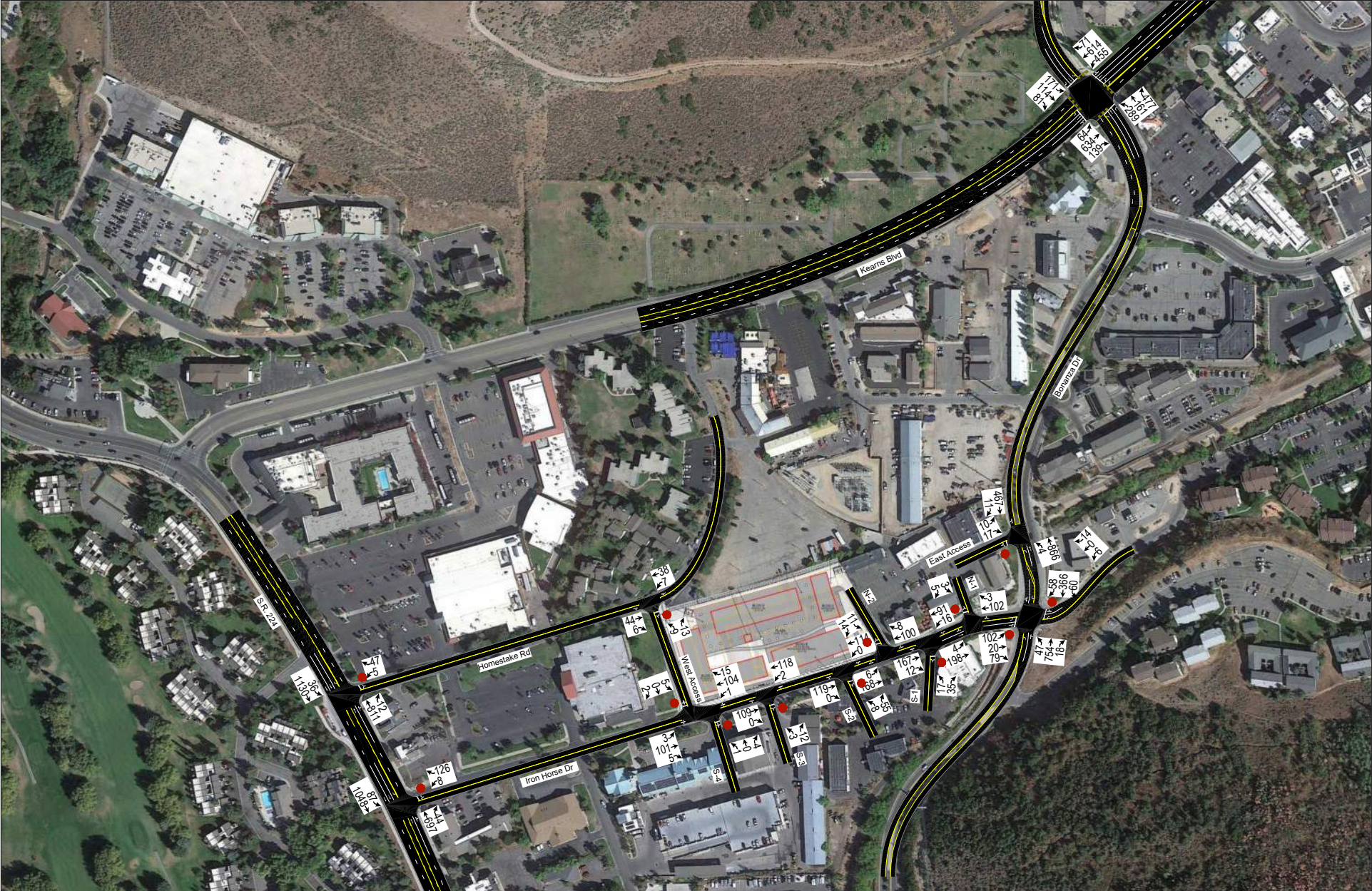


Table 6: Existing (2021) Plus Project Peak Hour LOS (Without Link)

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	c (21.5) / WBL	e (48.9) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (22) / WBL	d (33) / WBL
S-4 & West Access / Iron Horse Drive	NB/SB Stop	a (5.2) / NBL	a (3.4) / SBR
S-3 / Iron Horse Drive	NB/SB Stop	a (4.2) / NBL	a (5.6) / NBL
S-2 / Iron Horse Drive	NB/SB Stop	a (4.5) / NBL	a (4.5) / NBL
N-2 / Iron Horse Drive	SB Stop	a (4.4) / SBL	a (4.7) / SBL
S-1 / Iron Horse Drive	NB Stop	a (3.9) / NBL	a (5.4) / NBL
N-1 / Iron Horse Drive	SB Stop	a (3.5) / SBL	a (7.2) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	c (16.1) / WBT	f (>50) / EBL
East Access / Bonanza Drive	EB Stop	b (12.2) / EBL	c (18.3) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (26.4)	D (51.9)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

Table 7: Existing (2021) Plus Project Peak Hour LOS (With Link)

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (25.4) / WBL	d (31.4) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (20.5) / WBL	e (41.5) / WBL
S-4 & West Access / Iron Horse Drive	NB/SB Stop	a (7.1) / SBL	a (6.2) / SBL
S-3 / Iron Horse Drive	NB/SB Stop	a (5.2) / NBL	a (5) / NBL
S-2 / Iron Horse Drive	NB/SB Stop	a (4.6) / NBL	a (4.7) / NBL
N-2 / Iron Horse Drive	SB Stop	a (5.0) / SBL	a (5.5) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.7) / NBL	a (4.8) / NBL
N-1 / Iron Horse Drive	SB Stop	a (4.6) / SBL	d (31.5) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	c (16.8) / EBL	f (>50) / EBL
East Access / Bonanza Drive	EB Stop	b (14.9) / EBL	c (22.3) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (24.5)	D (45.6)
West Access / Homestake Road	NB Stop	a (4.1) / NBL	a (4.3) / NBL

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

V. FUTURE (2026) BACKGROUND CONDITIONS

A. Purpose

The purpose of the future (2026) background analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions. Through this analysis, future background traffic operational deficiencies can be identified, and potential mitigation measures recommended.

B. Roadway Network

According to the Wasatch Front Regional Council (WFRC) Regional Transportation Plan, there are no projects planned before 2026 in the study area. Therefore, no changes were made to the roadway network for the future (2026) analysis.

C. Traffic Volumes

Hales Engineering obtained future (2026) forecasted volumes from the Summit / Wasatch County travel demand model. Peak period turning movement counts were estimated using National Cooperative Highway Research Program (NCHRP) 255 methodologies which utilize existing peak period turn volumes and future average weekday daily traffic (AWDT) volumes to project the future turn volumes at the major intersections. Future (2026) morning and evening peak hour turning movement volumes are shown in Figure 12 and Figure 13.

D. Level of Service Analysis

Hales Engineering determined that the Homestake Road / S.R. 224, Iron Horse Drive / Bonanza Drive, and Bonanza Drive / Kearns Boulevard (S.R. 248) intersections are anticipated to operate at poor levels of service during the evening peak hour in future (2026) background conditions, as shown in Table 8. These results serve as a baseline condition for the impact analysis of the proposed development for future (2026) conditions.

E. Queuing Analysis

Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. Significant 95th percentile queue lengths during the evening peak hour are summarized as follows:

- Bonanza Dr / Kearns Blvd:
 - Northeast-bound: 975 feet
 - Southwest-bound: 550 feet

F. Mitigation Measures

At the Bonanza Drive / Kearns Boulevard (S.R. 248) intersection, the 5-lane cross-section on S.R. 248 will need to be extended to the east. Additionally, a free right-turn should be installed on the northwest-bound approach and a right-turn pocket should be installed on the northeast-bound approach. These improvements are included in the “preferred alternative” of the UDOT environmental assessment for S.R. 248. Additionally, the signal at this intersection should be coordinated.

It is anticipated that a signal will be warranted at the Iron Horse Drive / Bonanza Drive intersection, and it is recommended that one be installed.

With the proposed improvements, it is anticipated that the Iron Horse Drive / Bonanza Drive and Bonanza Drive / Kearns Boulevard (S.R. 248) intersections will perform at acceptable levels of service, as shown in Table 9.



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Table 8: Future (2026) Background Peak Hour LOS

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (28.4) / WBL	f (>50) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (21.6) / WBL	d (32.3) / WBL
S-4 & N-5 / Iron Horse Drive	NB/SB Stop	a (1.9) / NBR	a (4.3) / SBT
S-3 & N-4 / Iron Horse Drive	NB/SB Stop	a (4.9) / NBL	a (3.8) / NBL
S-2 & N-3 / Iron Horse Drive	NB/SB Stop	a (4.9) / NBL	a (5.4) / NBL
N-2 / Iron Horse Drive	SB Stop	a (5.0) / SBL	a (4.8) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.8) / NBL	a (5.4) / NBL
N-1 / Iron Horse Drive	SB Stop	a (3.0) / SBR	c (17.2) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	c (17.9) / EBL	f (>50) / EBL
East Access / Bonanza Drive	EB Stop	c (20.8) / EBL	d (31.8) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (29.4)	E (63.2)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

Table 9: Mitigated Future (2026) Background Peak Hour LOS

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (29) / WBL	f (>50) / WBL
Iron Horse Drive / S.R. 224	WB Stop	c (22.9) / WBL	f (>50) / WBL
S-4 & N-5 / Iron Horse Drive	NB/SB Stop	a (4.0) / NBL	a (5.3) / SBT
S-3 & N-4 / Iron Horse Drive	NB/SB Stop	a (5.3) / NBL	a (4.2) / NBL
S-2 & N-3 / Iron Horse Drive	NB/SB Stop	a (4.7) / NBL	a (4.9) / NBL
N-2 / Iron Horse Drive	SB Stop	a (5.1) / SBL	a (4.7) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.6) / NBL	a (5.9) / NBL
N-1 / Iron Horse Drive	SB Stop	a (3.5) / SBL	a (4.1) / SBL
Iron Horse Drive / Bonanza Drive	EB Stop	A (8.1)	A (9.6)
East Access / Bonanza Drive	EB Stop	b (11.1) / EBL	c (21.9) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (23.9)	C (29.0)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

VI. FUTURE (2026) PLUS PROJECT CONDITIONS

A. Purpose

The purpose of the future (2026) plus project analysis is to study the intersections and roadways during the peak travel periods of the day for future background traffic and geometric conditions plus the net trips generated by the proposed development. This scenario provides valuable insight into the potential impacts of the proposed project on future background traffic conditions.

B. Traffic Volumes

Hales Engineering added the project trips discussed in Chapter III to the future (2026) background traffic volumes to predict turning movement volumes for future (2026) plus project conditions. Future (2026) plus project morning and evening peak hour turning movement volumes are shown in Figure 14 through Figure 17.

C. Level of Service Analysis

Hales Engineering determined that the Homestake Road / S.R. 224 intersection is anticipated to operate at a poor LOS during the evening peak hour in future (2026) plus project conditions with and without the link, as shown in Table 10 and Table 11. The Iron Horse Drive / S.R. 224 intersection is anticipated to operate at a poor LOS with the link.

D. Queuing Analysis

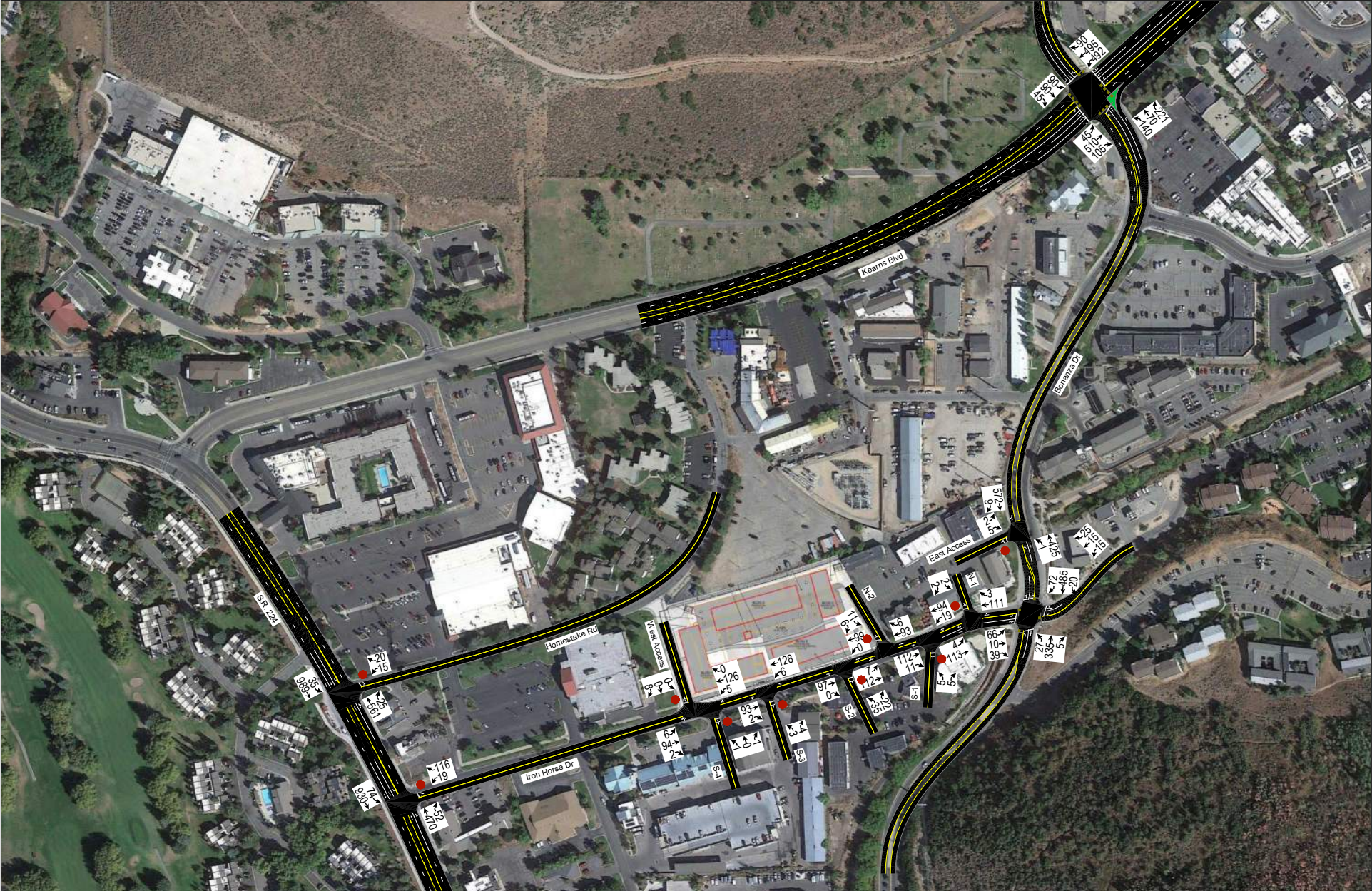
Hales Engineering calculated the 95th percentile queue lengths for each of the study intersections. No significant queueing was observed during the evening peak hour.

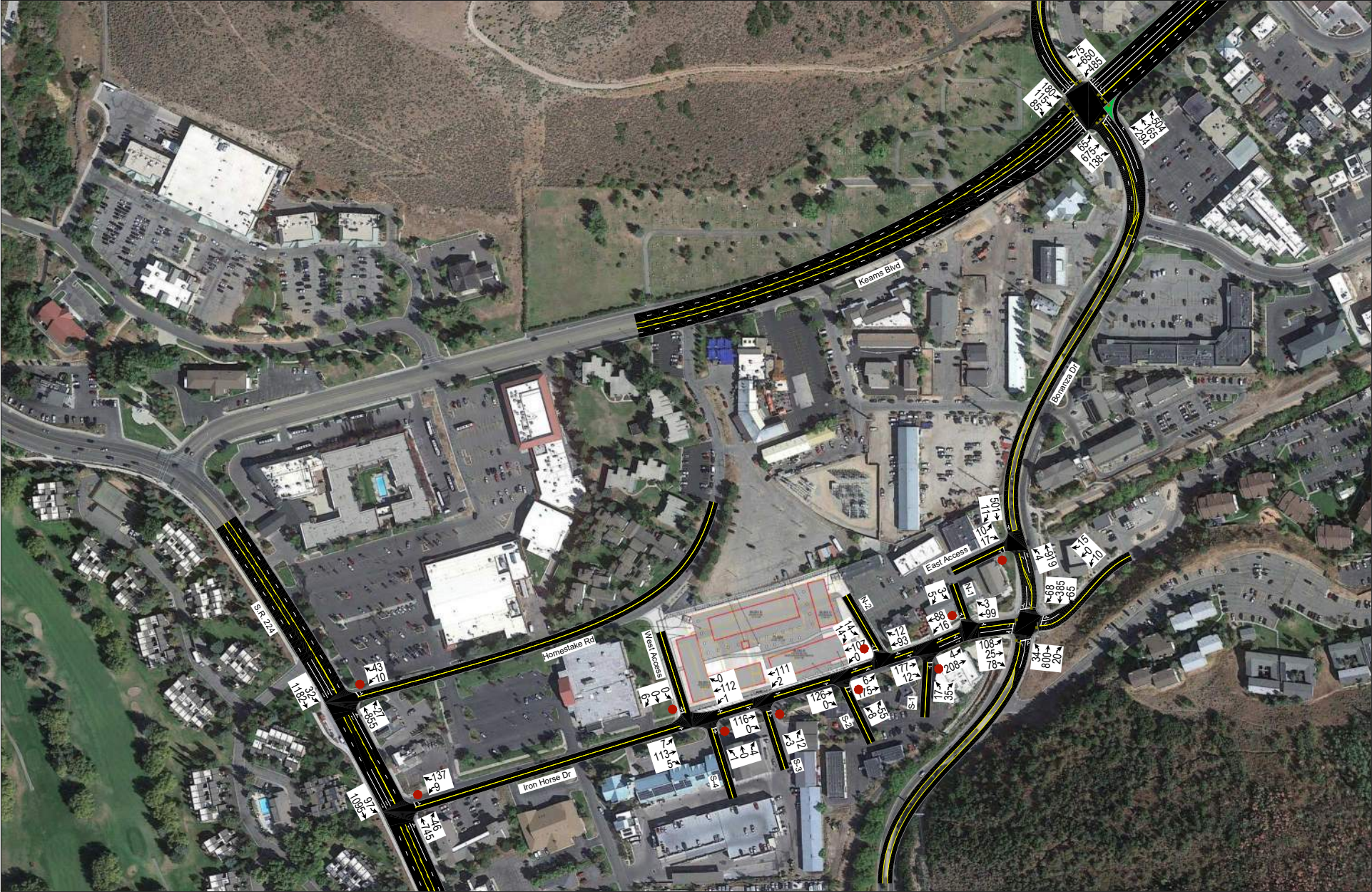
E. Mitigation Measures

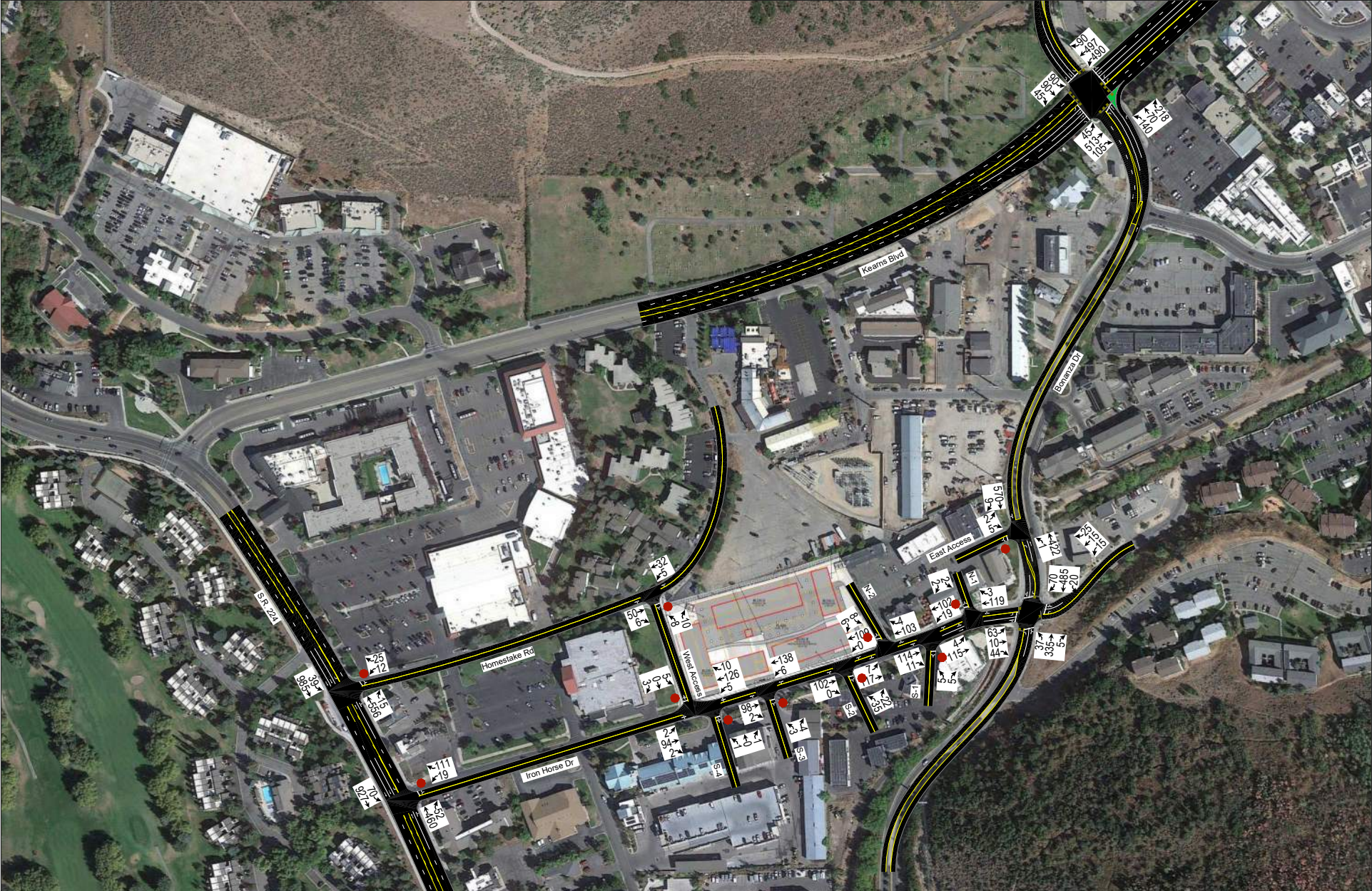
No mitigation measures are recommended.

