Town of Truckee
Planning Division

KidZone Museum Project

Modified Initial Study/15168 Checklist

January 2025

Prepared by

RANEY PLANNING & MANAGEMENT, INC. | 25 years

1501 Sports Drive, Suite A, Sacramento, CA 95834

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APPENDICES:

MODIFIED INITIAL STUDY/15168 CHECKLIST
JANUARY 2025

A. BACKGROUND

1. Project Title: KidZone Museum Project

2. Lead Agency Name and Address: Town of Truckee
Planning Division
10183 Truckee Airport Road
Truckee, CA 96161

3. Contact Person and Phone Number: Lucas Kannall
Assistant Planner
(530) 582-2480

4. Project Location: 10010 Estates Drive
Truckee, CA 96161
A portion of Assessor's Parcel Number (APN) 019-450-035

5. Project Sponsor's Name and Address: Carol Meagher, Executive Director
Sierra Nevada Children's Museum
11711 Donner Pass Road
Truckee, CA 96161

6. Existing General Plan Designation: Open Space Recreation

7. Existing Zoning Designation: Public Facilities (PF)

8. Required Approvals from Other Public Agencies: None

9. Surrounding Land Uses and Setting:

The approximately 1.7-acre project site includes a portion of Assessor's Parcel Number (APN) 019-450-035 and is located at 10010 Estates Drive in the eastern portion of the Truckee River Regional Park in the Town of Truckee, California. The northern portion of the site includes a concrete disc golf pad and two disc golf baskets, and the southern and central portions of the site are graded and used as parking and equipment storage areas for the adjacent McIver Rodeo Arena. Volcanic boulders, conifer trees, and brush are scattered throughout the site, and a chain link fence is located throughout the site. In addition, power poles and associated overhead utility lines generally run along the entire eastern site boundary from north to south. Surrounding existing land uses include trails within the Truckee River Regional Park, the Truckee River Legacy Trail, and the Truckee River to the north; single-family residences, apartments, the Truckee Pines Head Start preschool, and an electric substation to the east, across River View Drive; the McIver Rodeo Arena to the south and undeveloped land further south, across Estates Drive and Brockway Road; and Truckee River Regional Park facilities, including the community garden to the west. The Town of Truckee 2040 General Plan Update (GPU) designates the site as Open Space Recreation, and the site is zoned Public Facilities (PF).

10. Project Description Summary:

The existing KidZone Museum currently operates within a temporary tent structure, located at 11711 Donner Pass Road in the Town of Truckee, approximately 2.35 miles west of the project site. The purpose of the KidZone Museum Project (proposed project) is to replace the existing KidZone Museum facility and construct a new permanent 10,500 square foot structure to house the KidZone Museum at 10010 Estates Drive in the Town of Truckee. Development of the new KidZone Museum would occur over two phases.

The first phase of the proposed project would include the removal of the existing on-site concrete disc golf pad, disc golf baskets, storage areas, boulders, chain link fence, and a portion of the on-site trees. The existing off-site KidZone Museum tent structure would be demolished, and the project site would then be developed with the KidZone Museum comprised of a 6,500-square foot (sf) museum building and approximately 9,000 sf of open space gardens and activity areas. The museum building would be centrally located on the project site, and would include, but not be limited to a 1,975-sf exhibit area; 482-sf lobby; 666-sf science, technology, engineering, art, and mathematics (STEAM) room; 335-sf children's space; 320-sf workshop and office area; 315-sf flexible use space; and 411-sf "sunrise" room. The first phase of the proposed project would also include a new surface parking lot with 30 parking stalls, which would be located east of the proposed museum building, as well as other site improvements, such as landscaping, utilities, snow storage areas, and frontage improvements along River View Drive.

The second phase of the proposed project would add 4,000 sf of new building space to the eastern portion of the 6,500-sf KidZone Museum building, as well as 9,000 sf to the outdoor play area. The project would require approval of a Development Permit with an approved phasing plan.

B. INTRODUCTION

This Modified Initial Study/15168 Checklist identifies and analyzes the potential environmental impacts of the proposed project. The information and analysis presented in this document is organized in accordance with the order of the California Environmental Quality Act (CEQA) checklist in Appendix G of the CEQA Guidelines. The following provides a description of this Modified Initial Study's approach to evaluating the proposed project's consistency with California Environmental Quality Act (CEQA) Section 15168.

In May 2023, the Town of Truckee adopted the 2040 GPU and certified the Town of Truckee 2040 GPU and Downtown Truckee Plan (DTP) Project EIR (2040 GPU EIR). The 2040 GPU EIR is a program EIR, prepared pursuant to Section 15168 of the CEQA Guidelines (Title 14, California Code of Regulations [CCR], Sections 15000 et seq.). The 2040 GPU EIR analyzed full implementation of the GPU and identified GPU policies to mitigate the significant adverse impacts associated with the General Plan to the maximum extent feasible.

Pursuant to CEQA Guidelines Section 15168(c), projects can often be reviewed for consistency with the overlying programmatic EIR, in this case, the 2040 GPU EIR. The following identifies the standards set forth in Section 15168(c):

> (c) Use with Later Activities. Later activities in the program must be examined in the light of the program EIR to determine whether an additional environmental document must be prepared.
>
> (1) If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative

> Declaration. That later analysis may tier from the program EIR as provided in Section 15152.
> (2) If the agency finds that pursuant to Section 15162, no subsequent EIR would be required, the agency can approve the activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required. Whether a later activity is within the scope of a program EIR is a factual question that the lead agency determines based on substantial evidence in the record. Factors that an agency may consider in making that determination include, but are not limited to, consistency of the later activity with the type of allowable land use, overall planned density and building intensity, geographic area analyzed for environmental impacts, and covered infrastructure, as described in the program EIR.
> (3) An agency shall incorporate feasible mitigation measures and alternatives developed in the program EIR into later activities in the program.
> (4) Where the later activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were within the scope of the program EIR.
> (5) A program EIR will be most helpful in dealing with later activities if it provides a description of planned activities that would implement the program and deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed project description and analysis of the program, many later activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required.

As discussed under CEQA Guidelines Section 15168(c)(2), as presented above, if the CEQA Lead Agency determines, pursuant to Section 15162 of the CEQA Guidelines, that an activity is within the scope of the project covered by the program EIR, new environmental documentation would not be required. In addition, as discussed under CEQA Guidelines Section 15168(c)(2), where later activities involve site specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were within the scope of the program EIR. Such an analysis would be most helpful in dealing with later activities if it provides a description of planned activities that would implement the program and deals with the effects of the program as specifically and comprehensively as possible. With a good and detailed project description and analysis of the program, many later activities could be found to be within the scope of the project described in the program EIR.

The Town of Truckee 2040 GPU designates the project site as Open Space Recreation, which is intended for recreational uses compatible with the natural resources in the area, such as skiing, camping, existing golf courses, horseback riding, and clustered residential or lodging uses. In addition, public recreation uses, such as park and recreation facilities, libraries, and community centers, are permitted within areas designated as Open Space Recreation. In addition, the project site is zoned Public Facilities (PF), which is applied to areas appropriate for public, institutional, and auxiliary uses that are established in response to the recreational, safety, cultural, and welfare needs of the Town. Allowable land uses within areas zoned as Public Facilities may include public parks and facilities, schools, hospitals, and government offices, as well as other appropriate uses for public agencies. The proposed project would consist of a 10,500-sf museum building and 18,000 sf of open space gardens and activity areas. Therefore, the proposed project would be consistent with the site's 2040 GPU land use and zoning designations.

In accordance with Sections 15168(c)(2) and 15168(c)(4) of the CEQA Guidelines, this Modified Initial Study/15168 Checklist will provide a project-level analysis of the potential environmental effects associated with the proposed project to determine whether the project 1) is within the

scope of activities evaluated in the 2040 GPU EIR; and 2) would trigger any of the criteria in CEQA Guidelines Section 15162.

For the purposes of this Modified Initial Study/15168 Checklist, the environmental evaluation of the proposed project will be based, generally, on the standards set forth in Section 15162. Modifications have been made to the checklist sections, generally consisting of additional questions that consider the potential for new or substantially increased significant impacts consistent with CEQA Guidelines Section 15162. The following identifies the standards set forth in Section 15162(a):

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
    a) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
    b) Significant effects previously examined will be substantially more severe than shown in the previous EIR [or negative declaration];
    c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
    d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

The following checklist analysis documents the Town's consideration of potential new or more severe significant impacts associated with the proposed project, pursuant to CEQA. The determination in this document is that the project's impacts have been considered in a previous CEQA document (i.e., the 2040 GPU EIR) that was certified by the Town of Truckee, which remains relevant, and the conditions set forth in Section 15162 are not triggered by the proposed project. The discussion concludes that the conditions set forth in Section 15162 are not triggered by the modified project. In addition, the analysis herein has determined that the proposed project is within the scope of activities evaluated in the 2040 GPU EIR. As such, this Modified Initial Study is the appropriate environmental document for the proposed project, pursuant to CEQA Guidelines Section 15168.

C. PROJECT DESCRIPTION

The following provides a description of the project site's current location and setting, as well as the proposed project components.

Project Location and Setting

The approximately 1.7-acre project site includes a portion of APN 019-450-035 and is located at 10010 Estates Drive in the eastern portion of the Truckee River Regional Park in the Town of

Truckee, California (see Figure 1 and Figure 2). The northern portion of the site includes a concrete disc golf pad and two disc golf baskets, and the southern and central portions of the site are graded and used as parking and equipment storage areas for the adjacent McIver Rodeo Arena.

Volcanic boulders, conifer trees, and brush are scattered throughout the site, and a chain link fence is located throughout the site. In addition, power poles and associated overhead utility lines generally run along the entire eastern site boundary from north to south.

Surrounding existing land uses include trails within the Truckee River Regional Park, the Truckee River Legacy Trail, and the Truckee River to the north; single-family residences, apartments, the Truckee Pines Head Start preschool, and an electric substation to the east, across River View Drive; the McIver Rodeo Arena to the south; and Truckee River Regional Park facilities, including the community garden to the west. The Town of Truckee 2040 GPU designates the site as Open Space Recreation, and the site is zoned PF.

Project Components

The existing KidZone Museum, located at 11711 Donner Pass Road, is housed within a tent structure and is currently at capacity. The proposed project would include construction of a new KidZone Museum within the Truckee River Regional Park, approximately 2.35 miles east of the existing museum, which would be designed to meet the demand of the existing museum's visitors. Development of the proposed project would occur over two phases. The first phase would include the demolition of the existing off-site KidZone Museum tent structure and the removal of the existing on-site 75-sf concrete disc golf pad, disc golf baskets, storage areas, boulders, chain link fence, and a portion of the existing on-site trees, as well as development of the site with the proposed KidZone Museum, open space gardens and activity areas, and other site improvements. The second phase of the proposed project would add new building space to the museum building, as well as expand the outdoor play area. The proposed project would require Town approval of a Development Permit, with an approved phasing plan. The proposed project components are described in further detail in the following sections.

Proposed Development

The KidZone Museum would be comprised of a 6,500-sf, one-story museum building with a maximum height of 30 feet and would be constructed as part of the first phase of development (see Figure 3). The museum building would be centrally located on the project site, and would include, but not be limited to a 1,975-sf exhibit area; 482-sf lobby; 666-sf science, technology, engineering, art, and mathematics (STEAM) room; 335-sf children's space; 320-sf workshop and office area; 315-sf flexible use space; and 411-sf "sunrise" room (see Figure 4). The existing KidZone Museum, located at 11711 Donner Pass Road, currently operates from 9:00 AM to 5:00 PM, Tuesday through Sunday.[1] The new museum building is anticipated to have similar operating hours.

Additionally, a total of 9,000 sf of open space gardens and activity areas would be installed during the first development phase and would be located south of the museum building. The open space gardens and activity areas would include, but not be limited to, nature-themed play structures, including a log bridge and traversing rope; a temporary mud play kitchen area; a 380-sf temporary sand play area; a 400-sf temporary outdoor classroom; and 400 sf of temporary vegetable boxes (Figure 5).

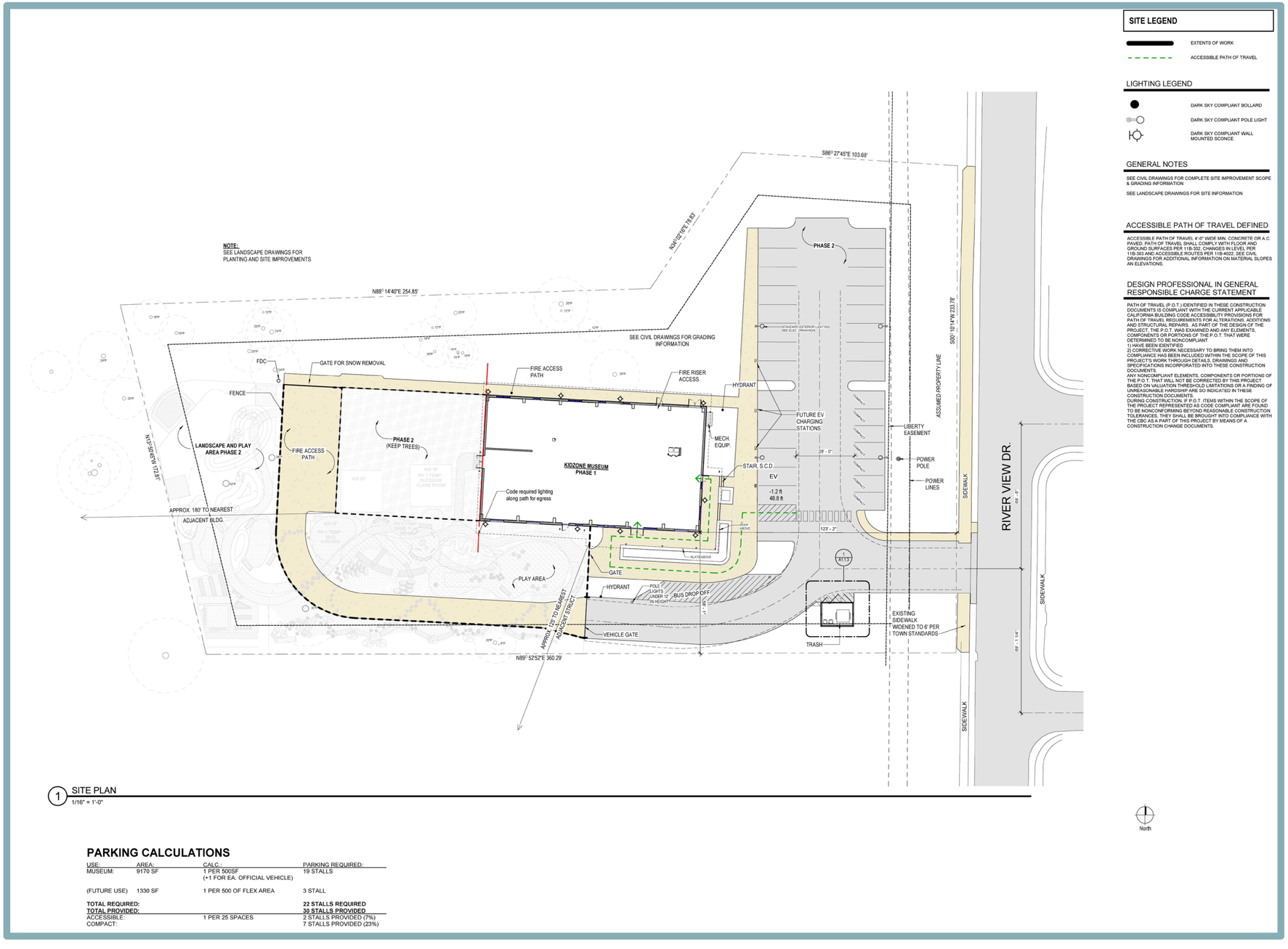
[1] Lucas Kannall, Assistant Planner, Town of Truckee. Personal communication [email] with Nick Pappani, Vice President, Raney Planning and Management. October 1, 2024.

Figure 1
Regional Project Location

Figure 2
Project Site Boundaries Map

Project site boundaries are approximate.

Figure 3
Site Plan



1 SITE PLAN
1/16" = 1'-0"

SITE LEGEND

EXTENTS OF WORK
ACCESSIBLE PATH OF TRAVEL

LIGHTING LEGEND

DARK SKY COMPLIANT BOLLARD
DARK SKY COMPLIANT POLE LIGHT
DARK SKY COMPLIANT WALL MOUNTED SCONCE

GENERAL NOTES

SEE CIVIL DRAWINGS FOR COMPLETE SITE IMPROVEMENT SCOPE & GRADING INFORMATION

SEE LANDSCAPE DRAWINGS FOR SITE INFORMATION

ACCESSIBLE PATH OF TRAVEL DEFINED

ACCESSIBLE PATH OF TRAVEL 4'-0" WIDE MIN. CONCRETE OR A.C. PAVED. PATH OF TRAVEL SHALL COMPLY WITH FLOOR AND GROUND SURFACES PER 11B-302, CHANGES IN LEVEL PER 11B-303 AND ACCESSIBLE ROUTES PER 11B-402. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION ON MATERIAL SLOPES AN ELEVATIONS.

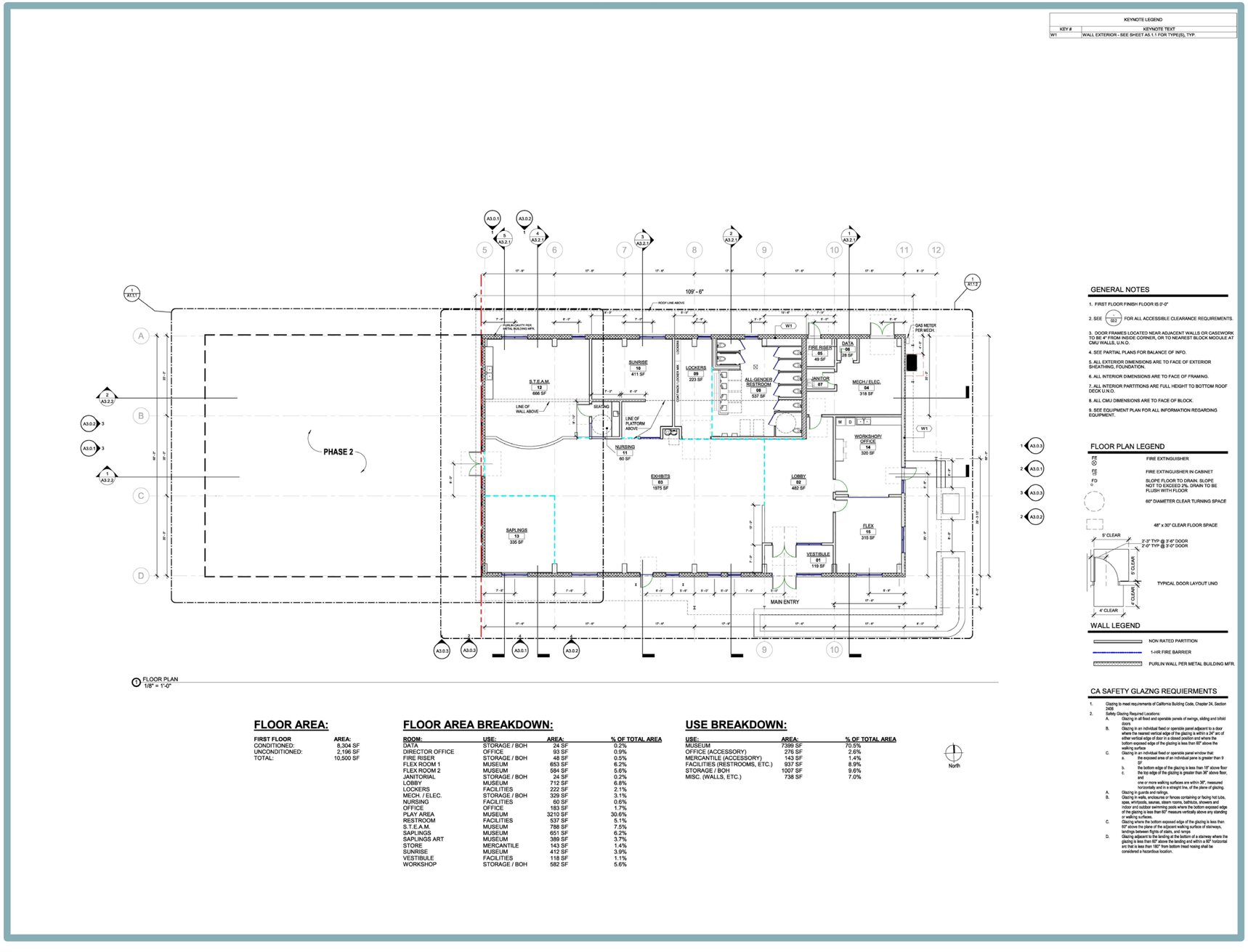
DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT

PATH OF TRAVEL (P.O.T.) IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THE PROJECT, THE P.O.T. WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NONCOMPLIANT
1) HAVE BEEN IDENTIFIED.
2) CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS.
ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.
DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENTS.

PARKING CALCULATIONS

USE:	AREA:	CALC.:	PARKING REQUIRED:
MUSEUM:	9170 SF	1 PER 500SF (+1 FOR EA. OFFICIAL VEHICLE)	19 STALLS
(FUTURE USE)	1330 SF	1 PER 500 OF FLEX AREA	3 STALL
TOTAL REQUIRED:			**22 STALLS REQUIRED**
TOTAL PROVIDED:			**30 STALLS PROVIDED**
ACCESSIBLE:		1 PER 25 SPACES	2 STALLS PROVIDED (7%)
COMPACT:			7 STALLS PROVIDED (23%)

Figure 4
Floor Plan



FLOOR AREA:

FIRST FLOOR	**AREA:**
CONDITIONED:	8,304 SF
UNCONDITIONED:	2,196 SF
TOTAL:	10,500 SF

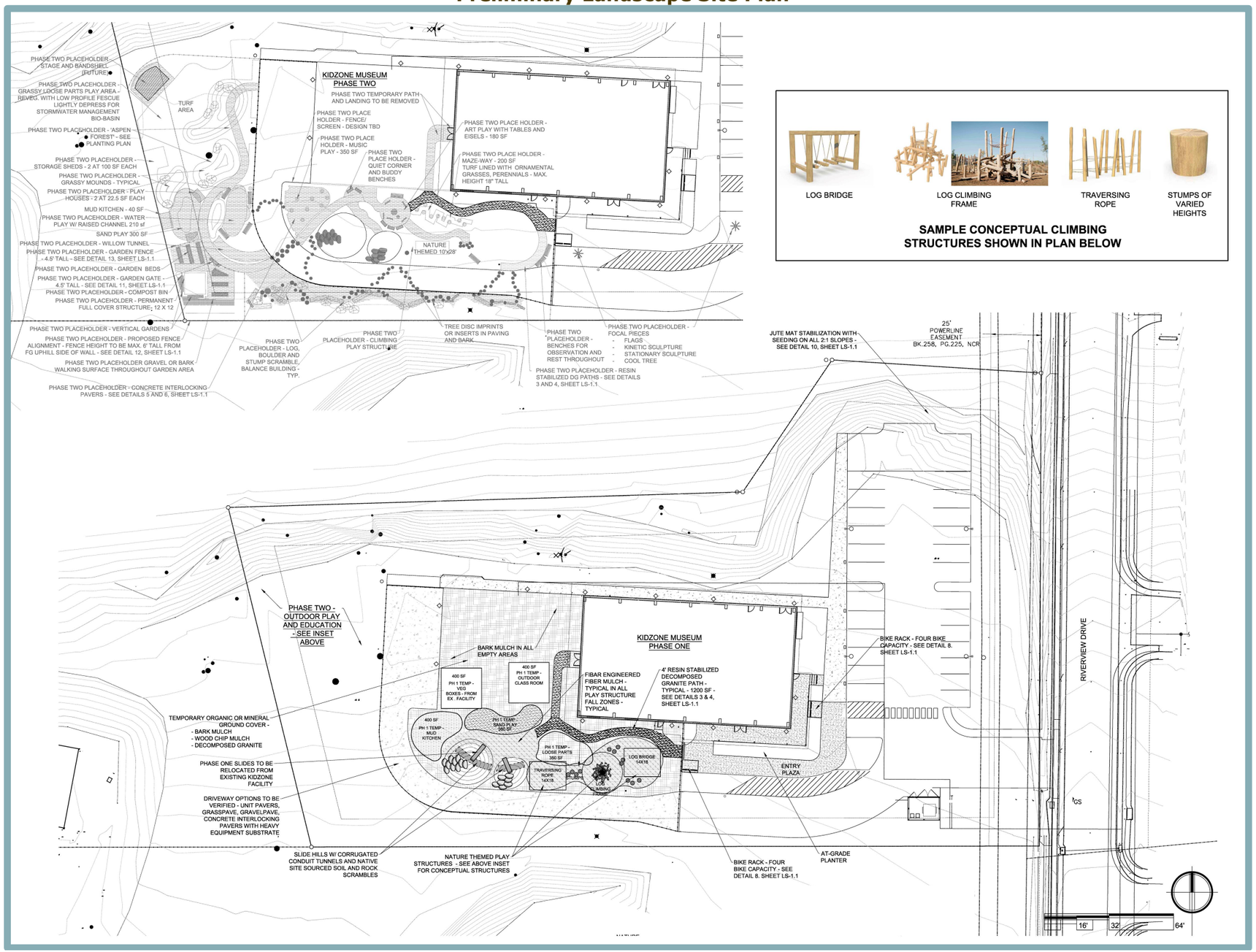
FLOOR AREA BREAKDOWN:

ROOM:	USE:	AREA:	% OF TOTAL AREA
DATA	STORAGE / BOH	24 SF	0.2%
DIRECTOR OFFICE	OFFICE	93 SF	0.9%
FIRE RISER	STORAGE / BOH	48 SF	0.5%
FLEX ROOM 1	MUSEUM	653 SF	6.2%
FLEX ROOM 2	MUSEUM	584 SF	5.6%
JANITORIAL	STORAGE / BOH	24 SF	0.2%
LOBBY	MUSEUM	712 SF	6.8%
LOCKERS	FACILITIES	222 SF	2.1%
MECH. / ELEC.	STORAGE / BOH	329 SF	3.1%
NURSING	FACILITIES	60 SF	0.6%
OFFICE	OFFICE	183 SF	1.7%
PLAY AREA	MUSEUM	3210 SF	30.6%
RESTROOM	FACILITIES	537 SF	5.1%
S.T.E.A.M.	MUSEUM	788 SF	7.5%
SAPLINGS	MUSEUM	651 SF	6.2%
SAPLINGS ART	MUSEUM	389 SF	3.7%
STORE	MERCANTILE	143 SF	1.4%
SUNRISE	MUSEUM	412 SF	3.9%
VESTIBULE	FACILITIES	118 SF	1.1%
WORKSHOP	STORAGE / BOH	582 SF	5.6%

USE BREAKDOWN:

USE:	AREA:	% OF TOTAL AREA
MUSEUM	7399 SF	70.5%
OFFICE (ACCESSORY)	276 SF	2.6%
MERCANTILE (ACCESSORY)	143 SF	1.4%
FACILITIES (RESTROOMS, ETC.)	937 SF	8.9%
STORAGE / BOH	1007 SF	9.6%
MISC. (WALLS, ETC.)	738 SF	7.0%

Figure 5
Preliminary Landscape Site Plan



The second phase of development would add 4,000 sf of new building space to the eastern portion of the 6,500-sf KidZone Museum building, as well as 9,000 sf to the outdoor play area, which would be located south and west of the building. The temporary mud play kitchen area, sand play area, outdoor classroom, and vegetable boxes would be removed from the project site during the second phase of the proposed project.

The expanded outdoor play area would include, but not be limited to, a turf area; new sand, mud, and water play areas; garden beds; climbing play structures; a 180-sf art play area with tables and easels; a 350-sf music play area; and a stage and bandshell. Benches for rest and observation would be installed throughout the outdoor areas and would be connected by a decomposed granite walking path.

Discussion of the proposed project's access and circulation, and improvements to utilities and landscaping is provided below.

Access and Circulation

Primary vehicle access to the project site would be provided by a new 24-foot-wide driveway, which would allow vehicles to both enter and exit the project site from River View Drive. The new driveway would connect to the museum's new main entry plaza and the new surface parking lot located east of the proposed museum building.

The new surface parking lot would include a total of 30 parking stalls, including two Americans with Disabilities Act (ADA) stalls, seven compact stalls, and 21 standard stalls. Three electric vehicle (EV) chargers would be installed within the parking lot. Two bicycle racks, each with capacity for four bicycles, would be installed near the main entry plaza and outdoor seating area. A bus drop-off zone would be located south of the main entry plaza.

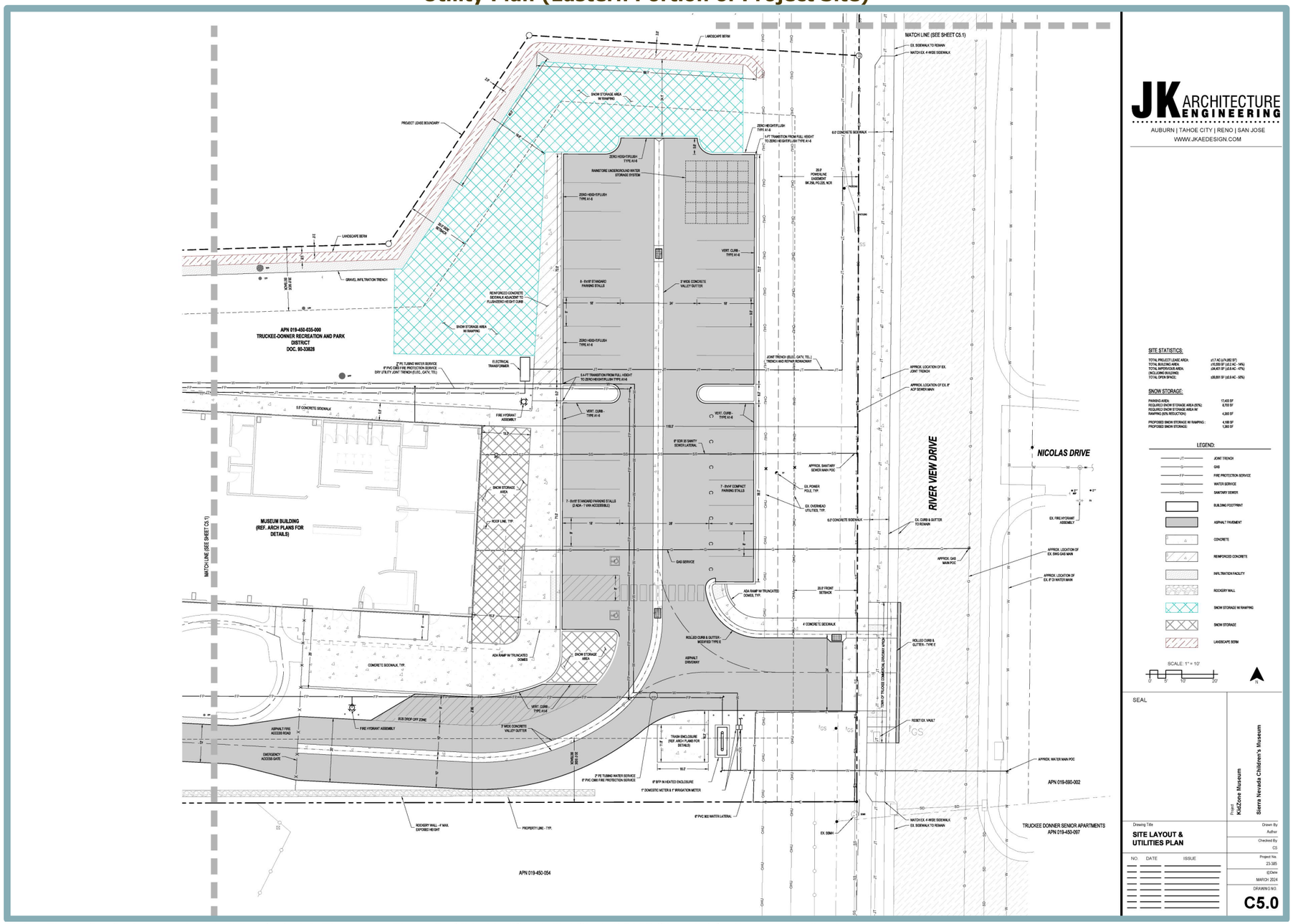
The proposed project would also include a gated emergency vehicle access road south of the museum building. The gate would be located directly west of the bus drop-off zone, and would allow emergency vehicles to travel from the parking lot to the western façade of the museum building. The emergency vehicle access road would bisect the proposed garden areas.

As part of the proposed project, the entirety of the existing concrete sidewalk located along the site's River View Drive frontage would be replaced by a new six-foot-wide sidewalk. Additionally, a portion of the existing curb and gutter along the River View Drive frontage would also be replaced. The new sidewalk would provide a pedestrian connection from River View Drive to the new museum parking lot. A new four-foot-wide sidewalk would also be constructed along the new driveway and would connect to the new six-foot-wide sidewalk along River View Drive. A pedestrian gate would be located west of the main entry plaza and would provide access to the garden areas. Finally, a concrete sidewalk would be constructed along the north, east, and southeast facades of the building to provide pedestrian access.

Utilities

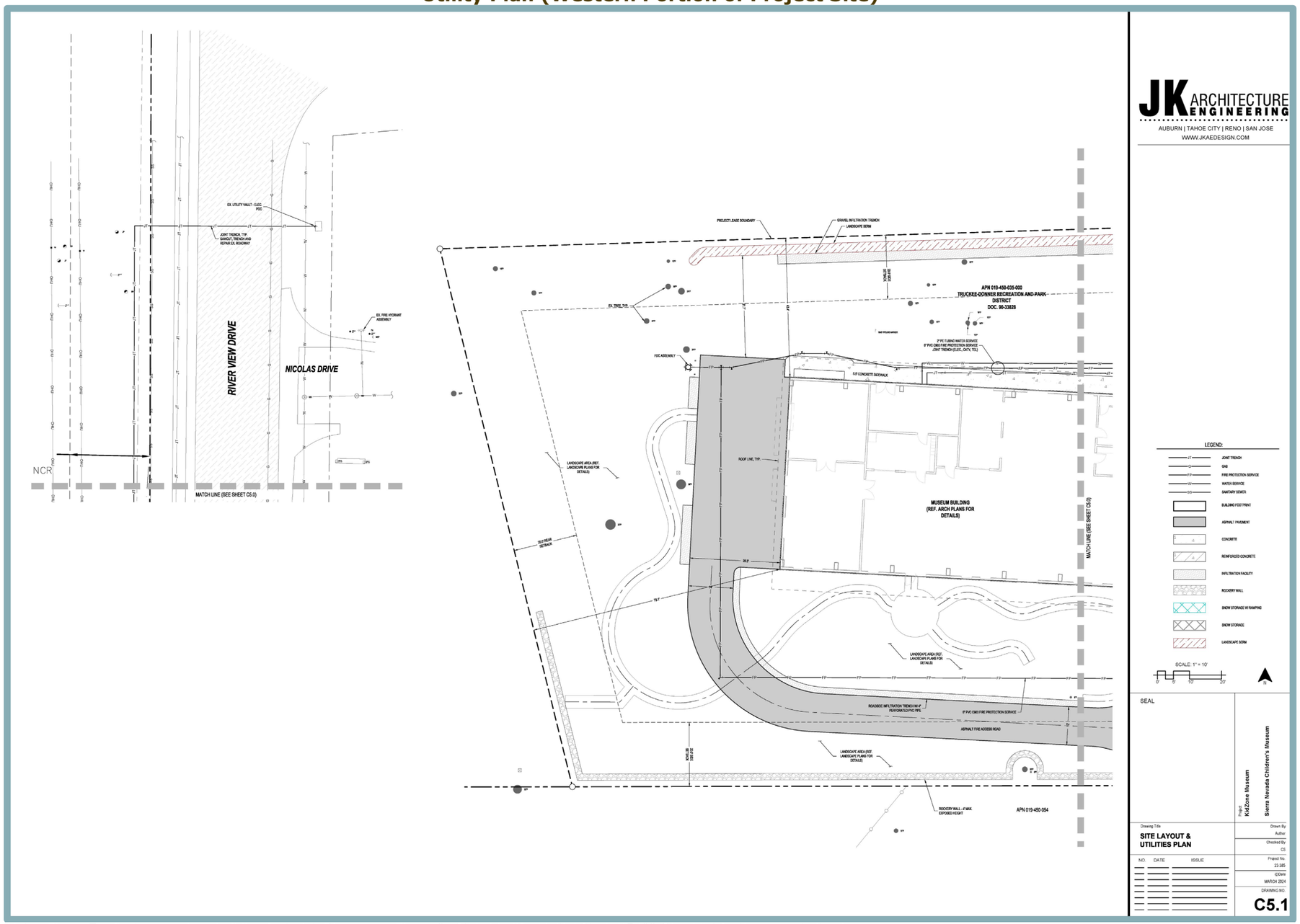
Water service for the proposed project would be provided by Truckee Donner Public Utility District (TDPUD). The proposed project would include installation of six-inch domestic water lines within the eastern portion of the site and along the northern site boundary (see Figure 6 and Figure 7). The new water lines would connect to the existing eight-inch water lines located east of River View Drive.

Figure 6
Utility Plan (Eastern Portion of Project Site)



Note: Figure 6 reflects a previous building footprint. Please see Figure 3 of this Modified Initial Study/15168 Checklist for the current site plan.

Figure 7
Utility Plan (Western Portion of Project Site)



Note: Figure 7 reflects a previous building footprint. Please see Figure 3 of this Modified Initial Study/15168 Checklist for the current site plan.

Sanitary sewer service for the proposed project would be provided by the Truckee Sanitary District (TSD). As shown in Figure 6 and Figure 7, the proposed project would include installation of new six-inch sanitary sewer lines within the eastern portion of the site, which would connect to the existing sanitary sewer lines and sewer manhole located along the eastern site boundary.

Three storm drain drainage inlets (SDDIs) would be installed in the parking lot and would capture stormwater from the impervious surfaces on the eastern portion of the site (see Figure 8). Stormwater collected by the SDDIs would be directed to new 15-inch high-density polyethylene (HDPE) storm drain lines located throughout the parking lot.

Stormwater collected by the SDDIs would then be directed to a new underground water storage retention facility, which would be installed within the northeast corner of the proposed parking lot. Stormwater would be collected and treated at the water storage retention facility before being directed to a 12-inch water storage overflow storm drain pipe with a flared end section (FES) and a rock outlet protection in the northeast corner of the site.

Furthermore, five gravel infiltration trenches would be located on the project site, including a 325-linear foot gravel infiltration trench located along the northern boundary of the site; three gravel infiltration trenches, totaling 42 linear feet, located adjacent to the terminus of the emergency vehicle access road; and a 132-linear foot infiltration trench with perforated PVC pipe located adjacent to the emergency vehicle access road (see Figure 8 and Figure 9). The 132-linear foot infiltration trench would connect to a 12-inch water storage overflow storm drain pipe located within the emergency vehicle turnaround. The 12-inch water storage overflow storm drain pipe would include a FES and rock outlet protection.

The proposed project would also include the installation of two fire hydrants located south of the main entry plaza. In addition, fire service water lines would be installed throughout the project site and would connect to the new on-site fire hydrants, as well as a fire department connection assembly consisting of an outlet and pipe in the northwest corner of the site, and a backflow preventor in the southeast corner of the site.

The proposed project would also include the installation of new gas service lines in the eastern portion of the site which would connect to the existing gas lines within River View Drive. The overhead utility lines and power poles located within the eastern portion of the site would remain.

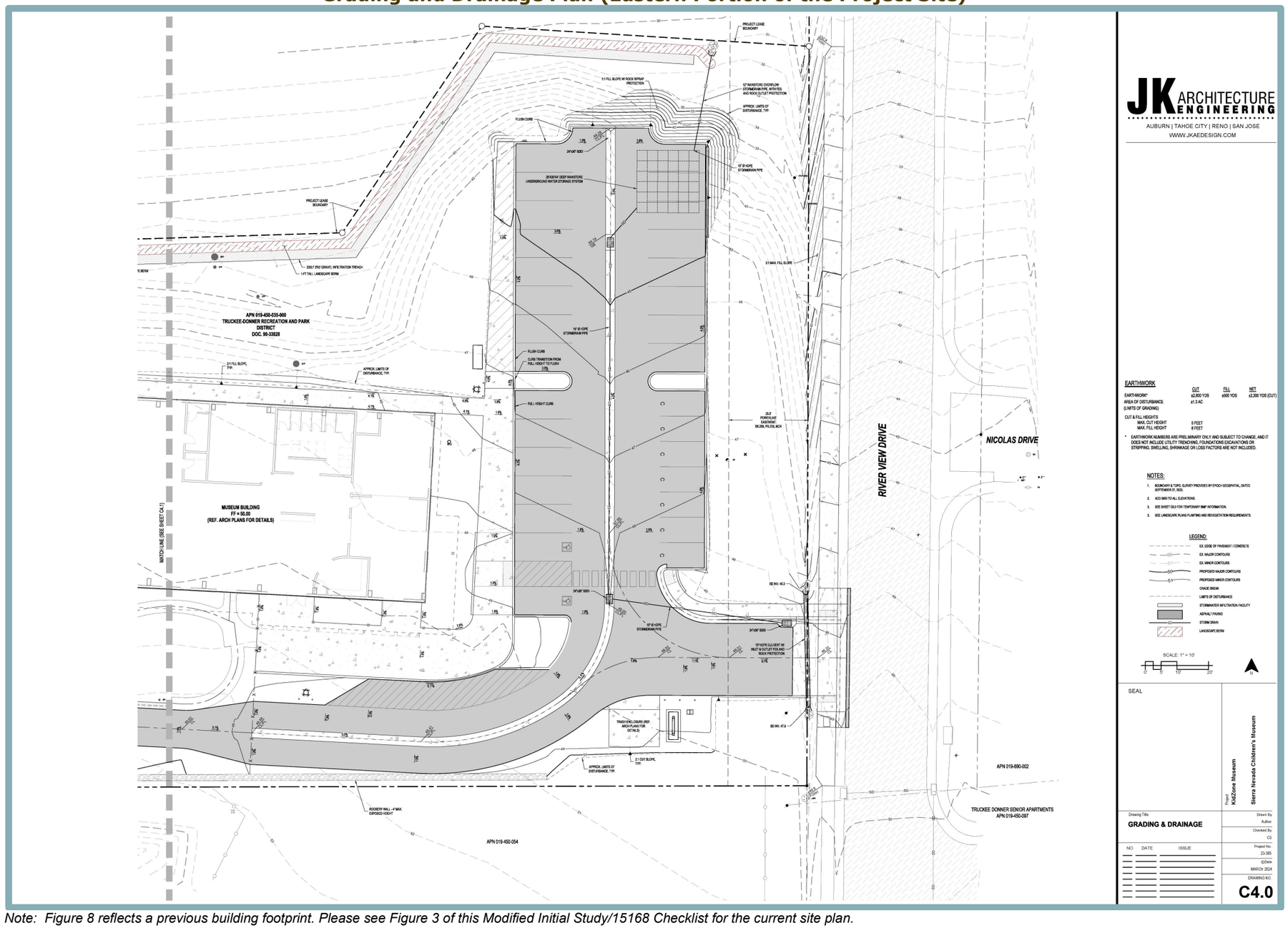
In addition, solid waste associated with the proposed project would be deposited in the approximately 189-sf trash enclosure located in the southeastern corner of the site.

Landscaping and Improvements

Approximately 0.58-acre of Jeffrey pine trees are located throughout the project site.[2] As part of the proposed project, 23 of the 43 on-site trees would be removed. Landscaping improvements would be provided throughout the project site, including a variety of drought-tolerant trees, shrubs, and flowers (see Figure 10). The open space areas would be planted with seven garden areas, including an herb and vegetable garden, streamside native garden, pollinator garden, mixed garden, meadow native garden, woodland native garden, and high desert native garden, as well as berry patches. The garden areas would be planted with a variety of trees, shrubs, and flowers. All landscaping would comply with the State's Model Water Efficient Landscape Ordinance (MWELO). The proposed project would also include development of a one-foot-tall landscape berm, which would be located along the northern boundary of the project site.

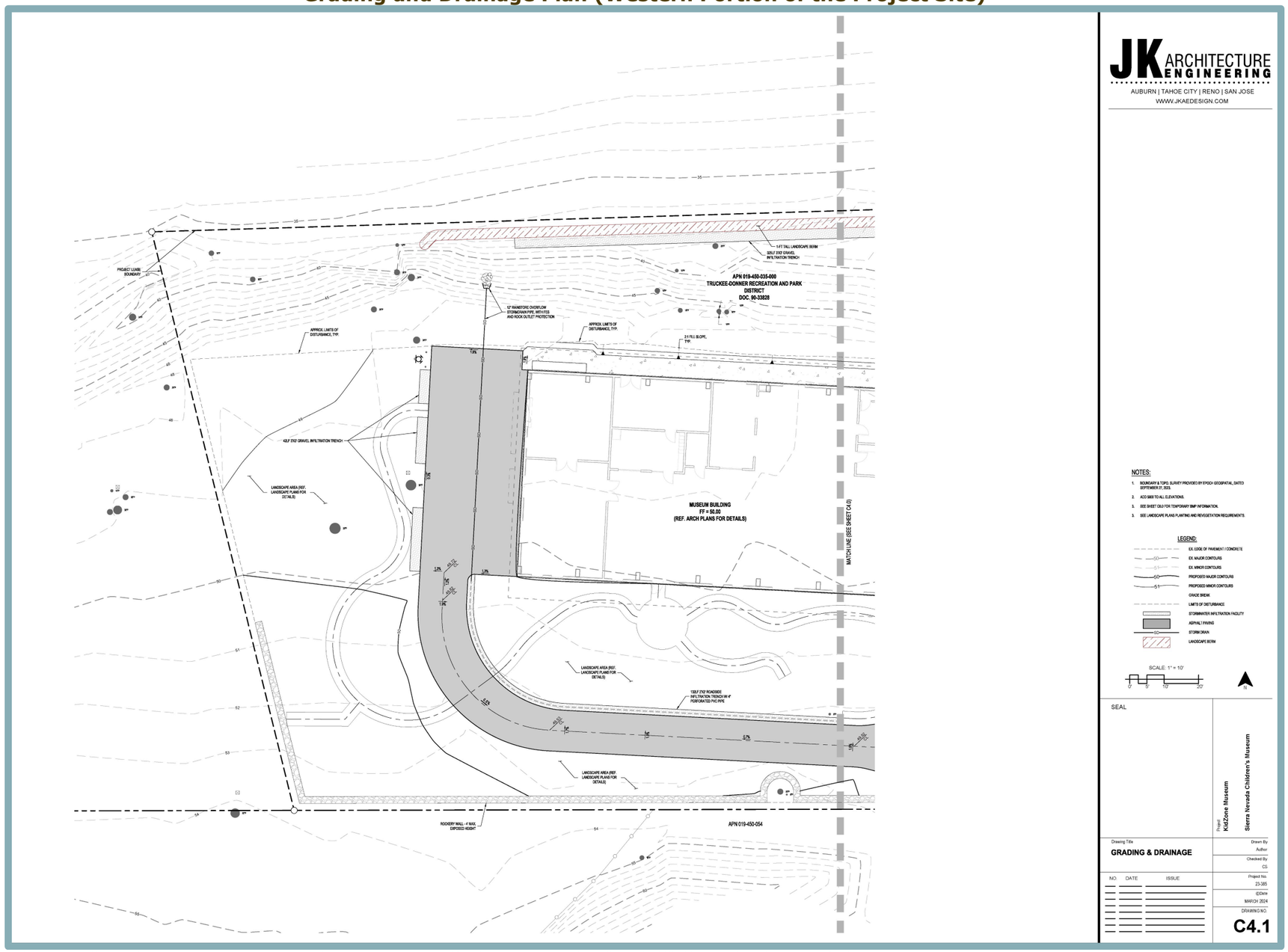
[2] WRA, Inc. *Biological Resources Technical Report, KidZone Museum Project, Truckee, Nevada County, California.* November 2023.

Figure 8
Grading and Drainage Plan (Eastern Portion of the Project Site)



Note: Figure 8 reflects a previous building footprint. Please see Figure 3 of this Modified Initial Study/15168 Checklist for the current site plan.

Figure 9
Grading and Drainage Plan (Western Portion of the Project Site)



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NOTES:
1. BOUNDARY & TOPO. SURVEY PROVIDED BY EPOCH GEOSPATIAL, DATED SEPTEMBER 07, 2023.
2. ADD 5800 TO ALL ELEVATIONS.
3. SEE SHEET C3.0 FOR TEMPORARY BMP INFORMATION.
3. SEE LANDSCAPE PLANS PLANTING AND REVEGETATION REQUIREMENTS.

LEGEND:
EX. EDGE OF PAVEMENT / CONCRETE
EX. MAJOR CONTOURS
EX. MINOR CONTOURS
PROPOSED MAJOR CONTOURS
PROPOSED MINOR CONTOURS
GRADE BREAK
LIMITS OF DISTURBANCE
STORMWATER INFILTRATION FACILITY
ASPHALT PAVING
STORM DRAIN
LANDSCAPE BERM

SCALE: 1" = 10'
0' 5' 10' 20'

SEAL

Project: KidZone Museum
Sierra Nevada Children's Museum

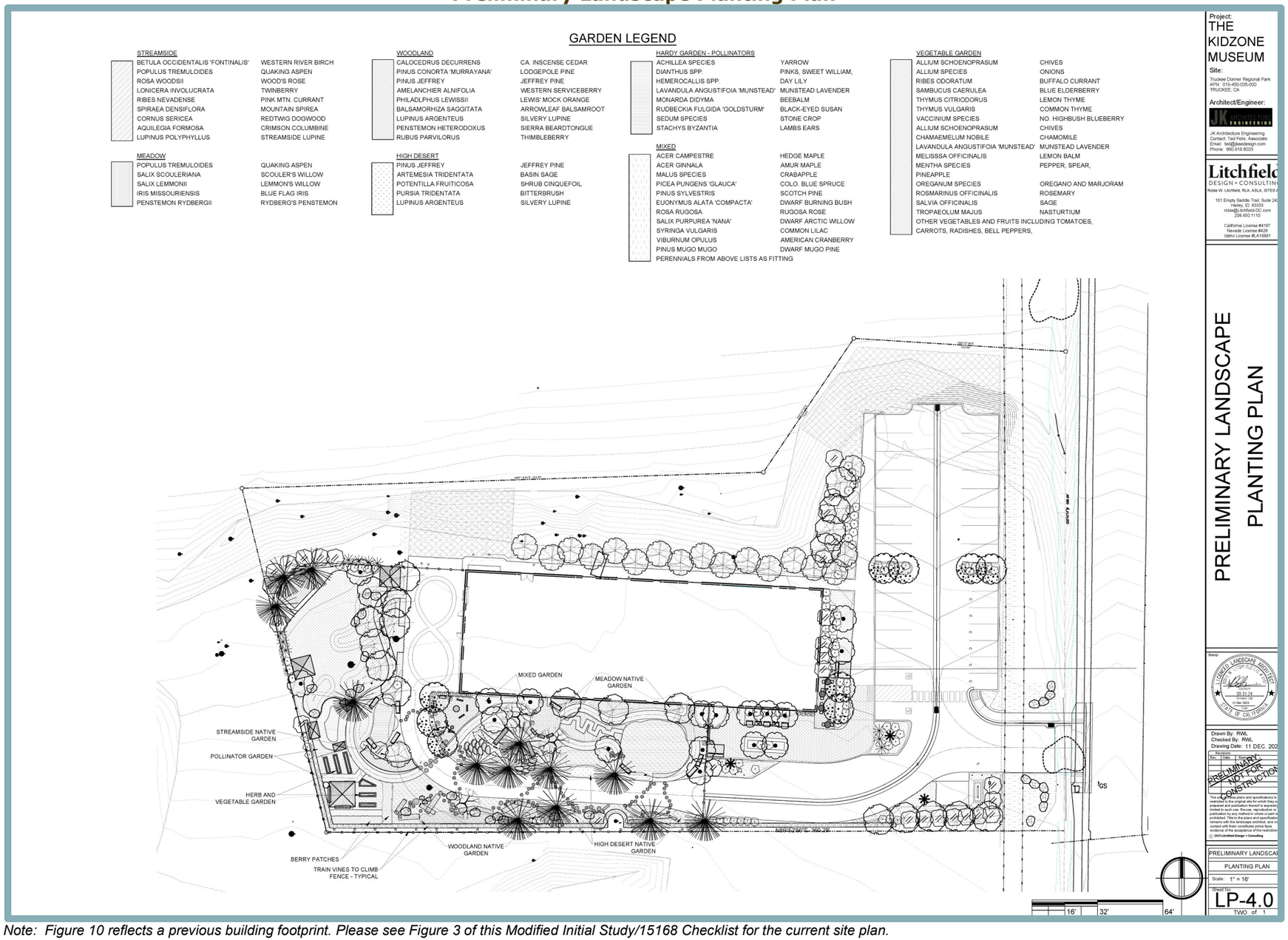
Drawing Title: GRADING & DRAINAGE

Drawn By: Author
Checked By: CS
Project No.: 23-385
IDDate: MARCH 2024
DRAWING NO.: C4.1

NO. DATE ISSUE

Note: Figure 9 reflects a previous building footprint. Please see Figure 3 of this Modified Initial Study/15168 Checklist for the current site plan.

Figure 10
Preliminary Landscape Planting Plan



Note: Figure 10 reflects a previous building footprint. Please see Figure 3 of this Modified Initial Study/15168 Checklist for the current site plan.

Snow Storage

All development and proposed land uses that are planned with off-street parking and circulation areas shall be designed and constructed to provide snow storage areas in compliance with the minimum standards of the Town of Truckee Development Code, Section 18.30.130. As shown in Figure 6, the proposed project would include snow storage areas north of the museum building and parking lot and between the museum building and parking lot.

Discretionary Actions

The proposed project requires approval of a Development Permit from the Town of Truckee. Development permits are required for all permitted commercial, industrial, and public uses that include 7,500 sf of floor area (5,000 sf in Downtown zoning districts) or disturb more than 26,000 sf of ground area, and for all permitted multi-family residential projects with 11 or more dwelling units. Because the proposed project would include development of an approximately 10,500-sf children's museum and would disturb more than 26,000 sf of ground area, a Development Permit would be required.

D. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

On the basis of the following Modified Initial Study, the Town has determined that the proposed project is within the scope of activities evaluated in the 2040 GPU EIR. All project impacts have been examined in the 2040 GPU EIR and none of the criteria set forth in CEQA Guidelines 15162 would be triggered by the proposed project. Therefore, none of the environmental factors below are affected.

☐ **Aesthetics**	☐ **Agriculture and Forest Resources**	☐ **Air Quality**
☐ **Biological Resources**	☐ **Cultural Resources**	☐ **Energy**
☐ **Geology and Soils**	☐ **Greenhouse Gas Emissions**	☐ **Hazards and Hazardous Materials**
☐ **Hydrology and Water Quality**	☐ **Land Use and Planning**	☐ **Mineral Resources**
☐ **Noise**	☐ **Population and Housing**	☐ **Public Services**
☐ **Recreation**	☐ **Transportation**	☐ **Tribal Cultural Resources**
☐ **Utilities and Service Systems**	☐ **Wildfire**	☐ **Mandatory Findings of Significance**

E. SOURCES

The following documents are referenced information sources used for the purpose of this Modified Initial Study:

1. Ascent Environmental. *Noise Technical Study for the KidZone Museum in Truckee Project.* October 15, 2024.
2. CalEPA. *Cortese List Data Resources*. Available at: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed September 2024.
3. California Building Standards Commission. *California Green Building Standards Code*. 2022.
4. California Department of Conservation. *California Important Farmland Finder*. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed August 2024.
5. California Department of Forestry and Fire Protection. *Very High Fire Hazard Severity Zones in LRA as Recommended by CAL FIRE – Truckee*. Available at: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps/. Accessed September 2024.
6. California Department of Transportation. *California Scenic Highway Mapping System*. Available at:

https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa%20. Accessed August 2024.
7. CDFW. *BIOS*. Available at: https://apps.wildlife.ca.gov/bios6/. Accessed September 2024.
8. Department of Toxic Substances Control. *Hazardous Waste and Substances Site List (Cortese).* Available at: https://www.envirostor.dtsc.ca.gov/public/. Accessed September 2024.
9. Federal Emergency Management Agency. *Flood Insurance Rate Map 06057C0533E.* Effective February 3, 2010.
10. Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.
11. Lucas Kannall, Assistant Planner, Town of Truckee. Personal communication [email] with Nick Pappani, Vice President, Raney Planning and Management. October 1, 2024.
12. Nevada Division of Environmental Protection. *Lockwood Fact Sheet.* Available at: https://ndep.nv.gov/uploads/land-waste-solid-fac-docs/lockwood-fact-sheet.pdf. Accessed September 2024.
13. Northern Sierra Air Quality Management District. *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects*. August 18, 2009.
14. NV5. *Preliminary Geotechnical Engineering Report Supplement No. 1, KidZone Museum.* May 2022.
15. NV5. *Preliminary Geotechnical Engineering Report, KidZone Museum, 10010 Estates Drive, Truckee, California.* March 29, 2022.
16. State Water Resources Control Board. *GeoTracker.* Available at: https://geotracker.waterboards.ca.gov/map/?myaddress=California&from=header&cqid=8858350455. Accessed September 2024.
17. Susan Lindström, Ph.D. (RPA). *KidZone Museum Project, Cultural Resources Study, Preliminary Report.* February 2023.
18. Susan Lindström, Ph.D. (RPA). *KidZone Museum Project, Cultural Resources Study Addendum Archaeological Field Survey Final Report.* October 2023.
19. Tahoe Donner. *TART MIcrotransit and Tahoe Donner.* Available at: https://www.tahoedonner.com/tart-microtransit-and-tahoe-donner/. Accessed September 2024.
20. Tahoe Truckee Transit. *Truckee TART Dial-A-Ride.* Available at: https://tahoetruckeetransit.com/truckee-tart-dar/. Accessed September 2024.
21. Town of Truckee. *Draft Environmental Impact Report for the Town of Truckee 2040 General Plan Update and Downtown Truckee Plan Project.* August 2022.
22. Town of Truckee. *Town of Truckee California Environmental Quality Act VMT Thresholds of Significance.* April 19, 2022.
23. Truckee Donner Public Utilities District. *Truckee Water System 2020 Urban Water Management Plan*. June 2021.
24. Truckee Tahoe Airport Land Use Commission. *Truckee Tahoe Airport Land Use Compatibility Plan* [Map 2A]. Adopted October 27, 2016.
25. WRA, Inc. *Biological Resources Technical Report, KidZone Museum Project, Truckee, Nevada County, California.* November 2023.

F. DETERMINATION

On the basis of this Modified Initial Study/15168 Checklist:

☐ I find that the Proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the Proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the applicant. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the Proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☒ In accordance with CEQA Guidelines Section 15168, I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	Date
Jenna Gatto, Town Planner	Town of Truckee
Printed Name	For

G. ENVIRONMENTAL CHECKLIST

The purpose of the comparison is to evaluate whether the proposed project is within the scope of activities evaluated in the 2040 GPU EIR, which can be determined by assessing whether the proposed project would trigger any criteria in CEQA Guidelines Section 15162. As previously discussed, the environmental evaluation of the proposed project will be based, generally, on the standards set forth in Section 15162. Modifications have been made to the checklist sections, generally consisting of additional questions that consider the potential for new or substantially increased significant impacts consistent with CEQA Guidelines Section 15162. A "no" answer does not necessarily mean that potential impacts do not exist relative to the environmental category, but that a relevant change would not occur in the condition or status of the impact due to its insignificance or its treatment in a previous environmental document. The following impact evaluation categories will be used to evaluate the proposed project as compared to 2040 GPU EIR:

Do Proposed Changes Involve New or More Severe Impacts? Pursuant to Section 15162(a)(1) of the CEQA Guidelines, this column indicates whether the changes represented by the current project will result in new significant impacts that have not already been considered and mitigated by a previous EIR or that substantially increase the severity of a previously identified significant impact. If a "yes" answer is given and more severe significant impacts are specified, additional mitigations will be specified in the discussion section including a statement of impact status after mitigation.

Any New Circumstances Involving New or More Severe Impacts? Pursuant to Section 15162(a)(2) of the CEQA Guidelines, this column indicates whether there have been changes to the project site or the vicinity (environmental setting) that have occurred subsequent to the certification of an EIR, which would result in the current project having significant impacts that were not considered or mitigated by that EIR or which substantially increase the severity of a previously identified significant impact.

Any New Information Requiring New Analysis or Verification? Pursuant to Section 15162(a)(3)(A-D) of the CEQA Guidelines, this column indicates whether new information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the previous environmental documents were certified as complete is available, requiring an update to the analysis of the previous environmental documents to verify that the environmental conclusions and mitigation measures remain valid. If the new information shows that: (A) the project will have one or more significant effects not discussed in the prior environmental documents; or (B) that significant effects previously examined will be substantially more severe than shown in the prior environmental documents; or (C) that mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects or the project, but the project proponents decline to adopt the mitigation measure or alternative; or (D) that mitigation measures or alternatives which are considerably different from those analyzed in the prior environmental documents would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative, the question would be answered 'Yes' requiring the preparation of a subsequent EIR or supplement to the EIR. However, if the additional analysis completed as part of this Environmental Checklist Review finds that the conclusions of the prior environmental documents remain the same and no new significant impacts are identified, or identified significant environmental impacts are not found to be substantially more severe, the question would be answered 'No' and no additional EIR documentation (supplement to the EIR or subsequent EIR) would be required.

I. AESTHETICS. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Have a substantial adverse effect on a scenic vista?	No	No	No
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	No	No	No
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	No	No	No
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No	No	No

Discussion

a. As discussed in the 2040 GPU EIR, scenic vistas throughout the Town include views of mountain ranges and open space areas. Scenic views of forested hillsides, meadows, and the river valley can be seen from the bluffs north of the Truckee River, along Interstate 80 (I-80), and Glenshire Drive looking south towards Martis Valley. The high vantage point afforded by the State Route 267 (SR 267) bridge also provides open space vistas across the Martis Valley and towards Northstar ski resort.

The GPU includes policies and implementation actions intended to preserve the natural resources in scenic areas within the Town. Policies related to preservation of resources include requirements that provide enough assurance to determine that the overall aesthetic of scenic resources, as viewed from key viewing locations, would be maintained. For example, GPU Policy CC-1.6 would help to preserve the scenic qualities of the Truckee River and other natural waterways through setback standards and development review. In addition, GPU actions would further ensure that impacts to scenic vistas are minimized because the Town would review and amend the Development Code regulations related to scenic resources (Action CC-1.A) and Donner Lake (Action CC-1.E). With implementation of GPU policies and actions, the 2040 GPU EIR determined that projected development under the GPU would not have a substantial adverse effect on a scenic vista and buildout of the GPU would result in a less-than-significant impact.

Given that the proposed project is consistent with the project site's GPU land use designation, the buildout of the project site and associated impacts to scenic vistas have been anticipated by the Town and evaluated in the 2040 GPU EIR. In addition, the proposed project would be required to comply with applicable GPU policies and goals related to scenic vistas. Views of the forested hillside, north of the Truckee River, are available from the project site. However, public views of the forested hillside from nearby public roadways, such as Estates Drive and River View Drive, would not be obstructed by development of the proposed project. In addition, the McIver Rodeo Area, located south of the project site, has elevated audience stands, which partially block views of the hillside from Estates Drive and Brockway Road. Furthermore, while the proposed project is located approximately 450 feet south of the Truckee River, views of the Truckee River are not available from the site.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to scenic vistas than were previously analyzed in the 2040 GPU EIR. Therefore, the proposed project would be consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b. The 2040 GPU EIR determined that the GPU would facilitate development that could be visible from locally designated scenic corridors. GPU policies would protect scenic resources along locally designated scenic corridors. For example, Policy CC-1.3 would protect and enhance public views within and from the Town's designated scenic corridors through regulation of the visual appearance and location of development within identified buffer areas along scenic corridors (i.e., I-80 and SR 89 North). In addition, Policy CC-1.4 requires the Town to coordinate with Caltrans to improve the visual quality of freeway interchanges and designated scenic corridors in the Town, including improvements to roadside landscaping and lighting. With implementation of GPU policies, the 2040 GPU EIR concluded that projected development under the GPU would not be expected to substantially alter views of important scenic resources from visually sensitive areas, and impacts related to scenic resources within a State Scenic Highway would be less than significant.

According to the 2040 GPU EIR, State-designated scenic highways do not exist within the Town of Truckee. While the entire portion of I-80 that runs through the Town is eligible for designation as a State Scenic Highway, the portion of I-80 is not officially designated as a State Scenic Highway.[3] Furthermore, Section 18.46.080, Scenic Corridor Standards, of the Town of Truckee Development Code, identifies areas that are subject to the Town of Truckee Scenic Corridor Development Standards as being areas that extend 300 feet on each side of the I-80 right-of-way (ROW). The project site is located approximately 3,000 feet south of I-80, which is outside of the 300-foot corridor range set by Section 18.46.080 of the Town of Truckee Development Code.

Thus, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to scenic resources than were previously analyzed in the 2040 GPU EIR, the proposed project would be consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

c. As described in the 2040 GPU EIR, the GPU would promote development within and near the Town's developed areas, which would minimize changes to Truckee's mountain-town character. In addition, GPU policies would encourage new development to be compatible with the scale and character of existing development and would preserve and enhance Truckee's visual character and quality. Furthermore, as noted in the GPU EIR, the GPU would minimize changes to the Town's predominantly mountain-town visual character by focusing future development within the Town's developed areas instead of in undeveloped open space areas of the town.

For example, policies in the GPU would encourage new development to be compatible with the scale and character of existing development and would enhance the distinct visual identities of communities within Truckee. GPU Policies CC-3.1 and CC-3.2 would require new development to incorporate high quality site design, architecture, and planning to

[3] California Department of Transportation. *California Scenic Highway Mapping System.* Available at: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa%20. Accessed August 2024.

enhance the overall quality of the built environment in Truckee and create a visually interesting and aesthetically pleasing Town environment and ensure that planning and development decisions are oriented towards the maintenance of Truckee's character. In addition, GPU Policy CC-3.7 would require new development projects to incorporate materials, color schemes, and architectural styles that complement the landscape and rural and mountain environment. Furthermore, structures would continue to comply with the building height limits of 35 feet for structures within the PF zoning district. Nonetheless, the 2040 GPU EIR determined that visual character of the development that could occur with implementation of the proposed GPU, in concert with development now allowed through implementation of State laws, could result in increased density and change the visual character of the Town in a manner that some perceive as a degradation of baseline conditions. Therefore, the 2040 GPU EIR determined that impacts to visual character and quality would be significant and unavoidable.

The northern portion of the site includes a concrete disc golf pad and two disc golf baskets, and the southern and central portions of the site are graded and used as parking and equipment storage areas for the adjacent McIver Rodeo Arena. Volcanic boulders, conifer trees, and brush are scattered throughout the site, and a chain link fence is located throughout the site. In addition, power poles and associated overhead utility lines generally run along the entire eastern site boundary from north to south. Surrounding existing land uses include trails within the Truckee River Regional Park, the Truckee River Legacy Trail, and the Truckee River to the north; single-family residences, apartments, the Truckee Pines Head Start preschool, and an electric substation to the east, across River View Drive; the McIver Rodeo Arena to the south and undeveloped land further south, across Estates Drive and Brockway Road; and Truckee River Regional Park facilities, including the community garden to the west. Public views of the project site are available to pedestrians and motorists traveling on adjacent roadways, River View Drive and Estates Drive.

Given that the proposed project would be consistent with the site's GPU land use designation, buildout of the project site and associated changes to the visual character and quality of the site have been anticipated by the Town and analyzed in the 2040 GPU EIR. In compliance with the PF zoning designation for the project site, the proposed one-story museum building would not exceed 35 feet in height and the building exterior would feature natural greens, grays, and browns. In addition, the proposed open space gardens, activity areas, and landscaping would blend in with the existing natural environment of the Truckee River Regional Park. Furthermore, the proposed project would comply with applicable GPU policies, such as CC-3.1, CC-3.2, and CC-3.7. Compliance with such policies would help ensure that the proposed project would not substantially degrade the character or quality of the site or its surroundings, including views of the site from the roadways.

The proposed project would also require approval of a Development Permit from the Town of Truckee because the proposed project would include development of a 10,500-sf children's museum and would disturb more than 26,000 sf of ground area. The applicant has submitted a Development Permit application which includes a floor plan, building elevations, preliminary landscaping plan, sign plan, and exterior lighting plan. The completed Development Permit application would be reviewed by the Town of Truckee Planning Commission and would ensure that proposed project adheres to all applicable Development Code requirements.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to the degradation of visual character than what were previously analyzed in the 2040 GPU EIR. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

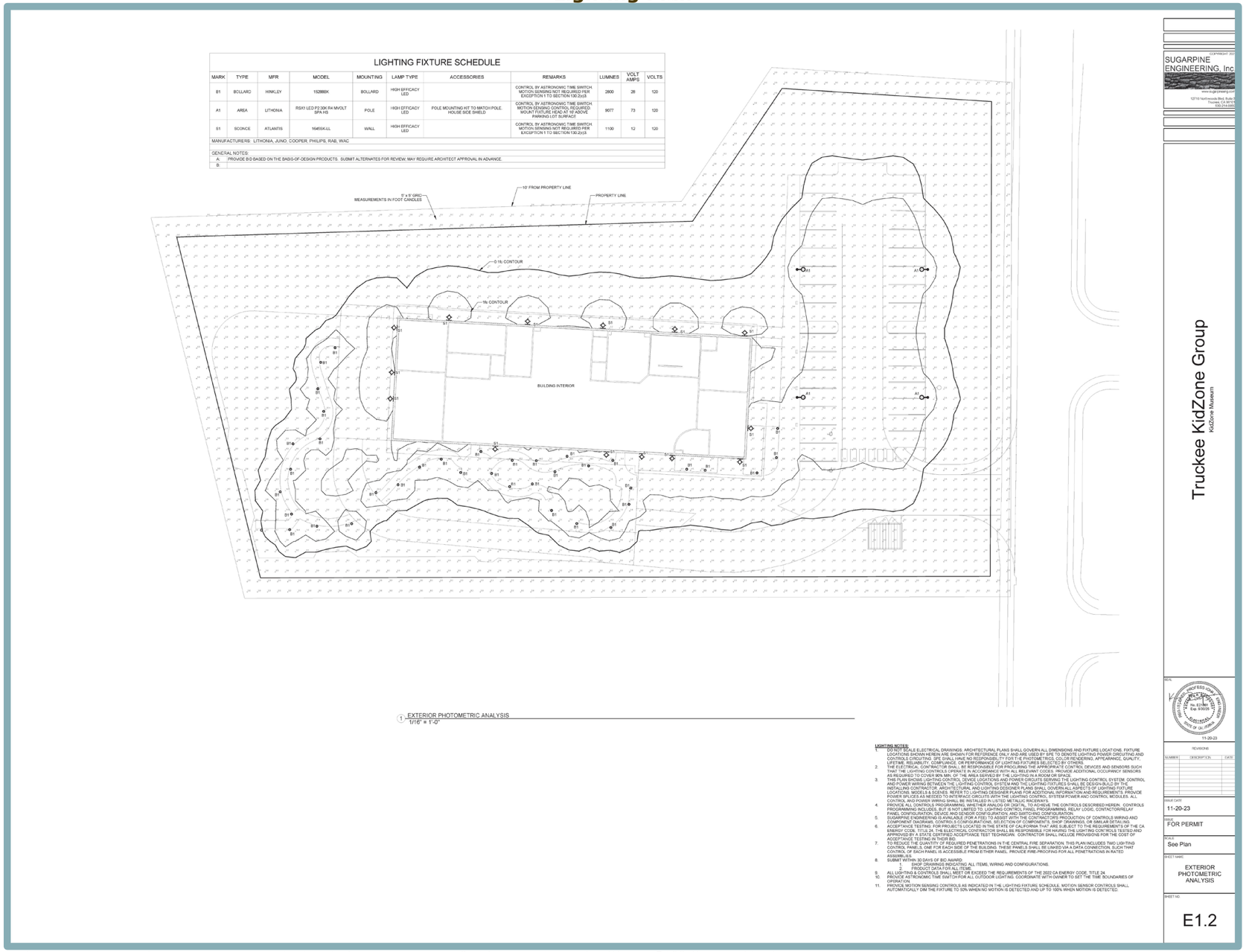
d. According to the 2040 GPU EIR, the GPU would facilitate development that would introduce new sources of light and glare, which would increase overall ambient nighttime light and daytime glare from building materials. As discussed in the 2040 GPU EIR, new light sources would include new residential developments, street lighting, parking lot lights, and security-related lighting for nonresidential uses. These new light sources could result in adverse effects to adjacent land uses through the "spilling over" of light into these areas and "sky glow" conditions. In addition, buildout of the GPU would result in intensified nighttime lighting levels associated with increased traffic volumes and further residential and commercial development. Daytime glare could be produced by the increase in commercial, industrial, and residential structures, which could reflect sunlight. The GPU includes policies such as Policy CC-2.2, which requires the Town to implement outdoor lighting standards to minimize light pollution, glare, and light trespass into adjoining properties. GPU Policy CC-1.1 also prohibits development on hillsides, ridges, and bluff lines to limit negative visual impacts due to glare from glazing and lighting. Because the GPU includes policies to preserve views of the night sky and minimize light pollution and glare in Truckee, the 2040 GPU EIR concluded that light and glare impacts would be less than significant.

As discussed above, the project site is generally surrounded by Truckee River Regional Park facilities. Sources of existing light and glare are already present within the project vicinity and include exterior lighting from the surrounding existing residential development, as well as headlights associated with vehicles travelling along River View Drive and Estates Drive.

Sources of light and glare do not currently occur on the project site. The proposed project includes the construction of a single-story children's museum building; thus, the proposed project would increase the amount of light on the project site in the form of light fixtures on the exteriors of the building, spillover light from the interior lighting of the building, and increased motor vehicle traffic within the parking lot. For example, on-site lighting for the proposed project would consist of pole-mounted area LED lighting, which would be located throughout the proposed parking lot (see Figure 11). Bollard path LED lights would be located throughout the open space gardens and activity areas, and at the museum building entry. Wall sconce LED lighting would be mounted along the entirety of the museum building exterior. As presented in Figure 11, the new on-site lighting would not spill from the project site onto adjacent roadways or land uses.

Furthermore, the KidZone Museum would operate from 9:00 AM to 5:00 PM, Tuesday through Sunday. As such, the proposed KidZone Museum would not be anticipated to operate in the evenings and would not generate additional sources of nighttime light and glare on-site. Nevertheless, the proposed project would be required to comply with the provisions of Truckee Municipal Code Section 18.30.060, which establishes lighting standards and design criteria to minimize light pollution, glare, light trespass, and conserve energy while maintaining nighttime safety, utility, security, and productivity. The proposed project would also be required to comply with the California Building Standards Code (CBSC) standards for outdoor lighting, as prescribed by the Town's 2040 GPU EIR.

Figure 11
Lighting Plan



Note: Figure 11 reflects a previous building footprint. Please see Figure 3 of this Modified Initial Study/15168 Checklist for the current site plan.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impact than what were previously analyzed in the 2040 GPU EIR Therefore, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

II. AGRICULTURE AND FORESTRY RESOURCES. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping Program of the California Resources Agency, to non-agricultural use?	No	No	No
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No	No	No
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No	No	No
d. Result in the loss of forest land or conversion of forest land to non-forest use?	No	No	No
e. Involve other changes in the existing environment which, due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use?	No	No	No

Discussion

a,e. According to the 2040 GPU EIR, Farmland, as defined and mapped by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP), does not exist in the town of Truckee. Therefore, implementation of the Town's GPU would not convert farmland to non-agricultural uses and the conversion of farmland is not discussed in further detail within the 2040 GPU EIR.

According to the California Department of Conservation Farmland Mapping and Monitoring Program, the project site is located in an area which has not been mapped for agricultural resources.[4] The northern portion of the site includes a concrete disc golf pad and two disc golf baskets, and the southern and central portions of the site are graded and used as parking and equipment storage areas for the adjacent McIver Rodeo Arena. Volcanic boulders, conifer trees, and brush are scattered throughout the site, and a chain link fence is located throughout the site. In addition, power poles and associated overhead utility lines generally run along the entire eastern site boundary from north to south. As such, the project site is not currently being used for agricultural purposes.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b. As discussed in the 2040 GPU EIR, the General Plan buildout area does not include and is not adjacent to farmland or land associated with a Williamson Act contract. Therefore, implementation of the GPU would not conflict with zoning for agricultural use or a Williamson Act contract.

[4] California Department of Conservation. *California Important Farmland Finder*. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed August 2024.

As noted above, the project site is not currently being used for agricultural purposes. In addition, the project site is currently zoned Public Facilities, which does not allow for agricultural uses.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

c,d. The 2040 GPU EIR determined that implementation of the GPU would not convert any land designated as Open Space that includes forest land. Any tree removal associated with future development as part of the GPU would be required to comply with existing regulations and the GPU policies that are protective of forest land and the environment. Therefore, the 2040 GPU EIR determined that impacts to forest resources within the Town as a result of the GPU would be less than significant.

As presented in Figure 4.4-2, Land Cover within the town of Truckee and Sphere of Influence, a substantial amount of forested land is located within the town. However, the Town has not zoned any part of the planning area as Forest Land or Timberland. Therefore, the 2040 GPU EIR concluded that implementation of the GPU would not conflict with the existing zoning in the town for forest land or timberland.

As noted above, the northern portion of the site includes a concrete disc golf pad and two disc golf baskets, and the southern and central portions of the site are graded and used as parking and equipment storage areas for the adjacent McIver Rodeo Arena. While conifer trees are scattered throughout the site, the project site does not include any lands considered forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

III. AIR QUALITY. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Conflict with or obstruct implementation of the applicable air quality plan?	No	No	No
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	No	No	No
c. Expose sensitive receptors to substantial pollutant concentrations?	No	No	No
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No	No	No

Discussion

a,b. Truckee is located in the Mountain Counties Air Basin (MCAB), and is under the jurisdiction of the Northern Sierra Air Quality Management District (NSAQMD). In addition to the Truckee area, the NSAQMD has jurisdiction over an area encompassing Nevada, Plumas, and Sierra counties. Topography and meteorological conditions vary widely in the areas under the NSAQMD's jurisdiction and air quality conditions can be heavily influenced by local factors. Consequently, air quality conditions within the MCAB vary, resulting in differing attainment status designations for State and federal ambient air quality standards (AAQS) within various portions of the MCAB. The attainment status for ozone (O_3), fine particulate matter 2.5 microns in diameter ($PM_{2.5}$), respirable particulate matter 10 microns in diameter (PM_{10}), and carbon monoxide (CO) AAQS are presented in Table 1. Specifically, the NSAQMD is designated non-attainment for the federal and State eight-hour ozone, State one-hour ozone, State 24-hour PM_{10} standards, and federal 24-hour $PM_{2.5}$ ambient AAQS. Western Nevada County is in nonattainment for the federal and State ozone standards.

Ozone is a secondary pollutant generated from ozone precursor gases, primarily oxides of nitrogen (NO_X) and reactive organic gases (ROG), which react with sunlight to create ozone. Reductions in ozone are accomplished through reducing precursor emissions. Western Nevada County is designated as nonattainment for the federal 8-hour ozone standard and all of Nevada County is designated as being in nonattainment for the State 1-hour ozone standard. Ozone exceedances in Nevada County are primarily due to transport of emissions from the broader Sacramento area and San Francisco Bay Area. As a result, the NSAQMD has jurisdiction over a relatively small portion of the pollutants causing nonattainment within the MCAB. Nevertheless, because portions of the MCAB have been designated as nonattainment, NSAQMD is in the process of preparing a federally enforceable State Implementation Plan (SIP) for western Nevada County in accordance with the Clean Air Act. The only currently adopted attainment plan for the NSAQMD region is for the City of Portola. Given that the attainment plan only applies to the City of Portola and surrounding areas of Plumas County, the proposed project would not affect implementation of the attainment plan.

The SIP is an air quality attainment plan designed to reduce emissions of ozone precursors sufficient to attain the federal ozone standard by the earliest practicable date. The SIP under preparation would include various pollution control strategies. Overall emissions of ozone precursors must be reduced in western Nevada County (consistent

with Reasonable Further Progress requirements specified in the Clean Air Act) until attainment is reached.

Table 1
Attainment of AAQS within NSAQMD

Pollutant	State Designation	Federal Designation
O_3	Nevada County: Nonattainment (due to overwhelming transport) Sierra and Plumas County: Unclassified	**2008 Standard** • Western Nevada County: Serious Nonattainment • Sierra, Plumas, and Eastern Nevada County: Unclassifiable **2015 Standard** • Western Nevada County: Moderate Nonattainment • Sierra Plumas, Eastern Nevada County: Unclassifiable
PM_{10}	Nevada, Sierra, and Plumas Counties: Nonattainment	Unclassified
$PM_{2.5}$	Portola area in Plumas County: Nonattainment Nevada, Sierra, and remainder of Plumas County: Unclassified	**2012 Annual Standard** • Portola area in Plumas County: Nonattainment • Nevada, Sierra, and Remainder of Plumas County: Unclassifiable/Attainment **2012 24-hour Standard** • Unclassifiable/Attainment
CO	Plumas County: Attainment Nevada, Sierra County: Unclassified	Unclassifiable/Attainment

Source: NSAQMD. Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects. August 15, 2019.

Most of the reductions are expected to come from motor vehicles throughout the MCAB, Sacramento region, and San Francisco Bay Area becoming cleaner and from State regulations mandating further emissions reductions. Failure to submit and implement the SIP in a timely manner could result in federal sanctions, including the loss of federal highway funds, greater emission offset ratios for new sources, and other requirements that the U.S. Environmental Protection Agency (USEPA) may deem necessary.

