

**E DESIGN**  
Integrated Lighting and Electrical Solutions  
Victoria Street #206 | Denver, CO 80202 | 303.266.3034  
info@edesign.com Project #:

SIX SENSES HOTEL

LOT 109K  
MOUNTAIN VILLAGE, CO

**TIME, DUTY OF COOPERATION**  
EASE OF THESE DOCUMENTS CONTEMPLATES MUTUAL COOPERATION AMONG THE OWNER, HIS ARCHITECT, AND THE ARCHITECT'S DESIGN AND CONSTRUCTION TEAM. THE ARCHITECT'S OBLIGATIONS ARE COMPLEX, ALTHOUGH THE ARCHITECT AND HIS CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, THEY CANNOT GUARANTEE PERFECT COMMUNICATION IS PERFECT. EVERY CONTINGENCY CANNOT BE ANTICIPATED. ANY RISKS, OMISSIONS, OR DISCREPANCY DISCOVERED BY THE USER OR OTHER PARTY MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT. FAILURE TO NOTIFY THE ARCHITECT COMPOUNDS MISUNDERSTANDING AND INCREASES CONSTRUCTION COSTS. A FAILURE TO OPERATE BY SIMPLE NOTICE TO THE ARCHITECT SHALL RELIEVE THE ARCHITECT FROM RESPONSIBILITY FOR ALL CONSEQUENCES ARISING OUT OF SUCH CHANGES.

DESIGNS AND PLANS ARE COPYRIGHT AND ARE NOT TO  
USED OR REPRODUCED WHOLLY OR IN PART WITHOUT  
WRITTEN PERMISSION OF VAULT DESIGN ARCHITECTS.  
DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS  
SERVICE AND SHALL REMAIN THE PROPERTY OF THE  
CHITECT WHETHER THE PROJECT FOR WHICH THEY ARE  
DE IS EXECUTED OR NOT. © VAULT ARCHITECTS.

NOT SCALE FROM DRAWING. VERIFY ALL DIMENSIONS.  
SITE.

Item	No.	Date	Description
	1	10/21/22	SD

LOT 109R MAJOR PUD AMENDMENT  
SPECIAL HEARING SUBMITTAL  
05.19.2022

LOT 109R PUD AMENDMENT TOWN  
COUNCIL SUBMITTAL  
06.07.2022

LOT 109R PUD AMENDMENT TOWN  
COUNCIL CONTINUANCE SUBMITTAL  
08.08.2022

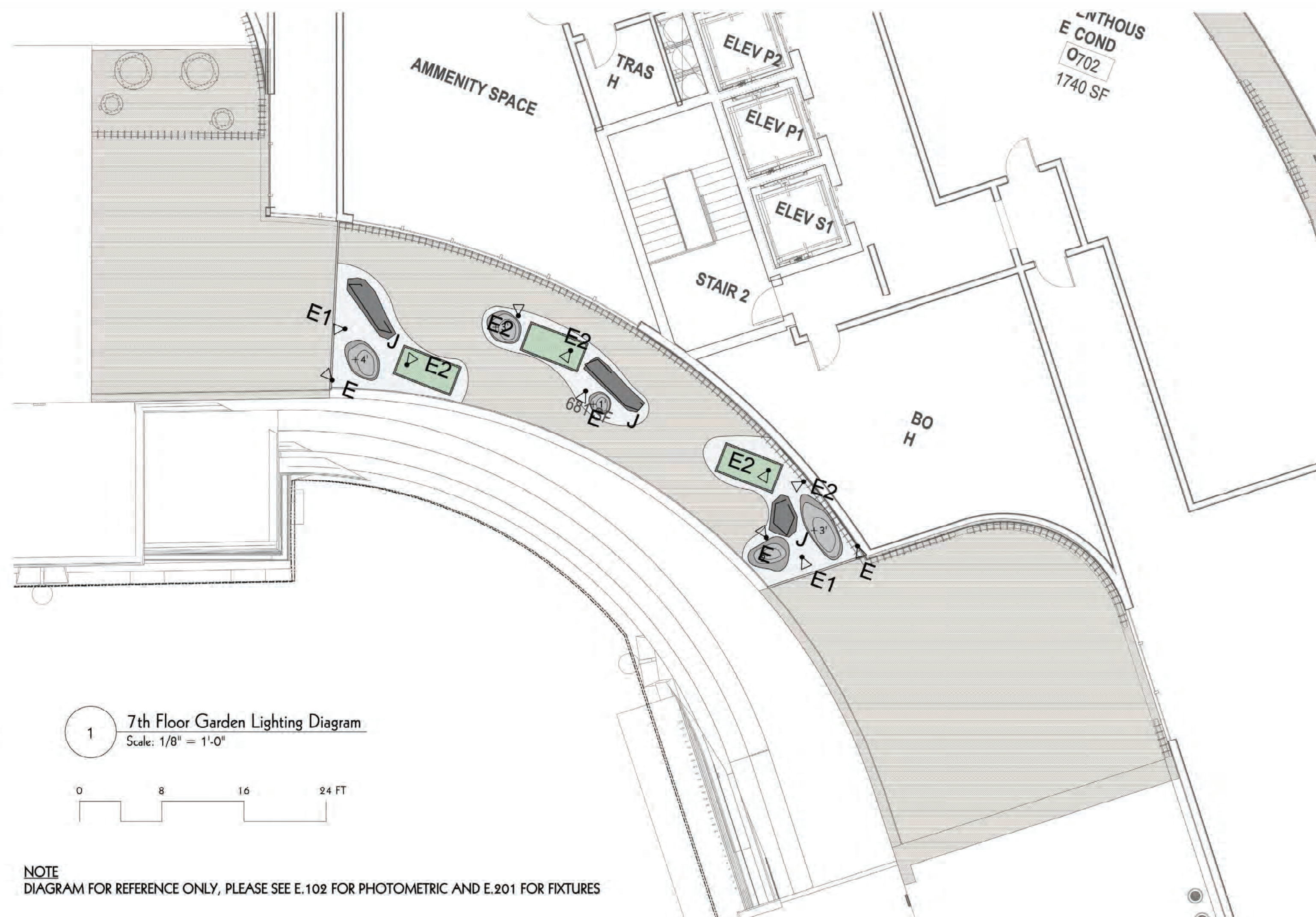
LOT 109R PUD AMENDMENT FINAL  
DRB SUBMITTAL 10.21.2022

JOB NO.

Plaza Outdoor  
Lighting Diagram

## L2.04

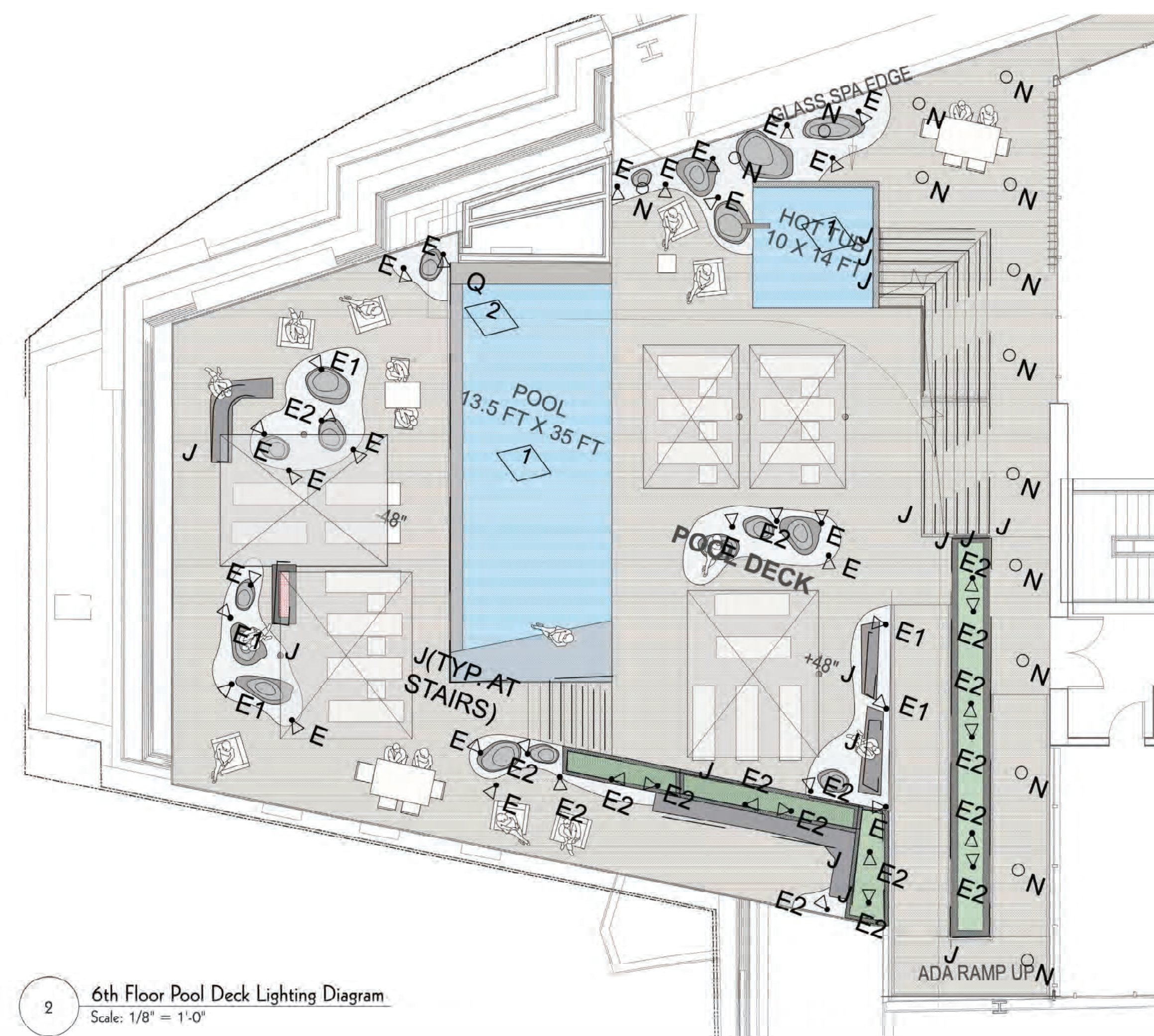




1 7th Floor Garden Lighting Diagram  
Scale: 1/8" = 1'-0"



NOTE  
DIAGRAM FOR REFERENCE ONLY, PLEASE SEE E.102 FOR PHOTOMETRIC AND E.201 FOR FIXTURES



2 6th Floor Pool Deck Lighting Diagram  
Scale: 1/8" = 1'-0"



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NOTICE: BUYER OF SUPPLEMENTAL RELEASE OF THESE DOCUMENTS CONTAINS THE CONTRACTOR AND THE ARCHITECT DESIGN AND CONSTRUCTION OF THE PROJECT. THE ARCHITECT AND HIS/HER CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH CARE AND DILIGENCE. THEY CANNOT GUARANTEE PERFECTION. COMMUNICATION IS IMPERFECT AND EVERY CONTINGENCY CANNOT BE ANTICIPATED. ANY ERRORS, OMISSIONS, OR DISCREPANCY DISCOVERED BY THE USER OF THESE DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT. FAILURE TO NOTIFY THE ARCHITECT OF ANY DISCREPANCY SHALL BE THE USER'S RESPONSIBILITY. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR ANY CONSEQUENCES ARISING OUT OF SUCH CHANGES.

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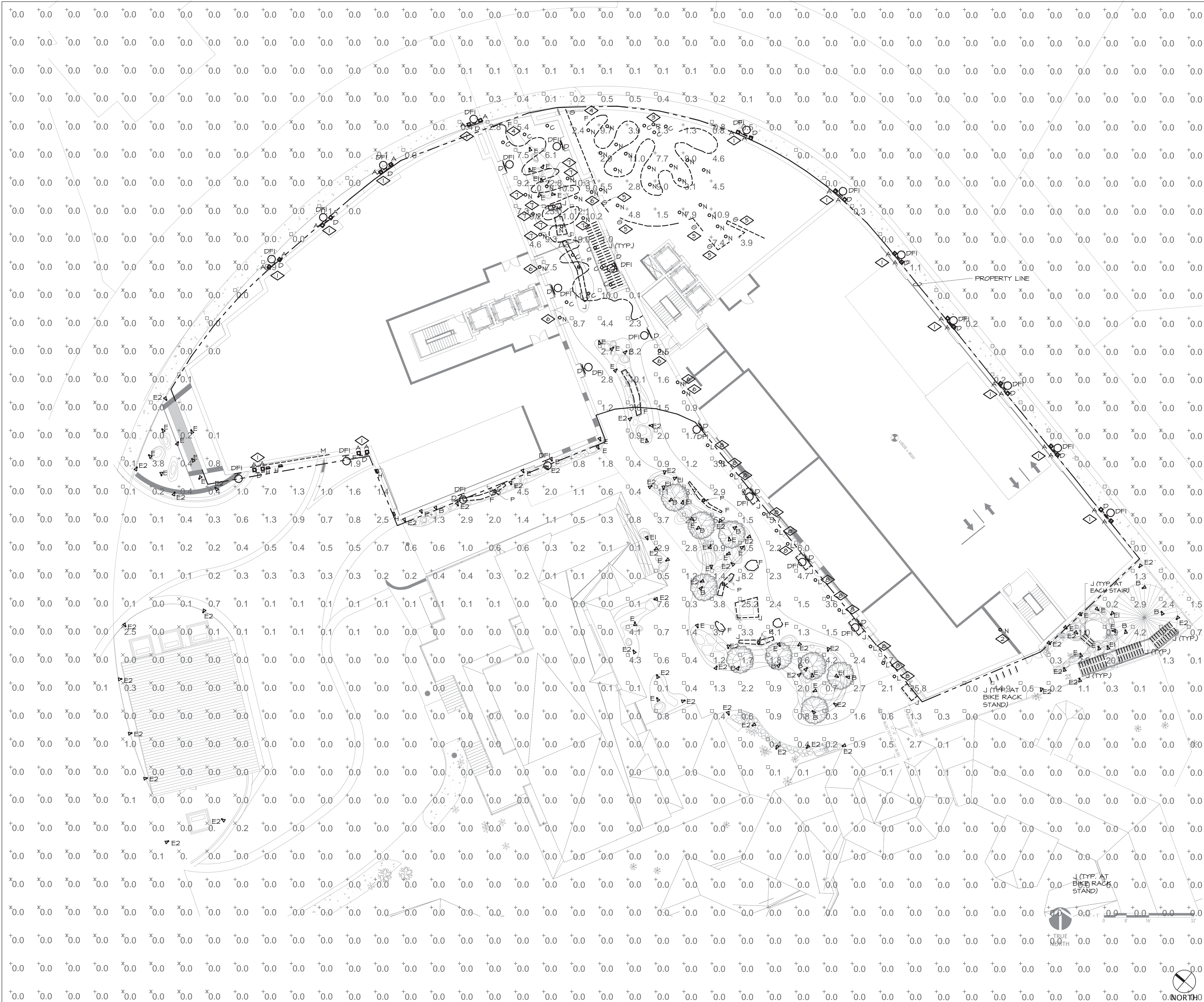
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JOB NO.

Outdoor Lighting  
Diagram Floors  
6-7

L2.05





1 | PHOTOMETRIC SITE PLAN

E.101 | SCALE: 1/16" = 1'-0"

ELECTRICAL GENERAL NOTES

- A. THE PHOTOMETRIC CALCULATION AND LOCATIONS HAVE BEEN PROVIDED BASED UPON THE AVAILABLE ARCHITECTURAL, LANDSCAPE, AND LIGHTING PLANS AND CURRENT SPECIFICATIONS. IT IS ANTICIPATED THAT THE PROVIDED INFORMATION IS PRELIMINARY AND SHALL BECOME FURTHER DEVELOPED WITH THE DEVELOPMENT OF THE CONSTRUCTION DOCUMENTS FOR THE FACILITY. FURTHER DEVELOPMENT MAY AND FIXTURE AVAILABILITY MAY RESULT IN MINOR AMENDMENTS, HOWEVER IT IS ANTICIPATED THAT THE VARIANCES, FIXTURE AESTHETICS, OVERALL STANDARDS OF LIGHT LEVELS AND LOCATIONS ARE TO BE REFINED BASED ON THIS PRELIMINARY INTENT.
- B. ALL EXTERIOR LIGHTING SHALL BE SUBDUED, UNDERSTATED, AND INDIRECT TO MINIMIZE THE NEGATIVE IMPACTS TO SURROUNDING LOTS AND PUBLIC RIGHTS-OF-WAY, UNLESS OTHERWISE NOTED.
- C. ALL EXTERIOR LIGHTING SHALL BE EIGHTY-FIVE DEGREES FULL CUT-OFF FIXTURES THAT DIRECT LIGHT DOWNWARD WITHOUT ANY OFF-SITE GLARE WITH THE EXCEPTION OF RESIDENTIAL OUTDOOR PATHWAY LIGHTING, UNLESS OTHERWISE NOTED.
- D. ALL FIXTURES USED FOR EXTERIOR LIGHTING SHALL BE LED, UNLESS OTHERWISE NOTED.
- E. ANY FIXTURE WITH A 0 TO 5 WATT LAMP SHALL HAVE A MINIMUM LUMINOUS EFFICACY OF 30 LUMENS/WATT AND ANY FIXTURE WITH A 6 TO 15 WATT LAMP SHALL HAVE A MINIMUM LUMINOUS EFFICACY OF 45 LUMENS/WATT, UNLESS OTHERWISE NOTED.
- F. THE MAXIMUM CORRELATED COLOR TEMPERATURE FOR ALL PROPOSED LIGHTING TYPES SHALL BE A MINIMUM OF 2400K AND SHALL NOT EXCEED 3000K, UNLESS OTHERWISE NOTED.
- G. NO SURFACE PARKING LOTS AS PART OF SCOPE.
- H. PARKING LOTS, DRIVEWAYS, AND TRASH ENCLOSURES/AREAS SHALL BE ILLUMINATED WITH A MAXIMUM AVERAGE NOT TO EXCEED FOUR (4 FC) FOOT-CANDLES OF LIGHT.
- I. PEDESTRIAN WALKWAYS AND STAIRCASES SHALL BE ILLUMINATED WITH A MAXIMUM AVERAGE NOT TO EXCEED TWO (2 FC) FOOT-CANDLES OF LIGHT OR AS OTHERWISE REQUIRED BY BUILDING CODE. SEE VARIANCE REQUEST NOTES ON SHEET E.200.
- J. EXTERIOR DOORS SHALL BE ILLUMINATED WITH A MINIMUM MAINTAINED ONE (1 FC) FOOT-CANDLE OF LIGHT, MEASURED WITHIN A FIVE (5'-0") FOOT RADIUS ON EACH SIDE OF THE DOOR AT GROUND LEVEL OR AS OTHERWISE REQUIRED BY BUILDING CODE. SEE VARIANCE REQUEST NOTES ON SHEET E.200.
- K. IN ORDER TO MINIMIZE LIGHT TRESPASS ON ABUTTING RESIDENTIAL PROPERTY, ILLUMINATION MEASURED AT THE NEAREST RESIDENTIAL STRUCTURE OR REAR YARD SETBACK LINE SHALL NOT EXCEED ONE-TENTH (0.1 FC) FOOT-CANDLE. SEE VARIANCE REQUEST NOTES ON SHEET E.200.
- L. THE USE OF EXTERIOR LIGHTING SHALL BE DESIGNED SO THAT IT DOES NOT SPILL OVER OR ONTO IMPORTANT WILDLIFE HABITAT OR DELINEATED WETLANDS.
- M. TREE-MOUNTED GOBO PROJECTORS AND LANDSCAPE BOLLARDS ARE INTENDED TO PROVIDE MINIMUM ILLUMINANCE ALONG THE WALKING PATH FOR SAFETY AND EGRESS PURPOSES. FOR THIS REASON, AE DESIGN IS REQUESTING A VARIANCE FOR THE PROHIBITED LANDSCAPE LIGHTING.
- N. UP-LIGHTING ACCENT LIGHTING WITHIN THE ENTRYWAY CANOPY WILL NOT CONTRIBUTE TO ANY FORM OF LIGHT POLLUTION, AS THE CANOPY ABOVE IT WILL STOP THE LIGHT FROM REACHING THE SKY. FOR THIS REASON, AE DESIGN IS REQUESTING A VARIANCE FOR THE PROHIBITED UP-LIGHTING.