F. Recommended Storage Lengths

Hales Engineering determined recommended storage lengths based on the 95th percentile queue lengths given in the future (2040) plus project scenario. These storage lengths do not include the taper length. Recommended storage lengths for the study intersections are shown in Table 12. Intersections shown in Table 12 include new intersections and existing intersections that have recommended storage length changes.







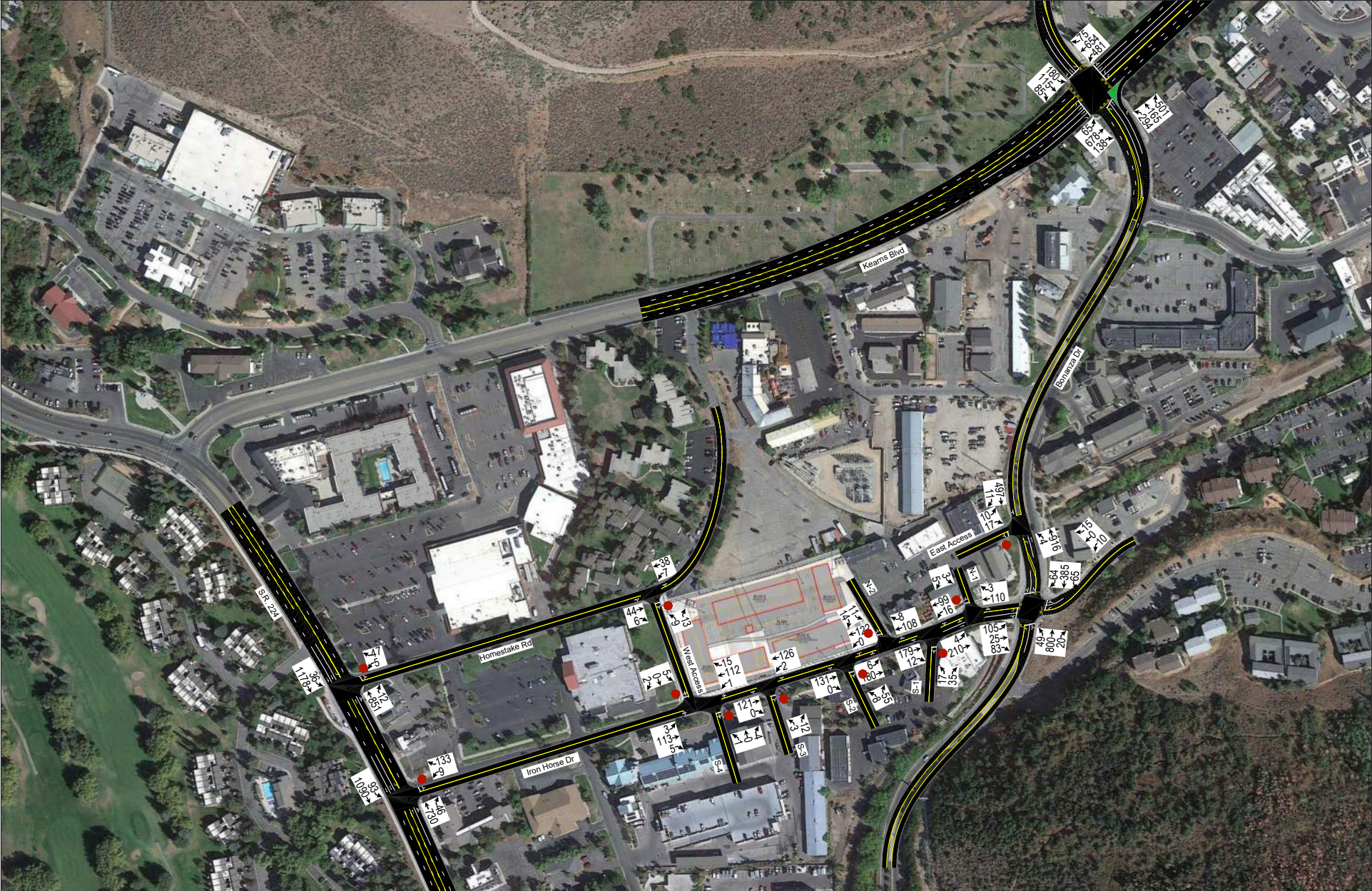


Table 10: Future (2026) Plus Project Peak Hour LOS (Without Link)

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (25.6) / WBL	f (>50) / WBL
Iron Horse Drive / S.R. 224	WB Stop	d (26.8) / WBL	d (33.6) / WBL
S-4 & West Access / Iron Horse Drive	NB/SB Stop	a (3.3) / SBR	a (3.5) / SBR
S-3 / Iron Horse Drive	NB/SB Stop	a (5.6) / NBL	a (4.9) / NBL
S-2 / Iron Horse Drive	NB/SB Stop	a (4.5) / NBL	a (4.1) / NBL
N-2 / Iron Horse Drive	SB Stop	a (4.0) / SBL	a (4.8) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.6) / NBL	a (5.7) / NBL
N-1 / Iron Horse Drive	SB Stop	a (8.7) / SBL	a (8.1) / SBL
Iron Horse Drive / Bonanza Drive	Signal	A (7.6)	A (10.0)
East Access / Bonanza Drive	EB Stop	c (23.8) / EBL	c (20.4) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (24.6)	C (28.9)

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

Table 11: Future (2026) Plus Project Peak Hour LOS (With Link)

Intersection		LOS (Sec. Delay / Veh.) / Movement ¹	
Description	Control	Morning Peak	Evening Peak
Homestake Road / S.R. 224	WB Stop	d (28.2) / WBL	e (39.1) / WBL
Iron Horse Drive / S.R. 224	WB Stop	d (28.3) / WBL	e (35.9) / WBL
S-4 & West Access / Iron Horse Drive	NB/SB Stop	a (5.8) / SBL	a (5.6) / SBL
S-3 / Iron Horse Drive	NB/SB Stop	a (5.1) / NBL	a (4.3) / NBL
S-2 / Iron Horse Drive	NB/SB Stop	a (4.6) / NBL	a (4.7) / NBL
N-2 / Iron Horse Drive	SB Stop	a (4.6) / SBL	a (4.9) / SBL
S-1 / Iron Horse Drive	NB Stop	a (4.6) / NBL	a (5.3) / NBL
N-1 / Iron Horse Drive	SB Stop	a (6.7) / SBL	a (6.1) / SBL
Iron Horse Drive / Bonanza Drive	Signal	A (7.9)	A (9.9)
East Access / Bonanza Drive	EB Stop	c (15.7) / EBL	c (20.3) / EBL
Bonanza Drive / Kearns Boulevard (S.R. 248)	Signal	C (23.2)	C (28.3)
West Access / Homestake Drive	NB Stop	a (4.1) / NBL	a (3.9) / NBL

1. Movement indicated for unsignalized intersections where delay and LOS represents worst movement. SBL = Southbound left movement, etc.

2. Uppercase LOS used for signalized, roundabout, and AWSC intersections. Lowercase LOS used for all other unsignalized intersections.

Source: Hales Engineering, August 2021

Table 12: Recommended Storage Lengths

Intersection		Recommended Storage Lengths (feet)															
		Northeast-bound				Southeast-bound				Southwest-bound				Northwest-bound			
		LT		RT		LT		RT		LT		RT		LT		RT	
		E	P	E	P	E	P	E	P	E	P	E	P	E	P	E	P
11	Bonanza Drive / Kearns Boulevard (S.R. 248)	-	-	-	225	-	-	-	-	100	325	-	-	-	-	-	-

1. Storage lengths are based on 2040 95th percentile queue lengths and do not include required deceleration / taper distances

2. E = Existing storage length (approximate), if applicable; P = proposed storage length for new turn lanes or changes to existing turn lanes, if applicable

Source: Hales Engineering, August 2021

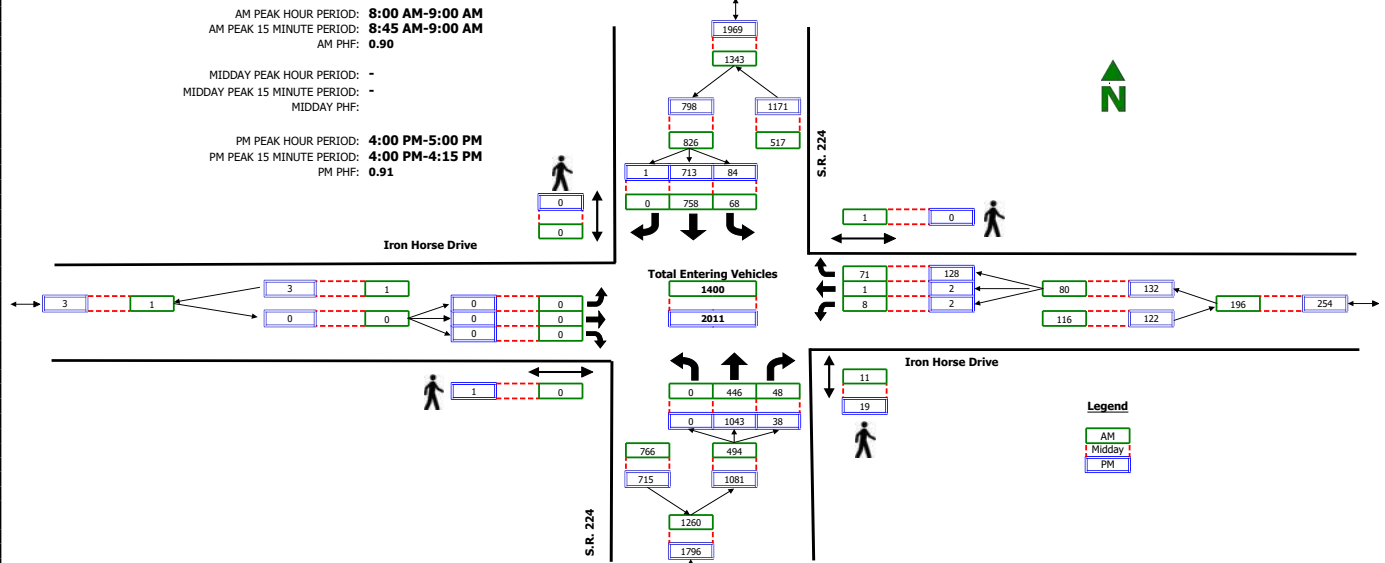
APPENDIX A

Turning Movement Counts

Intersection Turning Movement Summary

Intersection: S.R. 224 / Iron Horse Drive
North/South: S.R. 224
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0



RAW COUNT SUMMARIES	S.R. 224 Northbound				S.R. 224 Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	47	6	1	10	84	0	0	0	0	0	0	3	0	11	5	161
7:15 - 7:30	0	60	9	3	11	117	0	0	0	0	0	0	1	0	16	0	214
7:30 - 7:45	0	64	3	2	17	148	0	0	0	0	0	0	4	2	14	0	252
7:45 - 8:00	0	76	7	1	23	143	0	0	0	0	0	0	4	1	22	0	276
8:00 - 8:15	0	89	14	5	10	189	0	0	0	0	0	0	2	0	13	0	317
8:15 - 8:30	0	100	12	4	18	173	0	0	0	0	0	0	2	0	11	0	316
8:30 - 8:45	0	122	8	0	15	206	0	0	0	0	0	0	2	1	26	0	380
8:45 - 9:00	0	135	14	2	25	190	0	0	0	0	0	0	2	0	21	1	387
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	265	8	4	32	202	0	0	0	0	0	1	1	1	42	0	551
16:15 - 16:30	0	251	9	5	18	149	1	0	0	0	0	0	0	0	32	0	460
16:30 - 16:45	0	275	12	8	17	188	0	0	0	0	0	0	0	0	26	0	518
16:45 - 17:00	0	252	9	2	17	174	0	0	0	0	0	0	1	1	28	0	482
17:00 - 17:15	0	207	9	1	13	116	0	0	0	0	0	0	2	0	32	0	379
17:15 - 17:30	0	169	4	8	18	89	0	0	0	0	0	0	0	0	24	0	304
17:30 - 17:45	0	220	5	12	16	153	0	0	0	0	0	0	0	3	19	0	416
17:45 - 18:00	0	166	1	5	15	126	0	0	0	0	0	0	0	0	28	0	336

Intersection Turning Movement Summary

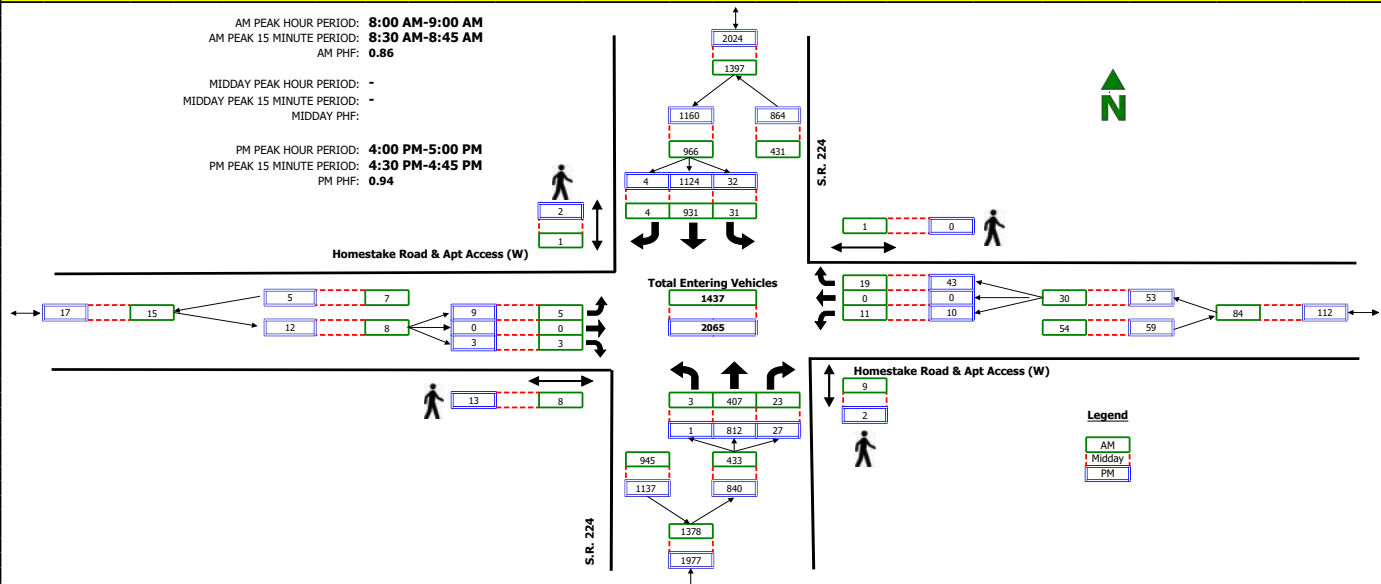
Intersection: S.R. 224 / Homestake Road & Apt Access (W)
 North/South: S.R. 224
 East/West: Homestake Road & Apt Access (W)
 Jurisdiction: Park City
 Project Title: Wintzer TIS
 Project No: UT21-1940
 Weather: Clear

Date: 6-29-21, Tue
 Day of Week Adjustment: 100.0%
 Month of Year Adjustment: 100.0%
 Adjustment Station #: 0
 Growth Rate: 0.0%
 Number of Years: 0

AM PEAK HOUR PERIOD: 8:00 AM-9:00 AM
 AM PEAK 15 MINUTE PERIOD: 8:30 AM-8:45 AM
 AM PHF: 0.86

MIDDAY PEAK HOUR PERIOD: -
 MIDDAY PEAK 15 MINUTE PERIOD: -
 MIDDAY PHF: -

PM PEAK HOUR PERIOD: 4:00 PM-5:00 PM
 PM PEAK 15 MINUTE PERIOD: 4:30 PM-4:45 PM
 PM PHF: 0.94

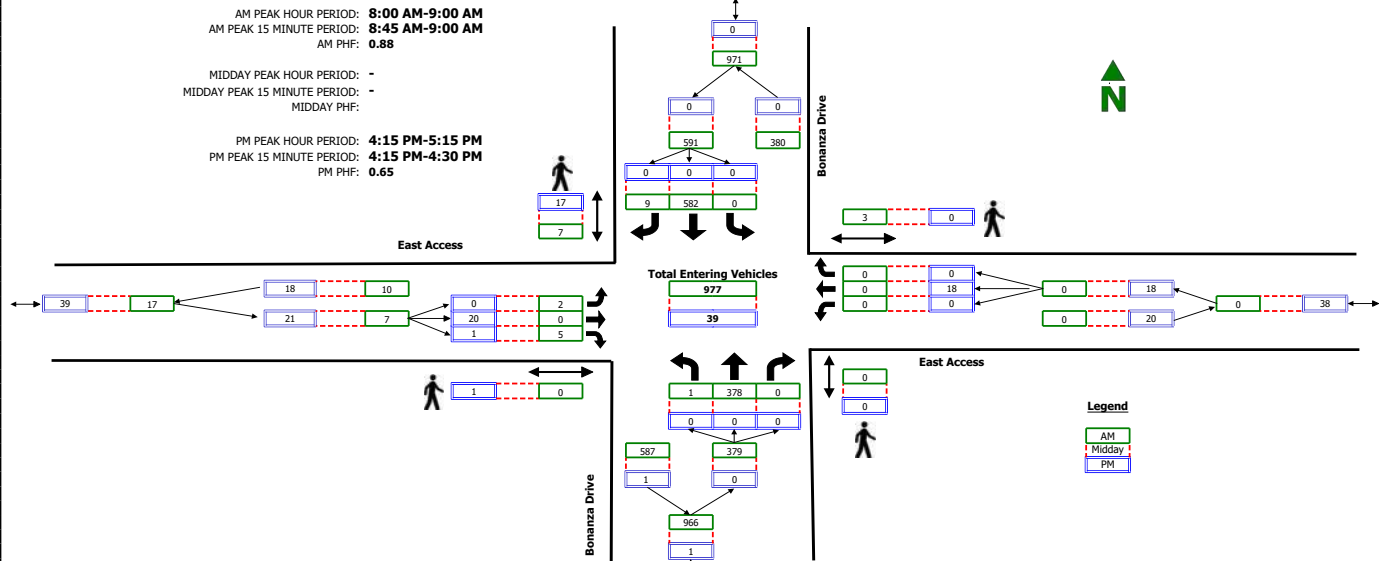


RAW COUNT SUMMARIES	S.R. 224 Northbound				S.R. 224 Southbound				Homestake Road & Apt Access Eastbound				Homestake Road & Apt Access Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	34	2	6	1	78	0	2	0	0	0	3	3	0	6	0	124
7:15 - 7:30	0	62	0	1	1	114	2	3	1	1	2	1	6	2	2	2	193
7:30 - 7:45	0	72	6	3	1	183	1	0	0	0	7	1	1	0	4	1	269
7:45 - 8:00	1	83	4	0	2	197	2	0	1	0	1	3	6	0	2	7	299
8:00 - 8:15	2	86	6	0	4	181	1	0	0	0	2	0	1	0	3	0	286
8:15 - 8:30	0	82	4	6	10	227	1	0	1	0	0	7	1	0	6	0	332
8:30 - 8:45	1	113	5	3	8	275	0	1	1	0	1	0	6	0	8	0	418
8:45 - 9:00	0	126	8	0	9	248	2	0	3	0	0	1	3	0	2	1	401
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	199	2	0	10	310	1	0	3	0	0	1	2	0	8	0	535
16:15 - 16:30	1	168	3	2	3	284	2	0	2	0	2	4	1	0	14	0	480
16:30 - 16:45	0	238	12	0	13	267	1	1	2	0	0	8	2	0	14	0	549
16:45 - 17:00	0	207	10	0	6	263	0	1	2	0	1	0	5	0	7	0	501
17:00 - 17:15	0	180	3	0	10	177	2	1	0	0	1	0	1	0	7	0	381
17:15 - 17:30	1	137	4	0	1	151	2	0	0	0	1	0	1	2	1	0	301
17:30 - 17:45	2	104	5	0	5	236	2	0	0	0	0	0	3	0	0	0	357
17:45 - 18:00	1	99	1	0	1	258	0	0	0	0	0	0	2	0	6	0	368

Intersection Turning Movement Summary

Intersection: Bonanza Drive / East Access
 North/South: Bonanza Drive
 East/West: East Access
 Jurisdiction: Park City
 Project Title: Wintzer TIS
 Project No: UT21-1940
 Weather: Clear

Date: 6-29-21, Tue
 Day of Week Adjustment: 100.0%
 Month of Year Adjustment: 100.0%
 Adjustment Station #: 0
 Growth Rate: 0.0%
 Number of Years: 0