The NSAQMD has established significance thresholds associated with development projects for emissions of the ozone precursors ROG and NO_X, as well as for PM_{10}. Adopted NSAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment. The significance levels, expressed in pounds per day (lbs/day), are listed in Table 2.

As shown in the table, NSAQMD has developed a tiered approach to determine significance levels based on a range of emissions levels. All projects, Level A or greater, are required to implement the following basic measures recommended by NSAQMD, as applicable:

- Alternatives to open burning of vegetative material will be used unless otherwise deemed infeasible by the NSAQMD. Among suitable alternatives are chipping, mulching, or conversion to biomass fuel;
- Grid power shall be used (as opposed to diesel generators) for job site power needs where feasible during construction; and
- If public transit is available in the project area, streets shall be designed to maximize pedestrian access to transit stops.

Table 2
NSAQMD Thresholds (lbs/day)

NO_X	ROG	PM_{10}
Level A		
<24 lbs/day	<24 lbs/day	<79 lbs/day
Level B		
24-136 lbs/day	24-136 lbs/day	79-136 lbs/day
Level C		
>136 lbs/day	>136 lbs/day	>136 lbs/day

Source: NSAQMD. Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects. August 15, 2019.

Projects that fall within the Level B emissions level thresholds require implementation of additional measures recommended by NSAQMD in order to result in a less-than-significant impact. Projects that exceed Level C emission level thresholds are required to implement further additional measures sufficient to reduce emissions to a level below significant. If, even after implementation of all such mitigation measures, a project would result in emissions in excess of the Level C thresholds, impacts would be considered significant and unavoidable.

The proposed project's construction and operational emissions were quantified using the California Emissions Estimator Model (CalEEMod) software version 2022.1.1.14 – a Statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including greenhouse gas (GHG) emissions, from land use projects. The model applies inherent default values for various land uses, including construction data, vehicle mix, trip length, average speed, compliance with the 2022 CBSC, etc. Where project-specific information is available, such information should be applied in the model. Accordingly, the proposed project's modeling assumes the following project and/or site-specific information:

- Construction would begin in May 2025 and occur over approximately one year;[5]
- The proposed project would require demolition of the existing on-site objects, including the 75-sf concrete disc golf pad;
- The proposed project would require demolition of the off-site existing KidZone Museum facility located at 11711 Donner Pass Road in Truckee, which includes a 3,400-sf tent structure; and
- Grading would involve the export of 1,900 cubic yards of soil.

[5] Construction for the first phase of development would begin in May 2025 and occur over approximately one year. Construction for the second phase of development is anticipated to begin in summer 2028 and be completed by the end of 2029. The air quality modeling conducted for the proposed project conservatively assumed that construction for both phases one and two would begin in May 2025 and occur over approximately one year.

The proposed project's estimated emissions associated with construction and operations are presented and discussed in further detail below. A discussion of the proposed project's contribution to cumulative air quality conditions is provided below as well. All emissions modeling results are included in Appendix A to this Modified Initial Study.

Construction Emissions

The 2040 GPU EIR concluded that construction activity associated with buildout of the GPU would result in emissions of ROG, NO_X, and PM_{10}, which could exceed the daily emissions thresholds established by NSAQMD. GPU Policy COS-8.8 requires new development in the GPU to use NSAQMD's CEQA guidance and mitigate significant construction impacts. In addition, implementation of GPU Policy COS-8.10 would require construction contractors to use Tier 3 and Tier 4 engines, which reduce NO_X exhaust, as well as basic construction measures that would reduce emissions of fugitive dust PM_{10}. However, the 2040 GPU EIR determined that the Town cannot guarantee that implementation of such measures would be sufficient to fully mitigate construction emissions for all projects in all scenarios. Thus, the 2040 GPU EIR concluded that the impact related to construction emissions of criteria pollutants would be significant and unavoidable.

According to the CalEEMod results, the proposed project would result in maximum unmitigated construction emissions as shown in Table 3. As shown in the table, the proposed project's construction emissions would be within the Level A thresholds for ROG and PM_{10}, and the Level B thresholds for NO_X.

Table 3
Maximum Unmitigated Construction Emissions (lbs/day)

Pollutant	Proposed Project Emissions	Threshold Level
ROG	3.14	Level A
NO_X	30.3	Level B
PM_{10}	9.15	Level A

Source: CalEEMod, November 2024 (see Appendix A).

As stated and presented above, all projects, including the proposed project, are required to comply with the basic measures recommended by NSAQMD, as applicable, which would help to reduce the construction emissions from the levels presented in Table 3. In addition, all development projects under the jurisdiction of the NSAQMD are required to prepare a Dust Control Plan pursuant to Rule 226 (Dust Control). The proposed project's required implementation of the Dust Control Plan would help to further minimize construction-related emissions of fugitive dust, which is a component of PM_{10}, from the levels presented in Table 3. With implementation of the Dust Control Plan, the actual emissions of PM_{10} would be lower than the levels presented in Table 3.

Due to the Level B emissions of NO_X, pursuant to the NSAQMD guidelines, the proposed project would be required to implement NSAQMD-recommended measures. The NSAQMD guidelines provide recommended measures to reduce emissions during both construction and operations of projects within the district boundaries.

The Town of Truckee would require the following standard condition of approval for the proposed project, which would require implementation of the NSAQMD's measures for Level B construction emissions:

In compliance with NSAQMD guidelines for Level B construction emissions, the proposed project shall be required to implement all recommended NSAQMD measures, which are applicable to the proposed project. The following NSAQMD measures shall be included, via written notation, on project improvement plans, subject to review and approval by the Town of Truckee:

- Alternatives to open burning of vegetative material shall be used unless otherwise deemed infeasible by the NSAQMD. Among suitable alternatives are chipping, mulching, or conversion to biomass fuel;
- Grid power shall be used (as opposed to diesel generators) for job site power needs where feasible during construction;
- Temporary traffic control shall be provided during all phases of the construction to improve traffic flow as deemed appropriate by local transportation agencies and/or Caltrans; and
- Construction activities shall be scheduled to direct traffic flow to off-peak hours as much as practicable.

Based on the above, incorporation of the aforementioned condition of approval would ensure compliance with NSAQMD-recommended measures. Overall, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to construction emissions and is within the scope of activities evaluated in the 2040 GPU EIR.

Operational Emissions

The 2040 GPU EIR determined that buildout of the GPU would result in long-term operational emissions that could violate or substantially contribute to a violation of federal and State standards for ozone and particulate matter. Emissions of NO_X associated with GPU buildout would be less when compared to baseline conditions due to regulatory mechanisms in place that will improve fuel economy into the future; however, emissions of ROG, CO, PM_{10}, and $PM_{2.5}$ would increase due to the introduction of new residential, commercial, and industrial development. According to the 2040 GPU EIR, as new development is constructed into the horizon of the project (2040), the Town will evaluate long-term operational emissions from such development on a project-by-project basis. Under such circumstances, emissions would be compared to NSAQMD's project-level mass emissions thresholds. While mitigation may be available to reduce emissions to less-than-significant levels, the 2040 GPU EIR concluded that the effectiveness of such mitigation could not be guaranteed. Therefore, the 2040 GPU EIR determined that impacts related to long-term operational emissions of criteria pollutants would be significant and unavoidable.

According to the CalEEMod results, the proposed project would result in maximum unmitigated operational criteria air pollutant emissions as shown in Table 4.

Table 4
Maximum Unmitigated Operational Emissions (lbs/day)

Pollutant	Proposed Project Emissions[1]	Threshold Level
ROG	0.97	Level A
NO_X	0.48	Level A
PM_{10}	0.31	Level A

Source: CalEEMod, November 2024 (see Appendix A).

As shown in the table, the proposed project's operational emissions would be within threshold Level A. According to the NSAQMD, emissions within the Level A threshold are considered to be less-than-significant, and additional mitigation beyond the basic measures recommended by NSAQMD (described above) is not required. Consequently, the proposed project would be considered to result in a less-than-significant impact related to operational emissions. Therefore, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to operational emissions and is within the scope of activities evaluated in the 2040 GPU EIR.

Cumulative Emissions

According to the 2040 GPU EIR, buildout of the GPU would contribute to cumulative air quality impacts associated with construction and operation of land uses in the MCAB. The 2040 GPU EIR determined that feasible mitigation does not exist for this impact beyond the policies and actions included in the GPU. As such, the GPU's contribution to cumulative emissions would be significant and impacts would be cumulatively considerable. Therefore, the 2040 GPU EIR concluded that cumulative impacts associated with air quality emissions would be significant and unavoidable.

Due to the dispersive nature and regional sourcing of air pollutants, air pollution is already largely a cumulative impact. The nonattainment status of regional pollutants, including ozone and PM, is a result of past and present development, and, thus, cumulative impacts related to these pollutants could be considered cumulatively significant.

To improve air quality and attain the health-based standards, reductions in emissions are necessary within nonattainment areas. Adopted NSAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. As future attainment of AAQS is a function of successful implementation of NSAQMD's planning efforts, by exceeding the NSAQMD's Level C thresholds for construction or operational emissions, a project could contribute to the region's nonattainment status for ozone and PM emissions and could be considered to conflict with or obstruct implementation of the NSAQMD's air quality planning efforts.

As discussed above, the proposed project would address construction emissions by implementing NSAQMD-recommended measures during construction and operational emissions would be within the Level A threshold. According to the NSAQMD, emissions within the Level A threshold are considered to be less-than-significant, and additional mitigation beyond the basic measures recommended by NSAQMD is not required. Therefore, the proposed project would not be considered to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment, and the project's incremental contribution to cumulative emissions would be considered less than significant. Therefore, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to cumulative emissions and is within the scope of activities evaluated in the 2040 GPU EIR.

Conclusion

As discussed above, while the proposed project would result in Level B construction emissions of criteria pollutants, the Town of Truckee would require the proposed project to implement NSAQMD's standard measures as a condition of approval. Incorporation of

the aforementioned condition of approval would ensure a less-than-significant impact related to construction emissions of criteria pollutants would occur associated with the proposed project. Furthermore, because operation of the proposed project would result in Level A emissions of all criteria pollutants, pursuant to NSAQMD guidelines, the proposed project could be considered to result in emissions that would not conflict with or obstruct implementation of the applicable regional air quality plans. Therefore, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to contributing to the region's nonattainment status for ozone or PM or contributing substantially to the violation of an air quality standard, or contributing to the significant cumulative impact of global climate change, and the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

c. Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Sensitive receptors are typically defined as facilities where sensitive receptor population groups (i.e., children, the elderly, the acutely ill, and the chronically ill) are likely to be located. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest sensitive receptors to the project site include the existing single-family residences located approximately 75 feet to the east, across River View Drive.

The major pollutant concentrations of concern are localized CO emissions, toxic air contaminant (TAC) emissions, and criteria pollutant emissions, which are addressed in further detail below.

Localized CO Emissions

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. High levels of localized CO concentrations are only expected where background levels are high, and traffic volumes and congestion levels are high. Emissions of CO are of potential concern, as the pollutant is a toxic gas that results from the incomplete combustion of carbon-containing fuels such as gasoline or wood.

The 2040 GPU EIR concluded that buildout of the GPU would not contribute to localized concentrations of mobile-source CO that would exceed an applicable ambient air quality standard, and, thus, the GPU would result in a less-than-significant impact regarding localized CO emissions.

Although NSAQMD does not have an established threshold for CO emissions, daily maximum CO emissions are presented herein in order to inform the public. Maximum unmitigated daily construction and operational emissions of CO are provided in Table 5 below.

Table 5 Maximum Unmitigated Emissions of CO (lbs/day)	
Project Phase	**CO Emissions**
Construction	31.3
Operations	2.93
Source: CalEEMod, November 2024 (see Appendix A).	

Although NSAQMD does not have an established threshold for CO, the nearby air district, Placer County Air Pollution Control District (PCAPCD), who has authority over a portion of the MCAB, has a screening level for localized CO impacts. In the absence of NSAQMD thresholds, Truckee has elected to use the PCAPCD screening threshold for this environmental review.

According to the PCAPCD screening levels, a project could result in a significant impact if the project would result in CO emissions from vehicle operations in excess of 550 lbs/day, and if the project would increase vehicle trips such that the peak hour level of service (LOS) at an intersection would degrade from an acceptable LOS to an unacceptable LOS or if project-generated trips would result in an increase in delay by 10 seconds or more at an intersection that already operates at an unacceptable LOS. However, considering that the law has changed with respect to how transportation-related impacts may be addressed under CEQA such that unacceptable LOS is no longer considered a significant impact on the environment under CEQA, this analysis relies on the 550 lbs/day of CO emissions screening criterion only.

As shown in Table 5, CO emissions associated with the proposed project would be well below the PCAPCD's 550 lbs/day screening level. Therefore, based on the nearby PCAPCD's screening levels for localized CO impacts, the proposed project would not be expected to result in substantial localized CO concentrations, and, thus, the proposed project would not be considered to expose sensitive receptors to substantial concentrations of localized CO.

TAC Emissions

Another category of environmental concern is TACs. The California Air Resources Board's (CARB's) *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) provides recommended setback distances for sensitive land uses from major sources of TACs, including, but not limited to, freeways and high traffic roads, distribution centers, and rail yards. The CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks from TACs are a function of both the concentration of emissions and the duration of exposure. Health-related risks associated with DPM in particular are primarily associated with long-term exposure and associated risk of contracting cancer.

As discussed in the 2040 GPU EIR, buildout of the GPU would generate emissions of DPM from project construction; however, due to the short-term nature of construction and the highly dispersive properties of DPM, construction-generated DPM would likely not constitute a potentially significant impact. Nevertheless, the 2040 GPU determined that an inherent uncertainty exists regarding the scale, location, and types of construction that could occur under the GPU. Therefore, potential TAC generation could expose a

sensitive receptor to substantial TAC concentrations and result in a significant impact. The GPU could also result in an increased exposure of existing or planned sensitive land uses to stationary or mobile-source TACs that would exceed applicable health-based standards. For projects that would locate sensitive receptors within 500 feet of I-80 and 1,000 feet of a railway, implementation of GPU Policy COS-8.7 would require future project applicants to conduct project-level health risk assessments (HRAs) to evaluate project-level emissions of TACs from construction and/or operational activity. However, the Town cannot assume that mitigation would be available and implemented such that all future health risk increases from exposure to TACs would be reduced to less-than-significant levels. Therefore, the 2040 GPU EIR determined that impacts related to exposure of sensitive receptors to TACs would remain significant and unavoidable.

The proposed project does not include any operational activities that would be considered a substantial source of TACs. As discussed above, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Due to the nature of the project, the proposed project would not be expected to attract heavy-duty vehicles, as the large majority of vehicle trips associated with the proposed project would be generated by passenger vehicles and light-duty trucks. Accordingly, operations of the proposed project would not expose sensitive receptors to excess concentrations of TACs.

Short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. However, construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Health risks are typically associated with exposure to high concentrations of TACs over extended periods of time (e.g., 30 years or greater), whereas the construction period associated with the proposed project would likely be limited to approximately one year. All construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation, which is intended to help reduce emissions associated with off-road diesel vehicles and equipment, including DPM. Because construction equipment on-site would not operate for long periods of time and would be used at varying locations within the site, associated emissions of DPM would not occur at the same location (or be evenly spread throughout the entire project site) for extended periods of time.

Due to the temporary nature of construction and the relatively short duration of potential exposure to associated emissions, the potential for any one sensitive receptor in the area to be exposed to concentrations of pollutants for a substantially extended period of time would be low. Thus, construction of the proposed project would not be expected to expose any nearby sensitive receptors to substantial pollutant concentrations.

Criteria Pollutants

As previously noted, the 2040 GPU EIR concluded that impacts related to construction and operation emissions of criteria pollutants would be significant and unavoidable.

The NSAQMD thresholds of significance were established with consideration given to the health-based air quality standards established by the Federal and State AAQS, and are designed to aid the NSAQMD in achieving attainment of such AAQS.[6] Although the

[6] Northern Sierra Air Quality Management District. *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects*. August 18, 2009.

NSAQMD's thresholds of significance are intended to aid achievement of the AAQS for which the MCAB is in nonattainment, the thresholds of significance do not represent a level above which individual project-level emissions would directly result in public health impacts. Nevertheless, a project's compliance with the NSAQMD's thresholds of significance provides an indication that criteria pollutants released as a result of project implementation would not inhibit attainment of the health-based AAQS. Because project-related emissions would not exceed the NSAQMD thresholds for criteria pollutant emissions and, thus, would not inhibit attainment of the federal and State AAQS, the criteria pollutants emitted during project implementation would not be anticipated to result in measurable health impacts to sensitive receptors. Accordingly, the proposed project would not expose sensitive receptors to excess concentrations of criteria pollutants.

Conclusion

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to exposure to substantial pollutant concentrations than what were analyzed in the 2040 GPU EIR. Therefore, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

d. Emissions of principal concern include emissions leading to odors, emissions that have the potential to cause dust, or emissions considered to constitute air pollutants. Air pollutants have been discussed in sections "a" through "c" above. Therefore, the following discussion focuses on emissions of odors and dust.

According to the 2040 GPU EIR, the Town is uncertain about the size, land use type, specific building locations and site designs, and build-out periods of future development projects that would occur under the GPU. Therefore, the 2040 GPU EIR determined that emissions of odors and exposure to existing odors would be assessed on a project-by-project basis. Furthermore, the 2040 GPU EIR concluded that buildout of the GPU would result in the potential for increased exposure of sensitive receptors to odorous emissions as compared to baseline conditions, particularly if new odorous land use types are constructed and operated. The 2040 GPU incorporated all feasible odor reduction measures and additional plan-level measures are not available to further reduce impacts from short-term and long-term odors. According to the 2040 GPU EIR, the nature, feasibility, and effectiveness of project-specific mitigation cannot yet be determined and, therefore, the Town cannot assume that mitigation would be available and implemented such that all future odors would be reduced to less-than-significant levels. As a result, the 2040 GPU EIR determined that impacts related to odors would remain significant and unavoidable.

Emissions such as those leading to odor have the potential to adversely affect people. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, quantitative analysis to determine the presence of a significant odor impact is difficult. Typical odor-generating land uses include, but are not limited to, wastewater treatment plants, landfills, and composting facilities. The proposed project would not introduce any such land uses. Furthermore, solid waste associated with the proposed project would be deposited in the approximately 189-sf trash enclosure located in the southeastern corner of the site, which would reduce any solid waste-related odors.

Construction activities often include diesel-fueled equipment and heavy-duty trucks, which could create odors associated with diesel fumes that may be considered objectionable. However, construction is temporary and construction equipment would operate intermittently throughout the course of a day, and would likely only occur over portions of the site at a time. In addition, all construction equipment and operation thereof would be regulated per the In-Use Off-Road Diesel Vehicle Regulation. Project construction would also be required to comply with all applicable NSAQMD rules and regulations, particularly associated with permitting of air pollutant sources. The aforementioned regulations would help to minimize air pollutant emissions, as well as any associated odors related to operation of construction equipment. Considering the short-term nature of construction activities, as well as the regulated and intermittent nature of the operation of construction equipment, the proposed project would not be expected to create objectionable odors affecting a substantial number of people.

Furthermore, the NSAQMD regulates objectionable odors through Rule 205 (Nuisance), which prohibits any person or source from emitting air contaminants or other material that result in any of the following: cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; endanger the comfort, repose, health, or safety of any such persons or the public; or have a natural tendency to cause injury or damage to business or property. Rule 205 is enforced based on complaints. If complaints are received, the NSAQMD is required to investigate the complaint, as well as determine and ensure a solution for the source of the complaint, which could include operational modifications. Thus, although not anticipated, if odor complaints are made during construction or operation of the project, the NSAQMD would ensure that such odors are addressed, and any potential odor effects eliminated.

With respect to dust, as noted previously, the proposed project would be required to comply with all applicable NSAQMD rules and regulations. Specifically, implementation of a Dust Control Plan pursuant to District Rule 906, and Section 18.30.030 of the Town of Truckee Development Code, which provides dust suppression requirements, would be sufficient to reduce potential emissions of dust during construction. Following project construction, vehicles operating within the project site would be limited to paved areas of the site, and non-paved areas would be landscaped. Thus, project operations would not include sources of dust that could adversely affect a substantial number of people.

For the aforementioned reasons, construction and operation of the proposed project are not expected to result in emissions (such as those leading to odors) adversely affecting a substantial number of people. Therefore, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to emissions (such as those leading to odors) adversely affecting a substantial number of people than what was analyzed in the 2040 GPU EIR. Based on the above, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

IV. BIOLOGICAL RESOURCES. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No	No	No
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	No	No	No
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No	No	No
d. Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?	No	No	No
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No	No	No
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	No	No	No

Discussion

a. Several species of plants and animals within the State of California have low populations, limited distributions, or both. Such species may be considered “rare” and are vulnerable to extirpation as the state’s human population grows and the habitats the species occupy are converted to agricultural and urban uses. State and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Others have been designated as “candidates” for such listing. Still others have been designated as “species of special concern” by CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered. Collectively, these plants and animals are referred to as “special-status species.” Although CDFW Species of Special Concern generally do not have special legal status, they are given special consideration under CEQA. Special-status species include the following:

- Plant and wildlife species that have been formally listed as threatened or endangered, or are candidates for such listing by the CDFW or National Marine Fisheries (NMFS);
- Plant and wildlife species that have been listed as threatened or endangered or are candidates for such listing by the CDFW;

- CDFW Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue;
- CDFW Fully Protected Species; and
- Species on CNPS Lists 1 and 2, which are considered to be rare, threatened, or endangered in California by the CNPS and CDFW.

In addition to regulations for special-status species, most birds in the U.S., including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under the MBTA, destroying active nests, eggs, and young is illegal. In addition, plant species on CNPS Lists 1 and 2 are considered special-status plant species and are protected under CEQA.

The 2040 GPU EIR analyzed the potential for buildout of the GPU to substantially impact candidate, sensitive, or special-status plant or wildlife species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. The 2040 GPU EIR determined that 46 special-status plant species and 34 special-status wildlife species (four fish, three amphibians, 12 birds, three invertebrates, and 12 mammals) are known to occur or have the potential to occur within the GPU area.

According to the 2040 GPU EIR, special-status species known to occur in the Truckee are commonly associated with sensitive habitats, such as riparian and wetland habitats. For example, projected development that occurs in the vicinity of rivers and creeks may be within habitat suitable for species such as Sierra Nevada yellow-legged frog and Lahontan cutthroat trout. In addition to the rivers and creeks that may be disturbed, projected development under the GPU could disturb upland habitats and the sensitive plant and animal species that may occupy them. Furthermore, the wide variety of habitats within Truckee, including those already largely developed, can support many species of nesting birds, including special-status species such as bald eagle and California spotted owl, as well as many common bird species that are protected by MBTA and California Fish and Game Code (CFGC).

The 2040 GPU determined that development under the GPU may result in the disturbance or loss of special-status plant and animal species. However, compliance with State and federal law, as well as implementation of the GPU's policies and actions, would reduce potential impacts of projected development under the GPU. As such, the 2040 GPU EIR concluded that development of the GPU would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS, and potential impacts would be less than significant.

In addition to existing State and federal laws and permitting processes, the GPU includes several policies and actions intended to further reduce potential impacts on habitats and special-status species and require biological surveys and mitigation for significant effects. For example, Policies COS-1.3, COS-1.7, COS-3.1, COS-3.4, COS-3.2, COS-7.1, COS-3.3, COS-3.5, COS-3.6, COS-7.1, CC-2.1, CC-2.2, SN-2.5, SN-2.7, SN-8.1, SN-8.4 and Actions COS-3.A, COS-3.B, COS-3.D, and COS-3.E address open space conservation and encourage development to occur within the GPU planning area and other development areas. Other policies support invasive species eradication and native species protection, planting, and regeneration; require biological surveys to be conducted when sensitive species may be present; and support preservation of open space to limit habitat fragmentation.

In compliance with GPU policies, a Biological Resources Technical Report was prepared by WRA, Inc. (WRA) for the proposed project (see Appendix B).[7] The purpose of the Biological Resources Technical Report was to develop and gather information on sensitive land cover types and special-status plant and wildlife species in the project vicinity to support an evaluation of the proposed project under CEQA. WRA conducted a literature review of available background information pertaining to the biological resources on and in the vicinity of the project site. Available literature and resource mapping reviewed included the occurrence records for special-status species and sensitive natural communities, and recent environmental documents prepared for nearby projects. Database searches for known occurrences of special-status species focused on the Truckee, Kings Beach, Tahoe City, Norden, Independence Lake, Granite Chief, Martis Peak, Boca, and Hobart Mills 7.5-minute U.S. Geological Survey (USGS) quadrangle maps. Specifically, WRA reviewed the following sources to determine which sensitive habitats and special-status plant and wildlife species have been documented to occur in the vicinity of the project site:

- CNDDB record search (CDFW 2023);
- USFWS Information for Planning and Conservation Report (IPaC; USFWS 2023a);
- National Wetlands Inventory (USFWS 2023b);
- CNPS Rare and Endangered Plant Inventory (CNPS 2023a);
- California Department of Fish and Game publication "California's Wildlife, Volumes I-III" (Zeiner et al. 1990);
- California Department of Fish and Game publication "California Bird Species of Special Concern" (Shuford and Gardali 2008);
- CDFW and University of California Press publication California Amphibian and Reptile Species of Special Concern (Thomson et al. 2016);
- California Wildlife Habitat Relationships Database (CDFW 2008);
- Jepson Flora Project and Consortium of California Herbaria records (2023); and
- Town of Truckee 2040 General Plan (2023).

WRA also conducted a reconnaissance-level field survey of the entire project site on May 22, 2023, to determine if plant communities and/or sensitive habitats are present within the project site and whether existing conditions provide suitable habitat for any special-status plant or wildlife species. As part of the field survey, WRA documented the existing site conditions; recorded any observed plant and wildlife species; characterized and mapped land cover types, vegetation communities, and associated terrestrial wildlife habitats; and evaluated the potential for such habitats to support special-status species and other sensitive resources. Protocol surveys for any special-status species were not conducted as part of the field survey.

Currently, the northern portion of the site includes a concrete disc golf pad and two disc golf baskets, and the southern and central portions of the site are graded and used as parking and equipment storage areas for the adjacent McIver Rodeo Arena. Volcanic boulders, conifer trees, and brush are scattered throughout the site, and a chain link fence is located throughout the site. In addition, power poles and associated overhead utility lines generally run along the entire eastern site boundary from north to south.

[7] WRA, Inc. *Biological Resources Technical Report, KidZone Museum Project, Truckee, Nevada County, California.* November 2023.

Based on the results of the database review and field survey conducted as part of the Biological Resources Technical Report, the potential for special-status species to occur on the project site is discussed in further detail below.

Special-Status Plants

As previously noted, the 2040 GPU EIR determined that 46 special-status plant species are known to occur or have the potential to occur within the GPU area. Based upon WRA's review of the aforementioned databases, 43 special-status plant species have been documented in the vicinity of the project site. Of the 43 special-status plant species, a total of 30 were considered within the 2040 GPU EIR. However, WRA determined that none of the special-status plant species documented within the site vicinity are likely or have potential to occur on-site due to one or more of the following reasons:

- Hydrologic conditions (e.g., aquatic) necessary to support the special-status plant species are not present in the project site;
- Edaphic (soil) conditions (e.g., volcanic tuff, serpentine) necessary to support the special-status plant species are not present in the project site;
- Topographic conditions necessary to support the special-status plant species are not present in the project site;
- Natural communities (e.g., alpine) necessary to support the special-status plant species are not present in the project site;
- The project site is geographically isolated from the documented range of special-status plant species; or
- Land use history and contemporary management has degraded the localized habitat necessary to support the special-status plant species.

In addition, special-status plant species were not observed on-site during the reconnaissance-level field survey conducted by WRA on May 22, 2023. Thus, the proposed project would not result in adverse effects to special-status plant species.

Special-Status Wildlife

As previously noted, the 2040 GPU EIR concluded that a total of 34 special-status wildlife species (four fish, three amphibians, 12 birds, three invertebrates, and 12 mammals) are known to occur or have the potential to occur in the GPU area. Based upon WRA's review of the aforementioned databases, 34 special-status wildlife species have been documented in the vicinity of the project site. Of the 34 special-status wildlife species, a total of 22 were considered within the 2040 GPU EIR. WRA determined that 31 of the 34 special-status wildlife species documented from the region are not likely to occur on the project site for the following reasons: 1) the site lacks specific habitat types (e.g., perennial streams, alpine fell fields, etc.), 2) the site is outside of the species' documented distribution or elevation range, 3) surrounding development has caused a high level of site disturbance, and/or 4) the site lacks special habitat features, such as large burrows, rock outcrops, cliffs, or caves for breeding, resting, and escape cover.

WRA determined that the western bumblebee *(Bombus occidentalis)*, Silver-haired bat *(Lasionycteris noctivagans)*, the long-legged Myotis *(Myotis vloanas)*, and nesting songbirds and raptors have potential to occur in the proposed development area due to the presence of potentially suitable habitats. Such species are discussed in further detail below.

Western bumblebee

Western bumblebee (*Bombus occidentalis*) is a Candidate species listed under CESA. Historically the species was distributed broadly throughout the western United States. In California, western bumblebee is thought to be largely extirpated from low elevation sites and is largely restricted to the Northern Coast and Sierra Nevada Ranges. Western bumblebee occurs in a range of habitats that include sufficient foraging and nesting opportunities, such as woodlands, montane meadows, and grassland; and has also been documented in urban agricultural areas. The flight period in California is from early February to late November, peaking in late June and late September. The flight period for workers and males is from early April to early November. Like other bumblebee species, western bumblebee is a social species with an annual life cycle. Queens emerge from hibernation in the late winter/early spring to establish a new colony. The colony produces workers throughout the spring and summer, and reproductives (i.e., drones and queens) in the early fall. Western bumblebee nests are built in pre-existing cavities and are commonly found underground, in abandoned rodent burrows, or aboveground in grass tufts, rock piles, abandoned bird nests, or tree cavities. Western bumblebee feeds on pollen and nectar during all life stages. The western bumblebee is a short-tongued species, and generally visits flowers with short corollas such as blueblossoms, thistles, rabbitbrush, geraniums, gumweeds, lupines, coyote mints, blackberries, goldenrods, and clover.

According to the Biological Resources Technical Report, the western bumblebee has not been documented within the project site and the species was not observed during the May 2023 site visit. However, development of the proposed project could result in a significant impact to western bumblebee because the site is within the range for the species and vegetation within the project site could provide floral resources/foraging habitat for western bumblebee. Should western bumblebee colonies or overwintering queens be present in underground nests in work areas, work activities related to the proposed project could result in take of this State candidate species. If western bumblebee are present on or near the project site, development of the proposed project could result in an adverse impact to the species. As such, the Biological Resources Technical Report recommends pre-construction surveys be conducted for the species to reduce the potential impact to a less-than-significant level. Consistent with GPU Policy COS-3.3, the Town of Truckee would require a standard condition of approval for the proposed project, which, as detailed below, would require implementation of all mitigation measures included in the Biological Resources Technical Report prepared for the proposed project, would ensure that impacts to western bumblebee would not occur as a result of the proposed project.

Silver-Haired Bat and Long-Legged Myotis

Silver-haired bat *(Lasionycteris noctivagans)* and long-legged Myotis *(Myotis volans)* are CDFW Species of Special Concern. Silver-haired bat primarily inhabit coastal and montane forest habitats and forage over streams, ponds open shrub-dominated areas, as well as near drinking water. The bat roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes and rarely under rocks. Habitat for the long-legged myotis primarily consists of coniferous forests, but the species also occurs seasonally in riparian habitats. Long-legged myotis are found seasonally in a wide variety of habitats including high-elevation forests and meadows of the Sierra Nevada. The bats feed on flying insects, primarily moths. While foraging, the bats fly low over water close to trees and cliffs, and in open meadows. Suitable roost sites include rock crevices, buildings, under tree bark, in snags, and in caves and mines. The species forms large nursery colonies consisting of hundreds of individuals, usually located under bark or in hollow trees.

According to the Biological Resources Technical Report, mature trees (greater than 25-inch diameter at breast height [DBH]) could provide suitable roost habitat for silver-haired bat and long-eared myotis and the species have a moderate potential to roost in the bark of the Jeffrey pine trees in the eastern and western corners of the project site. Therefore, if the species are present on or near the project site, construction activities may result in impacts to individual bats through removal of occupied roost habitat during the bat hibernation or maternity season. Because the species have a moderate potential to occur on-site, development of the proposed project could result in harm, death, displacement and/or disruption of bats and/or nursery colony roosts. As such, the Biological Resources Technical Report recommends pre-construction surveys be conducted for the species to reduce impacts to a less-than-significant level. Consistent with GPU Policy COS-3.3, the Town of Truckee would require a standard condition of approval for the proposed project, which, as detailed below, would require implementation of all mitigation measures included in the Biological Resources Technical Report prepared for the proposed project, would ensure that impacts to silver-haired bat and long-legged myotis would not occur as a result of the proposed project.

Migratory Bird Species Protected Under the MBTA

As discussed in the Biological Resources Technical Report, the vegetation communities within the project site support suitable habitat for raptors and songbirds protected by the MBTA and CFGC while they are nesting. The loss of an active nest of common or special-status bird species would be considered a violation of the CFGC, Sections 3503, 3503.5, 3513, and the federal MBTA. Shrubs and trees may provide nesting opportunities for common bird species that are adapted to ambient noise levels associated with the existing surrounding buildings, airport, and highway. In addition, raptor species may nest in mature Jeffrey pine trees within 300 feet of the proposed development area, including red-tailed hawk (*Buteo jamaicensis*).

Construction activities including tree removal, other vegetation clearing, and noise and vibration have a potential to result in direct (i.e., death or physical harm) and indirect (i.e., nest abandonment) impacts to nesting birds. As such, the Biological Resources Technical Report recommends pre-construction surveys be conducted for nesting birds and raptors to reduce impacts to a less-than-significant level. Consistent with GPU Policy COS-3.3, the Town of Truckee would require a standard condition of approval for the proposed project, which, as detailed below, would require implementation of all mitigation measures included in the Biological Resources Technical Report prepared for the proposed project, would ensure that impacts to nesting birds and raptors protected under the MBTA would not occur as a result of the proposed project.

General Plan Requirements

Pursuant to GPU Policy COS-3.3, Requirements for Biological Surveys, a biological site survey, conducted by a qualified biologist, is required for development on sites with the potential to contain critical or sensitive habitat or where special-status species may be present. Where special-status species are present, GPU Policy COS-3.3 requires mitigation in accordance with guidance from the appropriate state or federal agency charged with the protection of the subject species. The mitigation shall include implementation of impact minimization measures based on accepted standards and guidelines and best available science and prioritized as follows: avoid impacts, minimize impacts, and compensate for unavoidable impacts.

As discussed above, a Biological Resources Technical Report was prepared for the proposed project, and mitigation measures were identified. Thus, in order to ensure that impacts related to special-status species would not occur, consistent with GPU Policy COS-3.3, the Town of Truckee would require the following standard condition of approval for the proposed project to ensure all recommendations included in the Biological Resources Technical Report are implemented as part of the proposed project:

> In compliance with GPU Policy COS-3.3, Requirements for Biological Surveys, all mitigation measures included in the November 2023 Biological Resources Technical Report prepared by WRA, Inc. for the proposed project shall be implemented by the project applicant prior to any ground-disturbing activities. The results of all recommended pre-construction surveys shall be submitted to the Town of Truckee Community Development Department. All recommended avoidance measures shall be noted on project improvement plans, subject to review and approval by the Community Development Director.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b,c. According to the 2040 GPU EIR, projected development under the GPU may result in the loss or degradation of riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations, or by CDFW or USFWS. In addition, the 2040 GPU EIR concluded that projected development under the GPU may result in the loss or degradation of State or federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA) (including marsh, streams, vernal pool), or by the Lahontan Regional Water Quality Control Board (RWQCB), through direct removal, filling, hydrological interruption, or other means. However, compliance with State and federal law, as well as implementation of the GPU's policies and actions, would reduce potential impacts of projected development under the GPU policies and implementation programs to a less-than-significant level.

In addition to existing State regulations that protect some sensitive habitats (e.g., riparian and aquatic habitats protected under the CFGC), the GPU includes several policies and actions intended to reduce impacts and assist in the protection of sensitive habitats. For example, GPU Policies COS-2.1, COS-2.2, COS-2.7, COS-3.2, COS-3.4, and COS-7.1 regulate development along the Truckee River, as well as require setbacks from riparian corridors and other sensitive habitats for development. Policy COS-3.2 calls for the preservation of riparian corridors through application of setbacks and other development standards that respect such resources. Policy COS-3.3 requires biological surveys and mitigation for all development in areas where sensitive habitat may be present.

While the proposed project is located approximately 450 feet from the Truckee River, the Biological Resources Technical Report determined that the project site does not contain riparian habitat or other sensitive natural communities identified in local or regional plans or policies. As such, development of the proposed project would not impact the Truckee River. Furthermore, the project site does not contain State or federally protected wetlands.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts to riparian habitats, sensitive

natural communities, or wetlands than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

d. Wildlife movement corridors are routes that animals regularly use and follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

According to the 2040 GPU EIR, projected development under the GPU may interfere with the movement of resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors through habitat fragmentation, physical barriers to movement (e.g., fences, buildings, roadways), or anthropogenic noise. Additionally, development under the GPU may result in loss of wildlife nursery sites from direct removal or conversion of habitat or increased anthropogenic noise and human presence. The GPU includes policies that specifically require all new development to avoid identified native wildlife nursery sites and wildlife corridors within or adjacent to the development site by implementing no-disturbance buffers around such areas or implementing project-specific design features. The Town would amend the Development Code through Action COS-3.F to establish development standards (e.g., wildlife-friendly fencing and lighting) for new development adjacent to or in proximity to wildlife movement corridors (i.e., wildlife movement to nursery sites and between critical summer and winter range) or nursery sites (i.e., deer fawning areas) mapped by the CDFW to avoid or reduce indirect adverse effects of project development such that habitat functions and values are not lost. However, due to the wide variety of future project types with the GPU area, site conditions, and other circumstances associated with future development, complete avoidance of movement corridors or nursery sites may not be feasible. Therefore, the 2040 GPU EIR determined that impacts to species within wildlife movement corridors would be significant and unavoidable.

According to the CDFW Biogeographic Information and Observation System (BIOS), the project site is located south of the Loyalton Mule Deer Verdi-Truckee migration corridor.[8] As discussed in the Biological Resources Technical Report, the project site is directly adjacent to areas that are already developed and subjected to regular disturbances. WRA determined that the project site does not function as a wildlife habitat linkage or movement corridor, nor would project implementation adversely affect any offsite designated wildlife habitat linkage or movement corridor. As such, the project site does not support any native wildlife nursery sites and the proposed project would result in a less-than-significant impact to the movement of any native resident or migratory wildlife species.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

e. The Town of Truckee Tree Preservation Ordinance (Section 18.30.155 of the Town of Truckee Development Code) provides protection for trees, while exempting certain activities from the tree permitting process. The Tree Preservation Ordinance provides protection for trees greater than 24 inches DBH, guidelines for preservation of trees, and

[8] CDFW. *BIOS*. Available at: https://apps.wildlife.ca.gov/bios6/. Accessed September 2024.

mitigation for trees that are removed. The 2040 GPU EIR reasonably assumed that applicants for future projects would require discretionary entitlement and would abide by the restrictions therein, and implement mitigation based on existing local policies and ordinances. The GPU did not propose land use patterns or policies that would conflict with other local policies or ordinances protecting biological resources, including the tree preservation ordinance. Therefore, the 2040 GPU EIR concluded that impacts related to potential conflicts with local policies or ordinances protecting biological resources would be less than significant.

According to the Biological Resources Technical Report, approximately 0.58-acre of Jeffrey pine trees are centrally located on the project site and range from less than 18 inches DBH to more than 80 inches DBH. As such, the proposed project would be required to comply with the tree mitigation, preservation, and protection requirements set forth in Sections 18.30.155(F) through (G) of the Town of Truckee Development Code.

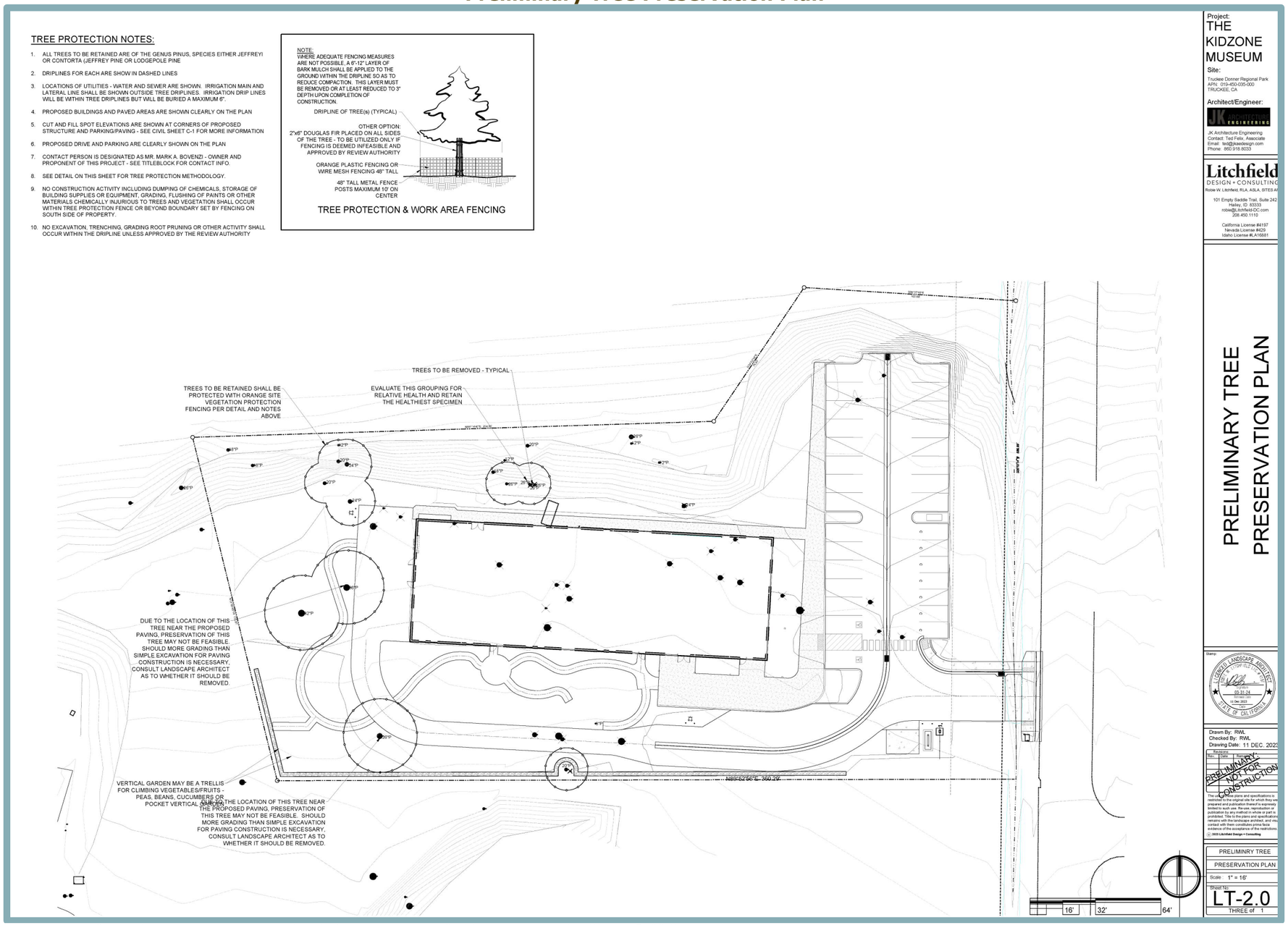
As presented in Figure 12, of the 43 on-site trees, a total of 23 existing on-site trees would be removed as part of the project and 20 existing on-site trees would remain. Pursuant to Section 18.30.155(F)(a) of the Town's Development Code, the proposed project would be required to plant either a minimum one- and one-half-inch caliper healthy and well-branched deciduous tree or a five- to six-foot-tall evergreen tree for each tree removed. The proposed project would include the planting of a total of 80 trees and 143 shrubs within the project site to provide a natural landscape within the project area (see Figure 10). As such, the proposed project would comply with the requirements of Development Code Section 18.30.155, and would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would be consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

f. According to the 2040 GPU EIR, the Town of Truckee is not located within an area that is subject to an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. Nor are any habitat conservation plans, natural community conservation plans, or similar plans being considered in the policy area. Therefore, impacts related to conflicting with such plans were not discussed further within the 2040 GPU EIR. Given that the project site is located within the Town's GPU planning area, the proposed project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State HCP.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

Figure 12
Preliminary Tree Preservation Plan



Note: Figure 12 reflects a previous building footprint. Please see Figure 3 of this Modified Initial Study/15168 Checklist for the current site plan.

V. CULTURAL RESOURCES. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	No	No	No
b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to Section 15064.5?	No	No	No
c. Disturb any human remains, including those interred outside of dedicated cemeteries.	No	No	No

Discussion

a-c. According to the 2040 GPU EIR, all areas within the Town are considered extremely sensitive regarding the presence of cultural resources and areas in adjoining or outlying subdivisions are considered moderately to highly likely to contain cultural resources.[9] For example, the 2040 GPU EIR identifies areas along the Truckee River and its tributaries, and Donner Lake as highly sensitive for cultural resources.

The 2040 GPU EIR determined that projected development under the GPU could adversely affect historical resources. Although the GPU, Downtown Truckee Plan, and the Town's Development Code include policies to protect historical resources, avoidance of all historical resources may not be possible. Therefore, development under the GPU could result in damage to, or destruction of, a historic building or structure, thereby resulting in a substantial adverse change in the significance of a historical resource as defined in Section 15064.5. According to the 2040 GPU EIR, feasible mitigation measures are not available to reduce impacts beyond compliance with the policies and actions in the proposed GPU, and impacts to historical resources would remain significant and unavoidable. However, the 2040 GPU EIR concluded that for the vast majority of development projects implemented under the GPU, compliance with existing State and federal regulations, and compliance with proposed GPU policies and actions would minimize potential adverse effects on historical resources.

The 2040 GPU EIR also concluded that projected development under the GPU could adversely affect the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines. However, the GPU includes policies to protect resources by surveying, avoiding, monitoring, recording, or otherwise treating discovered resources appropriately, in accordance with pertinent laws and regulations. For example, GPU Policy CC-4.1 protects archaeological resources by requiring discretionary development projects to be assessed for cultural resources by qualified professionals and that projects are designed to avoid potential impacts to significant cultural resources whenever possible. GPU Policy CC-4.1 is supported by the Town of Truckee Development Code 18.30.040(B), which outlines specific actions and timing of cultural resource surveys and 18.30.040(C), which allows for preconstruction excavation testing. In addition, GPU Policy CC-4.8 requires monitoring by a qualified professional whenever evidence of an archaeological site within a proposed project area exists, or the likelihood for occurrence of such sites is high. The 2040 GPU EIR concluded the implementation of applicable GPU

[9] Town of Truckee. *Draft Environmental Impact Report for the Town of Truckee 2040 General Plan Update and Downtown Truckee Plan Project.* [pg. 4.5-19]. August 2022.

Policies would reduce potential impacts to archaeological resources pursuant to Section 15064.5 to a less-than-significant level.

Furthermore, the 2040 GPU EIR determined that previously undiscovered human remains could be discovered when soils are disturbed during construction of projected development under the GPU. However, compliance with Health and Safety Code Sections 7050.5 and PRC Section 5097, which contain procedures for the treatment of Native American human remains, would reduce potential impacts to a less-than-significant level.

As previously discussed, the project site has been disturbed by activities related to the Truckee River Regional Park. For example, the northern portion of the site includes a concrete disc golf pad and two disc golf baskets, and the southern and central portions of the site are graded and used as parking and equipment storage areas for the adjacent McIver Rodeo Arena.

In compliance with GPU Policy CC-4.1, a Preliminary Cultural Resources Study[10] and a Final Cultural Resources Study Addendum and Archaeological Field Survey (Final Cultural Resources Study)[11] were prepared by Consulting Archaeologist, Susan Lindström, Ph.D. (RPA) for the proposed project. As part of the Preliminary Cultural Resource Study, Lindström conducted archival research of the project site to inventory and record known cultural resources and identify potential project constraints. On January 23, 2023, Lindström conducted a records search of the California Historical Resources Information System (CHRIS) at the North Central Information Center (NCIC), including the Office of Historic Preservation's Historic Property Directory/Determination of Eligibility, California State Inventory of Historical Resources and Historical Landmarks, National Register of Historical Places/California Register of Historic Resources listings, California Points of Historical Interest, and Caltrans State and Local Bridge Surveys.

Lindström's research determined that the project site has been subject to three previous cultural studies, which focused on the overhead utility lines located along the entire eastern site boundary from north to south, and eight studies have been conducted within a 0.125-mile radius of the project site. Based on the previous studies conducted for the project site and vicinity, cultural resources are not known to exist at the project site; however, two resources have been inventoried within 0.125-mile of the project site: one refuse scatter (P-29-1105) and one undesignated resource (P-29-4553). In addition, a prehistoric rock circle was excavated and relocated from Stampede Valley by the National Park Service during the 1970s and reconstructed near the Truckee Regional Park prior to inundation of the reservoir. The Preliminary Cultural Resources Study determined that the proposed project would not physically disturb the prehistoric feature, nor would the proposed project fall within viewshed of the feature as the feature is well screened by a stand of mature pines located in the eastern portion of the site.

As part of the Final Cultural Resources Study, Lindström conducted a field survey of the project site to identify surface sites, features, buildings, and/or artifacts. The field survey did not identify cultural resources within the project site. As a result, the Final Cultural Resources Study determined that development of the proposed project would not result

[10] Susan Lindström, Ph.D. (RPA). *KidZone Museum Project, Cultural Resources Study, Preliminary Report.* February 2023.

[11] Susan Lindström, Ph.D. (RPA). *KidZone Museum Project, Cultural Resources Study Addendum Archaeological Field Survey Final Report.* October 2023.

in a significant impact to cultural resources. Furthermore, the Final Cultural Resources Study determined that the proposed project would not result in the alteration of or adverse physical or aesthetic effect to any significant archaeological or historical sites, structures, objects, or buildings; nor should the project have the potential to cause a physical change that would affect unique ethnic (including Native American) cultural values or restrict historic or pre-historic religious or sacred uses.

The proposed project would be required to comply with Section 18.30.040 of the Town of Truckee Development Code, which provides procedures and standards for the treatment of archaeological resources and human remains. Section 18.30.040 of the Town of Truckee Development Code is outlined below.

A. General standard. In the event that archaeological or cultural resources are discovered during any construction, all construction activities shall cease within 200 feet of the find unless a lesser distance is approved by the Director, and the Department shall be notified so that the extent and location of discovered materials may be recorded in a written report prepared by a qualified archaeologist, and disposition of discovered materials may occur in compliance with State and Federal law. Construction shall not recommence until the Director authorizes construction to begin.

B. Survey. The Director shall require a cultural resources field survey by a qualified professional, at the applicant's expense, where the project will involve areas of grading and/or the removal of natural vegetation totaling one acre or larger or where the project will involve the disturbance of ground in the -HP overlay district. The Director may require a cultural resources field survey on smaller sites for a Zoning Clearance, Development Permit, Minor Use Permit, Use Permit, Planned Development or Tentative Map where there is the potential for cultural resources to be located on the project site.

1. The survey shall be conducted to determine the extent of the cultural resources on the site, before the completion of the environmental document for the project.
2. Where the results of the survey indicate the potential to adversely impact probable cultural resources, the report shall be transmitted to the appropriate clearinghouse for comment.
3. The Director shall maintain a confidential map file of known or probable cultural resource sites so as to assist in the identification of sensitive areas.
4. A qualified professional shall be present on-site during all excavation activity, including preliminary soil investigations, grading and trenching for foundations and utilities, in those cases where the identification of and potential impacts to cultural resources cannot be determined prior to project approval or when required by the Director based on a recommendation by the field surveyor.

C. Mitigation measures. Where development would significantly impact cultural or paleontological resources which have been identified, reasonable mitigation measures shall be required by the review authority as may be recommended by the field surveyor or by the State Historic Preservation Officer. Mitigation may include the following, as applicable/necessary:

1. The relocation or redesign of development to avoid the identified site;
2. The opening of the site to qualified, approved professional/educational parties for the purpose of exploration and excavation for a specified time before the commencement of development;
3. The utilization of special construction techniques to maintain the resources intact and reasonably accessible;
4. Where specific or long-term protection is necessary, identified sites shall be protected by the imposition of recorded open space easements; and
5. For significant sites of unique cultural resource value, where other mitigation techniques do not provide a necessary level of protection, the project shall not be approved until the Director determines that there are no reasonably available sources of funds to purchase the subject property or easement. The Director shall have 90 days from the date of discovery of a significant site to make this determination.

D. Cultural resources. Any cultural resources found on the project site shall be recorded or described in a professional report, subject to the approval of the Director; and

E. Human remains. If human remains are encountered during construction, the County Coroner shall be notified. If the remains are determined to be Native American, the Coroner has 24 hours to notify the Native American Heritage Commission of the findings.

Based on the above information, because the project would comply with GPU policies related to archaeological and historical resources, as well as the requirements of Section 18.30.040 of the Town of Truckee Development Code, the project is not anticipated to result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

VI. ENERGY. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	No	No	No
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No	No	No

Discussion

a,b. The main forms of available energy supply are electricity, natural gas, and oil. A description of the 2022 California Green Building Standards Code and the Building Energy Efficiency Standards, with which the proposed project would be required to comply, as well as discussions regarding the project's potential effects related to energy demand during construction and operations are provided below.

California Green Building Standards Code

The 2022 California Green Building Standards Code, otherwise known as the CALGreen Code (CCR Title 24, Part 11) is a portion of the CBSC, which became effective on January 1, 2023.[12] The purpose of the CALGreen Code is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The CBSC standards regulate the method of use, properties, performance, types of materials used in construction, alteration repair, improvement and rehabilitation of a structure or improvement to property. The provisions of the code apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout California. Requirements of the CALGreen Code include, but are not limited to, the following measures:

- Compliance with relevant regulations related to future installation of EV charging infrastructure in residential and non-residential structures;
- Indoor water use consumption is reduced through the establishment of maximum fixture water use rates;
- Outdoor landscaping must comply with the California Department of Water Resources' MWELO, or a local ordinance, whichever is more stringent, to reduce outdoor water use;
- Diversion of 65 percent of construction and demolition waste from landfills; and
- Incentives for installation of electric heat pumps, which use less energy than traditional heating, ventilation, and air conditioning (HVAC) systems and water heaters;
- Required solar PV system and battery storage standards for certain buildings; and
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

Building Energy Efficiency Standards

The 2022 Building Energy Efficiency Standards is a portion of the CBSC, which expands upon energy-efficiency measures from the 2019 Building Energy Efficiency Standards,

[12] California Building Standards Commission. *California Green Building Standards Code*. 2022.

went into effect starting January 1, 2023. The 2022 standards provide for additional efficiency improvements beyond the 2019 standards. The proposed project would be subject to all relevant provisions of the most recent update of the CBSC, including the Building Energy Efficiency Standards. Adherence to the most recent CALGreen Code and Building Energy Efficiency Standards would ensure that the proposed museum facilities would consume energy efficiently.

Energy Use

Overall, the 2040 GPU EIR determined that buildout of the GPU would result in increased energy demand and consumption from increased construction activities, vehicle trips, and electrical and natural gas consumption. Such increases in energy consumption would be necessary to facilitate development within the Town of Truckee. Buildings developed under the GPU would comply with CALGreen Code (CCR Title 24) standards for building energy efficiency, and actions in the Climate Action Plan (CAP) Element of the GPU would include zero net energy requirements in 2030 and 2040 for residential and commercial development, respectively. Many policies in the CAP Element would apply to the buildout of the GPU, which would improve energy efficiency throughout the Town. Construction-related energy consumption would be temporary and not require additional capacity or increased peak or base period demands for electricity or other forms of energy. The 2040 GPU EIR concluded that energy consumption associated with development of the GPU would not result in wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

Furthermore, as discussed in the 2040 GPU EIR, subsequent development in the Town would be beholden to relevant measures contained in the CAP Element that pertain to energy conservation and renewable energy use. These goals and policies would be applied to future development within the Town. For this reason, the project would not conflict with a local plan that encourages energy efficiency or the use of renewable energy. This impact would be less than significant.

A discussion of construction and operational energy use associated with development of the proposed project is discussed in further detail below.

Construction Energy Use

Construction of the proposed project would involve on-site energy demand and consumption related to use of oil in the form of gasoline and diesel fuel for construction worker vehicle trips, hauling and materials delivery truck trips, and operation of off-road construction equipment. In addition, diesel-fueled portable generators may be necessary to provide additional electricity demands for temporary on-site lighting, welding, and for supplying energy to areas of the site where energy supply cannot be met via a hookup to the existing electricity grid; however, the NSAQMD requires grid power to be used as opposed to diesel generators, where feasible. Even during the most intense period of construction, due to the different types of construction activities (e.g., site preparation, grading, building construction), only portions of the project site would be disturbed at a time, with operation of construction equipment occurring at different locations on the project site, rather than a single location. Project construction would not involve the use of natural gas appliances or equipment.

All construction equipment and operation thereof would be regulated by the CARB's In-Use Off-Road Diesel Vehicle Regulation. The In-Use Off-Road Diesel Vehicle Regulation is intended to reduce emissions from in-use, off-road, heavy-duty diesel vehicles in

California by imposing limits on idling, requiring all vehicles to be reported to CARB, restricting the addition of older vehicles into fleets, and requiring fleets to reduce emissions by retiring, replacing, or repowering older engines, or installing exhaust retrofits. In addition, as a means of reducing emissions, construction vehicles are required to become cleaner through the use of renewable energy resources. The In-Use Off-Road Diesel Vehicle Regulation would therefore help to improve fuel efficiency for equipment used in construction of the proposed project. Technological innovations and more stringent standards are being researched, such as multi-function equipment, hybrid equipment, or other design changes, which could help to further reduce demand on oil and limit emissions associated with construction.

Based on the above, the temporary increase in energy use occurring during construction of the proposed project would not result in a significant increase in peak or base demands or require additional capacity from local or regional energy supplies. In addition, construction activities would be required to comply with all applicable regulations related to energy conservation and fuel efficiency, which would help to reduce the temporary increase in demand.

Operational Energy Use

Following implementation of the proposed project, TDPUD would provide electricity to the project site, and natural gas would be provided by Southwest Gas. Energy use associated with operation of the proposed project would be typical of museum facilities requiring electricity and natural gas for interior and exterior building lighting, HVAC, electronic equipment, machinery, refrigeration, appliances, security systems, and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment. In addition to on-site energy use, the proposed project would result in transportation energy use associated with vehicle trips generated by the proposed project.

The proposed project would be subject to all relevant provisions of the CBSC, including the Building Energy Efficiency Standards and CALGreen Code. Adherence to the most recent CALGreen Code and the Building Energy Efficiency Standards would ensure that the proposed structure would consume energy efficiently through the incorporation of such features as efficient water heating systems, high performance attics and walls, and high efficacy lighting. Required compliance with the CBSC would ensure that the building energy use associated with the proposed project would not be wasteful, inefficient, or unnecessary. In addition, electricity supplied to the project site by TDPUD would comply with the State's Renewable Portfolio Standard (RPS), which requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy sources to 60 percent of total procurement by 2030.

Although the project would increase electricity demand in the project area, given the relatively small increase as compared to energy usage in the region, the increased demand is not anticipated to conflict with the TDPUD's ability to meet the RPS requirements, or exceed the TDPUD's capacity such that the proposed project's energy demands would not be met.

With regard to transportation energy use, the proposed project would comply with all applicable regulations associated with vehicle efficiency and fuel economy. In addition, as discussed in Section XVII, Transportation, of this Modified Initial Study, the project site is not anticipated to substantially increase VMT. Furthermore, the Town and surrounding

areas would provide customers with transit options, such as the Tahoe Area Regional Transit (TART), Truckee Dial-A-Ride a Route, and other modes of public transit. The site is in proximity to existing residential neighborhoods, transit infrastructure, and bicycle and pedestrian facilities, such as existing sidewalks along River View Drive. In addition, the proposed project would also include bicycle storage racks and EV chargers in the parking lot. As such, the proposed project would comply with GPU Policy CAP-4.3, which requires nonresidential developments to have EV-ready installation infrastructure or installed EV charging stations. The availability of such transit, bicycle, and pedestrian infrastructure in the project vicinity would help to reduce VMT and, consequently, fuel consumption associated with museum patrons traveling to the project site.

Conclusion

Based on the above information, the proposed project would involve energy use associated with construction activities and operations; however, the proposed project would comply with all applicable State energy standards, which would ensure that construction and operation of the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

VII. GEOLOGY AND SOILS. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	No	No	No
ii. Strong seismic ground shaking?			
iii. Seismic-related ground failure, including liquefaction?			
iv. Landslides?			
b. Result in substantial soil erosion or the loss of topsoil?	No	No	No
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	No	No	No
d. Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	No	No	No
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No	No	No
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No	No	No

Discussion

ai-ii. According to the 2040 GPU EIR, several earthquake faults are located in or near the town of Truckee such as the Mohawk Valley Fault, which is located approximately 20 miles northeast of Truckee and the Dog Valley Fault, which is located southwest of Truckee near Donner Lake. In addition, the Polaris Fault runs north to south through the Town adjacent to Martis Creek Dam. Although faults within the Town limits, including the Dog Valley Fault, Polaris Fault, and various trace faults could rupture, none of the faults are delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist. As such, the 2040 GPU EIR concluded that the risk of fault rupture is low, and impacts would be less than significant.

Nevertheless, according to the 2040 GPU EIR, buildout of the GPU would result in the potential for development subject to future seismic events that could produce strong seismic ground shaking within the town that could damage structures or create adverse health and safety effects. However, development associated with buildout of the GPU would be consistent with the CBSC, Town of Truckee Development Code, and GPU policies, the 2040 GPU EIR determined that impacts associated with strong seismic shaking would be less than significant.

According to the Preliminary Geotechnical Engineering Report prepared for the proposed project by NV5 (see Appendix C),[13] the project site is not located within a seismic hazard zone mapped for earthquake faults by the California Geological Survey. Therefore, surface fault rupture is unlikely to occur at the site. Furthermore, proper engineering of the proposed building in compliance with the CBSC would ensure that the proposed project would not be subject to substantial risks related to seismic ground shaking. Projects designed in accordance with the CBSC should be able to: 1) resist minor earthquakes without damage, 2) resist moderate earthquakes without structural damage but with some nonstructural damage, and 3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance with the CBSC design standards would be enforced through building plan review and require approval by the Town. Furthermore, GPU Policy SN-5.2 requires new development to incorporate design and engineering, which minimize the risk of damage from seismic events and landslides.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

aiii,aiv, c. The proposed project's potential effects related to liquefaction, subsidence/settlement, landslides, and lateral spreading are discussed in detail below.

Liquefaction and Subsidence/Settlement

Liquefaction is a phenomenon where loose, saturated, granular soil deposits lose a significant portion of their shear strength due to excess pore water pressure buildup. Soil liquefaction results from loss of strength during cyclic loading, such as that which is imposed by earthquake ground shaking. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, and fine-grained sediment. Subsidence is the settlement of soils of very low density generally from either oxidation of organic material, or desiccation and shrinkage, or both, following drainage. Subsidence takes place gradually, usually over a period of several years.

According to the 2040 GPU EIR, implementation of the GPU would result in the potential for development subject to future seismic events that could produce ground failure within the Town that could damage structures and/or create adverse health and safety effects. However, the Department of Conservation has not mapped the Town of Truckee to identify potential liquefaction zones and thus, the Town is not considered to be susceptible to liquefaction. In addition, the 2040 GPU EIR concluded that because the sedimentary soils underlying the Town are not susceptible to liquefaction, the risk of land subsidence is considered to be low. Furthermore, development associated with buildout of the GPU would be designed to be consistent with the CBSC, Town of Truckee Development Code, and GPU policies, the 2040 GPU EIR determined that impacts associated with seismic-related ground failure, including liquefaction, and subsidence/settlement would be less than significant.

GPU Policy SN-5.3 requires preparation of a soils report for new development in areas where geologic risks are known to exist, as required by the Town Building Code. Such reports are required to be prepared by a qualified geologist or engineer and include

[13] NV5. *Preliminary Geotechnical Engineering Report, KidZone Museum, 10010 Estates Drive, Truckee, California.* March 29, 2022.

recommendations for appropriate engineering and other measures to address identified risks. Consistent with GPU Policy SN-5.3, a Preliminary Geotechnical Engineering Report and Supplement No. 1 were prepared for the proposed project. The Preliminary Geotechnical Engineering Report concluded that the near-surface soil would consist of loose to dense granular soil with varying amounts of gravel, cobbles, and boulders and would have a low potential for liquefaction. As part of the Preliminary Geotechnical Engineering Report Supplement No. 1 (Supplement No. 1)[14] prepared for the proposed project, NV5 conducted a field investigation and laboratory testing of on-site soils. On April 6, 2022, NV5 excavated four exploratory test pits to depths ranging from approximately four to seven feet below the existing ground surface (bgs). The near-surface soil encountered in the test pits consisted of loose to medium dense existing fill over the majority of the site. The fill material generally consisted of silty sand with gravel (SM) containing varying amounts of cobbles and boulders, and trace amounts of debris. Underlying the fill material, the topsoil material generally consisted of medium dense to dense, black-brown silty gravel with sand (GM) and silty sand with gravel (SM) and varying amounts cobbles and trace organic material (topsoil). Test pit TP-1 encountered essential refusal on boulders in the topsoil layer. Underlying the topsoil layer, Test Pits TP-2, TP-3 and TP-4 encountered silty sand with gravel (SM) containing varying amounts of cobbles and boulders. The soils encountered during the test pits are consistent with the conclusions of the Preliminary Geotechnical Engineering Report; therefore, soils at the project site would have a low potential for liquefaction. Because the site presents a low potential for liquefaction, the potential for seismically induced settlement or expansion to occur at the project site is also considered to be low.

Landslides

Seismically-induced landslides are triggered by earthquake ground shaking. The risk of landslide hazard is greatest in areas with steep, unstable slopes.

According to the Preliminary Geotechnical Engineering Report, landslides, debris flows or rockfall hazards have not been observed in the project area. In addition, due to the relatively level topography and rocky nature of the site and general surrounding area, the potential for slope instability would be low. Furthermore, GPU Policy SN-5.2 requires new development to incorporate design and engineering, which minimize the risk of damage from seismic events and landslides. Therefore, the proposed project would not be subject to landslide risks and would not expose people or structures to potential risk of loss, injury, or death involving landslides.

Lateral Spreading

Lateral spreading involves horizontal/lateral ground movement of relatively flat-lying soil deposits towards a free face such as an excavation, channel, or open body of water; typically, lateral spreading is associated with liquefaction of one or more subsurface layers near the bottom of the exposed slope.

According to the 2040 GPU, implementation of the GPU has the potential to result in the development of facilities on unstable soils or geologic units. Because of the nature of the soils and groundwater conditions, the risk of lateral spreading, subsidence, liquefaction, and collapse occurring within the Town is considered to be minimal. With adherence to the CBSC, the Town Development Code, and GPU policies, the 2040 GPU EIR concluded that impacts associated with unstable soils or geologic units would be less than significant.

[14] NV5. *Preliminary Geotechnical Engineering Report Supplement No. 1, KidZone Museum.* May 2022.

Given that the project site does not contain, and is not adjacent to, any free faces including excavations, channels, or open bodies of water, lateral spreading would not present a likely hazard at the site. Furthermore, the Preliminary Geotechnical Engineering Report concluded that due to the site's low potential for liquefaction, the potential for lateral spreading to occur at the site would also be low.

Conclusion

GPU Policy SN-5.3 requires preparation of a soils report for new development in areas where geologic risks are known to exist, as required by the Town Building Code. Such reports are required to be prepared by a qualified geologist or engineer and include recommendations for appropriate engineering and other measures to address identified risks. Consistent with GPU Policy SN-5.3, the Preliminary Geotechnical Engineering Report and Supplement No. 1 prepared for the proposed project include recommended measures. The proposed project would be required to implement all applicable recommendations prior to approval of any grading permits. Incorporation of the recommendation measures would ensure project compliance with GPU Policy SN-5.3, thus, ensuring that impacts associated with geologic hazards would not occur.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to landslides, liquefaction, subsidence/settlement, or lateral spreading than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b. According to the 2040 GPU EIR, implementation of the GPU would potentially result in development requiring vegetation removal and grading, which could increase potential for wind and water soil erosion, especially in areas with steep slopes. However, the 2040 GPU EIR concluded that compliance with applicable provisions of the Town of Truckee Development Code and policies of the Conservation and Open Space and Safety and Noise Elements of the GPU, as well as the California Construction General Permit Order 2009-0009-DWQ, would reduce the potential for substantial erosion and impacts on soil erosion and loss or topsoil would be less than significant.

Issues related to erosion and degradation of water quality during construction are discussed in Section X, Hydrology and Water Quality, of this Modified Initial Study, under question 'a'. As noted therein, the proposed project would not result in substantial soil erosion or the loss of topsoil.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

d. Expansive soils can undergo significant volume changes with variations in moisture content. Specifically, such soils shrink and harden when dried and expand and soften when wetted. If structures are underlain by expansive soils, foundation systems must be capable of withstanding the potential damaging movements of the soil.

According to the 2040 GPU EIR, the Town of Truckee generally is located on coarser grained soils with a lower potential for expansion. The 2040 GPU EIR determined that with

adherence to the CBSC, applicable provisions of the Town of Truckee Development Code, and implementation of Safety and Noise Element policies in the GPU, impacts from the GPU relating to soil expansion to be less than significant. For example, development projects within the town would be required to adhere to Sections 18.96.010 and 18.96.020 of the Town of Truckee Development Code, which requires preparation of a preliminary soils report which includes recommendations for corrective actions to prevent structural damage to structures. As previously noted, GPU Policy SN-5.3 requires preparation of a soils report for new development in areas where geologic risks are known to exist, as required by the Town Building Code.

During the field investigation conducted as part of Supplement No. 1, NV5 encountered soils generally consisting of medium dense to dense granular soil types of low plasticity. NV5 determined that such soils should provide suitable foundation support for the proposed structure on conventional shallow spread foundations. Highly plastic, compressible, or potentially expansive soil were not encountered during the field investigation. Therefore, the potential for expansion soil to exist on-site is low.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to expansive soils than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

e. According to the 2040 GPU EIR, the Town of Truckee Development Code Section 18.12.080E, Commercial and Manufacturing Zoning District Performance Standards, prohibits the use of a septic system, portable toilets, or off-site restrooms for a permanent land use. Additionally, GPU Policy COS-7.5 states that the Town will enforce guidelines set forth by the Lahontan Region RWQCB regarding waste discharge associated with domestic wastewater facilities such as septic tank leach field systems. Impacts related to the capability of soil to adequately support the use of septic tanks or alternative wastewater disposal systems are not discussed in further detail within the 2040 GPU EIR.

The proposed project would connect to existing Truckee Sanitary District sewer services. Thus, the construction or operation of septic tanks or other alternative wastewater disposal systems would not be included as part of the project.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

f. The 2040 GPU EIR indicates that known paleontological resources exist approximately four miles southwest of Downtown Truckee and approximately five miles northeast of Truckee, near the Boca Reservoir. The two resources located near the Boca Reservoir are from the Quaternary period and the Pleistocene epoch, whereas the resource southwest of Downtown Truckee is from the Quaternary period and the Holocene epoch.

The 2040 GPU EIR concluded that development of the GPU could destroy paleontological resources or sites; thus, the GPU and Downtown Truckee Plan include policies to protect resources by surveying, avoiding, monitoring, recording, or otherwise treating discovered resources appropriately, in accordance with pertinent laws and regulations. For example, GPU Policy CC-4.1 protects paleontological resources by requiring discretionary

development projects be assessed for cultural resources by qualified professionals and that the projects are designed to avoid potential impacts to significant cultural resources whenever possible. GPU Policy CC-4.1 is supported by Development Code Section 18.30.040(B), which outlines specific actions and timing of cultural resource surveys, and Development Code Section 18.30.040(C)(2) which allows for preconstruction excavation testing. Therefore, the 2040 GPU EIR determined that impacts to paleontological resources would be less than significant.

The project site has been disturbed, and the GPU does not note the existence of any unique geologic features within the vicinity of the project site. Consequently, implementation of the proposed project would not be anticipated to have the potential to result in direct or indirect destruction of unique geologic features. Furthermore, compliance with GPU Policy CC-4.1 and Development Code Section 18.30.040 would be required if such paleontological resources are discovered at the project site.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

VIII. GREENHOUSE GAS EMISSIONS. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	No	No	No
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	No	No	No

Discussion

a,b. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. An individual project's GHG emissions are at a micro-scale level relative to global emissions and effects to global climate change; however, an individual project could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. As such, impacts related to emissions of GHG are inherently considered cumulative impacts.

Implementation of the proposed project would cumulatively contribute to increases of GHG emissions. Estimated GHG emissions attributable to future development would be primarily associated with increases of carbon dioxide (CO_2) and, to a lesser extent, other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O) associated with area sources, mobile sources or vehicles, utilities (electricity and natural gas), water usage, wastewater generation, and the generation of solid waste. The primary source of GHG emissions for the project would be mobile source emissions. The common unit of measurement for GHG is expressed in terms of annual metric tons of CO_2 equivalents ($MTCO_2e$/yr).

In September 2006, Assembly Bill (AB) 32, the California Climate Solutions Act of 2006, was enacted. Among other requirements, AB 32 required the CARB to identify the State-wide level of GHG emissions in 1990 to serve as the emissions limit to be achieved by 2020, and to develop and implement a Scoping Plan. On September 8, 2016, AB 197 and Senate Bill (SB) 32 were enacted with the goal of providing further control over GHG emissions in the State. SB 32 built on previous GHG reduction goals by requiring that the CARB ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by the year 2030. In addition, Executive Order (EO) B-55-18 (September 2018) establishes a statewide policy for California to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net-negative emissions thereafter. The goal is an addition to the existing statewide targets of reducing the State's GHG emissions. On September 16, 2022, AB 1279, also known as the California Climate Crisis Act, codified the carbon neutrality goal established by EO B-55-18.

According to the 2040 GPU EIR, buildout of the GPU would result in construction- and operation-related GHG emissions that could contribute to climate change on a cumulative basis. While all feasible reduction measures are included as policies and actions in the GPU, the proposed policies and programs included in the GPU would likely not result in sufficient GHG reductions for the Town to meet the State's longer-term goals of carbon

neutrality. As such, the 2040 GPU EIR concluded that impacts would be significant and unavoidable.

The proposed project's construction-related and operational GHG emissions are discussed in further detail below.

Construction GHG Emissions

Construction of the proposed project would occur over the course of approximately one year.[15] Construction GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change.

The project site is located within the jurisdictional boundaries of NSAQMD, which does not currently have any established thresholds for construction-related GHG emissions. However, NSAQMD prefers that construction-related GHG emissions are quantified for decision-makers and the public to consider. Thus, this Modified Initial Study takes the reasonable approach of applying thresholds of the nearby air pollution control districts of PCAPCD and Sacramento Metropolitan Air Quality Management District (SMAQMD). The PCAPCD and SMAQMD thresholds of significance are presented in Table 6.

Table 6
GHG Thresholds of Significance (MTCO2e/yr)

Air District	Construction Threshold
PCAPCD	10,000
SMAQMD	1,100

Sources: PCAPCD. CEQA Handbook Thresholds of Significance Justification Report. October 2016. SMAQMD. CEQA Guide, SMAQMD Thresholds of Significance Table. April 2020.

GHG emissions resulting from construction of the proposed project were modeled using CalEEMod under the same assumptions as discussed in Section III, Air Quality, of this Modified Initial Study. All modeling outputs are included in Appendix A to this Modified Initial Study.

The maximum unmitigated GHG emissions from construction of the proposed project, as compared against the applicable PCAPCD and SMAQMD construction-related GHG thresholds of significance, are presented in Table 7 below.

Table 7
Unmitigated Construction GHG Emissions ($MTCO_2e$/yr)

Construction Emissions	Maximum Annual GHG Emissions
Project Emissions	186
PCAPCD Threshold	10,000.00
SMAQMD Threshold	1,100.00
Exceeds Thresholds?	**NO**

Source: CalEEMod, November 2024 (see Appendix A).

[15] Construction for the first phase of development would begin in May 2025 and occur over approximately one year. Construction for the second phase of development is anticipated to begin in summer 2028 and be completed by the end of 2029. The GHG modeling conducted for the proposed project conservatively assumed that construction for both phases one and two would begin in May 2025 and occur over approximately one year.

As demonstrated in Table 7, the proposed project would result in construction GHG emissions of 186 $MTCO_2e$/yr. Therefore, the maximum annual GHG emissions associated with project construction would be below the applicable PCAPCD and SMAQMD thresholds of significance.

Operations

Similar to construction-related GHG emissions thresholds, NSAQMD does not currently have any established thresholds for operational GHG emissions. However, where local jurisdictions have adopted thresholds or guidance for analyzing GHG emissions, the local thresholds should be used for the project analysis. The Town of Truckee has adopted a CAP, which provides a jurisdiction-wide approach to the analysis of GHG emissions. The Town's CAP includes Townwide measures intended to reduce emissions from existing sources, as well as measures aimed at reducing emissions from future sources related to development within the Town. Thus, the analysis provided herein is focused on the proposed project's consistency with the Town's CAP.

Nonetheless, the estimated unmitigated maximum annual operational emissions from the proposed project were modeled for informational purposes. According to the CalEEMod calculations, the proposed project would generate maximum unmitigated GHG emissions of 120 $MTCO_2e$/yr during operations.

CAP Element Consistency

The CAP Element of the Truckee 2040 GPU serves as a Qualified GHG Reduction Strategy under Section 15183.5 of the CEQA Guidelines, simplifying development review for new projects that are consistent with the CAP. The CAP Element of the Truckee 2040 GPU includes the goals, policies, and actions that have been developed to reduce the Town's GHG emissions, consistent with the Town's and the State's emissions reduction targets and goals. Some of the goals in the CAP Element are supported by goals and policies from other elements of the Truckee GPU (e.g., the Mobility Element). The GPU policies and actions are copied into the CAP Element from their respective source elements to show how CAP goals are met and to ensure consistency throughout the GPU. The proposed project's consistency with applicable GPU policies included in the CAP Element is presented in Table 8 below.

Table 8
Town of Truckee CAP Consistency Analysis

Policies and Actions	Project Consistency
Policy M-1.3: Vehicle Miles Traveled Standards. Implement the adopted vehicle miles traveled (VMT) standards and thresholds and evaluate new development projects using the adopted VMT analysis methodologies, thresholds of significance, and mitigation strategies.	Please refer to question 'b' in Section XVII, Transportation, of this Modified Initial Study for discussion of VMT. The following is a summary of the VMT analysis contained therein: The Town of Truckee recommends that any local-serving, non-residential development that is less than 15,000 sf of floor area and is located within the screening area identified in Figure B, "Non-Residential CEQA VMT Exemption Zone," of the Town of Truckee VMT Thresholds of Significance, should be presumed to have a less-than-significant impact, and would not require preparation of a

	detailed VMT analysis. The proposed project would meet the Town's VMT screening because the proposed building is under the 15,000-sf floor area limit; is within the non-residential exemption zone; and is anticipated to be local-serving. The local-serving conclusion is based on the fact that due to the small size of the children's museum, families visiting the museum would most likely be local. The patrons would be unlikely to drive to the Town from outside the area for the sole purpose of visiting the museum. As discussed in Section XVII, Transportation, of this Modified Initial Study, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. Thus, the proposed project would be consistent with Policy M-1.3.
Policy M-2.5: Bicycle and Roadway Improvements. Use roadway, roundabout, and intersection improvements as an opportunity to improve bicycle and pedestrian facilities and connections, where feasible.	The proposed project would not include roadway, roundabout, and/or intersection improvements. However, as part of the proposed project, the entirety of the existing concrete sidewalk located along the site's River View Drive frontage would be replaced by a new six-foot-wide sidewalk. Additionally, a portion of the existing curb and gutter along the River View Drive frontage would also be replaced. The new sidewalk would provide a pedestrian connection from River View Drive to the new museum parking lot. A new four-foot-wide sidewalk would also be constructed along the new driveway and would connect to the new six-foot-wide sidewalk along River View Drive. A pedestrian gate would be located west of the main entry plaza and would provide access to the garden areas. Finally, a concrete sidewalk would be constructed along the north, east, and southeast facades of the building to provide pedestrian access. As such, the proposed project would be consistent with Policy M-2.5.
Policy M-2.13: Bike Parking Requirements for New Development. Require new and intensifying nonresidential and multi-family residential projects to have adequate bike parking and storage. Consider whether bike parking or bike-share facilities can be applied toward parking reductions.	The proposed project would include two bicycle racks, which would provide short-term bike storage for up to eight bicycles. The proposed project would not conflict with Policy M-2.13.
Policy M-3.1: Transit Access. Require new development to incorporate features that accommodate and maximize transit access	Transit services in the Truckee area are provided through the Tahoe Truckee Area Regional Transit (TART). The nearest transit

and use, including shelters, safe routes to transit stops, and Americans with Disabilities Act (ADA) improvements, and ensure that right-of-way for future transit access is reserved in plans for new growth areas.	stop to the project site is a Truckee Local Route (TLR) stop located approximately 0.2-mile southeast of the project site, at the entrance to the Truckee Donner Senior Apartments, north of Estates Drive. Other nearby transit stops include the TLR and the Highway 267 AM/PM route stop located approximately 0.5-mile southwest of the project site at the intersection of Brockway Road and Palisades Drive. In addition, the proposed project would include a bus drop-off area, which would be located south of the proposed museum building. As such, the proposed project would not conflict with Policy M-3.1.
Policy CAP-4.3: EV-Ready Installation Infrastructure. Require new residential and nonresidential developments to have EV–ready installation infrastructure or installed EV charging stations.	The 2022 CBSC requires new developments to include the necessary electrical infrastructure for EV charging stations. As previously discussed, the proposed project would include three EV chargers in the parking lot. Therefore, the proposed project would comply with Policy CAP-4.3.