KEYNOTE LEGEND

KEY  
VALUE

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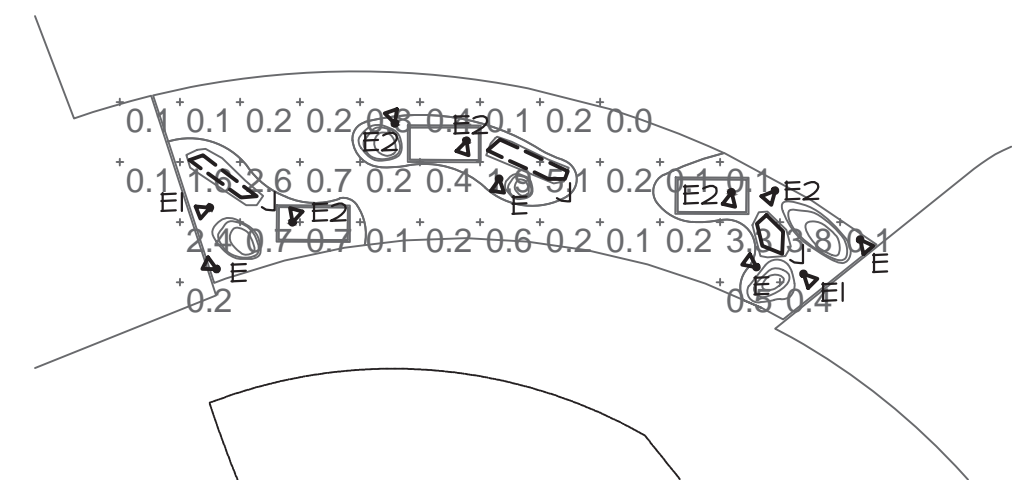
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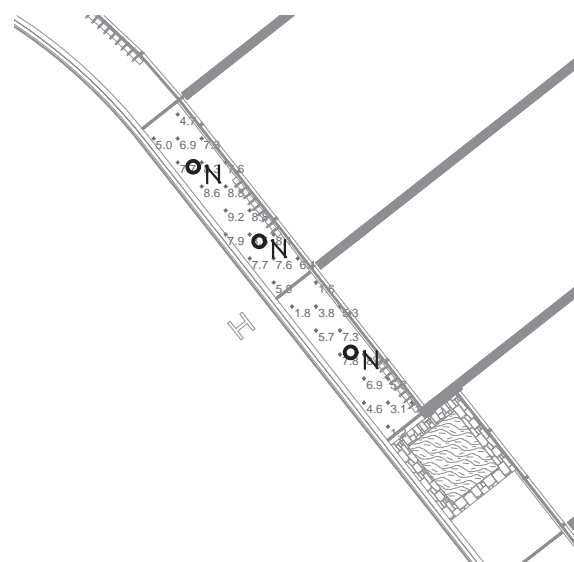
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 **3 | ROOFTOP GARDEN PHOTOMETRIC**  
E.102 | SCALE: 1/16" = 1'-0"



 **2 | BALCONY PHOTOMETRIC**  
E.102 | SCALE: 1/16" = 1'-0"



 **1 | POOL DECK PHOTOMETRIC**  
E.102 | SCALE: 1/16" = 1'-0"

- ELECTRICAL GENERAL NOTES
- A.

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- D.

ALL FIXTURES USED FOR EXTERIOR LIGHTING SHALL BE LED, UNLESS OTHERWISE NOTED.
- E.

ANY FIXTURE WITH A 0 TO 5 WATT LAMP SHALL HAVE A MINIMUM LUMINOUS EFFICACY OF 30 LUMENS/WATT AND ANY FIXTURE WITH A 6 TO 15 WATT LAMP SHALL HAVE A MINIMUM LUMINOUS EFFICACY OF 45 LUMENS/WATT, UNLESS OTHERWISE NOTED.
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PARKING LOTS, DRIVEWAYS, AND TRASH ENCLOSURES/AREAS SHALL BE ILLUMINATED WITH A MAXIMUM AVERAGE NOT TO EXCEED FOUR (4 FC) FOOT-CANDLES OF LIGHT.
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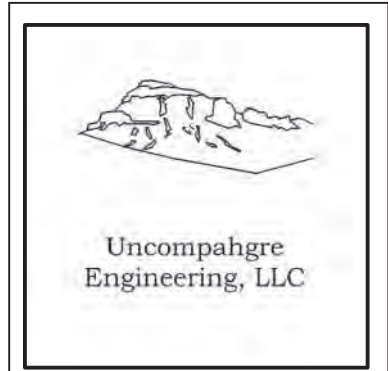
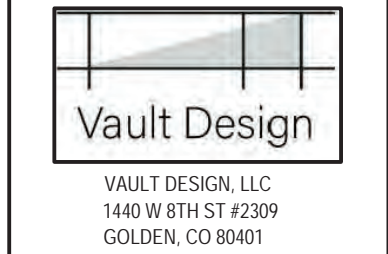
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KEYNOTE LEGEND	
KEY VALUE	
	
1.	HOT TUB AND POOL LIGHTING BY CONSULTANT.
2.	LINEAR POOL NICHE LIGHT IS ANTICIPATED TO BE INSTALLED IN POCKET BELOW LEDGE, NON-CONTRIBUTING ON POOL DECK LIGHT LEVEL.



MOUNTAIN VILLAGE  
HOTEL 109R  
LOT 109R  
MOUNTAIN VILLAGE, CO

NOTICE: BOTH OF COOPERATION  
RELEASE OF THESE DOCUMENTS CONTINGUATES  
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CONSTRUCTION ARE COMPLETE. ALTHOUGH THE ARCHITECT  
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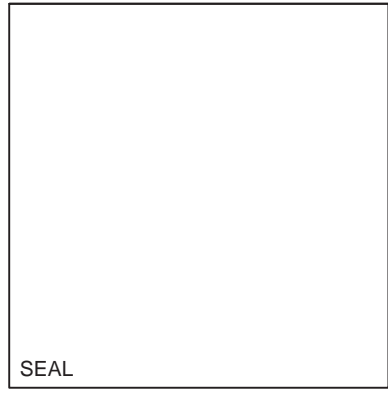
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LOT 109R PUD AMENDMENT FINAL  
DRB SUBMITTAL 10.21.2022



JOB NO. 10030

POOL DECK & BALCONY  
PHOTOMETRIC

E.102

Statistics at Plaza/Grade/Entry Level						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
DRIVEWAY	✕	0.0 fc	0.4 fc	0.0 fc	N/A	N/A
MEZZ. DRIVEWAY	+	5.3 fc	11.0 fc	0.8 fc	13.8:1	6.6:1
PEDESTRIAN BRIDGE	+	8.6 fc	11.0 fc	4.6 fc	2.4:1	1.9:1
TRASH AREA	✕	0.1 fc	2.5 fc	0.0 fc	N/A	N/A
WALKWAY	□	3.8 fc	27.9 fc	0.0 fc	N/A	N/A
WALKWAY NEAR STREET	□	0.2 fc	1.5 fc	0.0 fc	N/A	N/A

Statistics at Upper Levels						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
BALCONY - LARGE	+	7.5 fc	9.2 fc	4.7 fc	2.0:1	1.6:1
BALCONY - SMALL	+	4.6 fc	8.0 fc	1.2 fc	6.7:1	3.8:1
LOWER STAIRS	+	5.4 fc	6.5 fc	4.6 fc	1.4:1	1.2:1
POOL DECK	+	3.0 fc	15.3 fc	0.0 fc	N/A	N/A
ROOFTOP GARDEN	+	0.8 fc	5.1 fc	0.0 fc	N/A	N/A
UPPER STAIRS	+	4.4 fc	10.9 fc	0.0 fc	N/A	N/A

GENERAL NOTES	
A.	PROPERTY LINE IS DIRECTLY ADJACENT TO BUILDING; LIGHT LEVELS HAVE BEEN LIMITED TO EXTENT POSSIBLE, BUT IN SELECT AREAS EXCEED MAXIMUM.

VARIANCE REQUEST KEYNOTES	
KEY VALUE	
◇	
1.	REQUESTING PROPOSED CCT OF 2200K, WHICH IS BELOW THE INDICATED 'MINIMUM 2400K'. CCT IS INTENDED TO ALLOW FOR ADDITIONAL CONSISTENCY AROUND SITE AND SIMILAR IN VISUAL/PERCEIVED APPEARANCE TO MINIMUM 2400K.
2.	REQUESTED LPW VARIANCE FOR SPECIFIC APPLICATION OF FIXTURE. SPECIFIC FIXTURES INDICATED WHERE LPW EFFICACY IS JUST BELOW INDICATED REQUIREMENTS, BUT ARE ON-BOARD LED (NOT-SCREW BASE FIXTURES).
3.	PEDESTRIAN WALKWAYS AND STAIRS ARE VIA PRIMARY LIGHTING SOURCE THESE AREAS EXCEED 2 FC MAXIMUM.

LIGHTING FIXTURE SCHEDULE														
TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	SOURCE				MAX WATTS	LUMEN OUTPUT	DIMMING	FIXTURE FINISH	MOUNTING LOCATION	INFORMATION BOF/RFD/OFH	NOTES
				QTY	WATT	TYPE	CCT/CRI							
DF-1	CUSTOM DECORATIVE NATURAL GAS WALL-MOUNTED TORCH LIGHT.	TRAVIS INDUSTRIES	TEMPEST TORCH 20K NATURAL GAS SKU944900T45; SKU94800B30; SKU94800B30	1	--	GAS	--	--	25 LM	--	--	SURFACE WALL	OFH 5'-4"	5, 6, 13, 14
A	3-INCH DIAMETER SURFACE-MOUNTED LED CYLINDER WITH CUSTOM 4-DEGREE BEAM ANGLE, DIMMING	B-LIGHT	OKK10 80 CL- 65252-U-D-[MODIFY WITH 4-DEGREE]-2-C-64091	1	6 W	LED	2200K / 90+	6 VA	170 LM	0-10V	BLACK	SURFACE CEILING	OFH 0'-5 1/4"	5, 6, 13, 14
B	2.5-INCH DIAMETER TREE-STRAP-MOUNTED LED ACCENT LIGHT WITH GOBO PROJECTOR LENS AND 25-DEGREE BEAM ANGLE, DIMMING	BEACHSIDE LIGHTING SORAA	L-011-P-8W-NFL-27/[GOBO TBD]-TMJBX 1/2CTO SNAP LENS - 2200K	1	8 W	LED	2200K / 90+	8 VA	340 LM	0-10V	BRASS	SURFACE TREE STRAP	AFG 12'-0"	5, 6, 13, 14
C	3-INCH DIAMETER RECESSED DOWNLIGHT WITH 30-DEGREE BEAM ANGLE AND HONEYCOMB LOUVER, DIMMING	B-LIGHT	ATRIA XS R-66096-U-D-4-2-C-64878	1	10 W	LED	2200K / 90+	10 VA	760 LM	0-10V	BLACK	RECESSED CEILING	RFD 0'-4 3/4"	5, 6, 14
D	551 MM LONG SURFACE-MOUNTED LINEAR LED CONCEALED STEP LIGHT, DIMMING	B-LIGHT	LINEAR TUBE SLIM 614-62-R-[CUST 2200K]-I-B	1	9 W	LED	2200K / 90+	9 VA	290 LM	0-10V	GREY ANODIZED	SURFACE	OFH 0'-2"	5, 6, 13, 14
E	110 MM TALL LED AIMABLE PATH LIGHT, DIMMING	B-LIGHT	MAIA 672-05-U-[CUST 2200K]-5-Q-A	1	6 W	LED	2200K / 90+	6 W	400 LM	0-10V	ANTHRACITE	SURFACE PLANTER	OFH 110MM	5, 6, 13, 14
E1	360 MM TALL LED AIMABLE PATH LIGHT, DIMMING	B-LIGHT	MAIA 672-06-U-[CUST 2200K]-5-Q-A	1	6 W	LED	2200K / 90+	6 W	400 LM	0-10V	ANTHRACITE	SURFACE PLANTER	OFH 360MM	5, 6, 13, 14
E2	610 MM TALL LED AIMABLE PATH LIGHT, DIMMING	B-LIGHT	MAIA 672-07-U-[CUST 2200K]-5-Q-A	1	6 W	LED	2200K / 90+	6 W	400 LM	0-10V	ANTHRACITE	SURFACE PLANTER	OFH 610MM	5, 6, 13, 14
F	1/2-INCH WIDE SURFACE-MOUNTED LED CONCEALED CURVABLE LINEAR, STANDARD OUTPUT, DIMMING	Q-TRAN	ANYBEND-SW-WSC-WET-24-SO	1	1 W	LED	2400K / 90+	1 VA	32 LM	0-10V	WHITE	SURFACE CEILING	OFH 0'-0 1/3"	5, 6, 13, 14
G	1/2-INCH WIDE SURFACE-MOUNTED LED CONCEALED CURVABLE LINEAR, VERY HIGH OUTPUT, DIMMING	Q-TRAN	ANYBEND-SW-WSC-WET-24-VHO	1	4 W	LED	2400K / 90+	4 VA	98 LM	0-10V	WHITE	SURFACE CEILING	OFH 0'-0 1/3"	5, 6, 13, 14
H	4-INCH DIAMETER ROUND LED RECESSED STEP LIGHT, DIMMING	B-LIGHT	ATRIA FW-66124-R-[CUST 2200K]-W-I	1	5 W	LED	2200K / 90+	5 VA	360 LM	0-10V	GREY	RECESSED WALL	BOF 2'-0" RFD 0'-5 1/3"	5, 6, 14
J	3/4-INCH WIDE LINEAR LED TAPE LIGHT IN ALUMINUM CHANNEL WITH LENS, DIMMING	LUMENTRUS	PROFILE-1201-OX-2400K-LP2-HA3-O-D	1	3 W PER LF	LED	2400K / 90+	3 VA PER LF	128 LM PER LF	0-10V	BLACK	SURFACE	OFH 0'-0 1/2"	6, 12, 13, 14
L	2 1/4-INCH APERTURE SQUARE LED SURFACE-MOUNTED CYLINDER, DIMMING	B-LIGHT	KUBO 54-66415-U-[CUST 2200K]-4-Q	1	5 W	LED	2200K / 90+	5 VA	270 LM	0-10V	BLACK	SURFACE WALL	OFH 0'-2 1/4"	5, 6, 14
M	1 2/3-INCH WIDE LINEAR LED SURFACE-MOUNTED FIXTURE, DIMMING	LEDLINEAR	XOOLUX NANO-LO05-W4-22-[LENGTH]-25	1	2 W	LED	2200K / 90+	2 VA	95 LM	0-10V	BLACK	SURFACE	OFH 0'-0 3/4"	5, 6, 14
N	2.5-INCH DIAMETER RECESSED DOWNLIGHT WITH 50-DEGREE BEAM ANGLE AND HONEYCOMB LOUVER, DIMMING	B-LIGHT	ATRIA 60 P-66098-U-D-5-2-C-64090	1	6 W	LED	2200K / 90+	6 VA	550 LM	0-10V	BLACK	RECESSED CEILING	RFD 0'-2 3/4"	5, 6, 14
P	4 1/2-INCH DIAMETER SURFACE-MOUNTED VAPOR TITE JELLY JAR FIXTURE WITH CLEAR LED FILAMENT TO BE CONCEALED BY PERFORATED, DIMMING	LITHONIA LEDNER	VC150IM12 FLB312	1	6 W	LED	2200K / 90+	6 VA	800 LM	0-10V	CLEAR	SURFACE CEILING	OFH 0'-4"	5, 6, 14
Q	3/4-INCH WIDE SURFACE-MOUNTED UNDERWATER POOL / SPA LINEAR LED, DIMMING	Q-TRAN	FLS-SW-PS-P-22-HB-90-3.6-DIM-FC-[LENGTH]-DIM-FC-[LENGTH] W/ MOUNTING TRACK	1	3.6 W PER LF	LED	2200K / 90+	3.6 VA PER LF	85 LM PER LF	0-10V	WHITE	SURFACE POOL	OFH 0'-3/4"	5, 6, 14
R	123MM WIDE SURFACE-MOUNTED GOBO PROJECTOR WITH COLOR FILTER FOR 2200K COLOR TEMPERATURE	ROSCO	IMAGE SPOT 296 0001 0030 + GOBO	1	45 W	LED	2200K / 90+	45 VA	2400 LM	DMX	BLACK	SURFACE	OFH 0'-4 1/4"	5, 6, 14