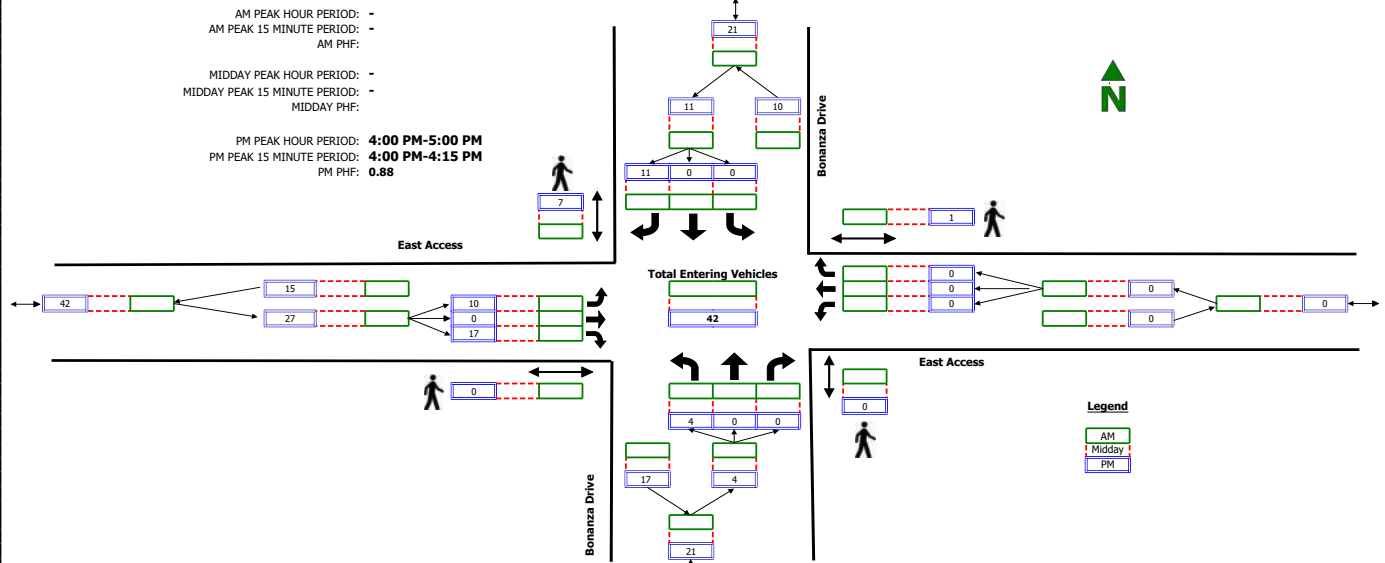


RAW COUNT SUMMARIES	Bonanza Drive Northbound				Bonanza Drive Southbound				East Access Eastbound				East Access Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	35	0	0	0	82	0	3	0	0	0	0	0	0	0	0	117
7:15 - 7:30	0	35	0	0	0	102	2	0	0	0	0	0	0	0	0	0	139
7:30 - 7:45	0	76	0	0	0	130	3	0	1	0	0	0	0	0	0	1	210
7:45 - 8:00	0	86	0	0	0	151	5	2	1	0	0	0	0	0	0	0	243
8:00 - 8:15	1	66	0	0	0	156	1	3	0	0	1	0	0	0	0	0	225
8:15 - 8:30	0	90	0	0	0	160	3	2	0	0	0	0	0	0	0	0	253
8:30 - 8:45	0	84	0	0	0	131	3	1	1	0	2	0	0	0	0	0	221
8:45 - 9:00	0	138	0	0	0	135	2	1	1	0	2	0	0	0	0	3	278
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0	0	0	3	0	10	0	0	0	5	0	0	15
16:30 - 16:45	0	0	0	0	0	0	0	4	0	5	0	1	0	5	0	0	10
16:45 - 17:00	0	0	0	0	0	0	0	7	0	3	0	0	0	4	0	0	7
17:00 - 17:15	0	0	0	0	0	0	0	3	0	2	1	0	0	4	0	0	7
17:15 - 17:30	0	0	0	1	0	0	0	0	0	1	0	4	0	5	0	0	6
17:30 - 17:45	0	0	0	2	0	0	0	0	0	2	0	1	0	4	0	0	6
17:45 - 18:00	0	0	0	0	0	0	0	1	0	3	0	0	0	5	0	0	8

Intersection Turning Movement Summary

Intersection: Bonanza Drive / East Access
North/South: Bonanza Drive
East/West: East Access
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 7-22-21, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

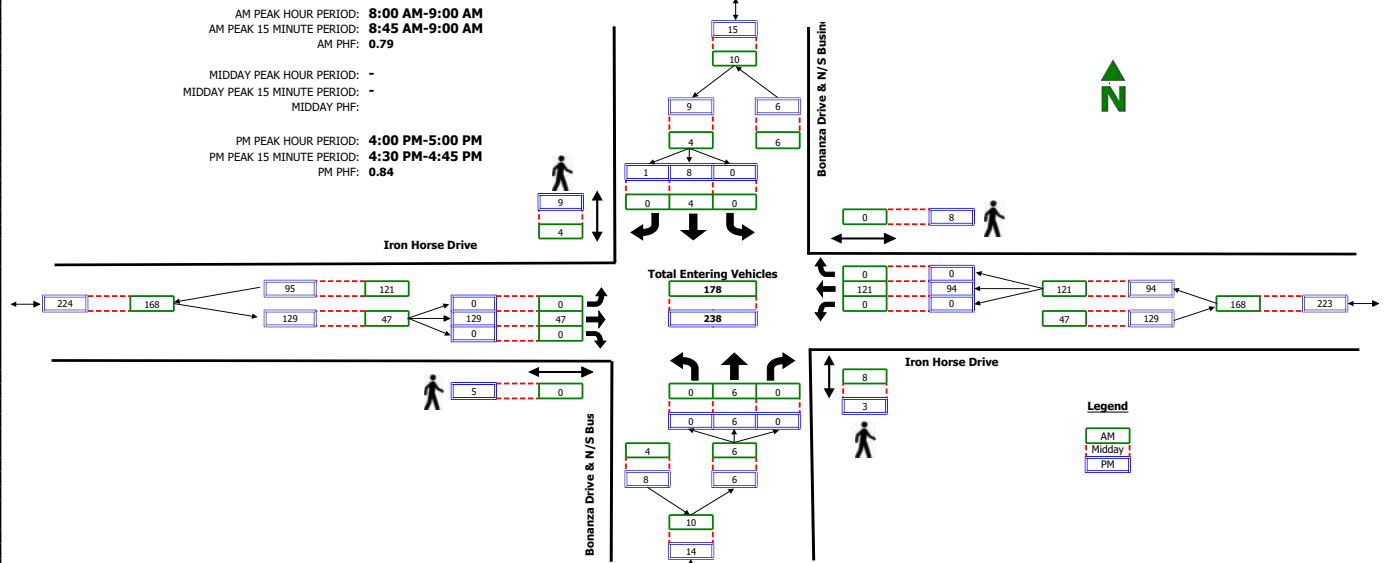


RAW COUNT SUMMARIES	Bonanza Drive Northbound				Bonanza Drive Southbound				East Access Eastbound				East Access Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	0	0	0	0	0	3	0	4	0	5	0	0	0	0	0	12
16:15 - 16:30	1	0	0	0	0	0	4	1	2	0	4	0	0	0	0	1	11
16:30 - 16:45	0	0	0	0	0	0	2	0	1	0	5	0	0	0	0	0	8
16:45 - 17:00	3	0	0	0	0	0	2	6	3	0	3	0	0	0	0	0	11
17:00 - 17:15	2	0	0	0	0	0	1	2	1	0	1	0	0	0	0	0	5
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
17:30 - 17:45	0	0	0	0	0	0	3	0	1	0	2	0	0	0	0	0	6
17:45 - 18:00	0	0	0	0	0	0	1	4	2	0	3	0	0	0	0	1	6

Intersection Turning Movement Summary

Intersection: Bonanza Drive & N/S Business Access / Iron Horse Drive
North/South: Bonanza Drive & N/S Business Access
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

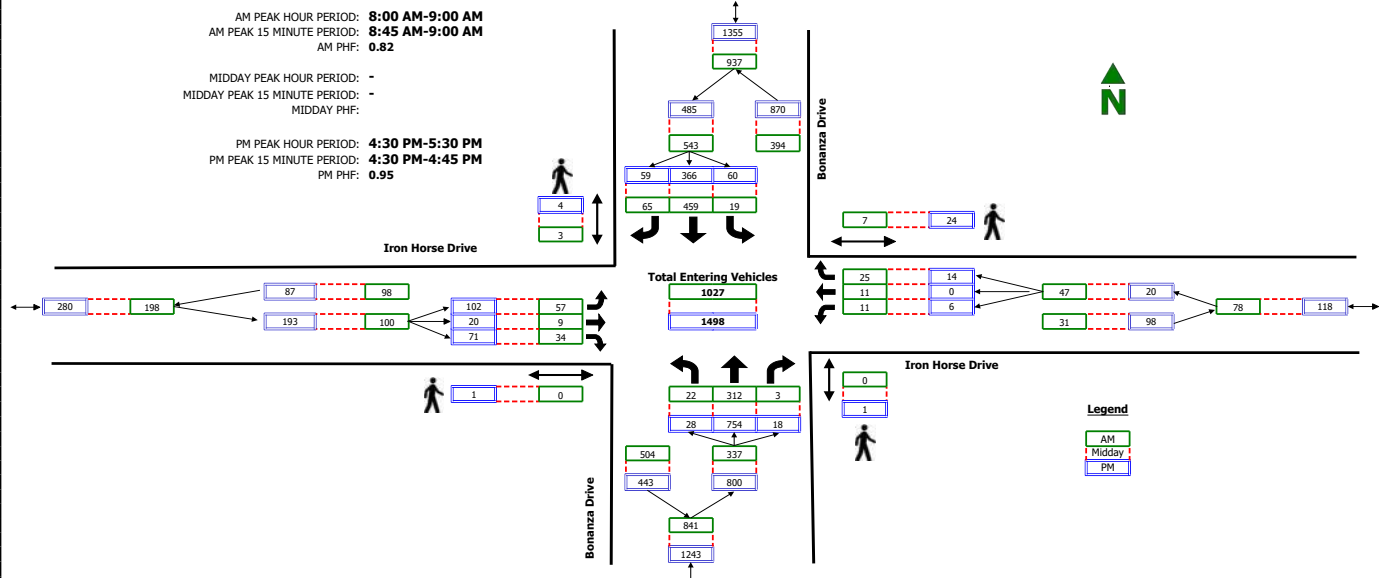


RAW COUNT SUMMARIES	Manza Drive & N/S Business Access								Acacia Drive & N/S Business Access				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Northbound				Southbound				Eastbound				Westbound								
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds					
AM PERIOD COUNTS																					
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL				
7:00 - 7:15	1	1	0	0	0	0	0	9	2	2	9	2	0	0	7	0	31				
7:15 - 7:30	0	0	0	0	0	0	0	4	1	2	7	2	0	0	10	0	25				
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	11	0	0	0	17	0	28				
7:45 - 8:00	0	1	0	5	0	0	0	1	0	0	11	0	0	0	36	0	48				
8:00 - 8:15	0	0	0	0	0	0	0	2	0	9	0	0	0	32	0	0	41				
8:15 - 8:30	0	1	0	4	0	0	0	1	0	8	0	0	0	30	0	0	39				
8:30 - 8:45	0	0	0	3	0	2	0	1	0	10	0	0	0	30	0	0	42				
8:45 - 9:00	0	5	0	1	0	2	0	0	0	20	0	0	0	29	0	0	56				
MIDDAY PERIOD COUNTS																					
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL				
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
PM PERIOD COUNTS																					
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL				
16:00 - 16:15	0	1	0	1	0	0	0	0	0	38	0	2	0	28	0	2	67				
16:15 - 16:30	0	1	0	0	0	2	1	2	0	30	0	1	0	16	0	0	50				
16:30 - 16:45	0	3	0	1	0	2	0	7	0	38	0	0	0	28	0	4	71				
16:45 - 17:00	0	1	0	1	0	4	0	0	0	23	0	2	0	22	0	2	50				
17:00 - 17:15	0	0	0	4	0	0	0	2	0	37	0	5	0	22	0	1	59				
17:15 - 17:30	0	2	0	2	0	0	0	0	0	37	0	2	0	19	0	0	58				
17:30 - 17:45	0	2	0	0	0	0	0	4	0	33	0	0	0	14	0	2	49				
17:45 - 18:00	0	1	0	2	0	0	0	1	0	19	0	1	0	27	0	2	47				

Intersection Turning Movement Summary

Intersection: Bonanza Drive / Iron Horse Drive
North/South: Bonanza Drive
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 7-22-21, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

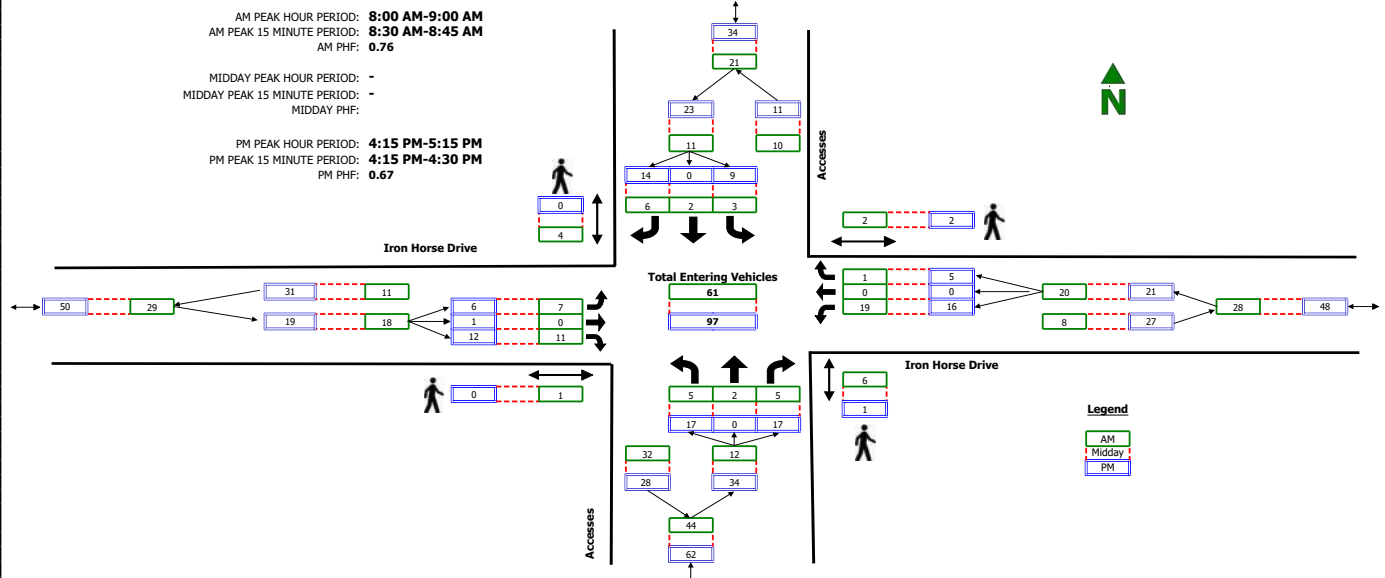


RAW COUNT SUMMARIES	Bonanza Drive Northbound				Bonanza Drive Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	3	32	0	1	2	72	13	3	4	2	2	0	1	5	7	1	143
7:15 - 7:30	3	42	0	0	4	86	18	0	10	3	5	0	5	4	3	3	183
7:30 - 7:45	5	48	2	0	10	108	19	2	6	1	1	0	2	8	5	3	215
7:45 - 8:00	11	45	1	2	9	138	15	0	5	0	5	0	1	8	6	1	244
8:00 - 8:15	8	56	0	0	5	127	16	0	12	2	6	0	0	2	2	1	236
8:15 - 8:30	6	59	1	0	6	77	18	0	10	3	10	0	4	3	8	2	205
8:30 - 8:45	2	87	0	0	7	116	15	3	14	3	8	0	7	5	10	3	274
8:45 - 9:00	6	110	2	0	1	139	16	0	21	1	10	0	0	1	5	1	312
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	6	173	1	0	7	115	13	3	10	2	15	0	2	0	9	4	353
16:15 - 16:30	16	159	5	0	6	89	9	1	31	2	16	1	0	1	5	1	339
16:30 - 16:45	5	163	12	1	17	114	23	2	26	3	21	0	3	0	6	6	393
16:45 - 17:00	4	165	1	0	17	97	16	1	22	4	21	0	1	0	3	8	351
17:00 - 17:15	10	224	4	0	11	77	13	0	27	4	17	0	1	0	0	7	388
17:15 - 17:30	9	202	1	0	15	78	7	1	27	9	12	1	1	0	5	3	366
17:30 - 17:45	6	136	4	0	10	99	6	0	22	5	16	1	0	0	6	4	310
17:45 - 18:00	7	148	0	0	5	91	11	2	25	4	18	0	0	1	6	8	316

Intersection Turning Movement Summary

Intersection: Accesses / Iron Horse Drive
North/South: Accesses
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

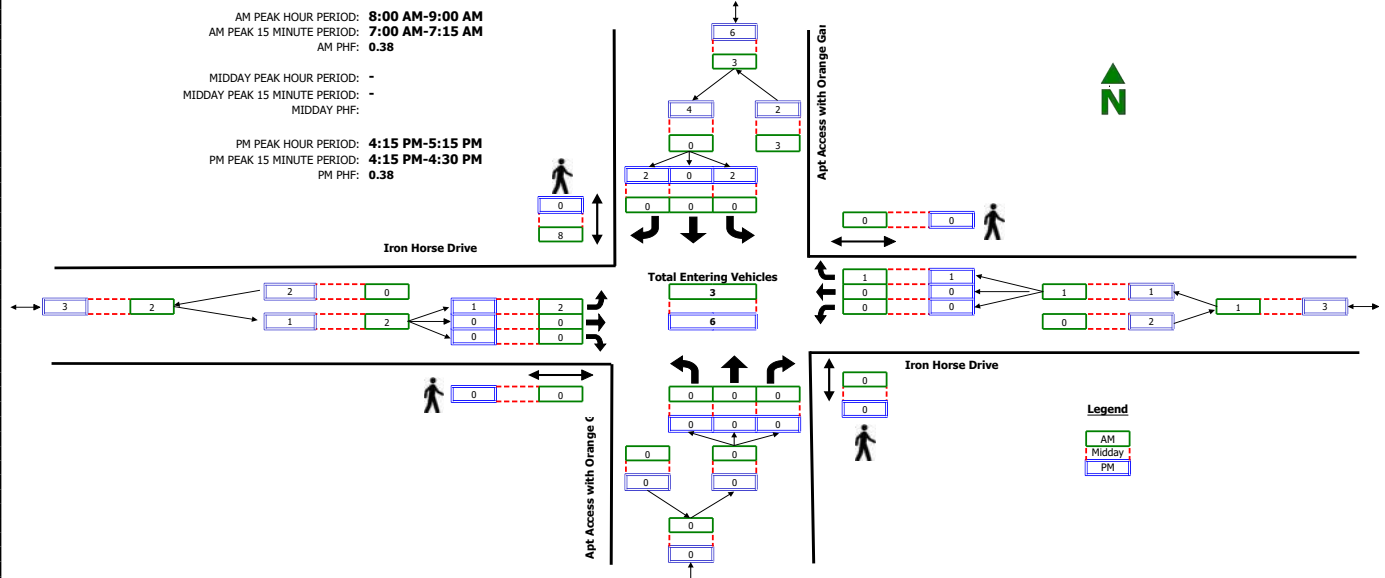


RAW COUNT SUMMARIES	Accesses Northbound				Accesses Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1
7:15 - 7:30	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:30 - 7:45	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	2
7:45 - 8:00	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	0	9
8:00 - 8:15	1	0	1	5	1	2	1	1	1	0	4	0	4	0	0	2	15
8:15 - 8:30	0	0	0	1	1	0	1	1	1	0	4	0	2	0	0	0	9
8:30 - 8:45	3	2	1	0	0	0	3	0	2	0	2	0	6	0	1	0	20
8:45 - 9:00	1	0	3	0	1	0	1	2	3	0	1	1	7	0	0	0	17
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	1	0	2	0	2	0	2	0	6	0	0	0	6	0	3	1	22
16:15 - 16:30	11	0	5	1	1	0	5	0	2	1	5	0	5	0	1	2	36
16:30 - 16:45	0	0	4	0	2	0	2	0	2	0	3	0	3	0	2	0	18
16:45 - 17:00	1	0	5	0	1	0	3	0	2	0	2	0	4	0	1	0	19
17:00 - 17:15	5	0	3	0	5	0	4	0	0	2	0	0	4	0	1	0	24
17:15 - 17:30	4	0	2	0	3	0	2	0	1	1	2	4	1	0	3	0	19
17:30 - 17:45	0	0	5	0	1	0	0	0	0	0	0	0	1	0	0	0	7
17:45 - 18:00	2	0	5	0	1	0	2	0	1	0	2	0	2	0	2	0	17

Intersection Turning Movement Summary

Intersection: Apt Access with Orange Garage Door / Iron Horse Drive
 North/South: Apt Access with Orange Garage Door
 East/West: Iron Horse Drive
 Jurisdiction: Park City
 Project Title: Wintzer TIS
 Project No: UT21-1940
 Weather: Clear

Date: 6-29-21, Tue
 Day of Week Adjustment: 100.0%
 Month of Year Adjustment: 100.0%
 Adjustment Station #: 0
 Growth Rate: 0.0%
 Number of Years: 0

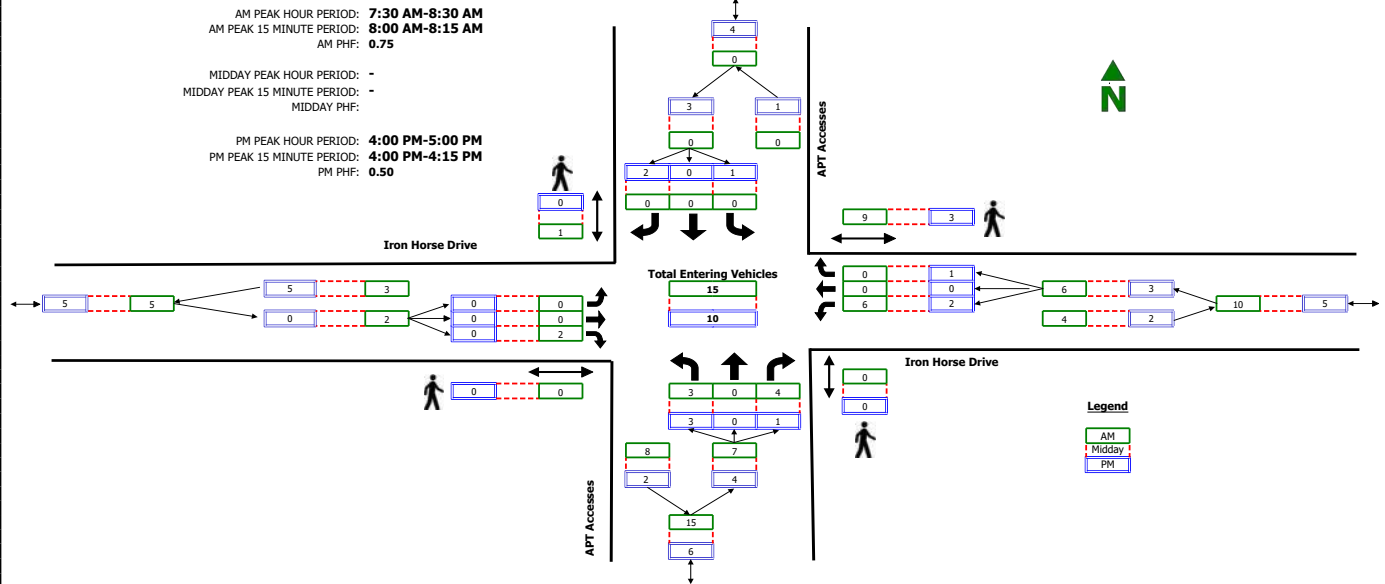


RAW COUNT SUMMARIES	Apt Access with Orange Garage Door Northbound				Apt Access with Orange Garage Door Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2
7:15 - 7:30	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
8:15 - 8:30	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	1
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15 - 16:30	0	0	0	0	2	0	0	0	1	0	0	0	0	0	1	0	4
16:30 - 16:45	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
16:45 - 17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
17:15 - 17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1

Intersection Turning Movement Summary

Intersection: APT Accesses / Iron Horse Drive
North/South: APT Accesses
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