As shown in Table 8, the proposed project would comply with all applicable GPU policies included in the CAP Element.

It should also be noted that, while several actions included in the CAP are related to implementation of future Townwide policies and programs that have not yet been developed within the Town, and, are therefore not currently applicable to the proposed project, the proposed project would include several design features that would generally be consistent with the goals of such actions. For example, the Town of Truckee has not yet updated the Development Code to require EV and electric bicycle charging stations in new commercial and multi-family development, as required by GPU Policy CAP-4.3. However, the proposed project would include the installation of three EV chargers in the parking lot. Thus, the proposed project would generally be consistent with GPU Policy CAP-4.3.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

IX. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	No	No	No
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?	No	No	No
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No	No	No
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No	No	No
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	No	No	No
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No	No	No
g. Expose people or structures, either directly or indirectly, to the risk of loss, injury or death involving wildland fires?	No	No	No

Discussion

a. The 2040 GPU EIR concluded that potential development under the GPU could potentially result in the exposure to hazardous substances due to more hazardous materials being transported, used, or disposed of within the Town of Truckee. Hazardous material and waste transport, use, and disposal are governed by the regulations of the Occupational Safety and Health Administration (OSHA), Department of Transportation, California Division of Occupational Safety and Health (Cal/OSHA), Department of Toxic Substances Control (DTSC), State Water Resources Control Board (SWRCB), California Highway Patrol (CHP), California Department of Transportation (Caltrans), and Nevada County Office of Emergency Services. The existing federal, State, and local regulations and oversight in place would effectively reduce the inherent hazard associated with the transport, use, and disposal of hazardous materials and wastes. In addition, GPU Policy SN-7.1 requires the Town to coordinate with the Nevada County Environmental Health Department in the review of all projects that require the use, storage, or transport of hazardous materials and waste to ensure that necessary measures are taken to protect public health and safety. GPU Policy SN-7.4 also encourages the effective implementation of workplace safety regulations and ensures that hazardous material information is available to users and employees. Furthermore, GPU Policy SN-7.2 requires the Town to cooperate with Tahoe Truckee Sierra Disposal to facilitate opportunities for safe disposal of household hazardous waste and public education programs. Therefore, the 2040 GPU

EIR determined that a less-than-significant impact would occur as a result of the GPU buildout.

Projects that involve the routine transport, use, or disposal of hazardous materials are typically industrial in nature. As such, the proposed children's museum would not involve the routine transport, use, disposal, or generation of substantial amounts of hazardous materials. On-site maintenance may involve the use of common cleaning products, fertilizers, and herbicides, any of which could contain potentially hazardous chemicals; however, such products would be expected to be used in accordance with label instructions. Due to the regulations governing use of such products and the amount anticipated to be used on the site, routine use of such products would not represent a substantial risk to public health or the environment. Therefore, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b. According to the 2040 GPU EIR, implementation of the GPU is not anticipated to result in development with unique characteristics that would result in a significant hazard as a result of reasonably foreseeable upset or accident conditions. As previously noted, GPU Policies SN-7.1, SN-7.2, and SN-7.4 would require the Town to coordinate with local agencies, such as the Nevada County Environmental Health Department and the Tahoe Truckee Sierra Disposal, to ensure that the public and the environment would be protected from any potential impacts related to the use, storage, transportation, or disposal of hazardous materials. All hazardous waste associated with buildout of the GPU would be stored and handled in compliance with applicable federal and state laws and regulations, resulting in a less-than-significant impact.

The northern portion of the project site includes a concrete disc golf pad and two disc golf baskets, and the southern and central portions of the site are graded and used as parking and equipment storage areas for the adjacent McIver Rodeo Arena facilities. Known hazards (e.g., underground storage tanks, abandoned wells, structures containing lead-based paint or asbestos) are not located on-site. In addition, while overhead utility lines are located along the eastern boundary of the site, distribution transformers are not mounted on any of utility poles at the project site and the nearest utility pole with a mounted transformer is located northeast of the project site. According to the California DTSC Envirostor Database, active hazardous material sites do not exist at the project site or in the project vicinity.[16]

Construction activities associated with the proposed project would involve the use of heavy equipment, which would contain fuels and oils, and various other products such as concrete, paints, and adhesives. Small quantities of potentially toxic substances (e.g., petroleum and other chemicals used to operate and maintain construction equipment) would be used at the project site and transported to and from the site during construction.

[16] Department of Toxic Substances Control. *Hazardous Waste and Substances Site List (Cortese).* Available at: https://www.envirostor.dtsc.ca.gov/public/. Accessed September 2024.

However, the project contractor would be required to comply with all California Health and Safety Codes and local Town and local ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. During project operation, hazardous materials use would be limited to landscaping products such as fertilizer and pesticides/herbicides. Such chemicals would be utilized in limited quantities according to label instructions.

Because the proposed project would involve limited use of hazardous materials, primarily limited to the construction phase of the project, during which the contractor would be required to adhere to all relevant guidelines and ordinances regulating the handling, storage, and transportation of hazardous materials, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

c. The 2040 GPU EIR determined that while development under the GPU could occur within one-quarter mile of a school and could expose schools to hazardous materials or wastes, such substances are regulated by federal, State, and local laws that would ensure hazardous materials are controlled and that exposures are minimized. As previously noted, GPU Policies SN-7.1, SN-7.2, and SN-7.4 would require the Town to coordinate with local agencies, such as the Nevada County Environmental Health Department and the Tahoe Truckee Sierra Disposal, to ensure that the public and the environment would be protected from any potential impacts related to the use, storage, transportation, or disposal of hazardous materials. As such, buildout of the GPU would result in a less-than-significant impact related to hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The nearest school relative to the project site is Truckee Pines Head Start preschool, which is located approximately 920 feet (0.17-mile) southeast of the site. As such, the project site is within one-quarter mile of an existing school. However, as discussed under questions ‘a’ and ‘b’ above, development of the proposed project would not result in any significant hazards related to the use, transport, disposal, or upset of hazardous materials. Additionally, the project contractor would be required to comply with all California Health and Safety Codes and local County and Town ordinances regulating the handling, storage, and transportation of hazardous and toxic materials. Therefore, the proposed project is not anticipated to result in impacts related to hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

d. According to the 2040 GPU EIR, the Town of Truckee contains several identified hazardous materials handling and waste sites. Under the GPU, development could occur on or near these sites, or in other areas where hazardous wastes exist that have not been previously identified. However, existing federal, State, and local laws and regulations pertaining to removal and disposal of contaminated soil would protect new development activities from exposure to hazardous waste, and a less-than-significant impact would result.

As discussed in the 2040 GPU EIR, a former burn dump is situated on an approximately 17-acre portion of the Truckee River Regional Park, located west of the project site. The former burn dump operated from approximately the early 1940s to the late 1960s. Between 2004 and 2009, subsurface investigations conducted at the site to characterize soil and groundwater conditions found levels of identified metals, pesticides, and dioxin/furans that were determined to pose a potentially unacceptable threat to human health and/or the environment as chemicals of concern. Remediation of the 17-acre site occurred in 2009 and approximately 5,000 cubic yards of soil and burn dump wastes containing chemicals of concern above remedial goals were excavated, consolidated, and capped within a one-acre area. Intermittent maintenance occurs as part of the Truckee River Regional Park site's Operations and Maintenance plan. The proposed project would not result in any disturbance to the capped one-acre area within Truckee River Regional Park.

The California Environmental Protection Agency (Cal EPA) has compiled a list of data resources that provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements, pursuant to Government Code 65962.5. The components of the Cortese List include the DTSC Hazardous Waste and Substances Site List,[17] the list of leaking underground storage tank (UST) sites from the SWRCB's GeoTracker database,[18] the list of solid waste disposal sites identified by the SWRCB, and the list of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from the SWRCB.[19]

The project site is not included on the DTSC Hazardous Waste and Substances Site List, SWRCB's list of solid waste disposal sites, list of leaking UST sites, or list of active CDO and CAO. Therefore, the proposed project would not create a significant hazard to the public or the environment related to being located on a site which is included on a list of hazardous materials compiled pursuant to Government Code Section 65962.5.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

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[17] Department of Toxic Substances Control. *Hazardous Waste and Substances Site List (Cortese).* Available at: https://www.envirostor.dtsc.ca.gov/public/. Accessed September 2024.

[18] State Water Resources Control Board. *GeoTracker.* Available at: https://geotracker.waterboards.ca.gov/map/?myaddress=California&from=header&cqid=8858350455. Accessed September 2024.

[19] CalEPA. *Cortese List Data Resources*. Available at: https://calepa.ca.gov/sitecleanup/corteselist/. Accessed September 2024.

e. As noted in the 2040 GPU EIR, the Truckee Tahoe Airport borders the GPU area to the southwest, which could lead to airport noise and safety hazard exposure for people and workers within the Town. However, the GPU contains specific goals and policies related to land use and airport safety planning to minimize any conflict. For example, GPU Policy SN-7.6 requires the Town to monitor aviation-related incidents that impact the Town and consult with the Truckee Fire Protection District and the Truckee Tahoe Airport on potential safety and emergency response impacts resulting from increased airport operations. In addition, GPU Policies SN-7.7 and SN-8.16 require development applicants to work with the Truckee Tahoe Airport District and the Truckee Tahoe Airport Land Use Commission to ensure compliance with the Truckee Tahoe Airport Land Use Compatibility Plan (LUCP). As such, the 2040 GPU EIR determined that development of the GPU, would result in a less-than-significant impact with respect to airport noise and safety hazards.

The Truckee Tahoe Airport is located approximately 1.05 miles (4,488 feet) southeast of the project site. As a result, the project site is located within the Truckee Tahoe Airport Influence Area. A discussion of noise-related impacts associated with the project site being located within the Truckee Tahoe Airport Influence Area is provided in Section XIII, Noise, of this Modified Initial Study. Therefore, the following discussion is focused on whether the proposed project would result in a safety hazard associated with the Truckee Tahoe Airport for people working in the project area.

According to the Truckee Tahoe Airport LUCP,[20] the project site is located within Compatibility Zone C, which is designated "Outer Approach/Departure Zone." As outlined in the Truckee Tahoe Airport LUCP, new buildings within Compatibility Zone C may not exceed 50 feet and shall be limited to no more than three occupied floors above ground level. As shown in Table D-1 of the Truckee Tahoe Airport LUCP, the proposed project is considered a conditionally compatible use within Zone C. Table D-1 of the Truckee Tahoe Airport LUCP provides criteria for conditionally compatible uses within each Safety Zone to ensure the uses are compatible with the Truckee Tahoe Airport. The intent of land use safety compatibility criteria is to minimize the risks associated with an off-airport aircraft accident or emergency landing, and the criteria focus on reducing the potential consequences of such events should they occur. For example, uses which create visual or electronic hazards to flight are unacceptable within any of the LUCP Compatibility Zones (Zones A through E). In addition, uses with the potential to cause an increase in the attraction of birds or other wildlife are unacceptable within Compatibility Zone A and conditionally acceptable within Compatibility Zones B1 through E. In compliance with the LUCP requirements for Zone C, the proposed project would not cause visual or electronic hazards to flight and would not increase the attraction of birds or other wildlife. Furthermore, in compliance with the PF zoning designation for the project site, the proposed one-story museum building would not exceed 35 feet in height; therefore, the proposed building would be consistent with the 50-foot building height criteria of Zone C. Furthermore, the proposed project would be consistent with the standards for the Town's GPU land use designation of Open Space Recreation and the zoning designation of PF, and development of the project site was anticipated and evaluated in the 2040 GPU EIR.

As discussed in the 2040 GPU EIR, the Federal Aviation Administration (FAA) requires notice of proposed construction for projects located within 20,000 feet of a public use airport, and other projects that may pose a potential hazard for people residing or working

[20] Truckee Tahoe Airport Land Use Commission. *Truckee Tahoe Airport Land Use Compatibility Plan* [Map 2A]. Adopted October 27, 2016.

in the project area, due to height, visual hazard, or the attraction of wildlife. Because the project site would be located approximately 4,488 feet from the Truckee Tahoe Airport, the project would be subject to FAA evaluation, and the FAA would be notified of the proposed development pursuant to Section 77.11 of the FAA regulations.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

f. The Town of Truckee Emergency Operations Plan addresses the Town's responsibilities in emergencies associated with natural disaster, human-caused emergencies and technological incidents. The Emergency Operations Plan provides a framework for coordination of response and recovery efforts within the Town in coordination with local, State, and federal agencies. As discussed in the 2040 GPU EIR, construction associated with implementation of the GPU would not likely hinder emergency response activities or physically interfere with established evacuation routes. Although construction activities associated with development of the GPU could temporarily impair roadways used for emergency response and evacuation, standard construction procedures for development of a construction management plan would address these conditions and would develop alternative routes.

According to the 2040 GPU EIR, buildout of the GPU would increase the intensity of development in some areas of the Town and accommodate more growth. Such growth could generate conflicts with existing adopted emergency response and evacuation plans by increasing traffic volumes and decreasing the ratio of emergency response resources to residents. However, the GPU contains specific goals and policies related to emergency response and evacuation planning to minimize any conflict with such existing plans, and expressly calls for updating the plans to be compatible with growth. As such, the 2040 GPU EIR determined that development of the GPU would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and a less-than-significant impact would occur.

During construction of the proposed project, all construction equipment would be staged on-site so as to prevent obstruction of local and regional travel routes in the town that could be used as evacuation routes during emergency events. With respect to project operations, the proposed project would not alter the existing circulation system in the surrounding area. As a result, the proposed project would not have a significant impact with respect to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

g. Issues related to wildfire hazards are further discussed in Section XX, Wildfire, of this Modified Initial Study.

As discussed in 2040 GPU EIR, implementation of the GPU would allow for growth in an area at risk for wildfires, which would increase the risk of exposing project occupants and structures to a significant risk of loss, injury, or death involving wildland fires. While implementation of existing federal, State, and local regulations and GPU policies and actions would reduce impacts associated with exacerbated wildfire risks, the 2040 GPU EIR concluded that impacts associated with buildout of the GPU would remain significant and unavoidable.

The majority of the Truckee area is considered to be in a Very High Fire Hazard Severity Zone (VHFHSZ), as defined by the California Department of Forestry (CAL FIRE). However, according to the CAL FIRE Map of Fire Hazard Severity Zones in Local Responsibility Areas, the project site is not located within a VHFHSZ.[21] The proposed project would be required to comply with all applicable requirements of the California Fire Code through the installation of automatic fire alarm systems, fire hydrants, and other applicable requirements. The proposed project would also be situated near existing roads and other utilities, that would help reduce risks related to wildfire. The project site is also surrounded by existing development to the east, which would further reduce risks related to wildfire, due to the existing development generally acting as a fuel break because of a lack of natural debris such as brush and green waste within developed sites.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

[21] California Department of Forestry and Fire Protection. *Very High Fire Hazard Severity Zones in LRA as Recommended by CAL FIRE – Truckee*. Available at: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps/. Accessed September 2024.

X. HYDROLOGY AND WATER QUALITY. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	No	No	No
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No	No	No
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: i. Result in substantial erosion or siltation on- or off-site; ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv. Impede or redirect flood flows?	No	No	No
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No	No	No
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No	No	No

Discussion

a. As discussed in the 2040 GPU EIR, development that may occur under the GPU could generate new sources of surface water and groundwater pollution, from both point and non-point sources, in the Truckee region, including Lake Tahoe. Point sources of pollutants would include industrial and commercial facilities, snow storage areas, and construction sites, while non-point sources would include new impervious or disturbed surfaces capable of generating an increase in stormwater runoff. Compliance with the existing Town Development Code, implementation of policies in the GPU, and compliance with the Construction General and Industrial General Permits would minimize adverse effects to water quality as a result of the GPU buildout.

The 2040 GPU EIR also notes that although a hydrologic connection between the Truckee area and Lake Tahoe does not exist due to Lake Tahoe's upstream location, development of the GPU could have an indirect physical effect on lake clarity and water quality as a result of vehicle miles traveled (VMT) in the Tahoe Basin generated by growth under the Town's GPU. However, a very limited correlation exists between VMT and roadway sediment loads. Roadway management practices (e.g., controls on use of winter roadway sand, installation of sediment capturing Best Management Practices [BMPs]) have been shown to be the most effective means of limiting roadway-generated sediment from entering Lake Tahoe. The 2040 GPU EIR concluded that VMT in the Tahoe Basin anticipated to result from implementation of the GPU would not result in a substantial degradation of Lake Tahoe water quality or clarity due to implementation of roadway

sediment management practices. As such, the 2040 GPU EIR concluded that implementation of the GPU would result in a less-than-significant impact on surface and groundwater quality.

During the early stages of construction activities that would occur on the project site, topsoil would be exposed due to grading and excavation associated with the proposed museum building, parking lot, and on-site utility improvements. After grading and prior to overlaying the ground surface with impervious surfaces, the potential exists for wind and water erosion to discharge sediment and/or urban pollutants into stormwater runoff, which could adversely affect water quality.

The State Water Resources Control Board (SWRCB) regulates stormwater discharges associated with construction activities where clearing, grading, or excavation results in a land disturbance of one or more acres. The proposed project would disturb more than one acre, and, thus, would be subject to applicable SWRCB regulations. Furthermore, the Town is required to operate under the Waste Discharge Requirements for Small Municipal Separate Storm Sewer Systems (MS4) (Order No. 2013-0001-DWQ), which also serves as a National Pollutant Discharge Elimination System (NPDES) Permit. The NPDES permit mandates that the Town is required to implement the necessary legal authority and implement appropriate procedures, to regulate the entry of pollutants and non-stormwater discharges into the Town stormwater conveyance system. Therefore, the proposed project is required to comply with the Town of Truckee NPDES Permit requirements.

The Town of Truckee Development Code, Section 18.30.050, Drainage and Storm Water Runoff, requires the preparation and submittal of drainage and erosion control plans for projects requiring approval of Zoning Clearance, a Development Permit, Minor Use Permit, or Use Permit. The proposed project would require approval of a Development Permit, and, therefore, preparation and submittal of a drainage and erosion control plan would be required. Furthermore, Section 18.30.050 requires a Storm Water Pollution Prevention Plan (SWPPP) to be prepared for all development projects. A SWPPP describes Best Management Practices BMPs to control or minimize pollutants from entering stormwater and must address both grading/erosion impacts and non-point source pollution impacts of the development project, including post-construction impacts. Truckee requires all development projects to use BMPs to treat runoff, which would include implementation of both temporary and permanent BMPs, in accordance with the Town of Truckee Erosion Prevention Standards, to ensure that the water quality of drainages within the town is not adversely impacted. Temporary construction phase BMPs are anticipated to include silt fencing, straw wattles, staging areas, tree protection fencing, dust control, and other miscellaneous provisions as required by the regulatory agencies. BMPs would ensure that water quality is not degraded during the construction of the proposed project. In addition to the stormwater treatment BMPs, other permanent BMPs include soil stabilization, revegetation, and landscaping of all non-hardscaped disturbed areas of the project site.

Following completion of project buildout, disturbed areas of the site would be largely covered with impervious surfaces and topsoil would no longer be exposed. As such, the potential for impacts to water quality would be reduced. As discussed under question ‘ci’ through ‘cii’, stormwater from impervious areas would be collected by SDDIs and routed through new HPDE storm drain lines and connect to a new underground water storage retention facility, which would be installed within the northeast corner of the proposed parking lot. Stormwater would be collected and treated at the water storage retention facility before being directed to a water storage overflow storm drain pipe with a FES and

a rock outlet protection. Furthermore, five gravel infiltration trenches would be located on the project site.

The proposed project would also be required to comply with all applicable GPU policies related to minimizing potential soil erosion. For example, GPU Policy COS-7.2 requires implementation of the Lahontan RWQCB's BMPs, and GPU Policies COS-7.5, COS-7.5, and COS-7.6 require new development to study conditions and design projects to reduce potential effects on surface water and groundwater quality. In addition, grading and potential for erosion that could affect water quality are addressed through GPU Policies COS-5.1, COS-5.2, and COS-5.3, and GPU Actions COS-5.A and COS-5.B.

Finally, the proposed project would not include land uses typically associated with the generation or discharge of polluted water. Additionally, a drainage and erosion control plan, and SWPPP would be required by the Town of Truckee Development Code Section 18.30.050 for the proposed project. As such, the proposed project would not violate water quality standards and degrade water quality.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b,e. Water supplies for the Town are provided by the TDPUD. According to the TDPUD's 2020 Urban Water Management Plan (UWMP), all of the TDPUD's water supply is obtained through the pumping of groundwater from the Martis Valley Groundwater Basin (MVGB). The UWMP anticipates that the maximum demand at buildout of the GPU is approximately 4,344 million gallons per year (mgy).[22] With a total water supply of at least 22,000 mgy, adequate water supply exists to meet the projected buildout. For the purposes of the UWMP analysis, buildout of the TDPUD service area is assumed to include continued operations of all existing land uses, as well as development of all currently vacant parcels. The UWMP states that because of the large amount of water in storage in relation to the projected buildout demand, TDPUD would have adequate supply to meet normal year, single dry year, and multiple dry years demand. As such, the 2040 GPU EIR concluded that while buildout of the GPU would increase demand for water, the increase in demand has been anticipated in the UWMP.

In addition, buildout of the GPU would not substantially deplete groundwater supplies because the MVGB has adequate water to accommodate projected growth in the service area through the year 2035 even if recharge of the basin did not occur. The GPU would allow for an increase in developed impervious areas but at the most conservative estimate, impervious areas would represent approximately 0.008 percent of the policy area. Because groundwater supplies would not be depleted, groundwater withdrawal would not affect surface waters or wetlands. Furthermore, existing regulations, GPU policies, and land ownership would limit development of impervious surfaces in areas of potential recharge. As such, the 2040 GPU EIR concluded that impacts would be less than significant.

[22] Truckee Donner Public Utilities District. *Truckee Water System 2020 Urban Water Management Plan* [pg. 6-8]. June 2021.

Furthermore, the Truckee area is regulated by the Lahontan RWQCB which implements its Basin Plan to protect water quality. The local Sustainable Groundwater Management Act (SGMA) agencies implement the Martis Valley Groundwater Management Plan (GMP), which protects groundwater in the Truckee area. The Truckee Development Code and GPU include policies to support both of these plans. As such, the 2040 GPU EIR determined buildout of the GPU would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan and impacts to the Basin Plan and Martis Valley GMP would be less than significant.

As previously noted, the 2040 GPU EIR concluded that while buildout of the GPU would increase demand for water, the increase in demand has been anticipated in the UWMP. Because the proposed project is consistent with the GPU, development of the project site was generally included in the UWMP analysis. Considering that the UWMP anticipated buildout of all currently undeveloped parcels within the Town, and that the available water supply far exceeds anticipated demand, adequate water supply exists to serve the project without resulting in a significant decrease in the available water supplies such that the project may interfere with management of the MVGB.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

c.i-iii. As discussed in the 2040 GPU EIR, development that would occur under the GPU would result in changes to stormwater drainage patterns and an increase in impervious surface area that could increase the rate and quantity of stormwater runoff. With adherence to the Town's Development Code, policies in the GPU, and the Town's NPDES MS4 permit requirements, the 2040 GPU EIR concluded that development of the GPU would result in a less-than-significant impact with respect to substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, or flooding on- or off-site, creating or contributing runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or providing substantial additional sources of polluted runoff.

The Town of Truckee Public Improvement and Engineering Standards (TOT Standards) include requirements relative to drainage design for projects. The TOT Standards, in addition to project-specific design criteria, and the standards of the Town of Truckee Storm Water Quality Plan (TOT SWQP), as approved by the RWQCB, largely comprise the overall design requirements to which the proposed project shall adhere. The various conditions and requirements can be summarized in the following basic criteria:

- Drainage pipes shall be sized for the 10-year storm event and assessed for the 100-year event;
- Collected runoff from impervious surfaces shall be treated on-site as determined by the TOT SWQP during final design;
- Storm drainage facilities will be designed to provide groundwater recharge, attenuate peak flows, and minimize risk of erosion;
- Maintain pre-project watershed boundaries and drainage patterns;
- Flow concentrations shall not cause property damage or erosion;

- Energy dissipaters shall be included in outfall designs; and
- All construction activities and permanent improvements shall include BMPs for the protection of water resources.

As discussed in question 'a' above, stormwater from the project site would be collected by SDDIs and routed to the underground water storage retention facility for treatment. Additionally, the proposed project would include multiple landscaped areas within the open space areas, which would allow for natural percolation of stormwater runoff. In addition, the proposed project would also be required to include temporary and permanent BMPs that have been designed to meet all applicable criteria and would promote water quality, mitigate peak flow increase, and ensure safety of structures.

Furthermore, GPU Policy LU-5.6 requires new infrastructure and development to be designed to manage stormwater runoff and minimize or eliminate harmful impacts to water quality; riparian, wetland, and meadow habitats; and properties prone to flooding. In conjunction with the submittal of project improvement plans, the developer would be required to submit a drainage report that includes pre- and post-development hydrology calculations, as well as calculations for the required treatment areas to ensure that the on-site drainage system complies with the Town of Truckee Post-Construction Storm Water Quality Plan/State Municipal Phase 2 Stormwater General Permit, and any other applicable regulations at time of permit issuance. The drainage report would be submitted to the town of Truckee for review and approval in accordance with GPU Policy LU-5.6. Compliance with the aforementioned regulations would ensure that the proposed project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion, siltation, or flooding on- or off-site, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

civ. According to the 2040 GPU EIR, development that would occur under the GPU would result in changes to stormwater drainage patterns and an increase in impervious surface area that could increase the rate and quantity of stormwater runoff. The GPU contains policies to protect drainageways, including GPU Policies COS-7.1 and COS-2.2, which establish setbacks from the Truckee River and other waterways that would limit the potential for future development to substantially alter the course of these drainages. Adhere to the above GPU policies would limit the potential for new development to generate increased runoff that would substantially affect drainage patterns. Furthermore, given the minimal relative increase in impervious surface in the policy area, adherence to the Town's Development Code and policies in the GPU, the 2040 GPU EIR concluded that impacts related to drainage pattern alterations that would impede or redirect flood flows would be less than significant.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the project site, the project site is located within the 500-year floodplain (Zone X), which is not designated as a Special Flood Hazard Area (SFHA).[23] It should be noted that a 100-year floodplain is located along the Truckee River, north of the project site.

[23] Federal Emergency Management Agency. *Flood Insurance Rate Map 06057C0533E.* Effective February 3, 2010.

According to Development Code Section 18.38.040, River and Stream Development Standards, structures proposed adjacent to streams, which have been channelized by manmade improvements, shall be setback 20 feet from the improvements. The proposed project would comply with the Town of Truckee Development Code requirement because the project site would be located approximately 450 feet from the Truckee River. Furthermore, as previously noted, in compliance with Development Code Section 18.30.050, a drainage and erosion control plan would be prepared for the proposed project, which would ensure that development of the proposed project would not impede or redirect flood flows.

Based on the above information, the proposed project would not impede or redirect flood flows and would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

d. According to the 2040 GPU EIR, some topographically lower areas within the town adjacent to waterbodies are located within the 100-year flood zone and could experience hazards associated with floods. Additionally, areas adjacent to lakes and reservoirs in the GPU area could experience flooding due to seiche. However, the potential risk of seiche is low in the town of Truckee due to the relatively low levels of seismic activity locally as compared with other areas of California and the smaller size of the lakes and reservoirs in the Truckee area. In addition, the 2040 GPU EIR determined that the Town is not at risk for tsunamis due to the Town's inland location. As such, the 2040 GPU EIR does not further discuss impacts related to tsunamis.

As discussed in the 2040 GPU EIR, areas located downstream from the five dams in the GPU area could flood during a dam failure. As such, potential flood events could risk release of pollutants. Each dam has the potential to fail and to release a volume of water that could result in severe short-term flooding; however, Truckee would not be significantly affected by potential inundation because Truckee is located above most of the dams. In addition, existing Town Development Code and policies in the GPU discourage development within flood zones and strive to reduce hazards to existing development. Therefore, the 2040 GPU EIR determined that impacts related to flooding would be less than significant.

As discussed under question 'civ' above, the proposed project is not located within an SFHA. Tsunamis are defined as sea waves created by undersea fault movement, whereas a seiche is a long-wavelength, large-scale wave action set up in a closed body of water such as a lake or reservoir. The project site is not located in proximity to a coastline and would not be potentially affected by flooding risks associated with tsunamis. The project site is located approximately 3.6 miles east from Donner Lake which could be prone to seiches due to seismic activity. However, as discussed above, the 2040 GPU EIR concluded that the potential risk of seiche is low in Truckee due to the relatively low levels of seismic activity in the area.

Based on the above information, the proposed project would not result in new significant impacts related to related to the release of pollutants due to project inundation due to flooding, tsunami, or seiche or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

XI. LAND USE AND PLANNING. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Physically divide an established community?	No	No	No
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No	No	No

Discussion

a. A project risks dividing an established community if the project would introduce infrastructure or alter land use to change the land use conditions in the surrounding community or isolate an existing land use.

According to the 2040 GPU EIR, development pursuant to the GPU and Downtown Truckee Plan would not physically divide any established communities. Policies and land use changes would facilitate and direct growth and expansion of existing or planned communities in an efficient and orderly manner. GPU policies also would minimize potentially incompatible land uses in planned communities and enhance connectivity between communities. As a result, the 2040 GPU EIR concluded that impacts to established communities would be less than significant.

The northern portion of the project site includes a concrete disc golf pad and two disc golf baskets, and the southern and central portions of the site are graded and used as parking and equipment storage areas for the adjacent McIver Rodeo Arena. Volcanic boulders, conifer trees, and brush are scattered throughout the site, and a chain link fence is located throughout the site. In addition, power poles and associated overhead utility lines generally run along the entire eastern site boundary from north to south. The project site is generally surrounded by single-family residences, apartments, the Truckee Pines Head Start preschool, and an electric substation to the east, the Truckee River to the north, and various Truckee River Regional Park facilities to the north, west, and south. Development of the site with a children's museum would be a continuation of the existing public facilities located within Truckee River Regional Park and would not isolate an existing land use. Furthermore, the proposed project is consistent with the site's existing land use and zoning designations and, thus, is consistent with the type and intensity of development that has previously been anticipated for the site by the Town and analyzed in the 2040 GPU EIR.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b. According to the 2040 GPU EIR, the GPU would require modifications to the Town's Zoning Ordinance to provide consistency between the GPU and zoning; however, such modifications would not remove or adversely modify portions of the Municipal Code that were adopted to mitigate an environmental effect. As such, the 2040 GPU EIR concluded that buildout of the GPU would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and a less-than-significant impact would occur.

The proposed project is consistent with the site's current 2040 GPU land use designation of Open Space Recreation and zoning designation of PF. As discussed throughout this Modified Initial Study, the proposed project would not conflict with Town policies and regulations adopted for the purpose of avoiding or mitigating an environmental effect, including, but not limited to, the Town's noise standards and applicable SWRCB regulations related to stormwater. Therefore, the proposed project would not cause a significant environmental impact in excess of what has already been analyzed and anticipated in the 2040 GPU EIR, and would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

XII. MINERAL RESOURCES. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No	No	No
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No	No	No

Discussion

a,b. Aggregate mining operations in the Town are currently limited to the aggregate mining area at the Martis Valley Quarry in the eastern portion of Truckee. According to the 2040 GPU EIR, areas of the Town contain known mineral resources, particularly along the Truckee River. The 2040 GPU EIR determined that buildout of the GPU could result in a significant impact if it would result in the loss of availability of a mineral resource that would be of value to the region and the residents of the State. However, the GPU reduces the potential for implementation of the GPU to result in the loss of mineral resources through the designation of much of the land with mapped mineral resources as Resource Conservation/Open Space and Public and including policies that restrict uses in such areas to those compatible with mineral resource extraction. As such, the 2040 GPU EIR determined that impacts related to the loss of availability of a known mineral resource would be less than significant.

According to Figure 4.12-1 of the 2040 GPU EIR, the project site is not located in an area with important mineral resources.[24] Therefore, the proposed project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the State or result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts than the 2040 GPU EIR. As a result the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

[24] Town of Truckee. *Draft Environmental Impact Report for the Town of Truckee 2040 General Plan Update and Downtown Truckee Plan Project* [pg. 346]. August 2022.

XIII. NOISE. *Would the project result in:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	No	No	No
b. Generation of excessive groundborne vibration or groundborne noise levels?	No	No	No
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No	No	No

Discussion

a. The following discussion is based primarily on a Noise Technical Study prepared for the proposed project by Ascent Environmental (see Appendix E).[25] The discussions below present information regarding sensitive noise receptors in proximity to the project site, the existing noise environment, and the potential for the proposed project to result in impacts during project construction and operation. The following terms are referenced in the sections below:

- Decibel (dB): A unit of sound energy intensity. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels. All references to dB in this section will be A-weighted unless noted otherwise.
- Day-Night Average Level (L_{dn}): The average sound level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours.
- Equivalent Sound Level (L_{eq}): The average sound level over a given time-period.
- Maximum Sound Level (L_{max}): The maximum sound level over a given time-period.
- Minimum Sound Level (L_{min}): The minimum sound level over a given time-period.
- Median Sound Level (L_{50}): The sound level exceeded 50 percent of the time over a given time-period.
- Community Noise Equivalent Level (CNEL): The 24-hour average noise level with noise occurring during evening (7:00 PM to 10:00 PM) hours weighted by a factor of three and nighttime hours weighted by a factor of ten prior to averaging.

Sensitive Noise Receptors

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Sensitive noise receptors may also include threatened or endangered noise sensitive biological species, although many jurisdictions have not adopted noise standards for wildlife areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise. The nearest

[25] Ascent Environmental. *Noise Technical Study for the KidZone Museum in Truckee Project.* October 15, 2024.

noise sensitive receptors to the project site include the existing single-family residences located approximately 75 feet to the east, across River View Drive.

Existing Noise Environment

The existing noise environment in the project area is primarily defined by traffic on River View Drive, Estates Drive, and Brockway Road. In order to assess the existing ambient noise environment within the project vicinity, Ascent conducted one long-term (24-hour) noise measurement (LT-1) and four short-term noise measurements (ST-1 through ST-4) in the project vicinity. The noise measurement locations are shown on Figure 13. A summary of the long-term noise level measurement survey results is provided in Table 9 and a summary of the short-term noise level measurement survey results are provided in Table 10.

Table 9
Summary of Existing Background Long-Term Noise Measurement Data

Site	Date	L_{dn}	Daytime				Nighttime			
			L_{eq}	L_{max}	L_{min}	L_{50}	L_{eq}	L_{max}	L_{min}	L_{50}
LT-1	2/16/23	52.8	49.2	69.0	39.4	43.6	44.2	56.7	36.6	42.1

Notes:
- All values shown in dBA
- Daytime hours: 7:00 AM to 10:00 PM
- Nighttime Hours: 10:00 PM to 7:00 AM

Source: Ascent, 2024.

Table 10
Summary of Existing Background Short-Term Noise Measurement Data

Site	Date	Duration	L_{eq}	L_{max}	L_{min}	L_{50}
ST-1 (19-minute)	2/16/23	11:20 AM to 11:39 AM	45.3	59.1	38.6	41.6
ST-2 (19-minute)	2/16/23	11:47 AM to 12:06 PM	56.2	70.9	43.6	49.9
ST-3 (16-minute)	2/16/23	12:11 PM to 12:27 PM	53.2	68.5	41.8	46.5
ST-4 (16-minute)	2/16/23	12:39 PM to 12:55 PM	53.0	68.5	38.0	49.0
Noise Measurement Averages			**59.1**	**66.8**	**40.5**	**46.8**

Notes: All values shown in dBA

Source: Ascent, 2024.

Standards of Significance

According to Table 4.13-9 of the 2040 GPU EIR and Table SN-1 of the GPU, the Town's exterior noise standards for low-density single-family residential uses range between 50 dB and 70 dB L_{dn}/CNEL. The GPU considers 50 dB L_{dn}/CNEL to 60 dB L_{dn}/CNEL to be "Normally Acceptable", and 60 dB L_{dn}/CNEL to 70 dB L_{dn}/CNEL is the "Conditionally Acceptable." Ambient noise in excess of 70 dBA L_{dn}/CNEL is considered "Unacceptable."

Figure 13
Noise Measurement Locations

Note: Figure 13 reflects a previous building footprint. Please see Figure 3 of this Modified Initial Study/15168 Checklist for the current site plan.

The Town of Truckee Development Code includes noise level performance criteria applicable to non-transportation noise sources. Section 18.44.040 of the Town of Truckee Development Code states that exterior noise levels, when measured at a noise-sensitive receiving land use, shall not exceed the noise level standards set forth in Table 3-6 in the Development Code and Table 4.13-4 of the 2040 GPU EIR. Specifically, the L_{max} for residential uses during the daytime (7:00 AM to 10:00 PM) is 75 dBA L_{max} and the L_{max} for residential uses during the nighttime (10:00 PM to 7:00 AM) is 70 dBA L_{max}. In the event that the ambient noise environment exceeds the standards, the applicable standards shall be adjusted to equal the ambient noise level. In addition, the noise level standards shall be reduced by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. With a five dB reduction, the noise standard for residential uses is 70 dBA L_{max} during the daytime and 65 dBA L_{max} during the nighttime. Furthermore, as set forth in Table 3-6 in the Development Code and Table 4.13-4 of the 2040 GPU EIR, the measured noise levels at residential uses may not exceed 55 dBA L_{50} during the daytime (7:00 AM to 10:00 PM) and 50 dBA L_{50} during the nighttime (10:00 PM to 7:00 AM) for more than 30 minutes.

In practice, a noise impact may be considered significant if the project would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. Research into the human perception of changes in sound level indicates the following: a 3 dB change is barely perceptible; a 5 dB change is clearly perceptible; and a 10 dB change is perceived as being twice or half as loud.

Finally, the Federal Interagency Committee on Noise (FICON) has developed a graduated scale for use in the assessment of project-related noise level increases, which the Noise Technical Study employed to assess noise level increases resulting from traffic associated with buildout of the proposed project. The criteria shown in Table 11 were developed by FICON as a means of developing thresholds for impact identification for project-related noise level increases.

Table 11
FICON Significance of Changes in Noise Exposure

Ambient Noise Level Without Project, L_{dn}	Increase Required for Significant Impact
<60 dB	+5.0 dB or more
60 to 65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

Source: Ascent, 2024.

The FICON standards have been used extensively in recent years in the preparation of noise sections of EIRs that have been certified by lead agencies in California. The use of FICON standards is considered conservative, relative to thresholds used by other agencies in the State. For example, the California Department of Transportation (Caltrans) requires a project-related traffic noise level increase of 12 dB for a finding of significance, and the California Energy Commission (CEC) considers project-related noise level increases between five to 10 dB significant, depending on local factors. Therefore, the use of the FICON standards, which set the threshold for finding of significant noise impacts as low as 1.5 dB, provides a conservative approach to impact assessment for the proposed project.

Although the town of Truckee has not adopted noise limits for construction activities, pursuant to Town of Truckee Development Code Section 18.44.040, and in general conformance with the construction noise analysis conducted in the 2040 GPU EIR, construction noise levels at a noise-sensitive receiving land use shall not exceed the noise level standards set forth in Table 3-6 of the Development Code and Table 4.13-4 of the 2040 GPU EIR. Specifically, the L_{max} for residential uses during the daytime (7:00 AM to 10:00 PM) is 75 dBA L_{max} and the L_{max} for residential uses during the nighttime (10:00 PM to 7:00 AM) is 70 dBA L_{max}.

Impact Analysis

The following analysis relies on the aforementioned thresholds of significance to determine if noise impacts associated with construction and operation of the proposed project would occur.

Project Construction Noise

As discussed in the 2040 GPU EIR, buildout of the GPU could result in construction activities in close proximity to existing noise-sensitive receptors. Most noise-generating construction activity would be performed during the daytime, construction-noise-exempt hours per Section 18.44.070 of the Town's Development Code; however, construction activity may be required during the evening and nighttime hours. Some projects within the GPU planning area could require activities such as large continuous concrete pours outside of the exemption timeframe established within Section 18.44.070 of the Town's Development Code. Potential nighttime construction activities could expose nearby noise-sensitive receptors to noise levels that exceed Development Code Section 18.44.040 nighttime exterior noise standards as identified in Table 4.13-4 of the 2040 GPU EIR. However, according to Section 18.44.070 of the Town of Truckee Development Code, such criteria do not apply to construction noise sources associated with single-family residential construction (such as the nearest sensitive receptors to the project site; i.e., single-family residential uses to the east of the project site), provided that the activities do not take place before 7:00 AM or after 9:00 PM on any day, except Sunday, or before 9:00 AM or after 6:00 PM. Nevertheless, GPU Policy SN-8.19 would implement noise reduction measures to minimize construction noise and reduce noise exposure during noise-sensitive time periods. However, because the Town cannot ensure that all impacts would be reduced to meet Town noise standards during any potential nighttime construction activity, the 2040 GPU EIR concluded that impacts related to the construction would be significant and unavoidable.

During construction of the proposed project, heavy-duty equipment would be used for grading, excavation, and paving, which would result in temporary noise level increases. Project haul truck traffic on local roadways would also result in a temporary noise level increase during construction activities. Noise levels would vary depending on the type of equipment used, how the equipment is operated, and how well the equipment is maintained. In addition, noise exposure at any single point outside the project site would vary depending on the proximity of construction activities to that point. According to the Noise Technical Study, construction equipment may include dump trucks, loaders, air compressors, concrete mixers, cranes, dozers, graders, pavers, roller, and pickup trucks would be used on-site.

Table 12 shows maximum noise levels associated with the aforementioned construction equipment. Based on the table, activities involved in typical construction would generate maximum noise levels ranging from 75 to 85 dB at a distance of 50 feet. Noise-generating

construction activities that occur during the more noise-sensitive evening and nighttime hours are of increased concern. Because exterior ambient noise levels typically decrease during the late evening and nighttime hours as traffic volumes and commercial activities decrease, and because typical sleep hours occur during these times, construction activities performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption for occupants of residential uses.

Table 12
Construction Equipment Noise

Type of Equipment	Maximum Level, dB at 50 feet
Air Compressor	78
Concrete Mixer	79
Crane	81
Dozer	82
Dump Truck	76
Grader	85
Loader	79
Paver	77
Roller	80
Pickup Trucks	75

Source: Federal Transit Administration (FTA) Division of Environmental Analysis. Transit Noise and Vibration Impact Assessment Manual, 2018.

Construction generally occurs in several discrete stages, each phase requiring a specific complement of equipment with varying equipment type, quantity, and intensity. Such variations in the operational characteristics of the equipment change the effect they have on the noise environment of the project site and in the surrounding area for the duration of the construction period.

According to the Noise Technical Study, the construction noise evaluation conducted for the proposed project conservatively assumed that two of the highest noise-generating pieces of equipment (i.e., one grader and one dozer) could operate simultaneously near each other, generating worst-case noise levels. Construction activities would be temporary in nature and are anticipated to occur during normal daytime work hours. Because nighttime construction is not proposed for the project, the construction noise analysis is focused on daytime noise levels.

Based on the reference noise levels listed in Table 12 and the typical usage factors of the individual pieces of equipment modeled, on-site construction-related activities could generate a combined hourly average noise level of approximately 82.8 L_{eq} and a maximum noise level as high as 86.8 L_{max} at 50 feet.

The nearest noise-sensitive receptors to the project site are the single-family residences located approximately 75 feet east of the project site boundaries, across River View Drive. Ascent determined that the acoustical center of the construction noise-generating activities associated with the proposed project would likely occur within approximately 220 feet east of existing residences. Based on the construction noise modeling results, Ascent determined that construction activity during the loudest anticipated construction phases (i.e., grading) would result in construction noise levels of 69.9 dBA L_{eq} and 73.9 dBA L_{max} at the nearest noise-sensitive receptors, 220 feet to the east of the project site. As such, construction noise levels associated with the proposed project would not exceed the Town

of Truckee Development Code standard of 75 dBA L_{max} for residential uses during the daytime.

Demolition activities associated with the existing museum facility would require the use of an excavator and skid steer equipped with Tier 4 engines. These pieces of equipment can be expected to generate noise levels up to 85 db Lmax at 50 feet. The only structure within the immediate vicinity is not associated with the Tahoe Truckee Unified School District, but rather occupied by Sierra Community House, which is a non-profit organization serving families in need. As previously discussed, using the Development Code standards (Section 18.44.040) for this construction noise analysis, this office building would be subject to a daytime noise standard of 85 dBA Lmax. The majority of construction activity would occur outside of 50 feet from the existing office building, and thus, temporary construction noise levels would not be anticipated to generate an adverse construction noise effect.

Construction of the proposed project would be required to comply with limited construction hours set forth within Section 18.44.070 of the Town of Truckee Development Code. The project would also comply with GPU Policy SN-8.14, which includes standard construction noise control measures to be included as requirements at construction sites in order to minimize construction noise impacts. For example, construction noise control measures set forth in GPU Policy SN-8.14 include, but are not limited to, locating stationary noise-generating equipment as far as possible from sensitive receptors in the project vicinity and adding mufflers to noise-generating equipment to reduce noise levels.

In addition, consistent with GPU Policy SN-8.14 and Development Code Section 18.44.070, the Noise Technical Study prepared for the proposed project includes recommended measures to reduce noise exposure from construction activities at the nearby sensitive receptors. Thus, in order to ensure that construction noise impacts associated with development of the proposed project would not be a nuisance, consistent with GPU Policy SN-8.14 and Development Code Section 18.44.070, the Town of Truckee would require the following standard condition of approval for the proposed project to ensure all recommendations included in the Noise Technical Study are implemented as part of the proposed project:

> Prior to approval of grading permits, the following criteria shall be established and noted on grading plans, subject to review and approval by the Town of Truckee Community Development Department:
>
> - Construction activity shall not occur before 7:00 AM or after 9:00 PM on any day except Sunday, or before 9:00 AM or after 6:00 PM on Sunday.
> - All internal combustion engine driven equipment shall be equipped with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
> - Stationary noise-generating equipment shall be located as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
> - “Quiet” air compressors and other stationary noise-generating equipment shall be used where appropriate technology exists.
> - The project sponsor shall designate a “disturbance coordinator” who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall require that reasonable

> measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site. Additionally, the project sponsor shall send a notice to neighbors in the project vicinity with information on the construction schedule and the telephone number for noise complaints.

Incorporation of the aforementioned condition of approval would ensure project compliance with GPU Policy SN-8.14 and Development Code Section 18.44.070, thus, ensuring that construction noise associated with the proposed project would not a nuisance.

Project Operational Noise

Operations associated with the proposed development would generate noise primarily associated with vehicle traffic along the local roadways as well as stationary sources at the project site. Such noise sources are discussed in the sections below.

Traffic Noise on Nearby Roadways

As discussed in the 2040 GPU EIR, implementation of development associated with the GPU would result in an increase in traffic throughout the roadway network, thus, increasing traffic noise. A comparison of existing (2018) and future (2040) traffic noise identified four roadway segments that would surpass Federal Transit Administration (FTA) guidance related to incremental traffic noise standards and two roadway segments that would surpass the Town's 60 CNEL noise compatibility threshold as a result of GPU implementation. Due to the limited project-specific information currently available for future development projects in the GPU planning area, the 2040 GPU EIR could not feasibly determine whether noise levels could be mitigated to the appropriate extent. For this reason, the 2040 GPU EIR concluded that impacts would be significant and unavoidable.

Operations associated with the proposed project would generate noise associated with vehicle traffic on local roadways. To assess noise impacts due to project-related traffic increases on the local roadway network, Ascent estimated traffic noise at sensitive receptors for Existing and Existing Plus Project conditions. The modeled traffic noise levels at the nearest sensitive receptors along each roadway segment in the project vicinity under Existing and Existing Plus Project conditions are presented in Table 13.

Table 13
Predicted Traffic Noise Levels and Project-Related Traffic Noise Level Increases

Roadway	Segment	Predicted Exterior Noise Level at Closest Sensitive Receptors (dBA L_{dn})		
		Existing No Project	Existing + Project	Change
Brockway Road	East of Palisades Road	66.1	66.2	0.1

Source: Ascent, 2024.

Based upon the Table 11 criteria, if traffic noise levels are greater than 65 dB L_{dn} at the outdoor activity areas of noise-sensitive uses, a +1.5 dB L_{dn} increase in roadway noise levels would be considered significant. As shown in Table 13, the existing noise level in the project vicinity is 66.1 dB L_{dn} or less. As shown in Table 13, under existing conditions, the proposed project would result in a maximum traffic noise level increase of 0.1 dBA. Because the applicable minimum significance threshold is an increase of 1.5 dBA in

roadway noise levels, project-related traffic would not result in a substantial permanent increase in noise levels, and the impact would not be significant.

Based on the above, traffic-related noise levels generated as part of project operation would not result in a substantial permanent increase in ambient noise levels in the project vicinity in excess of applicable standards.

On-Site Noise Sources

As discussed in the 2040 GPU EIR, various types of new stationary noise sources would be implemented in the Town as a result of GPU buildout (e.g., parking lots, loading docks, heating and air conditioning systems). The Development Code limits loading dock activity during noise-sensitive times of day and establishes noise standards for HVAC equipment. Additionally, if future development projects are located within areas of high existing noise levels or have the potential to expose sensitive land uses to noise levels that exceed applicable standards, the development would not be approved. Furthermore, the GPU would involve the implementation of several policies designed to reduce potential noise impacts throughout the Town. Therefore, the 2040 GPU EIR concluded that less-than-significant impacts would occur.

The proposed project consists of the operation of a children's museum with outdoor garden and activity areas. In addition to increased traffic on nearby roadways, the primary noise sources associated with implementation of the project would consist of HVAC equipment, outdoor play areas, and on-site vehicle circulation at the parking lot, as discussed below.

Noise from HVAC

Implementation of the project would introduce new stationary noise sources associated with building mechanical equipment, primarily HVAC units. Detailed information regarding the stationary equipment to be installed as part of the proposed project is not available at this time. However, noise levels commonly associated with larger commercial-use air conditioning systems can reach levels of up to 78 dB at three feet. Applying the reference noise level as an hourly average (L_{eq}) and assuming a 50 percent usage rate, Ascent determined that noise levels at three feet from the sources would be 75 dBA L_{eq}. However, the HVAC equipment would be located near the northeast corner of the museum, surrounded by the staff room, the entry/store, and the restrooms, approximately 170 feet west of the nearest sensitive receptor.

According to the Noise Technical Study, at 170 feet, noise levels generated from HVAC equipment would be 39.9 dBA L_{50} at the nearest residence. As such, noise levels generated by the HVAC equipment would be below the Town's exterior noise standard of 50 dBA for residential uses. Therefore, operation of the HVAC equipment at the proposed project would not exceed the Town's daytime or nighttime thresholds for exterior noise sources.

In addition, compliance with exterior noise standards ensures compliance with interior noise standards due to typical exterior-to-interior noise reduction from buildings. Furthermore, noise levels associated with the HVAC equipment would be lower than existing hourly noise levels for the project vicinity. As shown in Table 9, the existing daytime average noise level near the proposed building is 49.2 dBA

L_{eq}. In addition, the HVAC equipment would operate intermittently and only during the daytime.

Therefore, the noise associated with the HVAC equipment would not exceed Truckee's interior or exterior daytime or nighttime standards or result in a substantial permanent increase in noise.

Noise from Outdoor Play Area

The proposed project includes an outdoor play area on the southernmost portion of the site, directly adjacent to the museum. Typical noise sources from this type of land use include people talking and congregating, and children playing. Based on past noise measurements conducted for similar uses, Ascent determined that noise levels for outdoor activity areas can reach up to 67.8 L_{eq} and 80.6 L_{max} at 36 feet from the noise source.

The outdoor play area would be surrounded by the museum to the north, the museum parking lot and River View Drive to the east, Estates Drive to the south, and the Truckee River Regional Park to the west. The nearest sensitive receptor to the outdoor play area would be the single-family residences across River View Drive, approximately 320 feet away.

Assuming activities at the outdoor play area would generate a noise level of 67.8 dBA L_{eq}, attenuated to a distance of 320 feet, the noise levels at the nearest sensitive receptor could reach 48.8 dBA L_{50} in the daytime hours. The outdoor play area would be closed at night and would not increase nighttime noise levels. It should be noted that the noise level of the outdoor play area does not account for any potential noise attenuation associated with intervening structures, topography, or vegetation.

As discussed above, Section 18.44.040 of the Town Development Code states that exterior noise levels shall not exceed a daytime L_{50} of 55 dBA and a nighttime L_{50} of 50 dBA. The museum facilities would not operate during the Town's nighttime hours; therefore, the noise analysis focuses on daytime noise only.

As previously mentioned, outdoor play area activities occurring during the daytime would result in a noise level of 48.8 dBA L_{50} at the nearest sensitive receptor. Therefore, noise associated with the outdoor play area at the museum would not exceed the Town's daytime threshold of 55 dBA L_{50} for exterior noise sources. In addition, compliance with exterior noise standards ensures compliance with interior noise standards, due to typical exterior-to-interior noise reduction from buildings.

Furthermore, as shown in Table 9, the existing daytime average noise level near the proposed building is 49.2 dBA L_{eq}. As such, noise levels associated with the outdoor play area would be lower than the existing daytime average noise level. In addition, the outdoor play area would operate intermittently and only during the daytime.

Therefore, the noise associated with the Outdoor Play Area would not exceed Truckee's exterior daytime or nighttime standards or result in a substantial permanent increase in noise.

Noise from Parking Lots

Project-generated parking noise would be highest during peak visitation hours and field trips due to the increased number of vehicles circulating on-site. The Noise Technical Study analyzed the worst-case scenario associated with noise impacts generated by parking facilities. The Noise Technical Study assumed 31 parking spaces would be in use, as well as two buses from school field trips. The closest sensitive receptor to the parking lot would be the single-family residences across River View Drive, approximately 95 feet east of the parking lot. As previously noted, the proposed KidZone Museum would operate from 9:00 AM to 5:00 PM, Tuesday through Sunday; therefore, the parking lot would not be used during nighttime hours and would not create additional noise during nighttime hours. Therefore, the Noise Technical Study focused on daytime noise levels associated with parking lot circulation.

According to the Noise Technical Study, parking lot activities occurring during the busiest time of the day with the greatest number of buses would result in a noise level of 49.8 dBA L_{eq} at the nearest sensitive receptor. As such, noise generated by parking lot activities would not exceed the Town's exterior noise standard of 55 dBA L_{50} at the nearest noise sensitive receptor. In addition, compliance with exterior noise standards ensures compliance with interior noise standards, due to typical exterior-to-interior noise reduction from buildings.

Additionally, because Ascent's modeling represents the worst-case parking, noise levels on a typical day are anticipated to be lower than 49.8 dBA L_{eq}. As shown in Table 9, the existing daytime average noise level near the proposed building is 49.2 dBA L_{eq}. As such, noise levels associated with the parking lot circulation would be similar to the existing daytime average noise level. Furthermore, parking activities would be intermittent and only occur during the daytime.

Therefore, noise generated from parking lot activities would not exceed Truckee's exterior daytime or nighttime standards or result in a substantial permanent increase in noise.

Conclusion

As described above, the proposed project would not result in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local General Plan, the Town's Development Code, or applicable standards of other agencies.

Therefore, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As such, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

b. Similar to noise, vibration involves a source, a transmission path, and a receiver. However, noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration depends on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

As discussed in the 2040 GPU EIR, construction activities associated with GPU implementation could generate short-term increases in vibration near sensitive receptors throughout the Town based on each project's location. The GPU and Development Code would limit construction activity to particular times of day when sensitive receptors would not be as affected by groundborne vibration. In addition, GPU Policy SN-8.20 would require implementation of measures to reduce impacts from construction vibration. However, due to the current lack of project-specific information including location and construction equipment type, the 2040 GPU EIR could not conclude whether any substantial impacts would result from construction that is consistent with the GPU.

Similarly, implementation of the GPU could expose new sensitive receptors to elevated levels of vibration due to railroad operations. Because project-specific details for future development projects within the GPU planning area are not known at this time, the GPU could not conclude whether sensitive receptors would be subject to substantial levels of groundborne vibration and if GPU policies would reduce those levels of vibration to an acceptable level. Thus, the 2040 GPU EIR concluded that impacts related to vibration would be significant and unavoidable.

Vibration is measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration in terms of peak particle velocities (PPV) in inches per second (in/sec). Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of PPV. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 14, which was developed by the California Department of Transportation (Caltrans), shows that the vibration levels that would normally be required to result in damage to structures range from 0.2 to 0.6 in/sec PPV. The general threshold at which human annoyance could occur is 0.10 in/sec PPV.

The primary vibration-generating activities associated with the proposed project would occur during grading and placement of underground utilities. Table 15 shows the typical vibration levels produced by construction equipment at various distances. The most substantial source of groundborne vibrations associated with project construction would be the use of vibratory compactors. Use of vibratory compactors/rollers could be required during construction of the proposed on-site drive aisles and parking lot. As discussed in the Noise Technical Study, project construction would not involve the use of ground vibration-intensive activities, such as pile driving or blasting. Pieces of equipment that generate lower levels of ground vibration, such as dozers and pavers, would be used during construction and do not generate substantial levels of ground vibration that could result in structural damage, except at extremely close distances (i.e., within at least 10 feet). The proposed project would only cause elevated vibration levels during construction, as the project would not involve any uses or operations that would generate substantial groundborne vibration.

As presented in Table 12, construction vibration levels anticipated for the project would be less than the 0.2 in/sec threshold at distances of 26 feet or more. The nearest sensitive receptors to the project site include the existing single-family residences located approximately 75 feet to the east, across River View Drive. Therefore, according to the vibration levels shown in Table 15, groundborne vibration levels at the nearest buildings would be less than the 0.20 in/sec PPV threshold established by Caltrans for architectural damage to buildings.

Table 14
Effects of Vibration on People and Buildings

PPV		Human Reaction	Effect on Buildings
mm/sec	in/sec		
0.15 to 0.30	0.006 to 0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10 to 15	0.4 to 0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage

Source: Caltrans. Transportation Related Earthborne Vibrations. TAV-02-01-R9601. February 20, 2002.

Table 15
Vibration Levels for Various Construction Equipment

Type of Equipment	PPV at 25 feet (in/sec)	PPV at 50 feet (in/sec)	PPV at 100 feet (in/sec)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/Drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210	0.074	0.026

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Guidelines, May 2006.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to fire or police protection facilities than what were previously analyzed in the 2040 GPU EIR. Thus, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

c. As discussed in the 2040 GPU EIR, the GPU would not locate sensitive land uses within a 60 CNEL aircraft noise contour of the Truckee Tahoe Airport. Additionally, GPU Policies SN-8.16 and SN-8.17 would require compliance with the adopted Truckee Tahoe Airport LUCP and coordination with Truckee Tahoe Airport District and Truckee Tahoe Airport Land Use Commission to ensure noise standards are met. Furthermore, Section 18.44.070 of the Development Code exempts public transportation facilities, including

airports, from the provisions in the noise chapter. As such, the 2040 GPU EIR concluded that a less-than-significant impact would occur.

The Truckee Tahoe Airport LUCP regulates the land surrounding the airport to avoid establishing noise-sensitive land uses in the vicinity of the Truckee Tahoe Airport. The Truckee Tahoe Airport LUCP noise standards are enforced by GPU Policy SN-8.16. In addition, GPU Policy SN-7.5 requires the Town to maintain land use and development patterns in the vicinity of Truckee Tahoe Airport that are consistent with the adopted LUCP, including setbacks and height requirements. As previously discussed, the Truckee Tahoe Airport is located approximately 1.05 miles (4,488 feet) southeast of the project site.

Based on Exhibit 3-4 of the Truckee Tahoe Airport LUCP, the project site is located within the Truckee Tahoe Airport Influence Area, but is outside of the LUCP's 60 dBA CNEL noise contour. Thus, development of the proposed project would not result in new sensitive land uses within the 60 CNEL aircraft noise contour of the Truckee Tahoe Airport, and the proposed project would not conflict with GPU Policy SN-8.16 or the recommendations of the Truckee Tahoe Airport LUCP. Overall, the Noise Technical Study determined that surrounding noise exposure levels to the museum would comply with GPU Policy SN-8.16, and the Land Use Compatibility standards of the GPU and the Truckee Tahoe Airport LUCP.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to fire or police protection facilities than what were previously analyzed in the 2040 GPU EIR. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

XIV. POPULATION AND HOUSING. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure)?	No	No	No
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No	No	No

Discussion

a. According to the 2040 GPU EIR, buildout of the GPU would facilitate new residential development in Truckee, which would accommodate an increase in the population to an estimated 20,100 by the year 2040 and an estimated 23,200 at buildout beyond 2040. Because projected development under the GPU would result in population growth consistent with estimated population projections, the 2040 GPU EIR concluded that impacts related to substantial unplanned population growth would be less than significant.

The proposed project would include the construction of an approximately 10,500-sf museum building and 18,000 sf of open space gardens and activity areas. Therefore, the project would not directly or indirectly induce population growth. While the proposed project could create new jobs in the area, which could potentially result in an increase in the housing demand, such an increase would be minimal due to the relatively small scale of the proposed project. As such, the proposed project would create employment, but would not lead to an influx of new residents to the project area. Furthermore, given that the existing KidZone Museum operations would be relocated to the proposed museum building, it is likely that the majority of jobs created by the project would be filled by existing KidZone employees. In addition, the project would not include extension of any major infrastructure.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts beyond what were analyzed in the 2040 GPU EIR. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b. According to the 2040 GPU EIR, buildout of the GPU would facilitate the development of new housing in accordance with State and local housing requirements. Although future redevelopment projects within the Town could displace residents temporarily during construction activities, the displacement would not be widespread. The 2040 GPU EIR concluded that potential impacts related to displacement of people or housing, such that construction of replacement housing would be required, would be less than significant.

The proposed project would not require the demolition of any existing housing within the project site. As such, the proposed project would not displace a substantial number of existing housing units or people, and would not necessitate the construction of replacement housing elsewhere. Therefore, the proposed project would not result in new significant impacts or substantially more severe significant impacts beyond what were analyzed in the 2040 GPU EIR. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

XV. PUBLIC SERVICES.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Fire protection?	No	No	No
b. Police protection?	No	No	No
c. Schools?	No	No	No
d. Parks?	No	No	No
e. Other Public Facilities?	No	No	No

Discussion

a,b. Fire protection services are currently provided to the surrounding area by the Truckee Fire Protection District (TFPD). TFPD Station 91 is the nearest fire station to the project site and is located at 10049 Donner Pass Road, approximately 1.4 miles northwest of the project site. Additionally, the Truckee Police Department provides law enforcement services to the project area and is located at Town Hall at 10183 Truckee Airport Road, approximately 1.48 miles southeast of the project site.

The 2040 GPU EIR concluded that while projected development under the GPU would increase demand for fire protection services, excess capacity exists within the TFPD, and new and expanded facilities have been identified to serve the anticipated demand. Furthermore, with respect to fire protection services, the Public Safety Element of the GPU includes several policies, such as Policies SN-1.3, SN-2.2 through 2.4, SN-2.12, and SN-2.13 that would reduce potential impacts to fire and emergency services. For example, Policy SN-1.3 directs the Town to actively support the efforts to maintain and improve federal and state fire service capacity in the Town.

In addition, the 2040 GPU EIR determined that projected development under the GPU would increase demand for law enforcement services, but would not result in the need to construct new law enforcement facilities. Furthermore, GPU Policy LU-5.5 would require the Town to review all development proposals to ensure that demand generated for police services can be adequately met. As such, the 2040 GPU EIR determined that buildout of the GPU would result in a less-than-significant impact related to fire and police protection services.

While the proposed project could result in increased demands on fire and police protection services, such demands would be consistent with what has been anticipated by the Town and analyzed in the 2040 GPU EIR. Furthermore, the project would comply with all applicable State and local requirements related to fire safety and security, including installation of fire sprinklers. Compliance with such standards would minimize fire and police protection demands associated with the project. In addition, the project would be subject to payment of applicable fire and police development impact fees, which would help account for any increased demands on fire or police protection services that may result from the proposed project.

Based on the above, the proposed project would not result in new significant impacts or substantially more severe significant impacts related to fire or police protection facilities than what were previously analyzed in the 2040 GPU EIR. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

c. School services in the Town are provided by the Tahoe-Truckee Unified School District (TTUSD). TTUSD operates 12 schools within the service area including five elementary schools, two middle schools, two high schools, and three alternative educational programs. With respect to schools, the 2040 GPU EIR concluded that projected development under the GPU could increase student enrollment. However, the payment of state-mandated school impact fees would mitigate any impacts to a less-than-significant level. Because the project would include commercial uses only, the proposed project would not directly generate new residents in the town. Thus, development of the proposed project would not significantly increase demand for school facilities and services.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts beyond what were analyzed in the 2040 GPU EIR related to the need for new or physically altered schools, the construction of which could cause significant environmental impacts. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

d. With respect to parks, the GPU 2040 EIR determined that the development of parks is within the scope of the changes to the physical environment anticipated with buildout of the GPU. As such, any adverse environmental impacts related to the development of parks would be addressed through compliance with the GPU policies and actions developed to protect environmental resources, as well as any project-specific mitigating measures. Thus, impacts to parks as a result of the GPU would be less than significant.

The proposed project would include 18,000 sf of open space gardens and activity areas. Furthermore, it is noted that the project site is located within the eastern portion of the Truckee River Regional Park, which is operated by the Truckee-Donner Recreation and Park District (TDRPD). In addition, as stated in the 2040 GPU EIR, the Town strives to maintain at least five acres of parkland for every 1,000 residents. According to the 2040 GPU, in 2018, the population of Truckee was approximately 16,400, and the town provided approximately six acres of parkland per 1,000 residents (i.e., a total of 104.9 acres). As such, the Town is still well within their goal of maintaining five acres of parkland per 1,000 residents. Because the proposed project includes recreational uses only, the proposed project would not directly generate new residents in the Town. Therefore, the proposed project would not be anticipated to increase the population such that the Town's parkland requirement would no longer be met.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts beyond what were analyzed in the 2040 GPU EIR related to the need for new or physically altered parks, the construction of which could cause significant environmental impacts. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

e. According to the 2040 GPU EIR, other public services facilities that may be required to serve buildout of the GPU and DTP would not result in substantial adverse impacts beyond

those evaluated throughout the 2040 GPU EIR. Additional public services facilities, such as libraries, would be generally located within established neighborhoods and near other public services that serve the communities and would not be expected to result in substantial adverse effects beyond those evaluated in the 2040 GPU EIR. Impacts related to other types of government facilities were not discussed further in the 2040 GPU EIR. The 2040 GPU EIR concluded that with implementation of applicable GPU policies, implementation of the GPU would result in a less-than-significant impact to public facilities such as libraries.

The Truckee Branch Library is located at 10031 Levon Avenue, approximately 1.6 miles west of the project site, and is open Monday through Saturday. Because the proposed project does not include residential uses, the proposed project would not directly generate new residents in the Town and increase demand for other public facilities, such as libraries.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts beyond what were analyzed in the 2040 GPU EIR related to the need for new or physically public facilities, the construction of which could cause significant environmental impacts. Thus, the proposed project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

XVI. RECREATION. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No	No	No
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No	No	No

Discussion

a,b. The 2040 GPU EIR evaluated the potential for implementation of the GPU to increase the use of recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated and evaluates whether the project includes recreational facilities or would require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. As discussed in the 2040 GPU EIR, the GPU includes a proposed policy that is consistent with the requirements of the Quimby Act for provision of parkland. Furthermore, the availability of recreation opportunities provided by State and federal public lands minimizes demand for parks and reduces the potential for physical deterioration of existing parks as a result of overuse. Furthermore, new or expanded parks within the Town would be required to support growth anticipated through the GPU horizon. Such facilities would be located within the portions of the Town identified for potential development and would be subject to applicable GPU policies and actions. Overall, the 2040 GPU EIR concluded that impacts to recreational facilities would be less than significant.

Currently, Truckee includes an ample amount of community and recreation facilities. For example, the proposed project would be located within the Truckee River Regional Park. Additionally, Truckee includes recreation facilities run by the Truckee Donner Recreation and Park District, such as the Recreation and Aquatic Center and the Community Arts Center. Additional community and recreation facilities in Truckee include the Meadow Park, Riverview Sports Park, Truckee Community Pool, and Truckee Bike Park, and a total of 101 miles of bicycle trails and facilities. The proposed project would include development of a 10,500-sf museum building and 18,000-sf open space gardens and activity areas. Due to the nature of the proposed project and the ample amount of existing recreational facilities in the Town, the proposed project would not substantially increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.

Therefore, the proposed project would not result in new significant impacts or substantially more severe significant impacts beyond what were analyzed in the 2040 GPU EIR. Thus, the proposed park project is consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

XVII. TRANSPORTATION. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	No	No	No
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	No	No	No
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No	No	No
d. Result in inadequate emergency access?	No	No	No

Discussion

a. The law has changed with respect to how transportation-related impacts may be addressed under CEQA. Traditionally, lead agencies used LOS to assess the significance of such impacts, with greater levels of congestion considered to be more significant than lesser levels. Mitigation measures typically took the form of capacity-increasing improvements, which often had their own environmental impacts (e.g., to biological resources). Depending on circumstances, and an agency's tolerance for congestion (e.g., as reflected in its general plan), LOS D, E, or F often represented significant environmental effects. In 2013, however, the Legislature passed legislation with the intention of ultimately doing away with LOS in most instances as a basis for environmental analysis under CEQA. Enacted as part of SB 743 (2013), PRC Section 21099, subdivision (b)(1), directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed CEQA Guidelines addressing "criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. In developing the criteria, [OPR] shall recommend potential metrics to measure transportation impacts that may include, but are not limited to, vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated. The office may also establish criteria for models used to analyze transportation impacts to ensure the models are accurate, reliable, and consistent with the intent of this section."

CEQA Guidelines Section 21099(b)(2) further provides that "[u]pon certification of the guidelines by the Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to [CEQA], except in locations specifically identified in the guidelines, if any."

Pursuant to SB 743, the Natural Resources Agency promulgated CEQA Guidelines Section 15064.3 in late 2018. It became effective in early 2019. Subdivision (a) of that section provides that "[g]enerally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel.

Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact."

Please refer to question 'b' for a discussion of VMT.

Pedestrian, Bicycle, and Transit Facilities

According to the 2040 GPU EIR, the development and growth associated with implementation of the GPU would increase the demand and use of bicycle, pedestrian, and transit facilities and increase vehicular traffic. However, the GPU includes goals, policies, and actions that would enhance and expand transit, bicycle, and pedestrian facilities to provide a more connected and efficient multimodal transportation network.

For example, the GPU includes policies that require new development to incorporate features that maximize transit access and use (Policy M-3.1) and promote collaboration with regional partners to expand the provision of inter-regional transit services to and from the Lake Tahoe Basin, ski areas, summer recreation destinations, and public lands (Policy M-3.11; Action M-8.B). In addition, GPU Policies M-T-2, M-T-3, and M-T-4 would improve and expand transit service within the Town.

Through implementation of GPU Policy M-2.1, the Town would maintain, implement, and update the Truckee Trails and Bikeways Master Plan, which would facilitate the expansion of the Town's interconnected system of bikeways, trails, and sidewalks. Additionally, GPU Policies M-2, M-PB-5, M-PB-1, M-PB-2, M-PB-3, M-P-1, M-B-1, M-B-2, M-B-3, M-B-4, and M-B-5 encourage and prioritize the development of a more connected, safe, and efficient bicycle and pedestrian network throughout the Town; thus, improving bicycle and pedestrian circulation infrastructure in the Town.

The implementation of the goals, policies, and actions in the GPU would result in a more integrated and complete network of bicycle and pedestrian facilities as compared to existing conditions. By reducing the number of bicycle and pedestrian network gaps alternative transportation users would be less likely to physically mix with higher speeds and volumes of vehicle traffic, reducing the potential for bicycle-vehicle conflicts. Additionally, the GPU would not conflict with a program, plan, ordinance, or policy addressing transit, bicycle, or pedestrian facilities. Therefore, the 2040 GPU EIR concluded that impacts would be less than significant.

The proposed project's potential impacts related to pedestrian, bicycle, and transit facilities are discussed below.

Pedestrian Facilities

Existing pedestrian facilities in the project vicinity include a Class I paved trail located along the northern side of Brockway Road from Estates Drive to South River Street. In addition, the trails within the Truckee River Regional Park connect to the paved Class I Truckee River Legacy Trail, which is located north of the project site. As such, several trails in the project site vicinity could provide pedestrian access to the site.

As part of the proposed project, the entirety of the existing concrete sidewalk located along the site's River View Drive frontage would be replaced by a new six-foot-wide sidewalk. The new sidewalk would provide a pedestrian connection from River View Drive to the new museum parking lot. A new four-foot-wide sidewalk would also be constructed along

the new driveway and would connect to the new six-foot-wide sidewalk along River View Drive. A pedestrian gate would be located west of the main entry plaza and would provide access to the garden areas. Finally, a concrete sidewalk would be constructed along the north, east, and southeast facades of the building to provide pedestrian access.

Implementation of the proposed project would not conflict with any planned pedestrian facilities. Therefore, the proposed project would not result in the creation of a conflict with any adopted programs, plans, ordinances, or policies addressing pedestrian facilities. As such, the proposed project is not anticipated to result in new significant impacts or substantially more severe significant impacts to pedestrian facilities than what were previously analyzed in the 2040 GPU EIR.

Bicycle Facilities

Currently, the Town includes 22 miles of Class I paved trails, 31 miles of Class II bicycle lanes, and 42 miles of Class III bicycle routes. The Truckee Trails and Bikeway Master Plan would increase the network of bicycle lanes and bicycle routes by connecting to existing paved and dirt trails. Ultimately, the Truckee Trails and Bikeway Master Plan would result in the development of 67 miles of additional dirt trails, paved trails, bicycle lanes, and bicycle routes.

Existing Class II bicycle lanes are located along Brockway Road from SR 267 to South River Street. As previously discussed, the Class I Truckee River Legacy Trail and a Class I paved trail along Brockway Road are located within the project site vicinity. As part of the proposed project, two bicycle racks, each with capacity for four bicycles, would be installed near the main entry plaza and outdoor seating area. The proposed project would not alter the existing circulation system and, thus, would not conflict with any existing or proposed bicycle facilities within the Town. Given that the proposed project is well served by bicycle facilities and would not conflict with a program, plan or ordinance addressing bicycle facilities, including the Truckee Trails and Bikeway Master Plan, the proposed project is not anticipated to result in new significant impacts or substantially more severe significant impacts to bicycle facilities than what were previously analyzed in the 2040 GPU EIR.

Transit Facilities

Placer County operates the TART, which provides transit service between Truckee and Tahoe City along the SR 89 corridor. The Town operates Truckee TART, which includes the TLR, operating within Truckee, and the Truckee TART Night Service, operating between Truckee and the Northstar and Palisades Tahoe Resorts. Service is provided seven days a week. The TLR runs along Brockway Road and Estates Drive, and the closest stop (Estates Drive at Senior Apartments) is located approximately 0.2-mile southeast of the project site at the entrance to the Truckee Donner Senior Apartments, north of Estates Drive. Other nearby transit stops include the TLR and the Highway 267 AM/PM route stop located approximately 0.5-mile southwest of the project site at the intersection of Brockway Road and Palisades Drive.

Truckee Dial-A-Ride also operates within the Town as a curb-to-curb demand response service to persons with disabilities with ADA certification and the general public. Truckee Dial-A-Ride service is provided between 6:30 AM and 6:30 PM daily.[26] The Town is currently operating a microtransit service that provides door to door service free of charge

[26] Tahoe Truckee Transit. *Truckee TART Dial-A-Ride.* Available at: https://tahoetruckeetransit.com/truckee-tart-dar/. Accessed September 2024.

between 6:30 AM and 10:00 PM during the fall and spring, and between 6:30 AM and 12:00 AM during the summer and winter.[27]

As such, adequate transit facilities would be available to serve the future employees and visitors of the proposed project. Thus, the proposed project would not conflict with a program, plan, ordinance, or policy addressing transit service and the proposed project is not anticipated to result in new significant impacts or substantially more severe significant impacts related to transit facilities than what were previously analyzed in the 2040 GPU EIR.

Conclusion

Based on the above, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. As such, the project is not anticipated to result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b. Section 15064.3 of the CEQA Guidelines provides specific considerations for evaluating a project's transportation impacts. Pursuant to Section 15064.3, analysis of VMT attributable to a project is the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Truckee adopted VMT thresholds of significance on April 19, 2022, pursuant to CEQA Guidelines 15064.7(b). Truckee's thresholds of significance are based upon OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which includes screening thresholds to identify when a lead agency may screen out VMT impacts.[28] Consistent with OPR Guidance, projects that meet certain screening thresholds based on their location and project type may be presumed to result in a less-than-significant transportation impact.

According to the 2040 GPU EIR, over the planning horizon, vehicle trips and overall VMT would increase as a result of the Town service population (residents, employees, and visitors) increase. However, because of the nature of buildout of the GPU which concentrates the proposed land use changes within approximately three percent of the Town's total land area and focuses on infill development, VMT per service population is estimated to be reduced by approximately 10 percent.

Additionally, the GPU includes policies that would expand transit, bicycle, pedestrian, and complete street networks, and implement transportation demand management strategies. For example, several policies promote trails and bikeways that could reduce automobile use, including Policies M-2.1, M-2.2, M-2.3. and M-4.1. In addition, through implementation of Action M-2.I, the Town would identify and implement new pedestrian and bicycle facilities beyond the existing facilities identified in the Trails and Bikeways Master Plan and Downtown Streetscape Plan. The GPU also includes policies intended to improve the functionality of existing services, such as first-last mile solutions that

[27] Tahoe Donner. *TART MIcrotransit and Tahoe Donner.* Available at: https://www.tahoedonner.com/tart-microtransit-and-tahoe-donner/. Accessed September 2024.

[28] Governor's Office of Planning and Research. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.

connect passengers between transportation modes (Policy M-3.4) and collaborating with regional partners to expand the provision of inter-regional transit services (Policy M-3.11). The Town would also work with local and regional organizations and agencies to continue existing transit operations and implement expanded transit services within and to the Town (Action M-3.H).

The aforementioned GPU policies would provide additional VMT reduction benefits not captured in the VMT modeling. However, the 2040 GPU EIR concluded that the effectiveness of the proposed VMT reducing polices and actions contained within the GPU are not known and subsequent vehicle trip reduction effects cannot be guaranteed. Therefore, due to uncertainties regarding the ability for the aforementioned policies and actions to quantifiably reduce VMT impacts, the 2040 GPU EIR concluded that the impact to VMT would be significant and unavoidable.

Truckee's VMT Thresholds of Significance identify different project types that are assumed to cause a less-than-significant transportation impact and for which a detailed VMT study is not necessary. The Town recommends that any local-serving, non-residential development that is less than 15,000 sf of floor area and is located within the screening area identified in Figure B, "Non-Residential CEQA VMT Exemption Zone," of the Town of Truckee VMT Thresholds of Significance, should be presumed to have a less-than-significant impact, and would not require preparation of a detail VMT analysis.[29] However, the recommendation does not apply to a regional-serving retail use or event venue project where more than 20 percent of customers are expected to come from outside the eastern Nevada County/eastern Placer County/eastern Sierra County region (excluding pass-by trips), or an office use (or other major employment generator) where more than 20 percent of employees are expected to live outside this region.

The proposed project would meet the Town's VMT screening because the proposed museum building is under the 15,000-sf floor area limit, is within the non-residential exemption zone, and is anticipated to be local-serving. The local-serving conclusion is based on the fact that due to the small scale of the museum building, families visiting the museum would most likely be local. Patrons are unlikely to drive to Truckee from outside the area for the sole purpose of visiting the museum. Furthermore, the existing KidZone Museum operates within the Town and any vehicle trips associated with the existing facility would be redistributed to the proposed museum building. Therefore, the proposed project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).

Based on the above information, the project is not anticipated to result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

c,d. According to the 2040 GPU EIR, through implementation of the goals, policies, and actions of the GPU, existing conflicts between motor vehicles and non-motorized travelers would be reduced over time. According to the 2040 GPU EIR, the GPU includes policies that are intended to result in a reduction in potential conflicts between road use types. Implementation of GPU Policies M-2.3, M-2.5, M-2.6, and M-2.8 are intended to create a safe, comprehensive, and integrated system of trails, sidewalks, and bikeways. In

[29] Town of Truckee. *Town of Truckee California Environmental Quality Act VMT Thresholds of Significance.* April 19, 2022.

addition, GPU Policy M-2.7 would enforce existing pedestrian and bicycle access standards for all new development and require developers to finance and install pedestrian walkways and multi-use trails in new development, as appropriate and necessary to address circulation needs. Through implementation of such policies, existing conflicts between motor vehicles and non-motorized travelers would be reduced over time.

Additionally, as discussed in the 2040 GPU EIR, the GPU includes circulation improvements and policies that would enhance emergency access throughout Truckee. For example, GPU Policy M-4.11 encourages roadway connectivity, prohibits new gated roadways, and encourages the elimination of existing gated roadways, which would also enhance emergency access. Additionally, implementation of GPU Policies M-2.8 and M-4.12 would expand separate Class 1 paved non-auto facilities and would have a beneficial impact to emergency access by providing an alternative route for emergency response vehicles if public roadways are blocked.

Furthermore, all future development and associated emergency access under the GPU would be subject to review by the Town of Truckee and responsible emergency service agencies; thus, ensuring all future projects would be designed to meet all Town of Truckee emergency access, design, and safety standards. Therefore, the 2040 GPU EIR concluded that buildout of the GPU would not result in inadequate emergency access or substantially increase transportation-related hazards, and a less-than-significant impact would occur.