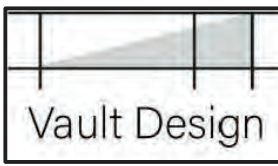
ABBREVIATIONS: BOF - BOTTOM OF FIXTURE, RFD - RECESSED FIXTURE DEPTH, OFH - OVERALL FIXTURE HEIGHT, AFF(AFG) - ABOVE FINISHED FLOOR (GRADE), WFD - WALL FIXTURE DEPTH

GENERAL NOTES:

- ALL REFLECTOR LAMPS SHALL BE PROVIDED AS WIDE FLOOD DISTRIBUTION, UON.
- LUMENS LISTED ARE DELIVERED LUMENS, NOT INITIAL.
- FOR ALL SPECIFIED LUMINAIRES, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MOUNTING HARDWARE, ACCESSORIES, COMPONENTS, LEADER/JUMPER CABLES, WIRE FEED, CONNECTORS, END CAPS, REMOTE POWER SUPPLIES, AND ANY OTHER NECESSARY COMPONENT AS REQUIRED FOR INSTALLING A SECURE AND FULLY FUNCTIONAL SYSTEM.
- THE CONTRACTOR SHALL VERIFY THE CEILING TYPE BEFORE ORDERING LIGHT FIXTURES TO ENSURE COMPATIBILITY WITH SPECIFIED FIXTURES. NOTIFY SPECIFIER OF ANY DISCREPANCIES.
- ALL FINISH SELECTIONS SHALL BE VERIFIED BY ARCHITECT/INTERIOR DESIGNER/OWNER AS PART OF THE SUBMITTAL PROCESS. UNLESS OTHERWISE NOTED, EC SHALL ASSUME STANDARD LUMINAIRE FINISH OPTION FOR PRICING.
- EC SHALL VERIFY ALL FIXTURE MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS PRIOR TO ANY ROUGH-IN.
- REMOTE DRIVER(S)/TRANSFORMER(S) SHALL BE LOCATED IN A CONCEALED, ACCESSIBLE, AND VENTILATED LOCATION AS PROPOSED BY THE EC AND APPROVED BY THE ARCHITECT. REFER TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR MINIMUM REQUIRED CLEARANCES FROM ADJACENT MATERIALS, AND WIRING REQUIREMENTS TO PREVENT VOLTAGE DROP. DO NOT EXCEED MANUFACTURER'S RECOMMENDATIONS REGARDING WIRE GAGE AND MAXIMUM WIRE RUN LENGTHS.
- FOR LUMINAIRES SPECIFIED WITH 0-10V DIMMING, 0-10V DIMMING DRIVER(S) REQUIRE ADDITIONAL LOW VOLTAGE CONTROL WIRES IN ADDITION TO STANDARD WIRING FOR POWER.
- EXTERIOR LUMINAIRES SHALL BE COLD WEATHER RATED FOR 0 DEG. F / -18 DEG. C., AND RATED FOR OUTDOOR USE.

SPECIFIC NOTES:

- CONTRACTOR TO COORDINATE FIXTURE MOUNTING TYPE WITH SPECIFIED CEILING SYSTEM PRIOR TO PROCUREMENT.
- CONTRACTOR TO COORDINATE FIXTURE LENGTHS FOR CONTINUOUS ILLUMINATION (USING 3' AND 4' FIXTURE LENGTHS ONLY).
- FIXTURE SUITABLE FOR AIR PLENUM RETURN.
- FIXTURE UL. LISTED FOR DAMP LOCATION.
- FIXTURE UL. LISTED FOR WET LOCATION.
- NO SUBSTITUTIONS TO LIGHTING DESIGNER'S SPECIFICATIONS UNLESS APPROVED BY LIGHTING DESIGNER.
- CUSTOM COLOR TO MATCH SAMPLE SUBMITTED BY ARCHITECT.
- FOR ALL SPECIFIED LUMINAIRES, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MOUNTING HARDWARE, ACCESSORIES, COMPONENTS, LEADER/JUMPER CABLES, WIRE FEED, CONNECTORS, END CAPS, REMOTE POWER SUPPLIES, AND ANY OTHER NECESSARY COMPONENT AS REQUIRED FOR INSTALLING A SECURE AND FULLY FUNCTIONAL SYSTEM.
- FURNISH IN LENGTHS AS INDICATED ON ARCHITECTURAL DRAWINGS.
- FIXTURE TO BE MODIFIED FOR WHITE PAINTED LOUVERS.
- FIXTURES TO BE MOUNTED WITH LAMPS ORIENTED AS INDICATED ON DRAWINGS.
- SEE ARCHITECTURAL DRAWINGS FOR LIGHT FIXTURE MOUNTING DETAILS.
- REMOTE DRIVER(S)/TRANSFORMER(S) SHALL BE LOCATED IN A CONCEALED, ACCESSIBLE, AND VENTILATED LOCATION AS PROPOSED BY THE EC AND APPROVED BY THE ARCHITECT.
- MUST MEET APPLICABLE TELLURIDE, COLORADO ELECTRICAL CODES.
- GC SUPPLY WITH CAPABLE DIMMABLE DRIVER OR REMOTE TRANSFORMER AS REQUIRED FOR THE FIXTURES INDICATED AS DIMMABLE.



VAULT DESIGN, LLC  
1440 W 8TH ST #239  
GOLDEN, CO 80401



Uncompahgre  
Engineering, LLC

MOUNTAIN VILLAGE  
HOTEL 109R  
LOT 109R  
MOUNTAIN VILLAGE, CO

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Item	No.	Date	Description

LOT 109R MAJOR PUD AMENDMENT  
SPECIAL HEARING SUBMITTAL  
05.19.2022

LOT 109R PUD AMENDMENT TOWN  
COUNCIL SUBMITTAL  
06.07.2022

LOT 109R PUD AMENDMENT TOWN  
COUNCIL CONTINUANCE SUBMITTAL  
08.08.2022

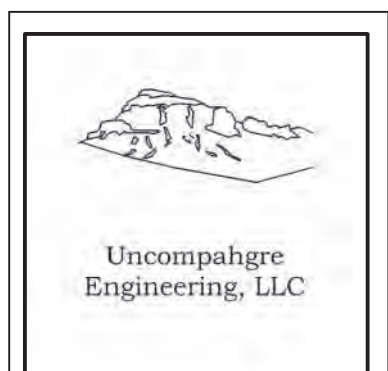
LOT 109R PUD AMENDMENT FINAL  
DRB SUBMITTAL 10.21.2022

SEAL

JOB NO. 10030

PHOTOMETRIC  
SCHEDULES

E.200



MOUNTAIN VILLAGE  
HOTEL 109R  
LOT 109R  
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[illegible]

OT 109R MAJOR PUD AMENDME  
SPECIAL HEARING SUBMITTAL  
05.19.2022

OT 109R PUD AMENDMENT TOW  
COUNCIL SUBMITTAL  
06.07.2022

NOT 109R PUD AMENDMENT TOW  
COUNCIL CONTINUANCE SUBMITT  
08.08.2022

NOT 109R PUD AMENDMENT FINAL  
DRB SUBMITTAL 10.21.2022

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E.201

## Utility Vapor Tights

E.202	SCALE: N.T.S.
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**FLEX-SQUARE** FLEX Light: Static White Pool & Spa

E.202	SCALE: N.T.S
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Image Spot®

E.202	SCALE: N.T.S
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Uncompahgre  
Engineering, LLC

LOT 109R  
MOUNTAIN VILLAGE, CO

Item	No.	Date	Description


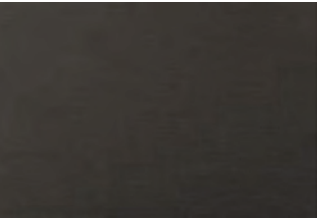

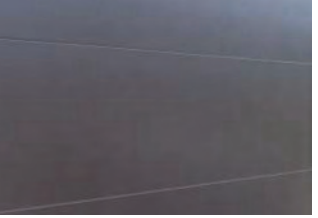


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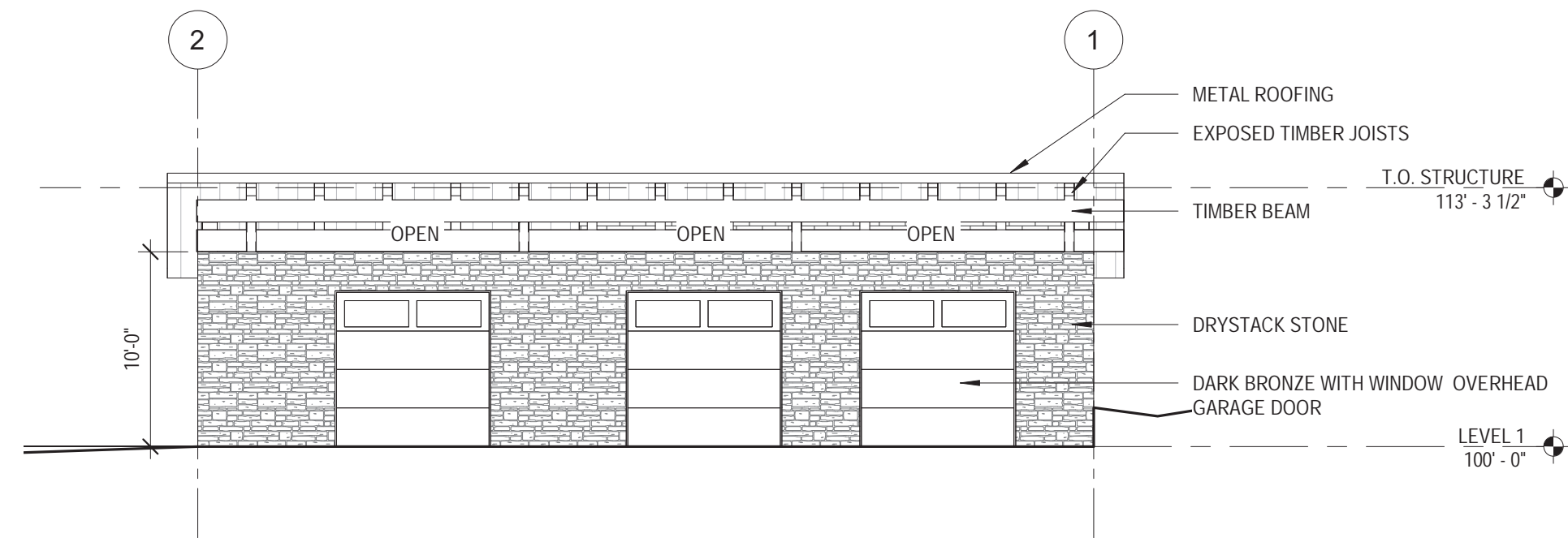
JOB NO. 10030

## PHOTOMETRIC CUTSHEETS

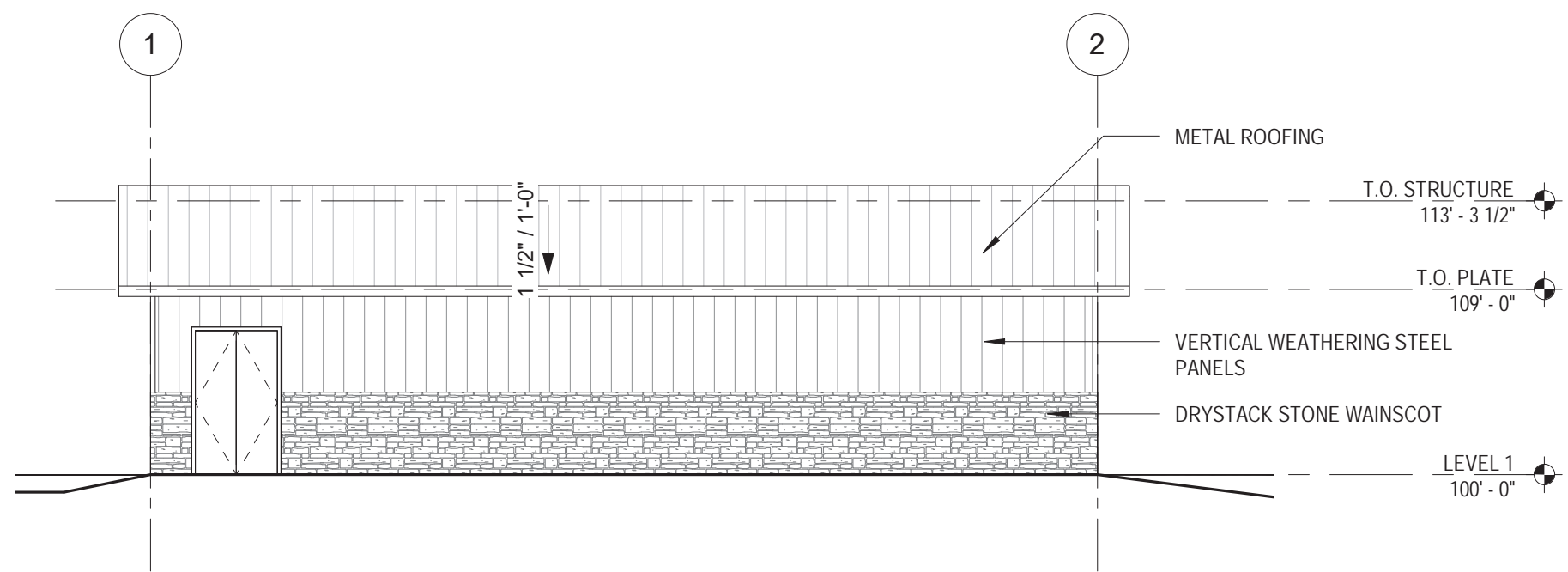
E.202

EXTERIOR DOOR SCHEDULE				
TYPE MARK	HEIGHT	WIDTH	REMARKS	TYPE
1	7'-0"	4'-0"	STEEL CORE CLAD WITH WOOD	DOUBLE FLUSH
2	8'-0"	8'-0"	DARK BRONZE WITH WINDOW	SECTIONAL OVERHEAD GARAGE

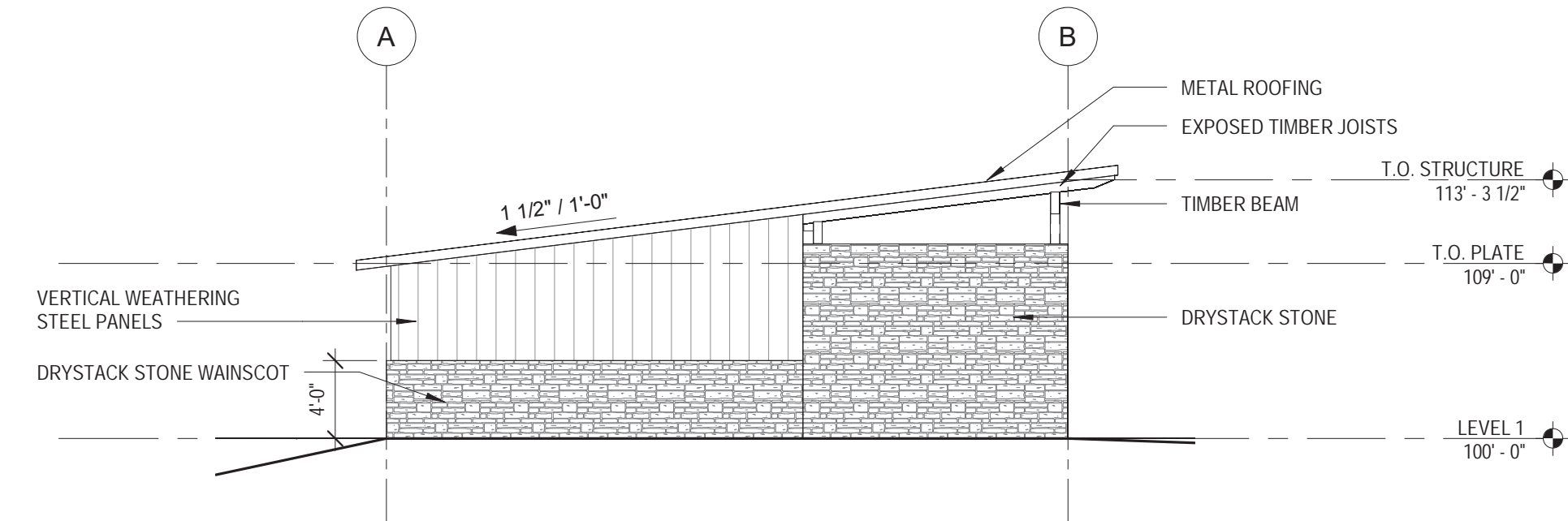
37.29%		DRystack STONE
23.79%		DARK BRONZE METAL ROOFING
6.29%		CEDAR WOOD TIMBER
9.90%		DARK BRONZE METAL GARAGE DOOR
21.47%		VERTICAL WEATHERING STEEL PANELS
1.25%		GLASS WINDOW