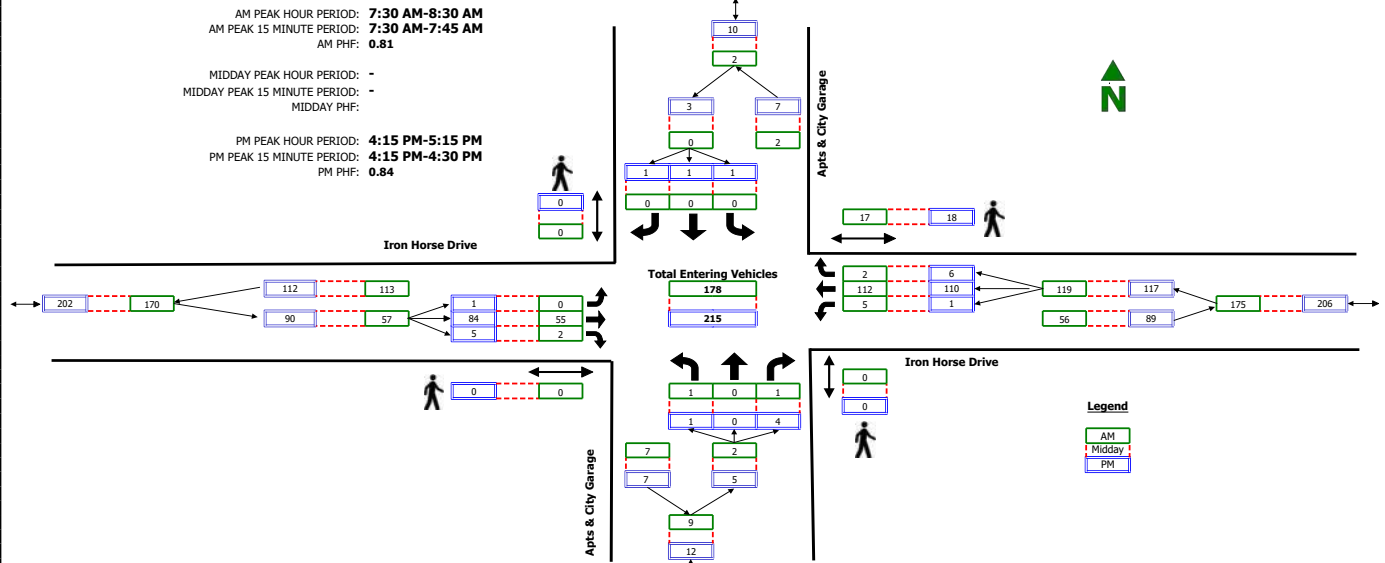


RAW COUNT SUMMARIES	APT Accesses Northbound				APT Accesses Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	0	0	2	0	0	0	0	1	0	0	0	0	1	0	0	1	3
7:15 - 7:30	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
7:30 - 7:45	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3
7:45 - 8:00	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0	4
8:00 - 8:15	0	0	1	0	0	0	0	0	0	0	2	0	2	0	0	1	5
8:15 - 8:30	2	0	0	0	0	0	0	1	0	0	0	0	1	0	0	7	3
8:30 - 8:45	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	3
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	2	4
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	2	0	0	0	1	0	1	0	0	0	0	0	1	0	0	1	5
16:15 - 16:30	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	2
16:30 - 16:45	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2
16:45 - 17:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
17:00 - 17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1
17:15 - 17:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1
17:30 - 17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
17:45 - 18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Turning Movement Summary

Intersection: Apts & City Garage / Iron Horse Drive
North/South: Apts & City Garage
East/West: Iron Horse Drive
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 6-29-21, Tue
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0

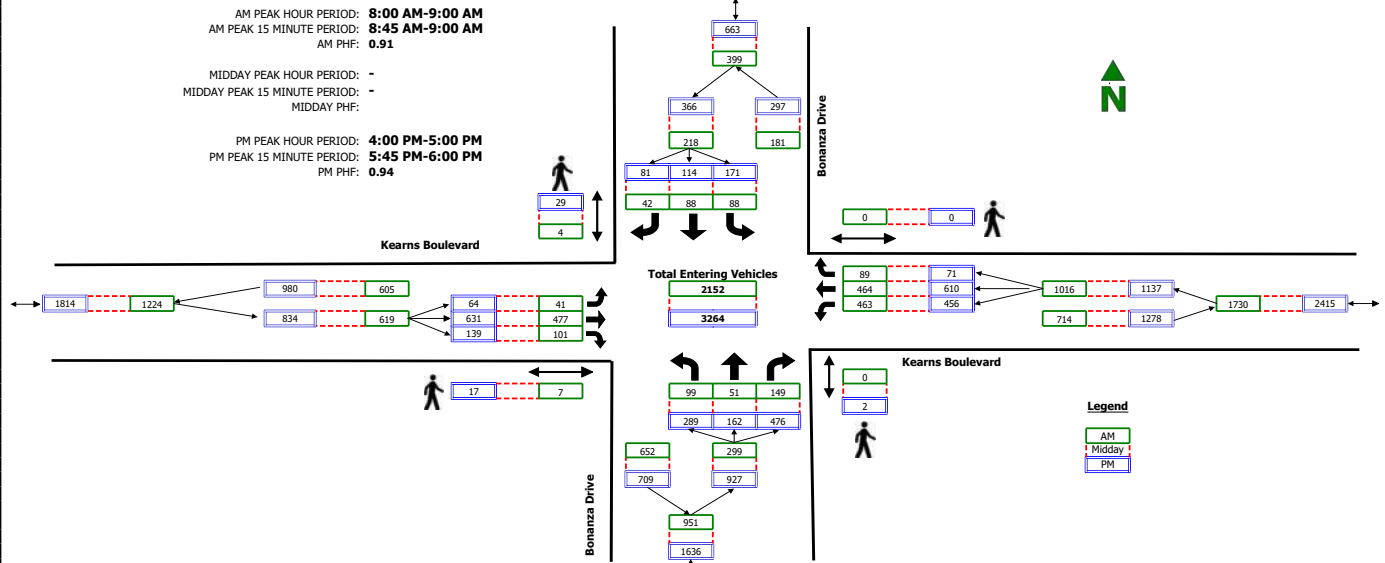


RAW COUNT SUMMARIES	Apts & City Garage Northbound				Apts & City Garage Southbound				Iron Horse Drive Eastbound				Iron Horse Drive Westbound				TOTAL	
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
AM PERIOD COUNTS																		
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL	
7:00 - 7:15	0	0	0	0	1	0	0	2	1	0	6	0	0	0	11	0	0	20
7:15 - 7:30	0	0	0	0	0	0	0	0	0	12	0	0	0	0	17	0	1	29
7:30 - 7:45	1	1	0	1	0	0	0	0	0	16	0	0	0	1	36	0	0	55
7:45 - 8:00	0	0	0	0	0	0	0	0	0	16	0	0	0	1	25	2	7	44
8:00 - 8:15	0	0	0	0	0	0	0	0	0	12	1	0	0	0	28	0	9	41
8:15 - 8:30	0	0	0	0	0	0	0	0	0	11	1	0	0	3	23	0	1	38
8:30 - 8:45	1	0	0	0	0	0	0	0	0	9	1	0	0	0	23	0	6	34
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PERIOD COUNTS																		
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL	
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																		
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL	
16:00 - 16:15	1	0	1	0	0	0	0	0	0	25	5	0	0	24	0	6	56	
16:15 - 16:30	0	0	0	0	0	1	0	0	0	23	2	0	0	32	6	1	64	
16:30 - 16:45	0	0	3	0	1	0	0	0	0	15	1	0	1	23	0	5	44	
16:45 - 17:00	0	0	0	0	0	0	0	0	1	16	0	0	0	27	0	9	44	
17:00 - 17:15	0	0	1	0	0	0	1	0	0	30	2	0	0	28	0	3	63	
17:15 - 17:30	0	0	0	0	0	0	0	0	0	20	0	0	0	17	0	13	44	
17:30 - 17:45	0	0	1	0	0	0	0	0	0	23	5	0	1	13	0	4	43	
17:45 - 18:00	0	0	0	0	0	0	0	0	0	14	3	0	0	28	1	0	46	

Intersection Turning Movement Summary

Intersection: Bonanza Drive / Kearns Boulevard
North/South: Bonanza Drive
East/West: Kearns Boulevard
Jurisdiction: Park City
Project Title: Wintzer TIS
Project No: UT21-1940
Weather: Clear

Date: 7-29-21, Thu
Day of Week Adjustment: 100.0%
Month of Year Adjustment: 100.0%
Adjustment Station #: 0
Growth Rate: 0.0%
Number of Years: 0



RAW COUNT SUMMARIES	Bonanza Drive Northbound				Bonanza Drive Southbound				Kearns Boulevard Eastbound				Kearns Boulevard Westbound				TOTAL
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
AM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
7:00 - 7:15	14	10	32	0	13	6	2	0	1	52	9	2	92	70	19	0	320
7:15 - 7:30	13	8	34	0	16	11	4	1	4	72	21	2	91	91	6	0	371
7:30 - 7:45	15	8	27	0	20	5	3	1	5	73	13	2	135	117	14	0	435
7:45 - 8:00	17	12	24	0	17	21	11	1	8	101	35	4	144	94	25	0	509
8:00 - 8:15	28	13	30	0	15	24	7	0	9	101	31	1	133	103	20	0	514
8:15 - 8:30	18	19	34	0	21	19	7	3	9	111	19	3	128	111	28	0	524
8:30 - 8:45	23	9	37	0	32	28	16	0	6	122	25	1	82	122	22	0	524
8:45 - 9:00	30	10	48	0	20	17	12	1	17	143	26	2	120	128	19	0	590
MIDDAY PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 - 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 - 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 - 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 - 10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 - 10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 - 10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 - 11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 - 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30 - 13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15 - 14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30 - 14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45 - 15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PERIOD COUNTS																	
Period	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	TOTAL
16:00 - 16:15	107	41	102	1	44	18	17	11	19	156	28	6	100	157	23	0	812
16:15 - 16:30	64	37	139	1	30	42	13	9	25	163	44	7	112	119	14	0	802
16:30 - 16:45	52	43	114	0	62	29	31	5	8	141	34	1	133	157	15	0	819
16:45 - 17:00	66	41	121	0	35	25	20	4	12	171	33	3	111	177	19	0	831
17:00 - 17:15	55	39	105	0	38	49	31	3	19	158	12	5	83	196	14	0	799
17:15 - 17:30	53	21	93	0	39	25	11	3	3	210	21	0	107	150	18	0	751
17:30 - 17:45	44	15	117	0	50	38	10	6	9	193	34	0	142	122	11	0	785
17:45 - 18:00	55	37	91	0	66	40	11	0	20	249	30	1	90	154	24	0	867

APPENDIX B

LOS Results

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	526	526	100	0.3	A
	R	23	23	101	0.3	A
	Subtotal	549	549	100	0.3	A
SB	L	31	31	99	3.9	A
	T	934	942	101	0.4	A
	Subtotal	965	973	101	0.5	A
WB	L	11	10	93	22.5	C
	R	19	19	99	4.2	A
	Subtotal	30	29	97	10.5	B
Total		1,544	1,551	100	0.6	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	446	451	101	0.4	A
	R	48	50	105	0.3	A
	Subtotal	494	501	101	0.4	A
SB	L	68	67	99	3.8	A
	T	878	886	101	0.2	A
	Subtotal	946	953	101	0.5	A
WB	L	12	12	100	21.5	C
	T	0	0	0		
	R	101	96	95	5.1	A
	Subtotal	113	108	96	6.9	A
Total		1,553	1,562	101	0.9	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	2	200	2.2	A
	Subtotal	2	2	100	2.2	A
EB	T	114	115	101	0.4	A
	R	2	2	100	0.6	A
	Subtotal	116	117	101	0.4	A
WB	L	5	6	114	1.7	A
	T	112	107	95	0.1	A
	R	2	2	100	0.0	A
	Subtotal	119	115	97	0.2	A
Total		237	234	99	0.3	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	62	5.1	A
	R	4	5	118	2.7	A
	Subtotal	7	7	100	3.4	A
EB	T	88	89	101	0.1	A
	R	2	2	100	0.0	A
	Subtotal	90	91	101	0.1	A
WB	L	6	6	96	1.8	A
	T	117	115	98	0.2	A
	Subtotal	123	121	98	0.3	A
Total		222	219	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	32	92	4.7	A
	R	22	23	106	2.9	A
	Subtotal	57	55	96	3.9	A
EB	L	2	2	100	1.1	A
	T	90	92	102	0.1	A
	Subtotal	92	94	102	0.1	A
WB	T	87	87	100	0.1	A
	R	1	1	100	0.0	A
	Subtotal	88	88	100	0.1	A
Total		237	237	100	1.0	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	62	4.1	A
	R	6	6	96	2.4	A
	Subtotal	9	8	89	2.8	A
EB	L	7	7	104	1.7	A
	T	105	107	102	0.1	A
	Subtotal	112	114	102	0.2	A
WB	T	83	83	100	0.1	A
	R	1	1	100	0.0	A
	Subtotal	84	84	100	0.1	A
Total		205	206	101	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	4	76	4.5	A
	R	5	7	133	2.5	A
	Subtotal	10	11	110	3.2	A
EB	T	97	98	101	0.1	A
	R	11	10	93	0.0	A
	Subtotal	108	108	100	0.1	A
WB	L	19	19	99	1.9	A
	T	78	82	104	0.1	A
	Subtotal	97	101	104	0.4	A
Total		216	220	102	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	4.5	A
	R	2	2	100	2.5	A
	Subtotal	4	4	100	3.5	A
EB	L	4	3	71	2.0	A
	T	98	102	104	0.2	A
	Subtotal	102	105	103	0.3	A
WB	T	95	98	103	0.4	A
	R	3	3	92	0.2	A
	Subtotal	98	101	103	0.4	A
Total		205	210	102	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	22	21	97	5.3	A
	T	312	316	101	0.6	A
	R	3	4	123	0.5	A
	Subtotal	337	341	101	0.9	A
SB	L	19	17	88	2.9	A
	T	460	466	101	1.0	A
	R	65	68	105	0.5	A
	Subtotal	544	551	101	1.0	A
EB	L	57	58	101	17.0	C
	T	9	7	80	12.7	B
	R	34	38	111	5.7	A
	Subtotal	100	103	103	12.5	B
WB	L	11	9	84	15.7	C
	T	11	10	93	13.4	B
	R	25	26	105	6.6	A
	Subtotal	47	45	96	9.9	A
Total		1,027	1,040	101	2.5	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	3.8	A
	T	393	399	102	0.3	A
	Subtotal	394	400	102	0.3	A
SB	T	644	648	101	2.3	A
	R	9	10	114	2.2	A
	Subtotal	653	658	101	2.3	A
EB	L	2	2	100	12.8	B
	R	5	7	133	6.7	A
	Subtotal	7	9	129	8.1	A
Total		1,054	1,067	101	1.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	135	142	105	35.1	D
	T	68	68	100	36.1	D
	R	196	195	99	6.0	A
	Subtotal	399	405	102	21.3	C
SE	L	88	85	96	31.5	C
	T	88	87	99	38.3	D
	R	42	43	102	5.8	A
	Subtotal	218	215	99	29.1	C
NE	L	41	41	100	17.4	B
	T	477	486	102	37.4	D
	R	101	104	103	18.9	B
	Subtotal	619	631	102	33.1	C
SW	L	463	467	101	25.3	C
	T	464	468	101	10.2	B
	R	89	87	98	5.4	A
	Subtotal	1,016	1,022	101	16.7	B
Total		2,253	2,273	101	23.3	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	526	516	98	0.3	A
	R	23	20	88	0.3	A
	Subtotal	549	536	98	0.3	A
SB	L	31	32	102	3.8	A
	T	934	935	100	0.5	A
	Subtotal	965	967	100	0.6	A
WB	L	11	12	112	27.1	D
	R	19	21	109	5.5	A
	Subtotal	30	33	110	13.4	B
Total		1,544	1,536	99	0.8	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	446	440	99	0.3	A
	R	48	50	105	0.4	A
	Subtotal	494	490	99	0.3	A
SB	L	68	64	94	3.9	A
	T	878	885	101	0.3	A
	Subtotal	946	949	100	0.5	A
WB	L	12	11	92	22.4	C
	T	0	0	0		
	R	101	95	94	5.1	A
	Subtotal	113	106	94	6.9	A
Total		1,553	1,545	99	0.9	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	2	200	3.0	A
	Subtotal	2	2	100	3.0	A
EB	T	114	112	98	0.4	A
	R	2	2	100	0.2	A
	Subtotal	116	114	98	0.4	A
WB	L	5	4	76	1.8	A
	T	112	105	94	0.0	A
	R	2	3	150	0.0	A
	Subtotal	119	112	94	0.1	A
Total		237	228	96	0.3	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	62	4.7	A
	R	4	5	118	2.6	A
	Subtotal	7	7	100	3.2	A
EB	T	88	87	98	0.1	A
	R	2	2	100	0.0	A
	Subtotal	90	89	99	0.1	A
WB	L	6	6	96	1.7	A
	T	117	111	95	0.3	A
	Subtotal	123	117	95	0.4	A
Total		222	213	96	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	36	104	4.6	A
	R	22	22	101	3.0	A
	Subtotal	57	58	102	4.0	A
EB	L	2	2	100	1.6	A
	T	90	90	99	0.1	A
	Subtotal	92	92	100	0.1	A
WB	T	87	80	92	0.1	A
	R	1	1	100	0.0	A
	Subtotal	88	81	92	0.1	A
Total		237	231	97	1.1	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	4	123	4.7	A
	R	6	6	96	2.5	A
	Subtotal	9	10	111	3.4	A
EB	L	7	5	74	1.6	A
	T	105	105	100	0.1	A
	Subtotal	112	110	98	0.2	A
WB	T	83	76	92	0.1	A
	R	1	1	100	0.0	A
	Subtotal	84	77	92	0.1	A
Total		205	197	96	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	6	114	5.2	A
	R	5	5	95	3.0	A
	Subtotal	10	11	110	4.2	A
EB	T	97	98	101	0.1	A
	R	11	11	102	0.0	A
	Subtotal	108	109	101	0.1	A
WB	L	19	18	94	1.6	A
	T	78	70	89	0.1	A
	Subtotal	97	88	91	0.4	A
Total		216	208	96	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	1	50	5.8	A
	R	2	2	100	1.9	A
	Subtotal	4	3	75	3.2	A
EB	L	4	4	94	1.3	A
	T	98	99	101	0.2	A
	Subtotal	102	103	101	0.2	A
WB	T	95	87	91	0.4	A
	R	3	3	92	0.3	A
	Subtotal	98	90	92	0.4	A
Total		205	196	96	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	22	20	92	5.1	A
	T	312	309	99	0.6	A
	R	3	4	123	0.3	A
	Subtotal	337	333	99	0.9	A
SB	L	19	18	94	2.9	A
	T	460	450	98	1.0	A
	R	65	59	91	0.5	A
	Subtotal	544	527	97	1.0	A
EB	L	57	56	98	14.4	B
	T	9	9	103	13.0	B
	R	34	36	105	6.8	A
	Subtotal	100	101	101	11.6	B
WB	L	11	11	102	11.4	B
	T	11	10	93	13.2	B
	R	25	25	101	5.3	A
	Subtotal	47	46	98	8.5	A
Total		1,027	1,007	98	2.4	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	393	390	99	0.4	A
	Subtotal	394	390	99	0.4	A
SB	T	644	629	98	1.5	A
	R	9	10	114	1.3	A
	Subtotal	653	639	98	1.5	A
EB	L	2	2	100	9.1	A
	R	5	4	76	7.8	A
	Subtotal	7	6	86	8.2	A
Total		1,054	1,035	98	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Morning Peak Hour **Project #:** UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	135	135	100	36.0	D
	T	68	63	93	35.5	D
	R	196	197	100	4.3	A
	Subtotal	399	395	99	20.1	C
SE	L	88	87	99	27.4	C
	T	88	84	95	34.6	C
	R	42	41	98	5.7	A
	Subtotal	218	212	97	26.1	C
NE	L	41	42	102	17.2	B
	T	477	479	100	32.8	C
	R	101	95	94	16.2	B
	Subtotal	619	616	100	29.2	C
SW	L	463	459	99	38.9	D
	T	464	465	100	10.8	B
	R	89	91	103	6.1	A
	Subtotal	1,016	1,015	100	23.1	C
Total		2,253	2,238	99	24.5	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	816	810	99	0.5	A
	R	27	30	110	0.4	A
	Subtotal	843	840	100	0.5	A
SB	L	32	30	94	6.9	A
	T	1,127	1,133	101	0.7	A
	Subtotal	1,159	1,163	100	0.9	A
WB	L	10	8	78	40.2	E
	R	43	44	103	8.3	A
	Subtotal	53	52	98	13.2	B
Total		2,055	2,055	100	1.0	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	712	705	99	0.5	A
	R	38	40	106	0.3	A
	Subtotal	750	745	99	0.5	A
SB	L	84	83	99	5.5	A
	T	1,054	1,059	100	0.3	A
	Subtotal	1,138	1,142	100	0.7	A
WB	L	4	3	75	50.9	F
	R	128	130	101	8.0	A
	Subtotal	132	133	101	9.0	A
Total		2,021	2,020	100	1.2	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	5	125	2.7	A
	Subtotal	5	5	100	2.7	A
SB	L	1	0	0		
	T	1	1	100	5.1	A
	R	1	2	200	2.4	A
	Subtotal	3	3	100	3.3	A
EB	L	1	0	0		
	T	116	118	102	0.5	A
	R	5	5	100	0.5	A
	Subtotal	122	123	101	0.5	A
WB	L	1	0	0		
	T	103	102	99	0.1	A
	R	6	5	83	0.0	A
	Subtotal	110	107	97	0.1	A
Total		240	238	99	0.4	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	67	3.9	A
	R	12	15	122	2.7	A
	Subtotal	15	17	113	2.8	A
SB	L	1	0	0		
	R	2	2	100	2.5	A
	Subtotal	3	2	67	2.5	A
EB	T	99	98	99	0.1	A
	Subtotal	99	98	99	0.1	A
WB	L	2	2	100	1.0	A
	T	105	104	99	0.1	A
	R	1	1	100	0.1	A
	Subtotal	108	107	99	0.1	A
Total		225	224	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	7	88	4.9	A
	R	55	54	98	3.0	A
	Subtotal	63	61	97	3.2	A
SB	L	2	1	50	5.0	A
	R	2	3	150	3.0	A
	Subtotal	4	4	100	3.5	A
EB	L	1	1	100	1.6	A
	T	111	112	101	0.1	A
	Subtotal	112	113	101	0.1	A
WB	T	98	97	98	0.1	A
	R	1	1	100	0.0	A
	Subtotal	99	98	99	0.1	A
Total		278	276	99	0.9	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	9	8	89	7.0	A
	R	14	14	98	2.7	A
	Subtotal	23	22	96	4.3	A
EB	L	6	4	67	1.7	A
	T	162	163	101	0.3	A
	Subtotal	168	167	99	0.3	A
WB	T	86	85	99	0.3	A
	R	5	5	100	0.2	A
	Subtotal	91	90	99	0.3	A
Total		282	279	99	0.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	19	110	8.9	A
	R	35	34	98	9.8	A
	Subtotal	52	53	102	9.5	A
EB	T	159	159	100	1.4	A
	R	12	12	98	0.2	A
	Subtotal	171	171	100	1.3	A
WB	L	16	15	92	1.7	A
	T	74	72	97	0.1	A
	Subtotal	90	87	97	0.4	A
Total		313	311	99	2.5	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	100	21.2	C
	R	5	5	100	6.1	A
	Subtotal	8	8	100	11.8	B
EB	L	4	4	100	8.0	A
	T	190	189	99	3.1	A
	Subtotal	194	193	99	3.2	A
WB	T	84	81	96	0.5	A
	R	3	3	100	0.1	A
	Subtotal	87	84	97	0.5	A
Total		290	285	98	2.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	28	27	96	6.5	A
	T	754	737	98	3.8	A
	R	18	21	115	4.0	A
	Subtotal	800	785	98	3.9	A
SB	L	60	58	97	9.3	A
	T	366	362	99	1.0	A
	R	59	56	95	0.5	A
	Subtotal	485	476	98	2.0	A
EB	L	102	99	97	57.1	F
	T	21	20	95	26.2	D
	R	71	72	101	7.4	A
	Subtotal	194	191	98	35.1	E
WB	L	6	5	83	34.6	D
	R	14	12	84	15.2	C
	Subtotal	20	17	85	20.9	C
Total		1,500	1,469	98	7.6	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	4	100	3.5	A
	T	866	843	97	1.3	A
	Subtotal	870	847	97	1.3	A
SB	T	698	679	97	2.0	A
	R	11	12	107	1.9	A
	Subtotal	709	691	97	2.0	A
EB	L	10	10	98	21.0	C
	R	17	19	110	6.8	A
	Subtotal	27	29	107	11.7	B
Total		1,607	1,567	98	1.8	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	289	270	93	74.7	E
	T	162	165	102	56.4	E
	R	476	456	96	23.9	C
	Subtotal	927	891	96	45.3	D
SE	L	171	182	106	47.5	D
	T	114	113	99	41.4	D
	R	81	80	98	7.5	A
	Subtotal	366	375	102	37.1	D
NE	L	64	62	97	31.7	C
	T	631	636	101	84.5	F
	R	139	137	98	59.0	E
	Subtotal	834	835	100	76.4	E
SW	L	456	441	97	32.9	C
	T	610	613	101	17.0	B
	R	71	76	107	10.8	B
	Subtotal	1,137	1,130	99	22.8	C
Total		3,265	3,231	99	46.0	D