The proposed project does not include changes to existing roadways or the introduction of an incompatible use or any design features that would be considered hazardous. Primary vehicle access to the project site would be provided by a new 24-foot-wide driveway, which would allow vehicles to both enter and exit the project site from River View Drive. The new driveway would connect to the museum's new main entry plaza and the new surface parking lot located east of the proposed museum building. The proposed project would also include a gated emergency vehicle access road south of the museum building. The gate would allow emergency vehicles to travel from the parking lot to the western façade of the museum building.

Construction traffic associated with the proposed project would include heavy-duty vehicles associated with transport of construction material, as well as daily construction employee trips to and from the site that would share the area roadways with normal vehicle traffic, creating potential conflicts with other roadway users. However, due to the scale of the proposed project and associated improvements, construction traffic is not anticipated to severely affect traffic flows in the project area.

Based on the above information, the project is not anticipated to result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

XVIII. TRIBAL CULTURAL RESOURCES.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	No	No	No
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No	No	No

Discussion

a,b. As discussed in Section V, Cultural Resources, of this Modified Initial Study, all areas within the Town are considered sensitive regarding the presence of cultural resources and areas in adjoining or outlying subdivisions are considered moderately to highly likely to contain cultural resources.

In compliance with AB 52, the town of Truckee sent notification letters to the United Auburn Indian Community (UAIC), Washoe Tribe of Nevada and California, and the T'si Akim Maidu as part of the 2040 GPU EIR. As part of the tribal consultation conducted for the 2040 GPU EIR, the UAIC consulted with the Town and performed a records search for the identification of tribal cultural resources for the 2040 GPU buildout area.[30] The records search included a review of pertinent literature and historic maps, and a records search using UAIC's Tribal Historic Information System, which is comprised of UAIC's areas of oral history, ethnology history, and places of cultural and religious significance, including UAIC's Sacred Lands that are submitted to the NAHC. While the Town's consultation with UAIC during the preparation of the 2040 GPU EIR did not result in the identification of specific tribal cultural resources, the GPU buildout area is known to be important to both the UAIC and the Washoe Tribe of Nevada and California and specific tribal cultural resources as defined under PRC Section 5024.1(c) could be identified during analysis of subsequent development projects with the Town, including the proposed project.[31]

California law recognizes the need to protect tribal cultural resources from inadvertent destruction and the procedures for the treatment of tribal cultural resources are contained in PRC Section 21080.3.2 and Section 21084.3 (a). Nevertheless, the Town determined that avoidance of tribal cultural resources may not be possible in all cases and the possibility remains that excavation activities related to buildout of the GPU might not be

[30] Town of Truckee. *Draft Environmental Impact Report for the Town of Truckee 2040 General Plan Update and Downtown Truckee Plan Project*. [pg. 4.18-5]. August 2022.

[31] *Ibid* [pg. 4.18-7].

able to avoid impacting significant tribal cultural resources. Because California Native American Tribes consider any disturbance of a tribal cultural resource to be a substantial adverse change, the 2040 GPU EIR determined that development of the GPU would result in a significant and unavoidable impact related to tribal cultural resources.

The 2040 GPU EIR identifies measures consistent with State law, such as State Health and Safety Code requirements set forth in Section 7050.5 and PRC Section 21084.3(b), in the event that human remains are discovered during ground-disturbing activities. The GPU also includes policies which would reduce impacts to tribal cultural resources. For example, GPU Policy CC-4.1 requires assessment of discretionary development sites where ground disturbance would occur. Where there is evidence of tribal cultural resources or there is determined to be a high likelihood for the occurrence of such sites, GPU Policy CC-4.1 indicates that the Town will require monitoring by a qualified professional. As related to tribal cultural resources, a "qualified professional" consists of the geographically and culturally affiliated tribe. In addition, GPU Policy CC-4.8 encourages the preservation, protection, and mitigation for impacts to tribal cultural sites under AB 52.

The Final Cultural Resources Study prepared for the proposed project determined that the project would not potentially cause a physical change that would affect unique ethnic (including Native American) cultural values or restrict historic or pre-historic religious or sacred uses. Furthermore, as discussed in Section V, Cultural Resources, of this Modified Initial Study, the proposed project would be required to comply with Section 18.30.040 of the Town of Truckee Development Code, which provides procedures and standards for the treatment of archaeological resources and human remains.

Based on the above information, because the project would comply with the requirements of Section 18.30.040 of the Town of Truckee Development Code, the project is not anticipated to result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

XIX. UTILITIES AND SERVICE SYSTEMS. *Would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No	No	No
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	No	No	No
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No	No	No
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	No	No	No
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No	No	No

Discussion

a-c. According to the 2040 GPU EIR, new or expanded facilities would be consistent with the typical construction effects of development associated with the GPU and would be subject to GPU policies and actions intended to protect the environment. As such, buildout of the GPU would result in less-than-significant impacts related to the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities.

Brief discussions of the water, wastewater, stormwater drainage, electrical, natural gas, and telecommunications facilities that would serve the proposed project are included below.

Water

The proposed project would include installation of six-inch domestic water lines within the eastern portion of the site and along the northern site boundary. The new water lines would connect to the existing eight-inch water lines located east of River View Drive. The proposed project would also include the installation of two fire hydrants located south of the main entry plaza. In addition, fire service water lines would be installed throughout the project site and would connect to the new on-site fire hydrants, as well as a fire department connection assembly consisting of an outlet and pipe in the northwest corner of the site, and a backflow preventor in the southeast corner of the site. Accordingly, the proposed project would not require major relocation or expansion of any water supply infrastructure.

As previously mentioned under Section X, Hydrology and Water Quality, of this Modified Initial Study, water for the project site would be supplied by the TDPUD. According to the District's 2020 UWMP, the anticipated maximum demand at buildout of the service area

is approximately 4,344 mgy.[32] With a total water supply of at least 22,000 mgy, water supply greatly exceeds the anticipated demand at buildout of the TDPUD service area.[33] The water demand projections presented in the 2020 UWMP are based on continued operation of all existing developments as well as buildout of all vacant parcels.

The 2040 GPU EIR concluded that projected development under the GPU would result in an increase in water demand. However, as noted in the 2040 GPU EIR, the UWMP demonstrates ample supply during normal, dry, and multiple dry years; includes identification of infrastructure upgrades; and would continue to be updated every five years to address realized growth and demand. Overall, the development pattern encouraged by the GPU would preserve and enhance the Truckee River corridor and Donner Lake, while promoting improved watershed health and yield through regulated development and land uses. In addition, GPU Policies LU-5.1 and LU-5.2 would require the Town to work with all special districts, including TDPUD, to ensure coordination of development and provision of services within the Town. Furthermore, GPU Policies COS-7.7 and COS-7.8 encourage water purveyors to plan for long-term needs and support the efforts of local water agencies to identify, procure, and plan for long-term projected future water demand. Thus, the 2040 GPU EIR determined that implementation of the GPU is not anticipated to result in insufficient water supply or environmental effects due to the construction of new or expanded water infrastructure, and impacts would be less than significant.

Considering that the UWMP anticipated buildout of all existing development and currently undeveloped parcels within the Town, and that the available water supply far exceeds anticipated demand, adequate water supply exists to serve the project without resulting in a significant decrease in the available water supplies such that the project may interfere with management of the MVGB. Given that the groundwater basin has adequate capacity to provide for over 36 years of water demand,[34] the proposed project would not significantly impact the TDPUD's water supply. As such, the TDPUD would have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

Sewer Service

The proposed project would include installation of new six-inch sanitary sewer lines within the eastern portion of the site, which would connect to the existing sanitary sewer lines and sewer manhole located along the eastern site boundary. Therefore, the proposed project would not require major relocation or expansion of any sewer service infrastructure.

Sewer service would be provided to the site by the TSD. TSD services an area of approximately 38-square miles through the operation and maintenance of a wastewater collection system that includes over 300 miles of sewer pipelines. Collected sewage is conveyed to the Tahoe Truckee Sanitation Agency (TTSA) Water Reclamation Plant (WRP), located adjacent to the Truckee River and Tahoe Truckee Airport. According to the 2040 GPU EIR, the TTSA previously upgraded and expanded wastewater facilities to

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32 Truckee Donner Public Utilities District. *Truckee Water System 2020 Urban Water Management Plan* [pg. 6-8]. June 2021.

33 *Ibid.*

34 Truckee Donner Public Utilities District. *Truckee Water System 2020 Urban Water Management Plan* [pg.6-8]. June 2021.

increase handling capacity to 9.6 million gallons per day (MGD) and meet the projected demands up to the year 2025 from buildout of the GPU.

The 2040 GPU EIR determined that projected development under the GPU would result in an overall increase in the amount of wastewater generated in Truckee. However, while the population growth could result in greater wastewater generation, the TTSA WRP has available capacity to serve projected buildout demands. The existing wastewater treatment plant would adequately serve development throughout the planning horizon of the GPU, while supplemental policies would further reduce wastewater generation. Therefore, the 2040 GPU EIR concluded that impacts would be less than significant.

Given that the proposed project is consistent with the GPU land use designation for the site, the overall increase in wastewater generation would be generally consistent with what was planned for the project site in the GPU. Consequently, adequate sewer service capacity exists to serve the project.

Stormwater Systems

Issues related to stormwater infrastructure are discussed in Section X, Hydrology and Water Quality, of this Modified Initial Study. As noted therein, the proposed project would not significantly increase stormwater flows into the Town's existing system. Therefore, the proposed project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Other Utilities

Electric, natural gas, and telecommunications utilities would be provided by way of connections to existing infrastructure located within the immediate project vicinity. The proposed project would include the installation of new gas service lines in the eastern portion of the site which would connect to the existing gas lines within River View Drive. The overhead utility lines and power poles located within the eastern portion of the site would remain. The proposed project would not require major upgrades to, or extension of, existing infrastructure. Thus, impacts to electricity, natural gas, and telecommunications infrastructure would be less than significant.

Conclusion

Based on the above, the project is not anticipated to result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR related to the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects, as well as impacts related to sufficient water supplies being available to serve the project and reasonably foreseeable future development, and the availability of adequate capacity to serve the wastewater demand projected for the proposed project in addition to the Town's existing commitments. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

d,e. According to the 2040 GPU EIR, projected development under the GPU would result in an overall increase in the amount of solid waste generated in the Town. However, existing landfills would adequately serve development throughout the planning horizon of the GPU,

while supplemental policies would further reduce solid waste. Therefore, impacts associated with development of the GPU were determined to be less than significant.

Solid waste, recyclable materials, and compostable material collection within the Town is operated by the Tahoe Truckee Sierra Disposal. All solid waste is disposed and/or processed at the waste facility at the Eastern Regional Landfill Material Recovery Facility. The Eastern Regional Landfill Material Recovery Facility covers seven acres of land and currently handles 445 tons of waste per day, although the permit for the site allows up to 600 tons of waste per day to be managed at the facility. After the solid waste has been sorted, materials that cannot be recycled would be taken to Lockwood Regional Landfill, which is a municipal solid waste facility located in Storey County, Nevada. The capacity of the Landfill is 302.5 million cubic yards (CY) with a disposal area of 856.5 acres. The Lockwood Regional Landfill has a waste volume of approximately 32.8 million CY.[35] Thus, the Lockwood Regional Landfill has sufficient capacity to accommodate the project's construction and operational solid waste.

Pursuant to the CALGreen Code, at least 65 percent diversion of construction waste is required for projects permitted after January 1, 2017. Thus, the proposed project would be subject to the requirements of the CALGreen Code and 65 percent of the waste associated with the construction of the proposed project would be diverted.

With respect to operational solid waste generation, the proposed project would not be expected to generate substantial amounts of solid waste due to the relatively small scale of the project. In addition, the proposed project would be required to comply with all applicable provisions of Section 18.30.150, Solid Waste/Recyclable Materials Storage, of the Town of Truckee Development Code. Therefore, the proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals and would comply with federal, State, and local management and reduction statutes and regulations related to solid waste.

Based on the above information, the project is not anticipated to result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

[35] Nevada Division of Environmental Protection. *Lockwood Fact Sheet.* Available at: https://ndep.nv.gov/uploads/land-waste-solid-fac-docs/lockwood-fact-sheet.pdf. Accessed September 2024.

XX. WILDFIRE. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	No	No	No
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	No	No	No
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	No	No	No
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	No	No	No

Discussion

a. As discussed in Section IX, Hazards and Hazardous Materials, of this Modified Initial Study, the Town of Truckee Emergency Operations Plan addresses the Town's responsibilities in emergencies associated with natural disaster, human-caused emergencies and technological incidents. The Emergency Operations Plan provides a framework for coordination of response and recovery efforts within the Town in coordination with local, State, and federal agencies. According to the 2040 GPU EIR, development of the GPU would increase the intensity of development in some areas of the Town and accommodate more growth. Such growth could generate conflicts with existing adopted emergency response and evacuation plans by increasing traffic volume and decreasing the ratio of emergency response resources to residents. However, the GPU contains specific goals and policies related to emergency response and evacuation planning to minimize any conflict with such existing plans, and expressly calls for updating the plans to be compatible with growth. For example, GPU Goal SN-6, Emergency Response and Disaster Recovery would expand community preparedness and resilience to support effective response to emergencies. In addition, specific policies and actions that would be implemented under the GPU to achieve goal SN-6 include GPU Policies SN 6.1 through SN-6.9 and Actions SN-6.A through SN-6.H.

As discussed in the 2040 GPU EIR, construction associated with implementation of the GPU would not likely hinder emergency response activities or physically interfere with established evacuation routes. Although construction activities associated with development of the GPU could temporarily impair roadways used for emergency response and evacuation, standard construction procedures for development of a construction management plan would address these conditions and would develop alternative routes. As such, the 2040 GPU EIR concluded that buildout of the GPU would not substantially impair an adopted emergency response plan or emergency evacuation plan in or near State Responsibility Areas or lands classified as VHFHSZ, and impacts would be less than significant.

During construction of the proposed project, all construction equipment would be staged on-site so as to prevent obstruction of local and regional travel routes in the Town that could be used as evacuation routes during emergency events. With respect to project operations, the proposed project would not alter the existing circulation system in the surrounding area. In addition, the proposed project would generate relatively few vehicle trips; therefore, the potential for the proposed project to impede surrounding residents from evacuating in the event of a wildfire is limited. For example, residents of the Truckee Donner Senior Apartments, located east of the project site, could use more than one road to exit the area in the event of a wildfire. As a result, the project would not have a significant impact with respect to impairing an adopted emergency response plan or emergency evacuation plan.

Based on the above information, the proposed project would not result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project would remain consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

b-d. As discussed in the 2040 GPU EIR, implementation of the GPU would allow for growth within an area at risk for wildfires and existing steep slopes and prevailing winds, increasing the risk of exposing project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire. While implementation of existing federal, State and local regulations, as well as GPU policies and actions would reduce impacts associated with exacerbated wildfire risks, thus, the 2040 GPU EIR concluded that impacts would remain significant and unavoidable.

According to the CAL FIRE Map of Fire Hazard Severity Zones in Local Responsibility Areas, the project site is not located within a VHFHSZ.[36] The proposed project would be required to comply with all applicable requirements of the California Fire Code through the installation of automatic fire alarm systems, fire hydrants, and other applicable requirements. The proposed project would also be situated near existing roads and other utilities, that would help reduce risks related to wildfire. In addition, the project site is surrounded by existing development to the east, which would further reduce risks related to wildfire, due to the existing development generally acting as a fuel break because of a lack of natural debris such as brush and green waste within developed sites.

Based on the above information, the project is not anticipated to result in new significant impacts or substantially more severe significant impacts than what were previously analyzed in the 2040 GPU EIR. As a result, the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

[36] California Department of Forestry and Fire Protection. *Very High Fire Hazard Severity Zones in LRA as Recommended by CAL FIRE – Truckee*. Available at: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps/. Accessed September 2024.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE.	Do Proposed Changes Involve New or More Severe Impacts?	Any New Circumstances Involving New or More Severe Impacts?	Any New Information Requiring New Analysis or Verification?
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	No	No	No
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	No	No	No
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No	No	No

Discussion

a. As discussed in Section IV, Biological Resources, of this Modified Initial Study, with implementation of GPU polices and the recommended pre-construction surveys included as part of the Biological Resources Technical Report, the proposed project would not adversely impact special-status plant or wildlife species. In addition, because the project site does not contain any known historic or prehistoric resources, implementation of the proposed project is not anticipated to have the potential to result in impacts related to historic or prehistoric resources. As conditions of approval, the proposed project would be required to comply with applicable GPU policies, as well as all applicable State regulations, related to preservation of archaeological resources and human remains if such resources are discovered within the project site during construction activities, consistent with the requirements of CEQA.

Considering the above, the proposed project would not: 1) degrade the quality of the environment; 2) substantially reduce or impact the habitat of fish or wildlife species; 3) cause fish or wildlife populations to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history or prehistory. Impacts associated with such resources have been adequately addressed and would not change from what was identified in the 2040 GPU EIR, and the criteria for requiring further CEQA review are not met.

b. The proposed project, in conjunction with other development within the town of Truckee, could incrementally contribute to cumulative impacts in the area. However, the proposed project was included in the future development assumptions evaluated in the 2040 GPU EIR. The 2040 GPU EIR concluded that all cumulative impacts related to air quality, biological resources, cultural resources, GHG emissions, noise, transportation, tribal cultural resources, and wildfire would be significant and unavoidable. All other cumulative impacts were determined to be less-than-significant or less-than-significant with

implementation of mitigation measures. Given that the proposed project is consistent with the Town's 2040 GPU land use designation for the project site, cumulative impacts associated with buildout of the site have been anticipated by the Town and were analyzed in the 2040 GPU EIR.

Additionally, the proposed project does not include cumulative impacts that were not analyzed or discussed in the previous EIR. As such, this Modified Initial Study does not include any substantial new information that shows impacts are more severe than previously discussed, and further analysis is not required. Therefore, the proposed project would be consistent with the conclusions of the 2040 GPU EIR, and is within the scope of activities evaluated in the 2040 GPU EIR.

c. As described in this Modified Initial Study, the proposed project would comply with all applicable GPU policies, Municipal and Development Code standards, and other applicable local, County, and State regulations. In addition, as discussed in the Air Quality, Geology and Soils, Hazards and Hazardous Materials, and Noise sections of this Modified Initial Study, the proposed project would not cause substantial effects to human beings, including effects related to exposure to air pollutants, geologic hazards, hazardous materials, and excessive noise, beyond the effects previously analyzed as part of the 2040 GPU EIR. Therefore, further CEQA review is not required and the proposed project is within the scope of activities evaluated in the 2040 GPU EIR.

APPENDIX A

AIR QUALITY AND GREENHOUSE GAS EMISSIONS – CALEEMOD RESULTS

APPENDIX A

AIR QUALITY AND GREENHOUSE GAS EMISSIONS – CALEEMOD RESULTS

KidZone Museum Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	KidZone Museum
Construction Start Date	5/1/2025
Operational Year	2026
Lead Agency	Town of Truckee
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.00
Precipitation (days)	55.0
Location	39.3281778423858, -120.17059556487496
County	Nevada
City	Truckee
Air District	Northern Sierra AQMD
Air Basin	Mountain Counties
TAZ	262
EDFZ	0-H
Electric Utility	Truckee Donner Public Utilities District
Gas Utility	Southwest Gas Corp.
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Office Building	10.5	1000sqft	0.91	10,500	27,800	—	—	Children's museum

Parking Lot	30.0	Space	0.40	0.00	0.00	—	—	—
City Park	0.40	Acre	0.40	0.00	17,245	17,245	—	Open space and activity area

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.31	2.07	16.2	15.9	0.03	0.67	7.61	8.28	0.62	3.56	4.19	—	4,178	4,178	0.14	0.28	3.83	4,269
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.31	2.07	9.91	11.4	0.02	0.36	0.04	0.40	0.33	0.01	0.34	—	2,003	2,003	0.08	0.02	0.01	2,012
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.01	0.90	4.85	5.50	0.01	0.18	0.32	0.51	0.17	0.15	0.31	—	1,008	1,008	0.04	0.02	0.10	1,015
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.18	0.16	0.89	1.00	< 0.005	0.03	0.06	0.09	0.03	0.03	0.06	—	167	167	0.01	< 0.005	0.02	168

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.31	2.07	16.2	15.9	0.03	0.67	7.61	8.28	0.62	3.56	4.19	—	4,178	4,178	0.14	0.28	3.83	4,269
2026	2.24	2.01	9.49	11.3	0.02	0.32	0.04	0.36	0.29	0.01	0.30	—	2,004	2,004	0.08	0.02	0.23	2,013
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.31	2.07	9.91	11.4	0.02	0.36	0.04	0.40	0.33	0.01	0.34	—	2,003	2,003	0.08	0.02	0.01	2,012
2026	2.24	2.01	9.50	11.3	0.02	0.32	0.04	0.36	0.29	0.01	0.30	—	2,002	2,002	0.08	0.02	0.01	2,011
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.01	0.90	4.85	5.50	0.01	0.18	0.32	0.51	0.17	0.15	0.31	—	1,008	1,008	0.04	0.02	0.10	1,015
2026	0.98	0.88	4.06	4.82	0.01	0.13	0.02	0.15	0.12	< 0.005	0.13	—	854	854	0.03	0.01	0.04	858
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.18	0.16	0.89	1.00	< 0.005	0.03	0.06	0.09	0.03	0.03	0.06	—	167	167	0.01	< 0.005	0.02	168
2026	0.18	0.16	0.74	0.88	< 0.005	0.02	< 0.005	0.03	0.02	< 0.005	0.02	—	141	141	0.01	< 0.005	0.01	142

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.00	0.97	0.43	2.93	< 0.005	0.01	0.30	0.31	0.01	0.08	0.09	8.86	787	795	0.95	0.04	1.49	831
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.89	0.85	0.48	2.76	< 0.005	0.01	0.30	0.31	0.01	0.08	0.09	8.86	767	776	0.96	0.04	0.06	811
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.78	0.75	0.37	2.21	< 0.005	0.01	0.22	0.23	0.01	0.06	0.06	8.86	680	688	0.95	0.03	0.50	722
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.14	0.07	0.40	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.47	113	114	0.16	0.01	0.08	120

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.61	0.58	0.34	2.40	< 0.005	< 0.005	0.30	0.30	< 0.005	0.08	0.08	—	387	387	0.03	0.02	1.47	397
Area	0.39	0.38	< 0.005	0.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.88	1.88	< 0.005	< 0.005	—	1.88
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	389	389	0.03	< 0.005	—	390
Water	—	—	—	—	—	—	—	—	—	—	—	3.58	8.56	12.1	0.37	0.01	—	23.9
Waste	—	—	—	—	—	—	—	—	—	—	—	5.28	0.00	5.28	0.53	0.00	—	18.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	1.00	0.97	0.43	2.93	< 0.005	0.01	0.30	0.31	0.01	0.08	0.09	8.86	787	795	0.95	0.04	1.49	831
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.57	0.54	0.40	2.70	< 0.005	< 0.005	0.30	0.30	< 0.005	0.08	0.08	—	369	369	0.04	0.03	0.04	378
Area	0.31	0.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	389	389	0.03	< 0.005	—	390
Water	—	—	—	—	—	—	—	—	—	—	—	3.58	8.56	12.1	0.37	0.01	—	23.9
Waste	—	—	—	—	—	—	—	—	—	—	—	5.28	0.00	5.28	0.53	0.00	—	18.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.89	0.85	0.48	2.76	< 0.005	0.01	0.30	0.31	0.01	0.08	0.09	8.86	767	776	0.96	0.04	0.06	811
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.43	0.41	0.29	1.91	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	—	281	281	0.03	0.02	0.48	288
Area	0.35	0.34	< 0.005	0.23	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.93	0.93	< 0.005	< 0.005	—	0.93
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	389	389	0.03	< 0.005	—	390
Water	—	—	—	—	—	—	—	—	—	—	—	3.58	8.56	12.1	0.37	0.01	—	23.9
Waste	—	—	—	—	—	—	—	—	—	—	—	5.28	0.00	5.28	0.53	0.00	—	18.5
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Total	0.78	0.75	0.37	2.21	< 0.005	0.01	0.22	0.23	0.01	0.06	0.06	8.86	680	688	0.95	0.03	0.50	722
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.08	0.07	0.05	0.35	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	46.5	46.5	< 0.005	< 0.005	0.08	47.7
Area	0.06	0.06	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.15	0.15	< 0.005	< 0.005	—	0.15
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	64.4	64.4	< 0.005	< 0.005	—	64.6
Water	—	—	—	—	—	—	—	—	—	—	—	0.59	1.42	2.01	0.06	< 0.005	—	3.96
Waste	—	—	—	—	—	—	—	—	—	—	—	0.87	0.00	0.87	0.09	0.00	—	3.06
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	0.14	0.14	0.07	0.40	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	1.47	113	114	0.16	0.01	0.08	120

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.75	1.47	13.9	15.1	0.02	0.57	—	0.57	0.52	—	0.52	—	2,494	2,494	0.10	0.02	—	2,502

Demolition	—	—	—	—	—	—	0.68	0.68	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.2	34.2	< 0.005	< 0.005	—	34.3
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.66	5.66	< 0.005	< 0.005	—	5.67
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.65	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	101	101	0.01	< 0.005	0.44	103
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	0.01	0.69	0.17	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	—	552	552	0.01	0.09	1.17	579

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.31	1.31	< 0.005	< 0.005	< 0.005	1.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.56	7.56	< 0.005	< 0.005	0.01	7.93
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.31

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.1	12.1	0.02	0.56	—	0.56	0.52	—	0.52	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	6.26	6.26	—	3.00	3.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	28.3	28.3	< 0.005	< 0.005	—	28.4
Dust From Material Movement	—	—	—	—	—	—	0.09	0.09	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.68	4.68	< 0.005	< 0.005	—	4.70
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.39	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	60.8	60.8	< 0.005	< 0.005	0.26	61.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.80

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.80	1.51	14.1	14.5	0.02	0.64	—	0.64	0.59	—	0.59	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	7.09	7.09	—	3.43	3.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.39	0.40	< 0.005	0.02	—	0.02	0.02	—	0.02	—	67.3	67.3	< 0.005	< 0.005	—	67.5

Dust From Material Movement	—	—	—	—	—	—	0.19	0.19	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.1	11.1	< 0.005	< 0.005	—	11.2
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.03	0.52	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	81.1	81.1	< 0.005	< 0.005	0.35	82.5
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.07	0.04	2.07	0.50	0.01	0.03	0.44	0.47	0.03	0.12	0.15	—	1,642	1,642	0.04	0.26	3.48	1,724
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.09	2.09	< 0.005	< 0.005	< 0.005	2.12
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.06	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	45.0	45.0	< 0.005	0.01	0.04	47.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.35

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.45	7.45	< 0.005	< 0.005	0.01	7.81

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	8.95	10.0	0.02	0.33	—	0.33	0.30	—	0.30	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.42	3.55	3.99	0.01	0.13	—	0.13	0.12	—	0.12	—	716	716	0.03	0.01	—	718
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.09	0.08	0.65	0.73	< 0.005	0.02	—	0.02	0.02	—	0.02	—	118	118	< 0.005	< 0.005	—	119
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.17	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	27.3	27.3	< 0.005	< 0.005	0.12	27.7
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	38.2	38.2	< 0.005	0.01	0.10	40.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.16	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	25.3	25.3	< 0.005	< 0.005	< 0.005	25.6
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	38.3	38.3	< 0.005	0.01	< 0.005	40.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.02	10.3
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.2	15.2	< 0.005	< 0.005	0.02	15.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.68	1.68	< 0.005	< 0.005	< 0.005	1.71
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.52	2.52	< 0.005	< 0.005	< 0.005	2.63
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.22	1.01	8.57	9.96	0.02	0.29	—	0.29	0.27	—	0.27	—	1,801	1,801	0.07	0.01	—	1,807
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.43	3.64	4.23	0.01	0.12	—	0.12	0.11	—	0.11	—	765	765	0.03	0.01	—	767
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.66	0.77	< 0.005	0.02	—	0.02	0.02	—	0.02	—	127	127	0.01	< 0.005	—	127
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.02	0.01	0.16	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	26.8	26.8	< 0.005	< 0.005	0.11	27.3
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.5	37.5	< 0.005	0.01	0.10	39.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.01	0.15	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.8	24.8	< 0.005	< 0.005	< 0.005	25.2
Vendor	< 0.005	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	37.5	37.5	< 0.005	0.01	< 0.005	39.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.9	15.9	< 0.005	< 0.005	0.02	16.7
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.77	1.77	< 0.005	< 0.005	< 0.005	1.80
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.64	2.64	< 0.005	< 0.005	< 0.005	2.76
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.49	4.63	6.50	0.01	0.20	—	0.20	0.19	—	0.19	—	992	992	0.04	0.01	—	995
Paving	0.10	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.50	4.50	< 0.005	< 0.005	—	4.51
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.04	0.65	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	101	101	0.01	< 0.005	0.44	103
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.61	2.61	< 0.005	< 0.005	0.01	2.65

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.43	0.43	< 0.005	< 0.005	< 0.005	0.44
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.85	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134

Architectural Coatings	0.85	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.33	0.42	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.4	49.4	< 0.005	< 0.005	—	49.6
Architectural Coatings	0.31	0.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.18	8.18	< 0.005	< 0.005	—	8.20
Architectural Coatings	0.06	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.45	5.45	< 0.005	< 0.005	0.02	5.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.05	5.05	< 0.005	< 0.005	< 0.005	5.13
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.89	1.89	< 0.005	< 0.005	< 0.005	1.92
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.85	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	0.85	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.05	0.39	0.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	60.4	60.4	< 0.005	< 0.005	—	60.6
Architectural Coatings	0.38	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.07	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.99	9.99	< 0.005	< 0.005	—	10.0
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	5.36	5.36	< 0.005	< 0.005	0.02	5.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.97	4.97	< 0.005	< 0.005	< 0.005	5.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.28	2.28	< 0.005	< 0.005	< 0.005	2.31
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.38
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.60	0.58	0.34	2.38	< 0.005	< 0.005	0.29	0.30	< 0.005	0.07	0.08	—	384	384	0.03	0.02	1.45	393
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.01	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.25	3.25	< 0.005	< 0.005	0.01	3.33
Total	0.61	0.58	0.34	2.40	< 0.005	< 0.005	0.30	0.30	< 0.005	0.08	0.08	—	387	387	0.03	0.02	1.47	397
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.57	0.54	0.40	2.67	< 0.005	< 0.005	0.29	0.30	< 0.005	0.07	0.08	—	366	366	0.04	0.03	0.04	375
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	< 0.005	< 0.005	< 0.005	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.10	3.10	< 0.005	< 0.005	< 0.005	3.17
Total	0.57	0.54	0.40	2.70	< 0.005	< 0.005	0.30	0.30	< 0.005	0.08	0.08	—	369	369	0.04	0.03	0.04	378
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.08	0.07	0.05	0.35	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	46.3	46.3	< 0.005	< 0.005	0.08	47.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
City Park	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.28
Total	0.08	0.07	0.05	0.35	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	46.5	46.5	< 0.005	< 0.005	0.08	47.7

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	273	273	0.02	< 0.005	—	274
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	18.9	18.9	< 0.005	< 0.005	—	19.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	292	292	0.02	< 0.005	—	293
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	273	273	0.02	< 0.005	—	274
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	18.9	18.9	< 0.005	< 0.005	—	19.0
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	292	292	0.02	< 0.005	—	293
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	45.2	45.2	< 0.005	< 0.005	—	45.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	3.13	3.13	< 0.005	< 0.005	—	3.14
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	—	48.3	48.3	< 0.005	< 0.005	—	48.5

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	97.1	97.1	0.01	< 0.005	—	97.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	97.1	97.1	0.01	< 0.005	—	97.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	97.1	97.1	0.01	< 0.005	—	97.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	97.1	97.1	0.01	< 0.005	—	97.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.1	16.1	< 0.005	< 0.005	—	16.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.1	16.1	< 0.005	< 0.005	—	16.1

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.24	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.08	0.07	< 0.005	0.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.88	1.88	< 0.005	< 0.005	—	1.88
Total	0.39	0.38	< 0.005	0.46	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.88	1.88	< 0.005	< 0.005	—	1.88
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.24	0.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	0.31	0.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.15	0.15	< 0.005	< 0.005	—	0.15
Total	0.06	0.06	< 0.005	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.15	0.15	< 0.005	< 0.005	—	0.15

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	3.58	7.80	11.4	0.37	0.01	—	23.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.75	0.75	< 0.005	< 0.005	—	0.76
Total	—	—	—	—	—	—	—	—	—	—	—	3.58	8.56	12.1	0.37	0.01	—	23.9

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	3.58	7.80	11.4	0.37	0.01	—	23.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.75	0.75	< 0.005	< 0.005	—	0.76
Total	—	—	—	—	—	—	—	—	—	—	—	3.58	8.56	12.1	0.37	0.01	—	23.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.59	1.29	1.88	0.06	< 0.005	—	3.84
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	0.12	0.12	< 0.005	< 0.005	—	0.13
Total	—	—	—	—	—	—	—	—	—	—	—	0.59	1.42	2.01	0.06	< 0.005	—	3.96

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.26	0.00	5.26	0.53	0.00	—	18.4

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.06
Total	—	—	—	—	—	—	—	—	—	—	—	5.28	0.00	5.28	0.53	0.00	—	18.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.26	0.00	5.26	0.53	0.00	—	18.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	0.02	0.00	0.02	< 0.005	0.00	—	0.06
Total	—	—	—	—	—	—	—	—	—	—	—	5.28	0.00	5.28	0.53	0.00	—	18.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.87	0.00	0.87	0.09	0.00	—	3.05
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
City Park	—	—	—	—	—	—	—	—	—	—	—	< 0.005	0.00	< 0.005	< 0.005	0.00	—	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	0.87	0.00	0.87	0.09	0.00	—	3.06

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.03	0.03
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	5/1/2025	5/7/2025	5.00	5.00	—
Site Preparation	Site Preparation	5/8/2025	5/14/2025	5.00	5.00	—
Grading	Grading	5/15/2025	5/28/2025	5.00	10.0	—

Building Construction	Building Construction	6/12/2025	8/5/2026	5.00	300	—
Paving	Paving	5/29/2025	6/11/2025	5.00	10.0	—
Architectural Coating	Architectural Coating	6/26/2025	8/19/2026	5.00	300	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56

Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	10.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.02	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	10.5	LDA,LDT1,LDT2
Grading	Vendor	—	7.02	HHDT,MHDT
Grading	Hauling	23.8	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3.36	10.5	LDA,LDT1,LDT2
Building Construction	Vendor	1.72	7.02	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	12.5	10.5	LDA,LDT1,LDT2
Paving	Vendor	—	7.02	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	12.5	10.5	LDA,LDT1,LDT2
Demolition	Vendor	—	7.02	HHDT,MHDT
Demolition	Hauling	8.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.67	10.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.02	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	15,750	5,250	1,043

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	3,475	—
Site Preparation	—	—	4.69	0.00	—

Grading	—	1,900	10.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.40

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	0.00	0%
Parking Lot	0.40	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Office Building	102	23.2	7.35	28,256	411	93.2	29.5	113,501
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
City Park	0.31	0.77	0.87	166	1.24	3.11	3.47	666

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	15,750	5,250	1,043

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	219,758	453	0.0330	0.0040	303,125
Parking Lot	15,225	453	0.0330	0.0040	0.00
City Park	0.00	453	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	1,866,204	273,362

Parking Lot	0.00	0.00
City Park	0.00	376,829

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	9.77	—
Parking Lot	0.00	—
City Park	0.03	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

8. User Changes to Default Data

Screen	Justification
Land Use	Building and open space measurements based on site plan. Parking lot measurements based on site plan and air quality questionnaire provided by applicant.
Construction: Construction Phases	Construction timing based on air quality questionnaire provided by the applicant. Based on typical construction practices, architectural coating assumed to start two weeks after the start of building construction and last for the same number of days.

APPENDIX B

BIOLOGICAL RESOURCES TECHNICAL REPORT

APPENDIX B

BIOLOGICAL RESOURCES TECHNICAL REPORT

Biological Resources Technical Report

KidZone Museum Project

Truckee, Nevada County, California

Prepared for:

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Truckee, CA 96161

Attn: Carol Meager, Executive Director
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November 2023

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List of Acronyms

APN	Accessor's Parcel Number
BCC	USFWS Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BRTR	Biological Resources Technical Report
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFP	California Fully Protected Species
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CSRL	California Soils Resource Lab
CWA	Clean Water Act
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Federal Endangered Species Act
Inventory	California Native Plant Society Rare Plant Inventory
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
NCCP	Natural Community Conservation Plan
NETR	National Environmental Title Research
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NPPA	California Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
NWPL	National Wetland Plant List
OHWM	Ordinary High Water Mark
Rank	California Rare Plant Ranks
RHA	Rivers and Harbors Act
RWQCB	Regional Water Quality Control Board
SC	State Candidate
SSC	Species of Special Concern
SWRCB	State Water Resource Control Board
TOB	Top of Bank
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
WRA	WRA, Inc.

1.0 INTRODUCTION

This Biological Resources Technical Report evaluates existing biological resources for the proposed KidZone Museum Project located at 10010 Estates Drive in the Town of Truckee, Placer County, California (Appendix A – Figure 1). The proposed project (Project) involves construction and operation of a museum facility.

1.1 Overview and Purpose

This report provides an assessment of biological resources within the Project Site and immediate vicinity. The purpose of the assessment was to develop and gather information on sensitive land cover types and special-status plant and wildlife species to support an evaluation of the Project under the California Environmental Quality Act (CEQA). Based on the results of the site assessment, potential impacts resulting from the proposed project were evaluated. If the project has the potential to result in impacts to biological resources, measures are recommended to mitigate impacts to less-than-significant levels.

A biological resources assessment provides general information on the presence, or potential presence, of sensitive species and habitats. Additional focused studies may be required to support regulatory permit applications or to implement mitigation measures included in this report. This assessment is based on information available at the time of the study and on-site conditions that were observed on the dates the site was visited. Conclusions are summarized in Table 1 and are based on currently available information used in combination with the professional judgement of the biologists completing this study.

Table 1: Summary of Biological Resources Evaluation

CEQA Assessment Category[1] IV – Biological Resources	Biological Resources Considered	Relevant Laws & Regulations	Responsible Regulatory Agency	Summary of Findings & Report Section[2]
Question A. **Special-status Species**	Special-status Plants Special-status Wildlife Designated Critical Habitat	Federal Endangered Species Act CA Endangered Species Act CA Native Plant Protection Act Migratory Bird Treaty Act Bald & Golden Eagle Protection Act	U.S. Fish & Wildlife Service National Marine Fisheries Service CA Department of Fish & Wildlife	Potentially significant impacts were identified and mitigation measures are included that reduce those impacts to a level that is less than significant. **See Section 7.2 for more information**
Question B. **Sensitive natural communities & riparian habitat**	Sensitive Natural Communities Streams, Lakes & Riparian Habitat	CA Fish & Game Code Oak Woodland Conservation Act Porter-Cologne Act Clean Water Act	CA Department of Fish & Wildlife U.S. Army Corps of Engineers U.S. Environmental Protection Agency State Water Resources Control Board Regional Water Quality Control Board	No potentially significant impacts were identified (no mitigation is required.
Question C. **State and federally protected wetlands**	Wetlands Unvegetated surface waters	Clean Water Act: Sections 404/401 Rivers & Harbors Act: Section 10 Porter-Cologne Act	U.S. Army Corps of Engineers U.S. Environmental Protection Agency State Water Resources Control Board Regional Water Quality Control Board	No potentially significant impacts were identified (no mitigation is required.

[1] *CEQA Questions have been summarized here, see Section 6.2 for details.*
[2] *As given in this report, see Section 5.0 subheadings.*

Table 1: Summary of Biological Resources Evaluation

CEQA Assessment Category[1] IV – Biological Resources	Biological Resources Considered	Relevant Laws & Regulations	Responsible Regulatory Agency	Summary of Findings & Report Section[2]
Question D. **Fish & Wildlife corridors**	Wildlife Corridors	CA Fish & Game Code	CA Department of Fish and Wildlife	No potentially significant impacts were identified (no mitigation is required.
Question E. **Local policies**	Biological Resource Protections	General Plan	Town of Truckee	No potentially significant impacts were identified (no mitigation is required.
Question F. **Local, state, federal conservation plans**	Habitat Conservation Plans Natural Community Conservation Plans	Federal Endangered Species Act Natural Community Conservation Planning Act	U.S. Fish and Wildlife Service CA Department of Fish and Wildlife	No potentially significant impacts were identified (no mitigation is required.

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts. Table 1 shows the correlation between these regulations and each Biological Resources question in the Environmental Checklist Form (Appendix G) of the CEQA guidelines.

2.1 Federal and State Regulatory Setting

2.1.1 Vegetation and Aquatic Communities

CEQA provides protections for particular vegetation types defined as sensitive by the California Department of Fish and Wildlife (CDFW) and aquatic features protected by laws and regulations administered by the U.S Army Corps of Engineers (Corps), State Water Resources Control Board (SWRCB), and Regional Water Quality Control Boards (RWQCB). The laws and regulations that provide protection for these resources are summarized below.

Sensitive Natural Communities: Sensitive natural communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" (CDFW 2023a) and keeps records of their occurrences in its California Natural Diversity Database (CNDDB; CDFW 2023b). Natural communities are ranked 1 through 5 in the CNDDB based on NatureServe's (2023) methodology, with those communities ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must be considered and evaluated under CEQA (California Code of Regulations [CCR] Title 14, Div. 6, Chap. 3, Appendix G). In addition, this general class includes oak woodlands that are protected by local ordinances under the Oak Woodlands Protection Act and Section 21083.4 of California Public Resources Code (CPRC).

Waters of the United States, Including Wetlands: The Corps regulates “Waters of the United States” under Section 404 of the Clean Water Act (CWA). Waters of the United States are defined in the Code of Federal Regulations (CFR) as including the territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, such as tributaries, lakes and ponds, impoundments of waters of the U.S., and wetlands that are hydrologically connected with these navigable features (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *U.S. Army Corps of Engineers Wetlands Delineation Manual* (Corps Manual; Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Unvegetated waters including lakes, rivers, and streams may also be subject to Section 404 jurisdiction and are characterized by an ordinary high water mark (OHWM) identified based on field indicators such as the lack of vegetation, sorting of sediments, and other indicators of flowing or standing water. The placement of fill material into Waters of the United States generally requires a permit from the Corps under Section 404 of the CWA.

The Corps also regulates construction in navigable waterways of the U.S. through Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 U.S. Code [USC] 403). Section 10 of the RHA

requires Corps approval and a permit for excavation or fill, or alteration or modification of the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor or refuge, or enclosure within the limits of any breakwater, or of the channel of any navigable water of the United States. Section 10 requirements apply only to navigable waters themselves, and are not applicable to tributaries, adjacent wetlands, and similar aquatic features not capable of supporting interstate commerce.

Waters of the State, Including Wetlands: The term "Waters of the State" is defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The SWRCB and nine RWQCB protect waters within this broad regulatory scope through many different regulatory programs. Waters of the State in the context of a CEQA Biological Resources evaluation include wetlands and other surface waters protected by the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2019). The SWRCB and RWQCB issue permits for the discharge of fill material into surface waters through the State Water Quality Certification Program, which fulfills requirements of Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Clean Water Act permit are also required to obtain a Water Quality Certification. If a project does not require a federal permit but does involve discharge of dredge or fill material into surface waters of the State, the SWRCB and RWQCB may issue a permit in the form of Waste Discharge Requirements.

Sections 1600-1616 of California Fish and Game Code: Streams and lakes, as habitat for fish and wildlife species, are regulated by CDFW under Sections 1600-1616 of California Fish and Game Code (CFGC). Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream," which includes creeks and rivers, is defined in the CCR as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). The term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). Riparian vegetation has been defined as "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

2.1.2 Special-status Species

Endangered and Threatened Plants, Fish, and Wildlife. Specific species of plants, fish, and wildlife species may be designated as threatened or endangered by the federal Endangered Species Act (ESA), or the California Endangered Species Act (CESA). Specific protections and permitting mechanisms for these species differ under each of these acts, and a species' designation under one law does not automatically provide protection under the other.

The ESA (16 USC 1531 et seq.) is implemented by the USFWS and the National Marine Fisheries Service (NMFS). The USFWS and NMFS maintain lists of endangered and threatened plant and animal species (referred to as "listed species"). "Proposed" or "candidate" species are those that are being considered for listing and are not protected until they are formally listed as threatened or endangered. Under the ESA, authorization must be obtained from the USFWS or NMFS prior to

take of any listed species. “Take” under the ESA is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Take under the ESA includes direct injury or mortality to individuals, disruptions in normal behavioral patterns resulting from factors such as noise and visual disturbance and impacts to habitat for listed species. Actions that may result in take of an ESA-listed species may obtain a permit under ESA Section 10, or via the interagency consultation described in ESA Section 7. Federally listed plant species are only protected when take occurs on federal land.

The ESA also provides for designation of critical habitat, which are specific geographic areas containing physical or biological features “essential to the conservation of the species.” Protections afforded to designated critical habitat apply only to actions that are funded, permitted, or carried out by federal agencies. Critical habitat designations do not affect activities by private landowners if there is no other federal agency involvement.

The CESA (CFGC 2050 et seq.) prohibits the take of any plant and animal species that the CFGC determines to be an endangered or threatened species in California. CESA regulations include take protection for threatened and endangered plants on private lands, as well as extending this protection to candidate species that are proposed for listing as threatened or endangered under CESA. The definition of a "take" under CESA ("hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") only applies to direct impact to individuals, and does not extend to habitat impacts or harassment. CDFW may issue an Incidental Take Permit under CESA to authorize take if it is incidental to otherwise lawful activity and if specific criteria are met. Take of these species is also authorized if the geographic area is covered by a Natural Community Conservation Plan (NCCP), as long as the NCCP covers that activity.

Fully Protected Species and Designated Rare Plant Species. This category includes specific plant and wildlife species that are designated in the CFGC as protected even if not listed under CESA or ESA. Fully Protected Species includes specific lists of birds, mammals, reptiles, amphibians, and fish designated in CFGC. Fully protected species may not be taken or possessed at any time. No licenses or permits may be issued for take of fully protected species, except for necessary scientific research and conservation purposes. The definition of "take" is the same under the California Fish and Game Code and the CESA. By law, CDFW may not issue an Incidental Take Permit for Fully Protected Species. Under the California Native Plant Protection Act (NPPA), CDFW has listed 64 “rare” or “endangered” plant species, and prevents “take”, with few exceptions, of these species. CDFW may authorize take of species protected by the NPPA through the Incidental Take Permit process, or under a NCCP.

Special Protections for Nesting Birds and Bats. The federal Bald and Golden Eagle Protection Act provides relatively broad protections to both of North America’s eagle species [bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*)] that in some regards are similar to those provided by the ESA. In addition to regulations for special-status species, most native birds in the United States, including non-status species, have baseline legal protections under the Migratory Bird Treaty Act of 1918 and CFGC, i.e., sections 3503, 3503.5 and 3513. Under these laws/codes, the intentional harm or collection of adult birds as well as the intentional collection or destruction of active nests, eggs, and young is illegal. For bat species, the Western Bat Working Group (WBWG) designates conservation status for species of bats, and those with a high or medium-high priority are typically given special consideration under CEQA.

Species of Special Concern, Movement Corridors, and Other Special-status Species under CEQA.
To address additional species protections afforded under CEQA, CDFW has developed a list of special species as "a general term that refers to all of the taxa the CNDDB is interested in tracking, regardless of their legal or protection status." This list includes lists developed by other organizations, including for example, the Audubon Watch List Species, the Bureau of Land Management Sensitive Species, and USFWS Birds of Special Concern. Plant species on the California Native Plant Society (CNPS) Rare Plant Inventory (Inventory; CNPS 2023) with California Rare Plant Ranks (Rank) of 1 and 2, as well as some with a Rank of 3 or 4, are also considered special-status plant species and must be considered under CEQA. Some Rank 3 and Rank 4 species are typically only afforded protection under CEQA when such species are particularly unique to the locale (e.g., range limit, low abundance/low frequency, limited habitat) or are otherwise considered locally rare. Additionally, any species listed as sensitive within local plans, policies and ordinances are likewise considered sensitive. Movement and migratory corridors for native wildlife (including aquatic corridors) as well as wildlife nursery sites are given special consideration under CEQA.

2.2 Local Plans and Policies

Town of Truckee 2040 General Plan - Relevant Goals and Policies

The following Town of Truckee 2040 General Plan goals and policies pertain to the protection of biological resources that were evaluated in association with the proposed project:

Conservation and Open Space Element

Goal COS-3 (Biological Resources): Protect sensitive biological resources, specifically special-status wildlife, streams and wetlands, and significant wildlife movement corridors.

GP Policy COS-3.1: Biological Resource Open Space

Preserve and improve the integrity and continuity of biological resource open space areas, including sensitive habitat and wildlife movement corridors, through permanent open space protection and restoration. When reviewing development proposals, consider:

- sensitive habitat and wildlife movement corridors in the areas adjacent to development sites, as well as on the development site itself;
- prevention of habitat fragmentation and loss of connectivity;
- use of appropriate protection measures for sensitive habitat areas such as non-disturbance easements and open space zoning;
- off-site habitat restoration as a potential mitigation, provided that no net loss of habitat value results; and
- potential mitigation or elimination of impacts through mandatory clustering of development or project redesign.

GP Policy COS-3.2: Protection of Resources Through Development Standards

Apply setbacks and other development standards to preserve riparian corridors, streams, and wetland areas and the scenic, recreational, and biological values these areas provide.

GP Policy COS-3.3: Requirements for Biological Surveys

Require a site survey, conducted by a qualified biologist, for development on sites with the potential to contain critical or sensitive habitat or where special-status species may be present. Where special- status species are present, require mitigation in accordance with guidance from the appropriate state or federal agency charged with the protection of the subject species. Mitigation shall include implementation of impact minimization measures based on accepted standards and guidelines and best available science and prioritized as follows: avoid impacts, minimize impacts, and compensate for unavoidable impacts.

GP Policy COS-3.4: Protection of Sensitive Habitats and Wildlife Corridors

Require that all new development avoid identified sensitive habitats, wetlands, other non-wetland waters, native wildlife nursery sites, and wildlife corridors within or adjacent to the development site, as feasible, by implementing no-disturbance buffers around these areas or implementing project-specific design features (e.g., wildlife-friendly fencing and lighting) in wildlife corridors.

GP Policy COS-3.5: Protection of Native Plant Species

Protect native plant species in undisturbed portions of a development site and encourage planting and regeneration of native plant species wherever possible in undisturbed portions of the Project Site. Encourage use of locally collected, native seeds from near the study area, in the same watershed, and at a similar elevation for revegetation of sites disturbed by construction.

GP Policy COS-3.6: Eradication of Invasive Plants

Support efforts to eradicate invasive plants and noxious weeds on public and private property.

GP Policy COS-3.7: Habitat Restoration on Town and Special District Property

Encourage restoration of native habitat on Town- and Special District– owned property.

3.0 ASSESSMENT METHODOLOGY

A WRA biologist conducted a site visit to the Project Site on May 22, 2023. The Project Site was traversed on foot to determine (1) plant communities present within the Project Site, (2) whether existing conditions provide suitable habitat for any special-status plant or wildlife species, and (3) whether sensitive habitats are present. Project figures are provided in Appendix A. Plant and wildlife species encountered were recorded and are summarized in Appendix B. Plant nomenclature follows Baldwin et al. (2012) and subsequent revisions by the Jepson Flora Project (2023), except where noted. For cases in which regulatory agencies, CNPS, or other entities base rarity on older taxonomic treatments, precedence was given to the treatment used by those entities. Special-status species with a potential for occurrence, determined based on field visits and habitat availability, are described in Appendix C. Representative photographs of the Project Site taken during field visits are included in Appendix D.

3.1 Literature Review

Prior to conducting field surveys, WRA reviewed available background information pertaining to the biological resources on and in the vicinity of the Project Site. Available literature and resource mapping reviewed included the occurrence records for special status species and

sensitive natural communities, and recent environmental documents prepared for nearby projects. Database searches for known occurrences of special-status species focused on the Truckee, Kings Beach, Tahoe City, Norden, Independence Lake, Granite Chief, Martis Peak, Boca, and Hobart Mills 7.5-minute U.S. Geological Survey (USGS) quadrangle maps. The following sources were reviewed to determine which sensitive habitats and special-status plant and wildlife species have been documented to occur in the vicinity of the Project Site:

- CNDDB record search (CDFW 2023)
- USFWS Information for Planning and Conservation Report (IPaC; USFWS 2023a)
- National Wetlands Inventory (USFWS 2023b)
- CNPS Rare and Endangered Plant Inventory (CNPS 2023a)
- California Department of Fish and Game publication "California's Wildlife, Volumes I-III" (Zeiner et al. 1990)
- California Department of Fish and Game publication "California Bird Species of Special Concern" (Shuford and Gardali 2008)
- CDFW and University of California Press publication California Amphibian and Reptile Species of Special Concern (Thomson et al. 2016)
- California Wildlife Habitat Relationships Database (CDFW 2008)
- Jepson Flora Project and Consortium of California Herbaria records (2023)
- Town of Truckee 2040 General Plan (2023)

3.2 Plant Communities

Prior to the site visit, SoilWeb (CSRL 2023) was examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Project Site. Plant communities present in the Project Site were classified based on existing plant community descriptions described in *A Manual of California Vegetation, Online Edition* (CNPS 2023b) or *Terrestrial Natural Communities of California* (Holland 1986), depending how each type most closely matched existing descriptions provided in the literature. However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Plant communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations described in Section 3.2 above.

3.2.1 Non-Sensitive Plant communities

Non-sensitive plant communities are those that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. These plant communities may, however, provide suitable habitat for some special-status plant or wildlife species and are identified or described in Section 4 below.

3.2.2 Sensitive Plant communities

Sensitive plant communities are defined as those that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Special methods used to identify sensitive plant communities are discussed below.

The Project Site was evaluated for the presence of other sensitive biological communities, including riparian areas or other sensitive plant communities recognized by CDFW. Prior to the site visit, aerial photographs, local soil maps, and *A Manual of California Vegetation, Online Edition* (CNPS 2023b) were reviewed to assess the potential for sensitive biological communities to occur in the Project Site. All alliances within the Project Site with a ranking of 1 through 3 were considered sensitive plant communities and mapped. These plant communities are described in Section 4 below.

3.3 Site Assessment

A field reconnaissance site visit was conducted by a WRA biologist on May 22, 2023. This site assessment was conducted to document the existing site conditions, including recording observed plant and wildlife species, characterizing and mapping land cover types, vegetation communities, and associated terrestrial wildlife habitats, and evaluating the potential for these habitats to support special status species and other sensitive resources. The site assessment did not constitute protocol surveys for any special-status species.

3.3.1 Jurisdictional Habitats and Aquatic Features

Habitats were assessed to determine if any wetlands and "waters" potentially subject to jurisdiction by the U.S. Army Corps of Engineers (Corps), RWQCB, or CDFW were present. The Project Site was evaluated for the presence of wetland indicators including dominance by hydrophytic plant species and presence of wetland hydrology. Determination of the approximate boundaries of potential Corps and/or Water Board jurisdictional areas followed standard methodologies as described in the Corps' Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0; Corps 2010). The site was also inspected for the presence of drainages, streams, and other aquatic features, including those that support stream-dependent (riparian) plant species that may be considered jurisdictional by CDFW.

3.3.2 Special-Status Species

During the field reconnaissance site visit, the site was traversed by foot in order to evaluate the suitability of vegetation communities to support special status species documented from the Project Site vicinity. The potential occurrence of special status plant and animal species on the site was initially evaluated by developing a list of special status species that are known to or have the potential to occur in the vicinity of the Project Site based on a review of current database records. The potential for occurrence of those species was then evaluated based on the habitat requirements of each species relative to the site conditions observed during field surveys. Each species was evaluated for its potential to occur within the 1.7-acre Project Site which includes the proposed development area, according to the following criteria:

- **No Potential:** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- **Unlikely:** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.

- **Moderate Potential:** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential:** All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present:** Species is observed on the site or has been recorded (i.e., CNDDB, other reports) on the site recently.

The site assessment is intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity to determine its potential to occur in the Project Site. The site visit does not constitute a protocol-level survey for all species with potential to occur in the Project Site.

In cases where little information is known about species occurrences and habitat requirements, the species evaluation was based on best professional judgment of WRA biologists with experience working with the species and habitats. If necessary, recognized experts in individual species biology were contacted to obtain the most up to date information regarding species biology and ecology.

If a special-status species was observed during the site visit, its presence was recorded and is discussed below in Section 4. For some species, a site assessment at the level conducted for this report may not be sufficient to determine presence or absence of a species to the specifications of regulatory agencies. In these cases, a species may be assumed to be present or further surveys may be necessary prior to project construction.

3.4 Wildlife Corridors and Native Wildlife Nursery Sites

To account for potential impacts to wildlife movement/migratory corridors, biologists reviewed maps from the California Essential Connectivity Project (CalTrans 2010), and habitat connectivity data available through the CDFW Biogeographic Information and Observation System (CDFW 2023). Additionally, aerial imagery (Google Earth 2023) for the local area was referenced to assess if local core habitat areas were present within, or connected to the Project Site. This assessment was refined based on observations of on-site physical and/or biological conditions, including topographic and vegetative factors that can facilitate wildlife movement, as well as on-site and off-site barriers to connectivity.

4.0 ENVIRONMENTAL SETTING

The 1.7-acre Project Site (APN 019-450-035) is a located at 10010 Estates Drive in the Town of Truckee, Placer County, California. The site is within the Truckee 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle in the Section 14, Township 17 North, Range 16 East, M.D.B.&M. (Appendix A, Figure 1). Local and regional access is provided via Interstate 80 (I-80) approximately 0.6 miles to the north and State Route (SR) 267 approximately 0.6 mile to the east. Soils and Topography

4.1 Soils and Topography

The Project Site is located within Northern Sierra Nevada geomorphic province, which is bounded to the east by the Great Valley province and to the west by the San Francisco Bay and Pacific Ocean, and to the south by the Transverse Ranges.

SoilWeb (CSRL 2023) indicates that the Project Site contains one soil map unit: Kyburz-Trojan complex, 9 to 30 percent slopes. This soil map unit consists of moderately deep, well drained soils formed in material weathered from basic volcanic rock. This map unit is not classified as hydric by the National Technical Committee for Hydric Soils (NTCHS).

The topography of the Project Site is generally flat with the exception of previously filled, gently undulating areas and a graded slope that forms the northern site boundary. From the north to south, the elevation transitions from 5,835 to 5,847 feet above mean sea level.

4.2 Land Use

The Project Site is located in the Truckee-Donner Recreation and Park District, directly north of and adjacent to the McIver Rodeo Arena and approximately 0.10 mile south of the Truckee River. The site is part of Truckee River Regional Park containing a disc golf course and unpaved equipment parking and storage areas. Surrounding land uses include recreational facilities including a skate park, rodeo arena, Legacy Trail, and other uses and residential development along River View Drive directly to the east. Undeveloped portions of the Project Site consist of Jeffrey pine trees with a sparse understory of shrubs and grasses. Land cover type descriptions are included in Section 5.1 below, and observed plant and animal species are included in Appendix B.

5.0 ASSESSMENT RESULTS

5.1 Vegetation Communities and Other Land Cover

WRA observed three land cover types within the Project Site: Developed/barren, Jeffrey pine stand, and Great Basin sagebrush-bitterbrush scrub. Land cover types within the Project Site are illustrated in Appendix A – Figure 2. None of these land cover types are sensitive natural communities.

Table 2: Vegetation Communities and Other Land Cover Types

COMMUNITY / LAND COVERS	SENSITIVE STATUS	RARITY RANKING	ACRES WITHIN STUDY AREA
TERRESTRIAL / COMMUNITY LAND COVER			
Jeffrey pine stand	none	G4S4	0.58
Great Basin Sagebrush-Bitterbrush Scrub	none	G4S4	0.19
Developed/Barren	none	--	0.93
TOTAL			**1.70**

5.1.1 Vegetation Communities

Jeffrey Pine Stand (*Pinus jeffreyi* Forest and Woodland Alliance). G4S4

A stand of Jeffrey pine trees occupies 0.58 acre within the central portion of the Project Site on loamy, well-drained soils. Canopy cover is moderately open, and the stands are mostly even-aged, consisting of an overstory of low- to mid-size trees (< 18 inches in dbh), a few larger trees (>80 inches in dbh), and a scattered pine saplings (< 4 inches dbh) in the understory. Occasional antelope bitter brush, Great Basin sagebrush, and yellow rabbitbrush occur along the edges where this community intergrades with patches of montane scrub. The tree understory is composed of primarily pine needle litter with a sparse herbaceous layer composed of blue wildrye (Elymus glaucus) and mule's ears (*Wyethia mollis*). This land cover type most closely matches Jeffrey pine forest and woodland (CNPS 2023b) and is not considered a sensitive natural community by the CDFW (2023).

Great Basin Sagebrush-Bitterbrush Scrub (*Purshia tridentata-Artemisia tridentata* Shrubland Alliance). G5S5

Portions of the Project Site (0.19 acre) adjacent to Jeffrey pin stands adjacent to River View Drive may be characterized as Bitterbrush-Big Sagebrush Alliance (Figure 2). This community is found over a broad range of landforms across its expansive range. Stands typically have an open to dense short-shrub layer with an herbaceous understory dominated by perennial bunch grasses and annual forbs. This community consists of low growing shrubs (0.5 to 1 dm in height) and occurs on a gently sloped, upland area within undeveloped eastern portions of the Project Site on loamy, well drained soils. Antelope bitterbrush (*Purshia tridentata*) occurs in association with Great basin sagebrush (*Artemisia tridentata*) and occasional yellow rabbitbrush (*Chrysothamnus viscidiflorus* ssp. *viscidiflorus*). A sparse herbaceous layer at the base of shrubs and in canopy openings consists of native squirrel tail grass (*Elymus elymoides*), blue wildrye (*E. glaucus* ssp. *glaucus*) and occasional Douglas' sedge (*Carex douglasii*) and non-native cheat grass (*Bromus tectorum*). Common native forbs interspersed throughout this community include mule's ears (*Wyethia mollis*), and diffuse gayophytum (*Gayophytum diffusum*). This land cover type most closes matches the Antelope bitterbrush - Big sagebrush scrubland Alliance (CNPS 2023b) and is not considered a sensitive natural community by the CDFW (2023).

Developed/Barren. No Ranking.

The ruderal disturbed/developed land cover type occupies 0.98 acre of the Project Site and consists of unvegetated areas that have been graded to create parking and storage areas and access roads.

5.2 Wildlife Habitat

The vegetation communities present in the Project Site and the surrounding area provide limited habitat for a variety of common resident and migratory wildlife species. Given the level of existing human activity surrounding the Project Site associated with Truckee Regional Park and residential developments, wildlife species that may use the site are common, widely distributed and are generally adapted to, and are tolerant of, human activities. While not observed during the surveys, common, non-status small mammal species expected to use habitats in the Project Site include golden-mantled ground squirrel (*Callospermophilus lateralis*), mountain pocket gopher (*Thomomys monticola*), voles (*Microtus* sp.), cottontail (*Sylvilagus* spp.), jackrabbit (*Lepus* spp.), and various other small rodents that are common and widespread in the Northern Sierra Nevada region. Common larger mammals that may occur include coyote (*Canis latrans*), mule deer (*Odocoileus hemionus hemionus*), and raccoon (*Procyon lotor*). One reptile species observed during the surveys includes western fence lizard (*Sceloporus occidentalis*). Common bird species observed or otherwise expected to occur include (but are not limited to) American robin (*Turdus migratorius*), Stellar's jay (*Cyanocitta stelleri*), mountain chickadee (*Poecile gambeli*), Brewer's blackbird (*Euphagus cyanocephalus*), Clark's nutcracker (*Nucifraga columbiana*), dark-eyed junco (*Junco hyemalis*), common raven (*Corvus corax*), and several species of sparrows and finches. Mature trees (>25 in DBH) may provide marginal roosting habitat for bat species.

5.3 Special-status Species

5.3.1 Special-status Plants

Based upon a review of the resource databases listed in Section 3.0, 43 special-status plant species have been documented in the vicinity of the Project Site and were evaluated for their potential to occur on the Project Site. None of these special-status plant species documented from the site vicinity are likely or have potential to occur due to one or more of the following:

- Hydrologic conditions (e.g., aquatic) necessary to support the special-status plant species are not present in the Project Site;
- Edaphic (soil) conditions (e.g., volcanic tuff, serpentine) necessary to support the special-status plant species are not present in the Project Site;
- Topographic conditions necessary to support the special-status plant species are not present in the Project Site;
- Natural communities (e.g., alpine) necessary to support the special-status plant species are not present in the Project Site;
- The Project Site is geographically isolated (e.g. below elevation) from the documented range of the special-status plant species;

- Land use history and contemporary management has degraded the localized habitat necessary to support the special-status plant species.

5.3.2 Special-status Wildlife

Based upon a review of the CNDDB (CDFW 2023a) species occurrence records and the USFWS Quadrangle Species Lists (USFWS 2023), 34 special status wildlife species were evaluated for their potential presence on the Project Site. Appendix C provides a summary of these species' habitat requirements, range and distribution, and a discussion of their potential for occurrence on the Project Site.

Of the 34 special status wildlife species documented from the region, 31 species are not likely to occur on the Project Site for the following reasons: 1) the site lacks specific habitat types (e.g., perennial streams, alpine fell fields, etc.), 2) the site is outside of the species' documented distribution or elevation range, 3) there is a high level of site disturbance from surrounding development, and/or 4) the site lacks special habitat features, such as large burrows, rock outcrops, cliffs, or caves for breeding, resting, and escape cover.

Nesting birds and the following three special status species described below have potential to occur in the proposed development area due to the presence of potentially suitable habitats:

Western bumblebee (*Bombus occidentalis*), State candidate. Moderate. Historically, this species was distributed broadly throughout the western United States (Hatfield et al. 2015). In California, western bumble bee is thought to be largely extirpated from low elevation sites and is largely restricted to the Northern Coast and Sierra Nevada Ranges (Hatfield et al. 2015, Bumble Bee Watch 2023). Western bumble bee occurs in a range of habitats that include sufficient foraging and nesting opportunities, such as woodlands, montane meadows, and grassland; and has also been documented in urban agricultural areas (NatureServe 2023). The flight period in California is from early February to late November, peaking in late June and late September. The flight period for workers and males is from early April to early November. Little is known about sites where queens overwinter, but it is likely in underground areas protected from temperature extremes and flooding during winter rains. Like other bumble bee species, western bumble bee is a social species with an annual life cycle. Queens emerge from hibernation in the late winter/early spring to establish a new colony. The colony produces workers throughout the spring and summer, and reproductives (i.e., drones and queens) in the early fall. Nests are built in pre-existing cavities. They are commonly found underground, in abandoned rodent burrows, or aboveground in grass tufts, rock piles, abandoned bird nests, or tree cavities. Western bumble bee feeds on pollen and nectar during all life stages. It is a short-tongued species, and generally visits flowers with short corollas. Documented host species include (but are not limited to) blueblossoms (*Ceanothus* spp.), thistles (*Centaurea* spp. and *Cirsium* spp.), rabbitbrush (*Chrysothamnus* spp.), geraniums (*Geranium* spp.), gumweeds (*Grindelia* spp.), lupines (*Lupinus* spp.), sweetclovers (*Melilotus* spp.), coyote mints (*Monardella* spp.), blackberries (*Rubus* spp.), goldenrods (*Solidago* spp.), and clovers (*Trifolium* spp.) (Hatfield et al. 2015). Queens overwinter in underground hibernacula.

Silver-haired bat (*Lasionycteris noctivagans*), CDFW Species of Special Concern. Medium Priority. Moderate Potential. Silver-haired bat primarily inhabits coastal and montane forest habitats and forages over streams, ponds open shrub-dominated areas. This bat roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes and rarely under rocks. This species roosts near drinking water. There is a moderate potential for silver-haired bat to roost

in exfoliating bark of mature (greater than 24 inches' diameter at breast height [DBH]) Jeffrey pine trees in the eastern and western corners of the site.

Long-legged Myotis (*Myotis volans*), CDFW Species of Special Concern. Habitat for the long-legged myotis primarily consists of coniferous forests, but the species also occurs seasonally in riparian habitats. Long-legged myotis are found seasonally in a wide variety of habitats including high-elevation forests and meadows of the Sierra Nevada (Williams 1986, Zeiner et al. 1988). These bats feed on flying insects, primarily moths. While foraging, these bats fly low over water close to trees and cliffs and in open meadows. Suitable roost sites include rock crevices, buildings, under tree bark, in snags, and in caves and mines. This species forms large nursery colonies consisting of hundreds of individuals, usually located under bark or in hollow trees. Long-legged myotis has a moderate potential to use the bark of Jeffrey pines as day roosts.

Nesting Songbirds and Raptors. The vegetation communities within the Project Site support suitable habitat for raptors and songbirds protected by the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC) while they are nesting. The loss of an active nest of common or special-status bird species would be considered a violation of the CFGC, Section 3503, 3503.5, 3513, and the federal MBTA. Shrubs and trees may provide nesting opportunities for common bird species that are adapted to ambient noise levels associated with the existing surrounding buildings, airport, and highway. In addition, raptor species may nest in mature Jeffrey pine trees within 300 feet of the proposed development area, including red-tailed hawk (*Buteo jamaicensis*). There is potential for ground-, tree-, and shrub-nesting birds to establish nests in the Project Site prior to construction of the proposed project. There is a low probability for other special-status bird species to occur within the development area due to the high level of site disturbance from surrounding development and human presence and lack of suitable habitat (refer Appendix C).

5.4 Wildlife Corridors and Native Wildlife Nursery Sites

A wildlife corridor is a linear landscape element which serves as a linkage between historically connected habitat/natural areas that are otherwise separated by rugged terrain, developments or other human-caused disturbances to natural habitat, or changes in vegetation types and is meant to facilitate wildlife movement between these natural areas. Corridors are critical for the maintenance of ecological processes including allowing for the movement of animals and the continuation of viable populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource. There are three types of wildlife movements within corridors. These include dispersal (i.e., one way movement away from a home site), migration (i.e., round trip movements), and home range movements (i.e., movements within an area with a defined probability of occurrence of an animal during a specified time period).

Although the Project Site (and Town of Truckee) is located within the Verdi sub-unit of the migration corridor for the Loyalton-Truckee deer herd (LTH), it does not represent a movement corridor for mule deer or other wildlife, as it is occupied and/or bordered by recreational facilities and residential development that would preclude wildlife movement to or through the Project Site. Regional movement around the Project Site is substantively constrained by major highways and freeways, park facilities, residential and commercial development, and an airport to the southeast. In summary, the Project Site likely supports habitat for resident and transient species and would not facilitate regional wildlife movement. Although limited and localized wildlife movement may infrequently occur between the Project Site and open space areas to the south

and east, such movement is very unlikely to result in eventual movement of populations to intact, preserved habitats; therefore, the site does not act as a true wildlife corridor, movement pathway, or linkage of note between larger habitat areas for terrestrial wildlife.

6.0 ANALYTICAL METHODOLOGY AND SIGNIFICANCE THRESHOLD CRITERIA

Pursuant to Appendix G, Section IV of the State CEQA Guidelines, a project would have a significant impact on biological resources if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or U.S. Fish and Wildlife Service;

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or U.S. Fish and Wildlife Service;

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These thresholds were utilized in completing the analysis of potential project impacts for CEQA purposes. For the purposes of this analysis, a “substantial adverse effect” is generally interpreted to mean that a potential impact could directly or indirectly affect the resiliency or presence of a local biological community or species population. Potential impacts to natural processes that support biological communities and special-status species populations that can produce similar effects are also considered potentially significant. Impacts to individuals of a species or small areas of existing biological communities may be considered less than significant if those impacts are speculative, beneficial, de minimis, and/or would not affect the resiliency of a local population.

7.0 IMPACTS AND MITIGATION EVALUATION

Using the CEQA analysis methodology outlined in Section 6.0 above, this section describes potential significant impacts to sensitive resources in accordance with Appendix G, Section IV of the State CEQA Guidelines.

7.1 Biological Resources Not Impacted

The proposed development activities are planned within or directly adjacent to areas that are already developed as residential neighborhoods, highways, roads, and recreational facilities and therefore subjected to regular disturbances. This section identifies biological resources in reference to the significance threshold outlined in CEQA Appendix G, Part IV that would not be impacted by the Project and therefore no mitigation would be required.

(b) Does the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or U.S. Fish and Wildlife Service;

The Project Site does not contain riparian habitat or other sensitive natural communities identified in local or regional plans or policies. No impacts would occur from the Project. No further discussion of this issue is required.

(c) Does the Project have the potential to have a substantial adverse effect on state or federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

The Project Site does not contain state or federally protected wetlands. No impacts would occur. No further discussion of this issue is required.

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites

The proposed development is planned within and directly adjacent to areas that are already developed and subjected to regular disturbances. The Project Site does not function as a wildlife habitat linkage or movement corridors, nor would project implementation adversely affect any offsite designated wildlife habitat linkage or movement corridor. The Project Site does not support any native wildlife nursery sites. Accordingly, the proposed project would result in a less-than-significant impact to the movement of any native resident or migratory wildlife species and no mitigation is recommended. No further discussion of this issue is required.

(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; and/or,

The proposed project was evaluated against relevant Truckee 2040 General Plan policies pertaining to the protection of biological resources. Project development would not conflict with

biological resource policies outlined Chapter 7 (Conservation and Open Space Element) outlined above in Section 2.2 (Local Plans and Policies).

(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

The Project Site is not subject to any habitat conservation plans. Thus, the project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No further discussion of this issue is required.

7.2 Potential Project Impacts and Recommended Mitigation Measures

The following sections provide a preliminary overview of potential foreseeable impacts to sensitive biological resources and recommended impact mitigation measures as part of the CEQA evaluation for this project.

7.2.1 Special-status Species

This section analyzes the Project's potential impacts and mitigation for special-status species in reference to the significance threshold outlined in CEQA Appendix G, Part IV (a):

(a) Does the project have the potential to have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or U.S. Fish and Wildlife Service?

Potential impacts and mitigation for potentially significant impacts are discussed below.

No special status plant species were detected on the Project Site; therefore, no impacts to this sensitive biological resource are anticipated to occur as a result of project implementation, and no further mitigation is recommended.

Of the 34 special status wildlife species evaluated for potential occurrence in the Project Site, it was determined that nesting raptors and songbirds and three (3) special status wildlife species have a moderate potential to occur within the Project Site due to the presence of marginally suitable habitat surrounded by recreational facilities and residential development. Potential impacts of the project to these species and recommended mitigation measures to reduce the impacts to a less than significant level according to CEQA guidelines are discussed below.

Potential Impact BIO-1: Take of western bumble bee

There are no documented observations of western bumble bee within the Project Site and this species was not observed during the May 2023 site visit. However, development of the proposed Project could result in a significant impact to western bumble bee because the site is within the range for these species. Furthermore, vegetation within the Project Site could provide floral resources/foraging habitat for western bumble bee. Should western bumble bee colonies or overwintering queens be present in underground nests in work areas, work activities related to the proposed Project could result in take of this state candidate species. Therefore, this is a potentially significant impact under CEQA. Implementation of Mitigation Measure BIO-1, which

would require preconstruction take avoidance surveys prior initiation of project activities, is recommended to reduce this impact to a less-than-significant level.

> ***Mitigation Measure BIO-1: Schedule vegetation removal and other ground disturbing activities to minimize potential for take of western bumble bee.***
>
> To reduce the potential for floral resources to draw western bumble bees into the Project Site prior to construction, all vegetation should be removed during late winter months immediately following snow melt and before onsite shrubs and herbaceous plants start flowering. To address local variations in phenology based on climate, the timing of vegetation removal should be determined in consultation with a biologist. All subsequent ground-disturbing activities should commence by June 1 at the latest as a potential means of discouraging bumble bees from nesting on the Project Site.
>
> If subsequent ground disturbing activities are delayed beyond June 1, a qualified invertebrate biologist should conduct protocol-level preconstruction surveys to determine presence of the species (CDFW 2023). Surveys should consist of at least one person-hour of survey time per three acres of potential habitat. If no western bumblebee individuals are encountered during these surveys, it can be assumed that the Project is unlikely to impact this species.
>
> If western bumble bees are detected during the survey, a 2081 Incidental Take Permit from CDFW would be required. As a candidate species, no compensatory mitigation is required (as of yet), however if Western bumble bee becomes CESA-listed, it is probable compensatory mitigation at a minimum ratio of 1:1 will be required. A management plan would likely be required by CDFW to maximize both nesting and foraging resources on mitigation lands.

Implementation of this mitigation measure would reduce impacts to Western bumble bee to less-than-significant levels.

Impact BIO-2: Disturbance of bat roosts

Mature trees (greater than 25-inch diameter at breast height) could provide suitable roost habitat for five special status bat species: silver haired bat and long-eared myotis. Construction activities may result in impacts to individual bats through removal of occupied roost habitat during the bat hibernation or maternity season has potential to result in harm, death, displacement and/or disruption of bats and/or nursery colony roosts; these impacts would be considered significant under CEQA. Implementation of Mitigation Measure BIO-2, which would require preconstruction bat surveys prior to tree removal activities and roost avoidance, is recommended to reduce this impact to a less-than-significant level.

> ***Mitigation Measure BIO-2: Conduct preconstruction surveys and avoid disturbing roosting bats.***
>
> To avoid impacting breeding or hibernating bats protected by CDFW, pre-construction surveys of potential bat roost habitat are recommended to be performed in all trees subject to removal for evidence of bat use (guano accumulation, acoustic or visual detections). If evidence of bat use is found, then acoustic surveys would be conducted by a qualified biologist to determine whether a site is occupied. The survey would determine if the roost is a maternity roost (if construction work is being performed in the spring),

hibernacula, or day roost. If a maternity roost is present, delay of the demolition may be necessary until after the roost is vacated. If bat species are detected/observed within the trees, measures would be taken to clear the bats prior to demolition activities. Measures to exclude bats from occupied roosts may include but are not limited to: disturbance to roosting individuals through introduction of light and/or noise to create an undesirable setting and to encourage the bats to vacate the roost. Upon removal of the bats from trees to be removed, access points would be sealed to prevent reentry of bat species. Once it has been concluded that no bat species are present, tree removal may commence upon final approval from the Town of Truckee. To offset the loss of any occupied bat roost, the applicant could install bat boxes at a suitable location in the vicinity of Project Site to provide roosting opportunities and locations for the displaced bats. The applicant should work with CDFW to agree upon the number of bat boxes and their respective installation locations prior to removal of the bat roost/demolition activities.

Implementation of this mitigation measure would reduce impacts to roosting bats to a less-than-significant level.

Impact BIO-3: Disturbance of nesting raptors and songbirds or destruction of active nests
Shrubs and trees within the development area have the potential to provide suitable nesting habitat for non-status bird species that are protected by the Migratory Bird Treaty Act of 1918 and the California Fish and Game Code Sections 3503 and 3513 including raptors and other songbird species. Destruction of or disturbance to an active nest is prohibited. Construction activities including tree removal, other vegetation clearing, and noise and vibration have a potential to result in direct (i.e., death or physical harm) and indirect (i.e., nest abandonment) significant impacts to nesting birds. However, implementation of Mitigation Measure BIO-3 would reduce potential impacts to nesting raptors and songbirds to a less-than-significant level.

Mitigation Measure BIO-3: Construct project outside of the nesting season or implement avoidance measures. If vegetation removal is scheduled during the nesting season (typically March 15 to August 31), it is recommended that a focused survey for active nests be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) within 14 days prior to the beginning of project-related activities. Surveys would be conducted in proposed work areas, staging and storage areas, along equipment transportation routes, and soil, equipment, and material stockpile areas. For passerines and small raptors, surveys should be conducted within a 250-foot radius surrounding the work area (in non-developed areas and where access is feasible). For larger raptors, such as buteos, the survey area should be 500 feet. Surveys would be conducted at the appropriate times of day, and during appropriate nesting times and would concentrate on areas of suitable habitat. If a lapse in project-related work of 14 days or longer occurs, an additional nest survey will be required before work can be reinitiated. If nests are encountered during any preconstruction survey, the qualified biologist would determine, depending on conditions specific to each nest and the relative location and rate of construction activities, if it may be feasible for construction to occur as planned without impacting the success of the nest. The nest(s) would be monitored by a qualified biologist during active construction. If, in the professional opinion of the biologist, construction activities have the potential to adversely affect the nest, the biologist would immediately inform the construction manager to stop construction activities within minimum exclusion buffer of 50 feet for songbird nests, and 200 to 500

feet for raptor nests, depending on the species and location. Construction activities would proceed after the nest is no longer active.