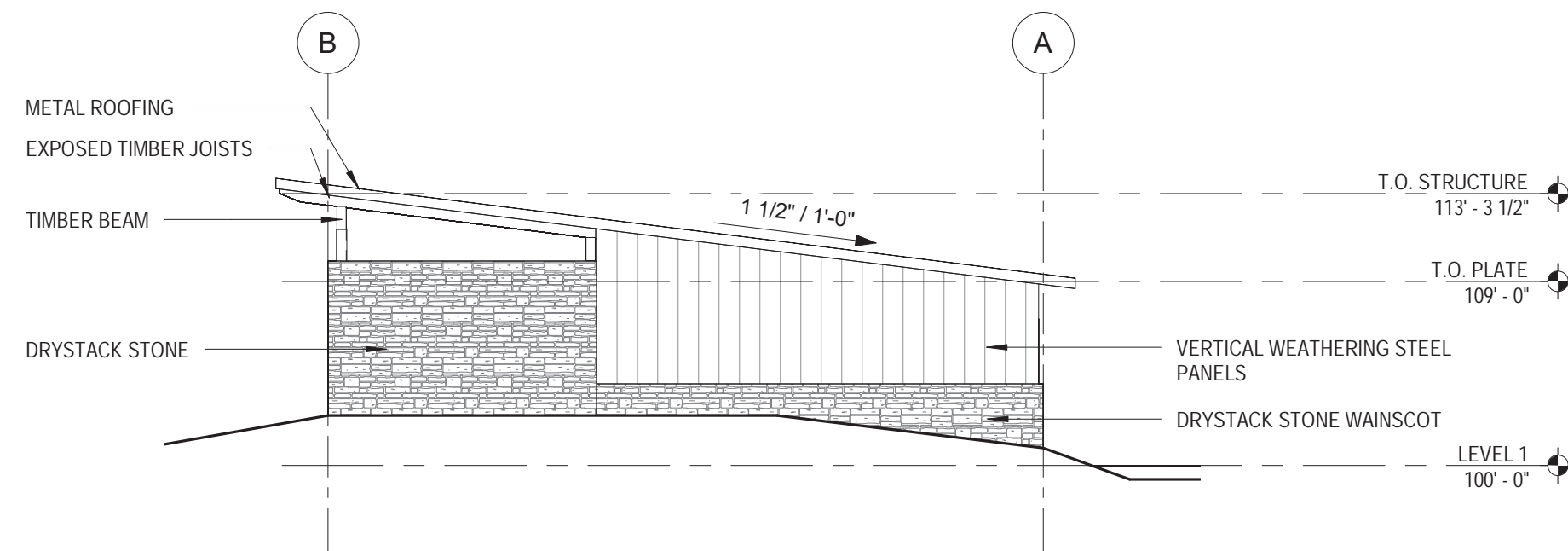
5 EAST ELEVATION  
1/8" = 1'-0"



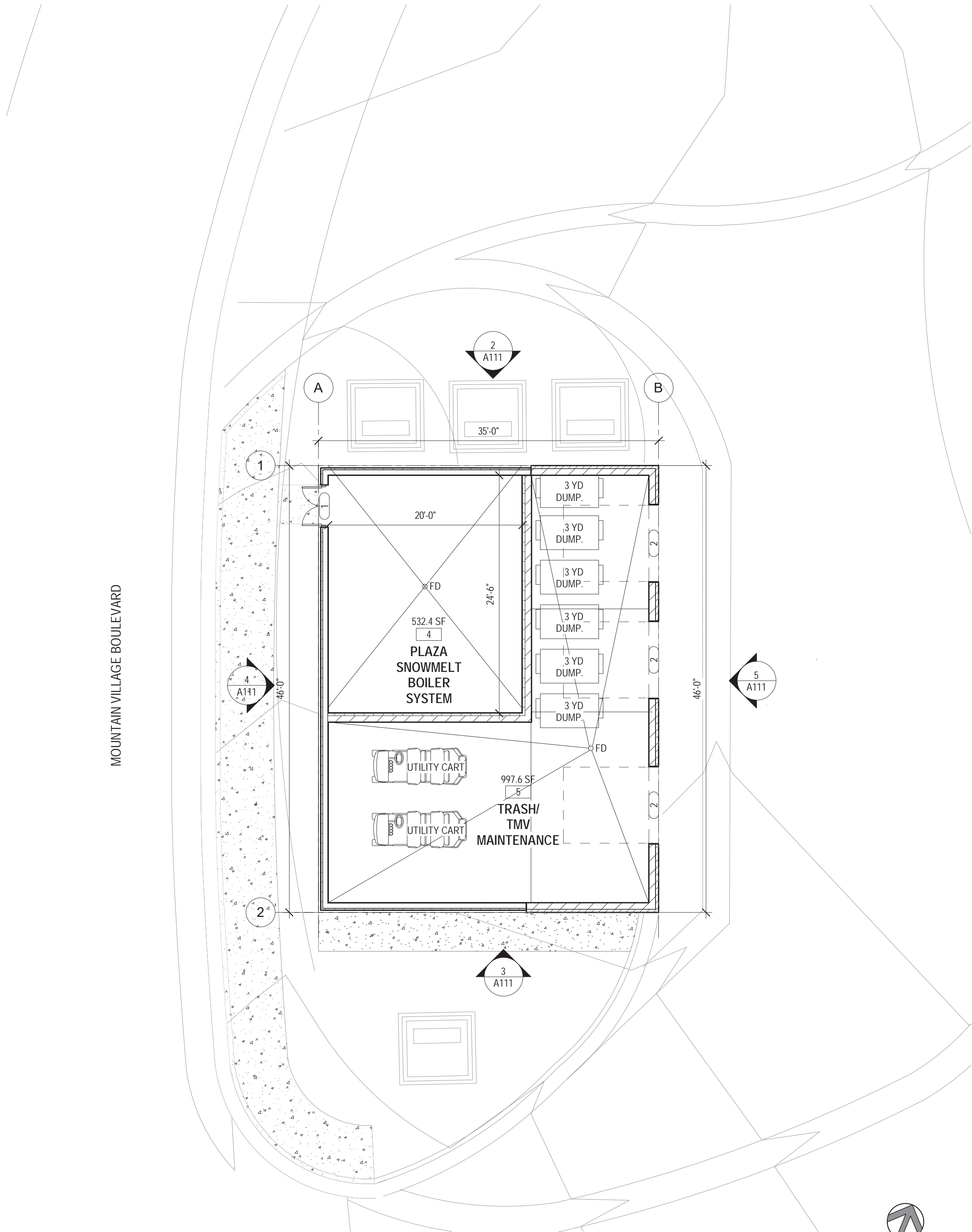
4 WEST ELEVATION  
1/8" = 1'-0"



3 SOUTH ELEVATION  
1/8" = 1'-0"



2 NORTH ELEVATION  
1/8" = 1'-0"



FLOOR PLAN - TRASH & SNOWMELT BOILER  
SYSTEM ENCLOSURE  
1 1/8" = 1'-0"

# TIARA TELLURIDE LLC

October 20, 2022

We are pleased to present the following construction mitigation narrative and plan for your review. Safety, water quality, and minimizing impacts to adjacent property is of the utmost importance to our team. Please refer to the mitigation plan design Exhibit H and note the plan boundary for fencing overlaps the adjacent town parcel. We are requesting the use of town property for some of the construction operations.

We anticipate pursuing LEED certification which will aid the construction process to reduce construction material waste and increase recycling. The project construction site will be kept clean throughout construction.

## SITE PROTECTION

Fencing is noted on the plan and will be installed around the perimeter with controlled access via the points of entry and exit as shown. A jersey barrier concrete perimeter or similar will be placed on the side road of mountain village while excavation, shoring and lagging activities occur within our property until permanent building and curb and sidewalk structures are in place. Fencing will be installed behind the jersey barricades to protect the perimeter of the site. To protect the large evergreen tree adjacent to the Shirana building, we will incorporate staked orange construction fencing around the perimeter of the drip line. Adjacent buildings will be protected with erosion control installed per industry best practices in addition to the construction fencing.

A comprehensive pedestrian walkway plan will be executed to allow residents from the See Forever village and crystal residences while the tunnel walkway access is inactive. There will also be ample signage for pedestrians as well as temporary fencing for any walkways or egress that may be needed or suitable as the site progresses. We do not anticipate public access through the site during construction.

## PROJECT EXECUTION

The team will provide active traffic flagging, site dust control, mud, snow, and soil erosion control, as well as water quality protection measures during the duration of construction utilizing best management practices consistent with the grading and drainage design regulations.

The project will most likely require several and/or significant utility relocations prior to starting vertical construction. We plan to work with the Town and utility providers to minimize disruption to service as we relocate and improve the utility infrastructure.

## **SITE & MATERIAL STAGING**

The Site plan attached, provides the construction fence boundaries, a crane location with anticipated swing, potential shoring and lagging limits, and associated construction facilities. Construction dewatering will likely be required, as volumes and mitigation approach are determined, and this plan will be developed with the geotechnical engineer's support. This plan will be presented to the Town as it becomes more fully realized.

Much of the site is anticipated to encompass a large footprint which is planned to house most of the material staging, storage, and material waste recycling. The LEED certification requires recycling of building waste materials and for them to be kept separated. As the building progresses, we will capture more on-site storage for materials where feasible, within the garage and open core and shell space.

Off-site material and labor staging will be provided by mass transport as needed and are provision to potentially use the lot 89-2A for some of these activities, including subcontractor parking. Secondly we would like to discuss with the Town utilizing potential temporary parking along the Mtn Village shoulder, and the gondola parking structure during the non-busy seasons and weekdays and we expect to establish offsite solutions as needed for staging and subcontractor parking.

Construction phasing on lot OS-3BR-2 will be done by utilizing it for staging during certain parts of the project then utilizing off site staging areas, discussed in item 1, during the necessary construction work on lot OS-3BR-2 as well as other interior and exterior spaces around Lot 109R.

The town trash facility will be kept in place with access for as long as possible during the project while we work with the Town to build a functional trash facility adjacent to the existing building. Our goal would be to make the new trash facility operational, allowing us to extend the building to the north after we have demolished the existing building. As the project comes to completion, we would then phase the plaza area to complete the hardscape improvements while maintaining access to the existing hotel/condos entrances.

## **EXCAVATION**

During early site mobilization, excavated materials will be hauled off site to a location to be provided by awarded earthwork contractor. There are minimal trees on the lot which will allow for

early removal of those impacted and executed per town requirements. As the site is excavated for foundations and underground parking, excavation soils and rock will be hauled off site with a portion of the soil to be brought back on site to be used as backfill.

A shoring and lagging system is anticipated at the property line, along proposed foundation walls along Mountain Village road, dying off in board of the site. A comprehensive shoring plan will be provided for review and approval once the final scope of the project has been determined.

Excavation volume and frequency will vary throughout the different phases of the excavation process, with 10-20 trucks per day on average anticipated. Consistent road sweeping of dirt and debris, and dust control removal will be ongoing during construction. We expect to coordinate truck counts and routes with the Town after we have developed a more concise plan with the excavator.

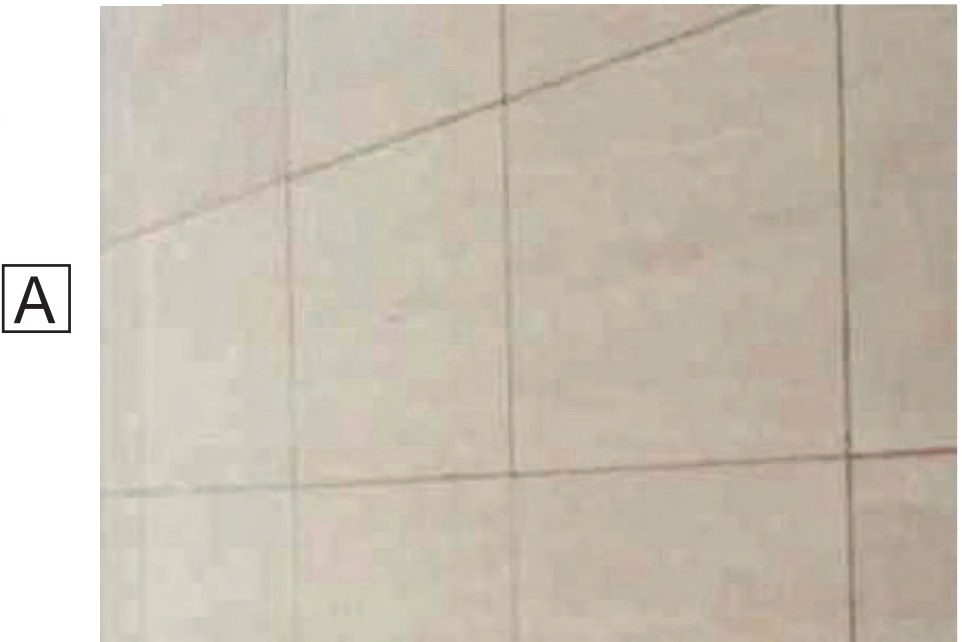
### **SAFETY AND CONSTRUCTION OPERATIONS**

Safety is of paramount concern for the project. The general contractor with subcontractor participation will have weekly site meetings with Ownership to assess the site and ensure safe conditions. All contractors and vendors will require safety training upon mobilization to the site, with continuing safety education as the project progresses.

We anticipate a large tower crane will be located as indicated in the attached site plan. This crane may have a radii near 200', and while we do not anticipate any loads flown over existing buildings, we will approach the Town and neighbors about temporary adjacent property air space permissions. We will provide ongoing training, and active supervision of crane logistics throughout, with an on-site point of contact for all safety related activities.



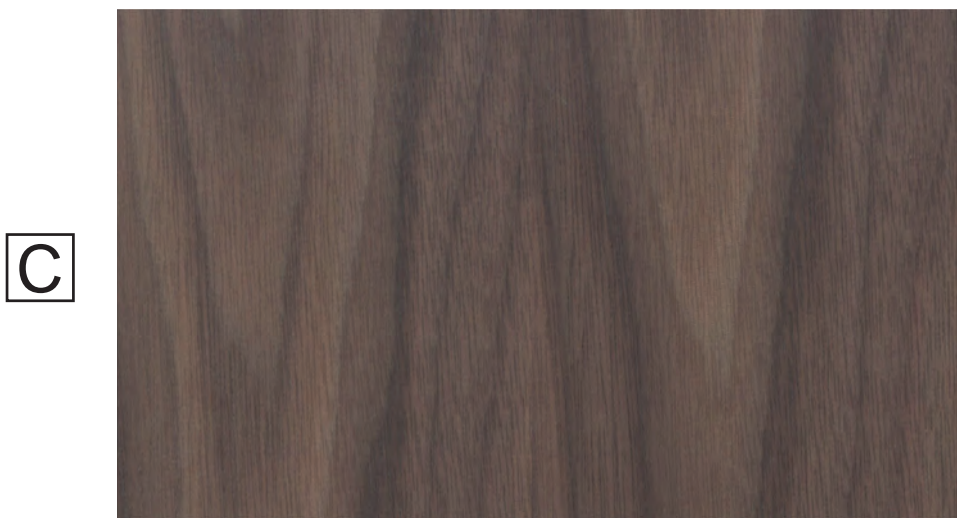




STONE VENEER - HONED



STONE VENEER, FIELD - ROUGH



WALNUT FINISH WOOD DOOR



BRONZE TINTED GLASS



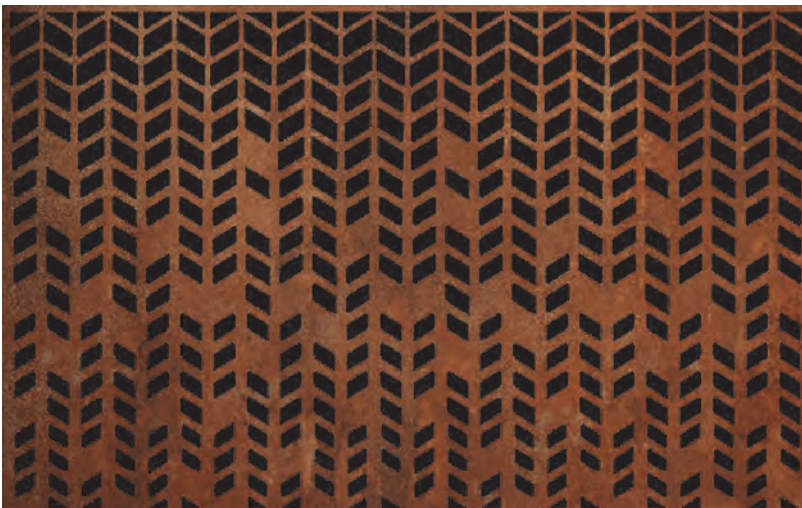
METAL LOUUVERS IN CORTEN STEEL FINISH



WOOD LOOK METAL SOFFIT



DARK BRONZE STOREFRONT AND FASCIA



DECORATIVE METAL GUARDRAIL IN CORTEN STEEL FINISH



CORTEN STEEL FINISH GARAGE DOOR



# Lambert and Associates

CONSULTING GEOTECHNICAL ENGINEERS AND MATERIAL TESTING

GEOTECHNICAL ENGINEERING STUDY  
PROPOSED SIX SENSES HOTEL STRUCTURE  
TELLURIDE MOUNTAIN VILLAGE, COLORADO

Prepared for:

TIARA TELLURIDE LLC

PROJECT NUMBER: M22015GE

AUGUST 4, 2022

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(970) 249 2154

# Lambert and Associates

CONSULTING GEOTECHNICAL ENGINEERS AND MATERIAL TESTING

August 4, 2022

Tiara Telluride LLC  
450 S. Old Dixie Highway, Suite 8-9  
Jupiter, Florida

Attention: Ankur Patel

PN: M22015GE

Subject: Geotechnical Engineering Study for the  
Proposed Six Senses Hotel Structure  
Lot 109R  
Telluride Mountain Village, Colorado

Ankur Patel:

Lambert and Associates is pleased to present our geotechnical engineering study for the subject project. The field study was completed on April 25, 2022. The laboratory study was completed on May 24, 2022. The analysis was performed and the report prepared from May 24 through August 4, 2022. Our geotechnical engineering report is attached.

We are available to provide material testing services for soil and concrete and provide foundation excavation observations during construction. We recommend that Lambert and Associates, the geotechnical engineer, for the project provide material testing services to maintain continuity between design and construction phases.

If you have any questions concerning the geotechnical engineering aspects of your project please contact us. Thank you for the opportunity to perform this study for you.