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	816	806	99	0.5	A
	R	27	29	106	0.4	A
	Subtotal	843	835	99	0.5	A
SB	L	32	32	101	6.6	A
	T	1,127	1,125	100	0.6	A
	Subtotal	1,159	1,157	100	0.8	A
WB	L	10	9	88	53.5	F
	R	43	45	105	10.1	B
	Subtotal	53	54	102	17.3	C
Total		2,055	2,046	100	1.1	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	712	704	99	0.4	A
	R	38	37	98	0.4	A
	Subtotal	750	741	99	0.4	A
SB	L	84	83	99	5.4	A
	T	1,054	1,054	100	0.3	A
	Subtotal	1,138	1,137	100	0.7	A
WB	L	4	4	100	32.9	D
	R	128	130	101	6.3	A
	Subtotal	132	134	102	7.1	A
Total		2,021	2,012	100	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	4	100	3.1	A
	Subtotal	5	4	80	3.1	A
SB	L	1	1	100	3.7	A
	T	1	1	100	3.9	A
	R	1	2	200	2.7	A
	Subtotal	3	4	133	3.3	A
EB	L	1	0	0		
	T	116	115	99	0.5	A
	R	5	4	80	0.3	A
	Subtotal	122	119	98	0.5	A
WB	L	1	0	0		
	T	103	106	103	0.1	A
	R	6	6	100	0.1	A
	Subtotal	110	112	102	0.1	A
Total		240	239	100	0.4	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	100	3.7	A
	R	12	12	98	2.7	A
	Subtotal	15	15	100	2.9	A
SB	L	1	0	0		
	R	2	3	150	2.7	A
	Subtotal	3	3	100	2.7	A
EB	T	99	98	99	0.1	A
	Subtotal	99	98	99	0.1	A
WB	L	2	1	50	2.0	A
	T	105	107	102	0.1	A
	R	1	2	200	0.0	A
	Subtotal	108	110	102	0.1	A
Total		225	226	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	8	100	4.4	A
	R	55	56	102	3.2	A
	Subtotal	63	64	102	3.4	A
SB	L	2	1	50	3.1	A
	R	2	2	100	2.4	A
	Subtotal	4	3	75	2.6	A
EB	L	1	0	0		
	T	111	110	99	0.1	A
	Subtotal	112	110	98	0.1	A
WB	T	98	99	101	0.1	A
	R	1	1	100	0.0	A
	Subtotal	99	100	101	0.1	A
Total		278	277	99	0.9	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	9	9	100	6.1	A
	R	14	15	105	2.9	A
	Subtotal	23	24	104	4.1	A
EB	L	6	5	83	1.7	A
	T	162	162	100	0.5	A
	Subtotal	168	167	99	0.5	A
WB	T	86	87	101	0.2	A
	R	5	4	80	0.2	A
	Subtotal	91	91	100	0.2	A
Total		282	282	100	0.7	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	18	104	6.3	A
	R	35	32	92	7.3	A
	Subtotal	52	50	96	6.9	A
EB	T	159	160	101	1.6	A
	R	12	12	98	3.1	A
	Subtotal	171	172	101	1.7	A
WB	L	16	16	98	2.1	A
	T	74	74	100	0.1	A
	Subtotal	90	90	100	0.5	A
Total		313	312	100	2.2	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	67	7.9	A
	R	5	5	100	2.6	A
	Subtotal	8	7	88	4.1	A
EB	L	4	4	100	4.2	A
	T	190	189	99	3.3	A
	Subtotal	194	193	99	3.3	A
WB	T	84	82	97	0.6	A
	R	3	3	100	0.2	A
	Subtotal	87	85	98	0.6	A
Total		290	285	98	2.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	28	26	92	4.4	A
	T	754	754	100	1.7	A
	R	18	18	99	1.2	A
	Subtotal	800	798	100	1.8	A
SB	L	60	59	98	8.4	A
	T	366	366	100	1.1	A
	R	59	58	98	0.6	A
	Subtotal	485	483	100	1.9	A
EB	L	102	102	100	55.4	F
	T	21	20	95	24.2	C
	R	71	73	102	8.0	A
	Subtotal	194	195	101	34.5	D
WB	L	6	7	117	34.8	D
	R	14	16	112	17.2	C
	Subtotal	20	23	115	22.6	C
Total		1,500	1,499	100	6.4	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	3	75	6.1	A
	T	866	868	100	0.6	A
	Subtotal	870	871	100	0.6	A
SB	T	698	697	100	1.3	A
	R	11	9	80	1.3	A
	Subtotal	709	706	100	1.3	A
EB	L	10	9	88	19.5	C
	R	17	19	110	6.6	A
	Subtotal	27	28	104	10.7	B
Total		1,607	1,605	100	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Mitigated Existing (2021) Background
Time Period: Evening Peak Hour **Project #:** UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	289	291	101	38.1	D
	T	162	161	99	41.3	D
	R	476	481	101	10.8	B
	Subtotal	927	933	101	24.6	C
SE	L	171	165	96	38.3	D
	T	114	116	102	47.4	D
	R	81	84	103	8.1	A
	Subtotal	366	365	100	34.2	C
NE	L	64	62	97	31.5	C
	T	631	621	98	73.1	E
	R	139	136	98	49.2	D
	Subtotal	834	819	98	66.0	E
SW	L	456	452	99	78.4	E
	T	610	616	101	20.9	C
	R	71	71	100	13.6	B
	Subtotal	1,137	1,139	100	43.3	D
Total		3,265	3,256	100	42.8	D

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	532	536	101	0.3	A
	R	23	22	97	0.3	A
	Subtotal	555	558	101	0.3	A
SB	L	31	29	93	4.1	A
	T	938	920	98	0.4	A
	Subtotal	969	949	98	0.5	A
WB	L	11	8	74	21.5	C
	R	19	20	104	4.3	A
	Subtotal	30	28	93	9.2	A
Total		1,554	1,535	99	0.6	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	446	452	101	0.4	A
	R	50	49	98	0.3	A
	Subtotal	496	501	101	0.4	A
SB	L	72	69	96	3.7	A
	T	878	861	98	0.3	A
	Subtotal	950	930	98	0.6	A
WB	L	16	15	92	22.0	C
	R	107	104	97	5.8	A
	Subtotal	123	119	97	7.8	A
Total		1,569	1,550	99	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	5.2	A
	R	1	1	100	3.7	A
	Subtotal	2	2	100	4.5	A
SB	R	8	9	116	3.1	A
	Subtotal	8	9	113	3.1	A
EB	L	6	5	80	1.4	A
	T	114	110	97	0.4	A
	R	2	3	150	0.4	A
	Subtotal	122	118	97	0.4	A
WB	L	5	5	95	1.3	A
	T	114	109	95	0.1	A
	Subtotal	119	114	96	0.2	A
Total		251	243	97	0.4	A

Intersection: S-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	4	123	4.2	A
	R	4	4	94	2.8	A
	Subtotal	7	8	114	3.5	A
EB	T	88	87	98	0.1	A
	R	2	2	100	0.0	A
	Subtotal	90	89	99	0.1	A
WB	L	6	7	112	1.8	A
	T	117	111	95	0.2	A
	Subtotal	123	118	96	0.3	A
Total		222	215	97	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	33	95	4.5	A
	R	22	23	106	2.7	A
	Subtotal	57	56	98	3.8	A
EB	T	92	90	97	0.1	A
	Subtotal	92	90	98	0.1	A
WB	T	87	84	96	0.0	A
	Subtotal	87	84	97	0.0	A
Total		236	230	97	1.0	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	11	11	102	4.4	A
	R	6	7	112	2.7	A
	Subtotal	17	18	106	3.7	A
EB	L	7	7	104	1.3	A
	T	107	105	98	0.1	A
	Subtotal	114	112	98	0.2	A
WB	T	81	77	95	0.1	A
	R	6	6	96	0.0	A
	Subtotal	87	83	95	0.1	A
Total		218	213	98	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	4	76	3.9	A
	R	5	7	133	2.6	A
	Subtotal	10	11	110	3.1	A
EB	T	107	105	98	0.1	A
	R	11	11	102	0.1	A
	Subtotal	118	116	98	0.1	A
WB	L	19	18	94	1.5	A
	T	82	79	96	0.1	A
	Subtotal	101	97	96	0.4	A
Total		229	224	98	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	1	50	3.5	A
	R	2	3	150	2.0	A
	Subtotal	4	4	100	2.4	A
EB	L	4	5	118	1.2	A
	T	108	107	99	0.2	A
	Subtotal	112	112	100	0.2	A
WB	T	100	96	96	0.4	A
	R	3	4	123	0.2	A
	Subtotal	103	100	97	0.4	A
Total		219	216	99	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour
Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	24	24	101	5.1	A
	T	312	312	100	0.6	A
	R	3	3	92	0.4	A
	Subtotal	339	339	100	0.9	A
SB	L	19	18	94	3.2	A
	T	459	448	98	1.0	A
	R	67	63	94	0.4	A
	Subtotal	545	529	97	1.0	A
EB	L	63	61	97	15.1	C
	T	10	9	95	11.9	B
	R	38	38	101	6.2	A
	Subtotal	111	108	97	11.7	B
WB	L	11	13	121	10.4	B
	T	11	11	102	16.1	C
	R	25	26	105	5.9	A
	Subtotal	47	50	106	9.3	A
Total		1,040	1,026	99	2.5	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	400	400	100	0.3	A
	Subtotal	401	400	100	0.3	A
SB	T	646	630	98	1.5	A
	R	9	9	103	1.2	A
	Subtotal	655	639	98	1.5	A
EB	L	2	2	100	12.2	B
	R	5	5	95	6.5	A
	Subtotal	7	7	100	8.1	A
Total		1,062	1,046	98	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Morning Peak Hour **Project #:** UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	135	136	101	36.7	D
	T	68	69	101	37.7	D
	R	202	201	100	4.6	A
	Subtotal	405	406	100	21.0	C
SE	L	88	84	95	30.3	C
	T	88	85	96	34.9	C
	R	42	45	107	5.5	A
	Subtotal	218	214	98	26.9	C
NE	L	41	38	93	17.4	B
	T	477	484	101	34.7	C
	R	101	103	102	18.9	B
	Subtotal	619	625	101	31.0	C
SW	L	465	450	97	44.6	D
	T	464	464	100	10.6	B
	R	89	94	106	5.8	A
	Subtotal	1,018	1,008	99	25.3	C
Total		2,260	2,253	100	26.4	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	818	818	100	0.5	A
	R	27	30	110	0.4	A
	Subtotal	845	848	100	0.5	A
SB	L	32	30	94	6.2	A
	T	1,134	1,146	101	0.6	A
	Subtotal	1,166	1,176	101	0.7	A
WB	L	10	8	78	48.9	E
	R	43	44	103	7.8	A
	Subtotal	53	52	98	14.1	B
Total		2,064	2,076	101	1.0	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	712	712	100	0.5	A
	R	44	45	103	0.4	A
	Subtotal	756	757	100	0.5	A
SB	L	91	94	104	5.1	A
	T	1,056	1,062	101	0.3	A
	Subtotal	1,147	1,156	101	0.7	A
WB	L	8	8	100	33.0	D
	R	130	133	102	7.4	A
	Subtotal	138	141	102	8.9	A
Total		2,040	2,054	101	1.2	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	4	100	3.1	A
	Subtotal	5	4	80	3.1	A
SB	R	6	6	100	3.4	A
	Subtotal	6	6	100	3.4	A
EB	L	7	7	100	1.8	A
	T	122	125	102	0.5	A
	R	5	5	100	0.3	A
	Subtotal	134	137	102	0.6	A
WB	L	1	1	100	1.6	A
	T	109	112	103	0.1	A
	Subtotal	110	113	103	0.1	A
Total		255	260	102	0.5	A

Intersection: S-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	62	5.6	A
	R	12	12	100	2.8	A
	Subtotal	15	14	93	3.2	A
EB	T	109	110	101	0.1	A
	Subtotal	109	110	101	0.1	A
WB	L	2	1	50	1.4	A
	T	105	109	104	0.1	A
	Subtotal	107	110	103	0.1	A
Total		232	234	101	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	7	90	4.5	A
	R	55	57	104	3.0	A
	Subtotal	63	64	102	3.2	A
EB	T	116	116	100	0.2	A
	Subtotal	116	116	100	0.2	A
WB	T	104	107	103	0.1	A
	Subtotal	104	107	103	0.1	A
Total		282	287	102	0.8	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	14	14	98	4.7	A
	R	14	16	112	2.6	A
	Subtotal	28	30	107	3.6	A
EB	L	6	4	67	1.3	A
	T	170	174	102	0.2	A
	Subtotal	176	178	101	0.2	A
WB	T	85	86	101	0.2	A
	R	12	12	98	0.1	A
	Subtotal	97	98	101	0.2	A
Total		302	306	101	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	16	93	5.4	A
	R	35	34	98	3.1	A
	Subtotal	52	50	96	3.8	A
EB	T	165	169	102	0.4	A
	R	12	12	98	0.1	A
	Subtotal	177	181	102	0.4	A
WB	L	16	16	98	2.0	A
	T	80	83	103	0.1	A
	Subtotal	96	99	103	0.4	A
Total		326	330	101	0.9	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	67	7.2	A
	R	5	5	100	2.6	A
	Subtotal	8	7	88	3.9	A
EB	L	4	4	100	4.7	A
	T	196	200	102	1.7	A
	Subtotal	200	204	102	1.8	A
WB	T	91	94	104	0.4	A
	R	3	3	100	0.2	A
	Subtotal	94	97	103	0.4	A
Total		302	308	102	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour
Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	32	33	104	4.5	A
	T	754	745	99	1.8	A
	R	18	19	104	1.1	A
	Subtotal	804	797	99	1.9	A
SB	L	60	58	97	8.6	A
	T	366	354	97	1.2	A
	R	62	64	103	0.7	A
	Subtotal	488	476	98	2.0	A
EB	L	105	104	99	50.9	F
	T	21	23	110	23.0	C
	R	74	74	100	7.7	A
	Subtotal	200	201	101	31.8	D
WB	L	6	6	100	38.1	E
	R	14	17	119	16.0	C
	Subtotal	20	23	115	21.8	C
Total		1,513	1,497	99	6.3	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	2	50	6.4	A
	T	870	864	99	0.7	A
	Subtotal	874	866	99	0.7	A
SB	T	701	689	98	1.3	A
	R	11	11	98	1.2	A
	Subtotal	712	700	98	1.3	A
EB	L	10	9	88	18.3	C
	R	17	16	93	6.6	A
	Subtotal	27	25	93	10.8	B
Total		1,613	1,591	99	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Existing (2021) Plus Project w/o Link
Time Period: Evening Peak Hour **Project #:** UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	289	293	101	37.6	D
	T	161	156	97	42.8	D
	R	480	474	99	11.0	B
	Subtotal	930	923	99	24.8	C
SE	L	171	176	103	41.0	D
	T	114	116	102	47.0	D
	R	81	82	101	8.6	A
	Subtotal	366	374	102	35.8	D
NE	L	64	63	98	43.4	D
	T	631	618	98	89.4	F
	R	139	138	99	62.4	E
	Subtotal	834	819	98	81.3	F
SW	L	459	446	97	113.2	F
	T	610	608	100	21.1	C
	R	71	73	102	14.0	B
	Subtotal	1,140	1,127	99	57.1	E
Total		3,270	3,243	99	51.9	D

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	528	531	101	0.3	A
	R	13	13	100	0.2	A
	Subtotal	541	544	101	0.3	A
SB	L	35	35	101	3.8	A
	T	934	935	100	0.4	A
	Subtotal	969	970	100	0.5	A
WB	L	6	5	80	25.4	D
	T	4	4	107	0.1	A
	R	24	23	97	4.8	A
	Subtotal	34	32	94	7.4	A
Total		1,543	1,546	100	0.6	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	436	439	101	0.3	A
	R	50	50	101	0.3	A
	Subtotal	486	489	101	0.3	A
SB	L	68	67	99	3.8	A
	T	874	875	100	0.2	A
	Subtotal	942	942	100	0.5	A
WB	L	16	15	92	20.5	C
	T	0	0	0		
	R	102	104	102	5.7	A
	Subtotal	118	119	101	7.6	A
Total		1,546	1,550	100	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	2	200	2.1	A
	Subtotal	2	2	100	2.1	A
SB	L	5	4	76	7.1	A
	T	2	3	120	0.1	A
	R	3	3	92	3.4	A
	Subtotal	10	10	100	3.9	A
EB	L	2	1	50	2.8	A
	T	114	114	100	0.3	A
	R	2	2	100	0.3	A
	Subtotal	118	117	99	0.3	A
WB	L	5	4	76	1.7	A
	T	114	116	101	0.1	A
	R	10	9	92	0.0	A
	Subtotal	129	129	100	0.1	A
Total		260	258	99	0.4	A

Intersection: S-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	62	5.2	A
	R	4	6	141	2.6	A
	Subtotal	7	8	114	3.3	A
EB	T	93	91	98	0.1	A
	R	2	2	100	0.0	A
	Subtotal	95	93	98	0.1	A
WB	L	6	6	96	1.6	A
	T	127	128	101	0.2	A
	Subtotal	133	134	101	0.3	A
Total		236	235	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	35	101	4.6	A
	R	22	21	97	3.0	A
	Subtotal	57	56	98	4.0	A
EB	T	97	96	99	0.1	A
	Subtotal	97	96	99	0.1	A
WB	T	97	98	101	0.1	A
	Subtotal	97	98	101	0.1	A
Total		250	250	100	0.9	A

Intersection: Iron Horse Dr & N-2

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	8	7	90	5.0	A
	R	6	7	112	2.6	A
	Subtotal	14	14	100	3.8	A
EB	L	7	5	74	1.2	A
	T	112	112	100	0.1	A
	Subtotal	119	117	98	0.1	A
WB	T	91	90	99	0.1	A
	R	4	5	118	0.0	A
	Subtotal	95	95	100	0.1	A
Total		228	226	99	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	4	76	4.7	A
	R	5	6	114	2.5	A
	Subtotal	10	10	100	3.4	A
EB	T	109	108	99	0.1	A
	R	11	11	102	0.0	A
	Subtotal	120	119	99	0.1	A
WB	L	19	18	94	1.6	A
	T	90	92	102	0.1	A
	Subtotal	109	110	101	0.3	A
Total		240	239	100	0.4	A

Intersection: Iron Horse Dr & N-1

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	4.6	A
	R	2	3	150	2.4	A
	Subtotal	4	5	125	3.3	A
EB	L	4	4	94	1.8	A
	T	110	110	100	0.3	A
	Subtotal	114	114	100	0.4	A
WB	T	107	106	99	0.4	A
	R	3	4	123	0.4	A
	Subtotal	110	110	100	0.4	A
Total		228	229	100	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	34	31	91	5.1	A
	T	312	307	98	0.6	A
	R	3	4	123	0.5	A
	Subtotal	349	342	98	1.0	A
SB	L	19	19	99	3.2	A
	T	460	463	101	1.1	A
	R	65	68	105	0.6	A
	Subtotal	544	550	101	1.1	A
EB	L	60	58	96	16.8	C
	T	9	9	100	13.2	B
	R	43	45	105	7.1	A
	Subtotal	112	112	100	12.6	B
WB	L	11	11	102	14.7	B
	T	11	11	102	15.9	C
	R	25	25	101	5.5	A
	Subtotal	47	47	100	10.1	A
Total		1,051	1,051	100	2.7	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	396	391	99	0.4	A
	Subtotal	397	391	98	0.4	A
SB	T	644	651	101	1.5	A
	R	9	9	103	1.2	A
	Subtotal	653	660	101	1.5	A
EB	L	2	2	100	14.9	B
	R	5	6	114	7.0	A
	Subtotal	7	8	114	9.0	A
Total		1,057	1,059	100	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	135	133	99	37.5	D
	T	68	65	96	36.3	D
	R	199	199	100	4.4	A
	Subtotal	402	397	99	20.7	C
SE	L	88	88	100	28.7	C
	T	88	95	108	35.0	C
	R	42	43	102	5.9	A
	Subtotal	218	226	104	27.0	C
NE	L	41	43	105	15.7	B
	T	480	471	98	32.9	C
	R	101	109	108	16.1	B
	Subtotal	622	623	100	28.8	C
SW	L	463	455	98	38.4	D
	T	466	476	102	11.1	B
	R	89	90	101	5.9	A
	Subtotal	1,018	1,021	100	22.8	C
Total		2,260	2,267	100	24.5	C