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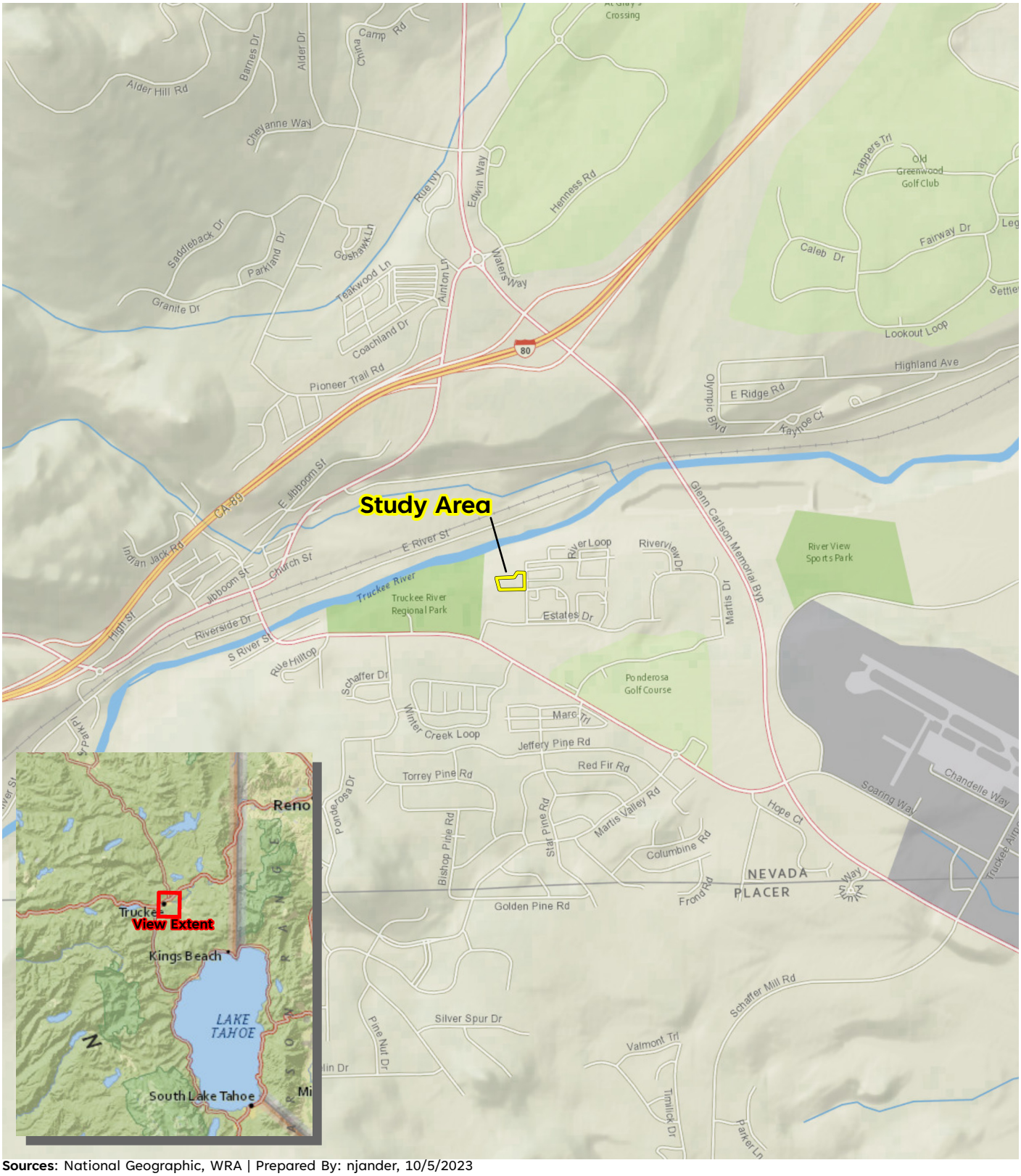
APPENDIX A. FIGURES



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Sources: National Geographic, WRA | Prepared By: njander, 10/5/2023

Figure 1. Study Area Regional Location Map

KidZone Museum
Truckee, California

0 0.25 0.5 Miles

N

wra Environmental Consultants

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Sources Nevada County Imagery 2011, WRA | Prepared By: njander, 10/5/2023

Figure 2. Land Cover Types in the Study Area

KidZone Museum
Truckee, California

0 50 100 Feet

N

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APPENDIX B. SPECIES OBSERVED IN THE PROJECT SITE

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Plant Species Observed within the Project Site during the Biological Site Reconnaissance on May 22, 2023

Scientific Name	Common Name	Native (Y/N)	Invasive (I)
Artemesia tridentata ssp. vaseyi	Great Basin sagebrush	Y	
Bromus tectorum	Cheat grass	N	
Carex douglasii	Douglas' sedge	Y	
Elymus elymoides var. elymoides	Squirrel tail grass	Y	
Elymus glaucus ssp. glaucus	Blue wild rye	Y	
Elymus triticoides	Beardless wildrye	Y	
Ericameria viscidiflorus ssp. viscidiflorus	Yellow rabbitbrush	Y	
Eriogonum nudum			
Eriogonum umbellatum var. *nevadense*	Sulphur flower buckwheat	Y	
Festuca idahoensis	Idaho fescue	Y	
Gayophytum diffusum ssp. parviflorum	Small flowered groundsmoke	Y	
Hydrophyllum alpestre	Alpine breeches	Y	
Linum lewisii var. lewisii	Lewis' flax	Y	
Lotus corniculatus	Bird's foot trefoil	N	
Lupinus breweri	Brewer's lupine	Y	
Microsteris gracilis	Slender phlox	Y	
Navarretia capillaris	Miniature gilia	Y	
Perideridia lemmonii	Lemmon's yampah	Y	
Phacelia hastata ssp. hastata	Silverleaf phacelia	Y	
Pinus jeffreyi	Jeffrey pine	Y	
Poa bolanderi	Bluegrass	Y	
Poa bulbosa	Bulbous blue grass	N	
Poa palustris	Fowl blue grass	N	I
Poa pratensis	Kentucky blue grass	N	
Purshia tridentata	Antelope bitterbrush	Y	
Wyethia mollis	Wooly mule's ears	Y	

Wildlife Species Observed within the Project Site During The Biological Site Reconnaissance on May 22, 2023

Scientific Name	Common Name
Birds	
Corvus corax	common raven
Cyanocitta stelleri	Steller's jay
Euphagus cyanocephalus	Brewer's blackbird
Haemorhous mexicanus	House finch
Haemorhous purpureus	Purple finch
Junco hyemalis	dark-eyed junco
Melospiza melodia	song sparrow
Nucifraga columbiana	Clark's nutcracker
Passer domesticus	House sparrow
Poecile gambeli	mountain chickadee
Turdus migratorius	American robin
Reptiles	
Sceloporus occidentalis	western fence lizard

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APPENDIX C. SPECIAL-STATUS SPECIES POTENTIAL TABLE

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Appendix C1. Potential for Special Status Plant Species to Occur within the Project Site. List Compiled from the California Department of Fish and Wildlife Natural Diversity Database (CDFW 2023), U.S. Fish and Wildlife Service Information for Planning and Consultation Species Lists (USFWS 2023), and California Native Plant Society Rare Plant Inventory (CNPS 2023) search of the Truckee and surrounding eight U.S. Geological Survey 7.5' quadrangles.

Species Name	Status	Habitat Requirements	Potential for Occurrence
PLANTS			
Arabis rigidissima var. *demota* Galena Creek rock-cress	Rank 1B.2	Perennial herb from fir- pine-quaking aspen associations, meadow edges, usually on north-facing slopes and rocky outcrops. Typically found on well-drained, stony soil underlain by basic volcanic rock. Elevation 2,255-2,560 m (7,400-8,400 ft). Blooms August.	**No Potential.** The Project Site is situated below the documented elevation of this species and does not support vegetation communities typically associated with this species.
Artemisia tripartita ssp. tripartita threetip sagebrush	Rank 2B.3	Perennial shrub from upper montane coniferous forest (openings)/Rocky, volcanic. Associated with *Artemisia tridentata* ssp. *vaseyana*, *Monardella odoratissima*, *Wyethia mollis*, *Lupinus arbustus*, and *Castilleja applegatei*. Elevation 2,200-2,600 m (7,217-8,530 ft). Blooms August.	**No Potential.** The Project Site is situated below the documented elevation of this species and does not support vegetation communities typically associated with this species.
Astragalus austiniae Austin's astragalus	Rank 1B.3	Perennial herb from alpine boulder and rock field, Subalpine coniferous forest/Rocky. Elevation 2,440-2,965 m (8,005-9,727 ft). Blooms June-September.	**No Potential.** The Project Site is situated below the documented elevation of this species and does not support vegetation communities typically associated with this species.
Astragalus whitneyi var. lenophyllus woolly-leaved milk-vetch	Rank 4.3	Alpine boulder and rock field, Subalpine coniferous forest (rocky). Elevation 7,000-10,000 ft. Blooms July-August.	**No Potential.** The Project Site is situated below the documented elevation of this species and does not support vegetation communities typically associated with this species.
Botrychium ascendens upswept moonwort	Rank 2.3	Rhizomatous fern observed in moist habitats near springs and streams. Elevation 1,500-2,060 m (4,920-6,760 ft). Fertile in August.	**No Potential.** No perennial aquatic habitat present in the Project Site.
Botrychium crenulatum scalloped moonwort	Rank 2.2	Rhizomatous fern observed in marshes, meadows, seeps, bogs and fens, stream banks and other moist habitats. Elevation 1,500-2,670 m (4,920-8,760 ft). Fertile June-August.	**No Potential.** No perennial wetland habitat present in the Project Site.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Botrychium lunaria common moonwort	Rank 2.3	Rhizomatous fern observed in meadows, seeps, and other moist habitats. Elevation 2,740-3,400 m (8,990-11,150 ft). Fertile period not specified in the literature.	**No Potential.** No perennial wetland habitat present in the Project Site and site is below documented elevation range of this species.
Botrychium minganense mingan moonwort	Rank 2.2	Rhizomatous fern that occurs along stream banks and in meadows and other moist habitats. Elevation 1,500-2,275 m (4,920-7,460 ft). Fertile period not specified in the literature.	**No Potential.** No wetland or aquatic habitat is present in the Project Site.
Bruchia bolanderi Bolander's bruchia moss	Rank 4.2	Moss from lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Seems to colonize bare soil along stream banks, meadows, fens and springs. This species has an ephemeral nature and is disturbance adapted. 1150-2800 m (3,772-9,186 ft). Fertile period not specified in the literature.	**No Potential.** No wetland or aquatic habitat is present in the Project Site.
Carex davyi Davy's sedge	Rank 1.B	Perennial herb known to occur in moist meadows and rocky slopes in subalpine coniferous forest and upper montane coniferous forest. Elevation 1,500-3,200 m (4,921-10,500 ft). Blooms May-August.	**No Potential.** No meadow habitat present in the Project Site that would support this species.
Carex lasiocarpa woolly-fruited sedge	Rank 2.3	Perennial herb generally in standing water in sphagnum bogs, freshwater marsh, lakes, and ponds. Elevation 1,800 - 2,100 m (5,900-6,900 ft). Blooms June-June.	**No Potential.** No wetland or aquatic habitat is present in the Project Site.
Carex limosa mud sedge	Rank 2B.2	Perennial herb from bogs and fens; lower montane coniferous forest; meadows and seeps; marshes and swamps; and upper montane coniferous forest. Elevation 1,200-2,700 m (3,937-8,858 ft). Blooms June-August.	**No Potential.** No suitable perennial wetland habitat present in the Project Site. The only *Carex* species observed during the survey was the common and widespread *Carex douglasii*.
Claytonia megarhiza fell-fields claytonia	Rank 2B.3	Alpine boulder and rock field, subalpine coniferous forest. In the crevices between rocks, rocky or gravelly soil. 2560-3505 m (3532-11590 ft). Blooms June-September.	**No Potential.** The Project Site does not support alpine boulder and rock field or subalpine coniferous forest communities.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Cryptantha glomeriflora clustered-flower cryptantha	Rank 4.3	Great Basin scrub, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest. Granitic or volcanic, sandy soils. 1800 -5905 m (3750 to 12305 ft). Blooms June-September.	**No Potential.** No subalpine or upper montane coniferous forest habitat present in the Project Site.
Drosera anglica English sundew	Rank 2B.3	Perennial carnivorous herb from bogs and fens, meadows. 1300-2000 m (4,265-6,562 ft). Blooms June-September.	**No Potential.** No suitable perennial wetland habitat present in the Project Site.
Epilobium howellii subalpine fireweed	Rank 4.3	Perennial stoloniferous herb from meadows and seeps, Subalpine coniferous forest. Elevation 2,135 m (7,000 ft)-3,050 (10,005). Blooms June-August.	**No Potential.** The site is below the typical elevation range and lacks meadows/seeps and subalpine communities in which this species is typically found.
Epilobium oreganum Oregon fireweed	Rank 1B.2	Perennial herb from upper montane coniferous forest, lower montane coniferous forest, in or near streams, bogs, or fens; Elevation 500-2,240 m (1,640-7,350 ft). Blooms June – September.	**No Potential.** No stream, or fen habitat present in the Project Site.
Erigeron eatonii var. nevadincola Nevada daisy	Rank 2.3	Perennial herb from Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodland, and rocky substrates. Only information for nearby collection is 1915 collection by Brainerd and Baird. Elevation 1,400-2,900 m (4,600-9,514 ft). Blooms May–June.	**Unlikely**. Fragmented Great basin sagebrush/bitterbrush scrub provides marginal habitat. Perennial species not observed during May site visit.
Erigeron miser starved daisy	Rank 1B.3	Perennial herb from rocky, granitic outcrops in upper montane coniferous forest. Associated with *Pinus murrayana, p. jeffreyi, P. monticola,* and *Abies magnifica*. Elevation 1,755-2,260 m (5,760-7,415 ft). Blooms June-October.	**Unlikely.** Great basin sagebrush/bitterbrush scrub provides marginal habitat. Perennial herb species not observed during late May site visit.
Erigeron petrophilus var. sierrensis northern Sierra daisy	Rank 4.3	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest. Serpentinite (sometimes). Elevation 300-6,800 ft. Blooms June-October.	**Unlikely.** Great basin sagebrush/bitterbrush scrub provides marginal habitat. Perennial herb species not observed during late May site visit.
Eriogonum umbellatum var. *torreyanum* Donner Pass buckwheat	Rank 1B.2	Perennial herb that occurs on rocky, volcanic soils on steep slopes and ridge tops, usually in bare or sparsely vegetated areas. Elevation 1,840-2,620 m (6,040-8,600 ft). Blooms June-September.	**No Potential.** The site does not support rocky slopes or ridgelines where this species occurs locally. Perennial shrub species not observed during late May site visit.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Eriophorum gracile slender cottongrass	Rank 4.3	Perennial rhizomatous herb (emergent) from bogs and fens, meadows and seeps. Upper montane coniferous forest. Elevation 1,280 m (4,195 ft)-2,900m (9,515 ft). Blooms May-September.	**No Potential.** No suitable perennial wetland habitat present in the Project Site.
Glyceria grandis American mannagrass	Rank 2.3	Perennial rhizomatous herb that occurs in wet meadows, ditches, streams, and ponds. Elevation 15-1,980 m (50-6,500 ft). Blooms June-August.	**No Potential.** No suitable perennial wetland habitat present in the Project Site.
Hackelia amethystine amethyst stickseed	Rank 4.3	Perennial herb from lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Openings, disturbed areas. Elevation 1,500 m (4,920ft)-2,315 m (7,595 ft). Blooms June-June (August).	**Unlikely**. Great basin sagebrush/bitterbrush scrub provides marginal habitat. Perennial species not observed during late May site visit.
Ivesia sericoleuca Plumas ivesia	Rank 1B.2	Perennial herb known from vernally mesic areas, usually on volcanic substrates, within Great Basin scrub, lower montane coniferous forest, meadows, and vernal pools. Elevation 1,450-2,000 m (4,755-6,560 ft). Blooms May-October.	**Unlikely**. Great basin sagebrush/bitterbrush scrub provides marginal habitat. Perennial species not observed during late May site visit.
Juncus luciensis Santa Lucia rush	Rank 1B.2	Annual herb from chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools. Elevation 300 to 2,040 m (985 to 6,690 ft). Blooms April-June.	**Unlikely**. Great basin sagebrush/bitterbrush scrub provides marginal habitat. However, species not observed during late May site visit.
Lewisia longipetala long-petaled lewisia	Rank 1B.3	Perennial herb from alpine boulder and rock field, Subalpine coniferous forest (mesic, rocky)/granitic. Known from fewer than twenty occurrences. Possibly threatened by horticultural collecting; Elevation 2,500-2,925 m (8,200-9,600 ft). Blooms June-August.	**No Potential.** No suitable alpine or subalpine habitat within the Project Site. Site is below documented elevation range for this species.
Lomatium grayi Gray's lomatium	Rank 2B.3	Great Basin scrub, Pinyon pine and juniper woodland. 1390 to 4560 m. Blooms April-June.	**Unlikely**. Great basin sagebrush/bitterbrush scrub provides marginal habitat. However, species not observed during late May site visit.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Meesia triquietra *Three-ranked hump moss*	Rank 4.2	Moss that occurs in bogs and fens, meadows and seeps, upper montane coniferous forest, subalpine coniferous forest. Moss growing on mesic soil. Saturated bogs, fens, seeps and meadows in coniferous to subalpine forests. 1300-2955 m (4,265-9,695 ft).	**No Potential.** No bog, seep, or fen habitat is present within the Project Site.
Meesia uliginosa Broad-nerved hump moss	Rank 2.3	Moss that occurs in bogs and fens, meadows and seeps, upper montane coniferous forest on mesic soil; Elevation 1,300-2,500 m (4,265-8,202 ft). Moss. Fertile period not specified in the literature.	**No Potential.** No perennial wetland habitat present in the Project Site.
Mertensia oblongifolia var. oblongifolia Sagebrush bluebells	Rank 2B.2	Perennial herb in Great Basin scrub, lower montane coniferous forest, meadows and seeps, subalpine coniferous forest. Usually in mesic sites. 1000-3000 m (3,280-9,843 ft). Blooms April-June.	**Unlikely**. Great basin sagebrush/bitterbrush scrub provides marginal habitat. However, perennial species not observed during late May site visit.
Nardia hiroshii Hiroshi's flapwort	Rank 2B.3	Liverwort that occurs in meadows and seeps on damp soil with granitic bedrock. 2,195 m (7,201 ft). Fertile period not specified in the literature.	**No Potential.** No wet meadow or seep habitat that would support this species is present.
Phacelia stebbinsii Stebbins' phacelia	Rank 1B.2	Lower montane coniferous forest, cismontane woodland, meadows and seeps. Among rocks and rubble on metamorphic rock benches. 605-2320 m (2010-6595 ft). Blooms May-June.	**Unlikely**. Great basin sagebrush/bitterbrush scrub provides marginal habitat. However, species not observed during late May site visit.
Potamogeton epihydrus Nuttall's ribbon-leaved pondweed	Rank 2B.2	Aquatic perennial rhizomatous herb that occurs in marshes and swamps. Transition zone. Granite soil. Aquatic. Shallow water, ponds, lakes, streams, irrigation ditches. Elevation 370-2,170 m (1,213-7,119 ft). Blooms June-September.	**No Potential.** No perennial open water habitat present in the Project Site.
Potamogeton robbinsii Robbins' pondweed	Rank 2B.3	Aquatic perennial rhizomatous herb that occurs in marshes and swamps (deep water, lakes). Elevation 1,530-3,300 m (5,019 -10,286 ft) Blooms June – August.	**No Potential.** No perennial open water habitat present in the Project Site.
Primula pauciflora beautiful shootingstar	Rank 4.2	Great Basin scrub, Meadows and seeps, Pinyon and juniper woodland. 1000 3280 m. Blooms April-June.	**Unlikely**. Great basin sagebrush/bitterbrush scrub provides marginal habitat. However, species not observed during late May site visit.

Species Name	Status	Habitat Requirements	Potential for Occurrence
Rhamnus alnifolia alder buckthorn	Rank 2.2	Perennial shrub in meadows and seeps, lower montane coniferous forest, upper montane coniferous forest, montane riparian scrub. Elevation 1,370-2,130 m (4,495-6,990 ft). Blooms May-June.	**No Potential.** No suitable habitat and species not observed during late May site visit when this perennial shrub would have been identifiable.
Scutellaria galericulata marsh skullcap	Rank 2.2	Perennial herb from lower montane coniferous forest, meadows and seeps, marshes and swamps. Elevation 0 to 2,100 m (0- 6,890 ft). Blooms June-September.	**No Potential.** No wetland habitat present in the Project Site.
Sidalcea multifida cut-leaf checkerbloom	Rank 2B.3	Lower montane coniferous forest, meadows and seeps, Great Basin scrub, pinyon and juniper woodland. 1280-2760 m. Blooms May-September.	**Unlikely**. Fragmented Great basin sagebrush/bitterbrush scrub provides marginal habitat. However, species not observed during late May site visit.
Sphaeralcea munroana Munro's desert mallow	Rank 2.2	Perennial herb from dry, open sites in Great Basin scrub. Elevation 2,000 m (6,560 ft). Blooms May-June.	**Unlikely**. Great basin sagebrush/bitterbrush scrub provides marginal habitat. However, species not observed during late May site visit.
Stuckenia filiformis var. alpina *Slender-leaved pondweed*	Rank 2.2	Perennial aquatic herb from marshes and swamps, clear water of lakes and drainage channels (assorted shallow water). Elevation15-2,310 m (50-7,575 ft). Blooms May-June.	**No Potential.** No perennial open water habitat present in the Project Site.
Subularia aquatica ssp. americana water awlwort	Rank 4.3	Upper montane coniferous forest, lake margins. 1900 - 6230 m (3100-10170 ft). Blooms June-September.	**No Potential.** No perennial open water habitat present in the Project Site.

Appendix C2. Potential for Special Status Wildlife Species to Occur within the Project Site. List Compiled from the California Department of Fish and Wildlife Natural Diversity Database (CDFW 2023), U.S. Fish and Wildlife Service Information for Planning and Consultation Species Lists (USFWS 2023), and California Native Plant Society Rare Plant Inventory (CNPS 2023) search of the Truckee and surrounding eight U.S. Geological Survey 7.5' quadrangles.

WILDLIFE			
Amphibians			
Ambystoma macrodactylum sigillatum Southern long-toed salamander	SSC	Ponds in Coldstream Valley, Donner Memorial State Park, south of Donner Lake.	**No Potential**. No ponds or other aquatic habitat present within more than 300 ft of the Project Site. Amphibians are not expected to disperse onto the site due to the distance to potentially suitable spring habitats (more than 300 ft) and the presence of barriers to dispersal (buildings and Highway 267).
Lithobates pipiens Northern leopard frog (native populations only)	SSC	Native range is east of the Sierra Nevada-Cascade crest. Occur in the vicinity of springs, slow streams, marshes, bogs, ponds, canals, flood plains, reservoirs, and lakes; usually they are in or near permanent water with rooted aquatic vegetation. In summer, they commonly inhabit wet meadows and fields. The frogs take cover underwater, in damp niches, or in caves when inactive. Wintering sites are usually underwater, though some frogs possibly overwinter underground. s. Eggs are laid and larvae develop in shallow, still, permanent water (typically), generally in areas well exposed to sunlight. Generally eggs are attached to vegetation just below the surface of the water.	**No Potential**. No aquatic breeding habitat is present within the Project Site. Species not likely to occur in the Project Site. Amphibians are not expected to disperse onto the site due to the distance to potentially suitable spring habitats (more than 300 ft) and the presence of barriers to dispersal (buildings and Highway 267).
Rana sierrae Sierra Nevada yellow-legged frog	FE/ST	Streams, lakes, and ponds in montane riparian habitats. Always encountered within a few feet of water; however, they may cross upland areas in moving between summer and winter habitats. Wintering sites include areas near shore under ledges and in deep underwater crevices. Breeding success depends on perennial bodies of water because larvae require multiple years of development before metamorphosis. Tadpoles may require 2 - 4	**No Potential.** No suitable aquatic breeding habitat present. Perennial wetland habitat is located more than 300 feet from the Project Site. SNYLF are seldom observed far from water, although they may move overland to disperse to other pond habitats.

		years to complete their aquatic development.	
Birds			
Accipiter gentilis Northern goshawk	SSC	Occurs within and in vicinity of mature coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Dense stands of mature red fir, lodge pole pine, Jeffrey pine, and aspens characterize nest tree sites in the Sierra Nevada region. Suitable nest sites typically require large trees, snags, downed logs, dense canopy cover, and open understories.	**Unlikely**. The Project Site is surrounded by development, functions as active recreation site and storage yard, and no suitable nesting habitat consisting of mature coniferous forest is present. Due to the site's distance from areas of suitable habitat, this species is not likely to forage over the site.
Accipiter cooperi Cooper's hawk	Cwl	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	**Unlikely**. No suitable nesting habitat is present and fragmented habitats provide low quality foraging habitat.
Antigone canadensis tabida Greater sandhill crane	ST	Nests in wetland habitats in northeastern California; winters in the Central Valley. Prefers grain fields within 4 mi of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites.	**No Potential**. No suitable nesting (wetland) habitat present and this species is not expected to forage over the site.
Aquila chrysaetos Golden eagle	Cwl Cfp (nesting and wintering)	Generally inhabit open and semi-open country such as prairies, sagebrush, arctic and alpine tundra, savannah or sparse woodland, and barren areas, especially in hilly or mountainous regions, in areas with sufficient mammalian prey base and near suitable nesting sites. Nests are most often on rock ledges of cliffs but sometimes in large trees on steep hillsides, or on the ground. Nesting cliffs may face any direction and may be close to or distant from water.	**Unlikely**. No suitable nesting habitat is present and fragmented habitats provide low quality foraging habitat.
Asio otus Long-eared owl	SSC	Requires riparian or other thickets of small, densely canopied trees for roosting and nesting. Uses abandoned crow, magpie, hawk, heron, and squirrel nests in densely canopied areas.	**No Potential**. The Project Site is surrounded by development, functions as active recreation site and storage yard, and lacks dense canopied trees that may provide nesting habitat. Due to the site's distance from areas of suitable habitat and disturbed conditions from ongoing human presence, this species is not likely to nest on or forage over the site.

Circus cyaneus Northern harrier	SSC (nesting)	Occurs in marshes, meadows, grasslands, and cultivated fields. Nests on the ground, commonly near low shrubs, in tall weeds or reeds. Winters throughout California where suitable habitat occurs. Wintering habitat includes open areas dominated by herbaceous vegetation, such as grassland, pastures, cropland, coastal sand dunes, brackish and freshwater marshes, and estuaries.	**Unlikely**. No suitable nesting habitat present but may occasionally forage over the site.
Contopus cooperi Olive-sided flycatcher	SSC	Summer resident and migrant that breeds primarily in late-succession conifer forest with open canopy. Species prefers to forage near forest openings or edges.	**Unlikely**. Jeffrey pine stands onsite do not provide nesting habitat and due to the amount of surrounding development, disturbance from current land use, there is a low potential for this species to forage over the site.
Cypseloides niger black swift	SSC	Rare, local summer resident of mountain foothill canyons which arrives in mid-May for nesting. Distribution includes Coastal belt of Santa Cruz & Monterey Co; central & southern Sierra Nevada; San Bernardino & San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf. Lays a single egg per season. Forages widely.	**No Potential**. No suitable habitat consisting of cliffs near waterfalls is present on the Project Site.
Empidonax traillii willow flycatcher	SE	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches. Other important habitat characteristics of suitable riparian/meadow sites include a high water table that results in standing or slow-moving water, or saturated soils that persist during the breeding season.	**No Potential**. No riparian habitat is present that could support this species.
Falco peregrinus Peregrine falcon	Cfp	Nest and roost on protected ledges of high cliffs, usually adjacent to water bodies and wetlands that support abundant avian prey.	**Unlikely**. No suitable nesting habitat present. Disturbed site conditions and fragmented scrub do not provide suitable foraging opportunities for this species.
Haliaeetus leucocephalus Bald eagle	SE	Use ocean shorelines, lake margins, and river courses for both nesting and wintering.	**Unlikely**. Project site does not contain suitable nesting or foraging habitat.

		Most nests are within 1 mile of water, in large trees with open branches. Roost communally in winter.	
Pandion haliaetus Osprey	SSC	Inhabits areas associated with rivers, lakes and coastlines. Builds nest in large trees adjacent to water bodies. Nest usually within 0.25 mile of fish-producing water, but may nest up to 1.5 miles from water. Commonly associated with riparian forest.	**Unlikely**. The site does not provide foraging opportunities or suitable nesting habitat.
Picoides arcticus *black-backed woodpecker*	SC	Occurs in a variety for conifer forest types, but strongly associated with unlogged, severely-burned forest with abundant snags. Also strongly associated with areas of high tree mortality from beetles.	**Unlikely**. Project site lacks suitable nesting habitat. Site is disturbed from surrounding development and ongoing human presence from surrounding recreation and residential uses.
Setophaga petechia Yellow warbler	SSC	Riparian plant associations in proximity to water. Prefers willows, cottonwoods, aspens, sycamores, & alders for nesting & foraging. Also nests in montane shrubbery in open conifer forests.	**No Potential**. No riparian habitat is present and the site is over 300 feet away from foraging habitat in the Truckee River.
Strix nebulosa Great gray owl	SE	Found in Central Sierra mature mixed conifer forests near meadows. Scattered along the west slope of the Sierra, between 4,500 and 7,500 feet elevation, from Plumas County to Yosemite National Park.	**Unlikely**. No suitable habitat within the Project Site, and there is a low potential that this species would forage over the site. Site is disturbed from surrounding development and consistent human presence from current recreation uses.
Strix occidentalis occidentalis California spotted owl	SSC	Occur in several forest vegetation types including mixed conifer, ponderosa pine, red fir, and montane hardwood. Nesting habitat is characterized by dense canopy closure (>70%) with medium to large trees and multi-storied structure stands (i.e., at least two canopy layers). Foraging habitat can include intermediate to late-successional forest with greater than 40 percent canopy cover.	**No Potential**. No suitable habitat is present and the site is surrounded by development that would preclude this species from occupying the site. Site is disturbed from surrounding development and onsite human presence from current recreation uses.
Mammals			
Aplodontia rufa Mountain beaver	SSC	Suitable habitat includes dense growth of small deciduous trees and shrub such as willow and alder, saturated to inundated soils, and abundance of forbs in the Sierra Nevada and east slope. Requires dense understory for food and cover. Burrows into soft soil and spends a high proportion of	**No Potential**. No suitable habitat is present.

		their time in extensive underground burrow systems with multiple openings, tunnels, and food caches. Needs abundant supply of water.	
Corynorhinus townsendii pallescens Townsend's big-eared bat	SSC, WBWG-H	Commonly occurs in mesic habitats characterized by coniferous and deciduous forest but occupies a broad range of habitats. Maternity and hibernation colonies generally are in caves and mine tunnels.	**Unlikely**. Very low probability that this species would establish maternity or hibernation colonies on the Project Site. Site subjected to disturbed from human presence and current recreation uses.
Euderma maculatum California spotted bat	SSC, WBWG-H	Optimal habitats include arid deserts, grasslands, and mixed conifer forests from sea level to 10,000 feet. Roosts in rock crevices.	**Unlikely**. No suitable roost habitat is present and the high level of site disturbance is expected to preclude the occurrence of this species.
Gulo gulo California wolverine	FC, ST	Typically found in very remote areas of North America and high elevation areas of the Sierra Nevada and Rocky Mountains. Needs water source. Uses caves, logs, burrows for cover & den area. Hunts in more open areas. Can travel long distances.	**No Potential**. The high level of existing human activity onsite, surrounding development, proximity to downtown Truckee and Highway 267, and the lack of suitable den habitat would preclude the occurrence of this species.
Lasionycteris noctivagans *Silver-haired bat*	WBWG-M	Primarily a coastal & montane forest dweller feeding over streams, ponds & open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes & rarely under rocks. Needs drinking water.	**Moderate**. Marginally suitable roosting habitat is present in Jeffrey pine trees within the Project Site.
Lepus americanus tahoensis Sierra Nevada snowshoe hare	SSC	Boreal riparian areas in the Sierra Nevada. Thickets of deciduous trees in riparian areas (willows and alders) and thickets of young conifers.	**No Potential**. No riparian habitat is present. The high level of existing human activity, surrounding development, proximity to downtown Truckee and Highway 267, and the lack of suitable den habitat would preclude the occurrence of this species.
Lepus townsendii townsendii White-tailed jackrabbit	SSC	Sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland east of the Sierra Crest. Tends to inhabit open areas with scattered shrubs & exposed flat-topped hills with open stands of trees, brush & herbaceous understory.	**Unlikely**. Montane scrub onsite is fragmented and the site is completely surrounded by development. This species also has a very low probability to occur due to a lack of recent or nearby observations and high degree of human presence in the development area.
Martes caurina sierra Sierra marten	SSC	Mixed evergreen forests with more than 40% crown closure along Sierra Nevada & Cascade Mtns. Preferred habitat is characterized by dense, multi-aged coniferous forest that includes a high percentage of	**Unlikely**. No multi-aged forest habitat is present within the Project Site.

		snags and downed logs in proximity to riparian corridors.	
Myotis volans Long-legged myotis	SSC, WBWG-H	Most common in montane coniferous woodland & forest habitats above 4000 ft. Trees are important day roosts; caves & mines are night roosts. Nursery colonies usually under bark or in hollow trees, but occasionally in crevices or buildings.	**Moderate**. Marginally suitable roosting habitat is available in Jeffrey pine trees within the Project Site.
Pekania pennanti fisher - West Coast DPS	SSC	Intermediate to large-tree stages of coniferous forests & deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs & rocky areas for cover & denning. Needs large areas of mature, dense forest. Avoids entering open areas that have no overstory or shrub cover.	**No Potential**. The Project Site does not support late seral forests or riparian habitat that would be suitable to support this species
Ochotona princeps schisticeps gray-headed pika	*	Mountainous areas, generally at higher elevations, often above the tree line up to the limit of vegetation. At lower elevations found in rocky areas within forests or near lakes. Talus slopes, occasionally on mine tailings. Prefers talus-meadow interface.	**No Potential**. Species not expected to occur due to lack of suitable habitat and onsite disturbance, and surrounding development.
Taxidea taxus American badger	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils & open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Unlikely**. Disturbed montane scrub provides very marginal habitat and no dens were observed. It is unlikely this species would occur due to high level of human activity from Truckee Regional Park and surrounding commercial and residential developments.
Vulpes vulpes necator Sierra Nevada red fox	FE, ST	Historically found from the Cascades down to the Sierra Nevada. Found in a variety of alpine habitats from wet meadows to forested areas. Use dense vegetation & rocky areas for cover & den sites. Prefer forests interspersed with meadows or alpine fell-fields.	**Unlikely**. Species not expected to occur within the Project Site due to high level of human activity, fragmented habitat, and lack of cover for den sites. The site is completely surrounded by development and an occurrence of this species would be extremely rare on the Project Site.
Invertebrates			
Bombus morrisoni Morrison bumblebee	*	This species occurs throughout the Mountain West from California east of the Sierra-Cascade Ranges to southern British Columbia.	**Unlikely**. Vegetation structure of montane scrub is not suitable to provide nest habitat and there are a limited number of individual host plants present on the Project

		This species inhabits open dry scrub where it nests underground as well as in structures and grass hummocks. Example food plants include *Asclepias*, *Astragalus*, *Chrysothamnus*, *Cirsium*, *Cleome*, *Ericameria*, *Helianthus*, *Melilotus*, and *Senecio*.	Site. No colony sites nor members of the *Bombus* genus were observed during the site visits.
Bombus occidentalis *Western bumble bee*	SC	This species is a generalist forager and has been reported visiting a wide variety of flowering plants. Bumble bees require plants that bloom and provide adequate nectar and pollen throughout the colony's life cycle, which is from early February to late November This bumble bee is an excellent pollinator of greenhouse tomatoes and cranberries and has been commercially reared to pollinate these crops.	**Moderate**. While this species may occasionally pass through the site, no colony sites were observed (or suitable burrows) and the patchy, disjunct plant communities with limited nectar sources onsite are not likely to provide optimal habitat. However, the Project Site is within the current range of this species.

FE: Federal Endangered
FT: Federal Threatened
FC: Federal Candidate
SE: State Endangered
ST: State Threatened
SC: State Candidate
SR: State Rare
Rank 1A: Plants presumed extinct in California
Rank 1B: Plants rare, threatened, or endangered in California and elsewhere
Rank 2: Plants rare, threatened, or endangered in California, but more common elsewhere
Rank 3: Plants about which we need more information – a review list
Rank 4: Plants of limited distribution – a watch list

Potential for Occurrence:

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
Present. Species was observed on the site or has been recorded (i.e. CNDDB, other reports) on the site recently.

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APPENDIX D. PROJECT SITE PHOTOGRAPHS

Photo 1. Graded slope with Jeffrey pine stand and sparse understory along northern Project Site boundary. Facing east.

Photo 2. Unvegetated/disturbed area along eastern boundary of Project Site. Facing east.

Photo 3. Jeffrey pine stand with sparse understory in foreground and parking/storage areas in background. Facing south.

Photo 4. Great Basin sagebrush-bitterbrush scrub on previously filled/graded area in northeast corner of Project Site. Facing southeast.

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APPENDIX C

PRELIMINARY GEOTECHNICAL ENGINEERING REPORT

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PRELIMINARY GEOTECHNICAL ENGINEERING REPORT
KIDZONE MUSEUM

10010 ESTATES DRIVE
TRUCKEE, CALIFORNIA

MARCH 29, 2022

PREPARED FOR:

CAROL MEAGHER
SIERRA NEVADA CHILDREN'S MUSEUM
11711 DONNER PASS ROAD
TRUCKEE, CALIFORNIA 96161

NV5
10775 PIONEER TRAIL, SUITE 213
TRUCKEE, CALIFORNIA 96161

PROJECT NO. 43044.00

Project No. 43044.00
March 29, 2022

Carol Meagher
Sierra Nevada Children's Museum
11711 Donner Pass Road
Truckee, California 96161

Reference: **KidZone Museum**
10010 Estates Drive
Truckee, California

Subject: **Preliminary Geotechnical Engineering Report**

This report presents the results of our preliminary geotechnical engineering investigation for the proposed KidZone Museum permanent facility to be constructed at 10010 Estates Drive in Truckee, California. Project plans were in the preliminary stages at the time this report was prepared. We understand the proposed project will involve construction of a 12,000 square foot single-story structure and an associated parking area. Appurtenant construction will likely include asphalt concrete pavement, hard surface patios and/or sidewalks, and underground utilities.

Due to the presence of snow and the excavation limitations imposed in the Tahoe Truckee area during winter, it is impractical to perform a subsurface investigation at this time. Recommendations contained in this preliminary report are based on review of our previous geotechnical engineering investigations performed in the area, review of geologic maps, and our experience in the area. A subsurface investigation must be performed prior to construction in order to confirm the assumed subsurface conditions used to prepare this report. Our current scope of services includes completing a subsurface investigation when site access is more favorable. We will prepare a design-level supplement letter following completion of our subsurface investigation confirming the assumptions used to prepare this preliminary report.

It appears that there is fill present in the central and northern portions of the site. Due to the potential for excessive settlement, existing fill will not be suitable for direct support of structures. We have provided recommendations in the following report for removing and replacing existing fill with compacted structural fill in structural areas.

A significant amount of over-sized material (cobbles and boulders) should be anticipated in on-site excavations. Confined excavations for footings and underground utilities that extend into boulders will likely be difficult. A large track-mounted excavator equipped with a "thumb" attachment may increase ease of boulder removal at the site.

Based on the results of our site reconnaissance and review of available subsurface information contained in our files pertinent to the proposed construction and project site, our professional opinion is that the site is suitable for the proposed development using conventional earthwork grading and foundation construction techniques. No highly compressible or potentially expansive soil conditions are expected at the site. Preliminary recommendations regarding the geotechnical aspects of project design and construction are presented in the following report.

Please contact us if you have any questions regarding this preliminary report or if we can be of additional service.

Sincerely,
NV5

Prepared by:

Lauryl A. Rudolph
Staff Geologist

Reviewed by:

Nicole McCurdy, P.E.
Project Engineer

copies: Jen Parker

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APPENDICES

1 INTRODUCTION

This report presents the results of our preliminary geotechnical engineering investigation for the proposed KidZone Museum permanent facility to be constructed at 10010 Estates Drive in Truckee, California. We performed our investigation in general accordance with our January 10, 2022 proposal for the project. A copy of the proposal is included as Appendix A of this report.

1.1 PURPOSE

The purpose of this preliminary geotechnical engineering report is to provide general geotechnical and geologic information to be considered during project planning. Our evaluation addresses the general soil and groundwater conditions at the project site, with emphasis on how the conditions are expected to affect the proposed construction. This report also considers potential geologic hazards including faulting and seismicity, slope instability, liquefaction, and other secondary seismic hazards. The preliminary recommendations contained in this report should not be extrapolated to other areas or used for other developments. NV5 must perform a subsurface investigation prior to construction to verify the assumptions used to prepare this preliminary report. Our current scope of services includes a subsurface investigation when site access conditions are more favorable. We will prepare a letter report following the completion of our geotechnical investigation that will include a description of subsurface conditions encountered during logging of exposed cuts at the site, laboratory test data, and a general statement regarding concurrence with the preliminary recommendations presented in this report.

1.2 SCOPE OF SERVICES

To prepare this report we performed the following scope of services:

- A site reconnaissance and review of available literature and subsurface information contained in our files pertinent to the proposed construction and project site.
- Engineering analyses to develop preliminary geotechnical engineering recommendations for project planning and design.
- Preparation of this preliminary report.

1.3 SITE DESCRIPTION

The project site is located at the Truckee River Regional Park in Truckee, California and consists of a single parcel (approximately 1.70-acre) located within the southeast corner of the 10010 Estates Drive parcel (approximately 19.02-acres). The approximate location of the site is shown on Figure 1, Site Vicinity Map. A plan view of the project site is shown on Figure 2, Site Plan.

The site is bounded by River View Drive to the east, undeveloped property that is a part of the Truckee River Regional Park to the north and west, and developed rodeo grounds within the Truckee River Regional Park to the south. We performed our site reconnaissance on March 2,

2022. At the time of our visit, approximately 0- to 3-feet of snow covered the site so we were unable to observe the ground surface across the entire site. Site photographs provided by Suzanne Montgomery and taken prior to this season's snowfall aided our site reconnaissance.

The site is currently undeveloped, however appears to have been previously graded to create a relatively flat ground surface across the southern and central portions of the site. Based on our site observations, it appears there is up to approximately 10 feet of existing fill located in the northeast portion of the site and up to approximately 8 feet of existing fill located in the northwest portion of the site. Localized areas of existing fill throughout the central and southern portions of the site appear to be on the order of 1 to 2 feet. An existing gated storage area is located in the southeast portion of the site that contains temporary portable storage containers, trailers, various recreation equipment, a pickup truck vehicle, and debris. Scattered volcanic boulders up to approximately 3-foot diameter were observed on the ground surface throughout the site. Vegetation at the site consists of conifer trees and brush.

The site is located at 39.3283°N latitude and 120.1703°W longitude (WGS84 datum). Based on Lease Area Exhibit document provided by Jen Parker with the KidZone museum (undated), site elevations range from approximately 5,840 feet above mean sea level (MSL) along the southern property line to 5,818 feet MSL along the northeast property line. Surface water drainage appears to consist of overland flow. The site is generally flat in the central and southern portions of the site with moderate to steep slopes in the northern portion of the site. The property generally slopes down from south to north.

1.4 PROPOSED IMPROVEMENTS

Information about the proposed project was obtained from our site visit, communication with Jen Parker, Carol Megher and Suzanne Montgomery of KidZone Museum, and review of the Lease Area Exhibit document provided by Jen Parker with the KidZone museum (undated). We understand the project will involve construction of a 12,000 square foot single-story structure. A parking area will be installed in the eastern portion of the site as well as an access road to River View Drive. Appurtenant construction will likely include asphalt concrete pavement, hard surface patios and/or sidewalks, and underground utilities. Typical cuts and fills for the proposed construction are anticipated to be about 3 to 5 feet and are not expected to exceed about 10 feet.

2 LITERATURE REVIEW

We reviewed available geologic and soil literature in our files to evaluate geologic and anticipated subsurface conditions at the project site.

2.1 SITE GEOLOGY

We reviewed the *Geologic Map of the Lake Tahoe Basin, California and Nevada*, by George J. Saucedo, California Geological Survey, 2005. We also reviewed the *Geologic Map of the North Lake Tahoe-Donner Pass Region, Northern Sierra Nevada, California*, by Arthur Gibbs Sylvester et al., California Geological Survey, 2012. The geologic maps indicate that the site is generally underlain by Quaternary aged glacial outwash deposits that are comprised of silt, sand, gravel, cobbles and boulders. The glacial outwash locally contain jökulhlaup (flood) deposits. Based on our surface assessment, near-surface soil conditions at the site appear consistent with the glacial outwash deposits described in the mapped geology.

2.2 REGIONAL FAULTING

The project is located in a potentially active seismic area. To evaluate the location of mapped faults relative to the project site, we reviewed the following maps:

- *Fault Activity Map of California <http://maps.conservation.ca.gov/cgs/fam/>;* by Charles W. Jennings and William A. Bryant, California Geological Survey, Geologic Data Map No. 6, 2010.
- U.S. Geological Survey and the California Geological Survey, Quaternary fault and fold database for the United States, accessed March 3, 2022, at https://www.usgs.gov/natural-hazards/earthquake-hazards/faults.

The potential risk of fault rupture is based on the concept of recency and recurrence. The more recently a particular fault has ruptured, the more likely it will rupture again. The California State Mining and Geology Board define an “active fault” as one that has had surface displacement within the past 11,000 years (Holocene). Potentially active faults are defined as those that have ruptured between 11,000 and 1.6 million years before the present (Quaternary). Faults are generally considered inactive if there is no evidence of displacement during the Quaternary period.

The referenced geologic maps show several active and potentially active faults located near the project site, including the Dog Valley Fault (active, approximately 4.6 miles northwest), a group of unnamed faults southeast of Truckee (active and potentially active, approximately 0.8 west and 1.3 miles south), the Polaris Fault (active, approximately 1.9 miles northeast), the West Tahoe – Dollar Point Fault Zone (potentially active, approximately 3.4 miles southeast), the Agate Bay Fault (potentially active, approximately 6.5 miles southeast), the Tahoe Sierra Frontal Fault Zone (potentially active, approximately 6.3 miles southwest), the West Tahoe Fault (active, approximately 16.6 miles south-southeast), and the North Tahoe Fault (active, approximately 10.7 miles southeast). Earthquakes associated with these faults may cause strong ground shaking at the project site.

2.3 POTENTIAL SEISMIC HAZARDS

Primary hazards associated with earthquake faults include strong ground motion and surface rupture. No faults are mapped as crossing or trending towards the site; therefore, the potential for surface rupture at the site is considered low. Earthquakes centered on regional faults in the area, such as the West Tahoe Fault, would likely result in higher ground motion at the site than earthquakes centered on smaller faults that are mapped closer to the site.

Secondary seismic hazards include liquefaction, lateral spreading, and seismically induced slope instability. These potential hazards are discussed below.

2.3.1 Soil Liquefaction

Liquefaction is a phenomenon where loose, saturated, granular soil deposits lose a significant portion of their shear strength due to excess pore water pressure buildup. Cyclic loading, such as that caused by an earthquake, typically causes an increase in pore water pressure and subsequent liquefaction. Based on the results of our preliminary assessment, we anticipate that near-surface soil will consist of medium dense to dense granular soil with varying amounts of gravel, cobbles, and boulders. This soil profile will have a low potential for liquefaction.

2.3.2 Lateral Spreading

Lateral spreading is the lateral movement of soil resulting from liquefaction of subadjacent materials. Since we anticipate that there is a low potential for liquefaction of soil at the site, the potential for lateral spreading to occur is also considered low.

2.3.3 Slope Instability

Slope instability includes landslides, debris flows, and rockfall. No landslides, debris flows or rockfall hazards were observed in the project area. Due to the relatively level topography and rocky nature of the site and general surrounding area, the potential for slope instability is considered low.

3 ANTICIPATED SUBSURFACE CONDITIONS

The anticipated subsurface conditions at the site are based on our literature review, a site visit by our staff geologist, and our experience in the project area.

3.1 NEAR SURFACE SOIL

We anticipate that near-surface native soil at the site will consist of medium dense to dense silty Sand (SM) with varying amounts of gravel, cobbles, and boulders. Due to the developed nature of the site, we anticipated that existing fill will be present in the central and northern portions of the site, with the depth of fill increasing from south to north.

3.2 GROUNDWATER

Fluctuations in soil moisture content and groundwater levels should be anticipated depending on precipitation, irrigation, runoff conditions, and other factors. Based on our experience in the project area, seasonal saturation of near-surface soil and/or perched groundwater should be anticipated, especially during and immediately after seasonal snowmelt.

Although we do not anticipate that groundwater will be encountered in the upper 10 feet where structural improvements are planned at the site, seasonal groundwater may locally perch on dense soil layers. Depending on final site grades, rainfall, irrigation practices, and other factors, seasonally perched groundwater will likely be present at the site. Perched groundwater may cause moisture intrusion into foundation crawlspaces or through concrete slab-on-grade floors, degradation of asphalt concrete pavements, and other adverse conditions. Mitigation measures such as gravel underdrains, elevated building pads, trench drains, water barriers, or other methods may be required to intercept shallow groundwater or reduce potential adverse effects on project features.

We recommend the project civil engineer in conjunction with NV5 review the subsurface information available within this report and revealed during site preparation in order to develop appropriate surface and subsurface drainage plans. The contractor should prepare detailed as-built drawings of the subsurface drainage system.

4 CONCLUSIONS

The following conclusions are based on our literature review, site visit, and experience in the project area. A subsurface exploration must be performed prior to or during construction to confirm the subsurface conditions used to provide conclusions and recommendations in this report.

1. We anticipate native subsurface conditions at the site consist of granular soil types of low plasticity that should provide suitable foundation support for the proposed structures on conventional shallow spread foundations. No severe soil, groundwater, or geologic constraints that would preclude the project as generally planned were observed in the course of our preliminary assessment.
2. We anticipate that existing fill will be present in the central and northern portions of the project site, with the depth of fill increasing from south to north across these areas. Due to the potential for excessive settlement, the fill will not be suitable for support of structures. Structures should be founded on underlying native soil, or the existing fill can be removed and replaced with compacted structural fill. We have provided recommendations for removal of existing fill and placement of structural fill in the *Earthwork* section of this report. In the event existing fill is encountered during our subsurface investigation across the majority of the proposed building pad, we will provide recommendations for reducing the adverse effects of differential fill depths beneath the structure. An option for reducing the adverse effects of differential fill depths may involve constructing a mechanically stabilized earth pad beneath the foundation.
3. A significant amount of over-sized material (cobbles and boulders) should be anticipated in on-site excavations. Confined excavations for footings and underground utilities that extend into boulders will likely be difficult. A large track-mounted excavator equipped with a “thumb” attachment may increase ease of boulder removal at the site.
4. With the exception of the organic surface soil, we anticipate that site soil is generally suitable for reuse as structural fill. However, processing to remove oversized material will likely be necessary. Based on our previous experience in the area, uniformly moisture conditioning soil to within two percent of the optimum moisture content may be difficult. Additional compaction effort may be necessary to reach the specified compaction. Moisture content, dry density, and relative compaction of structural fill should be evaluated by our firm at regular intervals during structural fill placement.
5. Groundwater is not anticipated within the upper 10 feet where structural improvements are planned at the site. However, depending on final site grades, rainfall, and/or irrigation practices, perched groundwater will likely seasonally develop above onsite dense soil layers and could cause moisture intrusion through concrete slabs-on-grade, degradation of asphalt concrete pavements, and other adverse conditions. Consequently, positive surface and near-surface water drainage will be important across the site to reduce the potential for these adverse conditions. We have

provided recommendations to reduce the potential for these adverse effects in the *Recommendations* section of this report.

6. Site soil should provide adequate pavement support. However, seasonal saturation of near-surface soil should be considered in the design of pavement areas. Subdrains under pavement areas and/or v-ditches along the side of roads should be considered to reduce saturation.
7. Numerous tree roots should be anticipated in near-surface site soil located in wooded areas. Raking or hand picking to remove tree roots in fill, road, and foundation areas may be necessary.

5 PRELIMINARY RECOMMENDATIONS

The following preliminary geotechnical engineering recommendations are based on our understanding of the project as currently proposed, our field observations, preliminary engineering analyses, and our experience in the project area. A subsurface investigation must be performed prior to construction in order to confirm the assumed subsurface conditions used to prepare this report.

5.1 EARTHWORK

The following sections present our recommendations for site clearing and grubbing, preparation for and placement of fill material, cut/fill slope grading, temporary excavations, utility trench construction, and construction dewatering.

5.1.1 Clearing and Grubbing

Areas proposed for fill placement, road and driveway construction, and building areas should be cleared and grubbed of vegetation and other deleterious materials. Existing vegetation, organic topsoil, and any debris should be stripped and hauled offsite or stockpiled outside the construction limits. Based on our preliminary assessment, we anticipate that the average depth of stripping will be about 6 inches. Organic surface soil may be stockpiled for future use in landscape areas, but is not suitable for use as structural fill. We anticipate that the actual depth of stripping will vary across the site and may be greater in wooded areas.

Man-made debris and existing fill in structural areas should be over-excavated to underlying, competent material and replaced with compacted structural fill. Grubbing may be required where concentrations of organic soil or tree roots are encountered during site grading.

Existing fill should be removed in areas that will support foundation elements, earth retention structures, concrete slabs-on-grade, and pavement sections. Due to the developed nature of the site, we anticipate that existing fill is present in the central and northern portions of the site. We anticipate the depth of fill increases from south to north across these areas. Existing fill should either be replaced with compacted structural fill or improvements may be founded directly on properly prepared underlying native soil. Existing fill material will likely be suitable for re-use as structural fill material provided any debris exceeding eight inches in maximum dimension and all organic or deleterious material are removed prior to placement. Preparation of the subgrade exposed by over-excavation and requirements for structural fill should be in accordance with recommendations provided below. In the event existing fill is encountered during our subsurface investigation across the majority of the proposed building pad, we will provide recommendations for reducing the adverse effects of differential fill depths beneath the structure. An option for reducing the adverse effects of differential fill depths may involve constructing a mechanically stabilized earth pad beneath the foundation.

All rocks greater than 8 inches in greatest dimension (oversized rock) should be removed from the top 12 inches of soil, if encountered. Oversized rock may be used in landscape areas, rock faced slopes, or removed from the site. Oversized rock should not be placed in fill without prior approval by the project geotechnical engineer.

5.1.2 Preparation for Fill Placement

Prior to fill placement, all areas of existing fill material, man-made debris, and backfill soil should be removed to expose non-expansive native soil as discussed in the previous section.

Where fill placement is planned, the near-surface soil should be scarified to a depth of about 12 inches or to competent material and then uniformly moisture conditioned to within 2 percent of the optimum moisture content. Scarified and moisture conditioned soil should be recompacted with appropriate compaction equipment and proof rolled with a loaded, tandem-axle truck under the observation of an NV5 representative. Any areas that exhibit pumping or rutting should be over-excavated and replaced with compacted structural fill placed according to the recommendations below.

5.1.3 Fill Placement

All fill placed beneath structural improvements (e.g., foundation elements, pavements, and utility lines) and as part of a fill slope or retaining structure should be considered structural fill. Material used for structural fill should consist of uncontaminated, predominantly granular, non-expansive native soil or approved import soil. Structural fill should consist of granular material, nearly free of organic debris, with a liquid limit of less than 40, a plasticity index less than 15, 100 percent passing the 8-inch sieve, and less than 30 percent passing the No. 200 sieve. We anticipate that near-surface on-site soil will be suitable for reuse as structural fill. However, uniformly moisture conditioning the soil to within two percent of optimum moisture content and compacting it to meet project specifications may be difficult. Based on our previous experience in the area, site soil may be above optimum moisture content even in late summer and may require air drying or additional compaction effort to reach the specified compaction. Moisture content, dry density, and relative compaction of fill should be evaluated by our firm at regular intervals during fill placement. Rock used in fill should be broken into fragments no larger than eight inches in diameter. Rocks larger than eight inches are considered oversized material and should be stockpiled for offhaul, later use in rock-faced slopes, or placement in landscape areas.

Imported fill material should be predominantly granular, non-expansive, and free of deleterious or organic material. Import material that is proposed for use on site should be submitted to NV5 for approval and laboratory analysis at least 72 hours prior to import.

If site grading is performed during periods of wet weather, near-surface site soil may be significantly above its optimum moisture content. These conditions could hamper equipment maneuverability and efforts to compact fill materials to the recommended compaction criteria. Fill material may require drying to facilitate placement and compaction, particularly during or following the wet season or spring snowmelt. Suitable compaction results may be difficult to obtain without processing the soil (e.g., discing during favorable weather, covering stockpiles during periods of precipitation, etc.).

Compaction requirements (maximum dry density and moisture content) specified in this report reference ASTM D1557 – *Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort*. Structural fill should be uniformly moisture

conditioned to within 2 percent of the optimum moisture content and placed in maximum 8-inch thick, loose lifts (layers) prior to compacting. Structural fill should be compacted to at least 90 percent of the maximum dry density. The upper 8 inches of structural fill in paved areas should be compacted to at least 95 percent of the maximum dry density. Moisture content, dry density, and relative compaction of fill should be evaluated by our firm at regular intervals during fill placement. The earthwork contractor should assist our representative by preparing test pads with the onsite earth moving equipment.

Structural fill material with more than 30 percent rock larger than ¾-inch cannot be reliably tested using conventional compaction testing equipment. We recommend that a procedural approach, or method specification, be used for quality assurance during rock fill placement rather than a specified relative compaction. The procedural requirements will depend on the equipment used, as well as the nature of the fill material, and will need to be determined by the geotechnical engineer on site. Based on our experience in the area, we anticipate that the procedural specification will require a minimum of six passes with a Cat 563 or similar, self-propelled vibratory compactor to compact a maximum 8-inch thick loose lift. Processing or screening of the fill may be required to remove rocks larger than 8-inches in maximum dimension. Continuous observation by an NV5 representative will be required during fill placement to confirm that procedural specifications have been met.

Differential fill depths beneath the structures should not exceed 5 feet. For example, if the maximum fill depth is 8 feet across a building pad, the minimum fill depth beneath that pad should not be less than 3 feet. If a cut-fill building pad were used in this example, the cut portion would need to be over-excavated 3 feet and rebuilt with compacted structural fill.

5.1.4 Cut/Fill Slope Grading

Permanent cut and fill slopes at the subject site should be stable at inclinations up to 2H:1V (horizontal to vertical); however, we recommend re-vegetating or armoring all cut/fill slopes to reduce the potential for erosion. Steeper slopes may be possible at the site provided slopes are protected from excessive erosion using rock slope protection or similar slope reinforcement. Slopes steeper than 2H:1V (horizontal to vertical) should be evaluated on a case-by-case basis.

Fill should be placed in horizontal lifts to the lines and grades shown on the project plans. Slopes should be constructed by overbuilding the slope face and then cutting it back to design slope grades. Fill slopes should not be constructed or extended horizontally by placing soil on an existing slope face and/or compacted by track walking.

Equipment width keyways and benches should be provided where fill is placed on side-slopes with gradients steeper than 5H:1V. The keyway should be excavated at the toe of the slope and extend into competent material. Benching must extend through loose surface soil into suitable material, and be performed at intervals such that no loose soil is left beneath the fill. NV5 should observe keyways and benches prior to fill placement.

The upper two to five feet of cut slopes should be rounded into the existing terrain above the slope to remove loose material and produce a contoured transition from cut face to natural

ground. Scaling to remove unstable cobbles and boulders may be necessary. Fill slopes should be compacted as recommended for the placement of structural fill. The upper four to eight inches may be scarified to help promote revegetation.

5.1.5 Temporary Unconfined Excavations

Based on our understanding of the proposed project, temporary unconfined excavations deeper than four feet may be necessary. However, the following criteria may be used for construction of temporary cut slopes at the site.

Table 5.1.5.1 – Unconfined Excavation Slopes

Temporary Slope Inclination (Horizontal to Vertical)	Depth Below Ground Surface (feet)
1H:1V	0-5 (and any fill material)
0.5H:1V	5-10

These temporary slope inclinations may require modification in the field during construction or where loose soil, groundwater seepage, or existing fill is encountered. Slopes should be scaled of loose cobbles and boulders. Higher slopes should be covered with strong wire or fabric, firmly secured to prevent roll down of cobbles or other deleterious materials. The contractor is responsible for the safety of workers and should strictly observe federal and local Occupational Safety and Health Administration (OSHA) requirements for excavation shoring and safety. Some raveling of temporary cut slopes should be anticipated. During wet weather, surface water runoff should be prevented from entering excavations. To reduce the likelihood of sloughing or failure, temporary cut slopes must not remain over the winter.

5.1.6 Underground Utility Trenches

We anticipate that the contractor will be able to excavate underground utility trenches using conventional earthmoving equipment across the majority of the site. However, trenches for underground utilities will likely encounter over-sized material (cobbles and boulders). An excavator with a “thumb” attachment may increase ease of boulder removal at the site.

We expect that some caving and sloughing of utility trench sidewalls will occur. OSHA requires all utility trenches deeper than five feet bgs be shored with bracing equipment or sloped back prior to entry.

Shallow subsurface seepage may be encountered in trench excavations, particularly if utility trenches are excavated during the spring or early summer. The earthwork contractor may need to employ dewatering methods as discussed in the *Construction Dewatering* section below to excavate, place, and compact trench backfill materials.

Soil used as trench backfill should be non-expansive and should not contain rocks greater than 3 inches in maximum dimension. Trench backfill should consist of uniformly moisture conditioned soil and be placed in maximum 8-inch thick loose lifts prior to compacting. Unless otherwise specified by the applicable local utility district, pipe bedding and trench backfill should be compacted to at least 90 percent of the maximum dry density. Trench backfill

placed within 8 inches of building subgrade and driveway areas should be compacted to at least 95 percent of the maximum dry density. The moisture content, density, and relative compaction of fill should be tested by NV5 at regular intervals during fill placement.

5.1.7 Construction Dewatering

If grading is performed during or immediately following the wet season or spring snowmelt, seepage may be encountered during grading. We should observe those conditions, if they are encountered, and provide site-specific subsurface drainage recommendations. The following recommendations are preliminary and are not based on a groundwater flow analysis.

We anticipate that dewatering of excavations can be performed by gravity or by constructing sumps to depths below the excavation and removing water with pumps. To maintain stability of the excavation when placing and compacting trench backfill, groundwater levels should be drawn down at least two feet below the lowest point of the excavation.

If seepage is encountered during trench excavation, it may be necessary to remove underlying saturated soil and replace it with free draining, open-graded, crushed rock (drain rock). Soil backfill may be placed after backfilling with drain rock to an elevation higher than encountered groundwater.

5.2 SURFACE WATER AND FOUNDATION DRAINAGE

This section of the report presents our recommendations to reduce the possibility of surface water and near-surface groundwater entering below grade areas. Care should be taken to reduce water and moisture introduced into the building interior, including crawlspaces, during construction.

Based on our past experience with geotechnical engineering investigations in the project vicinity, there is a relatively high potential for seasonal saturation of near-surface soil and groundwater seepage into foundation areas. Near-surface groundwater may enter under-floor crawlspaces, migrate through concrete floor slabs, degrade asphalt concrete pavements, increase frost heave, and contribute to other adverse conditions.

Final site grading should be planned so that surface water is directed away from all foundations and pavements. Ponding of surface water should not be allowed near pavements or structures. Paved areas should be sloped away from structures a minimum of 2 percent and drainage gradients should be maintained to carry all surface water to a properly designed infiltration facility. The surface drainage system should be kept separate from the foundation (subsurface) drainage system. Infiltration should not be planned at elevations above the lowest foundation elements.

Drains should be constructed on the upslope side of exterior foundations and should be placed along continuous interior wall foundations and in crawlspace areas. Drains should extend to a properly designed infiltration facility. Recommended subsurface drain locations can be provided at the time of construction and when foundation elevations and configuration are known. Subsurface and foundation drain locations should be included on the project plans.

All foundation and slab-on-grade concrete should have a water to cement ratio of 0.45 or less. Underslab or blanket drains should be considered in slab-on-grade floor areas to reduce moisture transmission through the floor and help maintain subgrade support, particularly if the floor surface is lower than the adjacent exterior grade.

We recommend that the elevation of the interior subgrade in the crawlspace be higher than the exterior ground surface. If the design of the structure is such that the crawlspace must be lower than the surrounding grade, drains should be installed in the crawlspace area. The subgrade should be sloped to collect and divert water to drains that exit under or through the foundation (positive crawlspace drainage). If site grades do not permit gravity draining, this water should be collected in a sump and pumped to an infiltration facility. All vegetation and highly organic soil should be removed from the crawlspace area. Adequate ventilation should be provided in all crawlspace areas to promote drying. The project architect and owner should consider the need for an automated mechanical ventilation system. Care should be taken during construction to reduce the amount of moisture that gets sealed into crawlspaces.

Where utility trenches slope toward structures, potential flow paths through utility trench backfill should be plugged with a less permeable material at the exterior of the foundation. Relief drains should be constructed on the uphill side of cutoff walls to convey water to an approved discharge location. All utility pipes should have sealed joints.

Roof drip-lines should be protected from erosion with a gravel layer and riprap. Roof downspouts should be directed to a closed collector pipe that discharges flow to positive drainage. Backfill soil placed adjacent to building foundations should be placed and compacted such that water is not allowed to pond or infiltrate. Backfill should be free of deleterious material and placed and compacted in accordance with the above earthwork recommendations.

5.3 STRUCTURAL IMPROVEMENT DESIGN CRITERIA

The following sections provide design criteria for foundations, seismic design, slabs-on-grade, retaining walls, and pavement sections.

5.3.1 Foundations

Our opinion is that shallow spread foundations are suitable for support of the proposed structures. The following paragraphs discuss foundation design parameters and construction recommendations.

Exterior foundations should be embedded a minimum of 18 inches below the lowest adjacent exterior finish grade for frost protection and confinement. The bottom of interior footings should be at least 12 inches below lowest adjacent finish grade for confinement. Reinforcing steel requirements for foundations should be determined by the project structural engineer.

Foundations founded in competent, undisturbed native soil or compacted fill may be designed using an allowable bearing capacity of 3,000 psf for dead plus live loads. Allowable bearing pressures may be increased by 33 percent for transient loading such as wind or seismic loads.

Resistance to lateral loads (including transient loads) may be provided by frictional resistance between the bottom of concrete foundations and the underlying soil, and by passive soil pressure against the sides of foundations. Lateral resistance derived from passive earth pressure can be modeled as a triangular pressure distribution ranging from 0 psf at the ground surface to a maximum of 300d psf, where d equals the depth of the foundation in feet. A coefficient of friction of 0.40 may be used between poured-in-place concrete foundations and the underlying native soil. Lateral load resistance provided by passive soil pressure and friction may be used in combination without reduction.

Total settlement of individual foundations will vary depending on the plan dimensions of the foundation and actual structural loading. Based on anticipated foundation dimensions and loads, we estimate that total post-construction settlement of footings designed and constructed in accordance with our recommendations will be on the order of ½-inch. Differential settlement between similarly loaded, adjacent footings is expected to be less than ¼-inch, provided footings are founded on similar materials (e.g., all on structural fill, native soil, or rock). Differential settlement between adjacent footings founded on dissimilar materials (e.g., one footing on soil and an adjacent footing on rock) may approach the maximum anticipated total settlement. Settlement of foundations is expected to occur rapidly and should be essentially complete shortly after initial application of loads.

Loose material remaining in footing excavations should be removed to expose firm, unyielding material or compacted to at least 90 percent relative compaction. Footing excavations should be moistened prior to placing concrete to reduce risk of problems caused by wicking of moisture from curing concrete. NV5 should observe footing excavations prior to reinforcing steel and concrete placement.

5.3.2 Seismic Design Criteria

In accordance with the 2019 California Building Code (CBC), the seismic design criteria shown in the table below should be used for the project site. The values were obtained for the site using the online Office of Statewide Health Planning and Development (OSHPD) Seismic Design Maps tool found at https://seismicmaps.org. Input values included the site's approximate latitude and longitude obtained from Google Earth and the Site Class. Site Class selection was based on our literature review, our subsurface investigation, our experience in the area, and the Site Class definitions provided in Chapter 20 of ASCE 7-16.

Table 5.3.2.1 – 2019 CBC Seismic Design Parameters

Description	Value	Reference
Approximate Latitude/Longitude	39.3283°N/120.1703 °W	Google Earth
Site Class	C	Table 20.3-1, ASCE 7-16
Mapped Short-Period Spectral Response Acceleration Parameter	S_S = 1.347 g	*Figure 1613.2.1(1), 2019 CBC*
Mapped 1-Second Period Spectral Response Acceleration Parameter	S_1 = 0.445 g	*Figure 1613.2.1(2), 2019 CBC*
Short Period Site Coefficient	F_A = 1.2	*Table1613.2.3(1), 2019 CBC*
1-Second Period Site Coefficient	F_V = 1.5	*Table 1613.2.3(2), 2019 CBC*
Site Adjusted Short-Period Spectral Response Acceleration Parameter	S_{MS} = 1.617 g	*Equation 16-36, 2019 CBC*
Site Adjusted 1-Second Period Spectral Response Acceleration Parameter	S_{M1} = 0.667 g	*Equation 16-37, 2019 CBC*
Design Short-Period Spectral Response Acceleration Parameter	S_{DS} = 1.078 g	*Equation 16-38, 2019 CBC*
Design 1-Second Period Spectral Response Acceleration Parameter	S_{D1} = 0.445 g	*Equation 16-39, 2019 CBC*
Peak Ground Acceleration	PGA = 0.580 g	*Figure 22-9, ASCE 7-16*
Risk Category	II	*Table 1604.5, 2019 CBC*
Seismic Design Category	D	*Tables1613.2.5 (1) & (2) 2019 CBC*

5.3.3 Slab-on-Grade Construction

Concrete slabs-on-grade may be used in conjunction with perimeter concrete footings. Slabs-on-grade should be a minimum of four inches thick. If floor loads higher than 250 psf, intermittent live loads, or vehicle loads are anticipated, the project structural engineer should provide slab thickness and steel reinforcing requirements.

Prior to constructing concrete slabs, the upper eight inches of slab subgrade should be scarified, uniformly moisture conditioned to within two percent of optimum moisture content and compacted to at least 90 percent of the maximum dry density. Scarification and compaction may not be required if floor slabs are placed directly on undisturbed compacted structural fill.

Slabs should be underlain by at least four inches of Class 2 aggregate base placed over the prepared subgrade. The aggregate base should be compacted to a minimum of 95 percent of the maximum dry density. If a subdrain is installed as described below, slabs may be constructed over the crushed gravel layer provided a moisture barrier will be placed over the gravel.

To reduce the potential for groundwater intrusion, the project architect and/or owner should consider constructing a drain beneath concrete slabs-on-grade in areas where groundwater and/or saturated soil may be present during wet periods. Subdrains should consist of a minimum of four inches of clean crushed gravel placed over native subgrade leveled or sloped at two percent towards a 4-inch diameter perforated drain pipe. The drain pipe should be placed with perforations faced down in a minimum 12-inch wide gravel-filled trench. The depth of the trench may vary depending on cover requirements for the drain pipe and the slope required to drain water from beneath the slab to a properly constructed infiltration facility. A minimum of one pipe should be installed in each area of the slab surrounded by continuous perimeter foundation elements.

In slab-on-grade areas where moisture sensitive floor coverings are proposed, a vapor barrier (e.g., 15 mil Stego® Wrap) should be placed over the base course or gravel subdrain to reduce the migration of moisture vapor through the concrete slab. The vapor barrier should be installed in accordance with the manufacturer's instructions. Concrete should be placed directly on the vapor barrier. All slab concrete should have a water-cement ratio of 0.45 or less. Alternatively, two inches of spray insulation may be placed between the gravel layer and slab-on-grade.

Regardless of the type of vapor barrier used, moisture can wick up through a concrete slab. Excessive moisture transmission through a slab can cause adhesion loss, warping, and peeling of resilient floor coverings, deterioration of adhesive, seam separation, formation of air pockets, mineral deposition beneath flooring, odor, and fungi growth. Slabs can be tested for water transmissivity in areas that are moisture sensitive. Commercial sealants, moisture retarding admixtures, fly ash, and a reduced water-to-cement ratio can be incorporated into the concrete to reduce slab permeability. To further reduce the chance of moisture transmission, a waterproofing consultant should be contacted.

Exterior slabs-on-grade such as sidewalks should be placed on a minimum 6-inch thick compacted aggregate base section to help reduce the potential for frost heave. Deleterious material should be removed from floor slab subgrades prior to concrete placement. For exterior slabs, the upper eight inches of native soil should be scarified, moisture conditioned, and compacted to at least 90 percent of the maximum dry density. We recommend a minimum concrete thickness of four inches. Where traffic loads are possible, we recommend a minimum concrete thickness of six inches. Concrete used for sidewalk construction should meet the durability requirements of Section 1904 of the 2019 CBC. The Exposure Class should be F2 unless the surface will be exposed to deicing chemicals, in which case the Exposure Class should be F3.

Concrete slabs impart a relatively small load on the subgrade (approximately 50 psf). Therefore, some vertical movement should be anticipated from possible expansion, freeze-thaw cycles, or differential loading.

5.3.4 Retaining Wall Design Criteria

Retaining walls should be designed to resist lateral earth pressures exerted by retained soil plus additional lateral forces (i.e., surcharge loads) that will be applied to walls. Pressures exerted against retaining walls may be calculated by modeling soil as an equivalent fluid with unit weights presented in the following table. The equivalent fluid weights are for well drained walls.

Table 5.3.4.1 – Equivalent Fluid Unit Weights*

Loading Condition	Retained Cut or Compacted Fill (Level Backfill)	Retained Cut or Compacted Fill (Backfill Slopes up to 2H:1V)
At-Rest Pressure (pcf)	55	75
Active Pressure (pcf)	35	55
Passive Pressure (pcf)	300	300
Coefficient of Friction	0.40	0.35

*Equivalent fluid unit weights presented are ultimate values and do not include a factor of safety. Passive pressures provided assume footings are founded in competent native soil or compacted and tested fill.

The values presented in Table 5.3.4.1 assume that the retained soil will not exceed approximately ten feet in height and that no surcharge loads (e.g., footings, vehicles) are anticipated within a horizontal distance of approximately six feet from the face of the wall. NV5 should provide wall-specific design recommendations for walls taller than 10 feet once wall configurations are known. Fifty percent of any uniform areal surcharge placed at the top of a restrained wall (at-rest condition) may be assumed to act as a uniform horizontal pressure over the entire height of the wall. This may be reduced to 30 percent for unrestrained walls (active condition). In addition, we can provide retaining wall and rockery wall design criteria for specific loading and backfill configurations, if requested.

The use of the tabulated active pressure unit weight requires that the wall design accommodate sufficient deflection for mobilization of the retained soil to occur. Typically, a wall yield of at least 0.1 percent of the wall height is sufficient to mobilize active conditions in granular soil (*Caltrans Bridge Design Specifications*, August 2004). If the walls are rigid or restrained to prevent rotation, at-rest conditions should be used for design.

We recommend including additional lateral loading (ΔP_{ae}) on retaining structures due to seismic accelerations when designing walls greater than six feet in height. The OSHPD Seismic Design Maps tool was used to establish seismic design parameters and provides an estimated peak ground acceleration (PGA) corresponding to the maximum considered earthquake (MCE_R) ground motion.

For an earthquake producing a design PGA of 0.580g and a horizontal seismic coefficient (k_h) equal to one-third the PGA, and following the Mononobe-Okabe procedure to evaluate seismic loading on retaining walls, we recommend that the resulting additional lateral force applied to retaining structures with drained level backfill be estimated as $\Delta P_{ae}=6.5H^2$ (pounds per

foot), where H is the height of the wall in feet. The additional seismic force may be assumed to be applied at a height of H/3 above the base of the wall. This seismic loading is for standard retaining walls with drained, level backfill conditions only. NV5 should be consulted to provide seismic loading values for more critical walls or walls with non-level or non-drained backfill conditions. The use of reduced factors of safety is often appropriate when reviewing overturning and sliding resistance during seismic events.

Heavy compaction equipment or other loads should not be used in close proximity to retaining walls unless the wall is designed or braced to resist the additional lateral forces. If planned surface loads are closer to the top of the retaining wall than one-half of its height, NV5 should review the loads and loading configuration.

Retaining wall backfill should consist of granular material, nearly free of organic debris, with a liquid limit less than 40, a plasticity index less than 15, 100 percent passing the 8-inch sieve, and less than 30 percent passing the No. 200 sieve. Backfill should be uniformly moisture conditioned to within two percent of the optimum moisture content and compacted with appropriate compaction equipment to at least 90 percent of the maximum dry density. If the retaining wall backfill will support foundations or rigid pavements, the backfill should be compacted to at least 95 percent of the maximum dry density. An NV5 representative should review and provide specific backfill criteria for all retaining walls over 10 feet in height. Utilities that run through retaining wall backfill should allow for vertical movement where they pass through the wall.

Retaining wall design criteria presented in Table 5.3.4.1 assume that retaining walls are well-drained to reduce hydrostatic pressures. Back-of-wall drainage consisting of graded gravel drains and geosynthetic blankets should be installed to reduce hydrostatic pressures. Gravel drains should consist of at least 18 inches of open-graded, crushed rock placed directly behind the wall, wrapped in non-woven geotextile filter fabric such as Mirafi 140N or approved equivalent. Drains should have a minimum 4-inch diameter, perforated drain pipe placed at the base of the wall, inside the drain rock, with perforations placed down. The pipe should be sloped so that water is directed away from the wall by gravity. A geosynthetic drainage blanket such as Enkadrain™ or equivalent should also be placed against the back of the wall. Backfill must be compacted carefully so that equipment or soil does not tear or crush the drainage blanket.

We recommend that subsurface walls and slabs be treated to resist moisture migration. Moisture retarding material should consist of sheet membrane rubberized asphalt, polymer-modified asphalt, butyl rubber, or other approved material capable of bridging nonstructural cracks, applied in accordance with the manufacturers recommendations. A manufactured water-stop and/or key should be placed at all cold joints. The project architect or contractor may wish to consult with a waterproofing expert regarding additional options for reducing moisture migration into living areas.

5.3.5 Pavement Sections

Based on our experience in the Tahoe-Truckee area, environmental factors, such as freeze-thaw cycles and thermal cracking will usually govern the life of asphalt concrete (AC) pavements. Thermal cracking of asphalt pavement allows more water to enter the pavement section, which promotes deterioration and increases maintenance costs. In addition, snow removal activities on site may result in heavy traffic loads. For these reasons, we recommend a minimum driveway/parking area pavement section of three inches of AC on six inches of aggregate base (AB).

We recommend that paving stones in non-traffic areas be supported by a minimum of four inches of Caltrans Class 2 AB. For light traffic areas, the AB section should be increased to at least six inches. An underlying concrete slab is not necessary for light traffic and non-traffic areas. Prior to placing aggregate base, the subgrade should be prepared in accordance with the recommendations provided below.

Due to seasonal saturation of the underlying AB and freeze-thaw cycles, some vertical movement of paving stones over time should be anticipated. This movement can likely be reduced by constructing a drainage layer beneath paving stone pavements. The drainage layer should consist of at least 4 inches of compacted clean angular gravel under the AB layer. The drainage layer should contain a minimum 4-inch diameter perforated pipe, sloped to drain water from beneath the pavement towards an infiltration facility. All open-graded gravel should be consolidated using vibratory compaction equipment. A minimum 4-ounce non-woven filter fabric such as Mirafi 140N or approved equivalent should be placed between the compacted gravel subdrain and aggregate base course.

The upper six inches of native soil should be compacted to at least of 95 percent of the maximum dry density prior to placing AB. AB should also be compacted to a minimum of 95 percent of the maximum dry density. Subgrade and AB dry densities should be evaluated by NV5. In addition to field density tests, the subgrade should be proof rolled under NV5's observation prior to AB placement. If temporary pavement is used during construction, we recommend preparation of the subgrade and AB as outlined above prior to construction of the temporary pavement.

To improve pavement performance and lifespan, we recommend promoting drainage of the pavement subgrade. Drainage can be accomplished through roadway layout and design, subdrains, and/or roadside ditches. An NV5 representative should evaluate pavement subgrade at the time of construction and provide location-specific recommendations for subdrains. Typical subdrains consist of a shallow trench with a minimum 4-inch diameter perforated pipe encased in open-graded gravel wrapped in filter fabric. Pavement subgrade should be graded and prepared such that water drains from beneath the pavement section to a properly designed infiltration facility. Subdrains may be used in conjunction with roadside ditches located on one or both sides of the roadway. Roadside ditches should be constructed to a depth greater than the proposed pavement and subdrain section. Ditches should be rock-lined or vegetated to help reduce erosion and convey water to a properly designed infiltration facility.

We recommend installing cut-off curbs where paved areas abut landscaped areas to reduce migration of irrigation water into subgrade soil or baserock, promoting asphalt failure. Cut-off curbs should be a minimum of 4-inches wide, and extend through the aggregate base a minimum of four inches into subgrade soil.

5.4 PLAN REVIEW AND CONSTRUCTION MONITORING

Construction monitoring includes review of plans and specifications and observation of onsite activities during construction as described below. We should review final grading and foundation plans prior to construction to evaluate whether our recommendations have been implemented and to provide additional and/or modified recommendations, if necessary. We also recommend that our firm be retained to provide construction monitoring and testing services during site grading, foundation, retaining wall, underground utility, and road construction to observe subsurface conditions with respect to our engineering recommendations.

6 LIMITATIONS

Our professional services were performed consistent with generally accepted geotechnical engineering principles and practices employed in the site area at the time the report was prepared. No warranty, express or implied, is intended.

Our services were performed consistent with our agreement with our client. We are not responsible for the impacts of changes in environmental standards, practices, or regulations subsequent to performance of our services. We do not warrant the accuracy of information supplied by others or the use of segregated portions of this report. This report is solely for the use of our client. Reliance on this report by a third party is at the risk of that party.

If changes are made to the nature or design of the project as described in this report, then the conclusions and recommendations presented in the report should be reviewed by NV5 to assess the relevancy of our conclusions and recommendations. Additional field work and laboratory tests may be required to revise our recommendations. Costs to review project changes and perform additional field work and laboratory testing necessary to modify our recommendations are beyond the scope of services provided for this report. Additional work will be performed only after receipt of an approved scope of services, budget, and written authorization to proceed.

If subsurface conditions encountered during construction are different than those described in this report, we should be notified so that we can review and modify our recommendations as needed. Our scope of services did not include evaluating the project site for the presence of hazardous materials or petroleum products.

The findings of this report are valid as of the present date. Changes in the conditions of the property can occur with the passage of time. These changes may be due to natural processes or human activity, at the project site or adjacent properties. In addition, changes in applicable or appropriate standards can occur, whether they result from legislation or a broadening of knowledge. Therefore, the recommendations presented in this report should not be relied upon after a period of two years from the issue date without our review.