Respectfully submitted,

LAMBERT AND ASSOCIATES

Daniel R. Lambert, P.E.

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## 1.0 INTRODUCTION

This report presents the results of the geotechnical engineering study we conducted for the proposed Six Senses Hotel structure. The study was conducted at the request of Ankur Patel, Tiara Telluride LLC, in general accordance with our proposal for geotechnical engineering services dated March 2, 2022.

The conclusions, suggestions and recommendations presented in this report are based on the data gathered during our site and laboratory study and on our experience with similar soil conditions. Factual data gathered during the field and laboratory work are summarized in Appendices A and B.

### 1.1 Proposed Construction

It is our understanding the proposed construction is to include a hotel structure and associated utilities and parking and drive areas.

### 1.2 Scope of Services

Our services included geotechnical engineering field and laboratory studies, analysis of the acquired data and report preparation for the proposed site. The scope of our services is outlined below.

- The field study consisted of describing and sampling the soil materials encountered in five (5) small diameter continuous flight auger advanced test borings.
- The materials encountered in the test borings were described and samples retrieved for the subsequent laboratory study.
- The laboratory study included tests of select soil samples obtained during the field study to help assess:
  - . the soil strength potential (internal friction angle and cohesion) of samples tested,
  - . the swell and expansion potential of the samples tested,
  - . the settlement/consolidation potential of the samples tested,
  - . the moisture content and density of samples tested,
  - . Atterberg Limits of the soil sample tested,

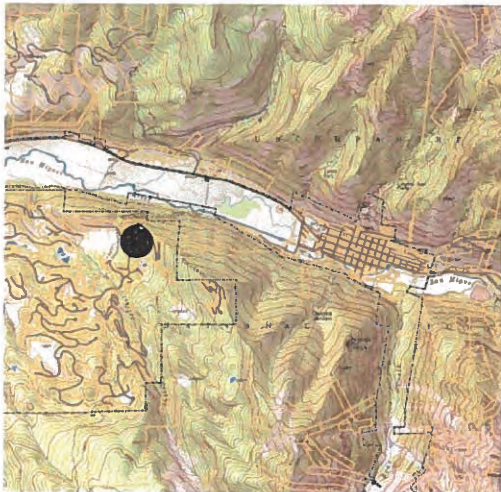
- This report presents our geotechnical engineering comments, suggestions and recommendations for planning and design of site development including:
  - viable foundation types for the conditions encountered,
  - allowable bearing pressures for the foundation types,
  - lateral earth pressure recommendations for design of laterally loaded walls,
  - geotechnical engineering considerations and recommendations for concrete slab on grade floors, and
  - geotechnical engineering considerations and recommendations for compacted structural fill.
- Our comments, suggestions and recommendations are based on the subsurface soil and ground water conditions encountered during our site and laboratory studies.
- Our study did not include any environmental or geologic hazard issues.

## 2.0 SITE CHARACTERISTICS

Site characteristics include observed existing and pre-existing site conditions that may influence the geotechnical engineering aspects of the proposed site development.

### 2.1 Site Location

The site is located on Lot 109R Telluride Mountain Village, Colorado.



● Indicates Approximate Project Location

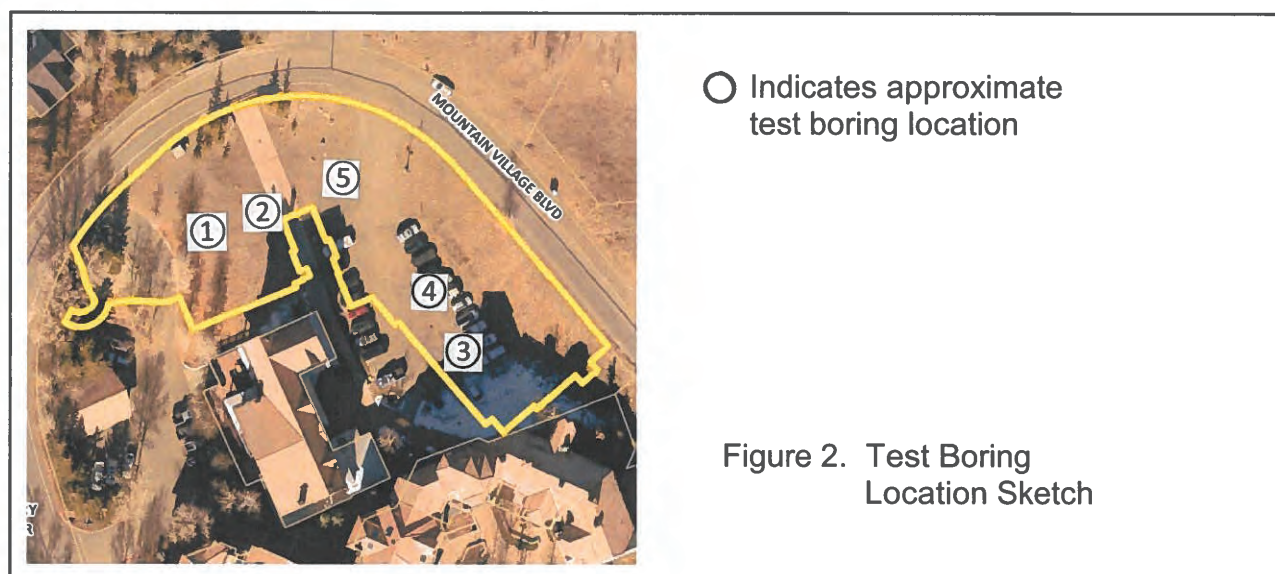
Figure 1. Project Location Sketch

## 2.2 Site Conditions

The eastern portion of the site is currently occupied by a parking lot. The western portion of the site is currently vacant. An existing concrete sidewalk/path exists on the site. The site exhibits positive surface drainage in the western direction. The site is bordered to the north and east by Mountain Village Boulevard and to the south by existing commercial structures.

## 2.3 Subsurface Conditions

The subsurface exploration consisted of observing, describing and sampling the soil materials encountered in five (5) small diameter auger advanced test borings. The approximate locations of the test borings are shown on Figure 2.



The logs describing the soil materials encountered in the test excavations are presented in Appendix A.

The soil materials encountered within the test borings generally consisted of sandy clay fill materials underlain by sandy clay with rock fragments material. The sandy clay with rock fragment materials were encountered at approximate depths of one (1) to eight (8) feet below existing site grades and extended to the depths explored. Free subsurface water was encountered in Test Boring Nos. 2, 3 and 4 at approximate depths of eleven (11) to thirteen (13) feet below existing site grades.

At the time of our field study the proposed development site was not irrigated. It has been our experience that after the site is developed and once landscape irrigation begins the free

subsurface water level may tend to rise. In some cases the free subsurface water level rise, as a result of landscape irrigation and other development influences, can be fairly dramatic and the water level may become shallow.

It is difficult to predict if unexpected subsurface conditions will be encountered during construction. Since such conditions may be found, we suggest that the owner and the contractor make provisions in their budget and construction schedule to accommodate unexpected subsurface conditions.

## 2.4 Site Geology

A brief discussion of the general geology of the area near the site is presented in Appendix C. The surface geology of the site was determined by observation of the surface conditions at the site and observing the soils encountered in the test borings on the site.

## 2.5 Seismicity

According to the International Building Code, 2018 Edition, and ASCE Standard ASCE/SEI 7-10, Table 20.3-1 Site Classification, based on the subsurface conditions encountered and the assumption that the soils described in the test borings are likely representative of the top 100 feet of the soil profile, we recommend that the site soil profile be  $S_D$ , Stiff soil.

## 3.0 PLANNING AND DESIGN CONSIDERATIONS

A geologic hazard study was not requested as part of the scope of this report.

All of the suggestions and design parameters presented in this report are based on high quality craftsmanship, care during construction and post construction cognizance of the potential for swell or settlement of the site support materials and appropriate post construction maintenance.

All construction excavations should be sloped to prevent excavation wall collapse. We suggest that as a minimum the excavation walls should be sloped at an inclination of one-and-one-half (1-1/2) to one (1) (horizontal to vertical) or flatter. The area above the foundation excavations should be observed at least daily for evidence of slope movement during construction. If evidence of slope movement is observed we should be contacted immediately.

We anticipate that excavation and fill placement operations may be associated with the proposed site development. Excavations in the area which generate vertical or sloped

exposures should be kept to a minimum.

Excavations which result in cut slopes with a vertical height greater than about four (4) feet or with a slope or structure above should be analyzed on a site specific basis. Temporary excavation cut slopes in competent material should not exceed a one-and-one-half to one (1 -1/2 to 1) (horizontal to vertical) inclination. All construction excavations should conform to Occupational Safety and Health Administration (OSHA) standards or safer. All permanent slopes should be constructed with inclinations of three to one or flatter.

Generally, fill material placed on a site surface which will be used to support structures or additional fill material should be placed so that the contact between the existing site surface and the added fill material will be strong enough to support the added load. This should be addressed on a site and fill area specific basis. The technique recommended will be based on the site configuration, the finished fill configuration the actual material to be used for the fill material and the size of the area thus constructed. Frequently the preparation of the site area to receive fill material will include removing organic and loose near surface native material in the area to receive fill material, placing the material in thin horizontal lifts which are compacted at the appropriate moisture content. Some fill areas could benefit from the installation of a subsurface drain system at the fill material/natural material contact. We are available to, and recommend that, we discuss this with you and provide site and fill specific recommendations when this portion of your development plan merits the additional study.

#### 4.0 ON-SITE DEVELOPMENT CONSIDERATIONS

We anticipate that the subsurface water elevation may fluctuate with seasonal and other varying conditions. Excavations may encounter subsurface water and soils that tend to cave or yield. If water is encountered it may be necessary to dewater construction excavations to provide more suitable working conditions. Excavations should be well braced or sloped to prevent wall collapse. Federal, state and local safety codes should be observed. All construction excavations should conform to Occupational Safety and Health Administration (OSHA) standards or safer.

The site construction surface should be graded to drain surface water away from the site excavations. Surface water should not be allowed to accumulate in excavations during construction. Accumulated water could negatively influence the site soil conditions. Construction surface drainage should include swales, if necessary to divert surface water away from the construction excavations.

Organic soil materials in areas to receive fill material or structure components should be

removed. The organic soil materials are not suitable for support of the structure or structural components.

Man placed fill material exists on the site. The quality of any man placed fill encountered is not known and may not be suitable for support of the structure or structural components. The man placed fill should be removed and replaced with compacted structural fill prior to supporting building or building components on the fill.

The soil materials exposed in the bottom of the excavation may be moist and may become yielding under construction traffic during construction. It may be necessary to use techniques for placement of fill material or foundation concrete which limits construction traffic in the vicinity of the very moist soil material. If yielding should occur during construction it may be necessary to construct a subgrade stabilization fill blanket or similar to provide construction traffic access. The subgrade stabilization blanket may include over excavating the subgrade soils one (1) to several feet and replacing with aggregate subbase course type material. The stabilization blanket may also include geotextile stabilization fabric at the bottom of the excavation prior to placement of aggregate subbase course stabilization fill. Other subgrade stabilization techniques may be available. We are available to discuss this with you.

It has been our experience that sites in developed areas may contain existing subterranean structures or poor quality man placed fill. If subterranean structures or poor quality man placed fill are suspected or encountered, they should be removed and replaced with compacted structural fill as discussed under COMPACTED STRUCTURAL FILL below.

## 5.0 FOUNDATION RECOMMENDATIONS

Geotechnical engineering considerations which influence the foundation design and construction recommendations presented below are discussed in Appendix D.

We have analyzed grouted micro piles, driven piles, helical piles and post tensioned slab on grade as potential foundation systems for the proposed structure. These are discussed below. Due to the number of possible foundation types available and design and construction techniques there may be design alternatives which we have not presented in this report. We are available to discuss other foundation types.

We recommend that the entire structure be supported on only one foundation type. Combining foundation types will result in differential and unpredictable foundation performance between the varying foundation types. We recommend that the structure footprint not be traversed by the cut/fill contact which would result in a portion of the structure underlain by fill

material and part of the structure underlain by materials exposed by excavated cut. If this condition will exist please contact us so that we can revise our recommendations to accommodate the cut/fill contact scenario.

All of the design parameters presented below are based on techniques performed by an experienced competent contractor and high quality craftsmanship and care during construction. We recommend post construction cognizance of the volume change potential of the near surface soil materials and the need for appropriate post construction maintenance.

The foundation recommendations include recommended design and construction techniques to reduce the influence of movement of the soil materials supporting the foundation but should not be interpreted as solutions for completely mitigating the potential for movement from the support soil material volume change.

Exterior column supports should be supported by foundations incorporated into the foundation system of the structure not supported on flatwork. Column supports placed on exterior concrete flatwork may move if the support soils below the concrete slab on grade become wetted and swell or freeze and raise or settle. Differential movement of the exterior columns may cause stress to accumulate in the supported structure and translate into other portions of the structure.

### 5.1 Grouted Micro Piles

Grouted micro piles may be used to support the structure.

We suggest the hollow bar/pressure grout method be used to install the micro piles, we suggest that the micro piles be designed using an allowable design capacity of 1,750 pounds per foot of bond length in the underlying granular materials with a minimum annulus of four (4) inches.

We suggest a minimum bond length of twenty (20) feet in the underlying native soil materials. The micro piles should be designed with as high a minimum dead load as possible. The steel tendon diameter should be determined by the structural engineer based on the required load criteria. The grout strength used should have a minimum compressive strength of 4,000 psi after twenty-eight (28) days. The micro pile ultimate capacity will not be achieved until the grout has properly cured.

If the micro piles are designed and constructed as discussed above we anticipate that the post construction settlement potential of each pile may be less than approximately one (1) inch.

We recommend load testing of control piles be conducted before actual production piles.

The structural engineer should be consulted to provide structural design recommendations for the micro pile foundation system.

In our analysis it was necessary to assume that the material encountered in the test borings extended throughout the building site and to a depth below the maximum depth of the influence of the foundations. We should be contacted to observe the soil materials exposed in the foundation excavations prior to placement of foundations to verify the assumptions made during our analysis.

## 5.2 Driven Piles

Driven piles may be used to support the structure. Driven piles should be designed as end bearing piles supported by the underlying site soil materials or formational material. Pile capacity is a function of the pile type chosen, equipment used to install the piles, installation procedure and building loads on the piles. The pile types that are suitable for this project are discussed below.

The structural engineer should be consulted for structural requirements of the piles. Once a pile type, hammer, and contractor have been selected we should be contacted for specific geotechnical design and construction criteria. We suggest that the piles be installed with a pile driving hammer that has a minimum rated energy of 24,000 foot pounds per stroke. Any tendency for the piles to deviate from their required driving alignment during the installation operations should be corrected at the on set of the deviation.

We suggest that during driving operations the pile set used to determine the bearing depth of the pile be several blows per inch greater than the set criteria determined by an appropriate dynamic formula. This is to help reduce the potential for post construction settlement of the piles. We are available to assess the pile load/set criteria and develop the appropriate curves for reference during construction once the pile type and specific hammer are chosen. We suggest that the pile load/set criteria be assessed prior to the beginning of the construction operation.

We suggest that your geotechnical consultant be present during the installation of the piles to provide geotechnical engineering consultation and provide a pile driving record for each pile installed for the as-built records. We are available to discuss this with you.

Steel "H" piles have proven successful for pile installations where the piles extend to a hard

bearing stratum. The steel H-piles will withstand hard driving with limited damage and are easily handled. "H" piles may be spliced without loss of bending strength and point reinforcement may be used to decrease tip damage when driving through boulders or obstacles. Prefabricated splices and point reinforcement are available.

For design purposes and budgeting estimates for "H" piles we suggest you consider piles with a minimum allowable capacity of 9,000 psi based upon the cross section area of the pile. We anticipate, based on existing information, that the piles will be about 25 to 50 feet long. We anticipate that the surface of the bearing strata may undulate. Piles can be typically designed for loads of about 100 Kips each. If a larger hammer is used the "H" pile capacity may be significantly increased. For pile groups to support concentrated loads we suggest spacing individual piles no closer than three (3) diameters to each other spaced on centers.

Pipe piles will carry heavy loads when founded on a high bearing capacity stratum. Prefabrication splices and point reinforcement are available for pipe piles.

For design and budgeting estimates for pipe piles we suggest that you consider piles about ten (10) inches in diameter driven closed end, and backfilled with concrete. The concrete backfill will allow reinforcing steel to be cast into the pile to tie the pile and structure together. We anticipate, based on existing information, that pipe piles will be about 25 to 50 feet long. The pile length may be variable. The estimated pile lengths provided above are estimates only. Varying site, construction and pile installation equipment conditions may result in installed pile lengths significantly longer or shorter than estimated above. Pipe piles typically can be designed to support 100 Kips per pile. If a larger hammer is used the pipe pile capacity may be significantly increased. Pile clusters or groups for concentrated loads should be spaced no closer than three (3) diameters to each other, center to center.

We anticipate pile lengths will vary when founded in the underlying site soil materials because of the anticipated non-uniform resistance to driving due to varying density of the material. The estimated pile lengths provided above are estimates only. Varying site, construction and pile installation equipment conditions may result in installed pile lengths significantly longer or shorter than estimated above. The bottom of the piles should be at least twenty five (25) feet below the lowest grade of the building or the landscape adjacent to the building, whichever is lower. If the piles are shorter than the twenty five (25) feet as discussed above the pile capacities may be less.

We anticipate that the proposed piles will be about twenty five (25) to fifty (50) feet below the existing ground surface. It may be necessary to splice the piles to obtain the proper length to the bearing strata. We suggest that the pile be spliced to the proper length prior to beginning the driving operation. Pile splices made during the driving operation may result in delays of

the driving and may allow sufficient time for the pore pressures incurred during driving to dissipate and cause difficulties in completion of the driving of the pile.

Grade beams between piles should be provided with void spaces between the soil and the grade beam. The grade beam should not come in contact with the soils. Separation is to help reduce the potential for heave of the foundations should the soils swell.