Intersection: West Access & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	7	88	4.1	A
	R	10	10	98	2.6	A
	Subtotal	18	17	94	3.2	A
EB	T	46	46	101	0.4	A
	R	6	6	100	0.2	A
	Subtotal	52	52	100	0.4	A
WB	L	5	4	80	1.6	A
	T	25	24	95	0.0	A
	Subtotal	30	28	93	0.2	A
Total		100	97	97	0.8	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	815	821	101	0.4	A
	R	12	13	106	0.2	A
	Subtotal	827	834	101	0.4	A
SB	L	36	35	98	5.0	A
	T	1,130	1,146	101	0.6	A
	Subtotal	1,166	1,181	101	0.7	A
WB	L	5	4	80	31.4	D
	R	47	43	92	5.0	A
	Subtotal	52	47	90	7.2	A
Total		2,044	2,062	101	0.8	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	697	700	100	0.5	A
	R	44	46	105	0.4	A
	Subtotal	741	746	101	0.5	A
SB	L	87	86	99	5.9	A
	T	1,050	1,066	101	0.3	A
	Subtotal	1,137	1,152	101	0.7	A
WB	L	8	7	88	41.5	E
	R	126	129	102	9.9	A
	Subtotal	134	136	101	11.5	B
Total		2,012	2,034	101	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	5	125	3.4	A
	Subtotal	5	5	100	3.4	A
SB	L	5	5	100	6.2	A
	T	6	7	117	0.1	A
	R	2	2	100	4.1	A
	Subtotal	13	14	108	2.9	A
EB	L	3	2	67	1.8	A
	T	122	125	102	0.5	A
	R	5	4	80	0.5	A
	Subtotal	130	131	101	0.5	A
WB	L	1	1	100	1.2	A
	T	109	107	98	0.1	A
	R	15	13	85	0.0	A
	Subtotal	125	121	97	0.1	A
Total		274	271	99	0.5	A

Intersection: S-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	5.0	A
	R	12	11	92	2.8	A
	Subtotal	15	14	93	3.3	A
EB	T	114	117	102	0.1	A
	Subtotal	114	117	103	0.1	A
WB	L	2	2	100	2.1	A
	T	120	117	98	0.1	A
	Subtotal	122	119	98	0.1	A
Total		252	250	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	7	90	4.7	A
	R	55	54	98	3.1	A
	Subtotal	63	61	97	3.3	A
EB	T	121	123	102	0.1	A
	Subtotal	121	123	102	0.1	A
WB	T	119	118	99	0.1	A
	Subtotal	119	118	99	0.1	A
Total		302	302	100	0.7	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	11	10	89	5.5	A
	R	14	15	105	2.7	A
	Subtotal	25	25	100	3.8	A
EB	L	6	7	117	1.6	A
	T	175	174	99	0.2	A
	Subtotal	181	181	100	0.3	A
WB	T	100	99	99	0.2	A
	R	8	9	112	0.2	A
	Subtotal	108	108	100	0.2	A
Total		315	314	100	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	17	99	4.8	A
	R	35	37	106	3.1	A
	Subtotal	52	54	104	3.6	A
EB	T	167	164	98	0.5	A
	R	12	12	98	0.0	A
	Subtotal	179	176	98	0.5	A
WB	L	16	14	86	1.8	A
	T	91	91	100	0.1	A
	Subtotal	107	105	98	0.3	A
Total		338	335	99	1.0	A

Intersection: Iron Horse Dr & N-1

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	67	31.5	D
	R	5	5	100	7.5	A
	Subtotal	8	7	88	14.4	B
EB	L	4	3	75	2.9	A
	T	198	198	100	1.7	A
	Subtotal	202	201	100	1.7	A
WB	T	102	99	97	0.5	A
	R	3	3	100	0.2	A
	Subtotal	105	102	97	0.5	A
Total		315	310	98	1.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	47	47	101	4.6	A
	T	754	766	102	1.8	A
	R	18	16	88	1.2	A
	Subtotal	819	829	101	1.9	A
SB	L	60	57	95	8.9	A
	T	366	363	99	1.1	A
	R	58	55	95	0.6	A
	Subtotal	484	475	98	2.0	A
EB	L	102	98	96	61.9	F
	T	20	20	99	25.2	D
	R	79	82	103	8.3	A
	Subtotal	201	200	100	36.3	E
WB	L	6	6	100	31.8	D
	R	14	16	112	16.8	C
	Subtotal	20	22	110	20.9	C
Total		1,525	1,526	100	6.8	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	3	75	3.7	A
	T	866	877	101	0.6	A
	Subtotal	870	880	101	0.6	A
SB	T	697	683	98	1.3	A
	R	11	10	89	1.1	A
	Subtotal	708	693	98	1.3	A
EB	L	10	10	98	22.3	C
	R	17	16	93	6.9	A
	Subtotal	27	26	96	12.8	B
Total		1,606	1,599	100	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Existing (2021) Plus Project w/ Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	289	294	102	36.4	D
	T	161	163	101	40.9	D
	R	477	481	101	10.8	B
	Subtotal	927	938	101	24.1	C
SE	L	171	169	99	38.4	D
	T	114	115	101	45.5	D
	R	81	81	100	8.6	A
	Subtotal	366	365	100	34.0	C
NE	L	64	64	100	32.0	C
	T	634	630	99	81.1	F
	R	139	138	99	58.1	E
	Subtotal	837	832	99	73.5	E
SW	L	455	442	97	86.5	F
	T	614	605	99	20.2	C
	R	71	70	98	12.8	B
	Subtotal	1,140	1,117	98	46.0	D
Total		3,270	3,252	99	45.6	D

Intersection: West Access & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	9	7	78	4.3	A
	R	13	12	91	2.7	A
	Subtotal	22	19	86	3.3	A
EB	T	44	42	96	0.5	A
	R	6	8	133	0.4	A
	Subtotal	50	50	100	0.5	A
WB	L	7	7	100	1.7	A
	T	38	35	93	0.1	A
	Subtotal	45	42	93	0.4	A
Total		117	111	95	0.9	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	558	565	101	0.3	A
	R	25	27	109	0.4	A
	Subtotal	583	592	102	0.3	A
SB	L	35	35	101	4.5	A
	T	985	975	99	0.5	A
	Subtotal	1,020	1,010	99	0.6	A
WB	L	15	12	80	28.4	D
	R	20	20	99	7.1	A
	Subtotal	35	32	91	15.1	B
Total		1,638	1,634	100	0.8	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	470	479	102	0.4	A
	R	50	53	107	0.4	A
	Subtotal	520	532	102	0.4	A
SB	L	70	66	94	4.0	A
	T	932	924	99	0.3	A
	Subtotal	1,002	990	99	0.5	A
WB	L	15	16	107	21.6	C
	R	110	111	101	5.9	A
	Subtotal	125	127	102	7.9	A
Total		1,647	1,649	100	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	2	200	1.9	A
	Subtotal	2	2	100	1.9	A
EB	T	118	116	99	0.4	A
	R	2	2	100	0.2	A
	Subtotal	120	118	98	0.4	A
WB	L	5	5	95	1.7	A
	T	124	127	102	0.1	A
	R	2	3	150	0.1	A
	Subtotal	131	135	103	0.2	A
Total		253	255	101	0.2	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	4.9	A
	R	4	4	94	3.2	A
	Subtotal	7	7	100	3.9	A
EB	T	93	93	100	0.0	A
	R	2	2	100	0.0	A
	Subtotal	95	95	100	0.0	A
WB	L	6	6	96	1.5	A
	T	129	134	104	0.2	A
	Subtotal	135	140	104	0.3	A
Total		238	242	102	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	34	98	4.9	A
	R	22	23	106	3.0	A
	Subtotal	57	57	100	4.1	A
EB	L	2	2	100	1.2	A
	T	95	95	100	0.1	A
	Subtotal	97	97	100	0.1	A
WB	T	99	104	105	0.0	A
	R	1	1	100	0.0	A
	Subtotal	100	105	105	0.0	A
Total		254	259	102	1.0	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	92	5.0	A
	R	6	6	96	2.4	A
	Subtotal	9	9	100	3.3	A
EB	L	7	5	74	1.5	A
	T	110	113	103	0.1	A
	Subtotal	117	118	101	0.2	A
WB	T	94	99	105	0.1	A
	R	1	2	200	0.0	A
	Subtotal	95	101	106	0.1	A
Total		221	228	103	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	6	114	4.8	A
	R	5	7	133	2.9	A
	Subtotal	10	13	130	3.8	A
EB	T	102	103	100	0.1	A
	R	11	13	121	0.1	A
	Subtotal	113	116	103	0.1	A
WB	L	19	19	99	1.7	A
	T	90	96	107	0.1	A
	Subtotal	109	115	106	0.4	A
Total		233	244	105	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	2.6	A
	R	2	2	100	3.0	A
	Subtotal	4	4	100	2.8	A
EB	L	4	3	71	1.5	A
	T	104	108	104	0.2	A
	Subtotal	108	111	103	0.2	A
WB	T	108	113	105	0.5	A
	R	3	3	92	0.4	A
	Subtotal	111	116	105	0.5	A
Total		222	231	104	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	25	29	117	5.9	A
	T	335	341	102	0.6	A
	R	5	6	114	0.5	A
	Subtotal	365	376	103	1.0	A
SB	L	20	21	104	3.0	A
	T	486	483	99	1.1	A
	R	70	69	99	0.5	A
	Subtotal	576	573	99	1.1	A
EB	L	60	60	100	17.9	C
	T	10	10	100	14.4	B
	R	35	39	112	7.2	A
	Subtotal	105	109	104	13.8	B
WB	L	15	16	107	16.2	C
	T	15	16	107	17.4	C
	R	25	27	109	6.9	A
	Subtotal	55	59	107	12.3	B
Total		1,101	1,117	101	2.9	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	420	428	102	0.3	A
	Subtotal	421	428	102	0.3	A
SB	T	676	671	99	1.5	A
	R	9	8	91	1.2	A
	Subtotal	685	679	99	1.5	A
EB	L	2	1	50	20.8	C
	R	5	6	114	8.9	A
	Subtotal	7	7	100	10.6	B
Total		1,112	1,114	100	1.1	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	140	138	98	37.6	D
	T	70	72	103	35.5	D
	R	215	222	103	5.0	A
	Subtotal	425	432	102	20.5	C
SE	L	90	90	100	30.5	C
	T	90	91	101	34.8	C
	R	45	46	102	5.7	A
	Subtotal	225	227	101	27.2	C
NE	L	45	44	97	18.0	B
	T	510	518	102	35.8	D
	R	105	101	96	19.8	B
	Subtotal	660	663	100	32.2	C
SW	L	490	490	100	56.1	E
	T	495	498	101	11.8	B
	R	90	93	104	6.1	A
	Subtotal	1,075	1,081	101	31.4	C
Total		2,385	2,403	101	29.4	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	558	556	100	0.3	A
	R	25	28	113	0.3	A
	Subtotal	583	584	100	0.3	A
SB	L	35	35	101	3.9	A
	T	985	996	101	0.5	A
	Subtotal	1,020	1,031	101	0.6	A
WB	L	15	15	100	29.0	D
	R	20	23	114	8.4	A
	Subtotal	35	38	109	16.5	C
Total		1,638	1,653	101	0.9	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	470	472	100	0.4	A
	R	50	52	105	0.3	A
	Subtotal	520	524	101	0.4	A
SB	L	70	70	100	4.0	A
	T	932	940	101	0.3	A
	Subtotal	1,002	1,010	101	0.6	A
WB	L	15	14	93	22.9	C
	R	110	110	100	6.1	A
	Subtotal	125	124	99	8.0	A
Total		1,647	1,658	101	1.0	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	4.0	A
	R	1	1	100	3.2	A
	Subtotal	2	2	100	3.6	A
EB	T	118	120	102	0.3	A
	R	2	2	100	0.1	A
	Subtotal	120	122	102	0.3	A
WB	L	5	4	76	1.7	A
	T	124	123	99	0.1	A
	R	2	3	150	0.1	A
	Subtotal	131	130	99	0.1	A
Total		253	254	100	0.2	A

Intersection: S-3/N-4 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	5.3	A
	R	4	5	118	2.7	A
	Subtotal	7	8	114	3.7	A
EB	T	93	92	99	0.0	A
	R	2	2	100	0.0	A
	Subtotal	95	94	99	0.0	A
WB	L	6	5	80	1.7	A
	T	129	128	99	0.2	A
	Subtotal	135	133	99	0.3	A
Total		238	235	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	35	101	4.7	A
	R	22	22	101	3.2	A
	Subtotal	57	57	100	4.1	A
EB	L	2	1	50	2.3	A
	T	95	95	100	0.1	A
	Subtotal	97	96	99	0.1	A
WB	T	99	96	97	0.1	A
	R	1	2	200	0.0	A
	Subtotal	100	98	98	0.1	A
Total		254	251	99	1.0	A

Intersection: Iron Horse Dr & N-2

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	92	5.1	A
	R	6	5	80	2.6	A
	Subtotal	9	8	89	3.5	A
EB	L	7	6	89	1.6	A
	T	110	112	102	0.1	A
	Subtotal	117	118	101	0.2	A
WB	T	94	93	99	0.1	A
	R	1	1	100	0.0	A
	Subtotal	95	94	99	0.1	A
Total		221	220	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	5	95	4.6	A
	R	5	7	133	2.5	A
	Subtotal	10	12	120	3.4	A
EB	T	102	102	100	0.1	A
	R	11	12	112	0.0	A
	Subtotal	113	114	101	0.1	A
WB	L	19	17	88	1.8	A
	T	90	90	100	0.1	A
	Subtotal	109	107	98	0.4	A
Total		233	233	100	0.4	A

Intersection: Iron Horse Dr & N-1

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	3.5	A
	R	2	2	100	2.0	A
	Subtotal	4	4	100	2.8	A
EB	L	4	4	94	1.3	A
	T	104	105	101	0.3	A
	Subtotal	108	109	101	0.3	A
WB	T	108	105	98	0.5	A
	R	3	4	123	0.3	A
	Subtotal	111	109	98	0.5	A
Total		222	222	100	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	25	23	93	9.8	A
	T	335	329	98	3.1	A
	R	5	7	133	1.9	A
	Subtotal	365	359	98	3.5	A
SB	L	20	20	99	4.5	A
	T	486	475	98	2.3	A
	R	70	70	100	1.3	A
	Subtotal	576	565	98	2.3	A
EB	L	60	62	103	61.4	E
	T	10	10	100	39.9	D
	R	35	35	101	9.6	A
	Subtotal	105	107	102	42.4	D
WB	L	15	15	100	57.4	E
	T	15	15	100	41.6	D
	R	25	24	97	9.7	A
	Subtotal	55	54	98	31.8	C
Total		1,101	1,085	99	8.1	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	420	415	99	0.6	A
	Subtotal	421	415	99	0.6	A
SB	T	676	658	97	1.8	A
	R	9	10	114	1.4	A
	Subtotal	685	668	98	1.8	A
EB	L	2	2	100	11.1	B
	R	5	6	114	10.2	B
	Subtotal	7	8	114	10.4	B
Total		1,112	1,091	98	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	140	137	98	41.2	D
	T	70	72	103	39.1	D
	R	215	211	98	1.4	A
	Subtotal	425	420	99	20.8	C
SE	L	90	88	98	35.3	D
	T	90	87	97	38.2	D
	R	45	49	108	6.2	A
	Subtotal	225	224	100	30.1	C
NE	L	45	45	99	17.0	B
	T	510	506	99	30.7	C
	R	105	103	98	13.3	B
	Subtotal	660	654	99	27.0	C
SW	L	490	479	98	37.2	D
	T	495	505	102	9.7	A
	R	90	87	97	6.8	A
	Subtotal	1,075	1,071	100	21.8	C
Total		2,385	2,369	99	23.9	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	856	849	99	0.5	A
	R	27	28	103	0.4	A
	Subtotal	883	877	99	0.5	A
SB	L	32	34	107	5.8	A
	T	1,175	1,178	100	0.6	A
	Subtotal	1,207	1,212	100	0.7	A
WB	L	10	8	78	57.9	F
	R	43	41	96	11.0	B
	Subtotal	53	49	92	18.7	C
Total		2,143	2,138	100	1.1	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	745	740	99	0.5	A
	R	40	44	111	0.4	A
	Subtotal	785	784	100	0.5	A
SB	L	90	94	105	5.7	A
	T	1,097	1,094	100	0.3	A
	Subtotal	1,187	1,188	100	0.7	A
WB	L	5	6	120	32.3	D
	R	135	133	98	8.1	A
	Subtotal	140	139	99	9.1	A
Total		2,112	2,111	100	1.2	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	3.1	A
	R	4	5	125	3.0	A
	Subtotal	5	6	120	3.0	A
SB	L	1	1	100	2.5	A
	T	1	1	100	4.3	A
	R	1	1	100	3.4	A
	Subtotal	3	3	100	3.4	A
EB	L	1	1	100	1.9	A
	T	124	132	107	0.5	A
	R	5	5	100	0.4	A
	Subtotal	130	138	106	0.5	A
WB	L	1	0	0		
	T	111	109	98	0.1	A
	R	6	7	117	0.1	A
	Subtotal	118	116	98	0.1	A
Total		256	263	103	0.4	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	100	3.8	A
	R	12	12	98	2.7	A
	Subtotal	15	15	100	2.9	A
SB	L	1	1	100	3.0	A
	R	2	2	100	3.3	A
	Subtotal	3	3	100	3.2	A
EB	T	111	118	106	0.1	A
	Subtotal	111	118	106	0.1	A
WB	L	2	1	50	1.9	A
	T	113	112	99	0.1	A
	R	1	1	100	0.1	A
	Subtotal	116	114	98	0.1	A
Total		245	250	102	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	6	75	5.4	A
	R	55	55	100	3.1	A
	Subtotal	63	61	97	3.3	A
SB	L	2	2	100	3.7	A
	R	2	2	100	3.1	A
	Subtotal	4	4	100	3.4	A
EB	L	1	0	0	0.1	A
	T	124	131	106	0.1	A
	Subtotal	125	131	105	0.1	A
WB	T	106	106	100	0.1	A
	R	1	1	100	0.1	A
	Subtotal	107	107	100	0.1	A
Total		298	303	102	0.8	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	9	10	111	4.8	A
	R	14	16	112	2.6	A
	Subtotal	23	26	113	3.4	A
EB	L	6	6	100	1.5	A
	T	174	181	104	0.2	A
	Subtotal	180	187	104	0.2	A
WB	T	94	92	98	0.2	A
	R	5	5	100	0.2	A
	Subtotal	99	97	98	0.2	A
Total		302	310	103	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	17	99	5.4	A
	R	35	35	101	3.4	A
	Subtotal	52	52	100	4.1	A
EB	T	171	176	103	0.2	A
	R	12	15	122	0.1	A
	Subtotal	183	191	104	0.2	A
WB	L	16	16	98	1.8	A
	T	81	80	98	0.1	A
	Subtotal	97	96	99	0.4	A
Total		333	339	102	0.9	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	2	67	17.2	C
	R	5	6	120	2.1	A
	Subtotal	8	8	100	5.9	A
EB	L	4	4	100	5.2	A
	T	202	208	103	1.8	A
	Subtotal	206	212	103	1.9	A
WB	T	92	90	98	0.8	A
	R	3	3	100	0.2	A
	Subtotal	95	93	98	0.8	A
Total		309	313	101	1.6	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	30	101	5.8	A
	T	800	810	101	2.4	A
	R	20	20	99	1.5	A
	Subtotal	850	860	101	2.5	A
SB	L	65	58	89	10.0	A
	T	385	384	100	1.2	A
	R	65	64	98	0.6	A
	Subtotal	515	506	98	2.1	A
EB	L	105	108	103	68.8	F
	T	26	25	98	31.7	D
	R	75	76	101	11.8	B
	Subtotal	206	209	101	43.6	E
WB	L	10	8	78	41.4	E
	R	15	17	111	18.7	C
	Subtotal	25	25	100	26.0	D
Total		1,596	1,600	100	8.3	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	3	75	4.9	A
	T	916	932	102	0.9	A
	Subtotal	920	935	102	0.9	A
SB	T	724	717	99	1.4	A
	R	11	11	98	1.6	A
	Subtotal	735	728	99	1.4	A
EB	L	10	12	117	31.8	D
	R	17	18	104	8.2	A
	Subtotal	27	30	111	17.6	C
Total		1,683	1,693	101	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Background
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	295	301	102	41.7	D
	T	165	162	98	44.7	D
	R	500	505	101	11.5	B
	Subtotal	960	968	101	26.4	C
SE	L	180	180	100	43.9	D
	T	115	119	103	49.7	D
	R	85	84	99	8.9	A
	Subtotal	380	383	101	38.0	D
NE	L	65	58	89	70.8	E
	T	675	635	94	130.5	F
	R	140	136	97	101.0	F
	Subtotal	880	829	94	121.5	F
SW	L	480	475	99	111.2	F
	T	650	629	97	20.9	C
	R	75	75	100	15.2	B
	Subtotal	1,205	1,179	98	56.9	E
Total		3,426	3,359	98	63.2	E

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	856	854	100	0.5	A
	R	27	30	110	0.5	A
	Subtotal	883	884	100	0.5	A
SB	L	32	32	101	6.7	A
	T	1,175	1,188	101	0.6	A
	Subtotal	1,207	1,220	101	0.8	A
WB	L	10	11	107	65.1	F
	R	43	46	108	18.0	C
	Subtotal	53	57	108	27.1	D
Total		2,143	2,161	101	1.4	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	745	745	100	0.5	A
	R	40	40	101	0.4	A
	Subtotal	785	785	100	0.5	A
SB	L	90	92	103	5.4	A
	T	1,097	1,108	101	0.3	A
	Subtotal	1,187	1,200	101	0.7	A
WB	L	5	5	100	54.9	F
	R	135	136	101	12.2	B
	Subtotal	140	141	101	13.7	B
Total		2,112	2,126	101	1.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	3.2	A
	R	4	4	100	3.6	A
	Subtotal	5	5	100	3.5	A
SB	L	1	0	0	5.3	A
	T	1	1	100		
	R	1	2	200	2.1	A
	Subtotal	3	3	100	3.2	A
EB	L	1	0	0	0.6	A
	T	124	126	102	0.6	A
	R	5	5	100	0.5	A
	Subtotal	130	131	101	0.6	A
WB	L	1	0	0	0.1	A
	T	111	110	99	0.0	A
	R	6	8	133	0.0	A
	Subtotal	118	118	100	0.1	A
Total		256	257	101	0.4	A