7 REFERENCES

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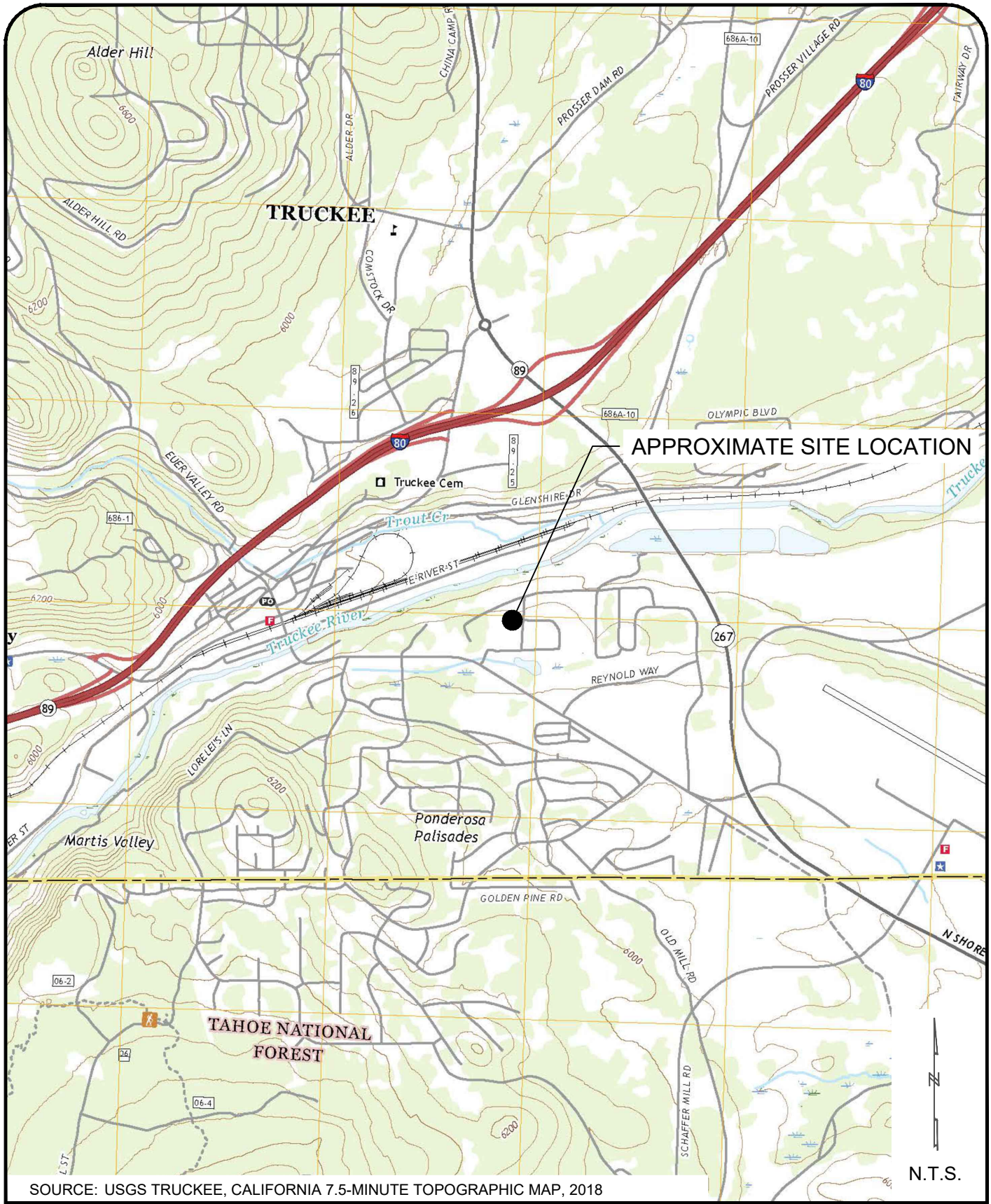
FIGURES

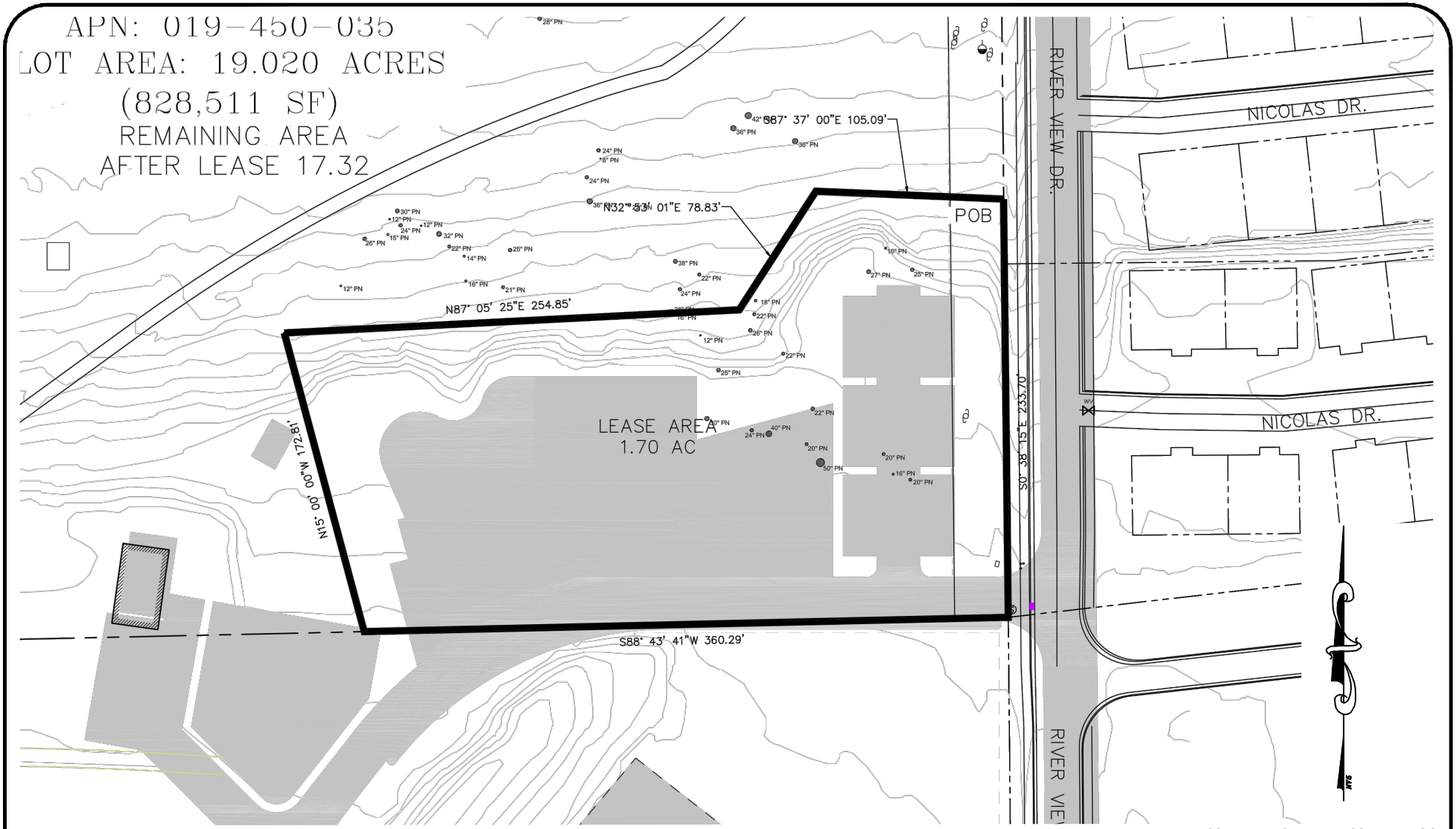


SOURCE: USGS TRUCKEE, CALIFORNIA 7.5-MINUTE TOPOGRAPHIC MAP, 2018

NV5

SITE VICINITY MAP
KIDZONE MUSEUM
10010 ESTATES DRIVE
TRUCKEE, CALIFORNIA

PROJECT NO.: 43044.00
DATE: MARCH 2022
FIGURE NO.: 1



MODIFIED FROM LEASE AREA EXHIBIT PROVIDED BY HEN PARKER WITH THE KIDZONE MUSEUM, UNDATED

NV5

SITE PLAN

KIDZONE MUSEUM
10010 ESTATES DRIVE
TRUCKEE, CALIFORNIA

PROJECT NO.: 43044.00

DATE: MARCH 2022

FIGURE NO.: 2

APPENDIX A

Proposal

Proposal No. PT21356
January 10, 2022

KidZone Museum
11711 Donner Pass Road
Truckee, California 96161

Attention: Jen Parker

Reference: **KidZone Museum**
Truckee, California

Subject: **Proposal for Geotechnical Engineering Services**

This letter presents our proposal to provide geotechnical engineering services for the proposed KidZone Museum permanent facility to be constructed at 10010 Estates Drive in Truckee, California. The site is located in the northeast portion of the Truckee River Regional Park. We previously completed geotechnical engineering investigations within the Truckee River Regional Park and nearby properties and are familiar with subsurface conditions in the project area. We also provided geotechnical engineering services during encapsulation of a former dump site located west of the proposed project.

The purpose of our services will be to explore and evaluate subsurface conditions at the project site, and to develop geotechnical engineering recommendations for project design and construction. Site subsurface conditions and specific recommendations regarding the geotechnical aspects of project design and construction can significantly affect project costs. NV5 will provide site-specific design recommendations to help reduce construction costs for your project. We have a reputation for responsive, innovative, yet practical approaches to geotechnical problems.

Due to the current snow coverage at the project site, we propose to prepare a preliminary geotechnical engineering report now and confirm the subsurface conditions in the spring when site access conditions are more favorable. Included in this proposal is a brief summary of our understanding of the project, the scope of services we intend to provide, and an estimate of our fees.

PROJECT DESCRIPTION

This proposal is based on communication with you, review of the Lease Area Exhibit (undated) provided by you, and our previous experience in the project area. Based on the Lease Area Exhibit and our previous experience in the project area, the site appears to have been previously graded. Project plans were in the preliminary stages at the time this proposal was prepared. However, we understand the project will involve construction of a 12,000 square foot single-story structure. Typical cuts and fills for the proposed construction are anticipated to be about 3 to 5 feet and are not expected to exceed about 10 feet. Appurtenant

construction will likely include asphalt concrete pavement, hard surface patios and/or sidewalks, and underground utilities.

ANTICIPATED CONDITIONS

In preparation of this proposal, we reviewed geologic maps and reports in our files regarding subsurface conditions in the vicinity of the site. We anticipate that subsurface conditions will consist of coarse-grained soil types with varying amounts of gravel, cobbles, and boulders associated with glacial outwash deposits. Due to the previously graded nature of the site, we anticipate that existing fill may be present.

SCOPE OF SERVICES

TASK 1 – PRELIMINARY GEOTECHNICAL ENGINEERING REPORT

Site Visit

We will visit the site to observe existing surface conditions and collect photographs that will be used to prepare our preliminary geotechnical engineering report.

Review of Available Literature

Prior to preparing our preliminary report, we will review regional geologic maps and reports in our files from other nearby sites. Information obtained during our literature review will be used to prepare our preliminary report.

Preliminary Geotechnical Engineering Report

To allow the design and permitting process to proceed over the winter, we will prepare a preliminary geotechnical engineering report for the site prior to our subsurface exploration. As part of the preliminary report, we will use information collected during our site visit. The preliminary report will include the following:

- General anticipated soil and groundwater conditions at the project site, with emphasis on how the conditions are expected to affect the proposed construction;
- Discussion of special geotechnical engineering constraints such as existing fill, highly expansive or compressible soil, near-surface groundwater, liquefaction potential, potential secondary seismic hazards, and/or near-surface rock;
- Recommendations for earthwork construction, including site preparation, a discussion of reuse of existing near surface soil as structural fill, and a discussion of remedial earthwork, if warranted;
- Recommendations for temporary excavations, construction dewatering, and trench backfill;
- Recommendations for permanent cut and fill slopes;
- Surface and subsurface drainage recommendations;
- Recommendations for conventional shallow spread foundation design including soil bearing values, minimum footing depth, resistance to lateral loads and estimated

settlements, and California Building Code Site Class and seismic coefficients for use in structural design;

- Lateral earth pressures and drainage recommendations for short retaining structures;
- Subgrade preparation for slab-on-grade concrete; and
- Asphalt concrete and paving stone pavement recommendations.

Our subsurface investigation will not be complete at the time of our preliminary report. Therefore, the conclusions and recommendations presented in our report must be considered preliminary until confirmed by a future subsurface investigation and laboratory testing.

TASK 2 – DESIGN LEVEL REPORT

Geotechnical Engineering Investigation

We propose to perform a subsurface investigation in the spring, following snowmelt at the site, to assess the validity of assumptions made during preparation of our preliminary report. Prior to conducting our subsurface investigation, we will mark the site for Underground Service Alert (USA) and contact this agency to locate underground public utilities on and adjacent to the site. We propose to explore the subsurface conditions at the project site by excavating three to four test pits to depths up to approximately 10 feet below the existing ground surface or refusal. The test pits will be excavated using a mini-excavator or backhoe. The test pits will be visually logged by a field representative who will obtain bulk soil samples for classification and laboratory testing. Upon completion, the test pits will be backfilled with excavated soil.

Laboratory Testing

The purpose of laboratory testing will be to evaluate the physical and engineering properties of soil samples collected in the field. We anticipate the laboratory testing program will consist of tests for soil classification (gradations and plasticity).

Design Level Geotechnical Engineering Analysis and Report

Based on the results of our subsurface investigation and laboratory testing, we will provide our opinions and recommendations in a letter report confirming the findings presented in our preliminary report and addressing any modifications, as needed. Our design level letter report will include a description of subsurface conditions exposed in our test pits, a test pit location plan, logs of our test pits, and laboratory test results.

SCHEDULE AND FEES

At this time, we can complete the preliminary geotechnical engineering report within about three to four weeks of your authorization to proceed. We will monitor snowpack in the region and plan to complete our field investigation once snow has predominately melted off the site. If weather, access, or site conditions restrict our field operations, we may need to revise our scope of services and fee estimate. We anticipate submitting our design level geotechnical engineering report within four to five weeks after completion of our subsurface exploration. If

requested, we can provide preliminary verbal information with respect to our anticipated conclusions and recommendations prior to completion of our final letter report.

We will provide the scope of services described above for an estimated fee of approximately $ on a time-and-expense basis in accordance with our attached 2021 Fee Schedule ($ for Task 1 and $ for Task 2). This cost includes the excavating equipment and operator required for our geotechnical engineering investigation. Progress billing will be monthly on a time-and-expense basis. Additional services beyond the scope of this proposal performed at the client's request will be billed on a time-and-expense basis using the fee schedule applicable at the time the services are provided.

Prior to initiating our subsurface exploration, all site utilities and utility easements must be accurately located in the field, on a scaled map, or both. This information must be made available to NV5 by the client before beginning our subsurface exploration. Our fee is not adequate to compensate for both the performance of the services and the assumption of risk of damage to such structures. NV5 will not accept responsibility for damage to existing utilities not accurately located in the manner described above. Services rendered by NV5 to repair them will be billed at cost.

In order to defray the initial mobilization costs of the excavation equipment, we are requesting a retainer in the amount of $ at the time of contract signing. All remittances should be sent to our Truckee office at the following address:

Accounts Receivable
NV5
10775 Pioneer Trail, Suite 213
Truckee, CA 96161

Remittances should reference this proposal number, PT21356.

CLOSING

NV5 will perform its services in a manner consistent with the standard of care and skill ordinarily exercised by members of the profession practicing under similar conditions in the geographic vicinity and at the time the services will be performed. No warranty or guarantee, express or implied, is part of the services offered by this proposal.

Enclosed with this proposal is our firm's Agreement for Geotechnical Engineering Services. Please sign and return a copy of the attached Agreement for Geotechnical Engineering Services if this proposal meets your approval. This proposal is deemed to be incorporated into and made part of the Agreement for Geotechnical Engineering Services.

We appreciate the opportunity to submit this proposal and look forward to working with you on this project. If you have any questions or need additional information, please contact the undersigned.

Sincerely,
NV5

Nicole C. McCurdy, P.E.
Project Engineer

Pamela J. Raynak, P.G.
Senior Geologist

Enclosures: 2021 Fee Schedule
Agreement for Geotechnical Engineering Services

APPENDIX D

PRELIMINARY GEOTECHNICAL ENGINEERING REPORT SUPPLEMENT NO. 1

APPENDIX D

PRELIMINARY GEOTECHNICAL ENGINEERING REPORT SUPPLEMENT NO. 1

Project No. 43044.00
May 16, 2022

Carol Meagher
Sierra Nevada Children's Museum
11711 Donner Pass Road
Truckee, California 96161

Reference: **KidZone Museum**
Preliminary Geotechnical Engineering Report, March 29, 2022
Truckee, California

Subject: **Preliminary Geotechnical Engineering Report Supplement No. 1**

This letter presents the results of our field investigation and laboratory testing for the proposed KidZone Museum permanent facility to be constructed at 10010 Estates Drive in Truckee, California. NV5 previously prepared a preliminary geotechnical engineering report for the project, dated March 29, 2022. It was previously impractical to perform a subsurface investigation at the project site due to the amount of snow on the ground. Consequently, the recommendations provided in our preliminary report were based on assumed subsurface conditions. The purpose of this report supplement is to present the results of our subsequent field investigation and laboratory testing, and to verify the assumptions and recommendations provided in our preliminary report with respect to this new information. Our current scope of services was consistent with those outlined in our proposal, dated January 10, 2022. This report supplement letter is a part of the preliminary geotechnical engineering report and should be bound to it.

Field Exploration

We investigated subsurface conditions at the site on April 6, 2022 by excavating four exploratory test pits to depths ranging from approximately 4 to 7 feet below the existing ground surface (bgs). The test pits were excavated with a Takeuchi TB135 mini-excavator equipped with a 24-inch bucket. Test pit locations were selected based on locations of proposed improvements and site access.

A geologist from our firm logged the soil conditions exposed in the test pits, visually classified soil, and collected bulk soil samples for laboratory testing. Soil samples were packaged and sealed in the field to reduce moisture loss and were returned to our laboratory for testing. Upon completion, the test pits were backfilled with excavated soil. The approximate locations of our test pits are shown on the attached Figure 3, Test Pit Location Plan.

Near-surface soil encountered in our test pits consisted of approximately 6 inches to 4 feet of loose to medium dense existing fill over the majority of the site. The fill material generally consisted of silty Sand with Gravel (SM) containing varying amounts of cobbles and boulders and trace to some amounts of debris. Underlying the fill material, our test pits encountered a topsoil layer approximately 1 to 2 feet in thickness. The topsoil material generally consisted

of medium dense to dense, black-brown silty Gravel with sand (GM) and silty Sand with gravel (SM) with varying amounts cobbles and trace organic material (topsoil). Test pit TP-1 encountered essential refusal on boulders at a depth of 5 feet bgs in the topsoil layer. Underlying the topsoil layer, Test Pits TP-2, TP-3 and TP-4 encountered approximately 0.5 to 2 feet of silty Sand with gravel (SM) containing varying amounts of cobbles and boulders. The test pits encountered essential refusal on boulders at depths ranging from approximately 4 to 7 feet bgs. More detailed descriptions of the subsurface conditions observed are presented in our attached Test Pit Logs.

We did not observe groundwater during our subsurface exploration to the depths explored. However, fluctuations in soil moisture content and groundwater levels should be anticipated depending on precipitation, irrigation, runoff conditions and other factors. Fluctuations in soil moisture content and groundwater levels should be anticipated depending on precipitation, irrigation, runoff conditions and other factors. Based on our experience in the project area, seasonal saturation of near-surface soil should be anticipated, especially during and immediately after seasonal snowmelt.

Seasonal saturation may cause moisture intrusion through concrete slab-on-grade floors, degradation of asphalt concrete pavements, and other adverse conditions. Mitigation measures such as gravel underdrains, elevated building pads, trench drains, water barriers, or other methods may be required to intercept shallow groundwater or reduce potential adverse effects on project features.

We recommend the project civil engineer in conjunction with NV5 review the subsurface information available within this report and revealed during site preparation in order to develop appropriate surface and subsurface drainage plans. The contractor should prepare detailed as-built drawings of the subsurface drainage system.

Laboratory Testing

We performed laboratory tests on bulk soil samples collected from our exploratory test pits to help evaluate their engineering properties. We performed the following laboratory tests:

- Atterberg Limits/Plasticity (ASTM D4318)
- Sieve Analysis (ASTM D422)

Sieve analysis and Atterberg limits data resulted in Unified Soil Classification System (USCS) classifications of silty Gravel with sand (GM) and silty Sand with gravel (SM). More specific soil classification and laboratory test data is attached to this letter. USCS classification and Atterberg indices are summarized below.

Summary of Laboratory Test Results

Test Pit Number	Depth (feet)	USCS Classification	Percent Passing #200 Sieve	Liquid Limit	Plasticity Index
TP-2	1.7 - 2.2	Silty Gravel with Sand (GM)	22.5	Non-Plastic	Non-Plastic
TP-3	3 - 3.5	Silty Sand with Gravel (SM)	13.9	--	--
TP-3	6.5 - 7	Silty Sand with Gravel (SM)	18.5	--	--

Conclusions

The following conclusions are based on our field observations, laboratory test results, and our experience in the project area.

1. Soil conditions encountered during our field investigation generally consisted of medium dense to dense granular soil types of low plasticity that should provide suitable foundation support for the proposed structures on conventional shallow spread foundations. No highly plastic, compressible, or potentially expansive soil was encountered.
2. Existing fill approximately 6 inches to 4 feet in thickness was encountered in the four test pits excavated. Due to the potential for excessive settlement, the existing fill will not be suitable for support of structures. Structures should be founded on underlying native soil, or the existing fill can be removed and replaced with compacted structural fill. We provided recommendations for removal of existing fill and replacement with structural fill in the *Earthwork* section of our Preliminary Geotechnical Engineering Report. Existing fill material will be suitable for re-use as structural fill material provided any debris exceeding eight inches in maximum dimension and all organic or deleterious material are removed prior to placement.
3. The cost to remove the entirety of the existing fill may be detrimental to the project and therefore we have provided options below in the Recommendations section for placing structural driveway fill over the existing fill in the area of the proposed asphalt concrete paved driveway and parking area. The asphalt concrete pavement may not perform as well due to the underlying existing fill subgrade and some minor repair and continued preventive maintenance may be required during the pavement's life cycle; however this alternative may be more cost effective than removing the entirety of the existing fill.
4. The Takeuchi TB130B mini-excavator used for our field exploration encountered essential refusal on boulders in the four test pits excavated at the site. Depth to refusal varied from approximately 4 to 7 feet across the site. Some areas of boulders may be encountered during excavations for utilities, driveway grading, and/or foundations. A large track-mounted excavator equipped with a ripper tooth or hydraulic hammer will be required in these areas. Confined excavations for footings and underground utilities that extend into boulders will likely be difficult.

5. The underlying topsoil layer beneath the existing fill material contained trace organic material. However, based on the trace amounts of organic material and the granular nature of the topsoil, the topsoil layer should provide suitable foundation support for the proposed structures provided the subgrade is prepared per the recommendations provided in the *Earthwork* section of our Preliminary Geotechnical Engineering Report once the overlying existing fill material has been removed.
6. Site soil is generally suitable for reuse as structural fill. However, processing to remove oversized material and debris will likely be necessary. Based on our previous experience in the area, uniformly moisture conditioning soil to within two percent of the optimum moisture content may be difficult. Additional compaction effort may be necessary to reach the specified compaction. Moisture content, dry density, and relative compaction of structural fill should be evaluated by our firm at regular intervals during structural fill placement.
7. Although groundwater was not encountered in our test pits to the maximum depth explored, near-surface soil layers will likely become seasonally saturated. Positive surface water drainage will be particularly important across the site. Groundwater could cause moisture migration through concrete slabs-on-grade, cause degradation of asphalt concrete pavements, and contribute to frost heave and other adverse conditions. We provided recommendations to reduce the potential for these adverse effects in the *Surface Water and Foundation Drainage* section of our Preliminary Geotechnical Engineering Report.
8. Based on our subsurface investigation and laboratory test results, our professional opinion is that the recommendations provided in our Preliminary Geotechnical Engineering Report, dated March 29, 2022, are applicable to this project site. The preliminary report, when used in conjunction with this supplement, may be considered a design-level geotechnical engineering report for project design, submittal, and construction.

RECOMMENDATIONS

Clearing and Grubbing

The following paragraphs should be added to Section 5.1.1 of the Preliminary Geotechnical Engineering Report dated March 29, 2022.

Existing fill should be removed in areas that will support foundation elements, earth retention structures, concrete slabs-on-grade, and pavement sections. Based on our field observations, the depth of existing fill ranges from about six inches to four feet across the site. Existing fill should either be replaced with compacted structural fill or improvements may be founded directly on properly prepared underlying native soil. Existing fill material will be suitable for re-use as structural fill material provided any debris exceeding eight inches in maximum dimension and all organic or deleterious material are removed prior to placement. Preparation

of the subgrade exposed by over-excavation and requirements for structural fill should be in accordance with recommendations provided below.

Existing fill beneath pavement sections may be removed and replaced with structural fill to essentially eliminate potential risks associated with fill subsidence. However, based on our experience in the area and our understanding of the proposed project, we think this procedure will provide only a small reduction in settlement risk. Therefore, existing fill may remain in place beneath proposed pavements provided that it is benched and the surface is scarified, moisture conditioned, and compacted prior to placement of structural fill. We recommend that an NV5 representative observe existing fill during pavement section construction and, if necessary, provide additional recommendations at the time of construction.

Limitations

Our professional services were performed consistent with generally accepted geotechnical engineering principles and practices employed in the site area at the time the report was prepared. No warranty, express or implied, is intended.

Our services were performed consistent with our agreement with our client. We are not responsible for the impacts of changes in environmental standards, practices, or regulations subsequent to performance of our services. We do not warrant the accuracy of information supplied by others or the use of segregated portions of this report. This report is solely for the use of our client. Reliance on this report by a third party is at the risk of that party.

If changes are made to the nature or design of the project as described in this report, then the conclusions and recommendations presented in the report should be reviewed by NV5 to assess the relevancy of our conclusions and recommendations. Additional field work and laboratory tests may be required to revise our recommendations. Costs to review project changes and perform additional field work and laboratory testing necessary to modify our recommendations are beyond the scope of services provided for this report. Additional work will be performed only after receipt of an approved scope of services, budget, and written authorization to proceed.

Analyses, conclusions, and recommendations presented in this report are based on site conditions as they existed at the time we performed our subsurface exploration. We assumed that subsurface soil conditions encountered at the locations of our subsurface explorations are generally representative of subsurface conditions across the project site. Actual subsurface conditions at locations between and beyond our explorations may differ. If subsurface conditions encountered during construction are different than those described in this report, we should be notified so that we can review and modify our recommendations as needed. Our scope of services did not include evaluating the project site for the presence of hazardous materials or petroleum products.

The elevation or depth to groundwater and soil moisture conditions underlying the project site may differ with time and location. The project site map shows approximate exploration

locations as determined by pacing distances from identifiable site features. Therefore, exploration locations should not be relied upon as being exact.

The findings of this report are valid as of the present date. Changes in the conditions of the property can occur with the passage of time. These changes may be due to natural processes or human activity, at the project site or adjacent properties. In addition, changes in applicable or appropriate standards can occur, whether they result from legislation or a broadening of knowledge. Therefore, the recommendations presented in this report should not be relied upon after a period of two years from the issue date without our review.

Closing

We appreciate the opportunity to provide continuing assistance on this project. If you have any questions regarding this letter, please contact the undersigned.

Sincerely,
NV5

Prepared By:

Lauryl A. Rudolph
Staff Geologist

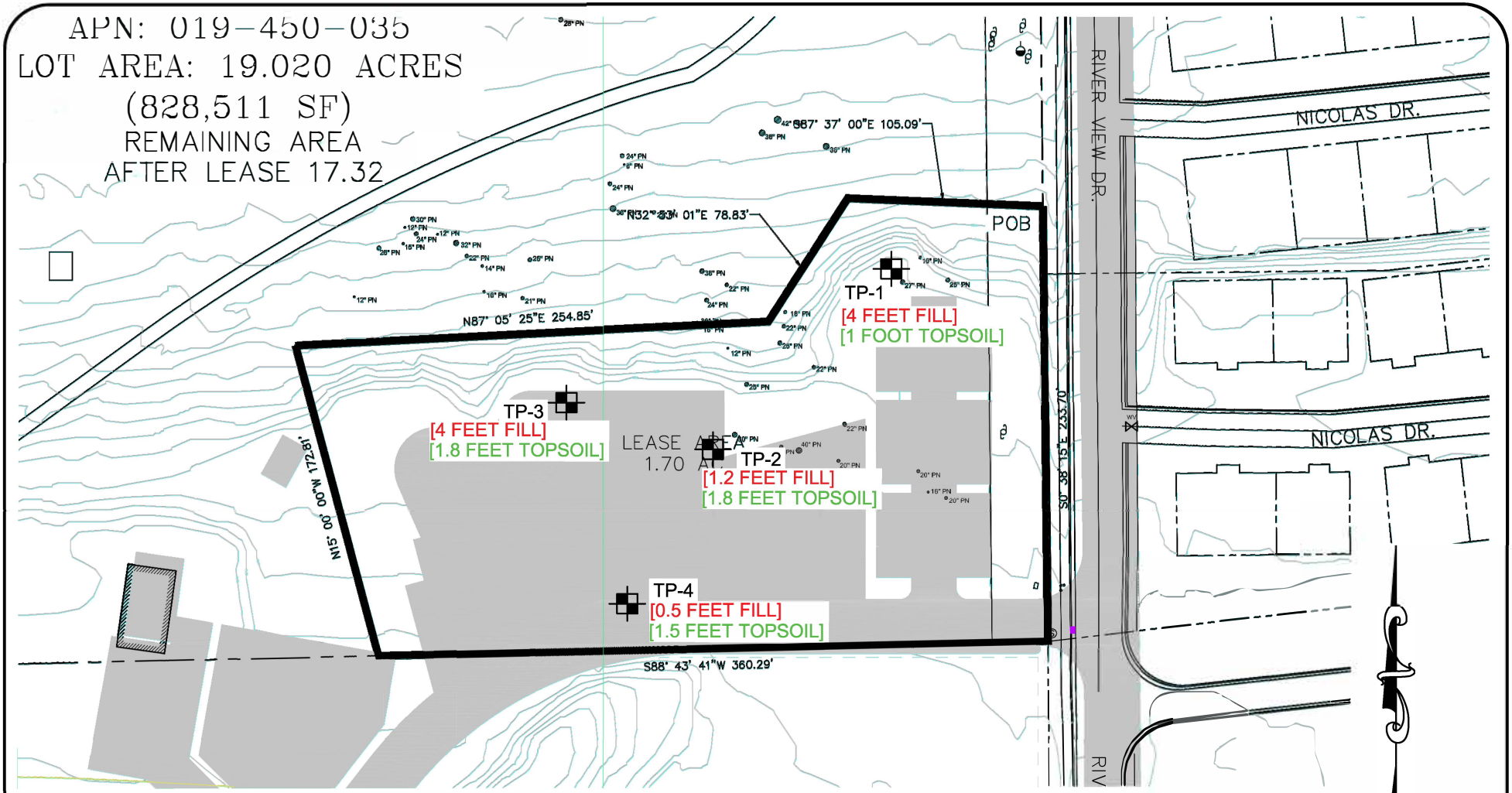
Reviewed By:

Allison K. Hathon, P.E.
Senior Engineer

LICENSED PROFESSIONAL ENGINEER
ALLISON K. HATHON
C 83162
05/16/2022
CIVIL
STATE OF CALIFORNIA

Attachments: Figure 3, Test Pit Location Plan
Test Pit Logs and Soil Classification Sheet (5 Sheets)
Laboratory Test Results (4 Sheets)

copies: Jen Parker



LEGEND

TP-1	APPROXIMATE TEST PIT LOCATION AND DESIGNATION
[4 FEET FILL]	APPROXIMATE AMOUNT OF FILL OBSERVED IN TEST PIT
[1 FOOT TOPSOIL]	APPROXIMATE AMOUNT OF TOPSOIL OBSERVED IN TEST PIT

MODIFIED FROM LEASE AREA EXHIBIT PROVIDED BY HEN PARKER WITH THE KIDZONE MUSEUM, UNDATED

40 0 40 80

SCALE IN FEET

1" = 80'

NV5

TEST PIT LOCATION PLAN

KIDZONE MUSEUM

10010 ESTATES DRIVE

TRUCKEE, CALIFORNIA

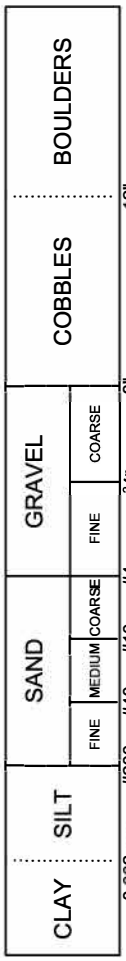
PROJECT NO.: 43044.00

DATE: MAY 2022

FIGURE NO.: 3

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

COARSE GRAINED SOIL More than 50% of the soil is retained on the No. 200 sieve	GRAVEL More than 50% coarse fraction is larger than the No. 4 sieve size	Clean Gravel with less than 5% fines*	GW		WELL GRADED GRAVEL, GRAVEL SAND MIXTURES
			GP		POORLY GRADED GRAVEL, GRAVEL SAND MIXTURES
		Gravel with more than 12% fines*	GM		SILTY GRAVEL, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC		CLAYEY GRAVEL, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
	SAND More than 50% coarse fraction is smaller than the No. 4 sieve size	Clean Sand with less than 5% fines*	SW		WELL GRADED SAND, GRAVELY SAND
			SP		POORLY GRADED SAND, GRAVELY SAND
		Sand with more than 12% fines*	SM		SILTY SAND, POORLY GRADED SAND-SILT MIXTURE
			SC		CLAYEY SAND, POORLY GRADED SAND-SILT MIXTURE
FINE GRAINED SOIL More than 50% of the soil passes the No. 200 sieve	SILT AND CLAY Liquid limit less than 50		ML		INORGANIC SILT & VERY FINE SAND, ROCK FLOUR, SILTY OR CLAYEY FINE SAND, OR CLAYEY SILT WITH SLIGHT PLASTICITY
			CL		INORGANIC CLAY OF LOW TO MEDIUM PLASTICITY, GRAVELY CLAY, SANDY CLAY, SILTY CLAY, LEAN CLAY
			OL		ORGANIC CLAY AND ORGANIC SILTY CLAY OF LOW PLASTICITY
	SILT AND CLAY Liquid limit greater than 50		MH		INORGANIC SILT, MIMCACEOUS OR DIATOMACIOUS FINE SANDY OR SILTY SOIL, ELASTIC SILT
			CH		INORGANIC CLAY OF HIGH PLASTICITY, FAT CLAY
			OH		ORGANIC CLAY OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILT
HIGHLY ORGANIC SOIL			Pt		PEAT AND OTHER HIGHLY ORGANIC SOIL
ROCK			RX		ROCK



* Hybrid classifications are used when the fines content is between 5% and 12% (e.g, SP-SM, GP-GM, SW-SC, GW-GC, etc.)

SAMPLE DESIGNATION

- MODIFIED CALIFORNIA SAMPLER (3" OUTSIDE DIAMETER)
- MODIFIED CALIFORNIA SAMPLER (2-1/ 2"OUTSIDE DIAMETER)
- STANDARD PENETRATION SPLIT SPOON SAMPLER (2" OUTSIDE DIAMETER)
- BULK OR CLASSIFICATION SAMPLE
- SHELBY TUBE (3" OUTSIDE DIAMETER)

KEY TO SYMBOLS

▽	OBSERVED GROUNDWATER
▼	STABILIZED GROUNDWATER LEVEL
LL	LIQUID LIMIT
PL	PLASTIC LIMIT
PI	PLASTICITY INDEX
Gs	SPECIFIC GRAVITY
PERM	PERMEABILITY
CONSOL	CONSOLIDATION
SA	SIEVE ANALYSIS
-200	PERCENT PASSING NO. 200 SIEVE

NON-COHESIVE (GRANULAR) SOIL

RELATIVE DENSITY	SPT BLOWS PER FOOT (N)
VERY LOOSE	0 - 4
LOOSE	5 - 10
MEDIUM DENSE	11 - 30
DENSE	31 - 50
VERY DENSE	51 +

COHESIVE (CLAYEY) SOIL

COMPARATIVE CONSISTENCY	SPT BLOWS PER FOOT (N)	UNCONFINED COMPRESSIVE STRENGTH (TSF)
VERY SOFT	0 - 2	0 - 0.25
SOFT	3 - 4	0.25 - 0.50
MEDIUM STIFF	5 - 8	0.50 - 1.00
STIFF	9 - 15	1.00 - 2.00
VERY STIFF	16 - 30	2.00 - 4.00
HARD	31 +	4.00 +

BLOW COUNTS

BLOW COUNTS REPRESENT THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER EVERY 6 INCHES OF AN 18-INCH DRIVE OR FRACTION INDICATED. BLOW COUNTS PRESENTED ON LOGS HAVE NOT BEEN ADJUSTED.

SOIL CONTACTS

- SOLID - WELL-DEFINED CHANGE
- DASHED - GRADATIONAL OR APPROXIMATE CHANGE

MOISTURE CONTENT

CLASSIFICATION	DESCRIPTION
DRY	FREE OF MOISTURE, DUSTY, DRY TO THE TOUCH
SLIGHTLY MOIST	BELOW THE SOIL'S OPTIMUM MOISTURE CONTENT, BUT NOT DRY
MOIST	NEAR THE SOIL'S OPTIMUM MOISTURE CONTENT
VERY MOIST	ABOVE THE SOIL'S OPTIMUM MOISTURE CONTENT, BUT NOT WET
WET	VISIBLE FREE WATER, USUALLY SOIL IS BELOW WATER TABLE

CEMENTATION

CLASSIFICATION	DESCRIPTION
WEAK	CRUMBLES OR BREAKS WITH HANDLING OR SLIGHT FINGER PRESSURE
MODERATE	CRUMBLES OR BREAKS WITH CONSIDERABLE FINGER PRESSURE
STRONG	WILL NOT CRUMBLE OR BREAK WITH FINGER PRESSURE

MINOR CONSTITUENT QUANTITIES

QUALIFIER	DESCRIPTION
TRACE	PARTICLES ARE PRESENT, BUT ESTIMATED TO BE LESS THAN 5%
SOME	5 to 12%
WITH	12 to 30%

NV5

SOIL CLASSIFICATION KEY
KIDZONE MUSEUM
10010 ESTATES DRIVE
TRUCKEE, CALIFORNIA

PROJECT NO.: 43044.00
DATE: MAY 2022
FIGURE NO.:

TEST PIT NO. TP-1

PROJECT NO.	PROJECT NAME	ELEVATION	DATE	PAGE
43044.00	KIDZONE MUSEUM	~5,832 FT MSL	04/04/2022	1 OF 1

EXCAVATING CONTRACTOR	OPERATOR	EXCAVATING METHOD AND BUCKET SIZE
CLAUSS EXCAVATION INC.	MIKE CLAUSS	TAKEUCHI TB135 EXCAVATOR 24 INCH BUCKET

LOGGED BY	SAMPLING METHOD	GROUNDWATER ENCOUNTERED	CAVED
LAR	BULK	NO	NO

SAMPLE NO.	POCKET PEN. (TSF)	PERCENT PASSING #200 SIEVE	DEPTH (FEET)	GRAPHIC LOG	USCS	DESCRIPTIONS/REMARKS
			1		SM [FILL]	DARK BROWN TO DARK REDDISH BROWN SILTY SAND WITH GRAVEL (SM); MOIST, LOOSE TO MEDIUM DENSE, FINE TO COARSE GRAINED SAND, SUBANGULAR GRAVEL, FREQUENT SUBANGULAR COBBLES, FEW SUBROUNDED BOULDERS UP TO 3 FOOT DIAMETER, ESTIMATE 20% - 30% FINES, ABUNDANT DEBRIS INCLUDING FENCING, CANS, PLASTIC [FILL]
1-1			2			
			3			
			4			
					SM [TS]	BLACK-BROWN SILTY SAND WITH GRAVEL (SM); MOIST, MEDIUM DENSE TO DENSE, FINE TO COARSE GRAINED SAND, SUBROUNDED GRAVEL, SUBROUNDED COBBLES UP TO 10 INCH DIAMETER, ESTIMATE 20% - 30% FINES, TRACE ORGANICS [TOPSOIL]
1-2			5			TEST PIT TERMINATED AT 5 FEET BGS - REFUSAL ON BOULDERS
			6			
			7			
			8			
			9			
			10			
			11			
			12			
			13			
			14			
			15			
			16			
			17			
			18			
			19			
			20			

TEST PIT NO. TP-2

PROJECT NO.	PROJECT NAME	ELEVATION	DATE	PAGE
43044.00	KIDZONE MUSEUM	~5,834 FT MSL	04/04/2022	1 OF 1

EXCAVATING CONTRACTOR	OPERATOR	EXCAVATING METHOD AND BUCKET SIZE
CLAUSS EXCAVATION INC.	MIKE CLAUSS	TAKEUCHI TB135 EXCAVATOR 24 INCH BUCKET

LOGGED BY	SAMPLING METHOD	GROUNDWATER ENCOUNTERED	CAVED
LAR	BULK	NO	NO

SAMPLE NO.	POCKET PEN. (TSF)	PERCENT PASSING #200 SIEVE	DEPTH (FEET)	GRAPHIC LOG	USCS	DESCRIPTIONS/REMARKS
			1		SM [FILL]	DARK YELLOWISH BROWN SILTY SAND WITH GRAVEL (SM); MOIST, LOOSE TO MEDIUM DENSE, FINE TO COARSE GRAINED SAND, SUBROUNDED GRAVEL, SOME COBBLES, ESTIMATE 20% - 30% FINES [FILL]
2-1		22.5	2		GM [TS]	BLACK- BROWN SILTY GRAVEL WITH SAND (GM); MOIST, DENSE, FINE TO COARSE GRAINED SAND, SUBROUNDED GRAVEL, ROOTS, TRACE ORGANICS [TOPSOIL]
2-2			3		SM	DARK OLIVE BROWN SILTY SAND WITH GRAVEL (SM); MOIST, DENSE, FINE TO COARSE GRAINED SAND, SUBROUNDED GRAVEL, SOME SUBROUNDED COBBLES, ROOTS, ESTIMATE 20% - 30% FINES
			4			TEST PIT TERMINATED AT 4 FEET BGS - REFUSAL ON BOULDERS
			5			
			6			
			7			
			8			
			9			
			10			
			11			
			12			
			13			
			14			
			15			
			16			
			17			
			18			
			19			
			20			

TEST PIT NO. TP-3

PROJECT NO.	PROJECT NAME	ELEVATION	DATE	PAGE
43044.00	KIDZONE MUSEUM	~5,834 FT MSL	04/04/2022	1 OF 1

EXCAVATING CONTRACTOR	OPERATOR	EXCAVATING METHOD AND BUCKET SIZE
CLAUSS EXCAVATION INC.	MIKE CLAUSS	TAKEUCHI TB135 EXCAVATOR 24 INCH BUCKET

LOGGED BY	SAMPLING METHOD	GROUNDWATER ENCOUNTERED	CAVED
LAR	BULK	NO	NO

SAMPLE NO.	POCKET PEN. (TSF)	PERCENT PASSING #200 SIEVE	DEPTH (FEET)	GRAPHIC LOG	USCS	DESCRIPTIONS/REMARKS
			1		SM [FILL]	DARK YELLOWISH BROWN SILTY SAND WITH GRAVEL (SM); DRY, LOOSE TO MEDIUM DENSE, FINE TO COARSE GRAINED SAND, SUBROUNDED GRAVEL, FEW SUBROUNDED COBBLES UP TO 8-INCH DIAMETER, FEW BOULDERS UP TO 3 FOOT DIAMETER, ESTIMATE 8% - 12% FINES, ABUNDANT DEBRIS INCLUDING RAGS, CONCRETE AND ASPHALT [FILL]
			2			
3-1		13.9	3			
			4		SM [TS]	BLACK- BROWN SILTY SAND WITH GRAVEL (SM); MOIST, DENSE, FINE TO COARSE GRAINED SAND, SUBROUNDED GRAVEL, FEW ROOTS, ESTIMATE 20% - 30% FINES, TRACE ORGANICS [TOPSOIL]
			5			
			6		SM	DARK OLIVE BROWN SILTY SAND WITH GRAVEL (SM); MOIST, DENSE, FINE TO COARSE GRAINED SAND, SUBROUNDED GRAVEL, FEW SUBROUNDED COBBLES, FEW BOULDERS UP TO 3 FOOT DIAMETER, ESTIMATE 15% - 20% FINES
3-2		18.5	7			TEST PIT TERMINATED AT 7 FEET BGS - REFUSAL ON BOULDERS
			8			
			9			
			10			
			11			
			12			
			13			
			14			
			15			
			16			
			17			
			18			
			19			
			20			

TEST PIT NO. TP-4

PROJECT NO.	PROJECT NAME	ELEVATION	DATE	PAGE
43044.00	KIDZONE MUSEUM	~5,838 FT MSL	04/04/2022	1 OF 1

EXCAVATING CONTRACTOR	OPERATOR	EXCAVATING METHOD AND BUCKET SIZE
CLAUSS EXCAVATION INC.	MIKE CLAUSS	TAKEUCHI TB135 EXCAVATOR 24 INCH BUCKET

LOGGED BY	SAMPLING METHOD	GROUNDWATER ENCOUNTERED	CAVED
LAR	BULK	NO	NO

SAMPLE NO.	POCKET PEN. (TSF)	PERCENT PASSING #200 SIEVE	DEPTH (FEET)	GRAPHIC LOG	USCS	DESCRIPTIONS/REMARKS
			1		SM [FILL]	DARK YELLOWISH BROWN SILTY SAND (SM); DRY, LOOSE TO MEDIUM DENSE, FINE TO COARSE GRAINED SAND, SOME SUBROUNDED GRAVEL, FEW SUBROUNDED COBBLES, ESTIMATE 15% - 20% FINES [FILL]
			2		SM [TS]	BLACK-BROWN SILTY SAND WITH GRAVEL (SM); MOIST, DENSE, FINE TO COARSE GRAINED SAND, SUBROUNDED GRAVEL, ROOTS, ESTIMATE 20% - 30% FINES, TRACE ORGANICS [TOPSOIL]
			3		SM	DARK OLIVE BROWN SILTY SAND WITH GRAVEL (SM); MOIST, DENSE, FINE TO COARSE GRAINED SAND, SUBROUNDED GRAVEL, ABUNDANT SUBROUNDED COBBLES, FEW BOULDERS UP TO 3 FOOT DIAMETER, ESTIMATE 15% - 20% FINES
			4			TEST PIT TERMINATED AT 4 FEET BGS - REFUSAL ON BOULDERS
			5			
			6			
			7			
			8			
			9			
			10			
			11			
			12			
			13			
			14			
			15			
			16			
			17			
			18			
			19			
			20			

ATTERBERG INDICES

ASTM D4318

DSA LEA No. 284

DSA File No. _____

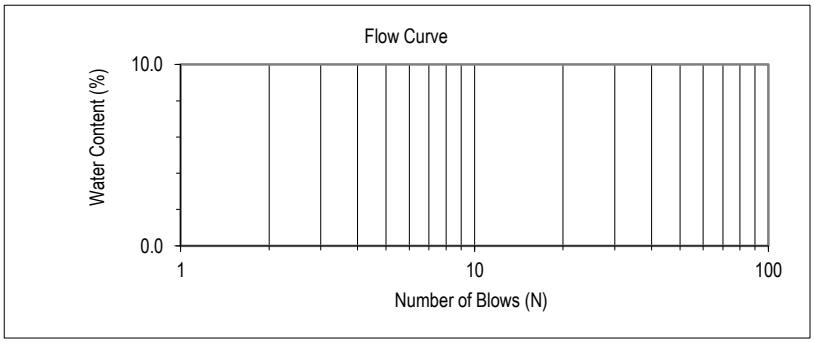
DSA App No.

Project No.	43044.00	Project Name	KidZone Museum			Date:	04/12/22
Sample No.	2-1	Boring/Trench	TP2	Depth, (ft.):	1.7-2.2	Tested By:	BJF
Description:	(5YR 2.5/1) Black Organic Silty Gravel with Sand (GM)					Checked By:	DJP
Sample Location:						Lab. No.	C22-072

Estimated % of Sample Retained on No. 40 Sieve: 10 Sample Air Dried: yes

Test Method A or B: _____

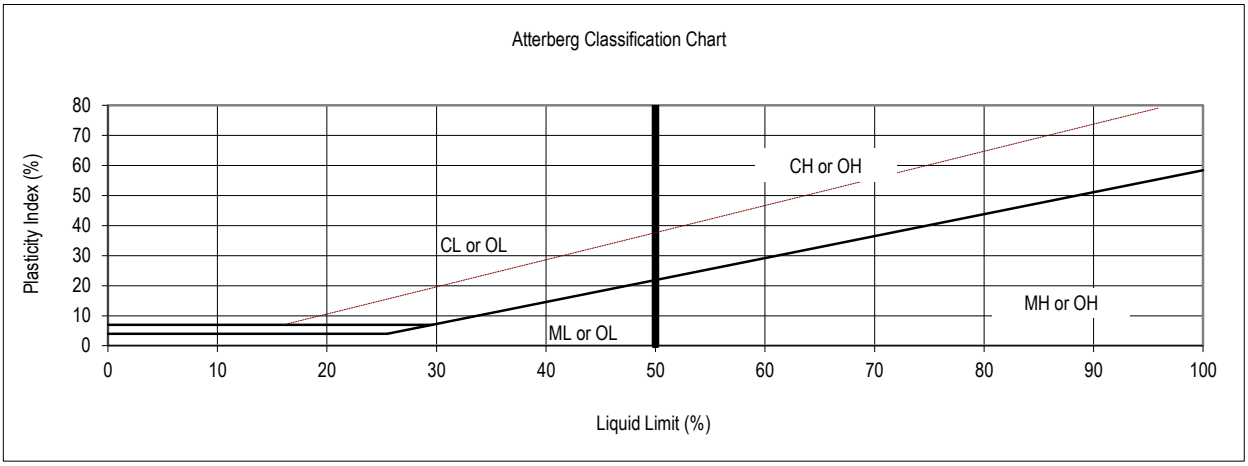
	LIQUID LIMIT:					PLASTIC LIMIT:		
Sample No.:	1	2	3	4	5	1	2	3
Pan ID:								
Wt. Pan (gr)								
Wt. Wet Soil + Pan (gr)								
Wt. Dry Soil + Pan (gr)								
Wt. Water (gr)								
Wt. Dry Soil (gr)								
Water Content (%)								
Number of Blows, N								
			LIQUID LIMIT =			PLASTIC LIMIT =		



Plasticity Index = _____

Non-Plastic ☑

Group Symbol = ML



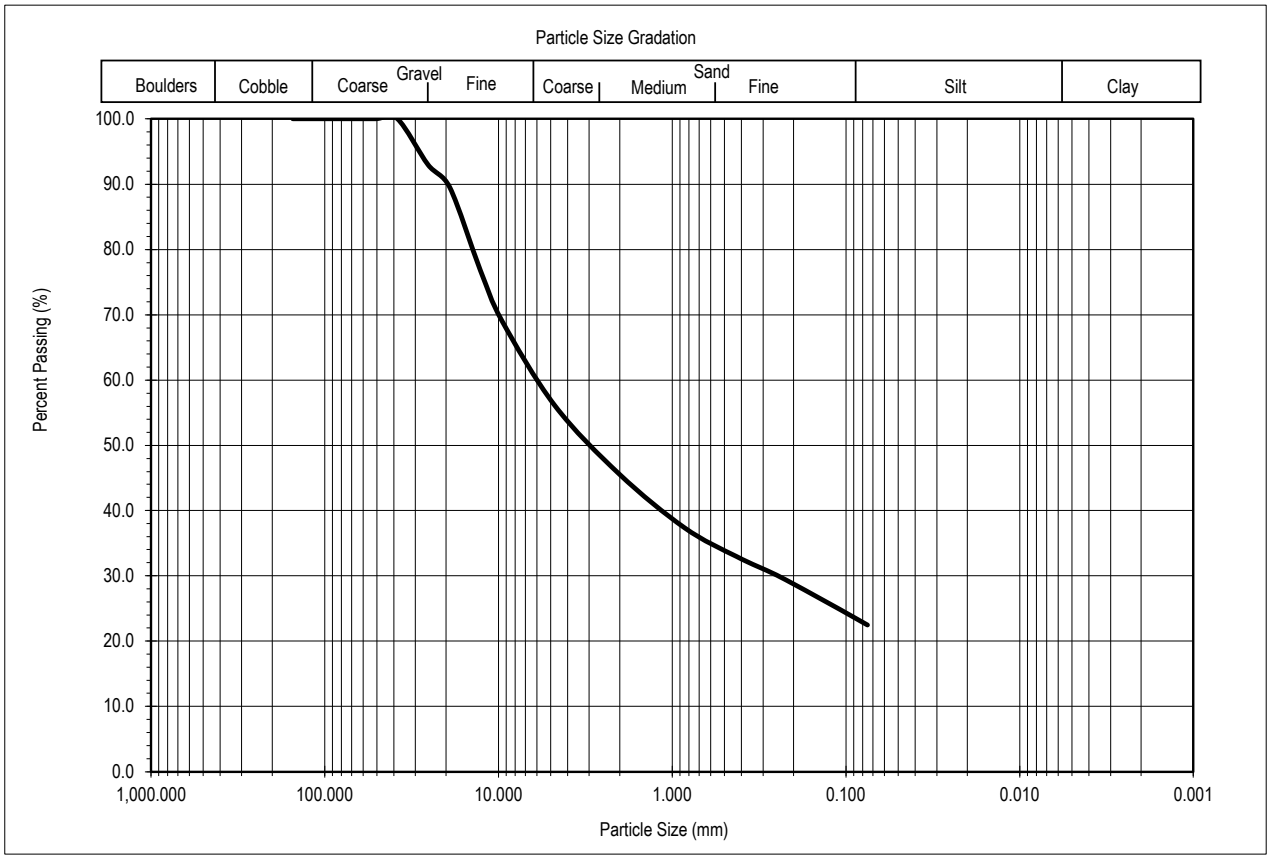
PARTICLE SIZE DISTRIBUTION

ASTM D422, C136

DSA LEA No.: 284

Project No.	**43044.00**	Project Name:	**KidZone Museum**	Date:	**4/12/2022**
Sample No.	**2-1**	Boring/Trench:	**TP2** Depth, (ft.): **1.7-2.2**	Tested By:	**BJF**
Description:	**(5YR 2.5/1) Black Organic Silty Gravel with Sand (GM)**			Checked By:	**DJP**
Sample Location:				Lab. No.	**C22-072**

Sieve Size	Particle Diameter		Dry Weight on Sieve			Percent
	Inches	Millimeter	Retained On Sieve	Accumulated On Sieve	Passing Sieve	Passing
(U.S. Standard)	(in.)	(mm)	(gm)	(gm)	(gm)	(%)
6 Inch	6.0000	152.4	0.00	0.0	1,480.7	**100.0**
3 Inch	3.0000	76.2	0.00	0.0	1,480.7	**100.0**
2 Inch	2.0000	50.8	0.00	0.0	1,480.7	**100.0**
1.5 Inch	1.5000	38.1	0.00	0.0	1,480.7	**100.0**
1.0 Inch	1.0000	25.4	104.50	104.5	1,376.2	**92.9**
3/4 Inch	0.7500	19.1	51.20	155.7	1,325.0	**89.5**
1/2 Inch	0.5000	12.7	187.20	342.9	1,137.8	**76.8**
3/8 Inch	0.3750	9.5	115.20	458.1	1,022.6	**69.1**
#4	0.1870	4.7500	191.00	649.1	831.6	**56.2**
#10	0.0790	2.0066	157.26	806.4	674.3	**45.5**
#20	0.0335	0.8500	121.01	927.4	553.3	**37.4**
#40	0.0167	0.4250	65.30	992.7	488.0	**33.0**
#60	0.0098	0.2500	42.11	1,034.8	445.9	**30.1**
#100	0.0059	0.1500	46.91	1,081.7	399.0	**26.9**
#200	0.0030	0.0750	65.84	1,147.5	333.2	**22.5**



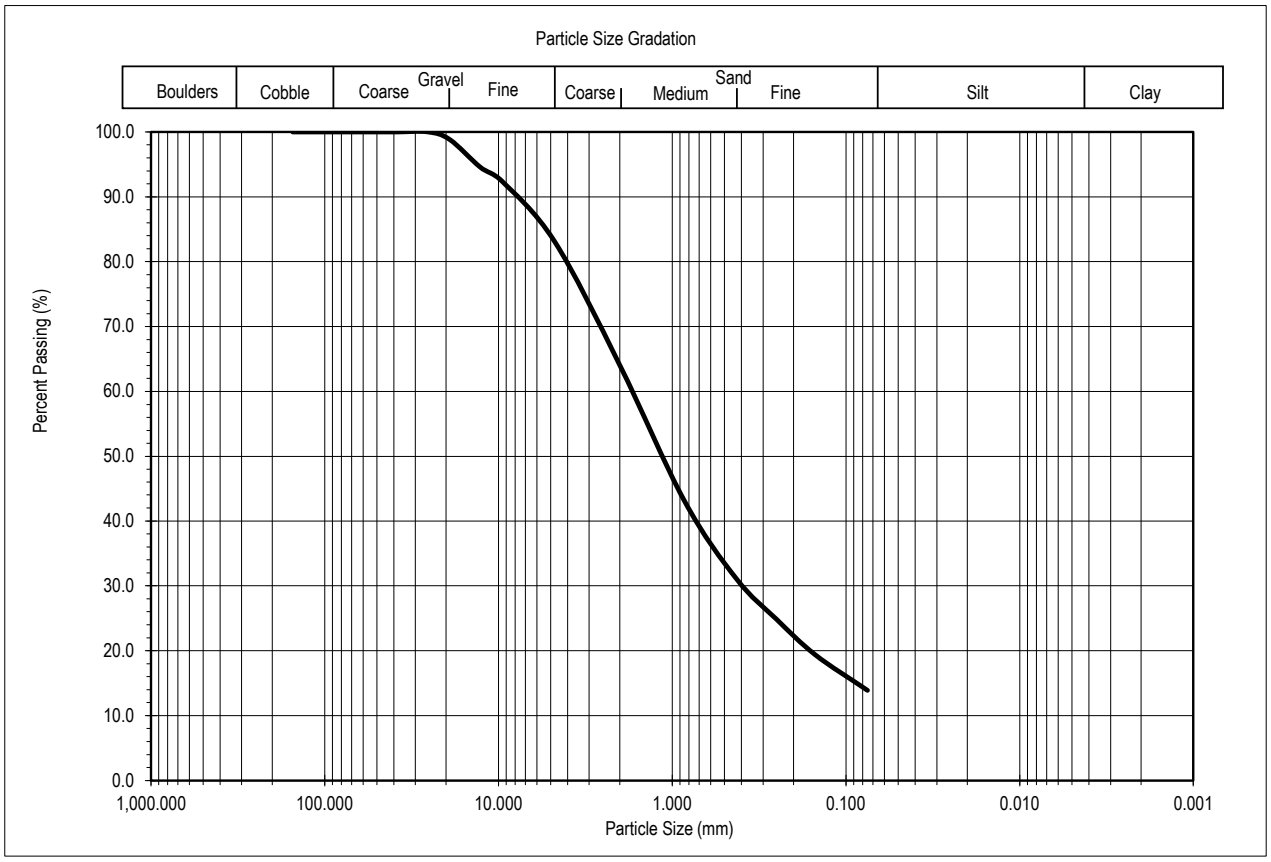
PARTICLE SIZE DISTRIBUTION

ASTM D422, C136

DSA LEA No.: **284**

Project No.	**43044**	Project Name:	**KidZone Museum**			Date:	**4/12/2022**
Sample No.	**3-1**	Boring/Trench:	**TP3**	Depth, (ft.):	**3-3.5**	Tested By:	**BJF**
Description:	**(10YR 4/4) Dark Yellowish Brown Silty Sand with Gravel (SM)**					Checked By:	**DJP**
Sample Location:						Lab. No.	**C22-072**

Sieve Size	Particle Diameter		Dry Weight on Sieve			Percent
	Inches	Millimeter	Retained On Sieve	Accumulated On Sieve	Passing Sieve	Passing
(U.S. Standard)	(in.)	(mm)	(gm)	(gm)	(gm)	(%)
6 Inch	6.0000	152.4	0.00	0.0	1,011.9	**100.0**
3 Inch	3.0000	76.2	0.00	0.0	1,011.9	**100.0**
2 Inch	2.0000	50.8	0.00	0.0	1,011.9	**100.0**
1.5 Inch	1.5000	38.1	0.00	0.0	1,011.9	**100.0**
1.0 Inch	1.0000	25.4	0.00	0.0	1,011.9	**100.0**
3/4 Inch	0.7500	19.1	12.00	12.0	999.9	**98.8**
1/2 Inch	0.5000	12.7	43.30	55.3	956.6	**94.5**
3/8 Inch	0.3750	9.5	21.90	77.2	934.7	**92.4**
#4	0.1870	4.7500	93.60	170.8	841.1	**83.1**
#10	0.0790	2.0066	192.06	362.9	649.0	**64.1**
#20	0.0335	0.8500	213.00	575.9	436.0	**43.1**
#40	0.0167	0.4250	121.71	697.6	314.3	**31.1**
#60	0.0098	0.2500	62.81	760.4	251.5	**24.9**
#100	0.0059	0.1500	55.55	815.9	196.0	**19.4**
#200	0.0030	0.0750	54.99	870.9	141.0	**13.9**



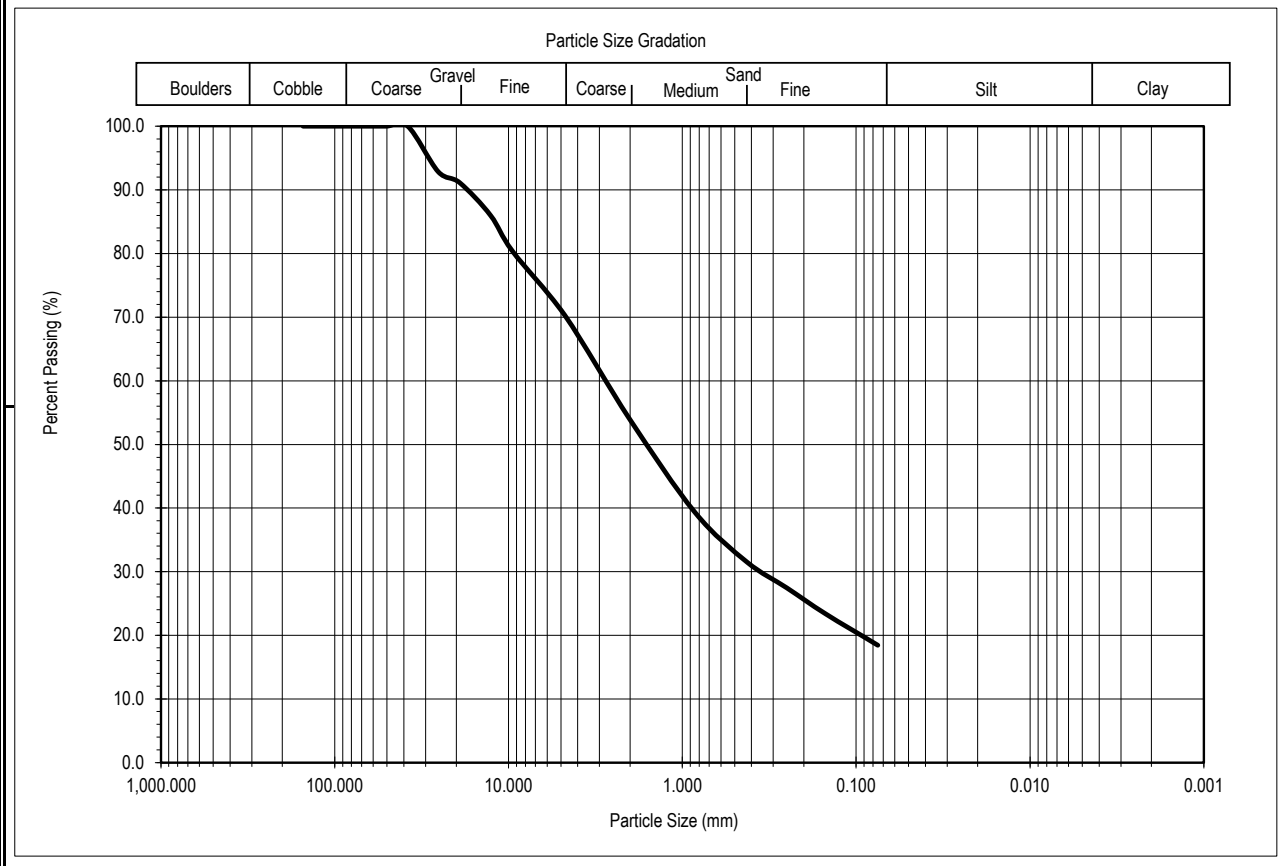
PARTICLE SIZE DISTRIBUTION

ASTM D422, C136

DSA LEA No.: 284

Project No.	**43044.00**	Project Name:	**KidZone Museum**			Date:	**4/12/2022**
Sample No.	**3-2**	Boring/Trench:	**TP3**	Depth, (ft.):	**6.5-7**	Tested By:	**BJF**
Description:	**(2.5Y 3/3) Dark Olive Brown Silty Sand with Gravel (SM)**					Checked By:	**DJP**
Sample Location:						Lab. No.	**C22-072**

Sieve Size	Particle Diameter		Dry Weight on Sieve			Percent
	Inches	Millimeter	Retained On Sieve	Accumulated On Sieve	Passing Sieve	Passing
(U.S. Standard)	(in.)	(mm)	(gm)	(gm)	(gm)	(%)
6 Inch	6.0000	152.4	0.00	0.0	1,981.4	**100.0**
3 Inch	3.0000	76.2	0.00	0.0	1,981.4	**100.0**
2 Inch	2.0000	50.8	0.00	0.0	1,981.4	**100.0**
1.5 Inch	1.5000	38.1	0.00	0.0	1,981.4	**100.0**
1.0 Inch	1.0000	25.4	141.70	141.7	1,839.7	**92.8**
3/4 Inch	0.7500	19.1	35.00	176.7	1,804.7	**91.1**
1/2 Inch	0.5000	12.7	101.00	277.7	1,703.7	**86.0**
3/8 Inch	0.3750	9.5	111.00	388.7	1,592.7	**80.4**
#4	0.1870	4.7500	200.50	589.2	1,392.2	**70.3**
#10	0.0790	2.0066	323.37	912.6	1,068.8	**53.9**
#20	0.0335	0.8500	289.23	1,201.8	779.6	**39.3**
#40	0.0167	0.4250	155.00	1,356.8	624.6	**31.5**
#60	0.0098	0.2500	81.19	1,438.0	543.4	**27.4**
#100	0.0059	0.1500	80.27	1,518.3	463.1	**23.4**
#200	0.0030	0.0750	97.33	1,615.6	365.8	**18.5**



APPENDIX E

NOISE TECHNICAL STUDY

APPENDIX E

NOISE TECHNICAL STUDY

Noise Technical Study

for the

KidZone Museum in Truckee Project

117111 Donner Pass Road
Truckee, CA 96161

Prepared By:

Ascent Environmental

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Prepared For:

KidZone Museum

Carol Meagher
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October 15, 2024

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LIST OF ABBREVIATIONS

ALUC	airport land use commission
ALUCP	airport land use compatibility plan
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
CY	cubic yards
dB	decibels
dBA	A-weighted decibels
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GBV	Ground-Borne Vibration
Hz	hertz
in/sec	inches per second
L_{dn}	Day-Night Level
L_{eq}	Equivalent Continuous Sound Level
L_{max}	Maximum sound Level
L_{min}	Minimum noise level
L_{50}	Sound level exceeded 50 percent of the time
L_{25}	Sound level exceeded 25% of the time
L_{02}	Sound level exceeded 2% of the time
LT	long-term
L_X	Percentile-Exceeded Sound Level
mPa	micro-Pascals
PPV	peak particle velocity
project	Winery at Saralee's Vineyard project identified in the JFI III Application
RMS	root-mean-square
sf	square feet
SPL	sound pressure level
ST	short-term
UPRR	The Union Pacific Railroad
VdB	vibration decibels

1 INTRODUCTION

The purpose of this report is to address potential noise impacts associated with construction and operation of the proposed Truckee KidZone Museum Project (project), located at 10010 Estates Drive, in Truckee, CA. The study includes a description of acoustic fundamentals, applicable noise and vibration policies that pertain to the project, standard for which impacts are evaluated against, and recommended noise minimization measures, where applicable.

ACOUSTIC FUNDAMENTALS

Prior to discussing the noise setting for the project, background information about sound, noise, vibration, and common noise descriptors is needed to provide context and a better understanding of the technical terms referenced throughout this study.

Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a human ear. Noise is defined as loud, unexpected, annoying, or unwanted sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz, or thousands of hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this large range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB).

Addition of Decibels

Because decibels are logarithmic units, SPLs cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness at the same time, the resulting sound level at a given distance would be 3 dB higher than if only one of the sound sources was producing sound under the same conditions. For example, if one idling truck generates an SPL of 70 dB, two trucks idling simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level approximately 5 dB louder than one source.

A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within this range better than sounds of the same amplitude with frequencies outside of this range. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of A-weighted decibels) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds. Thus, noise levels are typically reported in terms of A-weighted decibels. All sound levels discussed in this study are expressed in A-weighted decibels.

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which a noise level decreases with distance depends on geometric spreading, ground absorption, atmospheric effects, and shielding by natural or human-made features, which are described in detail below:

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Roads and highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources, thus propagating at a slower rate in comparison to a point source. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

The propagation path of noise from a source to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave–canceling provides additional attenuation associated with geometric spreading. Traditionally, this additional attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), additional ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the attenuate rate associated with cylindrical spreading, the additional ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance. This would hold true for point sources, resulting in an overall drop-off rate of up to 7.5 dB per doubling of distance.

Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels, as wind can carry sound. Other factors such as air temperature, humidity, and turbulence can also affect sound attenuation.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction (Caltrans 2013a:2-41; FTA 2018:42). Barriers higher than the line of sight provide increased noise reduction (FTA 2018:16). Vegetation between the source and receiver is rarely effective in reducing noise because it does not create a solid barrier unless there are multiple rows of vegetation of sufficient height (FTA 2018:15, 104, 106).

HUMAN RESPONSE TO CHANGES IN NOISE LEVELS

As described above, the doubling of sound energy results in a 3-dB increase in the sound level. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different from what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear can discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the midfrequency (1,000–8,000 Hz) range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 Hz and perceives both higher and lower frequency sounds of the same magnitude with less intensity (Caltrans 2013a:2-18). In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness (Caltrans 2013a:2-10). Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound would generally be perceived as barely detectable.

As depicted in Table 1, a noise level increase of 5.0, or greater, would typically be considered to result in increased levels of annoyance where existing ambient noise levels are less than 60 dB. Within areas where the ambient noise level ranges from 60 to 65 dB, increased levels of annoyance would be anticipated at increases of 3 dB, or greater. Increases of 1.5 dB, or greater, could result in increased levels of annoyance in areas where the ambient noise level exceeds 65 dB. The rationale for the Federal Interagency Committee on Noise recommended criteria is that as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause significant increases in annoyance (FICON 1992).

Table 1 Federal Interagency Committee on Noise Recommended Criteria for Evaluation of Increases in Ambient Noise Levels

Ambient Noise Level Without Project	Increase Required for Significant Impact
<60 dB	5.0 dB, or greater
60–65 dB	3.0 dB, or greater
>65 dB	1.5 dB, or greater

Source: FICON 1992

COMMON NOISE DESCRIPTORS

Noise in our daily environment fluctuates over time. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors used throughout this study.

- **Equivalent Continuous Sound Level (L_{eq}):** L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period (Caltrans 2013a:2-48). For instance, the 1-hour equivalent sound level, also referred to as the hourly L_{eq}, is the energy average of sound levels occurring during a 1-hour period.
- **Percentile-Exceeded Sound Level (L_X):** L_X represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time) (Caltrans 2013a:2-16).
- **Maximum Sound Level (L_{max}):** L_{max} is the highest instantaneous sound level measured during a specified period (Caltrans 2013a:2-48; FTA 2018:207–208).
- **Day-Night Level (L_{dn}):** L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB "penalty" applied to sound levels occurring during nighttime hours between 10:00 p.m. and 7:00 a.m. (Caltrans 2013a:2-48; FTA 2018:214).

VIBRATION FUNDAMENTALS

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Ground-borne vibration is vibration of and through the ground. Ground-borne vibration can range from levels that are imperceptible by humans to levels that can create substantial damage to buildings and structures. Sources ground-borne of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration.

Ground-borne vibration amplitudes are commonly expressed in peak particle velocity (PPV) or root-mean-square (RMS) vibration velocity. PPV and RMS vibration velocity are normally described in inches per second (in/sec) or in millimeters per second. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is typically used in the monitoring of transient and impact vibration and has been found to correlate well to the stresses experienced by buildings (FTA 2018:110; Caltrans 2013a:6).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a 1-second period. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA 2018:110, 199; Caltrans 2013b:7). This is based on a reference value of 1 microinch per second.

The typical background ground-borne vibration-velocity level in residential areas is approximately 50 VdB. Ground vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels (FTA 2018:120; Caltrans 2013b:27).

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur to fragile buildings. Construction activities can generate sufficient ground vibrations to pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants (FTA 2018:113).

Ground vibration levels generated by construction activity can be transient, random, or continuous. Transient construction vibrations are generated by blasting, impact pile driving, and wrecking balls. Continuous vibrations are generated by vibratory pile drivers, large pumps, and compressors. Random vibration can result from jackhammers, pavement breakers, and heavy construction equipment.

Table 2 summarizes the general human response to different ground vibration-velocity levels.

Table 2 Human Response to Different Levels of Ground Noise and Vibration

Vibration-Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Notes: VdB = vibration decibels referenced to 1 microinch/second and based on the root mean square (RMS) velocity amplitude.

Source: FTA 2018:120.

1.1 PROJECT DESCRIPTION

The project proposes to develop an 11,750 square foot (sf) KidZone museum, including a café, outdoor play area, 31 parking spaces, fire access paths, a fence around the property line, and a 15,100 sf snow storage area, located at the corner of Estates Drive and River View Drive, within the Town of Truckee. Construction activities including, site preparation, grading, building construction, and architectural coating is anticipated to begin as early as spring of 2024, with the first year of operations beginning in 2025. Once fully built, the museum will be open to the public Tuesday to Sunday 9:00 a.m. to 5:00 p.m. The project vicinity is shown in Figure 1 and a detailed site plan with the proposed project facilities is shown in Figure 2.

1.2 EXISTING NOISE- AND VIBRATION-SENSITIVE LAND USES

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and because of the potential for nighttime noise to result in sleep disruption. Additional land uses such as schools, transient lodging, historic sites, cemeteries, and places of worship are also generally considered sensitive to increases in noise levels. These land use types are also considered vibration-sensitive land uses in addition to commercial and industrial buildings where vibration would interfere with operations within the building, including levels that may be well below those associated with human annoyance.

The nearest noise-sensitive receptors are single-family homes across River View Drive, approximately 75 feet east (project edge to nearby receptors) of the project site. However, based on a review of the proposed site plan and associated components (e.g., surface parking, museum structure), the acoustical center of primary construction activities would be approximately 220 feet from the nearby residences. Parking lot construction could occur as close as 95 feet from the residences to the east (worst-case distance applied to vibration analysis). In addition. There is also a residential neighborhood located approximately 700 feet north of the project site across the Truckee River. Residential uses are located approximately 1,275 feet south of the project site and are separated from the project site by Old Brockway Road. West of the project site is the Truckee River Regional Park with a wooded area, skatepark, baseball and softball fields, and tennis courts. Day users at the recreation facilities within the Truckee River Regional Park would be considered noise-sensitive receptors.

1.2.1 Existing Noise Sources and Ambient Levels

The sound levels in most communities fluctuate, depending on the activity of nearby and distant noise sources, time of the day, or season of the year, with major roads and highways typically the primary sources of ambient noise in a community. Local roads closest to the project site include River View Road and Brockway Road. Major roadways near the project site include Interstate 80 (I-80) 0.55 miles north and State Route 267 (SR-267) 0.55 miles east of the project site. The Union Pacific Railroad (UPRR), including both freight and passenger rail, is located approximately 1,000 feet north of the project site. Additionally, the Truckee Tahoe Airport is located approximately 1.05 miles southeast of the project site.

To establish existing noise levels, an ambient noise survey was conducted on Thursday, February 16 through Friday, February 17, 2023. One long-term (LT) (24-hour) and four short-term (ST) (less than one hour) measurements were conducted using a Larson Davis Laboratories LxT precision integrating sound level meter. The meter was calibrated before use with a Larson Davis Laboratories Model CAL200 acoustical calibrator to ensure measurement accuracy. The measurement equipment meets all pertinent specifications of the American National Standards Institute. Weather conditions during the measurement period were mild ranging from 7 Fahrenheit to 35, clear skies, and average wind speeds of 4 miles per hour. The location of the noise monitoring sites are shown in Figure 2. Results from the LT measurement are summarized in Table 3 and Figure 3 and results from the ST measurements are summarized in Table 4.

Source: adapted by Ascent Environmental in 2023.

Figure 1 Project Vicinity

Source: adapted by Ascent Environmental in 2023.

Figure 2 Noise Measurement Location

Table 3 Long-Term Noise Measurement Summary

Long-Term			L_{dn}	Daytime (7:00 a.m.-10:00 p.m.)						Nighttime (10:00 p.m.-7:00 a.m.)					
				L_{eq}	L_{max}	L_{min}	L_{50} (Average)	L_{25} (Average)	L_{02} (Average)	L_{eq}	L_{max}	L_{min}	L_{50} (Average)	L_{25} (Average)	L_{02} (Average)
LT-1[1] (24-hour)	Thursday, February 16, 2023	2:00 p.m. to 2:00 p.m.	52.8	49.2	69.0	39.4	43.6	45.0	56.1	44.2	56.7	36.6	42.1	43.7	49.7

Notes: LT=Long-Term; L_{dn} = Day-night level; L_{eq} = equivalent continuous sound level; L_{max} = maximum noise level; L_{min} = minimum noise level; L_{50} = sound level exceeded 50 percent of the time; L_{25} = sound level exceeded 25 percent of the time; L_{02} = sound level exceeded 2 percent of the time

Refer to Figure 2 for ambient noise level measurement locations.

See Appendix A for detailed noise measurement data.

Source: Data collected by Ascent Environmental 2023.

Four short-term noise measurements (approximately 15-minute measurements) were conducted on Thursday, February 16, 2023.

Table 4 Short-Term Noise Measurement Summary

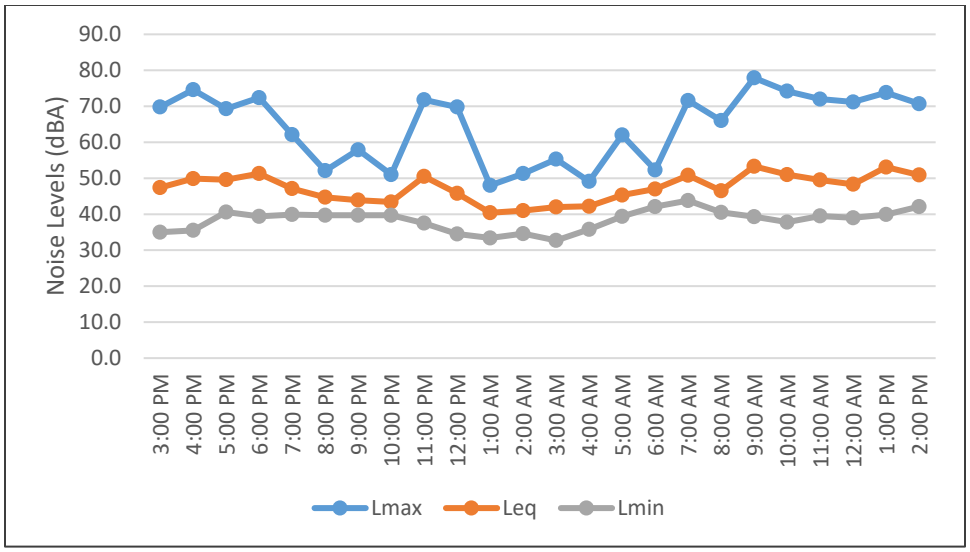
Measurements		L_{eq}	L_{max}	L_{min}	L_{50}	L_{25}	L_{02}
ST-1 (19-minute)	11:20 a.m. to 11:39 a.m.	45.3	59.1	38.6	41.6	43.4	55.0
ST-2 (19-minute)	11:47 a.m. to 12:06 p.m.	56.2	70.9	43.6	49.9	55.0	64.8
ST-3 (16-minute)	12:11 p.m. to 12:27 p.m.	53.2	68.8	41.8	46.5	50.4	61.5
ST-4 (16-minute)	12:39 p.m. to 12:55 p.m.	53.0	68.5	38.0	49.0	52.5	61.7
Averages		59.1	66.8	40.5	46.8	50.3	60.8

Notes: L_{dn} = ST= Short-Term; Day-night level; L_{eq} = equivalent continuous sound level; L_{max} = maximum noise level; L_{min} = minimum noise level; L_{50} = sound level exceeded 50 percent of the time; L_{25} = sound level exceeded 25 percent of the time; L_{02} = sound level exceeded 2 percent of the time

Refer to Figure 2 for ambient noise level measurement locations.

See Appendix A for detailed noise measurement data.

Source: Data collected by Ascent Environmental 2023.



L_{eq} = equivalent continuous sound level; L_{max} = maximum noise level; L_{min} = minimum noise level

Source: Data collected by Ascent Environmental 2023.

See Appendix A for detailed noise measurement data.