### 5.3 Helical Piles

Helical piles may be used to support the structure.

The structural engineer and helical pile provider should be consulted for structural requirements of the helical piles and installation torque requirements.

Several conditions impact the load bearing capacity of the helical pile. These conditions include, but are not limited to, the number of helix, diameter of the helix, depth of helix and the soil type the helix bears within.

We suggest that helical piles with a minimum of two (2) helix per pile be used. We suggest the helical piles be extended such that the helix bear a minimum of twenty five (25) feet below bottom of grade beam grade. Helix diameter and spacing should be specified by the structural engineer.

We estimate that helical pile capacities of 50 to 70 kips each can be obtained by helical piles bearing within the encountered native soil materials a minimum of twenty five (25) feet below the bottom of the grade beams.

The actual pile capacity should be determined during construction using pile load tests. The load tests should be conducted using actual materials designed for use in the piles and with the equipment and contractor anticipated to install the piles. We recommend load testing of control piles be conducted before actual production piles.

Helical pile clusters or groups for concentrated loads should be spaced no closer than three (3) diameters to each other, center to center.

We suggest that during installation operations the pile set torque be monitored in accordance to the manufacturer and designer's specifications.

We suggest that your geotechnical consultant be present during the installation of the piles to provide geotechnical engineering consultation and provide a pile installation record for each

pile installed for the as-built records. We are available to discuss this with you.

We are available to provide material testing services for soil and concrete and provide foundation excavation observations during construction. We recommend that Lambert and Associates, the geotechnical engineer, for the project provide material testing services to maintain continuity between design and construction phases.

#### 5.4 Post Tensioned Slabs

The structure may be supported by a post tensioned slab foundation system.

Based upon our experience, the post tensioned slab foundation system does limit distress to interior floors and living spaces, however, this alternative may not minimize potential foundation movement as effectively as a deep foundation system.

In our analysis it was necessary to assume that the material encountered in the test borings extended throughout the building site and to a depth below the maximum depth of the influence of the foundations. We should be contacted to observe the soil materials exposed in the foundation excavations prior to placement of foundations to verify the assumptions made during our analysis.

The bottom of the foundation excavations should be thoroughly cleaned and observed when excavated. Any loose or disturbed material exposed in the foundation excavation should be removed or compacted prior to placing foundation concrete.

The bottom of the foundation excavations should be compacted prior to placing compacted structural fill or foundation concrete. We suggest the materials exposed be compacted to at least ninety (90) percent of the materials moisture content-dry density relationship (Proctor) test, ASTM D1557. Excavation compaction is to help reduce the influence of any disturbance that may occur during the excavation operations. Any areas of loose, low density or yielding soils evidenced during the excavation compaction operation should be removed and replaced with compacted structural fill. Caution should be exercised during the excavation compaction operations. Excess rolling or compacting may increase pore pressure of the subgrade soil material and degrade the integrity of the support soils. Loose or disturbed material in the bottom of the foundation excavations which are intended to support structural members will likely result in large and unpredictable amounts of settlement, if the loose or disturbed material is not removed or compacted.

The design of the shallow post tensioned slab should consider the following:

Bearing Strata:	Engineered Fill Material or Approved Native Material
Maximum Net Allowable Bearing Pressure:	3,000 psf
Modulus of Subgrade Reaction, k:	460 pci
Edge Moisture Variation Distance, $e_m$ :	9.0 feet Center (shrink) 6.0 feet Edge (swell)
Differential Soil Movement, $y_m$ :	-1.05 inches Center (shrink) 1.55 inches Edge (swell)

Our post tensioned slab parameter analysis was performed using VOLFLO 1.5 by Geostructural Tool Kit, Inc.

The minimum depth below grade for the exterior edge grade beam/footing should exceed the regions minimum design frost depth.

It should be noted that the  $y_m$  values presented above are the estimated vertical movement at the edges of a uniformly loaded slab. These are theoretical values that are used in the design of post-tensioned slabs-on-grade and do not represent the movements or overall settlement that would be expected from the actual loading conditions.

The calculated theoretical estimated post construction settlement potential may be reduced by placing the post tensioned slab system on a blanket of compacted structural fill. The calculated theoretical estimated post construction settlement and associated thickness of compacted structural fill are presented below.

THICKNESS OF COMPACTED STRUCTURAL FILL SUPPORTING SLAB	CALCULATED THEORETICAL ESTIMATED POST CONSTRUCTION SETTLEMENT FOR POST TENSIONED SLAB SYSTEM (INCHES)
0	3-3/8 to 4-5/8
2 feet	2-3/4 to 3-7/8
4 feet	2-1/4 to 3
6 feet	1-5/8 to 2-3/8
8 feet	1-1/4 to 1-7/8

The calculated settlement estimates are theoretical only. Actual settlement could vary throughout the site and with time.

## 6.0 INTERIOR FLOOR SLAB DISCUSSION

If a deep foundation system is utilized, the floor may be either a concrete slab on grade or a supported structural floor. The natural soils that will support interior floor slabs are stable at their natural moisture content. However, the owner should realize that when wetted, the site soils may experience volume changes. The site soil samples tested had measured swell pressures of less than 100 to approximately 300 pounds per square foot and associated magnitudes of up to 0.6 percent of the wetted soil volume at a surcharge load of 100 pounds per square foot and the actual swell pressure could be greater.

The recommendations in this report do not address a monolithic floor slab/footing combination. The design and construction characteristics of the monolithic floor slab need geotechnical engineering design parameters tailored specifically for a monolithic slab and integral footing. Generally this type foundation/floor combination in this area with these site conditions does not perform as well as other choices.

Conditions which vary from those encountered during our field study may become apparent during excavation. We should be contacted to observe the conditions exposed at concrete slab on grade subgrade elevation to verify the assumptions made during the preparation of this report and to provide additional geotechnical engineering suggestions and recommendations as needed.

Engineering design dealing with swelling soils is an art which is still developing. The owner is cautioned that the soils on this site may have swelling potential and concrete slab on grade floors and other lightly loaded members may experience movement when the supporting soils become wetted. We suggest you consider floors suspended from the foundation systems as structural floors or a similar design that will not be influenced by subgrade volume changes. If the owner is willing to accept the risk of possible damage from swelling soils supporting concrete slab on grade floors, the following recommendations to help reduce the damage from swelling soils should be followed. These recommendations are based on generally accepted design and construction procedures for construction on soils that tend to experience volume changes when wetted and are intended to help reduce the damage caused by swelling soil materials. Lambert and Associates does not intend that the owner, or the owner's consultants should interpret these recommendations as a solution to the problems of swelling soils, but as measures to reduce the influence of swelling soils.

The shallow soil materials tested have a low volume change potential under light loading

conditions. Concrete slab on grade floors may experience movement when supported by the natural onsite soils. Concrete slab on grade floors will perform best if designed to tolerate movement introduced by the subgrade soil materials.

Concrete flatwork, such as concrete slab on grade floors, should be underlain by compacted structural fill. The layer of compacted fill should be at least one (1) foot thick or thicker and constructed as discussed under COMPACTED STRUCTURAL FILL below. A one (1) foot thick or thicker blanket of structural fill material beneath the concrete flatwork is not sufficient to entirely mask the settlement or swell potential of the subgrade soil material but will only provide better subgrade conditions for construction. The concrete slab on grade should be designed by a structural engineer to be compatible with the site soil conditions.

The natural soil materials exposed in the areas supporting concrete slab on grade floors should be kept very moist during construction prior to placement of concrete slab on grade floors. This is to help increase the moisture regime of the potentially expansive soils supporting floor slabs and help reduce the expansion potential of the soils. We are available to discuss this concept with you.

Concrete slab on grade floors should be provided with a positive separation, such as a slip joint, from all bearing members and utility lines to allow their independent movements and to help reduce possible damage that could be caused by movement of soils supporting interior slabs. The floor slab should be constructed as a floating slab. All water and sewer pipe lines should be isolated from the slab. Any equipment placed on the floating floor slab should be constructed with flexible joints to accommodate future movement of the floor slab with respect to the structure. We suggest partitions constructed on the concrete slab on grade floors be provided with a void space above or below the partitions to relieve stresses induced by elevation changes in the floor slab.

Floor slabs should not contact/extend directly over foundations or foundation members. Floor slabs which directly contact foundations or foundation members will likely experience post construction movement as a result of foundation movements. We are available to discuss this with you.

The concrete slabs should be scored or jointed to help define the locations of any cracking. We recommend that joint spacing be designed as outlined in ACI 224R. In addition joints should be scored in the floors a distance of about three (3) feet from, and parallel to, the walls.

It should be noted that when curing fresh concrete experiences shrinkage. This shrinkage almost always results in some cracks in the finished concrete. The actual shrinkage depends on the configuration and strength of the concrete and placing and finishing techniques. The

recommended joints discussed above are intended to help define the location of the cracks but should not be interpreted as a solution to shrinkage cracks. The owner must understand that concrete flatwork will contain shrinkage cracks after curing and that all of the shrinkage cracks may not be located in control joints. Some cracking at random locations may occur.

If moisture migration through the concrete slab on grade floors will adversely influence the performance of the floor or floor coverings we suggest that a moisture barrier may be installed beneath the floor slab to help discourage capillary and vapor moisture rise through the floor slab. The moisture barrier may consist of a heavy plastic membrane, six (6) mil or greater, protected on the top and bottom by clean sand. The clean sand will help to protect the plastic from puncture. The layer of clean sand on the top of the plastic membrane will help the overlying concrete slab cure properly. According to the American Concrete Institute, proper curing requires at least three (3) to six (6) inches of clean sand between the plastic membrane and the bottom of the concrete. The plastic membrane should be lapped and taped or glued and protected from punctures during construction.

If the moisture content of the slab on grade floor will be influential to the performance of the future floor coverings then the moisture content of the slab can be measured. We are available to monitor the floor slab moisture content prior to the installation of the floor covering. If this service is needed please contact us during the construction phase of the project.

The Portland Cement Association suggests that welded wire reinforcing mesh is not necessary in concrete slab on grade floors when properly jointed. It is our opinion that welded wire mesh may help improve the integrity of the slab on grade floors. We suggest that concrete slab on grade floors should be reinforced, for geotechnical purposes, with at least 6 x 6 - W2.9 x W2.9 (6 x 6 - 6 x 6) welded wire mesh positioned midway in the slab. The structural engineer should be contacted for structural design of floor slabs.

## 7.0 COMPACTED STRUCTURAL FILL

Material characteristics desirable for compacted structural fill are discussed in Appendix D. Areas that are over excavated or slightly below grade should be backfilled to grade with properly compacted structural fill or concrete, not loose fill material. If backfilled with other than compacted structural fill material or concrete there will be significant post construction settlement proportional to the amount of loose material.

The natural on site soils are not suitable for use as compacted structural fill material supporting building or structure members because of their clay content. The natural on-site soils may be used as compacted fill in areas that will not influence the structure such as to establish general site grade. We are available to discuss this with you.

All areas to receive compacted structural fill should be properly prepared prior to fill placement. The preparation should include removal of all organic or deleterious material. The areas to receive fill material should be compacted after the organic deleterious material has been removed prior to placing the fill material. The area may need to be moisture conditioned for compaction. Any areas of soft, yielding, or low density soil, evidenced during the excavation compaction operation should be removed. The area excavated to receive fill should be moisture conditioned to wet of optimum moisture content as part of the preparation to receive fill. Fill should be moisture conditioned, placed in thin lifts not exceeding six (6) inches in compacted thickness and compacted to at least ninety (90) percent of maximum dry density as defined by ASTM D1557, modified moisture content-dry density (Proctor) test.

After placement of the structural fill the surface should not be allowed to dry prior to placing concrete or additional fill material. This may be achieved by periodically moistening the surface of the compacted structural fill as needed to prevent drying of the structural fill. We are available to discuss this with you.

The soil materials exposed in the bottom of the excavation may be very moist and may become yielding under construction traffic during construction. It may be necessary to use techniques for placement of fill materials or foundation concrete which limit construction traffic in the very moist soil materials. If yielding should occur during construction it may be necessary to construct a subgrade stabilization fill blanket or similar to provide construction traffic access. We are available to discuss this with you.

We recommend that the geotechnical engineer or his representative be present during the excavation compaction and fill placement operations to observe and test the material.

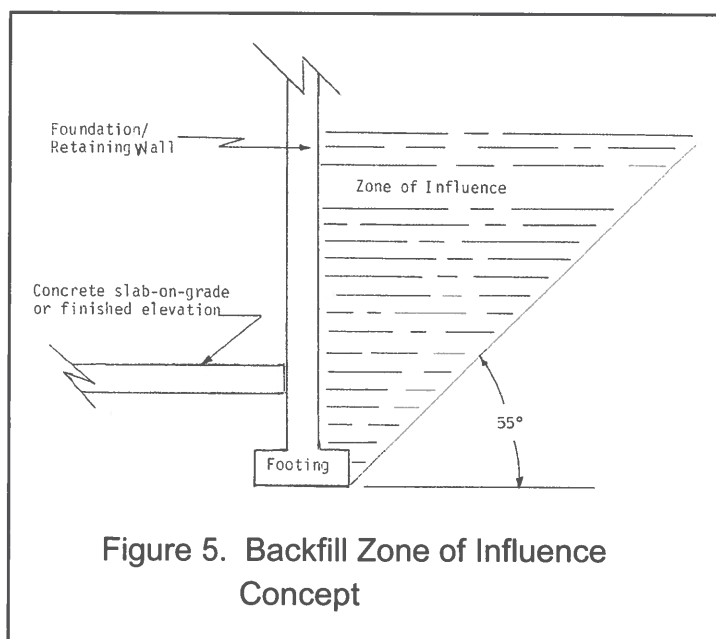
## 8.0 LATERAL EARTH PRESSURES

Laterally loaded walls supporting soil, such as basement walls, will act as retaining walls and should be designed as such. Walls that are designed to deflect and mobilize the internal soil strength should be designed for active earth pressures. Walls that are restrained so that they are not able to deflect to mobilize internal soil strength should be designed for at-rest earth pressures. The values for the lateral earth pressures will depend on the type of soil retained by the wall, backfill configuration and construction technique. If the backfill is not compacted the lateral earth pressures will be very different from those noted below.

Lateral earth pressure (L.E.P.) values are presented below:

Level Backfill  
with on-site soils  
(pounds per cubic foot per foot of depth)

Active L.E.P.	64
At-rest L.E.P.	84
Passive L.E.P.	246



The soil samples tested had measured swell pressures of less than 100 to approximately 300 pounds per square foot however the actual swell pressure of the backfill material could be greater. If the retained soils should become moistened after construction the soil may swell against retaining walls. The walls should be designed to resist the swell pressure of the soil materials if these are used as part of the backfill within the zone of influence. The zone of influence concept is presented on Figure 5.

The above lateral earth pressures may be reduced by overexcavating the wall backfill area beyond the zone of influence and backfilling with crushed rock type material. The zone of influence concept is presented below.

The lateral earth pressure design parameters may change significantly if the area near the wall is loaded or surcharged or is sloped. If any of these conditions occur we should be contacted for additional design parameters tailored to the specific site and structure conditions.

Suggested lateral earth pressure (L.E.P.) values if the backfill is overexcavated beyond the zone of influence and backfilled with crushed rock are presented below.

Level Backfill  
with crushed rock material  
(pounds per cubic foot per foot of depth)

Active L.E.P.	25
At-rest L.E.P.	40

If the area behind a wall retaining soil material is sloped we should be contacted to provide

lateral earth pressure design values tailored for the site specific sloped conditions.

Resistant forces used in the design of the walls will depend on the type of soil that tends to resist movement. We suggest that you consider a coefficient of friction of 0.24 for the on site soil.

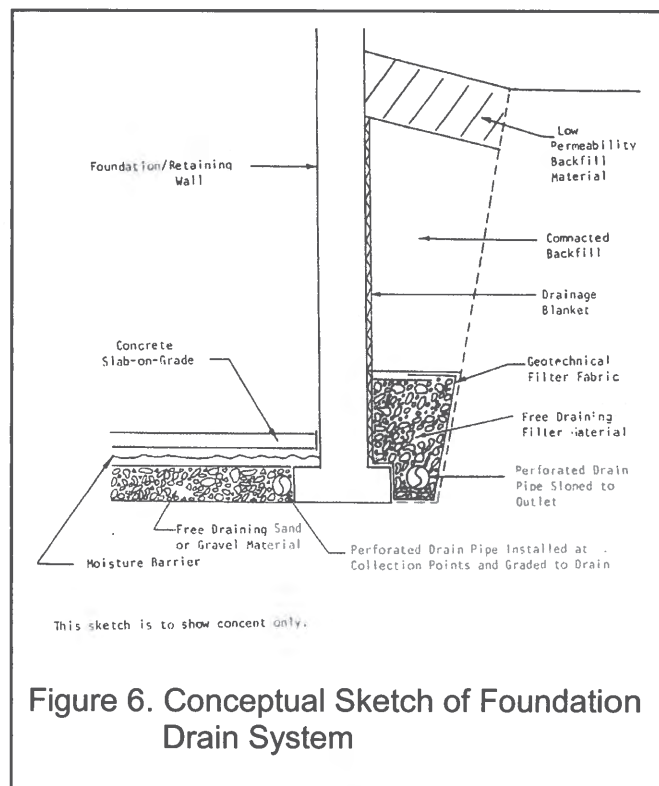
The lateral earth pressure values provided above, for design purposes, should be treated as equivalent fluid pressures. The lateral earth pressures provided above are for level well drained backfill and do not include surcharge loads or additional loading as a result of compaction of the backfill. Unlevel or non-horizontal backfill either in front of or behind walls retaining soils will significantly influence the lateral earth pressure values. Care should be taken during construction to prevent construction and backfill techniques from overstressing the walls retaining soils. Backfill should be placed in thin lifts and compacted, as discussed in this report to realize the lateral earth pressure values.