Intersection: S-3/N-4 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	2	67	4.2	A
	R	12	13	106	3.1	A
	Subtotal	15	15	100	3.2	A
SB	L	1	0	0	3.2	A
	R	2	3	150		
	Subtotal	3	3	100	3.2	A
EB	T	111	112	101	0.1	A
	Subtotal	111	112	101	0.1	A
WB	L	2	2	100	1.2	A
	T	113	112	99	0.1	A
	R	1	1	100	0.2	A
	Subtotal	116	115	99	0.1	A
Total		245	245	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2/N-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	8	100	4.9	A
	R	55	49	89	3.2	A
	Subtotal	63	57	90	3.4	A
SB	L	2	2	100	4.2	A
	R	2	2	100	2.6	A
	Subtotal	4	4	100	3.4	A
EB	L	1	0	0	0.1	A
	T	124	126	102	0.1	A
	Subtotal	125	126	101	0.1	A
WB	T	106	106	100	0.1	A
	R	1	1	100	0.0	A
	Subtotal	107	107	100	0.1	A
Total		298	294	98	0.8	A

Intersection: Iron Horse Dr & N-2

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	9	9	100	4.7	A
	R	14	14	98	2.4	A
	Subtotal	23	23	100	3.3	A
EB	L	6	6	100	1.6	A
	T	174	170	98	0.2	A
	Subtotal	180	176	98	0.2	A
WB	T	94	94	101	0.2	A
	R	5	4	80	0.2	A
	Subtotal	99	98	99	0.2	A
Total		302	297	98	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	16	93	5.9	A
	R	35	38	109	3.1	A
	Subtotal	52	54	104	3.9	A
EB	T	171	167	98	0.1	A
	R	12	11	90	0.0	A
	Subtotal	183	178	97	0.1	A
WB	L	16	17	105	1.8	A
	T	81	82	101	0.1	A
	Subtotal	97	99	102	0.4	A
Total		333	331	99	0.8	A

Intersection: Iron Horse Dr & N-1

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	4	133	4.1	A
	R	5	6	120	2.4	A
	Subtotal	8	10	125	3.1	A
EB	L	4	4	100	1.5	A
	T	202	202	100	0.5	A
	Subtotal	206	206	100	0.5	A
WB	T	92	93	101	0.3	A
	R	3	3	100	0.2	A
	Subtotal	95	96	101	0.3	A
Total		309	312	101	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	30	31	104	12.0	B
	T	800	810	101	7.7	A
	R	20	21	104	5.8	A
	Subtotal	850	862	101	7.8	A
SB	L	65	67	103	17.4	B
	T	385	380	99	2.0	A
	R	65	64	98	1.0	A
	Subtotal	515	511	99	3.9	A
EB	L	105	105	100	41.3	D
	T	26	24	94	35.5	D
	R	75	78	104	10.8	B
	Subtotal	206	207	100	29.1	C
WB	L	10	9	88	45.0	D
	R	15	14	92	12.0	B
	Subtotal	25	23	92	24.9	C
Total		1,596	1,603	100	9.6	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	5	125	5.3	A
	T	916	923	101	1.0	A
	Subtotal	920	928	101	1.0	A
SB	T	724	722	100	1.4	A
	R	11	12	107	1.4	A
	Subtotal	735	734	100	1.4	A
EB	L	10	11	107	21.9	C
	R	17	17	99	6.1	A
	Subtotal	27	28	104	12.3	B
Total		1,683	1,690	100	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Mitigated Future (2026) Background

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	295	300	102	34.0	C
	T	165	168	102	35.2	D
	R	500	501	100	2.6	A
	Subtotal	960	969	101	18.0	B
SE	L	180	173	96	33.6	C
	T	115	115	100	43.6	D
	R	85	82	96	7.7	A
	Subtotal	380	370	97	31.0	C
NE	L	65	63	97	21.0	C
	T	675	673	100	40.7	D
	R	140	136	97	13.7	B
	Subtotal	880	872	99	35.1	C
SW	L	480	484	101	57.4	E
	T	650	649	100	16.8	B
	R	75	74	98	11.9	B
	Subtotal	1,205	1,207	100	32.8	C
Total		3,426	3,418	100	29.0	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	564	554	98	0.3	A
	R	25	27	109	0.4	A
	Subtotal	589	581	99	0.3	A
SB	L	35	34	98	4.3	A
	T	989	983	99	0.5	A
	Subtotal	1,024	1,017	99	0.6	A
WB	L	15	14	93	25.6	D
	R	20	19	94	5.2	A
	Subtotal	35	33	94	13.9	B
Total		1,648	1,631	99	0.8	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	470	464	99	0.3	A
	R	52	47	91	0.4	A
	Subtotal	522	511	98	0.3	A
SB	L	74	73	98	3.7	A
	T	932	924	99	0.3	A
	Subtotal	1,006	997	99	0.5	A
WB	L	19	21	109	26.8	D
	T	0	1	400	0.2	A
	R	116	114	98	7.9	A
	Subtotal	135	136	101	10.8	B
Total		1,664	1,644	99	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	1	1	100	2.8	A
	Subtotal	2	1	50	2.8	A
SB	R	8	8	103	3.3	A
	Subtotal	8	8	100	3.3	A
EB	L	6	5	80	1.8	A
	T	118	113	96	0.4	A
	R	2	2	100	0.5	A
	Subtotal	126	120	95	0.5	A
WB	L	5	6	114	1.5	A
	T	126	127	101	0.1	A
	Subtotal	131	133	102	0.2	A
Total		267	262	98	0.4	A

Intersection: S-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	5.6	A
	R	4	4	94	2.8	A
	Subtotal	7	7	100	4.0	A
EB	T	93	89	96	0.1	A
	R	2	2	100	0.0	A
	Subtotal	95	91	96	0.1	A
WB	L	6	6	96	1.7	A
	T	129	131	101	0.3	A
	Subtotal	135	137	101	0.4	A
Total		238	235	99	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/o Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	37	106	4.5	A
	R	22	22	101	3.1	A
	Subtotal	57	59	104	4.0	A
EB	T	97	93	96	0.1	A
	Subtotal	97	93	96	0.1	A
WB	T	99	99	100	0.0	A
	Subtotal	99	99	100	0.0	A
Total		253	251	99	1.0	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	11	11	102	4.0	A
	R	6	7	112	2.8	A
	Subtotal	17	18	106	3.5	A
EB	L	7	7	104	1.3	A
	T	112	108	96	0.1	A
	Subtotal	119	115	97	0.2	A
WB	T	93	92	99	0.1	A
	R	6	7	112	0.0	A
	Subtotal	99	99	100	0.1	A
Total		235	232	99	0.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/o Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	4	76	4.6	A
	R	5	5	95	2.7	A
	Subtotal	10	9	90	3.5	A
EB	T	112	107	95	0.2	A
	R	11	12	112	0.1	A
	Subtotal	123	119	97	0.2	A
WB	L	19	19	99	1.7	A
	T	94	95	101	0.1	A
	Subtotal	113	114	101	0.4	A
Total		247	242	98	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	8.7	A
	R	2	2	100	2.0	A
	Subtotal	4	4	100	5.4	A
EB	L	4	4	94	1.8	A
	T	113	109	96	0.4	A
	Subtotal	117	113	97	0.4	A
WB	T	111	112	101	0.5	A
	R	3	3	92	0.4	A
	Subtotal	114	115	101	0.5	A
Total		236	232	98	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	27	25	93	9.8	A
	T	335	345	103	3.2	A
	R	5	6	114	2.0	A
	Subtotal	367	376	102	3.6	A
SB	L	20	20	99	3.7	A
	T	486	495	102	2.1	A
	R	72	75	104	1.1	A
	Subtotal	578	590	102	2.0	A
EB	L	66	62	94	58.1	E
	T	10	10	95	39.0	D
	R	39	40	103	9.5	A
	Subtotal	115	112	97	39.0	D
WB	L	15	12	80	50.0	D
	T	15	15	100	43.0	D
	R	25	25	101	11.9	B
	Subtotal	55	52	95	29.7	C
Total		1,116	1,130	101	7.6	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	425	432	102	0.6	A
	Subtotal	426	432	101	0.6	A
SB	T	678	693	102	1.8	A
	R	9	9	103	1.4	A
	Subtotal	687	702	102	1.8	A
EB	L	2	1	50	23.8	C
	R	5	6	114	5.7	A
	Subtotal	7	7	100	8.3	A
Total		1,120	1,141	102	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	140	137	98	39.6	D
	T	70	68	97	38.2	D
	R	221	230	104	1.4	A
	Subtotal	431	435	101	19.2	B
SE	L	90	93	104	35.9	D
	T	90	90	100	40.9	D
	R	45	47	104	6.4	A
	Subtotal	225	230	102	31.8	C
NE	L	45	43	95	17.3	B
	T	510	510	100	30.9	C
	R	105	108	103	13.3	B
	Subtotal	660	661	100	27.1	C
SW	L	492	501	102	40.7	D
	T	495	498	101	9.5	A
	R	90	95	106	5.9	A
	Subtotal	1,077	1,094	102	23.5	C
Total		2,394	2,420	101	24.6	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	858	867	101	0.5	A
	R	27	27	99	0.3	A
	Subtotal	885	894	101	0.5	A
SB	L	32	32	101	5.8	A
	T	1,182	1,190	101	0.6	A
	Subtotal	1,214	1,222	101	0.7	A
WB	L	10	11	107	52.0	F
	R	43	44	103	12.5	B
	Subtotal	53	55	104	20.4	C
Total		2,152	2,171	101	1.2	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	745	758	102	0.6	A
	R	46	47	103	0.5	A
	Subtotal	791	805	102	0.6	A
SB	L	97	98	101	6.1	A
	T	1,097	1,104	101	0.3	A
	Subtotal	1,194	1,202	101	0.8	A
WB	L	9	9	100	33.6	D
	R	137	134	98	8.3	A
	Subtotal	146	143	98	9.9	A
Total		2,131	2,150	101	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/o Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	5	125	3.1	A
	Subtotal	5	5	100	3.1	A
SB	R	6	6	100	3.5	A
	Subtotal	6	6	100	3.5	A
EB	L	7	9	129	1.7	A
	T	130	131	100	0.6	A
	R	5	6	120	0.4	A
	Subtotal	142	146	103	0.7	A
WB	L	1	0	0		
	T	117	115	98	0.1	A
	Subtotal	118	115	97	0.1	A
Total		272	272	100	0.5	A

Intersection: S-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	4.9	A
	R	12	13	108	2.9	A
	Subtotal	15	16	107	3.3	A
EB	T	122	124	102	0.1	A
	Subtotal	122	124	102	0.1	A
WB	L	2	1	50	1.9	A
	T	112	110	98	0.1	A
	Subtotal	114	111	97	0.1	A
Total		251	251	100	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/o Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	6	77	4.1	A
	R	55	56	102	3.1	A
	Subtotal	63	62	98	3.2	A
EB	T	128	130	101	0.1	A
	Subtotal	128	130	102	0.1	A
WB	T	111	110	99	0.1	A
	Subtotal	111	110	99	0.1	A
Total		302	302	100	0.7	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	14	17	119	4.8	A
	R	14	14	98	2.7	A
	Subtotal	28	31	111	3.9	A
EB	L	6	5	83	1.4	A
	T	183	186	102	0.2	A
	Subtotal	189	191	101	0.2	A
WB	T	93	92	99	0.2	A
	R	12	13	106	0.1	A
	Subtotal	105	105	100	0.2	A
Total		322	327	101	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/o Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	16	93	5.7	A
	R	35	37	106	3.2	A
	Subtotal	52	53	102	4.0	A
EB	T	177	184	104	0.2	A
	R	12	12	98	0.1	A
	Subtotal	189	196	104	0.2	A
WB	L	16	14	86	1.6	A
	T	88	89	101	0.1	A
	Subtotal	104	103	99	0.3	A
Total		345	352	102	0.8	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	100	8.1	A
	R	5	5	100	2.7	A
	Subtotal	8	8	100	4.7	A
EB	L	4	3	75	2.3	A
	T	208	218	105	0.7	A
	Subtotal	212	221	104	0.7	A
WB	T	99	98	99	0.3	A
	R	3	3	100	0.2	A
	Subtotal	102	101	99	0.3	A
Total		322	330	102	0.7	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	34	30	89	11.2	B
	T	800	802	100	7.2	A
	R	20	20	99	5.0	A
	Subtotal	854	852	100	7.3	A
SB	L	65	72	111	17.4	B
	T	385	388	101	2.1	A
	R	68	71	104	1.1	A
	Subtotal	518	531	103	4.0	A
EB	L	108	113	105	46.2	D
	T	26	26	102	37.9	D
	R	78	82	105	12.9	B
	Subtotal	212	221	104	32.9	C
WB	L	10	10	98	51.0	D
	R	15	16	105	10.4	B
	Subtotal	25	26	104	26.0	C
Total		1,610	1,630	101	10.0	A

Intersection: Bonanza Dr & East Access

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	4	100	4.7	A
	T	919	926	101	0.9	A
	Subtotal	923	930	101	0.9	A
SB	T	727	736	101	1.6	A
	R	11	12	107	1.2	A
	Subtotal	738	748	101	1.6	A
EB	L	10	7	68	20.4	C
	R	17	19	110	6.6	A
	Subtotal	27	26	96	10.3	B
Total		1,689	1,704	101	1.4	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/o Link

Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr

Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	294	292	99	34.1	C
	T	165	166	101	36.5	D
	R	504	506	100	2.6	A
	Subtotal	963	964	100	18.0	B
SE	L	180	169	94	32.5	C
	T	115	114	99	42.9	D
	R	85	86	101	8.7	A
	Subtotal	380	369	97	30.2	C
NE	L	65	65	100	21.5	C
	T	675	682	101	46.5	D
	R	138	143	103	15.1	B
	Subtotal	878	890	101	39.6	D
SW	L	485	489	101	47.7	D
	T	650	649	100	16.8	B
	R	75	80	106	12.7	B
	Subtotal	1,210	1,218	101	28.9	C
Total		3,432	3,441	100	28.9	C

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	559	555	99	0.3	A
	R	15	15	100	0.3	A
	Subtotal	574	570	99	0.3	A
SB	L	39	37	95	4.2	A
	T	985	986	100	0.5	A
	Subtotal	1,024	1,023	100	0.6	A
WB	L	12	11	92	28.2	D
	T	4	4	107	0.2	A
	R	25	26	105	6.3	A
	Subtotal	41	41	100	11.6	B
Total		1,638	1,634	100	0.8	A

Intersection: S.R. 224 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	460	461	100	0.4	A
	R	52	53	102	0.4	A
	Subtotal	512	514	100	0.4	A
SB	L	70	69	99	3.9	A
	T	928	931	100	0.3	A
	Subtotal	998	1,000	100	0.5	A
WB	L	19	17	88	28.3	D
	T	0	0	0		
	R	111	106	95	7.4	A
	Subtotal	130	123	95	10.3	B
Total		1,640	1,637	100	1.2	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS

Analysis Period: Future (2026) Plus Project w/ Link

Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-4/N-5 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	1	100	3.5	A
	R	1	1	100	2.2	A
	Subtotal	2	2	100	2.9	A
SB	L	5	6	114	5.8	A
	T	2	3	120	0.1	A
	R	3	4	123	2.8	A
	Subtotal	10	13	130	3.6	A
EB	L	2	2	100	2.5	A
	T	118	118	100	0.4	A
	R	2	2	100	0.4	A
	Subtotal	122	122	100	0.4	A
WB	L	5	4	76	2.1	A
	T	127	120	94	0.1	A
	R	10	11	113	0.0	A
	Subtotal	142	135	95	0.2	A
Total		277	272	98	0.5	A

Intersection: S-3 & Iron Horse Dr

Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	3	92	5.1	A
	R	4	5	118	2.9	A
	Subtotal	7	8	114	3.7	A
EB	T	98	99	101	0.1	A
	R	2	2	100	0.0	A
	Subtotal	100	101	101	0.1	A
WB	L	6	4	64	2.2	A
	T	138	132	95	0.2	A
	Subtotal	144	136	94	0.3	A
Total		252	245	97	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	35	32	92	4.6	A
	R	22	22	101	3.0	A
	Subtotal	57	54	95	3.9	A
EB	T	102	104	101	0.1	A
	Subtotal	102	104	102	0.1	A
WB	T	109	104	95	0.0	A
	Subtotal	109	104	95	0.0	A
Total		268	262	98	0.9	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	8	6	77	4.6	A
	R	6	8	128	2.9	A
	Subtotal	14	14	100	3.6	A
EB	L	7	6	89	1.5	A
	T	118	120	102	0.1	A
	Subtotal	125	126	101	0.2	A
WB	T	104	97	94	0.1	A
	R	4	5	118	0.1	A
	Subtotal	108	102	94	0.1	A
Total		246	242	98	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	5	6	114	4.6	A
	R	5	5	95	2.6	A
	Subtotal	10	11	110	3.7	A
EB	T	114	114	100	0.1	A
	R	11	12	112	0.1	A
	Subtotal	125	126	101	0.1	A
WB	L	19	20	104	1.7	A
	T	102	96	94	0.1	A
	Subtotal	121	116	96	0.4	A
Total		258	253	98	0.4	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	2	2	100	6.7	A
	R	2	3	150	2.3	A
	Subtotal	4	5	125	4.1	A
EB	L	4	3	71	2.0	A
	T	115	116	101	0.3	A
	Subtotal	119	119	100	0.3	A
WB	T	119	111	93	0.5	A
	R	3	3	92	0.4	A
	Subtotal	122	114	93	0.5	A
Total		246	238	97	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	37	35	95	10.5	B
	T	335	331	99	2.9	A
	R	5	6	114	1.6	A
	Subtotal	377	372	99	3.6	A
SB	L	20	19	94	3.9	A
	T	486	498	102	2.1	A
	R	70	64	91	1.1	A
	Subtotal	576	581	101	2.0	A
EB	L	63	66	105	56.9	E
	T	10	11	105	35.8	D
	R	44	42	95	10.6	B
	Subtotal	117	119	102	38.6	D
WB	L	15	17	113	56.9	E
	T	15	14	93	41.9	D
	R	25	24	97	8.9	A
	Subtotal	55	55	100	32.1	C
Total		1,126	1,127	100	7.9	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	T	422	422	100	0.5	A
	Subtotal	423	422	100	0.5	A
SB	T	676	678	100	1.7	A
	R	9	9	103	1.3	A
	Subtotal	685	687	100	1.7	A
EB	L	2	2	100	15.7	C
	R	5	6	114	9.6	A
	Subtotal	7	8	114	11.1	B
Total		1,115	1,117	100	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Morning Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	140	136	97	41.4	D
	T	70	71	101	37.4	D
	R	218	220	101	1.4	A
	Subtotal	428	427	100	20.1	C
SE	L	90	87	97	34.8	C
	T	90	92	103	41.2	D
	R	45	47	104	5.9	A
	Subtotal	225	226	100	31.4	C
NE	L	45	45	99	16.8	B
	T	513	498	97	28.7	C
	R	105	109	104	12.5	B
	Subtotal	663	652	98	25.2	C
SW	L	490	483	99	36.2	D
	T	497	494	99	9.3	A
	R	90	90	100	6.9	A
	Subtotal	1,077	1,067	99	21.3	C
Total		2,393	2,372	99	23.2	C

Intersection: West Access & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	9	112	4.1	A
	R	10	10	98	2.5	A
	Subtotal	18	19	106	3.3	A
EB	T	52	50	97	0.4	A
	R	6	6	100	0.2	A
	Subtotal	58	56	97	0.4	A
WB	L	5	6	120	1.7	A
	T	32	32	101	0.1	A
	Subtotal	37	38	103	0.4	A
Total		113	113	100	0.8	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S.R. 224 & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	854	847	99	0.5	A
	R	12	12	98	0.5	A
	Subtotal	866	859	99	0.5	A
SB	L	36	36	101	5.6	A
	T	1,178	1,179	100	0.6	A
	Subtotal	1,214	1,215	100	0.7	A
WB	L	5	4	80	39.1	E
	R	47	47	101	6.2	A
	Subtotal	52	51	98	8.8	A
Total		2,132	2,125	100	0.8	A

Intersection: S.R. 224 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	T	730	728	100	0.5	A
	R	46	52	114	0.5	A
	Subtotal	776	780	101	0.5	A
SB	L	93	93	100	6.0	A
	T	1,092	1,092	100	0.3	A
	Subtotal	1,185	1,185	100	0.7	A
WB	L	9	7	78	35.9	E
	R	133	129	97	8.3	A
	Subtotal	142	136	96	9.7	A
Total		2,103	2,101	100	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-4/West Access & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	1	0	0		
	R	4	5	125	3.4	A
	Subtotal	5	5	100	3.4	A
SB	L	5	4	80	5.6	A
	T	6	7	117	0.1	A
	R	2	2	100	2.3	A
	Subtotal	13	13	100	2.1	A
EB	L	3	3	100	1.3	A
	T	130	137	105	0.5	A
	R	5	5	100	0.7	A
	Subtotal	138	145	105	0.5	A
WB	L	1	1	100	0.6	A
	T	118	113	96	0.2	A
	R	15	18	118	0.1	A
	Subtotal	134	132	99	0.2	A
Total		290	295	102	0.5	A

Intersection: S-3 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	3	4	123	4.3	A
	R	12	12	100	2.9	A
	Subtotal	15	16	107	3.3	A
EB	T	127	132	104	0.2	A
	Subtotal	127	132	104	0.2	A
WB	L	2	1	50	1.7	A
	T	128	126	99	0.1	A
	Subtotal	130	127	98	0.1	A
Total		272	275	101	0.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-2 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	8	8	103	4.7	A
	R	55	57	104	3.2	A
	Subtotal	63	65	103	3.4	A
EB	T	133	137	103	0.2	A
	Subtotal	133	137	103	0.2	A
WB	T	127	125	98	0.1	A
	Subtotal	127	125	98	0.1	A
Total		323	327	101	0.8	A