Figure 3 Summary of Long-Term (24-Hour) Noise Measurement

The existing noise environment in the project area is primarily influenced by transportation noise from vehicular traffic. Old Brockway Road is the most heavily traveled roadway in the immediate vicinity of the project site. Old Brockway Road stretches east and west and is located approximately 850 feet south of the project site and 650 feet south of the nearest sensitive receptor.

Using available traffic data for existing and future conditions from the 2040 Truckee General Plan Environmental Impact Report, Table 5 summarizes the modeled existing and future traffic noise levels at 100 feet from the centerline of Old Brockway Road and lists distances from each roadway centerline to the 70, 65, and 60 dBA L_{dn} traffic noise contours (Town of Truckee 2022). The future condition represents the worst-case noise levels that would be experienced at the project site.

Table 5 Transportation-Related Noise

Roadway	Segment Description	Existing Condition Noise Levels (CNEL)	Future Noise Levels (CNEL)	Distance (feet) from Roadway Centerline to L_{dn} Contour		
				70	65	60
Old Brockway Road	Palisades Road to Reynold Way	66.9	67.0	51	162	514

Notes: CNEL = Community Noise Equivalent Level; L_{dn} = Day-night levels

Source: Town of Truckee 2022.

2 REGULATORY SETTING

FEDERAL

Federal Transit Administration Standards for Exposure to Ground Vibration

The Federal Transit Administration (FTA) Division of Environmental Analysis developed the Transit Noise and Vibration Impact Assessment Manual, which provides guidance to engineers, planners, and consultants in assessing vibration from construction, operation, and maintenance of projects. To address the human response to ground vibration, the FTA has set forth guidelines for maximum-acceptable vibration criteria for different types of land uses. These guidelines are presented in below in Table 6. In addition, FTA has also established construction vibration damage criteria, shown below in Table 7.

Table 6 Ground-Borne Vibration Impact Criteria for General Assessment for Human Response

Land Use Category	Ground-Borne Vibration Impact Levels for Human Response (VdB re 1 microinch/second)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations.	65[4]	65[4]	65[4]
Category 2: Residences and buildings where people normally sleep.	72	75	80
Category 3: Institutional land uses with primarily daytime uses.	75	78	83

Notes: VdB re 1 microinch/second = vibration decibels referenced to 1 microinch/second and based on the root mean square (RMS) velocity amplitude.

[1] "Frequent Events" is defined as more than 70 vibration events of the same source per day.

[2] "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

[3] "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.

[4] This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research would require detailed evaluation to define acceptable vibration levels.

Source: FTA 2018:123–126.

Table 7 FTA Construction Damage Vibration Criteria

Land Use Category	PPV, in/sec
Reinforced-concrete, steel or timber (no plaster)	0.5
Engineered concrete and masonry (no plaster)	0.3
Non-engineered timber and masonry buildings	0.2
Buildings extremely susceptible to vibration damage	0.12

In addition to vibration criteria, FTA has also established construction noise criteria based on the land use type affected by noise and depending on whether or not construction noise would occur during the daytime or nighttime. The FTA criteria are as follows:

- Residential: 90 dBA L_{eq} (day) and 80 dBA L_{eq} (night)
- Commercial/Industrial: 100 dBA L_{eq} (day and night)

STATE

California Building Code Sound Transmission Standards

Noise within habitable units that is attributable to external sources is regulated by the California Building Standards codified in CCR, Title 24, Part 2, Section 1207. These standards are enforceable at the time of construction or during occupancy and apply to habitable units with common interior walls, partitions, and ceilings or those adjacent to public areas such as halls,

corridors, stairways, and service areas. Under these standards the interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metrics used to measure these levels can be day-night average sound level (L_{dn}) or Community Noise Equivalent Level (CNEL), consistent with the local general plan. Under California Public Resources Code Section 25402.1(g), all cities and counties in the state are required to enforce the adopted California Building Code, including these standards for noise in interior environments.

California General Plan Guidelines

The State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research, provides guidance for the compatibility of projects within areas of specific noise exposure (OPR 2017). Acceptable and unacceptable community noise exposure limits for various land use categories have been determined to help guide new land use decisions in California communities. In many local jurisdictions, these guidelines are used to derive local noise standards and guidance. Citing EPA materials and the State Sound Transmissions Control Standards, the State's general plan guidelines recommend interior and exterior CNEL of 45 and 60 decibels (dB) for residential units, respectively (OPR 2017:378).

California Department of Transportation

In 2013, the California Department of Transportation (Caltrans) published the Transportation and Construction Vibration Manual (Caltrans 2013a). The manual provides general guidance on vibration issues associated with construction and operation of projects in relation to human perception and structural damage. Table 8 presents recommendations for levels of vibration that could result in damage to structures exposed to continuous vibration.

Table 8 Caltrans Recommendations Regarding Levels of Vibration Exposure

PPV (in/sec)	Effect on Buildings
0.4-0.6	Architectural damage and possible minor structural damage
0.2	Risk of architectural damage to normal dwelling houses
0.1	Virtually no risk of architectural damage to normal buildings
0.08	Recommended upper limit of vibration to which ruins and ancient monuments should be subjected
0.006-0.019	Vibration unlikely to cause damage of any type

Notes: PPV= Peak Particle Velocity; in/sec = inches per second

Source: Caltrans 2013a

LOCAL

Town of Truckee General Plan 2025

The Noise Element of the Town of Truckee General Plan 2025 (Town of Truckee 2006) provides noise exposure information pertaining to excessive noise, the permitting and planning process, and construction, which all pertain to this project. This background information is provided below.

Excessive Noise

The General Plan seeks to minimize community exposure to excessive noise by ensuring compatible land uses relative to noise sources. The Noise Element within the General Plan establishes the following policies and standards that are relevant to the analysis of the noise effects of the project:

- **Policy P1.1:** Allow new development only if consistent with the ground transportation noise compatibility guidelines illustrated in Figure N-3 (Table 9 of this study) and the policies of this Element. Noise measurements used in establishing compatibility shall be measured in dBA CNEL and based on worst-case noise levels, either existing or future, with future noise levels to be predicted based on projected 2025 levels.
- **Policy P1.2**: Require new development to mitigate exterior noise to "normally acceptable" levels in outdoor areas where quiet is a benefit, such as in the backyards of single-family homes.

- **Policy P1.5**: Allow land uses within Normally Unacceptable categories only where the allowed use can be shown to serve the greater public interests of the citizens of Truckee.
- **Policy P1.6**: When considering development proposals in the environs of the Truckee Tahoe Airport, enforce the noise compatibility criteria and policies set forth in the adopted Truckee Tahoe Airport Land Use Compatibility Plan.
- **Policy P1.7:** Reduce potential impacts from groundborne vibration associated with rail operations by requiring that vibration-sensitive buildings (e.g., residences) are sited at least 100-feet from the centerline of the railroad tracks whenever feasible and that development of vibration-sensitive buildings within 100-feet from the centerline of the railroad tracks require a study demonstrating that groundborne vibration issues associated with rail operations have been adequately addressed (i.e., through building siting or construction techniques).

Permitting and Planning

The Noise Element is intended to provide ways to reduce existing and future noise conflicts. It seeks to address noise issues through the planning and permitting process. The following policies and standards that are relevant to the analysis of the noise effects of the project:

- **Policy P2.1:** Require mitigation of all significant noise impacts as a condition of project approval.
- **Policy P2.2:** Require preparation of a noise analysis/acoustical study, which is to include recommendations for mitigation, for all proposed projects which may result in potentially significant noise impacts to nearby noise sensitive land uses such as residences.
- **Policy P2.3:** Require preparation of a noise analysis/acoustical study, which is to include recommendations for mitigation, for all proposed development within noise-impacted areas that may be exposed to levels greater than "normally acceptable." This exception may not be used on vacant properties which are zoned to allow noise sensitive uses.
- **Policy P2.4:** Discourage the construction of sound walls and require development projects to evaluate site design techniques, building setbacks, earthen berms, alternative architectural layouts and other means to meet noise reduction requirements.

Construction

The General Plan seeks to reduce noise levels from sources such as domestic uses, construction and car stereos, and from mobile sources, including motor vehicle traffic and aircraft operations. The following policies and standards are relevant to the analysis of the noise effects of the project:

- **Policy P3.1:** Enforce provisions of the Municipal Noise Ordinance, which limits maximum permitted noise levels that cross property lines and impact adjacent land uses.
- **Policy P3.2:** Regulate noise from non-emergency construction activities through the Municipal Noise Ordinance.
- **Policy P3.4:** Control excessive vehicle exhaust noise by enforcing Section 27150 of the California Vehicle Code.
- **Policy P3.5:** Investigate other methods for reducing noise associated with vehicles and diesel equipment, and support efforts to reduce vehicle and equipment noise – e.g. through fleet and equipment modernization or retrofits, use of alternative fuel vehicles, and installation of mufflers or other noise reducing equipment.
- **Policy P3.7:** Enforce posted speed limits on Town roads.
- **Policy P3.13**: Require the following standard construction noise control measures to be included as requirements at construction sites in order to minimize construction noise impacts.
    - Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
    - Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
    - Utilize "quiet" air compressors and other stationary noise generating equipment where appropriate technology exists.

- The project sponsor shall designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site. Additionally, the project sponsor shall send a notice to neighbors in the project vicinity with information on the construction schedule and the telephone number for noise complaints.

Land Use Compatibility

The State Office of Noise Control developed guidelines of a range of noise levels for different land use types. These guidelines are used by the Town of Truckee to create both interior and exterior noise standards. Table 9 shows the noise compatibility standards for various land use types.

Table 9 Exterior Noise Exposure (CNEL, dBA)

Land Use Type	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally unacceptable[3]	Unacceptable[4]
Residential, Mobile Homes	Less than 60	60-65	65-75	75+
Residential in Mixed Use Development	Less than 65	65-70	70-75	75+
Hospitals, Schools, Congregate Care	Less than 65	65-70	70-75	75+
Office; Medical; Light Industrial	Less than 70	70-75	75-80	80+
Hotel; Commercial	Less than 70	70-75	75-80	80+
Neighborhood Parks; RV Parks	Less than 65	65-70	70-75	75+
Other Recreation; Community and Regional Parks	Less than 70	70-75	75-80	80+

Note: CNEL = Community noise equivalent Level; dBA = A-weighted decibels

Source: Town of Truckee General Plan (2006)

[1] Specified land use is compatible, assuming standard construction practices are used.

[2] New Land uses may be allowed if a detailed noise analysis is performed and noise reduction and insulation features necessary to reduce exterior noise levels to "normally acceptable" levels and interior noise levels as appropriate are included in the project design.

[3] New land uses should be discouraged, but development may be allowed after a detailed noise analysis is performed, noise reduction and insulation features necessary to reduce exterior noise to "normally acceptable" levels and interior noise levels as appropriate are included in project design, and the land uses are shown to serve the greater public interests of the citizens of Truckee.

[4] New construction or development of these land uses should generally not be permitted because mitigation is usually not feasible.

Town of Truckee Municipal Code

On October 12, 2021, the Town Council declared the necessity in the public interest to adopt the requirements of the general noise regulations for the Town of Truckee and its residents and visitors. The following sections of Chapter 9.20 General Noise Regulations pertain to the project.

Section 9.20.020 Loud and unreasonable noise prohibited.

A. It is unlawful for any person to make, continue, or cause to be made or continued any noise disturbance. The factors which should be considered in determining whether a violation or this section exists, include the following:

   1. The sound level of the objectionable noise.
   2. The sound level of the ambient noise.
   3. The proximity of the noise to dwelling units, hospital, hotels and the like.
   4. The zoning of the area.

5. The population density of the area.
6. The time of day or night, provided that noises occurring between the hours of 10:00 pm and 7:00 am may constitute a noise disturbance even if the same noises occurring at other times of day would not constitute a noise disturbance.
7. The duration of the noise.
8. Whether the noise is recurrent, intermittent, or constant.
9. Whether the noise is produced by a commercial or noncommercial activity.
10. Whether the nature of the noise is usual or unusual.
11. Whether the noise is natural or unnatural.

B. It is unlawful for any person to make, continue, or cause to be made or continued any noise disturbance, or any noise plainly audible through partition s common to two dwelling units within a building.

9.20.030 Exemptions

The following activities shall be exempt from the provisions of this chapter:

E. Right-of-way construction. The provisions of this chapter shall not apply to any work performed in the Town rights-of-way by the Town or pursuant to an encroachment permit issued by the Town.

G. Construction. Construction noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the Town as required; and provided said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or any time on Sunday or a federal holiday.

Town of Truckee Development Code

18.44.040, Exterior Noise Standards

Section 18.44.030 of the Development Code (Exterior Noise Standards) states that it is unlawful "for any person, at any location within the Town, to create any noise or to allow the creation of any noise on property leased, occupied, owned, or otherwise controlled by the person which does not comply with the provisions of the Section, unless the provision of either Section 18.44.050 (Residential Interior Noise Standards) or 18.44.070 (Exceptions), below have been met." Exterior noise level criteria in Section 18.44.040 presented as Table 10, below.

A. Exterior levels. Exterior noise levels, when measured at any receiving church, commercial, hospital, public library, residential or school property, do not conform to the provisions of this section when they exceed the noise level standards presented as Table 10, below.

B. Ambient noise level adjustment. In the event the measured ambient noise level exceeds the applicable noise level standard in any category above, the applicable standards shall be adjusted to equal the ambient noise level. For example, if the applicable noise level standard is 60 dB(A) and the ambient noise level is 63 dB(A), the applicable noise level standard would be adjusted to 63 dB(A). In these cases, a use would not exceed the applicable noise level standard if it did not increase the ambient noise level by more than 3.0 dB(A) when the ambient noise level is between 60 and 65 dB(A) or by more than 1.5 dB(A) when the ambient noise level is greater than 65 dB(A).

C. Simple tone noises. Each of the noise level standards specified above shall be reduced by 5 dB(A) for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

D. Intruding noise source. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period to allow measurement of the ambient noise level, the noise level measured while the source is in operation shall be compared directly to the applicable noise level standards presented as Table 10, below.

E. Equipment noise. The noise level standard applicable to the emission of sound from regulators, transformers and associated equipment in electrical substations shall be 60 dB(A).

Table 10 Noise Standard by Receiving Land Use

Noise Level Standards (dB)		
Cumulative Number of Minutes in Any Hour	Day (7:00 a.m. to 10:00 p.m.)	Night (10:00 p.m. to 7:00 a.m.)
Hospital, Library, Religious Institution, Residential, or School Use		
30[1]	55	50
15	60	55
5	65	60
1	70	65
0	75	70
Commercial Uses		
30	65	60
15	70	65
5	75	70
1	80	75
0	85	80

Note: dB = decibels

[1] For example, this means the measured noise level may not exceed 55 dB for more than 30 minutes out of any one hour time period

Source: Town of Truckee Development Code (Truckee Municipal Code, Title 18)

F. Commercial/Industrial exterior noise standard. Whenever a new office, commercial, hotel/motel or light industrial use is proposed on a parcel where the existing ambient noise levels may exceed 70 dB(A) CNEL, the land use permit application shall include an acoustical analysis of the effect of noise sources on the use. The acoustical analysis shall identify appropriate mitigation measures that reduce noise levels to acceptable levels. These mitigation measures shall be incorporated into the design, construction, and operation of the use. Office, commercial, hotel/motel and light industrial uses that cannot mitigate noise levels to "Normally Acceptable" levels as defined in General Plan Figure N-3 (Noise Compatibility Guidelines) shall not be approved.

G. Public/Institutional exterior noise standard. Whenever a hospital, library, school, congregate care, or similar public or institutional use is proposed on a parcel where the existing ambient noise levels may exceed 65 dB(A) CNEL, the land use permit application shall include an acoustical analysis of the effect of noise sources on the use. The acoustical analysis shall identify appropriate mitigation measures that reduce noise levels to acceptable levels. These mitigation measures shall be incorporated into the design construction and operation of the use. Public and institutional uses that cannot mitigate noise levels to "Normally Acceptable" levels as defined in General Plan Figure N-3 (Noise Compatibility Guidelines) shall not be approved.

H. Sensitive land uses. Whenever a use is proposed on a parcel where the expected noise levels generated by the use, when measured at any receiving church, hospital, public library, residential or school property may exceed the noise level standards presented as Table 10, above, the land use permit application shall include an acoustical analysis of the effect of the noise generated by the use on the sensitive land use property. An acoustical analysis shall also be required when a commercial or industrial loading dock or area is located within 300 feet of a sensitive use. The acoustical analysis shall identify appropriate mitigation measures that reduce exterior noise levels to acceptable levels presented as Table 10, above. These mitigation measures shall be incorporated into the design, construction, and operation of the use.

I. Mitigation. Reasonable noise mitigation measures including building setbacks, alternative site design techniques and alternative building orientation layouts shall be employed in lieu of sound walls,

perimeter and/or barrier fencing, or earthen berms to mitigate noise impacts. Sound walls may only be used if the review authority finds that there are no other reasonable mitigation measures available and that the height, location, aesthetics, and screening of the sound wall comply with all other applicable sections of this Development Code.

18.44.050, Residential Interior Noise Standards

Single-family and multi-family residential development shall be designed and constructed to comply with the interior noise standards of this Section.

A. Interior noise standard. Whenever a new single-family or multi-family dwelling unit is proposed on a parcel where the existing exterior ambient noise level may exceed 60 dB(A) CNEL, the land use permit application shall include an acoustical analysis showing the dwelling unit has been designed to limit intruding noise to an interior CNEL of 45 dB, in compliance with California Code of Regulations Title 24, Part 2.

B. Residential development affected by aircraft noise. Land use permit applications for residential structures proposed within the Airport 55 dB CNEL contour shall comply with the provisions of Section 18.64.060 (Airport Noise Zones).

C. Noise mitigation measures. Whenever interior noise levels may exceed 45 dB CNEL, residential developments shall incorporate the following noise mitigation measures, where appropriate:

    1. Increase the distance between the noise source and the receiver;

    2. Locate bedrooms on the side of the structure away from major public rights-of-way; and/or

    3. Locate land uses not sensitive to noise (e.g., garages, maintenance facilities, parking lots, utility areas, etc.) between the noise source and the receiver.

D. Noise barrier standards. The minimum acceptable surface weight for a noise barrier is 4 pounds per square foot (equivalent to three-fourths inch plywood). Noise barriers shall interrupt the line-of-sight between the noise source and the receiver. The barrier shall be of a continuous material which is resistant to sound and may including the following:

    1. Earth berm; or

    2. Split-faced masonry block; or

    3. Precast or board-form concrete.

18.44.060, Prohibited Acts

The following acts, and the causing or allowing of these acts, are a violation of this Section:

A. Places of public entertainment. Operating or allowing to be operated any loudspeaker, musical instrument or other source of sound in any place of public entertainment that exceed 95 dB(A) at any point normally occupied by a customer, without a conspicuous and legible sign stating, "WARNING! Sound levels within may cause hearing impairment." Nothing in this Section shall be construed to allow any violation of Section 18.44.040 (Exterior Noise Standards) or any noise disturbance in any place of public entertainment;

B. Emergency signaling devices. The intentional sounding or allowing the sounding outdoors of any burglar, civil defense or fire alarm, siren, whistle or similar stationary emergency signaling device, except for emergency purposes or for testing, which shall only be conducted in the following manner:

    1. The testing of a stationary emergency signaling device shall not occur before 7:00 a.m. or after 7:00 p.m. Any testing shall use only the minimum cycle test time. The test time shall not exceed 60 seconds; and

    2. The testing of the complete emergency signaling system, including the functioning of the signaling device, and the personnel response to the signaling device, shall not occur more than once in each

calendar month. The testing shall not occur before 7:00 a.m. or after 10:00 p.m. The times specified in Subsection 1, above, shall not apply to the complete system testing.

C. Sounding of alarms. Sounding or allowing the sounding of any exterior burglar or fire alarm or any motor vehicle burglar alarm unless the alarm is terminated within 15 minutes of activation.

D. Stationary non-emergency signaling devices.

1. Sounding or allowing the sounding of any electronically amplified signal from any stationary bell, chime, siren, whistle or similar device, intended primarily for nonemergency purposes, from any place, for more than 10 seconds in any one-hour period;

2. Religious institutions shall not be exempt from the provisions of this Section. However, reasonable accommodation shall be provided for public services. "Reasonable" is defined, for the purposes of this Section, as the minimum necessary to allow freedom of expression; and

3. Sound sources covered by this Section and not exempted under Subsection B, above, may be exempted by a Variance, approved in compliance with Chapter 18.44.

E. Loading and unloading. Closing, loading, opening, unloading or other handling of boxes, building materials, containers, crates, garbage cans or similar objects between the hours of 10:00 p.m. and 7:00 a.m. in a manner that causes a noise disturbance beyond a residential property line. This action shall not apply to activities where the items handled are still in interstate commerce; and

F. Residential air conditioning, refrigeration, and heating. Notwithstanding the provisions of Section 18.44.040 (Exterior Noise Standards) where the intruding noise source is a residential air conditioning or a refrigeration system, heating system or associated equipment installed before the effective date of this Section, the exterior noise level shall not exceed 55 dB(A). For equipment installed after the effective date of this Section, the exterior noise level shall not exceed 50 dB(A).

18.44.070, Exceptions

A. Construction. The provisions of this Chapter shall not apply to noise sources associated with non-single-family residential construction, provided the activities do not take place before 7:00 a.m. or after 9:00 p.m. on any day except Sunday, or before 9:00 a.m. or after 6:00 p.m. on Sunday. The review authority may impose further limitations on the hours and day of construction or other measures to mitigate significant noise impacts on sensitive uses.

B. Single-family dwelling construction. The provisions of this Chapter shall not apply to noise sources associated with single-family residential construction on a single-family lot.

C. Emergency exception. The provisions of this Section shall not apply to:

1. The emission of sound for the purpose of alerting persons to the existence of an emergency; or

2. The emission of sound in the performance of authorized emergency work.

D. Maintenance of equipment. Notwithstanding the provisions of Sections A through C, above, no exceptions to the provisions of this Section shall apply where the equipment used for those activities is not maintained in good condition which would result in unnecessarily creating a noise disturbance or exceeding the standards in Section 18.44.040 (Exterior noise standards), above.

E. Municipal Code provisions. The provisions of this Section shall not apply where noise standards are specified elsewhere in the Municipal Code.

F. Public health, safety, and welfare activities. The provisions of this Section shall not apply to construction or maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, safety and welfare, including debris and limb removal, removal of downed wires, repairing

of gas lines, oil lines, roads, sewers, sidewalks, storm drains, traffic signals, water hydrants and mains, restoring electrical service, street sweeping, unplugging sewers, vacuuming catch basins, etc.

G. Public transportation facilities. The provisions of this Section shall not apply to any airports, railroad facilities including but not limited to trains, rolling stock and railroad equipment, publicly owned roads and rights-of-way, or other similar facilities.

H. Solid waste collection.

1. The provisions of this Section shall not apply to noise sources associated with the authorized collection of solid waste (e.g., refuse and garbage), provided the collection activities do not take place between the hours of 10:00 p.m. and 6:00 a.m.

2. Any noise complaints associated with the collection of solid waste shall be resolved to the satisfaction of the Town Manager. The Town Manager may require modifications to pick-up schedules, equipment used, or any other reasonable means deemed appropriate by the Town Manager to resolve the noise complaints, including changing the 6:00 a.m. time to a later time (e.g., 7:00 a.m.) for any portion of the Town.

I. State or Federal preempted activities. The provisions of this Section shall not apply to any activity regulated by State or Federal law including, but not limited to, trains, rolling stock and railroad equipment.

J. Town parks. The provisions of this Section shall not apply to public agency sanctioned recreational activities/programs conducted in public parks.

K. Warning devices. Warning devices necessary for the protection of public safety (e.g., ambulance, fire and police siren) shall be exempted from the provisions of this Section

Truckee Tahoe Airport Land Use Compatibility Plan

The State Aeronautics Act (Public Utilities Code, Section 21670 et seq.) requires the preparation of an airport land use compatibility plan (ALUCP) for nearly all public-use airports in the state. The intent of an ALUCP is to encourage compatibility between an airport and the various land uses surround it (Caltrans 2011). California State law requires the county board of supervisors to establish an airport land use commission (ALUC) in each county with an airport operated for the benefit of the general public. The Public Utilities Code also sets forth a range of responsibilities, duties, and powers of the ALUC. These include reviewing general plans, proposed changes to zoning code and ordinances, land use actions and development projects, and airport development plans for consistency with compatibility policies. California State law also dictates that the county and affected cities modify their general and specific plans to be consistent with the ALUC's plan or to take steps to overrule the ALUC. State law allows the county board of supervisors to authorize an appropriately designated body to fulfill ALUC responsibilities. Because the Truckee Tahoe Airport exists on the border of Nevada and Placer Counties, a special ALUC with representatives from both counties was formed. The Placer and Nevada Counties' Boards of Supervisors, City Selection Committees, and Airport Managers elect six members, one at a time, followed by a seventh member who is chosen by the aforementioned six members. This seven-member group comprises the Truckee Tahoe Airport Land Use Commission (TTALUC 2016).

The Truckee Tahoe ALUCP, which was adopted in 2016, sets forth a series of policies to avoid the establishment of noise-sensitive land uses within the vicinity of the airport that could be exposed to significant levels of aircraft noise. The maximum CNEL considered normally acceptable for new residential land uses near the Truckee Tahoe Airport is 60 dB, calculated for future busy-season aircraft activity levels.

3 THRESHOLDS OF SIGNIFICANCE

In consideration of the CEQA Guidelines Appendix G Checklist questions pertaining to noise, adopted Town of Truckee General Plan policies, and Town of Truckee Municipal Code, the following criteria are used in this analysis to determine potential project impact.

Short-Term Construction Noise

- Short-term (construction) noise levels that exceed an adopted local or other applicable noise standard or a substantial temporary increase in noise that has the potential to cause an adverse effect to a sensitive receptor. Based on the City's adopted municipal code, this criterion is applied in the following way:
  - Construction noise that occurs outside of the allowable daytime hours (i.e., before 7:00 a.m. or after 9:00 p.m. on any day except Sunday, or before 9:00 a.m. or after 6:00 p.m. on Sunday.);
  - An exceedance of Town of Truckee's Development Code Standards (Table 10) for residential uses of:
    - 75 dBA L_{max} during the daytime hours (i.e., 7:00 a.m. to 10:00 p.m.)
    - 70 dba L_{max} during the nighttime hours (i.e., 9:00 p.m. to 7:00 a.m. Monday-Friday or 6:00 p.m. to 9:00 a.m. on Sunday)

Long-Term Operational Noise

- Long-term substantial increase in noise levels due to stationary or on-site activity, exceeding the Town's exterior noise standard of for single family residential uses of 55 dB L_{50} between the hours of 7:00 a.m. and 10:00 p.m. or 50 dB L_{50} between the hours of 10:00 p.m. to 7:00 a.m. (Table 10);
- Generate a substantial long-term increase in traffic-generated noise levels exceeding FICON's guidance for allowable incremental increases in noise (Table 1);
  - where the ambient noise level is below 60 dB, increases of 5.0 dBA or greater would be considered substantial;
  - where the ambient noise level ranges from 60 to 65 dB, increases of 3.0 dBA or greater would be considered substantial;
  - where ambient noise levels currently exceeds 65 dBA, increases of 1.5 dBA or greater would be considered substantial.

Short-Term Vibration

- The generation of excessive groundborne vibration or groundborne noise levels that cause structural damage or result in sleep disturbance to sensitive uses. Applying FTA's vibration assessment criteria, the project could result in a potentially significant vibration impact if the following standards are exceeded:
  - Structural Damage: A limit of 0.20 in/sec PPV for buildings of normal conventional construction.
  - Sleep Disturbance: A limit of 80 VdB for infrequent events associated with construction equipment use

Noise Exposure and Compatibility

- Would the project be located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
  - Per the Truckee Tahoe Airport ALUCP, the maximum CNEL considered normally acceptable for new residential land uses and other noise-sensitive land uses in the vicinity of Truckee Tahoe Airport is 60 dBA.
  - In accordance with Policy P1.1, exposure of new land uses to unacceptable worst-case noise levels. Applicable to the project would be the Conditionally Acceptable noise levels of 70-75 dBA CNEL for recreational uses.

4 METHODS OF ANALYSIS

To assess potential short-term (construction-related) noise and vibration impacts, sensitive receptors and their relative exposure were identified. Project-generated construction source noise, vibration levels, and traffic-generated source noise were determined based on methodologies, reference emission levels, and usage factors from FTA's *Guide on*

Transit Noise and Vibration Impact Assessment methodology (FTA 2018) and FHWA's *Roadway Construction Noise Model User's Guide* (FHWA 2006). Reference levels for noise and vibration emissions for specific equipment or activity types are well documented and the usage thereof common practice in the field of acoustics. To conduct the analysis, sensitive receptors near the proposed project site were identified. Noise and construction vibration levels were modeled based on a project-specific equipment list, activity data, and anticipated rate of construction. It should be further noted that regarding construction noise, and all noise in general, noise levels are presented with an associated reference distance from the source. This is to account for the fact that as the distance between a receiver and a source increases, noise perception decreases. Consistent with FTA methods, construction equipment reference levels are all provided at 50 feet from the operation of equipment. This is the distance used for all construction equipment reference levels; however, noise levels can be adjusted based on the distance to activity increasing or decreasing.

Regarding operational traffic noise, trip generation rates for the project were obtained using default daily trip rates published in the ITE Trip Generation Manual (10th Edition), accessed through the California Emissions Estimator Model (CalEEMod), Version 2022.1. Notably, a Kid's Museum is not a specified land use in this model; thus, a children's day care land use was chosen, which exhibits similar daily trip demand as the project. To conduct the traffic noise modeling, average annual trip generation for the project was calculated and combined with existing traffic volume data, available in the 2040 Truckee General Plan Draft Environmental Impact Report (Town of Truckee 2022).

5 IMPACT ANALYSIS

Impact 1: Construction Noise

Construction activities for Truckee KidZone Museum Project are anticipated to start in 2024. Short-term construction noise levels would fluctuate depending on the type, number, and duration of usage for the varying equipment. The effects of construction noise largely depend on the type of construction activities being performed; noise levels generated by those activities; distances to noise-sensitive receptors; the relative locations of noise attenuating features such as topography and existing structures; and existing ambient noise levels. Construction activities associated with the site would include site clearing and preparation, minimal grading and excavation for building foundations, building construction, and paving. No pile driving or blasting is anticipated.

Construction equipment associated with this construction activity may include dump trucks, loaders, air compressors, concrete mixers, cranes, dozers, graders, pavers, rollers, and pickup trucks. Noise levels for these pieces of equipment can range from 55 to 85 dBA L_{max} at 50 feet, as indicated in Table 11.

Table 11 Noise Emission Levels from Construction Equipment

Equipment Type	Typical Noise Level (dBA) @ 50 feet
Dump Truck	76
Loader	79
Air Compressor	78
Concrete Mixer	79
Crane	81
Dozer	82
Grader	85
Paver	77
Roller	80
Pickup Trucks	75

Notes: Assumes all equipment is fitted with a properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are measured noise levels for each piece of heavy construction equipment.

Source: FTA 2018.

Noise-generating construction activities that occur during the more noise-sensitive evening and nighttime hours are of increased concern. Because exterior ambient noise levels typically decrease during the late evening and nighttime hours as traffic volumes and commercial activities decrease, and because typical sleep hours occur during these times, construction activities performed during these more noise-sensitive periods of the day can result in increased annoyance and potential sleep disruption for occupants of residential uses. No nighttime construction is proposed; thus, this analysis focusses on daytime noise levels.

Construction generally occurs in several discrete stages, each phase requiring a specific complement of equipment with varying equipment type, quantity, and intensity. These variations in the operational characteristics of the equipment change the effect they have on the noise environment of the project site and in the surrounding area for the duration of the construction period.

Specific timing of each construction phase and activity was not available at the time of this analysis, and therefore, the construction-noise evaluation conservatively assumed that two of the highest noise-generating pieces (i.e., one grader and one dozer) of equipment could operate simultaneously near each other, generating worst-case noise levels, consistent with FTA's recommended General Assessment approach for conducting construction noise assessments. This approach is considered reasonable because more than two large pieces of equipment cannot operate close enough to each other such that noise levels can combine from additional work occurring on the site at the same one offsite receptor. Based on the reference noise levels listed in Table 11 and accounting for typical usage factors of the individual pieces of equipment modeled, onsite construction-related activities could generate a combined hourly average noise level of approximately 82.8 L_{eq} and a maximum noise level as high as 86.8 dBA L_{max} at 50 feet. Detailed inputs and parameters for the estimated construction noise exposure levels are provided in Appendix A.

The nearest noise-sensitive receptors to the site are the single-family homes located along River View Drive approximately 220 feet east and across the street of the portion of the project site where these construction noise generating activities would likely occur. Based on the construction noise modeling results, construction activity during the loudest anticipated construction phases (i.e., grading) would result in construction noise levels of 69.9 L_{eq} dBA and 73.9 dBA L_{max} at the nearest noise-sensitive receptors, 220 feet to the east of the project site, not exceeding the Town of Truckee's Development Code standard of 75 dBA L_{max} a residential uses. The following design measures are recommended to reduce construction noise exposure.

Project Design Features

The following construction noise reduction measures shall be adhered to by the construction contractor, consistent with Town of Truckee General Plan Policy P3.13 and Municipal Code Section 18.44.070, Exceptions:

- No construction activity will occur before 7:00 a.m. or after 9:00 p.m. on any day except Sunday, or before 9:00 a.m. or after 6:00 p.m. on Sunday.
- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Utilize "quiet" air compressors and other stationary noise generating equipment where appropriate technology exists.
- The project sponsor shall designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site. Additionally, the project sponsor shall send a notice to neighbors in the project vicinity with information on the construction schedule and the telephone number for noise complaints.

Conclusion

Incorporation of the above measures would ensure compliance with Truckee General Plan Policies and Municipal Code and reduce noise exposure at the nearby receptors and surrounding community. Ensuring that construction would occur during the less sensitive daytime hours would reduce the potential for adverse effects to nearby sensitive receptors; thus, short-term construction noise would not result in a substantial increase in noise that could adversely affect sensitive receptors.

Impact 2: Construction Vibration

Project construction would not involve the use of ground vibration–intensive activities, such as pile driving or blasting. Pieces of equipment that generate lower levels of ground vibration, such as dozers and pavers, would be used during construction. These types of common construction equipment do not generate substantial levels of ground vibration that could result in structural damage, except at extremely close distances (i.e., within at least 10 feet). The most ground vibration–intensive activity performed during project construction would be use of a vibratory roller. Vibratory rollers generate ground vibration levels of 0.21 in/sec PPV and 94 VdB at 25 feet (FTA 2018:184). Vibration from would exceed the threshold of significance of 0.2 in/sec PPV for building structural damage within 26 feet and would exceed the threshold of significance for human annoyance of 80 VdB within 73 feet of activities. No sensitive land uses, or permanent structures are located within 100 feet of areas where construction activity would take place at the sites and no rolling would occur within 73 feet of a residence. Operation of the project would not include any substantial vibration sources. Therefore, construction and operational generated vibration would not result in the potential for structural damage or human annoyance.

Project Design Features

No additional measures are recommended.

Impact 3: Operational Stationary noise

Project operation would result in new stationary noise sources, including onsite HVAC equipment, noise associated with the outdoor play area, and noise from the surface parking lot. Each source is discussed separately, below.

HVAC Equipment

Implementation of the project would introduce new stationary noise sources associated with building mechanical equipment, primarily HVAC units. Detailed information regarding the stationary equipment to be installed for facilities constructed under the project is not available at this time. However, noise levels commonly associated with larger commercial-use air conditioning systems can reach levels of up to 78 dB at 3 feet (Lennox 2018). Applying this reference noise level as an hourly average (L_{eq}) and assuming a 50 percent usage rate, would result in a 75 dBA L_{eq} at 3 feet from the source. The HVAC equipment would be located near the northeast corner of the museum, surrounded by the staff room, the entry/store, and the restrooms. HVAC equipment at the project site could exceed the City's nighttime L_{50} standard (Table 10) if located within 75 feet of noise-sensitive land uses during nighttime hours (10:00 p.m. to 7:00 a.m.) occurring for more than 30 minutes. The nearest sensitive receptor to the equipment would be the single-family residential homes across River View Drive, approximately 170 feet east of the anticipated location of the HVAC equipment. Noise levels at this receptor were modeled and are shown in Table 12.

Table 12 HVAC Equipment Noise Levels at Nearest Noise Sensitive Receptor

Noise Source	Modeled Noise Level (dBA) @ Receptor	Threshold Applied[1]	City Threshold Exceeded?	FICON Incremental Noise Increase Threshold Exceeded?[2]
HVAC Equipment	39.9	City's nighttime L_{50} standard of 50 dBA	NO	NO

Notes: L_{50} = sound level exceeded 50 percent of the time

[1] L_{50} applied as an hourly L_{eq} in this analysis.

[2] FICON incremental noise increase threshold is 5 dBA for ambient noise environments of 60 dBA L_{50} or less.

Source: Data modeled by Ascent Environmental in 2023.

As shown in Table 12, noise levels generated from HVAC equipment in the museum nearest to noise-sensitive land use would be 39.9 dBA at 170 feet and below the City's exterior noise standards. Therefore, operation of the HVAC equipment at the KidZone Museum would not exceed the City's daytime or nighttime thresholds for exterior noise sources. In addition, compliance with exterior noise standards ensures compliance with interior noise standards, due to typical exterior-to-interior noise reduction from buildings. Further, because noise levels associated with the HVAC equipment would be lower than existing hourly noise levels (as shown in Table 3, the existing daytime average noise level near the proposed building is 49.2 L_{eq} dBA) , considering the logarithmic properties of noise that require a doubling of a source to result in a 3-dB increase in noise, combined with the fact that the HVAC equipment would operate intermittently and only during the daytime, this source would not result in a substantial (i.e., 5 dBA increase in areas where existing noise is below 60 dBA) increase in noise over existing conditions.

Outdoor Play Areas

The anticipated project includes a proposal for an outdoor play area on the southernmost portion of the site, directly adjacent to the museum. Estates Drive is south of the play area and east of the play area is the parking lot, as can be seen in Figure 1. Typical noise sources from this type of land use include people talking and congregating and children playing. Based on past noise measurements conducted for similar uses, a reference noise levels for outdoor activity areas can reach up to 67.8 L_{eq} and 80.6 L_{max} at 36 feet from the source (Ascent 2015).

The outdoor play area would be surrounded by the museum to the north, the parking lot and River View Drive to the east, Estates Drive to the south, and the Truckee River Regional Park to the west. The nearest sensitive receptor to the outdoor play area would be the single-family residences across River View Drive, approximately 320 feet away. Assuming a noise level of 67.8 dBA L_{eq}, attenuated to a distance of 320 feet, the noise levels from the Outdoor Play Area at the nearest sensitive receptor could reach 48.8 dBA L_{50} in the daytime hours. The Outdoor Play Area would be closed at night, so it would not increase nighttime noise levels. It should be noted that this does not account for any potential noise attenuation associated with intervening structures, topography, or vegetation.

The Town of Truckee General Plan includes Development Code section 18.44.040 which has specific noise standards for receiving land uses. Section 18.44.040 states that exterior noise levels shall not exceed a daytime L_{50} of 55 dBA and a nighttime L_{50} of 50 dBA. The project would not operate during the Town's nighttime hours, thus, this analysis focusses on daytime noise only. Table 13 shows the modeled noise levels of the Outdoor Play Area during operating hours at the nearest sensitive receptor in comparison to the applicable standard.

Table 13 Outdoor Play Area Noise Levels at Nearest Noise Sensitive Receptor

Noise Source	Modeled Noise Level (dBA) @ Receptor	Threshold Applied	City Threshold Exceeded?	FICON Incremental Noise Increase (5 db) Threshold Exceeded?[1]
Outdoor Play Area	48.8	City's daytime L_{50} standard of 55 dBA	NO	NO

Notes: L_{50} = sound level exceeded 50 percent of the time.

[1] FICON incremental noise increase threshold is 5 dBA for ambient noise environments of 60 dBA L_{50} or less.

Source: Data modeled by Ascent Environmental in 2023.

As shown in Table 13, noise associated with the Outdoor Play Area at the KidZone Museum would not exceed the City's daytime thresholds for exterior noise sources. In addition, compliance with exterior noise standards ensures compliance with interior noise standards, due to typical exterior-to-interior noise reduction from buildings. Further, because noise levels associated with the outdoor activity play area would be lower than existing hourly noise levels (as shown in Table 3, the existing daytime average noise level near the proposed outdoor play area is 49.2 L_{eq} dBA), considering the logarithmic properties of noise that require a doubling of a source to result in a 3-dB increase in noise, combined with the fact that the outdoor activity area would be intermitted and only during the daytime, this source would not result in a substantial (i.e., 5 dBA increase in areas where existing noise is below 60 dBA) increase in noise over existing conditions. For these reasons, the noise associated with the Outdoor Play Area would not exceed Town of Truckee's exterior daytime or nighttime standards or result in a substantial permanent increase in noise.

Parking Facilities

Project-generated parking noise would be highest during peak visitation hours and field trips due to the increased number of vehicles on-site. The noise impact associated with parking facilities is analyzed assuming 31 parking spaces are in use, as well as two buses from school field trips, to ensure that the worst-case scenario was analyzed. In the event that a smaller parking lot were constructed, because noise modeling is based on the parking lot capacity and potential maximum vehicle volume per hour, a smaller parking lot would result in lower noise levels than presented here. The closest sensitive receptor to the parking lot would be the single-family residences across River View Drive, approximately 95 feet east of the parking lot. Because the Museum will close at 5:00 p.m., the parking lot will not be used during nighttime hours and would create no additional noise during nighttime hours, thus, this assessment is focused on daytime noise levels. Table 14 summarizes the results. See Appendix A for detailed modeling inputs and results.

Table 14 Parking Lot Noise Levels at Nearest Noise Sensitive Receptor

Noise Source	Modeled Noise Level (L_{eq}) @ Receptor	Threshold Applied[1]	City Threshold Exceeded?	FICON Incremental Noise Increase (5 dB) Threshold Exceeded?[2]
Peak Parking Lot Activity	49.8	City's daytime L_{50} standard of 55 dBA	NO	NO

Notes: Leq = Equivalent Continuous Sound Level; L50 = sound level exceeded 50 percent of the time

[1] L_{50} applied as an hourly Leq in this analysis.

[2] FICON incremental noise increase threshold is 5 dBA for ambient noise environments of 60 dBA L50 or less.

Source: Data modeled by Ascent Environmental in 2023.

As shown in Table 14, parking lot activities during the busiest time of the day with the greatest number of buses would not exceed the City's exterior noise sources at the nearest noise sensitive receptor. In addition, compliance with exterior noise standards ensures compliance with interior noise standards, due to typical exterior-to-interior noise reduction from buildings. Additionally, because this represents the worst-case parking scenario as it relates to noise generation, it can be assumed that on typical day, noise levels would be even lower than reported here. Further, because noise levels associated with the parking lot would be lower than existing hourly noise levels ((as shown in Table 3, the existing daytime average noise level near the proposed building is 49.2 L_{eq} dBA), considering the logarithmic properties of noise that require a doubling of a source to result in a 3-dB increase in noise, combined with the fact that the parking activities would be intermittent and only occur during the daytime, this source would not result in a substantial (i.e., 5 dBA increase in areas where existing noise is below 60 dBA) increase in noise over existing conditions. For these reasons, the noise from the parking lot would not exceed Town of Truckee's exterior daytime or nighttime standards or result in a substantial permanent increase in noise.

Summary

Project operation would result in new stationary noise sources, including onsite HVAC equipment, noise associated with the outdoor play area, and noise from the surface parking lot. As described in detail above, none of these sources would operate during the nighttime because the museum would be closed by 5:00 p.m. daily, thus, project-generated noise would not result in any exceedances of nighttime standards. At nearby sensitive receptors, noise from HVAC equipment could reach 39.9 dBA L_{eq}, noise from the outdoor play area 48.8 dBA L_{eq}, and noise from the surface parking lot 49.8 dBA L_{eq}, all below the applicable daytime exterior noise standard of 55 L_{55} dBA (applied as an L_{eq} in this analysis). Further, because project-generated stationary noise would be lower or similar to existing hourly noise levels (i.e., 49.2 dBA L_{eq}) , and considering the logarithmic properties of noise that require a doubling of a source to result in a 3-dB increase in noise, combined with the fact that the operational activities would be intermittent and only occur during the daytime, the project would not result in a substantial (i.e., 5 dBA) increase in noise over existing conditions.

Project Design Features

No measures are recommended.

Impact 4: Operational Mobile Source Noise

Project-generated vehicle trips associated with the KidZone Museum project would result in an increase in average daily traffic volumes and associated increases in traffic noise levels along affected roadway segments near the site. To analyze the impact of project-generated operational transportation noise sources, traffic noise levels under existing and existing-plus-project conditions were modeled for affected roadway segments. Refer to Appendix A for detailed noise modeling input parameters.

Table 15 summarizes the modeled traffic noise levels at the nearest applicable offsite receptors from the roadway centerlines under existing and existing plus project conditions, along with the overall net change in noise level as a result of project-generated traffic.

Table 15 shows the existing and existing plus project noise levels of the affected roadway segment of Old Brockway Road. According to FICON, areas where the ambient noise level ranges from 60 to 65 dB, increased levels of annoyance would be anticipated at increases of 3 dB or greater and in areas where noise currently exceed 65 dBA, increases of 1.5 dBA would be considered substantial (FICON 1992). These standards were applied to project-generated traffic noise increase for purposes of determining significance. Specifically, because the existing noise levels are over 65 dBA L_{CNEL}, the applicable threshold for determining a substantial increase in traffic noise applied to this analysis, is 1.5 dBA.

Table 15 Summary of Modeled Existing Plus KidZone Museum Traffic Noise Levels

Roadway Segment	Segment Description	Existing Condition Noise Levels (L_{dn})	Existing plus Project Conditions (L_{dn})	Traffic Noise Level Increase
Old Brockway Road	East of Palisades Road	66.1	66.2	0.1

Notes: L_{dn} = Day-Night Level

All modeling assumes average pavement, level roadways (less than 1.5 percent grade), constant traffic flow, and does not account for shielding of any type or finite roadway adjustments. All noise levels are reported as A-weighted noise levels. For additional details, refer to Appendix A for detailed traffic data, and traffic-noise modeling input data and output results.

Source: Data modeled by Ascent Environmental in 2023.

As shown in Table 15, the project would not result in a substantial increase (i.e., 1.5 dBA in areas currently exceeding 65 dBA) in ambient noise levels from traffic noise compared to existing conditions. Long-term operational traffic noise would not result in a substantial increase in noise.

Project Design Features

No measures are recommended.

Impact 5: Exposure to Existing Airport and community noise

The Truckee KidZone Museum is proposing to develop a parking lot, museum, snow storage, and an outdoor play area. Based on land use categories established by Policy P1.1 from, the project most closely resembles a recreational use; thus, the "normally acceptable" noise levels applicable to the project would be levels below 70 dBA CNEL with levels between 70 and 75 dBA CNEL being Conditionally Acceptable.

To determine noise compatibility for the project, existing noise measurements in combination with existing and future worst-case traffic noise modeling were evaluated. Based on the ambient survey conducted, the 24-hour CNEL was computed based on 24 hourly L_{eq} values to be 53.0 dBA CNEL. Using existing noise modeling from the 2040 Truckee General Plan EIR, noise levels from the segment of Old Brockway Road closest to the project site are 66.9 dBA CNEL (Table 5). Worst-case future noise levels from the same segment would be 67.0 dBA CNEL. Attenuating these noise levels to the project site, 930 feet away, the existing CNEL at the project site would be reduced to 57.4 dBA and worst-case future noise levels to 57.5 dBA CNEL. Using measured existing and modeled worst-casa noise levels, the project would be exposed to noise levels within the "Normally Acceptable" category, as shown in Table 8.

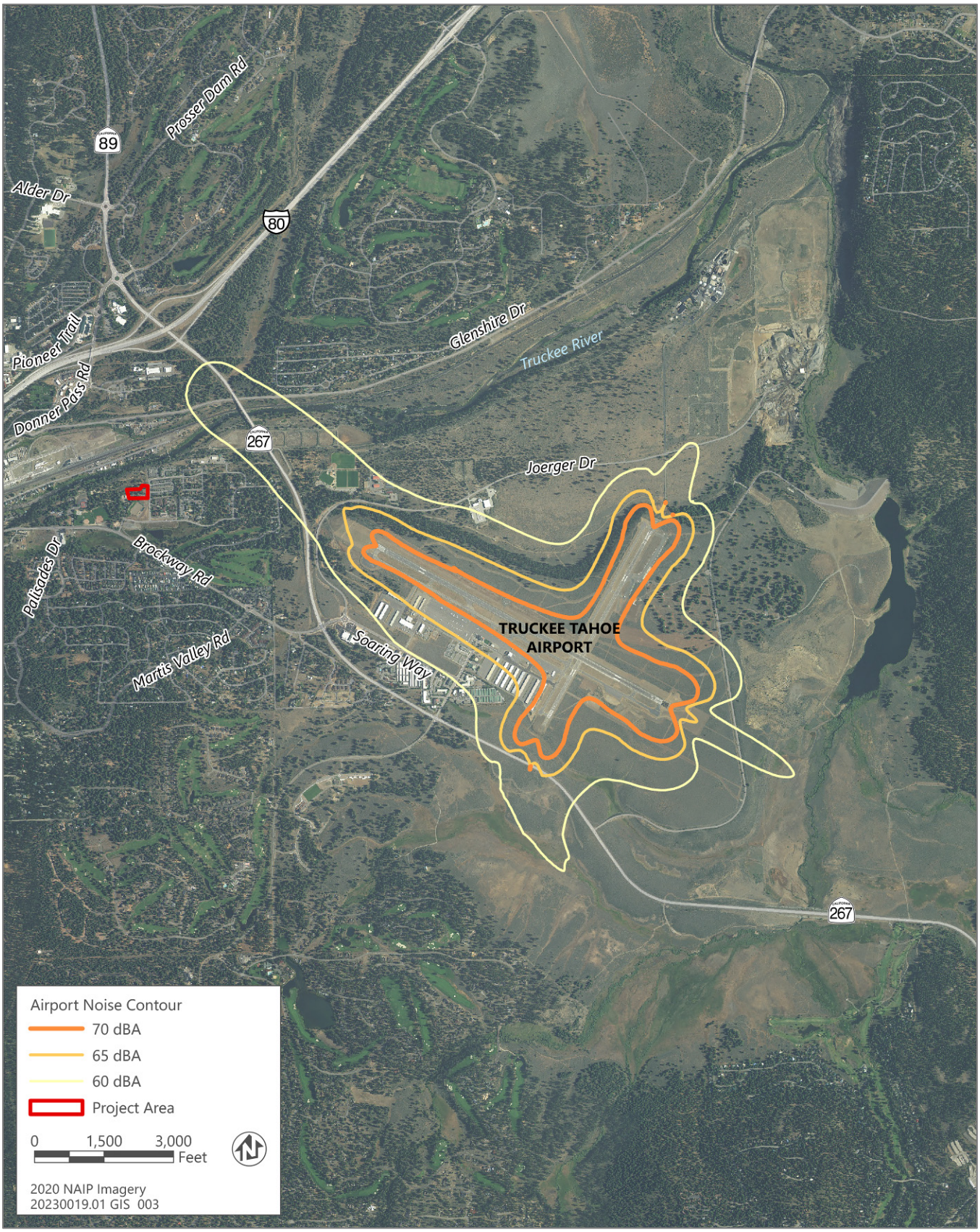
The Truckee Tahoe ALUCP regulates the land surrounding the airport to avoid establishing noise-sensitive land uses in the vicinity of the Truckee Tahoe Airport. Enforced by Policy P1.6 of the Truckee General Plan, the maximum CNEL considered normally acceptable for new residential land uses near the Truckee Tahoe Airport is 60 dBA. As stated in

the Project Description, the project site is approximately 1.05 miles away from the Truckee Tahoe Airport. Based on the contour map in Figure 3, the project site falls inside the Airport Influence Area, but outside of the 60 dBA CNEL contour. Because no new sensitive land uses would be within the 60 CNEL aircraft noise contour of the Truckee Tahoe Airport, the project would not conflict with Policy P1.6 of the recommendations of the Truckee Tahoe ALUCP.

In summary, the surrounding noise exposure levels to the KidZone Museum would in compliance with Policies P1.1 and P1.6 and the Land Use Compatibility standards of the Truckee General Plan and the Truckee Tahoe Airport Land Use Compatibility Plan.

Project Design Features

No measures are recommended.



Source: adapted by Ascent Environmental in 2023.

Figure 4 Airport Noise Contour

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FHWA. *See* Federal Highway Administration.

FICON. See Federal Interagency Committee on Noise.

FTA. *See* Federal Transit Administration.

Lennox. 2019. 16ACX Merit Series Product Specifications.

NCHRP. *See* National Cooperative Highway Research Program.

TTALUC. *See* Truckee Tahoe Airport Land Use Commission

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Appendix A

Noise Modeling

LT 1 Summary

File Name on Meter	LxT_Data.139.s
File Name on PC	LxT_0003285-20230216 135452-LxT_Data.139.ldbin
Serial Number	0003285
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	
Job Description	
Note	

Measurement

Description		
Start	2023-02-16	13:54:52
Stop	2023-02-17	15:06:09
Duration		25:11:16.297
Run Time		25:11:10.398
Pause		00:00:05.9
Pre-Calibration	2023-02-16	13:52:47
Post-Calibration		None
Calibration Deviation		---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
Overload	121.8 dB

	A	**C**	**Z**	
Under Range Peak	**78.1**	75.1	80.1	dB
Under Range Limit	**26.1**	25.9	31.0	dB
Noise Floor	16.4	16.7	21.8	dB

	First	**Second**	**Third**
Instrument Identification			

Results

LA_{eq}	48.8 dB		
LAE	98.4 dB		
EA	764.228 µPa²h		
EA8	242.745 µPa²h		
EA40	1.214 mPa²h		
$LA_{peak\ (max)}$	2023-02-16 13:58:51	105.1	dB
LAS_{max}	2023-02-17 09:48:25	77.9	dB
LAS_{min}	2023-02-17 03:07:39	32.7	dB
SEA	-99.9 dB		

	Exceedance Counts	Duration
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LA_{peak} > 135.0 dB	0	0.0 s
LA_{peak} > 137.0 dB	0	0.0 s
LA_{peak} > 140.0 dB	0	0.0 s

LC_{eq}	56.6	dB
LA_{eq}	48.8	dB
LC_{eq} - LA_{eq}	7.8	dB
LAI_{eq}	51.3	dB
LA_{eq}	48.8	dB
LAI_{eq} - LA_{eq}	2.5	dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	48.8		56.6			
$L_{S(max)}$	77.9	2023/02/17 9:48:25				
$L_{S(min)}$	32.7	2023/02/17 3:07:39				
$L_{Peak(max)}$	105.1	2023/02/16 13:58:51				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	3	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	0.68	0.02	%
Projected Dose	0.22	0.01	%
TWA (Projected)	45.7	48.8	dB
TWA (t)	54.0	53.8	dB
Lep (t)	53.8	53.8	dB

Statistics

LA 2.00	56.1	dB
LA 5.00	50.7	dB
LA 8.00	48.7	dB
LA 25.00	45.1	dB
LA 50.00	43.2	dB
LA 90.00	39.4	dB

Calibration History

Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
PRMLxT1L	2023-02-16 13:52:45	-28.11	59.49	56.37	53.26	54.06	45.60	45.34	43.69	44.27	38.96	36.84	32.73	33.38	33.58	36.19	31.56	32.60	37.52	34.57	36.42	37.45	27.09	29.02	113.94	48.96	18.55	66.38	20.66	60.93	26.90	32.18	21.47	22.53	24.21	25.91	28.37	31.04
PRMLxT1L	2023-02-16 12:38:23	-28.06	50.15	50.86	43.71	41.91	47.59	45.31	46.06	42.52	43.58	44.34	45.64	51.34	57.01	45.48	47.67	45.16	42.51	42.09	42.38	42.25	32.05	29.91	114.01	49.05	18.36	66.75	20.29	60.98	27.64	32.04	21.59	22.66	23.94	25.95	27.82	30.77
PRMLxT1L	2023-02-16 12:11:10	-28.09	48.61	48.85	51.02	50.24	48.48	50.96	50.51	47.68	41.37	36.62	44.83	41.24	43.32	45.24	41.88	41.05	40.87	43.01	43.90	41.60	33.68	30.29	113.96	49.04	18.45	66.48	20.64	60.97	27.27	32.21	21.14	22.18	23.88	25.50	28.11	30.94
PRMLxT1L	2023-02-16 11:47:34	-28.06	66.51	56.84	46.07	46.04	42.77	52.20	52.36	49.37	41.24	46.55	44.31	40.21	44.70	69.20	45.88	57.02	58.97	50.05	59.03	52.91	41.64	33.23	113.94	49.05	19.80	66.35	20.96	60.95	26.86	32.21	21.04	22.44	23.85	25.53	28.04	30.89
PRMLxT1L	2023-02-16 11:17:48	-28.01	47.51	62.25	48.64	52.66	42.53	40.45	43.39	42.14	43.77	41.17	50.14	43.58	50.52	44.43	49.56	46.52	39.18	42.95	37.36	35.29	29.75	28.57	114.03	49.18	17.67	66.52	20.81	60.96	27.41	32.31	21.59	22.89	23.87	25.54	27.94	30.73
PRMLxT1L	2023-02-07 10:49:23	-28.06	45.86	48.16	47.48	43.26	42.73	40.04	34.85	29.68	29.21	26.00	33.25	35.40	26.36	28.52	28.96	32.48	31.89	35.03	32.25	30.46	22.59	28.65	113.92	48.97	18.30	66.52	20.88	60.76	27.35	31.93	21.52	22.77	23.92	25.75	28.40	31.01
PRMLxT1L	2023-02-07 09:46:05	-27.99	40.27	24.78	33.19	46.19	53.54	47.05	55.56	55.68	52.45	56.35	44.42	43.46	45.67	30.06	39.00	39.53	48.05	48.79	45.37	43.94	41.36	32.60	114.05	49.11	18.67	66.56	20.82	60.90	26.86	31.96	21.73	22.73	23.93	26.12	28.15	31.09
PRMLxT1L	2023-02-07 09:45:17	-28.05	45.67	39.96	43.29	42.31	58.49	46.03	50.16	51.85	50.11	66.71	39.93	40.07	38.72	32.68	35.15	31.88	36.99	37.45	37.58	34.26	28.16	29.36	114.04	49.10	18.49	66.51	20.77	60.91	26.34	32.01	21.54	22.86	24.13	25.86	28.23	31.07
PRMLxT1L	2022-12-20 13:00:31	-28.11	56.99	50.48	48.43	50.90	44.52	44.00	48.77	47.12	48.33	52.27	46.60	44.27	43.13	44.43	48.00	48.38	46.83	43.84	47.50	49.07	39.72	33.75	114.05	49.26	22.86	66.19	21.60	62.93	28.74	34.08	22.01	22.97	24.18	25.85	28.01	31.05
PRMLxT1L	2022-12-20 11:05:47	-28.18	56.09	61.73	62.72	49.75	53.13	45.26	41.24	50.37	49.80	50.82	50.86	45.12	46.82	46.90	46.89	48.66	44.76	46.31	43.44	47.95	46.71	36.86	113.96	49.02	21.40	66.01	22.23	62.86	28.87	34.29	21.74	22.52	23.92	25.61	27.92	30.77
PRMLxT1L	2022-12-17 10:58:40	-28.16	46.48	48.67	39.26	49.97	49.37	47.83	53.15	51.96	55.36	56.00	54.44	53.33	47.99	45.30	43.49	46.27	41.52	43.32	41.19	40.91	36.32	31.77	113.92	49.07	20.15	66.10	21.55	62.82	29.21	33.90	21.46	22.49	24.03	25.91	28.10	31.07

Record #	Date	Time	Record Type	Cause	#	TH Record	Sound Record
1	2023-02-16	13:52:47	Calibration Change	Key	-0.03 dB	0	
2	2023-02-16	13:54:52	Run	Key	1	0	
3	2023-02-17	15:06:03	Pause	Key	1	0	
4	2023-02-17	15:06:09	Stop	Key	1	0	

Statistics		
Level (dB)	**Count**	**Percent**
Under	0	0.00
32.7	41	0.00
32.8	307	0.00
32.9	266	0.00
33.0	117	0.00
33.1	250	0.00
33.2	419	0.00
33.3	359	0.00
33.4	275	0.00
33.5	396	0.00
33.6	660	0.01
33.7	579	0.01
33.8	1001	0.01
33.9	1458	0.02
34.0	1154	0.01
34.1	904	0.01
34.2	1363	0.02
34.3	1321	0.01
34.4	1076	0.01
34.5	1395	0.02
34.6	1281	0.01
34.7	1942	0.02
34.8	2190	0.02
34.9	2285	0.03
35.0	1935	0.02
35.1	2034	0.02
35.2	2459	0.03
35.3	3007	0.03
35.4	3686	0.04
35.5	3459	0.04
35.6	4469	0.05
35.7	5779	0.06
35.8	6172	0.07
35.9	5857	0.06
36.0	6522	0.07
36.1	8644	0.10
36.2	8385	0.09
36.3	10443	0.12
36.4	11729	0.13
36.5	11585	0.13
36.6	11804	0.13
36.7	14701	0.16
36.8	15021	0.17
36.9	14619	0.16
37.0	14937	0.16
37.1	16645	0.18

37.2	17170	0.19
37.3	17875	0.20
37.4	18834	0.21
37.5	20173	0.22
37.6	21358	0.24
37.7	23053	0.25
37.8	21924	0.24
37.9	23091	0.25
38.0	25530	0.28
38.1	29113	0.32
38.2	30052	0.33
38.3	32564	0.36
38.4	34698	0.38
38.5	35288	0.39
38.6	38329	0.42
38.7	38407	0.42
38.8	41750	0.46
38.9	42525	0.47
39.0	43370	0.48
39.1	44450	0.49
39.2	44927	0.50
39.3	46896	0.52
39.4	48936	0.54
39.5	49630	0.55
39.6	52110	0.57
39.7	57486	0.63
39.8	61187	0.67
39.9	63575	0.70
40.0	64819	0.71
40.1	64993	0.72
40.2	65592	0.72
40.3	69266	0.76
40.4	75031	0.83
40.5	76352	0.84
40.6	78311	0.86
40.7	79933	0.88
40.8	84000	0.93
40.9	86016	0.95
41.0	86557	0.95
41.1	91724	1.01
41.2	95575	1.05
41.3	99314	1.10
41.4	102068	1.13
41.5	104523	1.15
41.6	102076	1.13
41.7	102800	1.13
41.8	106026	1.17
41.9	109690	1.21

42.0	110820	1.22
42.1	113499	1.25
42.2	118652	1.31
42.3	121260	1.34
42.4	119028	1.31
42.5	121623	1.34
42.6	124079	1.37
42.7	125602	1.39
42.8	124574	1.37
42.9	127279	1.40
43.0	127058	1.40
43.1	126470	1.39
43.2	126112	1.39
43.3	130072	1.43
43.4	133067	1.47
43.5	131131	1.45
43.6	134672	1.49
43.7	137049	1.51
43.8	136213	1.50
43.9	134838	1.49
44.0	132047	1.46
44.1	129184	1.42
44.2	126264	1.39
44.3	125460	1.38
44.4	120428	1.33
44.5	119158	1.31
44.6	114425	1.26
44.7	107560	1.19
44.8	102074	1.13
44.9	95606	1.05
45.0	89726	0.99
45.1	84814	0.94
45.2	83330	0.92
45.3	79146	0.87
45.4	70472	0.78
45.5	67801	0.75
45.6	64902	0.72
45.7	61133	0.67
45.8	56240	0.62
45.9	53686	0.59
46.0	52518	0.58
46.1	49196	0.54
46.2	45515	0.50
46.3	44522	0.49
46.4	44101	0.49
46.5	41847	0.46
46.6	40048	0.44
46.7	37433	0.41

46.8	38794	0.43
46.9	40752	0.45
47.0	38552	0.43
47.1	34981	0.39
47.2	32812	0.36
47.3	32333	0.36
47.4	33339	0.37
47.5	32583	0.36
47.6	33129	0.37
47.7	33898	0.37
47.8	32094	0.35
47.9	30917	0.34
48.0	28569	0.32
48.1	27549	0.30
48.2	27073	0.30
48.3	25495	0.28
48.4	25453	0.28
48.5	24001	0.26
48.6	23109	0.25
48.7	21931	0.24
48.8	22616	0.25
48.9	20794	0.23
49.0	19914	0.22
49.1	18940	0.21
49.2	17917	0.20
49.3	17721	0.20
49.4	16817	0.19
49.5	15335	0.17
49.6	14734	0.16
49.7	12477	0.14
49.8	10576	0.12
49.9	10450	0.12
50.0	9786	0.11
50.1	9050	0.10
50.2	8909	0.10
50.3	8733	0.10
50.4	7813	0.09
50.5	7186	0.08
50.6	7195	0.08
50.7	7381	0.08
50.8	6961	0.08
50.9	7302	0.08
51.0	6604	0.07
51.1	6297	0.07
51.2	7092	0.08
51.3	7479	0.08
51.4	7336	0.08
51.5	6592	0.07

51.6	6416	0.07
51.7	6583	0.07
51.8	6613	0.07
51.9	6221	0.07
52.0	6109	0.07
52.1	5952	0.07
52.2	5703	0.06
52.3	5807	0.06
52.4	5549	0.06
52.5	5992	0.07
52.6	6212	0.07
52.7	5948	0.07
52.8	5104	0.06
52.9	4823	0.05
53.0	4627	0.05
53.1	4715	0.05
53.2	4418	0.05
53.3	4088	0.05
53.4	4313	0.05
53.5	3708	0.04
53.6	4147	0.05
53.7	4475	0.05
53.8	4098	0.05
53.9	4081	0.05
54.0	3974	0.04
54.1	3945	0.04
54.2	3756	0.04
54.3	4156	0.05
54.4	4478	0.05
54.5	3822	0.04
54.6	3990	0.04
54.7	4059	0.04
54.8	4077	0.04
54.9	4441	0.05
55.0	4735	0.05
55.1	5745	0.06
55.2	5015	0.06
55.3	4669	0.05
55.4	4048	0.04
55.5	3818	0.04
55.6	3723	0.04
55.7	3485	0.04
55.8	3470	0.04
55.9	3497	0.04
56.0	3075	0.03
56.1	2842	0.03
56.2	2851	0.03
56.3	2475	0.03

56.4	2538	0.03
56.5	2490	0.03
56.6	2543	0.03
56.7	2811	0.03
56.8	2901	0.03
56.9	2763	0.03
57.0	2790	0.03
57.1	2659	0.03
57.2	2783	0.03
57.3	2737	0.03
57.4	2604	0.03
57.5	2498	0.03
57.6	2198	0.02
57.7	1938	0.02
57.8	2249	0.02
57.9	1993	0.02
58.0	2065	0.02
58.1	2183	0.02
58.2	2169	0.02
58.3	2133	0.02
58.4	1833	0.02
58.5	2236	0.02
58.6	1923	0.02
58.7	2090	0.02
58.8	2253	0.02
58.9	2139	0.02
59.0	2677	0.03
59.1	2598	0.03
59.2	2532	0.03
59.3	2359	0.03
59.4	2384	0.03
59.5	2231	0.02
59.6	2134	0.02
59.7	2096	0.02
59.8	1735	0.02
59.9	1914	0.02
60.0	2220	0.02
60.1	2500	0.03
60.2	2443	0.03
60.3	2225	0.02
60.4	2052	0.02
60.5	1910	0.02
60.6	1826	0.02
60.7	1593	0.02
60.8	1747	0.02
60.9	1894	0.02
61.0	1885	0.02
61.1	1632	0.02

61.2	1455	0.02
61.3	1453	0.02
61.4	1274	0.01
61.5	1368	0.02
61.6	1458	0.02
61.7	1383	0.02
61.8	1289	0.01
61.9	1225	0.01
62.0	1224	0.01
62.1	1114	0.01
62.2	944	0.01
62.3	919	0.01
62.4	961	0.01
62.5	1131	0.01
62.6	1142	0.01
62.7	1133	0.01
62.8	1020	0.01
62.9	918	0.01
63.0	775	0.01
63.1	765	0.01
63.2	762	0.01
63.3	741	0.01
63.4	845	0.01
63.5	773	0.01
63.6	726	0.01
63.7	730	0.01
63.8	686	0.01
63.9	661	0.01
64.0	670	0.01
64.1	736	0.01
64.2	735	0.01
64.3	684	0.01
64.4	661	0.01
64.5	734	0.01
64.6	708	0.01
64.7	665	0.01
64.8	665	0.01
64.9	678	0.01
65.0	595	0.01
65.1	582	0.01
65.2	549	0.01
65.3	649	0.01
65.4	629	0.01
65.5	673	0.01
65.6	572	0.01
65.7	609	0.01
65.8	516	0.01
65.9	526	0.01

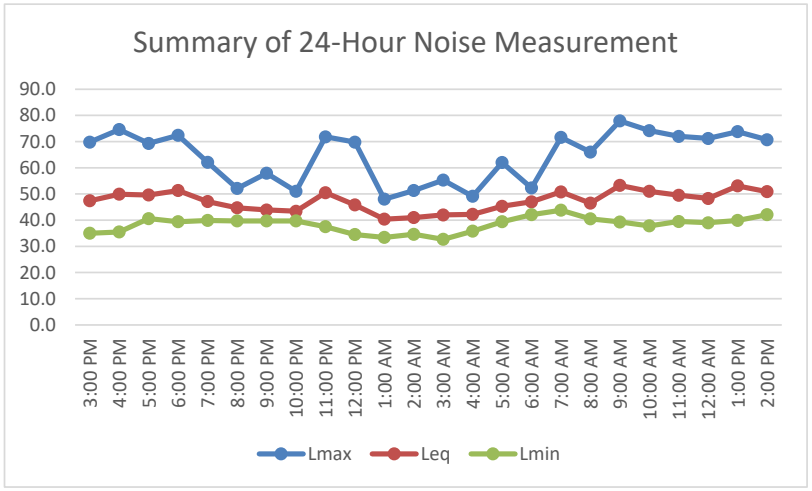
66.0	518	0.01
66.1	530	0.01
66.2	522	0.01
66.3	584	0.01
66.4	629	0.01
66.5	609	0.01
66.6	524	0.01
66.7	433	0.00
66.8	439	0.00
66.9	424	0.00
67.0	477	0.01
67.1	437	0.00
67.2	425	0.00
67.3	422	0.00
67.4	480	0.01
67.5	468	0.01
67.6	448	0.00
67.7	568	0.01
67.8	579	0.01
67.9	461	0.01
68.0	390	0.00
68.1	383	0.00
68.2	415	0.00
68.3	532	0.01
68.4	431	0.00
68.5	352	0.00
68.6	285	0.00
68.7	318	0.00
68.8	292	0.00
68.9	261	0.00
69.0	302	0.00
69.1	317	0.00
69.2	316	0.00
69.3	293	0.00
69.4	264	0.00
69.5	250	0.00
69.6	285	0.00
69.7	318	0.00
69.8	315	0.00
69.9	316	0.00
70.0	383	0.00
70.1	345	0.00
70.2	269	0.00
70.3	238	0.00
70.4	197	0.00
70.5	222	0.00
70.6	290	0.00
70.7	216	0.00

70.8	184	0.00
70.9	175	0.00
71.0	178	0.00
71.1	231	0.00
71.2	210	0.00
71.3	199	0.00
71.4	173	0.00
71.5	276	0.00
71.6	259	0.00
71.7	298	0.00
71.8	303	0.00
71.9	185	0.00
72.0	199	0.00
72.1	157	0.00
72.2	197	0.00
72.3	153	0.00
72.4	158	0.00
72.5	114	0.00
72.6	108	0.00
72.7	99	0.00
72.8	94	0.00
72.9	91	0.00
73.0	63	0.00
73.1	37	0.00
73.2	37	0.00
73.3	34	0.00
73.4	45	0.00
73.5	60	0.00
73.6	65	0.00
73.7	80	0.00
73.8	57	0.00
73.9	53	0.00
74.0	79	0.00
74.1	74	0.00
74.2	67	0.00
74.3	26	0.00
74.4	40	0.00
74.5	49	0.00
74.6	25	0.00
74.7	41	0.00
74.8	24	0.00
74.9	12	0.00
75.0	14	0.00
75.1	13	0.00
75.2	8	0.00
75.3	21	0.00
75.4	11	0.00
75.5	9	0.00

75.6	12	0.00
75.7	14	0.00
75.8	25	0.00
75.9	23	0.00
76.0	16	0.00
76.1	34	0.00
76.2	48	0.00
76.3	39	0.00
76.4	17	0.00
76.5	13	0.00
76.6	13	0.00
76.7	24	0.00
76.8	11	0.00
76.9	16	0.00
77.0	18	0.00
77.1	25	0.00
77.2	21	0.00
77.3	14	0.00
77.4	15	0.00
77.5	34	0.00
77.6	17	0.00
77.7	27	0.00
77.8	17	0.00
77.9	22	0.00
Over	0	0.00
Total Count	9067040	

SPL 2 Duration	Peak 1 Count	Peak 1 Duration	Peak 2 Count	Peak 2 Duration	Peak 3 Count	Peak 3 Duration	TWA(Projected) 0	TWA(Projected) 1	LAS2.00	LAS5.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	SEA	LCeq	LAeq	LCeq - LAeq	LAleq	LAeq	LAleq - LAeq	Overload Count	Overload Duration	Comments	
0.0	0	0.0	0	0.0	0	0.0	53.2	55.2	63.0	60.7	59.6	54.6	50.7	41.9	-99.9	58.5	55.2	3.3	67.5	55.2	12.3	0	0.0		13:54:52
0.0	0	0.0	0	0.0	0	0.0	43.1	45.3	53.5	50.4	47.8	42.1	40.3	37.8	-99.9	55.3	45.3	10.0	47.6	45.3	2.3	0	0.0		14:00:00
0.0	0	0.0	0	0.0	0	0.0	43.8	47.4	56.2	48.8	46.6	41.9	40.5	37.8	-99.9	57.3	47.4	9.9	50.0	47.4	2.6	0	0.0		15:00:00
0.0	0	0.0	0	0.0	0	0.0	45.2	49.9	56.7	52.4	49.2	43.1	40.8	38.2	-99.9	58.0	49.9	8.1	52.1	49.9	2.2	0	0.0		16:00:00
0.0	0	0.0	0	0.0	0	0.0	47.0	49.6	58.6	53.1	49.7	45.3	44.3	42.7	-99.9	59.5	49.6	9.9	51.0	49.6	1.4	0	0.0		17:00:00
0.0	0	0.0	0	0.0	0	0.0	47.6	51.3	57.8	55.3	51.4	45.4	44.1	41.8	-99.9	61.0	51.3	9.7	52.1	51.3	0.8	0	0.0		18:00:00
0.0	0	0.0	0	0.0	0	0.0	46.3	47.1	52.7	49.6	49.0	47.0	45.3	42.5	-99.9	54.4	47.1	7.3	48.0	47.1	0.9	0	0.0		19:00:00
0.0	0	0.0	0	0.0	0	0.0	44.6	44.7	47.6	47.0	46.7	45.5	44.3	42.4	-99.9	49.8	44.7	5.1	45.5	44.7	0.8	0	0.0		20:00:00
0.0	0	0.0	0	0.0	0	0.0	43.7	43.9	46.6	45.7	45.2	44.2	43.4	41.9	-99.9	49.2	43.9	5.3	44.7	43.9	0.8	0	0.0		21:00:00
0.0	0	0.0	0	0.0	0	0.0	43.3	43.4	46.8	45.9	45.3	44.0	43.0	41.5	-99.9	48.6	43.4	5.2	44.2	43.4	0.8	0	0.0		22:00:00
0.0	0	0.0	0	0.0	0	0.0	47.3	50.5	60.9	58.3	53.3	44.4	42.6	40.0	-99.9	55.2	50.5	4.7	51.6	50.5	1.1	0	0.0		23:00:00
0.0	0	0.0	0	0.0	0	0.0	43.3	45.8	52.8	50.3	47.8	42.8	40.8	38.2	-99.9	50.6	45.8	4.8	47.5	45.8	1.7	0	0.0		00:00:00
0.0	0	0.0	0	0.0	0	0.0	40.2	40.4	44.5	43.7	43.2	41.5	39.6	36.7	-99.9	46.1	40.4	5.7	41.3	40.4	0.9	0	0.0		01:00:00
0.0	0	0.0	0	0.0	0	0.0	40.7	41.0	45.5	44.3	43.8	41.9	40.2	37.2	-99.9	46.4	41.0	5.4	41.9	41.0	0.9	0	0.0		02:00:00
0.0	0	0.0	0	0.0	0	0.0	41.4	42.0	47.5	45.8	45.0	42.9	40.9	36.3	-99.9	47.3	42.0	5.3	42.9	42.0	0.9	0	0.0		03:00:00
0.0	0	0.0	0	0.0	0	0.0	41.9	42.2	46.6	45.6	44.8	42.8	41.5	39.2	-99.9	48.3	42.2	6.1	43.0	42.2	0.8	0	0.0		04:00:00
0.0	0	0.0	0	0.0	0	0.0	44.7	45.3	52.1	48.9	47.2	45.0	43.8	41.7	-99.9	52.5	45.3	7.2	46.2	45.3	0.9	0	0.0		05:00:00
0.0	0	0.0	0	0.0	0	0.0	46.8	47.0	50.2	49.6	49.3	48.1	46.5	44.2	-99.9	52.2	47.0	5.2	47.8	47.0	0.8	0	0.0		06:00:00
0.0	0	0.0	0	0.0	0	0.0	49.7	50.8	59.2	55.3	52.9	49.3	48.1	46.3	-99.9	56.3	50.8	5.5	51.9	50.8	1.1	0	0.0		07:00:00
0.0	0	0.0	0	0.0	0	0.0	45.3	46.5	52.5	48.8	47.7	45.1	44.1	42.3	-99.9	54.3	46.5	7.8	47.3	46.5	0.8	0	0.0		08:00:00
0.0	0	0.0	0	0.0	0	0.0	47.3	53.3	57.3	51.4	48.5	44.4	43.2	41.2	-99.9	61.2	53.3	7.9	54.5	53.3	1.2	0	0.0		09:00:00
0.0	0	0.0	0	0.0	0	0.0	46.2	51.0	57.7	52.1	50.2	43.7	41.9	39.9	-99.9	59.1	51.0	8.1	52.3	51.0	1.3	0	0.0		10:00:00
0.0	0	0.0	0	0.0	0	0.0	46.0	49.5	58.9	49.1	47.1	44.5	43.1	41.1	-99.9	57.7	49.5	8.2	51.0	49.5	1.5	0	0.0		11:00:00
0.0	0	0.0	0	0.0	0	0.0	44.7	48.3	56.1	48.8	45.5	42.8	41.9	40.6	-99.9	57.4	48.3	9.1	50.6	48.3	2.3	0	0.0		12:00:00
0.0	0	0.0	0	0.0	0	0.0	49.6	53.1	62.3	57.6	55.2	46.8	44.8	42.4	-99.9	61.1	53.1	8.0	55.4	53.1	2.3	0	0.0		13:00:00
0.0	0	0.0	0	0.0	0	0.0	47.9	50.9	60.8	54.7	50.5	45.7	44.8	43.4	-99.9	60.1	50.9	9.2	52.8	50.9	1.9	0	0.0		14:00:00
0.0	0	0.0	0	0.0	0	0.0	55.0	57.6	67.1	64.7	63.2	56.1	47.6	44.8	-99.9	61.3	57.6	3.7	65.5	57.6	7.9	0	0.0		15:00:00

Hour	Lmax	Leq	Lmin	L50	L25	L02
3:00 PM	69.8	47.4	35.0	40.5	41.9	56.2
4:00 PM	74.6	49.9	35.5	40.8	43.1	56.7
5:00 PM	69.3	49.6	40.6	44.3	45.3	58.6
6:00 PM	72.4	51.3	39.4	44.1	45.4	57.8
7:00 PM	62.1	47.1	39.9	45.3	47.0	52.7
8:00 PM	52.1	44.7	39.7	44.3	45.5	47.6
9:00 PM	57.9	43.9	39.7	43.4	44.2	46.6
10:00 PM	51.0	43.4	39.7	43.0	44.0	46.8
11:00 PM	71.8	50.5	37.5	42.6	44.4	60.9
12:00 PM	69.8	45.8	34.5	40.8	42.8	52.8
1:00 AM	48.0	40.4	33.4	39.6	41.5	44.5
2:00 AM	51.3	41.0	34.6	40.2	41.9	45.5
3:00 AM	55.3	42.0	32.7	40.9	42.9	47.5
4:00 AM	49.1	42.2	35.8	41.5	42.8	46.6
5:00 AM	62.0	45.3	39.4	43.8	45.0	52.1
6:00 AM	52.3	47.0	42.1	46.5	48.1	50.2
7:00 AM	71.6	50.8	43.8	48.1	49.3	59.2
8:00 AM	66.0	46.5	40.5	44.1	45.1	52.5
9:00 AM	77.9	53.3	39.3	43.2	44.4	57.3
10:00 AM	74.2	51.0	37.8	41.9	43.7	57.7
11:00 AM	72.0	49.5	39.5	43.1	44.5	58.9
12:00 AM	71.2	48.3	39.0	41.9	42.8	56.1
1:00 PM	73.8	53.1	39.9	44.8	46.8	62.3
2:00 PM	70.7	50.9	42.1	44.8	45.7	60.8
Daytime average	69.0	49.2	39.4	43.6	45.0	56.1
Nighttime average	56.7	44.2	36.6	42.1	43.7	49.7



Summary

File Name on Meter	LxT_Data.135.s
File Name on PC	LxT_0003285-20230216 112019-LxT_Data.135.ldbin
Serial Number	0003285
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	
Job Description	
Note	

Measurement

Description		
Start	2023-02-16	11:20:19
Stop	2023-02-16	11:39:07
Duration		00:18:48.2
Run Time		00:18:46.6
Pause		00:00:01.6
Pre-Calibration	2023-02-16	11:17:48
Post-Calibration		None
Calibration Deviation		---

Overall Settings

RMS Weight	A Weighting				
Peak Weight	A Weighting				
Detector	Slow				
Preamplifier	PRMLxT1L				
Microphone Correction	Off				
Integration Method	Linear				
Overload	121.7 dB				
	A		**C**	**Z**	
Under Range Peak	**78.0**		75.0	80.0 dB	
Under Range Limit	**26.0**		25.8	30.9 dB	
Noise Floor	16.4		16.7	21.8 dB	
	First		**Second**	**Third**	
Instrument Identification					

Results

LA_{eq}	45.3 dB			
LAE	75.8 dB			
EA	4.242 µPa²h			
EA8	108.430 µPa²h			
EA40	542.150 µPa²h			
$LA_{peak\ (max)}$	2023-02-16	11:21:00	80.8 dB	
LAS_{max}	2023-02-16	11:28:34	59.1 dB	

LASmin	2023-02-16 11:39:00	38.6 dB
SEA	-99.9 dB	

	Exceedance Counts	Duration
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LApeak > 135.0 dB	0	0.0 s
LApeak > 137.0 dB	0	0.0 s
LApeak > 140.0 dB	0	0.0 s

LCeq	59.0 dB
LAeq	45.3 dB
LCeq - LAeq	13.7 dB
LAIeq	47.8 dB
LAeq	45.3 dB
LAIeq - LAeq	2.5 dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	45.3		59.0			
LS(max)	59.1	2023/02/16 11:28:34				
LS(min)	38.6	2023/02/16 11:39:00				
LPeak(max)	80.8	2023/02/16 11:21:00				

Overload Count	0
Overload Duration	0.0 s

Dose Settings

Dose Name	OSHA-1	OSHA-2
Exchange Rate	5	3 dB
Threshold	90	80 dB
Criterion Level	90	90 dB
Criterion Duration	8	8 h

Results

Dose	0.01	0.00 %
Projected Dose	0.17	0.00 %
TWA (Projected)	44.0	45.4 dB
TWA (t)	20.6	31.3 dB
Lep (t)	31.2	31.2 dB

Statistics

LA 2.00	55.0 dB
LA 5.00	50.2 dB
LA 8.00	47.7 dB
LA 25.00	43.4 dB
LA 50.00	41.6 dB
LA 90.00	40.4 dB

Calibration History

Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
PRMLxT1L	2023-02-16 11:17:48	-28.01	47.51	62.25	48.64	52.66	42.53	40.45	43.39	42.14	43.77	41.17	50.14	43.58	50.52	44.43	49.56	46.52	39.18	42.95	37.36	35.29	29.75	28.57	114.03	49.18	17.67	66.52	20.81	60.96	27.41	32.31	21.59	22.89	23.87	25.54	27.94	30.73
PRMLxT1L	2023-02-07 10:49:23	-28.06	45.86	48.16	47.48	43.26	42.73	40.04	34.85	29.68	29.21	26.00	33.25	35.40	26.36	28.52	28.96	32.48	31.89	35.03	32.25	30.46	22.59	28.65	113.92	48.97	18.30	66.52	20.88	60.76	27.35	31.93	21.52	22.77	23.92	25.75	28.40	31.01
PRMLxT1L	2023-02-07 09:46:05	-27.99	40.27	24.78	33.19	46.19	53.54	47.05	55.56	55.68	52.45	56.35	44.42	43.46	45.67	30.06	39.00	39.53	48.05	48.79	45.37	43.94	41.36	32.60	114.05	49.11	18.67	66.56	20.82	60.90	26.86	31.96	21.73	22.73	23.93	26.12	28.15	31.09
PRMLxT1L	2023-02-07 09:45:17	-28.05	45.67	39.96	43.29	42.31	58.49	46.03	50.16	51.85	50.11	66.71	39.93	40.07	38.72	32.68	35.15	31.88	36.99	37.45	37.58	34.26	28.16	29.36	114.04	49.10	18.49	66.51	20.77	60.91	26.34	32.01	21.54	22.86	24.13	25.86	28.23	31.07
PRMLxT1L	2022-12-20 13:00:31	-28.11	56.99	50.48	48.43	50.90	44.52	44.00	48.77	47.12	48.33	52.27	46.60	44.27	43.13	44.43	48.00	48.38	46.83	43.84	47.50	49.07	39.72	33.75	114.05	49.26	22.86	66.19	21.60	62.93	28.74	34.08	22.01	22.97	24.18	25.85	28.01	31.05
PRMLxT1L	2022-12-20 11:05:47	-28.18	56.09	61.73	62.72	49.75	53.13	45.26	41.24	50.37	49.80	50.82	50.86	45.12	46.82	46.90	46.89	48.66	44.76	46.31	43.44	47.95	46.71	36.86	113.96	49.02	21.40	66.01	22.23	62.86	28.87	34.29	21.74	22.52	23.92	25.61	27.92	30.77
PRMLxT1L	2022-12-17 10:58:40	-28.16	46.48	48.67	39.26	49.97	49.37	47.83	53.15	51.96	55.36	56.00	54.44	53.33	47.99	45.30	43.49	46.27	41.52	43.32	41.19	40.91	36.32	31.77	113.92	49.07	20.15	66.10	21.55	62.82	29.21	33.90	21.46	22.49	24.03	25.91	28.10	31.07
PRMLxT1L	2022-12-15 11:26:33	-28.10	56.31	55.95	45.63	56.10	51.02	50.87	45.74	48.38	49.56	44.88	45.81	47.14	46.40	43.08	38.96	39.60	35.32	33.93	32.41	30.25	22.50	28.40	114.03	48.99	19.56	66.38	21.48	62.87	29.10	33.61	21.93	22.91	24.13	26.13	28.78	30.89
PRMLxT1L	2022-12-15 10:58:41	-28.14	68.50	58.66	55.60	57.18	52.29	53.93	55.67	51.94	46.27	49.87	46.82	42.80	44.95	39.43	35.63	30.77	36.46	34.08	29.92	29.36	24.21	28.75	113.99	49.09	18.26	65.94	22.07	62.76	29.11	34.32	22.03	22.94	23.88	25.87	28.19	31.23
PRMLxT1L	2022-12-15 10:58:26	-28.15	62.36	54.82	57.50	58.04	56.80	57.01	54.28	44.51	51.66	49.76	49.54	46.65	44.02	39.43	33.36	30.04	32.24	32.05	33.26	33.39	23.52	29.22	113.95	49.06	19.17	65.84	21.74	62.72	28.90	34.36	21.65	22.42	23.78	25.73	28.11	31.42
PRMLxT1L	2022-11-30 15:17:12	-28.12	64.72	59.93	57.39	62.51	54.46	55.62	52.04	54.51	54.75	45.29	47.99	45.67	39.73	48.86	44.22	47.60	58.78	46.14	46.87	48.87	44.24	29.76	114.01	49.04	19.41	65.97	21.73	62.86	28.25	33.67	21.88	22.52	24.13	25.94	28.77	31.35

Record #	Date	Time	Record Type	Cause	#	TH Record	Sound Record
1	2023-02-16	11:20:19	Run	Key	1	0	
2	2023-02-16	11:39:05	Pause	Key	1	0	
3	2023-02-16	11:39:07	Stop	Key	1	0	

Statistics		
Level (dB)	**Count**	**Percent**
Under	0	0.00
38.6	11	0.01
38.7	90	0.08
38.8	103	0.09
38.9	243	0.22
39.0	104	0.09
39.1	112	0.10
39.2	67	0.06
39.3	68	0.06
39.4	163	0.14
39.5	236	0.21
39.6	737	0.65
39.7	731	0.65
39.8	561	0.50
39.9	1032	0.92
40.0	1472	1.31
40.1	1387	1.23
40.2	1558	1.38
40.3	1520	1.35
40.4	2705	2.40
40.5	3142	2.79
40.6	3417	3.03
40.7	4310	3.83
40.8	4686	4.16
40.9	5325	4.73
41.0	4182	3.71
41.1	3511	3.12
41.2	3486	3.09
41.3	4063	3.61
41.4	3836	3.40
41.5	2855	2.53
41.6	2430	2.16
41.7	3025	2.69
41.8	2409	2.14
41.9	2345	2.08
42.0	2389	2.12
42.1	1710	1.52
42.2	1487	1.32
42.3	1119	0.99
42.4	1055	0.94
42.5	1162	1.03
42.6	1470	1.30
42.7	1400	1.24
42.8	1346	1.19
42.9	1248	1.11
43.0	901	0.80

43.1	1056	0.94
43.2	1031	0.92
43.3	797	0.71
43.4	826	0.73
43.5	702	0.62
43.6	753	0.67
43.7	782	0.69
43.8	619	0.55
43.9	492	0.44
44.0	484	0.43
44.1	497	0.44
44.2	355	0.32
44.3	391	0.35
44.4	800	0.71
44.5	567	0.50
44.6	487	0.43
44.7	487	0.43
44.8	655	0.58
44.9	744	0.66
45.0	548	0.49
45.1	386	0.34
45.2	449	0.40
45.3	467	0.41
45.4	588	0.52
45.5	451	0.40
45.6	397	0.35
45.7	368	0.33
45.8	415	0.37
45.9	352	0.31
46.0	456	0.40
46.1	417	0.37
46.2	440	0.39
46.3	325	0.29
46.4	327	0.29
46.5	341	0.30
46.6	510	0.45
46.7	438	0.39
46.8	395	0.35
46.9	369	0.33
47.0	260	0.23
47.1	249	0.22
47.2	188	0.17
47.3	181	0.16
47.4	166	0.15
47.5	166	0.15
47.6	200	0.18
47.7	161	0.14
47.8	227	0.20

47.9	229	0.20
48.0	180	0.16
48.1	152	0.13
48.2	113	0.10
48.3	84	0.07
48.4	112	0.10
48.5	92	0.08
48.6	139	0.12
48.7	175	0.16
48.8	176	0.16
48.9	126	0.11
49.0	125	0.11
49.1	185	0.16
49.2	139	0.12
49.3	166	0.15
49.4	196	0.17
49.5	103	0.09
49.6	128	0.11
49.7	86	0.08
49.8	78	0.07
49.9	71	0.06
50.0	95	0.08
50.1	86	0.08
50.2	118	0.10
50.3	93	0.08
50.4	69	0.06
50.5	82	0.07
50.6	88	0.08
50.7	72	0.06
50.8	74	0.07
50.9	74	0.07
51.0	80	0.07
51.1	112	0.10
51.2	65	0.06
51.3	47	0.04
51.4	43	0.04
51.5	52	0.05
51.6	66	0.06
51.7	57	0.05
51.8	52	0.05
51.9	28	0.02
52.0	29	0.03
52.1	48	0.04
52.2	39	0.03
52.3	33	0.03
52.4	40	0.04
52.5	36	0.03
52.6	34	0.03

52.7	26	0.02
52.8	32	0.03
52.9	63	0.06
53.0	67	0.06
53.1	112	0.10
53.2	112	0.10
53.3	96	0.09
53.4	110	0.10
53.5	119	0.11
53.6	83	0.07
53.7	92	0.08
53.8	113	0.10
53.9	67	0.06
54.0	53	0.05
54.1	52	0.05
54.2	89	0.08
54.3	153	0.14
54.4	60	0.05
54.5	78	0.07
54.6	44	0.04
54.7	70	0.06
54.8	45	0.04
54.9	49	0.04
55.0	90	0.08
55.1	89	0.08
55.2	44	0.04
55.3	62	0.06
55.4	62	0.06
55.5	38	0.03
55.6	42	0.04
55.7	31	0.03
55.8	35	0.03
55.9	52	0.05
56.0	59	0.05
56.1	47	0.04
56.2	27	0.02
56.3	28	0.02
56.4	35	0.03
56.5	99	0.09
56.6	63	0.06
56.7	51	0.05
56.8	51	0.05
56.9	79	0.07
57.0	151	0.13
57.1	108	0.10
57.2	65	0.06
57.3	74	0.07
57.4	66	0.06

57.5	87	0.08
57.6	132	0.12
57.7	81	0.07
57.8	53	0.05
57.9	47	0.04
58.0	35	0.03
58.1	52	0.05
58.2	68	0.06
58.3	43	0.04
58.4	63	0.06
58.5	24	0.02
58.6	22	0.02
58.7	9	0.01
58.8	20	0.02
58.9	21	0.02
59.0	19	0.02
59.1	13	0.01
Over	0	0.00
Total Count	112660	

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmin Time	LASmax	LASmax Time	LApeak (max)	LApeak (max) Time	SPL 1 Count	SPL 1 Duration	SPL 2 Count	SPL 2 Duration	Peak 1 Count	Peak 1 Duration	Peak 2 Count	Peak 2 Duration	Peak 3 Count
1	2023-02-16	11:20:19	00:18:48.2	00:18:46.6	00:00:01.6	45.3	75.8	38.6	11:39:00	59.1	11:28:34	80.8	11:21:00	0	0.0	0	0.0	0	0.0	0	0.0	0

Peak 3 Duration	TWA(Projected) 0	TWA(Projected) 1	LAS2.00	LAS5.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	SEA	LCeq	LAeq	LCeq - LAeq	LAIeq	LAeq	LAIeq - LAeq	Overload Count	Overload Duration	Comments
0.0	44.0	45.4	55.0	50.2	47.7	43.4	41.6	40.4	-99.9	59.0	45.3	13.7	47.8	45.3	2.5	0	0.0	

Summary

File Name on Meter	LxT_Data.136.s
File Name on PC	LxT_0003285-20230216 114758-LxT_Data.136.ldbin
Serial Number	0003285
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	
Job Description	
Note	

Measurement

Description		
Start	2023-02-16	11:47:58
Stop	2023-02-16	12:06:31
Duration		00:18:32.3
Run Time		00:18:30.9
Pause		00:00:01.4
Pre-Calibration	2023-02-16	11:47:36
Post-Calibration		None
Calibration Deviation		---

Overall Settings

RMS Weight	A Weighting				
Peak Weight	A Weighting				
Detector	Slow				
Preamplifier	PRMLxT1L				
Microphone Correction	Off				
Integration Method	Linear				
Overload	121.7	dB			
	A		**C**	**Z**	
Under Range Peak	**78.0**		75.0	80.0	dB
Under Range Limit	**26.0**		25.8	30.9	dB
Noise Floor	16.4		16.7	21.8	dB
	First		**Second**	**Third**	
Instrument Identification					

Results

LA_{eq}	56.2	dB			
LAE	86.7	dB			
EA	51.456	µPa²h			
EA8	1.334	mPa²h			
EA40	6.670	mPa²h			
$LA_{peak\ (max)}$	2023-02-16	11:49:36	88.0	dB	
LAS_{max}	2023-02-16	12:04:59	70.9	dB	
LAS_{min}	2023-02-16	11:56:45	43.6	dB	
SEA	-99.9	dB			
	Exceedance Counts		**Duration**		
LAS > 85.0 dB	0		0.0	s	
LAS > 115.0 dB	0		0.0	s	

LA_{peak} > 135.0 dB	0	0.0 s
LA_{peak} > 137.0 dB	0	0.0 s
LA_{peak} > 140.0 dB	0	0.0 s

LC_{eq}	62.1	dB
LA_{eq}	56.2	dB
LC_{eq} - LA_{eq}	5.9	dB
LAI_{eq}	58.0	dB
LA_{eq}	56.2	dB
LAI_{eq} - LA_{eq}	1.8	dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	56.2		62.1			
$L_{S(max)}$	70.9	2023/02/16 12:04:59				
$L_{S(min)}$	43.6	2023/02/16 11:56:45				
$L_{Peak(max)}$	88.0	2023/02/16 11:49:36				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	3	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	0.03	0.00	%
Projected Dose	0.70	0.04	%
TWA (Projected)	54.2	56.2	dB
TWA (t)	30.7	42.1	dB
Lep (t)	42.1	42.1	dB

Statistics

LA 2.00	64.8	dB
LA 5.00	62.8	dB
LA 8.00	61.6	dB
LA 25.00	55.0	dB
LA 50.00	49.9	dB
LA 90.00	45.8	dB

Calibration History

Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
PRMLxT1L	2023-02-16 11:47:34	-28.06	66.51	56.84	46.07	46.04	42.77	52.20	52.36	49.37	41.24	46.55	44.31	40.21	44.70	69.20	45.88	57.02	58.97	50.05	59.03	52.91	41.64	33.23	113.94	49.05	19.80	66.35	20.96	60.95	26.86	32.21	21.04	22.44	23.85	25.53	28.04	30.89
PRMLxT1L	2023-02-16 11:17:48	-28.01	47.51	62.25	48.64	52.66	42.53	40.45	43.39	42.14	43.77	41.17	50.14	43.58	50.52	44.43	49.56	46.52	39.18	42.95	37.36	35.29	29.75	28.57	114.03	49.18	17.67	66.52	20.81	60.96	27.41	32.31	21.59	22.89	23.87	25.54	27.94	30.73
PRMLxT1L	2023-02-07 10:49:23	-28.06	45.86	48.16	47.48	43.26	42.73	40.04	34.85	29.68	29.21	26.00	33.25	35.40	26.36	28.52	28.96	32.48	31.89	35.03	32.25	30.46	22.59	28.65	113.92	48.97	18.30	66.52	20.88	60.76	27.35	31.93	21.52	22.77	23.92	25.75	28.40	31.01
PRMLxT1L	2023-02-07 09:46:05	-27.99	40.27	24.78	33.19	46.19	53.54	47.05	55.56	55.68	52.45	56.35	44.42	43.46	45.67	30.06	39.00	39.53	48.05	48.79	45.37	43.94	41.36	32.60	114.05	49.11	18.67	66.56	20.82	60.90	26.86	31.96	21.73	22.73	23.93	26.12	28.15	31.09
PRMLxT1L	2023-02-07 09:45:17	-28.05	45.67	39.96	43.29	42.31	58.49	46.03	50.16	51.85	50.11	66.71	39.93	40.07	38.72	32.68	35.15	31.88	36.99	37.45	37.58	34.26	28.16	29.36	114.04	49.10	18.49	66.51	20.77	60.91	26.34	32.01	21.54	22.86	24.13	25.86	28.23	31.07
PRMLxT1L	2022-12-20 13:00:31	-28.11	56.99	50.48	48.43	50.90	44.52	44.00	48.77	47.12	48.33	52.27	46.60	44.27	43.13	44.43	48.00	48.38	46.83	43.84	47.50	49.07	39.72	33.75	114.05	49.26	22.86	66.19	21.60	62.93	28.74	34.08	22.01	22.97	24.18	25.85	28.01	31.05
PRMLxT1L	2022-12-20 11:05:47	-28.18	56.09	61.73	62.72	49.75	53.13	45.26	41.24	50.37	49.80	50.82	50.86	45.12	46.82	46.90	46.89	48.66	44.76	46.31	43.44	47.95	46.71	36.86	113.96	49.02	21.40	66.01	22.23	62.86	28.87	34.29	21.74	22.52	23.92	25.61	27.92	30.77
PRMLxT1L	2022-12-17 10:58:40	-28.16	46.48	48.67	39.26	49.97	49.37	47.83	53.15	51.96	55.36	56.00	54.44	53.33	47.99	45.30	43.49	46.27	41.52	43.32	41.19	40.91	36.32	31.77	113.92	49.07	20.15	66.10	21.55	62.82	29.21	33.90	21.46	22.49	24.03	25.91	28.10	31.07
PRMLxT1L	2022-12-15 11:26:33	-28.10	56.31	55.95	45.63	56.10	51.02	50.87	45.74	48.38	49.56	44.88	45.81	47.14	46.40	43.08	38.96	39.60	35.32	33.93	32.41	30.25	22.50	28.40	114.03	48.99	19.56	66.38	21.48	62.87	29.10	33.61	21.93	22.91	24.13	26.13	28.78	30.89
PRMLxT1L	2022-12-15 10:58:41	-28.14	68.50	58.66	55.60	57.18	52.29	53.93	55.67	51.94	46.27	49.87	46.82	42.80	44.95	39.43	35.63	30.77	36.46	34.08	29.92	29.36	24.21	28.75	113.99	49.09	18.26	65.94	22.07	62.76	29.11	34.32	22.03	22.94	23.88	25.87	28.19	31.23
PRMLxT1L	2022-12-15 10:58:26	-28.15	62.36	54.82	57.50	58.04	56.80	57.01	54.28	44.51	51.66	49.76	49.54	46.65	44.02	39.43	33.36	30.04	32.24	32.05	33.26	33.39	23.52	29.22	113.95	49.06	19.17	65.84	21.74	62.72	28.90	34.36	21.65	22.42	23.78	25.73	28.11	31.42

Record #	Date	Time	Record Type	Cause	#	TH Record	Sound Record
1	2023-02-16	11:47:36	Calibration Change	Key	-0.04 dB	0	
2	2023-02-16	11:47:58	Run	Key	1	0	
3	2023-02-16	12:06:29	Pause	Key	1	0	
4	2023-02-16	12:06:31	Stop	Key	1	0	

Statistics		
Level (dB)	**Count**	**Percent**
Under	0	0.00
43.6	5	0.00
43.7	121	0.11
43.8	138	0.12
43.9	289	0.26
44.0	230	0.21
44.1	297	0.27
44.2	237	0.21
44.3	336	0.30
44.4	393	0.35
44.5	315	0.28
44.6	382	0.34
44.7	598	0.54
44.8	908	0.82
44.9	798	0.72
45.0	909	0.82
45.1	732	0.66
45.2	773	0.70
45.3	735	0.66
45.4	559	0.50
45.5	808	0.73
45.6	588	0.53
45.7	736	0.66
45.8	621	0.56
45.9	796	0.72
46.0	742	0.67
46.1	561	0.50
46.2	579	0.52
46.3	706	0.64
46.4	953	0.86
46.5	973	0.88
46.6	663	0.60
46.7	909	0.82
46.8	848	0.76
46.9	863	0.78
47.0	770	0.69
47.1	1067	0.96
47.2	1185	1.07
47.3	1740	1.57
47.4	1652	1.49
47.5	1431	1.29
47.6	1346	1.21
47.7	1489	1.34
47.8	1315	1.18
47.9	1008	0.91
48.0	1130	1.02

48.1	1077	0.97
48.2	1409	1.27
48.3	1796	1.62
48.4	1706	1.54
48.5	1558	1.40
48.6	1315	1.18
48.7	1353	1.22
48.8	1576	1.42
48.9	1065	0.96
49.0	782	0.70
49.1	1174	1.06
49.2	1182	1.06
49.3	899	0.81
49.4	694	0.62
49.5	853	0.77
49.6	950	0.86
49.7	782	0.70
49.8	819	0.74
49.9	779	0.70
50.0	793	0.71
50.1	703	0.63
50.2	628	0.57
50.3	740	0.67
50.4	745	0.67
50.5	403	0.36
50.6	525	0.47
50.7	483	0.43
50.8	544	0.49
50.9	427	0.38
51.0	585	0.53
51.1	599	0.54
51.2	602	0.54
51.3	505	0.45
51.4	560	0.50
51.5	786	0.71
51.6	865	0.78
51.7	763	0.69
51.8	768	0.69
51.9	649	0.58
52.0	593	0.53
52.1	577	0.52
52.2	482	0.43
52.3	559	0.50
52.4	609	0.55
52.5	536	0.48
52.6	740	0.67
52.7	589	0.53
52.8	578	0.52

52.9	550	0.50
53.0	474	0.43
53.1	393	0.35
53.2	476	0.43
53.3	526	0.47
53.4	470	0.42
53.5	338	0.30
53.6	344	0.31
53.7	346	0.31
53.8	402	0.36
53.9	399	0.36
54.0	418	0.38
54.1	383	0.34
54.2	382	0.34
54.3	351	0.32
54.4	387	0.35
54.5	503	0.45
54.6	532	0.48
54.7	493	0.44
54.8	456	0.41
54.9	471	0.42
55.0	504	0.45
55.1	489	0.44
55.2	464	0.42
55.3	562	0.51
55.4	428	0.39
55.5	416	0.37
55.6	460	0.41
55.7	390	0.35
55.8	362	0.33
55.9	341	0.31
56.0	357	0.32
56.1	374	0.34
56.2	276	0.25
56.3	265	0.24
56.4	291	0.26
56.5	314	0.28
56.6	297	0.27
56.7	285	0.26
56.8	283	0.25
56.9	231	0.21
57.0	244	0.22
57.1	305	0.27
57.2	302	0.27
57.3	270	0.24
57.4	275	0.25
57.5	296	0.27
57.6	307	0.28

57.7	290	0.26
57.8	264	0.24
57.9	262	0.24
58.0	256	0.23
58.1	270	0.24
58.2	257	0.23
58.3	260	0.23
58.4	269	0.24
58.5	250	0.23
58.6	216	0.19
58.7	229	0.21
58.8	207	0.19
58.9	192	0.17
59.0	251	0.23
59.1	284	0.26
59.2	274	0.25
59.3	311	0.28
59.4	317	0.29
59.5	233	0.21
59.6	269	0.24
59.7	265	0.24
59.8	275	0.25
59.9	270	0.24
60.0	247	0.22
60.1	286	0.26
60.2	296	0.27
60.3	275	0.25
60.4	221	0.20
60.5	222	0.20
60.6	243	0.22
60.7	239	0.22
60.8	242	0.22
60.9	214	0.19
61.0	226	0.20
61.1	239	0.22
61.2	221	0.20
61.3	200	0.18
61.4	203	0.18
61.5	217	0.20
61.6	299	0.27
61.7	339	0.31
61.8	232	0.21
61.9	265	0.24
62.0	242	0.22
62.1	259	0.23
62.2	251	0.23
62.3	243	0.22
62.4	267	0.24

62.5	279	0.25
62.6	268	0.24
62.7	253	0.23
62.8	282	0.25
62.9	290	0.26
63.0	335	0.30
63.1	343	0.31
63.2	203	0.18
63.3	157	0.14
63.4	141	0.13
63.5	119	0.11
63.6	100	0.09
63.7	200	0.18
63.8	148	0.13
63.9	139	0.13
64.0	128	0.12
64.1	153	0.14
64.2	99	0.09
64.3	98	0.09
64.4	113	0.10
64.5	103	0.09
64.6	105	0.09
64.7	125	0.11
64.8	125	0.11
64.9	119	0.11
65.0	111	0.10
65.1	93	0.08
65.2	85	0.08
65.3	68	0.06
65.4	64	0.06
65.5	94	0.08
65.6	107	0.10
65.7	73	0.07
65.8	41	0.04
65.9	59	0.05
66.0	47	0.04
66.1	46	0.04
66.2	69	0.06
66.3	54	0.05
66.4	52	0.05
66.5	78	0.07
66.6	34	0.03
66.7	32	0.03
66.8	71	0.06
66.9	47	0.04
67.0	51	0.05
67.1	52	0.05
67.2	54	0.05

67.3	38	0.03
67.4	28	0.03
67.5	29	0.03
67.6	43	0.04
67.7	18	0.02
67.8	7	0.01
67.9	8	0.01
68.0	6	0.01
68.1	7	0.01
68.2	7	0.01
68.3	9	0.01
68.4	6	0.01
68.5	10	0.01
68.6	7	0.01
68.7	6	0.01
68.8	8	0.01
68.9	9	0.01
69.0	8	0.01
69.1	8	0.01
69.2	8	0.01
69.3	6	0.01
69.4	8	0.01
69.5	8	0.01
69.6	8	0.01
69.7	9	0.01
69.8	7	0.01
69.9	9	0.01
70.0	13	0.01
70.1	26	0.02
70.2	39	0.04
70.3	11	0.01
70.4	12	0.01
70.5	11	0.01
70.6	32	0.03
70.7	74	0.07
70.8	29	0.03
70.9	31	0.03
Over	0	0.00
Total Count	111090	

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmin Time	LASmax	LASmax Time	LApeak (max)	LApeak (max) Time	SPL 1 Count	SPL 1 Duration	SPL 2 Count	SPL 2 Duration	Peak 1 Count	Peak 1 Duration	Peak 2 Count	Peak 2 Duration	Peak 3 Count
1	2023-02-16	11:47:58	00:18:32.3	00:18:30.9	00:00:01.4	56.2	86.7	43.6	11:56:45	70.9	12:04:59	88.0	11:49:36	0	0.0	0	0.0	0	0.0	0	0.0	0

Peak 3 Duration	TWA(Projected) 0	TWA(Projected) 1	LAS2.00	LAS5.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	SEA	LCeq	LAeq	LCeq - LAeq	LAIeq	LAeq	LAIeq - LAeq	Overload Count	Overload Duration	Comments
0.0	54.2	56.2	64.8	62.8	61.6	55.0	49.9	45.8	-99.9	62.1	56.2	5.9	58.0	56.2	1.8	0	0.0	

Summary

File Name on Meter	LxT_Data.137.s
File Name on PC	LxT_0003285-20230216 121139-LxT_Data.137.ldbin
Serial Number	0003285
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2023-02-16 12:11:39
Stop	2023-02-16 12:27:25
Duration	00:15:45.8
Run Time	00:15:44.6
Pause	00:00:01.2
Pre-Calibration	2023-02-16 12:11:12
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamplifier	PRMLxT1L			
Microphone Correction	Off			
Integration Method	Linear			
Overload	121.8 dB			
	A	**C**	**Z**	
Under Range Peak	**78.1**	75.1	80.1	dB
Under Range Limit	**26.1**	25.8	31.0	dB
Noise Floor	16.4	16.7	21.8	dB

	First	**Second**	**Third**
Instrument Identification			

Results

LA_{eq}	53.2	dB
LAE	83.0	dB
EA	21.928	µPa²h
EA8	668.575	µPa²h
EA40	3.343	mPa²h

LApeak (max)	2023-02-16 12:14:37	82.7	dB
LASmax	2023-02-16 12:15:38	68.8	dB
LASmin	2023-02-16 12:26:13	41.8	dB
SEA	-99.9	dB	

	Exceedance Counts	Duration	
LAS > 85.0 dB	0	0.0	s
LAS > 115.0 dB	0	0.0	s
LApeak > 135.0 dB	0	0.0	s
LApeak > 137.0 dB	0	0.0	s
LApeak > 140.0 dB	0	0.0	s

LCeq	61.3	dB
LAeq	53.2	dB
LCeq - LAeq	8.1	dB
LAIeq	54.8	dB
LAeq	53.2	dB
LAIeq - LAeq	1.6	dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
Leq	53.2		61.3			
LS(max)	68.8	2023/02/16 12:15:38				
LS(min)	41.8	2023/02/16 12:26:13				
LPeak(max)	82.7	2023/02/16 12:14:37				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	3	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	0.01	0.00	%
Projected Dose	0.44	0.02	%
TWA (Projected)	50.9	53.2	dB
TWA (t)	26.2	38.4	dB
Lep (t)	38.4	38.4	dB

Statistics

LA 2.00	61.5	dB
LA 5.00	59.0	dB
LA 8.00	57.4	dB

LA 25.00	50.4 dB
LA 50.00	46.5 dB
LA 90.00	43.8 dB

Calibration History

Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
PRMLxT1L	2023-02-16 12:11:10	-28.09	48.61	48.85	51.02	50.24	48.48	50.96	50.51	47.68	41.37	36.62	44.83	41.24	43.32	45.24	41.88	41.05	40.87	43.01	43.90	41.60	33.68	30.29	113.96	49.04	18.45	66.48	20.64	60.97	27.27	32.21	21.14	22.18	23.88	25.50	28.11	30.94
PRMLxT1L	2023-02-16 11:47:34	-28.06	66.51	56.84	46.07	46.04	42.77	52.20	52.36	49.37	41.24	46.55	44.31	40.21	44.70	69.20	45.88	57.02	58.97	50.05	59.03	52.91	41.64	33.23	113.94	49.05	19.80	66.35	20.96	60.95	26.86	32.21	21.04	22.44	23.85	25.53	28.04	30.89
PRMLxT1L	2023-02-16 11:17:48	-28.01	47.51	62.25	48.64	52.66	42.53	40.45	43.39	42.14	43.77	41.17	50.14	43.58	50.52	44.43	49.56	46.52	39.18	42.95	37.36	35.29	29.75	28.57	114.03	49.18	17.67	66.52	20.81	60.96	27.41	32.31	21.59	22.89	23.87	25.54	27.94	30.73
PRMLxT1L	2023-02-07 10:49:23	-28.06	45.86	48.16	47.48	43.26	42.73	40.04	34.85	29.68	29.21	26.00	33.25	35.40	26.36	28.52	28.96	32.48	31.89	35.03	32.25	30.46	22.59	28.65	113.92	48.97	18.30	66.52	20.88	60.76	27.35	31.93	21.52	22.77	23.92	25.75	28.40	31.01
PRMLxT1L	2023-02-07 09:46:05	-27.99	40.27	24.78	33.19	46.19	53.54	47.05	55.56	55.68	52.45	56.35	44.42	43.46	45.67	30.06	39.00	39.53	48.05	48.79	45.37	43.94	41.36	32.60	114.05	49.11	18.67	66.56	20.82	60.90	26.86	31.96	21.73	22.73	23.93	26.12	28.15	31.09
PRMLxT1L	2023-02-07 09:45:17	-28.05	45.67	39.96	43.29	42.31	58.49	46.03	50.16	51.85	50.11	66.71	39.93	40.07	38.72	32.68	35.15	31.88	36.99	37.45	37.58	34.26	28.16	29.36	114.04	49.10	18.49	66.51	20.77	60.91	26.34	32.01	21.54	22.86	24.13	25.86	28.23	31.07
PRMLxT1L	2022-12-20 13:00:31	-28.11	56.99	50.48	48.43	50.90	44.52	44.00	48.77	47.12	48.33	52.27	46.60	44.27	43.13	44.43	48.00	48.38	46.83	43.84	47.50	49.07	39.72	33.75	114.05	49.26	22.86	66.19	21.60	62.93	28.74	34.08	22.01	22.97	24.18	25.85	28.01	31.05
PRMLxT1L	2022-12-20 11:05:47	-28.18	56.09	61.73	62.72	49.75	53.13	45.26	41.24	50.37	49.80	50.82	50.86	45.12	46.82	46.90	46.89	48.66	44.76	46.31	43.44	47.95	46.71	36.86	113.96	49.02	21.40	66.01	22.23	62.86	28.87	34.29	21.74	22.52	23.92	25.61	27.92	30.77
PRMLxT1L	2022-12-17 10:58:40	-28.16	46.48	48.67	39.26	49.97	49.37	47.83	53.15	51.96	55.36	56.00	54.44	53.33	47.99	45.30	43.49	46.27	41.52	43.32	41.19	40.91	36.32	31.77	113.92	49.07	20.15	66.10	21.55	62.82	29.21	33.90	21.46	22.49	24.03	25.91	28.10	31.07
PRMLxT1L	2022-12-15 11:26:33	-28.10	56.31	55.95	45.63	56.10	51.02	50.87	45.74	48.38	49.56	44.88	45.81	47.14	46.40	43.08	38.96	39.60	35.32	33.93	32.41	30.25	22.50	28.40	114.03	48.99	19.56	66.38	21.48	62.87	29.10	33.61	21.93	22.91	24.13	26.13	28.78	30.89
PRMLxT1L	2022-12-15 10:58:41	-28.14	68.50	58.66	55.60	57.18	52.29	53.93	55.67	51.94	46.27	49.87	46.82	42.80	44.95	39.43	35.63	30.77	36.46	34.08	29.92	29.36	24.21	28.75	113.99	49.09	18.26	65.94	22.07	62.76	29.11	34.32	22.03	22.94	23.88	25.87	28.19	31.23

Record #	Date	Time	Record Type	Cause	#	TH Record	Sound Record
1	2023-02-16	12:11:12	Calibration Change	Key	-0.01 dB	0	
2	2023-02-16	12:11:39	Run	Key	1	0	
3	2023-02-16	12:27:24	Pause	Key	1	0	
4	2023-02-16	12:27:25	Stop	Key	1	0	

Statistics		
Level (dB)	**Count**	**Percent**
Under	0	0.00
41.8	8	0.01
41.9	56	0.06
42.0	51	0.05
42.1	76	0.08
42.2	100	0.11
42.3	677	0.72
42.4	516	0.55
42.5	340	0.36
42.6	539	0.57
42.7	810	0.86
42.8	453	0.48
42.9	570	0.60
43.0	685	0.73
43.1	516	0.55
43.2	444	0.47
43.3	748	0.79
43.4	884	0.94
43.5	547	0.58
43.6	600	0.64
43.7	610	0.65
43.8	669	0.71
43.9	723	0.77
44.0	752	0.80
44.1	755	0.80
44.2	787	0.83
44.3	709	0.75
44.4	716	0.76
44.5	608	0.64
44.6	891	0.94
44.7	834	0.88
44.8	1205	1.28
44.9	1376	1.46
45.0	1428	1.51
45.1	1522	1.61
45.2	1375	1.46
45.3	1630	1.73
45.4	1643	1.74
45.5	1715	1.82
45.6	1949	2.06
45.7	1691	1.79
45.8	2074	2.20
45.9	2139	2.26
46.0	2290	2.42
46.1	2480	2.63
46.2	1701	1.80

46.3	1660	1.76
46.4	2046	2.17
46.5	1887	2.00
46.6	1769	1.87
46.7	1288	1.36
46.8	1075	1.14
46.9	1250	1.32
47.0	1120	1.19
47.1	1095	1.16
47.2	1037	1.10
47.3	756	0.80
47.4	644	0.68
47.5	686	0.73
47.6	627	0.66
47.7	610	0.65
47.8	627	0.66
47.9	473	0.50
48.0	430	0.46
48.1	370	0.39
48.2	455	0.48
48.3	378	0.40
48.4	450	0.48
48.5	372	0.39
48.6	404	0.43
48.7	377	0.40
48.8	361	0.38
48.9	399	0.42
49.0	318	0.34
49.1	310	0.33
49.2	368	0.39
49.3	404	0.43
49.4	490	0.52
49.5	501	0.53
49.6	412	0.44
49.7	448	0.47
49.8	420	0.44
49.9	300	0.32
50.0	283	0.30
50.1	322	0.34
50.2	256	0.27
50.3	287	0.30
50.4	338	0.36
50.5	249	0.26
50.6	364	0.39
50.7	292	0.31
50.8	254	0.27
50.9	283	0.30
51.0	239	0.25

51.1	262	0.28
51.2	378	0.40
51.3	366	0.39
51.4	281	0.30
51.5	199	0.21
51.6	200	0.21
51.7	198	0.21
51.8	249	0.26
51.9	257	0.27
52.0	314	0.33
52.1	310	0.33
52.2	240	0.25
52.3	263	0.28
52.4	258	0.27
52.5	249	0.26
52.6	297	0.31
52.7	330	0.35
52.8	269	0.28
52.9	191	0.20
53.0	197	0.21
53.1	191	0.20
53.2	191	0.20
53.3	224	0.24
53.4	172	0.18
53.5	205	0.22
53.6	184	0.19
53.7	228	0.24
53.8	200	0.21
53.9	189	0.20
54.0	222	0.24
54.1	168	0.18
54.2	241	0.26
54.3	166	0.18
54.4	189	0.20
54.5	164	0.17
54.6	172	0.18
54.7	221	0.23
54.8	220	0.23
54.9	163	0.17
55.0	156	0.17
55.1	143	0.15
55.2	147	0.16
55.3	148	0.16
55.4	186	0.20
55.5	219	0.23
55.6	253	0.27
55.7	244	0.26
55.8	209	0.22

55.9	218	0.23
56.0	228	0.24
56.1	198	0.21
56.2	232	0.25
56.3	275	0.29
56.4	251	0.27
56.5	205	0.22
56.6	224	0.24
56.7	201	0.21
56.8	203	0.21
56.9	274	0.29
57.0	188	0.20
57.1	241	0.26
57.2	198	0.21
57.3	197	0.21
57.4	265	0.28
57.5	260	0.28
57.6	218	0.23
57.7	157	0.17
57.8	187	0.20
57.9	131	0.14
58.0	158	0.17
58.1	164	0.17
58.2	209	0.22
58.3	174	0.18
58.4	155	0.16
58.5	181	0.19
58.6	178	0.19
58.7	137	0.15
58.8	145	0.15
58.9	171	0.18
59.0	181	0.19
59.1	162	0.17
59.2	180	0.19
59.3	207	0.22
59.4	272	0.29
59.5	130	0.14
59.6	128	0.14
59.7	109	0.12
59.8	83	0.09
59.9	102	0.11
60.0	123	0.13
60.1	148	0.16
60.2	125	0.13
60.3	147	0.16
60.4	158	0.17
60.5	153	0.16
60.6	118	0.12

60.7	55	0.06
60.8	41	0.04
60.9	37	0.04
61.0	38	0.04
61.1	45	0.05
61.2	54	0.06
61.3	74	0.08
61.4	57	0.06
61.5	52	0.06
61.6	39	0.04
61.7	30	0.03
61.8	33	0.03
61.9	35	0.04
62.0	39	0.04
62.1	35	0.04
62.2	64	0.07
62.3	17	0.02
62.4	17	0.02
62.5	18	0.02
62.6	24	0.03
62.7	16	0.02
62.8	19	0.02
62.9	14	0.01
63.0	16	0.02
63.1	17	0.02
63.2	15	0.02
63.3	17	0.02
63.4	16	0.02
63.5	20	0.02
63.6	13	0.01
63.7	14	0.01
63.8	18	0.02
63.9	18	0.02
64.0	18	0.02
64.1	19	0.02
64.2	15	0.02
64.3	16	0.02
64.4	16	0.02
64.5	15	0.02
64.6	13	0.01
64.7	16	0.02
64.8	16	0.02
64.9	17	0.02
65.0	15	0.02
65.1	16	0.02
65.2	17	0.02
65.3	18	0.02
65.4	20	0.02

65.5	14	0.01
65.6	24	0.03
65.7	20	0.02
65.8	22	0.02
65.9	19	0.02
66.0	17	0.02
66.1	18	0.02
66.2	18	0.02
66.3	20	0.02
66.4	16	0.02
66.5	27	0.03
66.6	25	0.03
66.7	22	0.02
66.8	37	0.04
66.9	78	0.08
67.0	87	0.09
67.1	80	0.08
67.2	44	0.05
67.3	14	0.01
67.4	14	0.01
67.5	19	0.02
67.6	18	0.02
67.7	22	0.02
67.8	20	0.02
67.9	18	0.02
68.0	19	0.02
68.1	18	0.02
68.2	39	0.04
68.3	45	0.05
68.4	43	0.05
68.5	54	0.06
68.6	74	0.08
68.7	34	0.04
68.8	9	0.01
Over	0	0.00
Total Count	94460	

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmin Time	LASmax	LASmax Time	LApeak (max)	LApeak (max) Time	SPL 1 Count	SPL 1 Duration	SPL 2 Count	SPL 2 Duration	Peak 1 Count	Peak 1 Duration	Peak 2 Count	Peak 2 Duration	Peak 3 Count	Peak 3 Duration
1	2023-02-16	12:11:39	00:15:45.8	00:15:44.6	00:00:01.2	53.2	83.0	41.8	12:26:13	68.8	12:15:38	82.7	12:14:37	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

TWA(Projected) 0	TWA(Projected) 1	LAS2.00	LAS5.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	SEA	LCeq	LAeq	LCeq - LAeq	LAleq	LAeq	LAleq - LAeq	Overload Count	Overload Duration	Comments
50.9	53.2	61.5	59.0	57.4	50.4	46.5	43.8	99.9	61.3	53.2	8.1	54.8	53.2	1.6	0	0.0	

Summary

File Name on Meter	LxT_Data.138.s
File Name on PC	LxT_0003285-20230216 123905-LxT_Data.138.ldbin
Serial Number	0003285
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	
Job Description	
Note	

Measurement

Description		
Start	2023-02-16	12:39:05
Stop	2023-02-16	12:55:35
Duration		00:16:29.6
Run Time		00:16:27.7
Pause		00:00:01.9
Pre-Calibration	2023-02-16	12:38:23
Post-Calibration		None
Calibration Deviation		---

Overall Settings

RMS Weight	A Weighting				
Peak Weight	A Weighting				
Detector	Slow				
Preamplifier	PRMLxT1L				
Microphone Correction	Off				
Integration Method	Linear				
Overload	121.7	dB			
	A		**C**	**Z**	
Under Range Peak	**78.0**		75.0	80.0	dB
Under Range Limit	**26.0**		25.8	30.9	dB
Noise Floor	16.4		16.7	21.8	dB
	First		**Second**	**Third**	
Instrument Identification					

Results

LA_{eq}	53.0	dB		
LAE	82.9	dB		
EA	21.897	µPa²h		
EA8	638.484	µPa²h		
EA40	3.192	mPa²h		
$LA_{peak\ (max)}$	2023-02-16	12:55:16	86.0	dB
LAS_{max}	2023-02-16	12:49:01	68.5	dB
LAS_{min}	2023-02-16	12:51:02	38.0	dB
SEA	-99.9	dB		

	Exceedance Counts	**Duration**	
LAS > 85.0 dB	0	0.0	s
LAS > 115.0 dB	0	0.0	s

LA_{peak} > 135.0 dB	0	0.0 s
LA_{peak} > 137.0 dB	0	0.0 s
LA_{peak} > 140.0 dB	0	0.0 s

LC_{eq}	64.4	dB
LA_{eq}	53.0	dB
LC_{eq} - LA_{eq}	11.4	dB
LAI_{eq}	55.1	dB
LA_{eq}	53.0	dB
LAI_{eq} - LA_{eq}	2.1	dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	53.0		64.4			
$L_{S(max)}$	68.5	2023/02/16 12:49:01				
$L_{S(min)}$	38.0	2023/02/16 12:51:02				
$L_{Peak(max)}$	86.0	2023/02/16 12:55:16				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	3	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	0.02	0.00	%
Projected Dose	0.47	0.02	%
TWA (Projected)	51.4	53.0	dB
TWA (t)	27.1	38.4	dB
Lep (t)	38.4	38.4	dB

Statistics

LA 2.00	61.7	dB
LA 5.00	58.7	dB
LA 8.00	56.5	dB
LA 25.00	52.5	dB
LA 50.00	49.0	dB
LA 90.00	43.4	dB

Calibration History

Preamp	Date	dB re. 1V/Pa	6.3	8.0	10.0	12.5	16.0	20.0	25.0	31.5	40.0	50.0	63.0	80.0	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	12500	16000	20000
PRMLxT1L	2023-02-16 12:38:23	-28.06	50.15	50.86	43.71	41.91	47.59	45.31	46.06	42.52	43.58	44.34	45.64	51.34	57.01	45.48	47.67	45.16	42.51	42.09	42.38	42.25	32.05	29.91	114.01	49.05	18.36	66.75	20.29	60.98	27.64	32.04	21.59	22.66	23.94	25.95	27.82	30.77
PRMLxT1L	2023-02-16 12:11:10	-28.09	48.61	48.85	51.02	50.24	48.48	50.96	50.51	47.68	41.37	36.62	44.83	41.24	43.32	45.24	41.88	41.05	40.87	43.01	43.90	41.60	33.68	30.29	113.96	49.04	18.45	66.48	20.64	60.97	27.27	32.21	21.14	22.18	23.88	25.50	28.11	30.94
PRMLxT1L	2023-02-16 11:47:34	-28.06	66.51	56.84	46.07	46.04	42.77	52.20	52.36	49.37	41.24	46.55	44.31	40.21	44.70	69.20	45.88	57.02	58.97	50.05	59.03	52.91	41.64	33.23	113.94	49.05	19.80	66.35	20.96	60.95	26.86	32.21	21.04	22.44	23.85	25.53	28.04	30.89
PRMLxT1L	2023-02-16 11:17:48	-28.01	47.51	62.25	48.64	52.66	42.53	40.45	43.39	42.14	43.77	41.17	50.14	43.58	50.52	44.43	49.56	46.52	39.18	42.95	37.36	35.29	29.75	28.57	114.03	49.18	17.67	66.52	20.81	60.96	27.41	32.31	21.59	22.89	23.87	25.54	27.94	30.73
PRMLxT1L	2023-02-07 10:49:23	-28.06	45.86	48.16	47.48	43.26	42.73	40.04	34.85	29.68	29.21	26.00	33.25	35.40	26.36	28.52	28.96	32.48	31.89	35.03	32.25	30.46	22.59	28.65	113.92	48.97	18.30	66.52	20.88	60.76	27.35	31.93	21.52	22.77	23.92	25.75	28.40	31.01
PRMLxT1L	2023-02-07 09:46:05	-27.99	40.27	24.78	33.19	46.19	53.54	47.05	55.56	55.68	52.45	56.35	44.42	43.46	45.67	30.06	39.00	39.53	48.05	48.79	45.37	43.94	41.36	32.60	114.05	49.11	18.67	66.56	20.82	60.90	26.86	31.96	21.73	22.73	23.93	26.12	28.15	31.09
PRMLxT1L	2023-02-07 09:45:17	-28.05	45.67	39.96	43.29	42.31	58.49	46.03	50.16	51.85	50.11	66.71	39.93	40.07	38.72	32.68	35.15	31.88	36.99	37.45	37.58	34.26	28.16	29.36	114.04	49.10	18.49	66.51	20.77	60.91	26.34	32.01	21.54	22.86	24.13	25.86	28.23	31.07
PRMLxT1L	2022-12-20 13:00:31	-28.11	56.99	50.48	48.43	50.90	44.52	44.00	48.77	47.12	48.33	52.27	46.60	44.27	43.13	44.43	48.00	48.38	46.83	43.84	47.50	49.07	39.72	33.75	114.05	49.26	22.86	66.19	21.60	62.93	28.74	34.08	22.01	22.97	24.18	25.85	28.01	31.05
PRMLxT1L	2022-12-20 11:05:47	-28.18	56.09	61.73	62.72	49.75	53.13	45.26	41.24	50.37	49.80	50.82	50.86	45.12	46.82	46.90	46.89	48.66	44.76	46.31	43.44	47.95	46.71	36.86	113.96	49.02	21.40	66.01	22.23	62.86	28.87	34.29	21.74	22.52	23.92	25.61	27.92	30.77
PRMLxT1L	2022-12-17 10:58:40	-28.16	46.48	48.67	39.26	49.97	49.37	47.83	53.15	51.96	55.36	56.00	54.44	53.33	47.99	45.30	43.49	46.27	41.52	43.32	41.19	40.91	36.32	31.77	113.92	49.07	20.15	66.10	21.55	62.82	29.21	33.90	21.46	22.49	24.03	25.91	28.10	31.07
PRMLxT1L	2022-12-15 11:26:33	-28.10	56.31	55.95	45.63	56.10	51.02	50.87	45.74	48.38	49.56	44.88	45.81	47.14	46.40	43.08	38.96	39.60	35.32	33.93	32.41	30.25	22.50	28.40	114.03	48.99	19.56	66.38	21.48	62.87	29.10	33.61	21.93	22.91	24.13	26.13	28.78	30.89

Record #	Date	Time	Record Type	Cause	#	TH Record	Sound Record
1	2023-02-16	12:39:05	Run	Key	1	0	
2	2023-02-16	12:55:33	Pause	Key	1	0	
3	2023-02-16	12:55:35	Stop	Key	1	0	

Statistics

Level (dB)	Count	Percent
Under	0	0.00
38.0	5	0.01
38.1	34	0.03
38.2	60	0.06
38.3	106	0.11
38.4	72	0.07
38.5	66	0.07
38.6	58	0.06
38.7	56	0.06
38.8	21	0.02
38.9	92	0.09
39.0	105	0.11
39.1	159	0.16
39.2	180	0.18
39.3	257	0.26
39.4	195	0.20
39.5	69	0.07
39.6	38	0.04
39.7	20	0.02
39.8	46	0.05
39.9	57	0.06
40.0	91	0.09
40.1	150	0.15
40.2	161	0.16
40.3	179	0.18
40.4	103	0.10
40.5	115	0.12
40.6	159	0.16
40.7	189	0.19
40.8	156	0.16
40.9	125	0.13
41.0	165	0.17
41.1	185	0.19
41.2	205	0.21
41.3	117	0.12
41.4	115	0.12
41.5	106	0.11
41.6	86	0.09
41.7	134	0.14
41.8	213	0.22
41.9	139	0.14
42.0	168	0.17
42.1	212	0.21
42.2	200	0.20
42.3	214	0.22

42.4	245	0.25
42.5	174	0.18
42.6	176	0.18
42.7	196	0.20
42.8	337	0.34
42.9	414	0.42
43.0	370	0.37
43.1	484	0.49
43.2	820	0.83
43.3	794	0.80
43.4	535	0.54
43.5	632	0.64
43.6	883	0.89
43.7	712	0.72
43.8	462	0.47
43.9	497	0.50
44.0	463	0.47
44.1	437	0.44
44.2	465	0.47
44.3	726	0.74
44.4	822	0.83
44.5	603	0.61
44.6	879	0.89
44.7	865	0.88
44.8	843	0.85
44.9	782	0.79
45.0	809	0.82
45.1	848	0.86
45.2	836	0.85
45.3	704	0.71
45.4	560	0.57
45.5	676	0.68
45.6	909	0.92
45.7	676	0.68
45.8	660	0.67
45.9	772	0.78
46.0	867	0.88
46.1	963	0.97
46.2	796	0.81
46.3	758	0.77
46.4	705	0.71
46.5	662	0.67
46.6	702	0.71
46.7	761	0.77
46.8	748	0.76
46.9	630	0.64
47.0	655	0.66

47.1	854	0.86
47.2	780	0.79
47.3	722	0.73
47.4	744	0.75
47.5	645	0.65
47.6	531	0.54
47.7	606	0.61
47.8	705	0.71
47.9	628	0.64
48.0	582	0.59
48.1	623	0.63
48.2	584	0.59
48.3	573	0.58
48.4	710	0.72
48.5	718	0.73
48.6	616	0.62
48.7	761	0.77
48.8	803	0.81
48.9	804	0.81
49.0	797	0.81
49.1	715	0.72
49.2	846	0.86
49.3	848	0.86
49.4	860	0.87
49.5	798	0.81
49.6	723	0.73
49.7	638	0.65
49.8	837	0.85
49.9	775	0.78
50.0	781	0.79
50.1	654	0.66
50.2	704	0.71
50.3	684	0.69
50.4	755	0.76
50.5	673	0.68
50.6	605	0.61
50.7	680	0.69
50.8	606	0.61
50.9	748	0.76
51.0	567	0.57
51.1	659	0.67
51.2	649	0.66
51.3	746	0.76
51.4	818	0.83
51.5	775	0.78
51.6	719	0.73
51.7	757	0.77

51.8	691	0.70
51.9	775	0.78
52.0	757	0.77
52.1	673	0.68
52.2	668	0.68
52.3	668	0.68
52.4	732	0.74
52.5	683	0.69
52.6	692	0.70
52.7	532	0.54
52.8	660	0.67
52.9	692	0.70
53.0	622	0.63
53.1	608	0.62
53.2	665	0.67
53.3	592	0.60
53.4	450	0.46
53.5	459	0.46
53.6	495	0.50
53.7	418	0.42
53.8	381	0.39
53.9	488	0.49
54.0	456	0.46
54.1	424	0.43
54.2	456	0.46
54.3	412	0.42
54.4	403	0.41
54.5	393	0.40
54.6	429	0.43
54.7	448	0.45
54.8	408	0.41
54.9	369	0.37
55.0	343	0.35
55.1	297	0.30
55.2	319	0.32
55.3	342	0.35
55.4	249	0.25
55.5	237	0.24
55.6	273	0.28
55.7	244	0.25
55.8	230	0.23
55.9	246	0.25
56.0	288	0.29
56.1	263	0.27
56.2	297	0.30
56.3	260	0.26
56.4	167	0.17

56.5	148	0.15
56.6	215	0.22
56.7	178	0.18
56.8	180	0.18
56.9	144	0.15
57.0	119	0.12
57.1	115	0.12
57.2	130	0.13
57.3	151	0.15
57.4	119	0.12
57.5	111	0.11
57.6	135	0.14
57.7	131	0.13
57.8	109	0.11
57.9	131	0.13
58.0	105	0.11
58.1	120	0.12
58.2	152	0.15
58.3	149	0.15
58.4	132	0.13
58.5	130	0.13
58.6	138	0.14
58.7	153	0.15
58.8	102	0.10
58.9	151	0.15
59.0	150	0.15
59.1	115	0.12
59.2	85	0.09
59.3	97	0.10
59.4	122	0.12
59.5	152	0.15
59.6	144	0.15
59.7	106	0.11
59.8	123	0.12
59.9	85	0.09
60.0	65	0.07
60.1	71	0.07
60.2	156	0.16
60.3	95	0.10
60.4	62	0.06
60.5	66	0.07
60.6	72	0.07
60.7	62	0.06
60.8	91	0.09
60.9	55	0.06
61.0	96	0.10
61.1	101	0.10

61.2	67	0.07
61.3	53	0.05
61.4	69	0.07
61.5	90	0.09
61.6	85	0.09
61.7	85	0.09
61.8	70	0.07
61.9	59	0.06
62.0	70	0.07
62.1	42	0.04
62.2	27	0.03
62.3	32	0.03
62.4	37	0.04
62.5	40	0.04
62.6	37	0.04
62.7	52	0.05
62.8	105	0.11
62.9	63	0.06
63.0	55	0.06
63.1	64	0.06
63.2	53	0.05
63.3	64	0.06
63.4	93	0.09
63.5	49	0.05
63.6	44	0.04
63.7	67	0.07
63.8	66	0.07
63.9	72	0.07
64.0	41	0.04
64.1	30	0.03
64.2	19	0.02
64.3	46	0.05
64.4	38	0.04
64.5	10	0.01
64.6	10	0.01
64.7	12	0.01
64.8	12	0.01
64.9	8	0.01
65.0	4	0.00
65.1	10	0.01
65.2	12	0.01
65.3	16	0.02
65.4	7	0.01
65.5	10	0.01
65.6	7	0.01
65.7	7	0.01
65.8	7	0.01

65.9	8	0.01
66.0	12	0.01
66.1	7	0.01
66.2	16	0.02
66.3	8	0.01
66.4	10	0.01
66.5	7	0.01
66.6	23	0.02
66.7	24	0.02
66.8	23	0.02
66.9	20	0.02
67.0	8	0.01
67.1	7	0.01
67.2	9	0.01
67.3	8	0.01
67.4	7	0.01
67.5	9	0.01
67.6	6	0.01
67.7	15	0.02
67.8	13	0.01
67.9	8	0.01
68.0	10	0.01
68.1	14	0.01
68.2	17	0.02
68.3	26	0.03
68.4	61	0.06
68.5	3	0.00
Over	0	0.00
Total Count	98770	

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LAE	LASmin	LASmin Time	LASmax	LASmax Time	LApeak (max)	LApeak (max) Time	SPL 1 Count	SPL 1 Duration	SPL 2 Count	SPL 2 Duration	Peak 1 Count	Peak 1 Duration	Peak 2 Count	Peak 2 Duration	Peak 3 Count
1	2023-02-16	12:39:05	00:16:29.6	00:16:27.7	00:00:01.9	53.0	82.9	38.0	12:51:02	68.5	12:49:01	86.0	12:55:16	0	0.0	0	0.0	0	0.0	0	0.0	0

Peak 3 Duration	TWA(Projected) 0	TWA(Projected) 1	LAS2.00	LAS5.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	SEA	LCeq	LAeq	LCeq - LAeq	LAIeq	LAeq	LAIeq - LAeq	Overload Count	Overload Duration	Comments
0.0	51.4	53.0	61.7	58.7	56.5	52.5	49.0	43.4	-99.9	64.4	53.0	11.4	55.1	53.0	2.1	0	0.0	

Long-Term Noise Measurement Summary

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

Measurement Site: Proposed site KidZone Museum
Measurement Date: 2/16/2023
Project Name: Truckee KidZone Museum

Hour of Day (military time)	Sound Level Leq (dBA)	Sound Power =10*Log(dBA/10)	Computation of CNEL: Period of 24-Hour Day (1=included, 0=not) Day	Evening	Night	Sound Power Breakdown by Period of Day Day	Evening	Night
0:00	45.8	38,019	0	0	1	0	0	38,019
1:00	40.4	10,965	0	0	1	0	0	10,965
2:00	41.0	12,589	0	0	1	0	0	12,589
3:00	42.0	15,849	0	0	1	0	0	15,849
4:00	42.2	16,596	0	0	1	0	0	16,596
5:00	45.3	33,884	0	0	1	0	0	33,884
6:00	47.0	50,119	0	0	1	0	0	50,119
7:00	50.8	120,226	1	0	0	120,226	0	0
8:00	46.5	44,668	1	0	0	44,668	0	0
9:00	53.3	213,796	1	0	0	213,796	0	0
10:00	51.0	125,893	1	0	0	125,893	0	0
11:00	49.5	89,125	1	0	0	89,125	0	0
12:00	48.3	67,608	1	0	0	67,608	0	0
13:00	53.1	204,174	1	0	0	204,174	0	0
14:00	50.9	123,027	1	0	0	123,027	0	0
15:00	47.4	54,954	1	0	0	54,954	0	0
16:00	49.9	97,724	1	0	0	97,724	0	0
17:00	49.6	91,201	1	0	0	91,201	0	0
18:00	51.3	134,896	1	0	0	134,896	0	0
19:00	47.1	51,286	0	1	0	0	51,286	0
20:00	44.7	29,512	0	1	0	0	29,512	0
21:00	43.9	24,547	0	1	0	0	24,547	0
22:00	43.4	21,878	0	0	1	0	0	21,878
23:00	50.5	112,202	0	0	1	0	0	112,202
					Sum of Sound Power during Period wo/penalty	1,367,293	105,345	312,100
					Log Factor for CNEL Penalty (i.e., 10*log(x))	1	3	10
					Sound Power during Period with penalty	1,367,293	316,036	3,121,004

Total Daily Sound Power, with penalties	4,804,333
Hours per Day	24
Average Hourly Sound Power, with penalties	200,181
CNEL	53.0

Ldn computation on next page.

Is this really called Sound Power? What are the Units? If not find and replace.

Is there a source to site for the conversion of dBA to Sound Power in column D?

Daytime Ave	49.2
Nighttime Av	44.2

Computation of Ldn

Period of 24-Hour Day (1=included, 0=not)		Sound Power Breakdown by Period of Day	
Day	Night	Day	Night
0	1	0	38,019
0	1	0	10,965
0	1	0	12,589
0	1	0	15,849
0	1	0	16,596
0	1	0	33,884
0	1	0	50,119
1	0	120,226	0
1	0	44,668	0
1	0	213,796	0
1	0	125,893	0
1	0	89,125	0
1	0	67,608	0
1	0	204,174	0
1	0	123,027	0
1	0	54,954	0
1	0	97,724	0
1	0	91,201	0
1	0	134,896	0
1	0	51,286	0
1	0	29,512	0
1	0	24,547	0
0	1	0	21,878
0	1	0	112,202

Sum of Sound Power during Period wo/penalty	1,472,638	312,100
Log Factor for Penalty (i.e., 10*log(x))	1	10
Sound Power during Period with penalty	1,472,638	3,121,004

Total Daily Sound Power, with penalties	4,593,642
Hours per Day	24
Average Hourly Sound Power, with penalties	191,402
Ldn	52.8

Notes:

Computation of the CNEL based on 1-hour Leq measurements for each hour of a day are based on equation 2-27 on pg. 2-57 of Caltrans 2009.

Computation of the Ldn based on 1-hour Leq measurements for each hour of a day are based on equation 2-26 on pg. 2-56 of Caltrans 2009.

Log factors for the Ldn and CNEL penalties are provided in Table 2-12 on pg. 2-52 of Caltrans 2009.

Source:

California Deaprtment of Transportation (Caltrans), Divisiong of Environmental Analysis. 2009 (November)*2009 Technical Noise Supplement* . Sacramento, CA. Available: <http://www.dot.ca.gov/hq/env/noise/>. Accessed September 24, 2010.

Traffic Noise Spreadsheet Calculator

Project: Truckee KidZone Museum

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	75 dBA	70 dBA	65 dBA	60 dBA
Existing Conditions																		
15	Brockway Road	immediately east of Palisades Road		17,070	45	93	114	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.1	13	42	132	417

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project: Truckee KidZone Museum

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	75 dBA	70 dBA	65 dBA	60 dBA
Existing + Project Conditions																		
15	Brockway Road immediately east of Palisades Road			17,409	45	93	114	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.2	13	43	135	426

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project: Truckee KidZone Museum

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	75 dBA	70 dBA	65 dBA	56.5 dBA
Existing Conditions																		
15	Brockway Road immediately east of Palisades Road (Attenuated to Project Site)			17,070	45	93	114	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.1	13	42	132	930

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Traffic Noise Spreadsheet Calculator

Project: Truckee KidZone Museum

Noise Level Descriptor: Ldn
Site Conditions: Hard
Traffic Input: ADT
Traffic K-Factor:

Segment Description and Location				Input										Output				
						Distance to Directional Centerline, (feet)[4]		Traffic Distribution Characteristics							Distance to Contour, (feet)[3]			
Number	Name	From	To	ADT	Speed (mph)	Near	Far	% Auto	% Medium	% Heavy	% Day	% Eve	% Night	Ldn, (dBA)[5,6,7]	75 dBA	70 dBA	65 dBA	56.6 dBA
Existing + Project Conditions																		
15	Brockway Road immediately east of Palisades Road			17,409	45	93	114	97.0%	2.0%	1.0%	80.0%	15.0%	5.0%	66.2	13	43	135	930

*All modeling assumes average pavement, level roadways (less than 1.5% grade), constant traffic flow and does not account for shielding of any type or finite roadway adjustments. All levels are reported as A-weighted noise levels.

Citation #	Citations	
1	Caltrans Technical Noise Supplement. 2009 (November). Table (5-11), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Table (4-2), Pg 4-17.
2	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-26), Pg 5-60.	Caltrans Technical Noise Supplement. 2013 (September). Equation (4-5), Pg 4-17.
3	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-16), Pg 2-32.	FHWA 2004 TNM Version 2.5
4	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-11), Pg 5-47, 48.	FHWA 2004 TNM Version 2.5
5	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-26), Pg 2-55, 56.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-23), Pg 2-5
6	Caltrans Technical Noise Supplement. 2009 (November). Equation (2-27), Pg 2-57.	Caltrans Technical Noise Supplement. 2013 (September). Equation (2-24), Pg 2-5
7	Caltrans Technical Noise Supplement. 2009 (November). Pg 2-53.	Caltrans Technical Noise Supplement. 2013 (September). Pg 2-57.
8	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-7), Pg 5-45.	FHWA 2004 TNM Version 2.5
9	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-8), Pg 5-45.	FHWA 2004 TNM Version 2.5
10	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-9), Pg 5-45.	FHWA 2004 TNM Version 2.5
11	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-13), Pg 5-49.	FHWA 2004 TNM Version 2.5
12	Caltrans Technical Noise Supplement. 2009 (November). Equation (5-14), Pg 5-49.	FHWA 2004 TNM Version 2.5
13	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (16), Pg 67	
14	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (20), Pg 69	
15	Federal Highway Administration Traffic Noise Model Technical Manual. Report No. FHWA-PD-96-010. 1998 (January). Equation (18), Pg 69	

References

California Department of Transportation (Caltrans). 2009 (November). Technical Noise Supplement. Available: http://www.dot.ca.gov/hq/env/noise/pub/tens_complete.pdf. Accessed Aug 2017.

Kidzone Construction Noise Model

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
threshold	10	100.0
River View Dr Homes	220	65.8
Office Building	900	49.7
Truckee River	800	51.1

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Grader	85	0.4
Dozer	82	0.4

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Grader	81.0
Dozer	78.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
82.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

KidZone Construction (Lmax)

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)	Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
threshold	613	65.0	**Grader**	85	1
River View Dr Homes	220	73.9			
Office Building	900	61.7	**Dozer**	82	1
Truckee River	800	62.7			

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Grader	85.0
Dozer	82.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
86.8

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Auger Drill Rig	20	85	84	36	79.0	72.0	100	78.0	71.0
Backhoe	40	80	78	372	74.0	70.0	100	72.0	68.0
Bar Bender	20	80	na	0	74.0	67.0	100		
Blasting	na	94	na	0	88.0		100		
Boring Jack Power Unit	50	80	83	1	74.0	71.0	100	77.0	74.0
Chain Saw	20	85	84	46	79.0	72.0	100	78.0	71.0
Clam Shovel (dropping)	20	93	87	4	87.0	80.0	100	81.0	74.0
Compactor (ground)	20	80	83	57	74.0	67.0	100	77.0	70.0
Compressor (air)	40	80	78	18	74.0	70.0	100	72.0	68.0
Concrete Batch Plant	15	83	na	0	77.0	68.7	100		
Concrete Mixer Truck	40	85	79	40	79.0	75.0	100	73.0	69.0
Concrete Pump Truck	20	82	81	30	76.0	69.0	100	75.0	68.0
Concrete Saw	20	90	90	55	84.0	77.0	100	84.0	77.0
Crane	16	85	81	405	79.0	71.0	100	75.0	67.0
Dozer	40	85	82	55	79.0	75.0	100	76.0	72.0
Drill Rig Truck	20	84	79	22	78.0	71.0	100	73.0	66.0
Drum Mixer	50	80	80	1	74.0	71.0	100	74.0	71.0
Dump Truck	40	84	76	31	78.0	74.0	100	70.0	66.0
Excavator	40	85	81	170	79.0	75.0	100	75.0	71.0
Flat Bed Truck	40	84	74	4	78.0	74.0	100	68.0	64.0
Front End Loader	40	80	79	96	74.0	70.0	100	73.0	69.0
Generator	50	82	81	19	76.0	73.0	100	75.0	72.0
Generator (<25KVA, VMS s	50	70	73	74	64.0	61.0	100	67.0	64.0
Gradall	40	85	83	70	79.0	75.0	100	77.0	73.0
Grader	40	85	na	0	79.0	75.0	100		
Grapple (on Backhoe)	40	85	87	1	79.0	75.0	100	81.0	77.0
Horizontal Boring Hydr. Jac	25	80	82	6	74.0	68.0	100	76.0	70.0
Hydra Break Ram	10	90	na	0	84.0	74.0	100		
Impact Pile Driver	20	95	101	11	89.0	82.0	100	95.0	88.0
Jackhammer	20	85	89	133	79.0	72.0	100	83.0	76.0
Man Lift	20	85	75	23	79.0	72.0	100	69.0	62.0
Mounted Impact Hammer (	20	90	90	212	84.0	77.0	100	84.0	77.0
Pavement Scarafier	20	85	90	2	79.0	72.0	100	84.0	77.0
Paver	50	85	77	9	79.0	76.0	100	71.0	68.0
Pickup Truck	40	55	75	1	49.0	45.0	100	69.0	65.0
Pneumatic Tools	50	85	85	90	79.0	76.0	100	79.0	76.0
Pumps	50	77	81	17	71.0	68.0	100	75.0	72.0
Refrigerator Unit	100	82	73	3	76.0	76.0	100	67.0	67.0
Rivit Buster/chipping gun	20	85	79	19	79.0	72.0	100	73.0	66.0
Rock Drill	20	85	81	3	79.0	72.0	100	75.0	68.0
Roller	20	85	80	16	79.0	72.0	100	74.0	67.0
Sand Blasting (Single Nozzl	20	85	96	9	79.0	72.0	100	90.0	83.0
Scraper	40	85	84	12	79.0	75.0	100	78.0	74.0
Shears (on backhoe)	40	85	96	5	79.0	75.0	100	90.0	86.0
Slurry Plant	100	78	78	1	72.0	72.0	100	72.0	72.0
Slurry Trenching Machine	50	82	80	75	76.0	73.0	100	74.0	71.0
Soil Mix Drill Rig	50	80	na	0	74.0	71.0	100		
Tractor	40	84	na	0	78.0	74.0	100		
Vacuum Excavator (Vac-tru	40	85	85	149	79.0	75.0	100	79.0	75.0
Vacuum Street Sweeper	10	80	82	19	74.0	64.0	100	76.0	66.0
Ventilation Fan	100	85	79	13	79.0	79.0	100	73.0	73.0
Vibrating Hopper	50	85	87	1	79.0	76.0	100	81.0	78.0
Vibratory Concrete Mixer	20	80	80	1	74.0	67.0	100	74.0	67.0
Vibratory Pile Driver	20	95	101	44	89.0	82.0	100	95.0	88.0
Warning Horn	5	85	83	12	79.0	66.0	100	77.0	64.0
Welder / Torch	40	73	74	5	67.0	63.0	100	68.0	64.0

Source:
FHWA Roadway Construction Noise Model, January 2006. Table 9.1
U.S. Department of Transportation
CA/T Construction Spec. 721.560

Added Daily Trip Calculations		x11.75
Weekday Trips (per 1000 ft)	47.62	559.535
Saturday Trips	6.22	73.085
Sunday Trips	5.84	68.62
Weekly Trips (4x Weekday + Sat	2379.845	
Yealy Trips Added (Weekly Trips	123751.9	
Daily Trips Added (yearly trips /	339.0464	
Existing Trips	17070	
Existing + Project Trips	17409.05	

Museum Open everyday except Monday

Attenuation Calculations for Stationary Noise Sources

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	Reference Noise Level			Attenuation Characteristics				Attenuated Noise Level at Receptor					
	noise level (dBA)	@	distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	noise level (dBA)	@	distance (ft)			
HVAC	75.0	@	3	hard	8	5	0.00	39.9	@	170			
Outdoor Play Area	67.8	@	36	hard	8	5	0.00	48.8	@	320		85	75
HVAC (nighttime threshold)	75.0	@	3	hard	8	5	0.00	49.9	@	54		86	76
HVAC (daytime threshold)	75.0	@	3	hard	8	5	0.00	55.0	@	30		87	77
							0.66						
							0.66						
							0.66						
							0.66						
							0.66						
							0.66						
							0.66						
							0.66						
							0.66						
							0.66						

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 176 and 177 of FTA 2018.

Computation of the ground factor is based on the equation presentd in Table 4-26 on pg. 86 of FTA 2018, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: <http://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf>Accessed: March 5, 2020.

Ground Type
hard
soft

	Day	Time	Duration	Location	Distance to POI	Leq	Lmax	Lmin	L10	L50	L90	Major Noise Sources
1	3/30/2012	9:42 AM	15 min	Funitel Lift	18 yrds to bldg	69.2	74/80.8	66.6	70.6	68.7	67.6	Funitel lift is primary noise source with an Lmax of 74 @ 18 yrds. Person dropped snow snowboard about 15 feet away with an Lmax of 80.8. Other sources include people talking nearby noise meter.
2	3/30/2012	11:42 AM	15 min	Squaw Entrance	31 yrds to sign	61.3	65	48.9	63.3	55.7	51.5	Primary noise sources include mobile sources from delivery trucks (e.g., fed ex, restaurant supplies) unloading, closing doors, and brakes, and passanger vehicles entering the parking lot and Squaw Village. Other sources include people talking. Max occured 13 times and can be attributed to vehicle drive by at approximately 15 ft from meter.
3	3/30/2012	3:29 PM	15 min	Far East Express	18 yrds from lift	69.6	73.5	66.8	71	69.3	67.8	Primary noise source is far east express lift with an Lmax of 73.5 @ 18 yrds. Other noise sources include typical parking lot noises such as people walking/talking around cars, car doors opening and closing, cars driving by, and engines turning on.
4	3/30/2012	4:00 PM	15 min	Residential Area	119 yrds from CL of	53.4	63.7	44.5	56.5	51	48.3	Primary: Traffic from Squaw Creek Road, Christy Ln, and Christy Hill Rd. Other noise sources: people talking
5	3/30/2012	4:30 PM	15 mi	Christy Hill/Squaw	11 yrds from CL	67.9	80.1	49.6	71.5	66.2	59.2	Traffic Count Data on Squaw Creek Road: Peak Hour Friday Afternoon 4:30-5:30 PM. Leaving Squaw-828 passanger, 8 Busses. Entering Squaw 232 passanger, 4 Buses.
2	3/30/2012	10:30 PM	15 min	Squaw Entrance	31 yrds to sign	53.9	72.3	45.2	55.7	49.4	46.7	Primary Noise: Cars driving by. Other noise sources- people talking/yelling. Groomers on the slopes in the background
6	4/1/2012	9:00 AM	15 min	Red Dog	44 yrds	63.7	75.8	61.9	64.2	63.4	62.7	Primary Noise- Red Dog Building. Other noise sources-cars/shuttles driving by and avalanch blasting in the background. Max-shuttle drive by meter
	4/1/2012	9:00 AM	15 min	Red Dog BLD	19 yrds	71.3	71.3	71.3				Snowmaking building
7	4/1/2012	10:30 AM	15 min	Olympic Village Inn	67 yrds	59.8	78.1	40.5	61.6	50.3	43.4	Primary Noise: Typical parking lot sounds (doors slamming, car alarms, engines starting).
8	4/1/2012	11:45 AM	15 min	East Parking Lot	71 yrds Squaw Village Entrance	54.6	73	44.8	57.5	50	46.6	Primary Noise: Typical parking lot sounds (doors slamming, car alarms, engines starting). Background noise from race announcer and music at the Village. Max-car door slamming 15' away
9	4/1/2012	2:00 PM	15 min	Residence near Squaw Resort	107 yrds from residence on bridge	57.9	72.7	39.9	62.1	47.3	42.4	Traffic County Data at Squaw Creek Resort: 2PM Sunday. 92 passanger, 12 Shutt;e bus Noise Sources: Primary-mobile, other environmental- birds, wind
5	4/1/2012	2:30 PM	15 min	Christy Hill/Squaw	11 yrds from CL	65.5	78.8	46.1	68.6	62.7	56.6	Traffic Count Data on Squaw Creek Road: Peak Hour Sunday Afternoon 2:30-3:30 PM. Leaving Squaw- 720 passanger, 12 Busses. Entering Squaw 380 passanger, 16 Busses.
10	4/1/2012	5:00 PM	15 min	Inside Squaw Village	Lunch table in front	67.8	80.6	61.5	70.2	66.2	63.9	End of high activity ski day on Sunday afternoon. Many people in village eating, walking, kids playing/yelling. Max-kids screaminf 12 yrds away.
4	4/1/2012	8:00 PM	15 min	Residential Area	119 yrds from CL of	46.5	60	37.1	49.3	41.8	35.6	Primary: Traffic from Squaw Creek Road, Christy Ln, and Christy Hill Rd. Other noise sources: people talking. Max-SUV driving by
11	4/2/2012	9:30 AM	15 min	Residential Area	Adjacent to	53.4	71.3	42.3	53.9	45.5	43.5	Primary noise: cars driving by. Max- SUV drive by.
2013												
12	4/11/2013	10:56 PM	10 min	Squaw-South Side	1000 feet to snow cat	48.3	58.4	40.6	51.5	46	43	Primary noise source was snow cat working on the slopes 1000 feet away. Max was from beeping.
13	4/12/2013	10:00 AM	5 min	red dog parking lot	72 feet from	82.4	91.5	65.1	87	78.7	70.3	Primary noise source was dozer running and dozer scraping. Max occurred from scraper @ 27 feet from SLM. The dozer came as close as 27 and went as far as 144 feete. Therefore distance to acoustical center was approx 72 f feet
	4/12/2013	10:05 AM	5 min	red dog parking lot	45 feet from	82	93	65.1	85.9	77.8	69.3	Primary noise source was snow plower with augers running. Max occurred from plow @ 18 feet from SLM. The dozer came as close as 18 feets and went as far as 30 yards. Therefore distance to acoustical center was approx 45 ft
14	4/12/2013	11:10 AM	15 min	Squaw Village Lodge- Faceing South		55.5	64.2	53.7	56.2	55.2	54.5	south facing-primary noise from lift. Other noise sources included running water from nearby house, people walking and talking. XX feet north of squaw lodge
15	4/12/2013	11:52 AM	15 min	Red Wolf Lodge	29 feet north of building	53	62.6	51.2	53.8	52.3	51.9	next to wooden walking path and small storage shed. Primary noise from people walking by in skis.
16	4/12/2013	1:45 PM	15 min	Nearest residence	105 feet from	59.5	71.5	39.2	64.3	52.8	43.5	primary noise from traffic on squaw village road.
17	4/12/2013	2:26 PM	15 min	Lot 4	XX feet from	44.3	63	40.7	45	43	41.5	traffic noise in background from squaw village road and frogs
18	4/12/2013	3:03 PM	15 min	olympic village courtyard		42.1	55.8	38.1	43.8	40.4	39.2	generally very quiet. A few cars pass by resulted in the max. A few people talking

Equipment Measurements

	Lmax	Reference Distance
1 Funitel	71.7	14 yards
2 Far East Express Lift	73.5	18 yards
3 Red Dog	71.3	19 yards

Notes: Matching colored cells indicate measurements taken at the same location but different times of the day

Parking Lot Noise Calculation

KEY: Orange cells are for input.

Green cells are data to present in a written analysis (output).

Number of automobiles per hour	31
Number of buses per hour	2
Distance to sensitive receptor (feet)	95

	distance	sound level
Leq @	50	**55.3**
Leq @	95	**49.8**

Source

Federal Transit Administration. 2018 (September). Transit Noise and Vibration Impact Assessment. Washington, D.C. Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed February 4, 2019. See pages 45–47, including Equation 4-14.

Distance Propagation Calculations for Stationary Sources of Ground Vibration

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Determine units in which to perform calculation.

— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.
— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
Vibratory Roller (to project site)	94	@	25	87.2	@	42
Vibratory Roller (at 80 dBA thresh	94		25	76.6		95

vdb

The Lv metric (VdB) is used to assess the likelihood for vibration to result in human annoyance.

STEP 2B: Identify the vibration source and enter the reference peak particle velocity (PPV) and distance.

STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (PPV)	@	distance (ft)	vibration level (PPV)	@	distance (ft)
Vibratory Roller	0.210	@	25	0.028	@	95
Vibratory Roller (at 0.2 PPV thresh	0.210	@	25	0.198	@	26

The PPV metric (in/sec) is used for assessing the likelihood for the potential of structural damage.

Notes:
Computation of propagated vibration levels is based on the equations presented on pg. 185 of FTA 2018. Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. Washington, D.C. Accessed: December 20, 2020. Page Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Ground Type
hard
soft