Intersection: Iron Horse Dr & N-2
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	11	10	89	4.9	A
	R	14	16	112	2.9	A
	Subtotal	25	26	104	3.7	A
EB	L	6	5	83	1.0	A
	T	188	196	104	0.2	A
	Subtotal	194	201	104	0.2	A
WB	T	108	103	95	0.2	A
	R	8	10	125	0.1	A
	Subtotal	116	113	97	0.2	A
Total		336	340	101	0.5	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: S-1 & Iron Horse Dr
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	17	18	104	5.3	A
	R	35	37	106	3.1	A
	Subtotal	52	55	106	3.8	A
EB	T	179	182	102	0.2	A
	R	12	14	114	0.1	A
	Subtotal	191	196	103	0.2	A
WB	L	16	16	98	2.1	A
	T	99	95	96	0.1	A
	Subtotal	115	111	97	0.4	A
Total		358	362	101	0.8	A

Intersection: Iron Horse Dr & N-1
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
SB	L	3	3	100	6.1	A
	R	5	6	120	2.1	A
	Subtotal	8	9	113	3.4	A
EB	L	4	4	100	2.4	A
	T	211	216	102	0.8	A
	Subtotal	215	220	102	0.8	A
WB	T	110	105	95	0.3	A
	R	3	2	67	0.5	A
	Subtotal	113	107	95	0.3	A
Total		336	336	100	0.7	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Bonanza Dr & Iron Horse Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	49	46	94	10.7	B
	T	800	799	100	7.2	A
	R	20	22	109	5.6	A
	Subtotal	869	867	100	7.3	A
SB	L	65	64	98	17.0	B
	T	385	390	101	2.0	A
	R	64	62	97	1.0	A
	Subtotal	514	516	100	3.7	A
EB	L	105	109	104	49.2	D
	T	26	25	98	35.9	D
	R	83	86	103	10.0	A
	Subtotal	214	220	103	32.4	C
WB	L	10	10	98	52.3	D
	R	15	15	98	11.4	B
	Subtotal	25	25	100	27.8	C
Total		1,622	1,628	100	9.9	A

Intersection: Bonanza Dr & East Access
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	4	3	75	6.2	A
	T	916	919	100	0.9	A
	Subtotal	920	922	100	0.9	A
SB	T	723	725	100	1.3	A
	R	11	12	107	1.4	A
	Subtotal	734	737	100	1.3	A
EB	L	10	10	98	20.3	C
	R	17	17	99	7.5	A
	Subtotal	27	27	100	12.2	B
Total		1,682	1,686	100	1.3	A

SimTraffic LOS Report

Project: Park City - Wintzer TIS
Analysis Period: Future (2026) Plus Project w/ Link
Time Period: Evening Peak Hour

Project #: UT21-1940

Intersection: Kearns Blvd & Bonanza Dr
Type: Signalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NW	L	294	288	98	33.8	C
	T	165	163	99	36.5	D
	R	501	512	102	2.6	A
	Subtotal	960	963	100	17.7	B
SE	L	180	178	99	34.1	C
	T	115	122	106	43.0	D
	R	85	84	99	7.8	A
	Subtotal	380	384	101	31.2	C
NE	L	65	64	98	21.3	C
	T	678	682	101	45.7	D
	R	138	140	101	14.9	B
	Subtotal	881	886	101	39.1	D
SW	L	481	477	99	44.2	D
	T	654	650	99	17.4	B
	R	75	72	96	12.3	B
	Subtotal	1,210	1,199	99	27.8	C
Total		3,432	3,432	100	28.3	C

Intersection: West Access & Homestake Rd
Type: Unsignalized

Approach	Movement	Demand Volume	Volume Served		Delay/Veh (sec)	
			Avg	%	Avg	LOS
NB	L	9	9	100	3.9	A
	R	13	16	121	2.9	A
	Subtotal	22	25	114	3.3	A
EB	T	44	43	98	0.5	A
	R	6	6	100	0.4	A
	Subtotal	50	49	98	0.5	A
WB	L	7	6	86	1.6	A
	T	38	39	103	0.1	A
	Subtotal	45	45	100	0.3	A
Total		117	119	102	1.0	A

APPENDIX C

Site Plan



IRON HORSE DISTRICT

PRELIMINARY SITE PLAN

IRON HORSE DRIVE
PARK CITY, UTAH

DATE: JULY 2021

PROJECT:

DRAWN BY: TK

REVIEW BY: TK

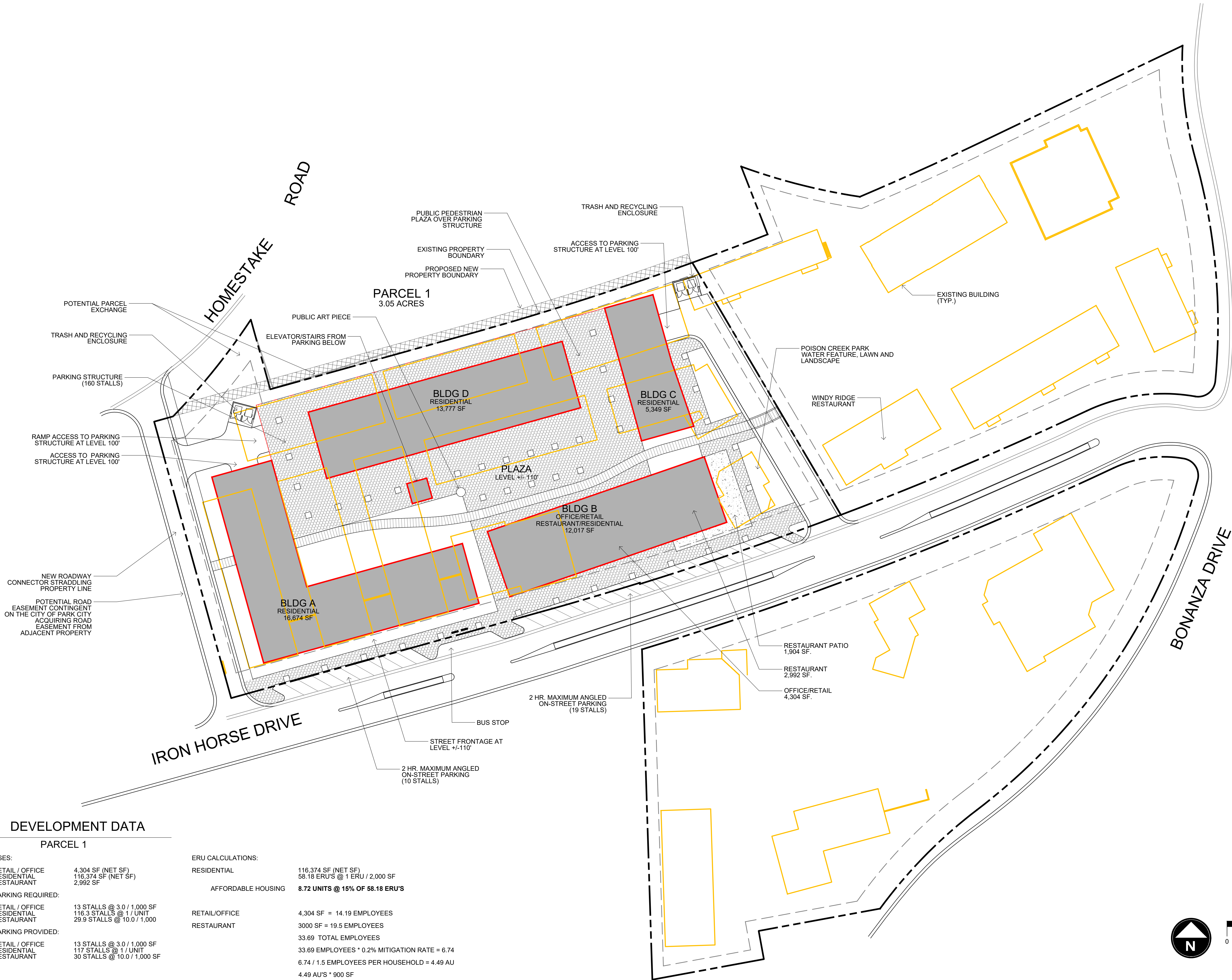
VERSION:

REVISIONS:

SHEET TITLE:
SITE PLAN

SHEET NUMBER:

L1.0



DEVELOPMENT DATA

PARCEL 1

USES:

RETAIL / OFFICE 4,304 SF (NET SF)
RESIDENTIAL 116,374 SF (NET SF)
RESTAURANT 2,992 SF

PARKING REQUIRED:

RETAIL / OFFICE 13 STALLS @ 3.0 / 1,000 SF
RESIDENTIAL 116.3 STALLS @ 1 / UNIT
RESTAURANT 29.9 STALLS @ 10.0 / 1,000

PARKING PROVIDED:

RETAIL / OFFICE 13 STALLS @ 3.0 / 1,000 SF
RESIDENTIAL 117 STALLS @ 1 / UNIT
RESTAURANT 30 STALLS @ 10.0 / 1,000 SF

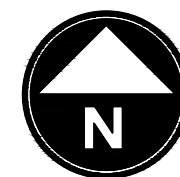
ERU CALCULATIONS:

RESIDENTIAL 116,374 SF (NET SF)
58.18 ERU'S @ 1 ERU / 2,000 SF

AFFORDABLE HOUSING 8.72 UNITS @ 15% OF 58.18 ERU'S

RETAIL/OFFICE 4,304 SF = 14.19 EMPLOYEES
3000 SF = 19.5 EMPLOYEES

33.69 TOTAL EMPLOYEES
33.69 EMPLOYEES * 0.2% MITIGATION RATE = 6.74
6.74 / 1.5 EMPLOYEES PER HOUSEHOLD = 4.49 AU
4.49 AU'S * 900 SF
= 4,050 SF OF AFFORDABLE HOUSING NET LIVING SPACE



0 20 40 80 120
SCALE: 1"=40'

APPENDIX D

95th Percentile Queue Length Reports

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Existing (2021) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB				SE			SW			EB				WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	T	TR	L	R	T	L	T	TR	L	LR	LT	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50		25												50				
02: S.R. 224 & Iron Horse Dr					25							50		25												75				
03: S-4/N-5 & Iron Horse Dr			25																									25		
04: S-3/N-4 & Iron Horse Dr			25																									25		
05: S-2/N-3 & Iron Horse Dr			50																											
06: Iron Horse Dr & N-2													25											25						
07: S-1 & Iron Horse Dr		50																									25			
08: Iron Horse Dr & N-1													25											25					25	
09: Bonanza Dr & Iron Horse Dr	50				25							25			50							75			75	25			50	
10: Bonanza Dr & East Access	25			25										25									50							
11: Kearns Blvd & Bonanza Dr						75	300	275	150	100	125					125	75	125	350	175	150									

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Mitigated Existing (2021) Background

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB				SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50		50													50				
02: S.R. 224 & Iron Horse Dr				25	25							50		25													75				
03: S-4/N-5 & Iron Horse Dr			25																										25		
04: S-3/N-4 & Iron Horse Dr			50																										25		
05: S-2/N-3 & Iron Horse Dr			50																						25						
06: Iron Horse Dr & N-2													25											25							
07: S-1 & Iron Horse Dr		50																											25		
08: Iron Horse Dr & N-1													25											25							
09: Bonanza Dr & Iron Horse Dr	50				25							25			50							75				75	50				50
10: Bonanza Dr & East Access	25			25										25									25								
11: Kearns Blvd & Bonanza Dr						75	275	250	150	100	125					100	75	125	325	150	150										

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Existing (2021) Background

Time Period: Evening Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB					SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	50							50			75													75				
02: S.R. 224 & Iron Horse Dr				25	25							75			25													100				
03: S-4/N-5 & Iron Horse Dr				25										25																	25	
04: S-3/N-4 & Iron Horse Dr				50										25																		
05: S-2/N-3 & Iron Horse Dr				75										25																		
06: Iron Horse Dr & N-2													50													25						
07: S-1 & Iron Horse Dr		75																												25		
08: Iron Horse Dr & N-1													50													75						25
09: Bonanza Dr & Iron Horse Dr	50											75				50							150				75	25				50
10: Bonanza Dr & East Access	25			75											25									50								
11: Kearns Blvd & Bonanza Dr						350	600	550	275	250	800						225	100	200	350	200	200										

Intersection	NB					NE			NW			SB					SE			SW			EB						WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	T	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				50	25							50			50														75				
02: S.R. 224 & Iron Horse Dr				25	25							75			25														100				
03: S-4/N-5 & Iron Horse Dr			25											25											25							25	
04: S-3/N-4 & Iron Horse Dr			50											25																		25	
05: S-2/N-3 & Iron Horse Dr			75											25												0							
06: Iron Horse Dr & N-2												50											50									0	
07: S-1 & Iron Horse Dr		75																												25			
08: Iron Horse Dr & N-1												50											50				25						25
09: Bonanza Dr & Iron Horse Dr	50				75							50				50						150						75	25				50
10: Bonanza Dr & East Access	25			25											25								50										
11: Kearns Blvd & Bonanza Dr						275	550	525	250	250	300						175	100	200	425	300	250											

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Existing (2021) Plus Project w/o Link

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB					SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	TR	L	LR	LT	LTR	TR	
01: S.R. 224 & Homestake Rd				25	25							50			50													50				
02: S.R. 224 & Iron Horse Dr					25							50																100				
03: S-4/West Access & Iron Horse Dr			25											50																	25	
04: S-3 & Iron Horse Dr		50																												25		
05: S-2 & Iron Horse Dr		50																												25		
06: Iron Horse Dr & N-2													50												25							
07: S-1 & Iron Horse Dr			50																										25			
08: Iron Horse Dr & N-1													25												25							25
09: Bonanza Dr & Iron Horse Dr	50				25							25				25							75				75	50				50
10: Bonanza Dr & East Access				25																				50								
11: Kearns Blvd & Bonanza Dr						100	300	275	150	100	125						100	75	125	350	175	150										

Intersection	NB					NE			NW			SB					SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	T	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				50	25							50			50													75				
02: S.R. 224 & Iron Horse Dr				25	25							75			25													100				
03: S-4/West Access & Iron Horse Dr			25										25																	25		
04: S-3 & Iron Horse Dr		50																								25			25			
05: S-2 & Iron Horse Dr		50																								25			25			
06: Iron Horse Dr & N-2													50												25					25		
07: S-1 & Iron Horse Dr		50																								25			25			
08: Iron Horse Dr & N-1													25												50	25						25
09: Bonanza Dr & Iron Horse Dr	50				75							50				50							150				75	25				50
10: Bonanza Dr & East Access	25			50											25									50								
11: Kearns Blvd & Bonanza Dr						325	725	675		250	250	300					200	100	225	525	475	350										

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Existing (2021) Plus Project w/ Link

Time Period: Morning Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB					SE			SW			EB				WB					
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	TR	L	LR	LT	LTR	TR	
01: S.R. 224 & Homestake Rd				25	25							50			25												50					
02: S.R. 224 & Iron Horse Dr				25	25							50			25												75					
03: S-4/West Access & Iron Horse Dr			25											50																25		
04: S-3 & Iron Horse Dr		50																											25			
05: S-2 & Iron Horse Dr		75																														
06: Iron Horse Dr & N-2													50													25						
07: S-1 & Iron Horse Dr			50																										25			
08: Iron Horse Dr & N-1													25													25						
09: Bonanza Dr & Iron Horse Dr	50				25							25				50							75			75	50					50
10: Bonanza Dr & East Access	25			25											25									50								
11: Kearns Blvd & Bonanza Dr						75	275	250	150	100	125						100	75	150	325	150	150										
12: West Access & Homestake Rd		50																											25			

Intersection	NB					NE			NW			SB				SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50		50													50				
02: S.R. 224 & Iron Horse Dr				25	25							50		25													100				
03: S-4/N-5 & Iron Horse Dr			25																										25		
04: S-3/N-4 & Iron Horse Dr			50																										25		
05: S-2/N-3 & Iron Horse Dr			75																						25						
06: Iron Horse Dr & N-2													25											25							
07: S-1 & Iron Horse Dr		50																										25			
08: Iron Horse Dr & N-1													25											25						25	
09: Bonanza Dr & Iron Horse Dr	50				25							25			25							75				75	50				75
10: Bonanza Dr & East Access	25			25											25								50								
11: Kearns Blvd & Bonanza Dr						100	300	275	175	100	125					125	75	125	425	375	300										

Intersection	NB					NE			NW			SB				SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50		50													50				
02: S.R. 224 & Iron Horse Dr				25	25							75		25													100				
03: S-4/N-5 & Iron Horse Dr			25																										25		
04: S-3/N-4 & Iron Horse Dr			50																										25		
05: S-2/N-3 & Iron Horse Dr			75																						25						
06: Iron Horse Dr & N-2													25											25							
07: S-1 & Iron Horse Dr		50																								25		25			
08: Iron Horse Dr & N-1													25											25							25
09: Bonanza Dr & Iron Horse Dr	50				125							50			100							125				75	50				75
10: Bonanza Dr & East Access	25			25											50								50								
11: Kearns Blvd & Bonanza Dr						75	125	250	150	50	125					125	75	150	325	150	175										

Intersection	NB					NE			NW			SB					SE			SW			EB						WB				
	L	LR	LTR	T	TR	L	T	TR	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	T	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				50	50							50			50														75				
02: S.R. 224 & Iron Horse Dr				25	25							75			25														125				
03: S-4/N-5 & Iron Horse Dr			25										25												25								
04: S-3/N-4 & Iron Horse Dr			50										25																		25		
05: S-2/N-3 & Iron Horse Dr			50										25												0								
06: Iron Horse Dr & N-2												50												25									
07: S-1 & Iron Horse Dr		50																										25			25		
08: Iron Horse Dr & N-1												50												50			25						25
09: Bonanza Dr & Iron Horse Dr	50				125							75				50						150						100	50				50
10: Bonanza Dr & East Access	25			50											25								75										
11: Kearns Blvd & Bonanza Dr						425	975	950	250	275	350						200	125	225	550	550	425											

Intersection	NB					NE			NW			SB					SE			SW			EB						WB					
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	T	TR	L	LR	LT	LTR	TR	
01: S.R. 224 & Homestake Rd				50	50							50			50																			
02: S.R. 224 & Iron Horse Dr				25	25							75			25																	100		
03: S-4/N-5 & Iron Horse Dr			25										25												25									
04: S-3/N-4 & Iron Horse Dr			50										25																			25		
05: S-2/N-3 & Iron Horse Dr			75										25												25									
06: Iron Horse Dr & N-2												50												25										
07: S-1 & Iron Horse Dr		50																										25			25			
08: Iron Horse Dr & N-1												50												25		25							25	
09: Bonanza Dr & Iron Horse Dr	75				325							75			100								125					100	50				50	
10: Bonanza Dr & East Access	25			25											25								50											
11: Kearns Blvd & Bonanza Dr						100	175	325	225	125	250						175	100	175	375	200	225												

Intersection	NB					NE			NW			SB					SE			SW			EB						WB				
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	T	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50			50														50				
02: S.R. 224 & Iron Horse Dr				25	25							50			25														100				
03: S-4/West Access & Iron Horse Dr			25										50												25							25	
04: S-3 & Iron Horse Dr		50																											25				
05: S-2 & Iron Horse Dr		75																															
06: Iron Horse Dr & N-2													50												25								
07: S-1 & Iron Horse Dr		50																										25		25			
08: Iron Horse Dr & N-1													25												25								25
09: Bonanza Dr & Iron Horse Dr	50				125							25			100								125					25					75
10: Bonanza Dr & East Access	25			25											50								50										
11: Kearns Blvd & Bonanza Dr						75	100	250	150	25	100						125	75	150	350	175	150											

Intersection	NB					NE			NW			SB					SE			SW			EB					WB			
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	T	TR	L	LR	LT	TR
01: S.R. 224 & Homestake Rd				50	25							50			50													75			
02: S.R. 224 & Iron Horse Dr				25	25							75			25													100			
03: S-4/West Access & Iron Horse Dr			25										25																		
04: S-3 & Iron Horse Dr		50																											25		
05: S-2 & Iron Horse Dr		75																													
06: Iron Horse Dr & N-2												50												25						25	
07: S-1 & Iron Horse Dr		75																								25		25		25	
08: Iron Horse Dr & N-1												50												25	25					25	
09: Bonanza Dr & Iron Horse Dr	75				325							75			100							150					125	50			50
10: Bonanza Dr & East Access	25			25											75								50								
11: Kearns Blvd & Bonanza Dr						100	225	350	225	150	250						175	75	175	350	200	225									

Intersection	NB					NE			NW			SB					SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	LTR	TR	L	LR	LT	LTR	TR
01: S.R. 224 & Homestake Rd				25	25							50			25													50				
02: S.R. 224 & Iron Horse Dr				25	25							50			25												100					
03: S-4/N-5 & Iron Horse Dr			25										50												0						25	
04: S-3 & Iron Horse Dr		50																												25		
05: S-2 & Iron Horse Dr		50																												25		
06: Iron Horse Dr & N-2													50												25						25	
07: S-1 & Iron Horse Dr			50																											25		
08: Iron Horse Dr & N-1													25												25							25
09: Bonanza Dr & Iron Horse Dr	50				125							25				100							125				75	75				75
10: Bonanza Dr & East Access	25			25												50								50								
11: Kearns Blvd & Bonanza Dr						75	100	225	175	25	125						125	75	150	300	150	150										
12: West Access & Homestake Rd		50																												25		

SimTraffic Queueing Report

Project: Park City - Wintzer TIS

Analysis: Future (2026) Plus Project w/ Link

Time Period: Evening Peak Hour

95th Percentile Queue Length (feet) - Rounded Up to Nearest Multiple of 25 ft

Project #: UT21-1940

Intersection	NB					NE			NW			SB					SE			SW			EB					WB				
	L	LR	LTR	T	TR	L	R	T	L	R	T	L	LR	LTR	T	TR	L	R	T	L	T	TR	L	LR	LT	T	TR	L	LR	LT	TR	
01: S.R. 224 & Homestake Rd				50	25							50				50												75				
02: S.R. 224 & Iron Horse Dr				25	25							75				25												125				
03: S-4/West Access & Iron Horse Dr			25										25																			
04: S-3 & Iron Horse Dr		50																											25			
05: S-2 & Iron Horse Dr		75																											25			
06: Iron Horse Dr & N-2												50													25						25	
07: S-1 & Iron Horse Dr		75																												25		
08: Iron Horse Dr & N-1												50													25	25					25	
09: Bonanza Dr & Iron Horse Dr	75				300							75				100						150					100	50			50	
10: Bonanza Dr & East Access	25			25												25							50									
11: Kearns Blvd & Bonanza Dr						125	225	350	225	150	225						200	100	175	325	225	225										
12: West Access & Homestake Rd		50																												25		