Walls retaining soil should be designed and constructed so that hydrostatic pressure will not accumulate or will not affect the integrity of the walls. Drainage plans should include a subdrain behind the wall at the bottom of the backfill to provide positive drainage. Exterior retaining walls should be provided with perimeter drain or weep holes to help provide an outlet for collected water behind the wall. The ground surface adjacent to the wall should be sloped to permit rapid drainage of rain, snow melt and irrigation water away from the wall backfill. Sprinkler systems should not be installed directly adjacent to retaining or basement walls.

## 9.0 DRAIN SYSTEM

A drain system should be provided around building spaces below the finished grade and behind any walls retaining soil. The drain systems are to help reduce the potential for hydrostatic pressure to develop behind retaining walls. A sketch of the drain system is presented on Figure 6.

Subdrains should consist of a three (3) or four (4) inch diameter perforated rigid pipe surrounded by a filter. The filter should consist of a filter fabric or a graded material such as washed concrete sand or pea



gravel. If sand or gravel is chosen the pipe should be placed in the middle of about four (4) cubic feet of aggregate per linear foot of pipe. The drain system should be sloped to positive gravity outlets. If the drains are daylighted, the drains should be provided with all weather outlets and the outlets should be maintained to prevent them from being plugged or frozen. We do not recommend that the drains be discharged to dry well type structures. Dry well structures may tend to fail if the surrounding soil material becomes wetted and swells or if the ground water rises to a elevation of or above the discharge elevation in the dry well. We should be called to observe the soil exposed in the excavations and to verify the details of the drain system.

## 10.0 BACKFILL

Backfill areas and utility trench backfill should be constructed such that the backfill will not settle after completion of construction, and that the backfill is relatively impervious for the upper few feet. The backfill material should be free of trash and other deleterious material. It should be moisture conditioned and compacted to at least ninety (90) percent relative compaction using a modified moisture content-dry density (Proctor) relationship test (ASTM D1557). Only enough water should be added to the backfill material to allow proper compaction. Do not pond, puddle, float or jet backfill soil materials.

Improperly placed backfill material will allow water migration more easily than properly recompacted fill. Improperly compacted fill is likely to settle, creating a low surface area which further enhances water accumulation and subsequent migration to the foundation soils.

Improperly placed backfill will allow water to migrate along the utility trench or backfill areas to gain access to the subgrade support soils with subsequent mobilization of the swell or settlement mechanism resulting in movement of the supported structure. Moisture migration could also result in the inconvenience of free water in the crawl space.

Backfill placement techniques should not jeopardize the integrity of existing structural members. We recommend recently constructed concrete structural members be appropriately cured prior to adjacent backfilling.

## 11.0 SURFACE DRAINAGE

The foundation soil materials should be prevented from becoming wetted after construction. Post construction wetting of the soil support soil materials can initiate swell potential or settlement potential as well as decrease the bearing capacity of the support soil materials. Protecting the foundation from wetting can be aided by providing positive and rapid drainage of surface water away from the structure.

The final grade of the ground surface adjacent to the structure should have a well defined slope away from the foundation walls on all sides. The ability to establish proper site surface drainage away from the structure foundation system may be influenced by the existing topography, existing structure elevations and the grades and elevations of the ground surface adjacent to the proposed structure. We suggest where possible a minimum fall of the surface grade away from the structure be that which will accommodate other project grading constraints and provide rapid drainage of surface water away from the structure. If there are no other project constraints we suggest a fall of about one (1) foot in the first ten (10) feet away from the structure foundation. Appropriate surface drainage should be maintained for the life of the project. Future landscaping plans should include care and attention to the potential influence on the long term performance of the foundation and/or crawl space if improper surface drainage is not maintained.

Roof runoff should be collected in appropriate roof drainage collection devices, such as eave gutters or similar, and directed to discharge in appropriate roof drainage systems. Roof runoff should not be allowed to fall on or near foundations, backfill areas, flatwork, paved areas or other structural members. Downspouts and faucets should discharge onto splash blocks that extend beyond the limits of the backfill areas. Splash blocks should be sloped away from the foundation walls. Snow storage areas should not be located next to the structure. Proper surface drainage should be maintained from the onset of construction through the proposed project life.

If significant water concentration and velocity occurs erosion may occur. Erosion protection may be considered to reduce soil erosion potential. A landscape specialist or civil engineer should be consulted for surface drainage design, erosion protection and landscaping considerations.

## 12.0 LANDSCAPE IRRIGATION

An irrigation system should not be installed next to foundations, concrete flatwork or paved areas. If an irrigation system is installed, the system should be placed so that the irrigation water does not fall or flow near foundations, flatwork or pavements. The amount of irrigation water should be controlled.

We recommend that wherever possible xeriscaping concepts be used. Generally, the xeriscape includes planning and design concepts which will reduce irrigation water. The reason we suggest xeriscape concepts for landscaping is because the reduced landscape water will decrease the potential for water to influence the long term performance of the structure foundations and flatwork. Many publications are available which discuss xeriscape. Colorado State University Cooperative Extension has several useful publications and most

landscape architects are familiar with the subject.

Due to the expansive nature of the soils tested we suggest that the owner consider landscaping with only native vegetation which requires only natural precipitation to survive. Additional irrigation water will greatly increase the likelihood of damage to the structure as a result of volume changes of the material supporting the structure.

Impervious geotextile material may be incorporated into the project landscape design to reduce the potential for irrigation water to influence the foundation soils.

### 13.0 SOIL CORROSIVITY TO CONCRETE

Our scope of services did not include performing chemical tests to help identify the potential for soil corrosivity to concrete.

It has been our experience that much of the soils in the area contain sufficient water soluble sulfate content to be corrosive to concrete. We suggest sulfate resistant cement be used in concrete which will be in contact with the on-site soils. American Concrete Institute recommendations for sulfate resistant cement based on the water soluble sulfate content should be used.

If it is desirable by you or your design team to help identify the potential for corrosivity to concrete at the proposed development site we suggest that site specific chemical tests be performed.

### 14.0 RADON CONSIDERATIONS

Our experience indicates that many of the soils in western Colorado produce small quantities of radon gas. Radon gas may tend to collect in closed poorly ventilated structures. Radon considerations are presented in Appendix D.

### 15.0 POST DESIGN CONSIDERATIONS

The project geotechnical engineer should be consulted during construction of the project to observe site conditions and open excavations during construction and to provide materials testing of soil and concrete.

This subsurface soil and foundation condition study is based on limited sampling; therefore, it is necessary to assume that the subsurface conditions do not vary greatly from those encountered in the field study. Our experience has shown that significant variations are likely

to exist and can become apparent only during additional on site excavation. For this reason, and because of our familiarity with the project, Lambert and Associates should be retained to observe foundation excavations prior to foundation construction, to observe the geotechnical engineering aspects of the construction and to be available in the event any unusual or unexpected conditions are encountered. The cost of the geotechnical engineering observations and material testing during construction or additional engineering consultation is not included in the fee for this report. We recommend that your construction budget include site visits early during construction schedule for the project geotechnical engineer to observe foundation excavations and for additional site visits to test compacted soil.

We recommend that the observation and material testing services during construction be retained by the owner or the owner's engineer or architect, not the contractor, to maintain third party credibility. We are experienced and available to provide material testing services. It is our opinion that the owner, architect and engineer be familiar with the information. If you have any questions regarding this concept please contact us.

We suggest that your construction plans and schedule include provisions for geotechnical engineering observations and material testing during construction and your budget reflect these provisions.

It is difficult to predict if unexpected subsurface conditions will be encountered during construction. Since such conditions may be found, we suggest that the owner and the contractor make provisions in their budget and construction schedule to accommodate unexpected subsurface conditions.

### 15.1 Structural Fill Quality

It is our understanding that the proposed development may include compacted structural fill. The quality of compacted structural fill will depend on the type of material used as structural fill, fill lift thickness, fill moisture condition and compactive effort used during construction of the structural fill. Engineering observation and testing of structural fill is essential as an aid to safeguard the quality and performance of the structural fill.

Fill materials placed on sloped areas require special placement techniques that key the fill materials unto the underlying support materials. These techniques include a toe key at the toe contact of the slope fill and benching the fill/natural contact up the slope into the competent natural material. The placing technique will also include subdrains at several locations to intercept subsurface water and route it away from the fill materials. We are available to discuss these techniques with you and your earthwork contractor.

Testing of the structural fill normally includes tests to determine the grain size distribution, swell potential and moisture-density relationship of the fill material to verify the material suitability for use as structural fill. As the material is placed the in-place moisture content and dry density are tested to indicate the relative compaction of the placed structural fill. We recommend that your budget include provisions for observation and testing of structural fill during construction.

Testing of the compacted fill material should include tests of the moisture content and density of the fill material placed and compacted prior to placement of additional fill material. We suggest that a reasonable number of density tests of the fill material can best be determined on a site, material and construction basis although as a guideline we suggest one test per about each 300 to 500 square feet of each lift of fill material. Utility trench backfill may need to be tested about every 100 linear feet of lift of backfill.

## 15.2 Concrete Quality

It is our understanding current plans include reinforced structural concrete for foundations and walls and may include concrete slabs on grade and pavement. To insure concrete members perform as intended, the structural engineer should be consulted and should address factors such as design loadings, anticipated movement and deformations.

The quality of concrete is influenced by proportioning of the concrete mix, placement, consolidation and curing. Desirable qualities of concrete include compressive strength, water tightness and resistance to weathering. Engineering observations and testing of concrete during construction is essential as an aid to safeguard the quality of the completed concrete.

Testing of the concrete is normally performed to determine compressive strength, entrained air content, slump and temperature. We recommend that your budget include provisions for testing of concrete during construction. We suggest that a reasonable frequency of concrete tests can best be determined on a site, materials and construction specific basis although as a guideline American Concrete Institute, ACI, suggests one test per about each fifty (50) cubic yards or portion thereof per day of concrete material placed.

## 16.0 LIMITATIONS

It is the owner's and the owner's representatives' responsibility to read this report and become familiar with the recommendations and suggestions presented. We should be contacted if any questions arise concerning the geotechnical engineering aspects of this project as a result of

the information presented in this report.

The scope of services for this study does not include either specifically or by implication any environmental or biological (such as mold, fungi, bacteria, etc.) Assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be performed.

The recommendations outlined above are based on our understanding of the currently proposed construction. We are available to discuss the details of our recommendations with you and revise them where necessary. This geotechnical engineering report is based on the proposed site development and scope of services as provided to us by Katsia Lord, AIA, Principal, Vault Design, the type of construction planned, existing site conditions at the time of the field study, and on our findings. Should the planned, proposed use of the site be altered, Lambert and Associates must be contacted, since any such changes may make our suggestions and recommendations inappropriate. This report should be used **ONLY** for the planned development for which this report was tailored and prepared, and **ONLY** to meet information needs of the owner and the owner's representatives. In the event that any changes in the future design or location of the building are planned, the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report are modified or verified in writing. It is recommended that the geotechnical engineer be provided the opportunity for a general review of the final project design and specifications in order that the earthwork and foundation recommendations may be properly interpreted and implemented in the design and specifications.

This report does not provide earthwork specifications. We can provide guidelines for your use in preparing project specific earthwork specifications. Please contact us if you need these for your project.

This report presents both suggestions and recommendations. The suggestions are presented so that the owner and the owner's representatives may compare the cost to the potential risk or benefit for the suggested procedures.

This report contains suggestions and recommendations which are intended to work in concert with recommendations provided by the other design team members to provide somewhat predictable foundation performance. If any of the recommendations are not included in the design and construction of the project it may result in unpredictable foundation performance or performance different than anticipated. We recommend that we be requested to provide

geotechnical engineering observation and materials testing during the construction phase of the project as discussed in this report. The purpose for on site observation and testing by us during construction is to help provide continuity of service from the planning of the project through the construction of the project. This service will also allow us to revise our recommendations if conditions occur or are discovered during construction that were not evidenced during the initial study. We suggest that the owner and the contractor make provisions in their construction budget and construction schedule to accommodate unexpected subsurface conditions.

We represent that our services were performed within the limits prescribed by you and with the usual thoroughness and competence of the current accepted practice of the geotechnical engineering profession in the area. No warranty or representation either expressed or implied is included or intended in this report or our contract. We are available to discuss our findings with you. If you have any questions please contact us. The supporting data for this report is included in the accompanying figures and appendices.

This report is a product of Lambert and Associates. Excerpts from this report used in other documents may not convey the intent or proper concepts when taken out of context, or they may be misinterpreted or used incorrectly. Reproduction, in part or whole, of this document without prior written consent of Lambert and Associates is prohibited.

This report and information presented can be used only for this site, for this proposed development, and only for the client for whom our work was performed. Any other circumstances are not appropriate applications of this information. Other development plans will require project specific review by us.

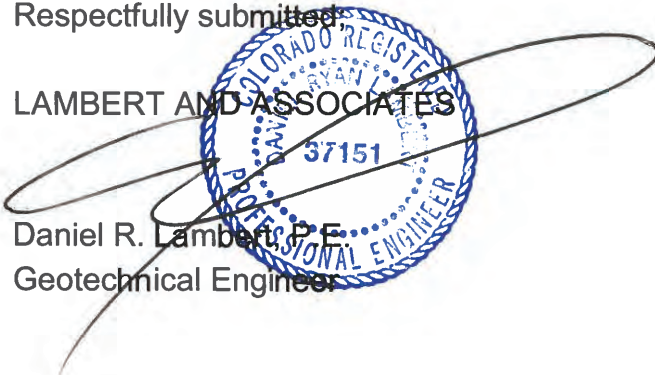
Please call when further consultation or observations and tests are required.

If you have any questions concerning this report or if we may be of further assistance, please contact us.

Respectfully submitted,

LAMBERT AND ASSOCIATES

Daniel R. Lambert, P.E.  
Geotechnical Engineer



**Lambert and Associates**  
CONSULTING GEOTECHNICAL ENGINEERS  
AND MATERIAL TESTING

## APPENDIX A

The field study was performed on April 25, 2022. The field study consisted of logging and sampling the soils encountered in five (5) test borings. The approximate locations of the test borings are shown on Figure 2. The log of the soils encountered in the test borings are presented on Figures A2 through A6.

The test borings were logged by Lambert and Associates and samples of significant soil types were obtained. The samples were obtained from the test borings using a Modified California Barrel sampler and bulk disturbed samples were obtained. Penetration blow counts were determined using a 140 pound hammer free falling 30 inches. The blow counts are presented on the logs of the test borings such as 11/6 where 11 blows with the hammer were required to drive the sampler 6 inches.

The engineering field description and major soil classification are based on our interpretation of the materials encountered and are prepared according to the Unified Soil Classification System, ASTM D2488. The description and classification which appear on the test boring log is intended to be that which most accurately describes a given interval of the test boring (frequently an interval of several feet). Occasionally discrepancies occur in the Unified Soil Classification System nomenclature between an interval of the soil log and a particular sample in the interval. For example, an interval on the test boring log may be identified as a silty sand (SM) while one sample taken within the interval may have individually been identified as a sandy silt (ML). This discrepancy is frequently allowed to remain to emphasize the occurrence of local textural variations in the interval.

The stratification lines presented on the logs are intended to present our interpretation of the subsurface conditions encountered in the test boring. The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

# KEY TO LOG OF TEST BORING

Date Drilled:

Field Engineer:

Boring Number:

Location:

Elevation:

Diameter:

Total Depth:

Depth to Water at Time of Drilling:

Symbol	Depth	Sample		Soil Description	Laboratory Test Results
		Type	N		
	0			Sand, silty, medium dense, moist, tan (SM)	Notes in this column indicate tests performed and test results if not plotted.
				Unified Soil Classification	DD: Indicates dry density in pounds per cubic foot
				Indicates Bulk Bag Sample	MC: Indicates moisture content as percent of dry unit weight
				Indicates Drive Sample	LL: Indicates Liquid Limit
				Indicates Sampler Type:	PL: Indicates Plastic Limit
				C - Modified California	PI: Indicates Plasticity Index
				SS - Standard Split Spoon	
				H - Hand Sampler	
	5	C		7/6	
				Indicates seven blows required to drive the sampler six (6) inches with a hammer that weighs one hundred forty pounds and is dropped thirty inches.	
				BOUNCE: Indicates no further penetration occurred with additional blows with the hammer	
				NR: Indicates no sample recovered	
				CAVED: Indicates depth the test boring caved after drilling	
				▼ Indicates the location of free subsurface water when measured	
				CLAY	Note: Symbols are often used only to help visually identify the described information presented on the log.
				SILT	
				SAND	
				GRAVEL	
				FORMATION	
				SANDSTONE	
	20				
	25				

Project Name: Lot 109R - Telluride Mountain Village

Project Number:

M22015GE



Figure: A1

**Lambert and Associates**

CONSULTING GEOTECHNICAL ENGINEERS AND MATERIAL TESTING

# LOG OF TEST BORING

Date Drilled: April 25, 2022      Field Engineer: DRL      TB Number: 1  
 Location: See test boring location diagram      Elevation:  
 Diameter: 4 inch      Total Depth: 16 feet      Depth to Water at Time of Exc: None Encountered

Symbol	Depth	Sample		Soil Description	Laboratory Test Results
		Type	N		
	0			Fill Material - Clay, sandy, rock fragments	
	5	C	11/6" 16/6"		
	10	C	8/6" 10/6"	Clay, sandy, rock fragments, stiff, moist, brown, tan	Swell/Consolidation Test: DD: 110 pcf      MC: 10.7%
	15	C	8/6" 9/6"		Swell/Consolidation Test: DD: 123 pcf      MC: 12.7%
	20			Bottom of Test Boring at 16 feet	
	25				

Project Name: Lot 109R - Telluride Mountain Village

Project Number: M22015GE

Figure: A2

**Lambert and Associates**

CONSULTING GEOTECHNICAL ENGINEERS AND MATERIAL TESTING

# LOG OF TEST BORING

Date Drilled: April 25, 2022

Field Engineer: DRL

TB Number: 2








Location: See test boring location diagram

Elevation:

Diameter: 4 inch

Total Depth: 16 feet

Depth to Water at Time of Exc: 13 feet

Symbol	Depth	Sample		Soil Description	Laboratory Test Results
		Type	N		
	0			Fill Material - Clay, sandy, rock fragments	
				Clay, sandy, rock fragments, stiff, moist to wet, brown, tan	
	5	C	6/6" 10/6"		
	10	C	5/6" 6/6"		
	15	C	3/6" 4/6"	* Increased Rock Fragments	
				Bottom of Test Boring at 16 feet	
	20				
	25				

Project Name: Lot 109R - Telluride Mountain Village

Project Number: M22015GE

Figure: A3

**Lambert and Associates**

CONSULTING GEOTECHNICAL ENGINEERS AND MATERIAL TESTING

# LOG OF TEST BORING

Date Drilled: April 25, 2022

Field Engineer: DRL

TB Number: 3


Location: See test boring location diagram

Elevation:

Diameter: 4 inch

Total Depth: 16 feet

Depth to Water at Time of Exc: 11 feet

Symbol	Depth	Sample		Soil Description	Laboratory Test Results
		Type	N		
	0			Approx. 1 inch Asphalt Granular Fill Material	
	5	C	8/6" 9/6"	Clay, sandy, silty, med stiff, moist, dark brown, gray	LL: 30 PL: 14 PI: 16 - #200: 65.2%
	10	C	4/6" 5/6"	Clay, sandy, rock fragments, stiff, moist to wet, brown, tan	Direct Shear Test: DD: 109 pcf MC: 15.4%
	15	C	4/6" 5/6"		Swell/Consolidation Test: DD: 117 pcf MC: 13.6%
	20			Bottom of Test Boring at 16 feet	
	25				

Project Name: Lot 109R - Telluride Mountain Village

Project Number: M22015GE



Figure: A4

**Lambert and Associates**

CONSULTING GEOTECHNICAL ENGINEERS AND MATERIAL TESTING

# LOG OF TEST BORING


Date Drilled: April 25, 2022      Field Engineer: DRL      TB Number: 4  
 Location: See test boring location diagram      Elevation:  
 Diameter: 4 inch      Total Depth: 24-1/2 feet      Depth to Water at Time of Exc: 11 feet

Symbol	Depth	Sample		Soil Description	Laboratory Test Results
		Type	N		
	0			Approx. 1 inch Asphalt Granular Fill Material	
	5			Clay, sandy, rock fragments, stiff, moist to wet, brown, gray, tan	
	10			▼	
	15			* Intermittent Stiff/Very Stiff Lenses	
	20			* Increased Rock Fragments	
	25			Auger Refusal at 24-1/2 feet	

Project Name: Lot 109R - Telluride Mountain Village      Project Number: M22015GE      Figure: A5

# LOG OF TEST BORING

**Date Drilled:** April 25, 2022      **Field Engineer:** DRL      **TB Number:** 5  
**Location:** See test boring location diagram      **Elevation:**  
**Diameter:** 4 inch      **Total Depth:** 15 feet      **Depth to Water at Time of Exc:** None Encountered

Symbol	Depth	Sample		Soil Description	Laboratory Test Results
		Type	N		
	0			Approx. 1 inch Asphalt Granular Fill Material	
	5			Clay, sandy, rock fragments, stiff, moist, brown, tan	
	10	C	3/6" 2/6"		Direct Shear Test: DD: 108 pcf      MC: 13.2%
	15	C	6/6" 2/6"		Swell/Consolidation Test: DD: 119 pcf      MC: 9.3%
	20			Bottom of Test Boring at 15 feet	
	25				

**Project Name:** Lot 109R - Telluride Mountain Village

**Project Number:** M22015GE

**Figure:** A6

**Lambert and Associates**

CONSULTING GEOTECHNICAL ENGINEERS AND MATERIAL TESTING

## APPENDIX B

The laboratory study consisted of performing:

- . Moisture content and dry density tests,
- . Swell-consolidation tests,
- . Direct Shear Strength tests, and
- . Atterberg Limits tests.

It should be noted that samples obtained using a drive type sleeve sampler may experience some disturbance during the sampling operations. The test results obtained using these samples are used only as indicators of the in situ soil characteristics.

### TESTING

#### Moisture Content and Dry Density

Moisture content and dry density were determined for each sample tested of the samples obtained. The moisture content was determined according to ASTM Test Method D2216 by obtaining the moisture sample from the drive sleeve. The dry density of the sample was determined by using the wet weight of the entire sample tested. The results of the moisture and dry density determinations are presented on the logs of borings, Figures A2 through A6.

#### Swell Tests

Loaded swell tests were performed on drive samples obtained during the field study. These tests are performed in general accordance with ASTM Test Method D2435 to the extent that the same equipment and sample dimensions used for consolidation testing are used for the determination of expansion. A sample is subjected to static surcharge, water is introduced to produce saturation, and volume change is measured as in ASTM Test Method D2435. Results are reported as percent change in sample height.

#### Consolidation Tests

One dimensional consolidation properties of drive samples were evaluated according to the provisions of ASTM Test Method D2435. Water was added in all cases during the test. Exclusive of special readings during consolidation rate tests, readings during an increment of load were taken regularly until the change in sample height was less than 0.001 inch over a two hour period. The results of the swell-consolidation load test are summarized

on Figures B1 through B5, swell-consolidation tests.

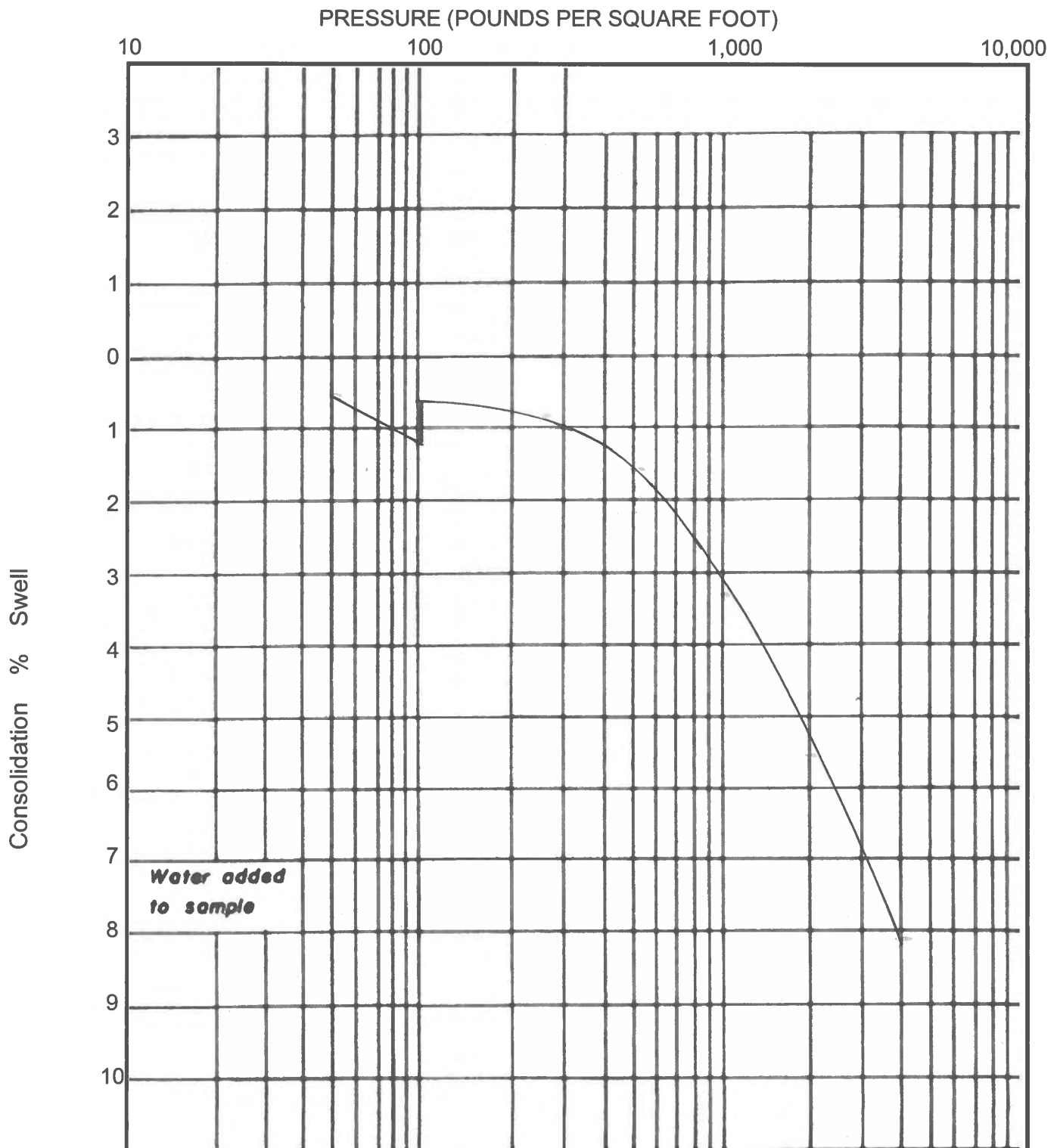
It should be noted that the graphic presentation of consolidation data is a presentation of volume change with change in axial load. As a result, both expansion and consolidation can be illustrated.

### Direct Shear Strength Tests

Direct shear strength properties of drive samples were evaluated in general accordance with testing procedures defined by ASTM Test Method D3080. The results of the direct shear strength test are summarized on Figures B6 and B7, direct shear test.

### Atterberg Limits Tests

Atterberg limits tests were conducted on samples obtained during our field study. The Atterberg limits tests were conducted in general accordance with ASTM Test Method D4318. The results of the Atterberg limits test are presented on Figure A4.

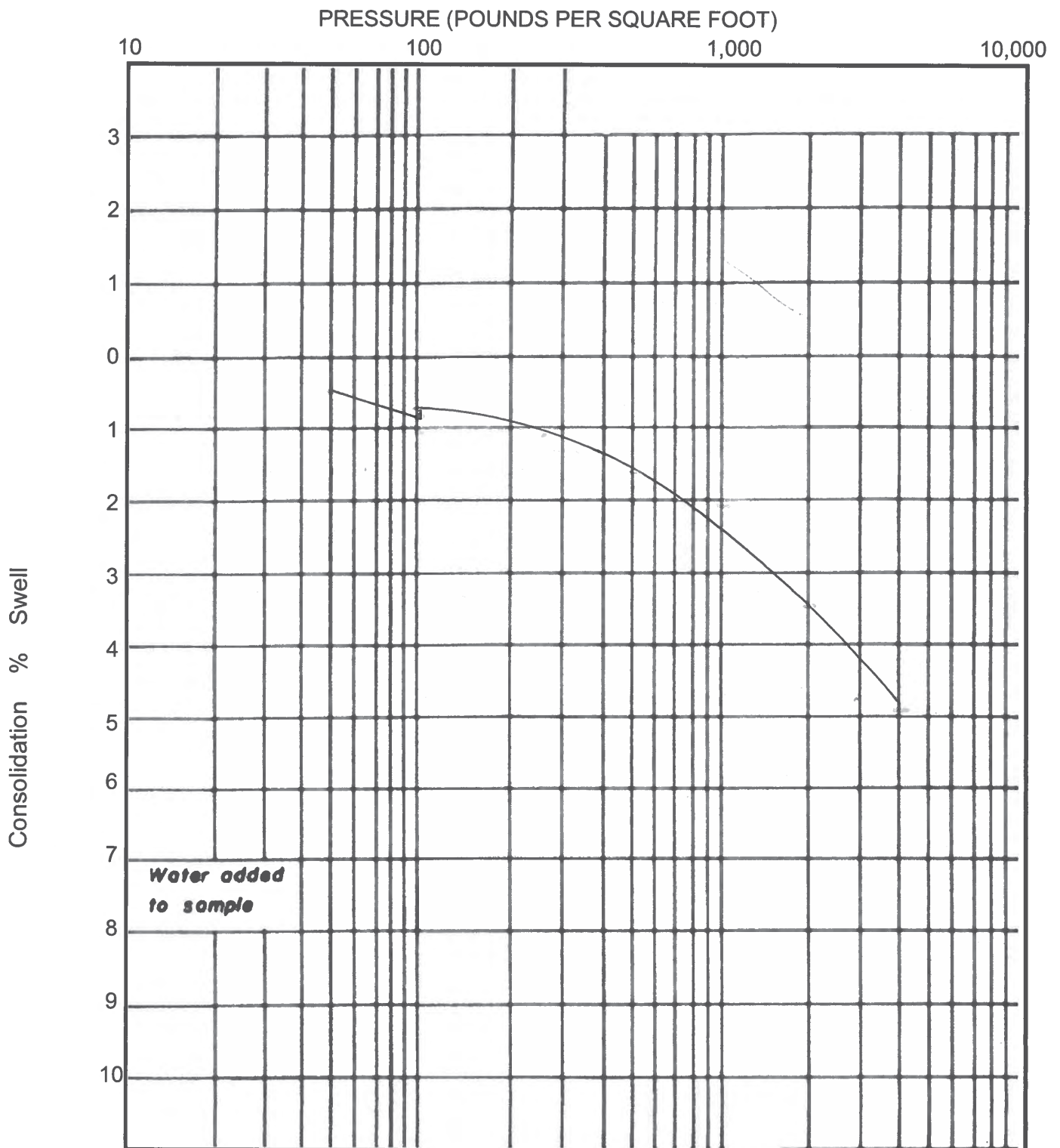


	SUMMARY OF TEST RESULTS				
Boring No. 1	Moisture	Dry Density	Height	Diameter	Swell Pressure
Depth 10-11 ft	Content %	PCF	in	In	PSF
Initial	10.7	110	1.00	1.94	± 300
Final	20.9	118	0.918	1.94	
Soil Description	Clay, sandy, gravels, brown				

### SWELL-CONSOLIDATION TEST

**Lambert and Associates**

Project No.	M22015GE
Date:	August 4, 2022
Figure:	B1

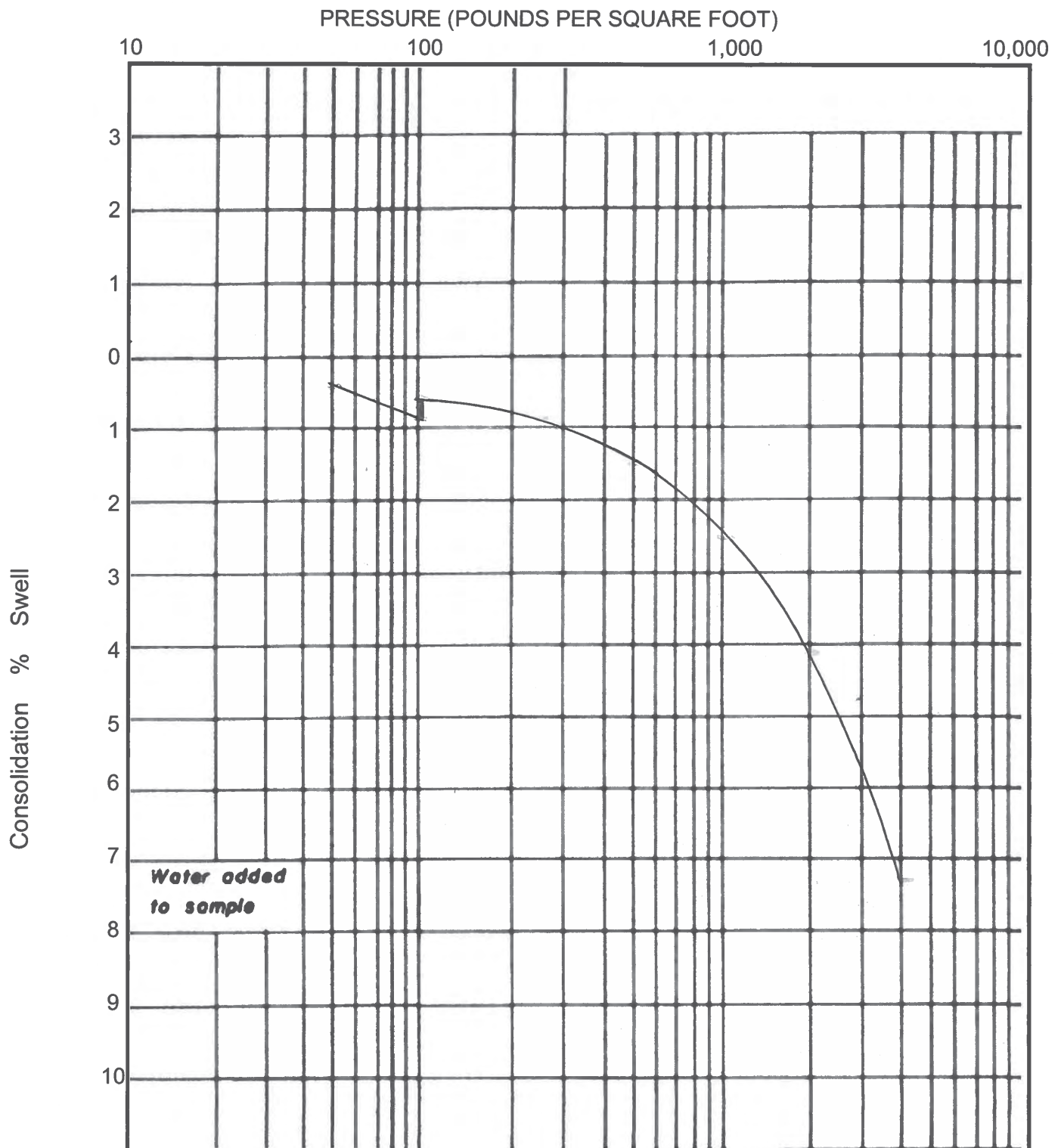


SUMMARY OF TEST RESULTS					
Boring No. 1	Moisture	Dry Density	Height	Diameter	Swell Pressure
Depth 15-16 ft	Content %	PCF	in	In	PSF
Initial	12.7	123	1.00	1.94	± 200
Final	13.5	129	0.952	1.94	
Soil Description	Clay, sandy, gravels, brown				

### SWELL-CONSOLIDATION TEST

**Lambert and Associates**

Project No.	M22015GE
Date:	August 4, 2022
Figure:	B2

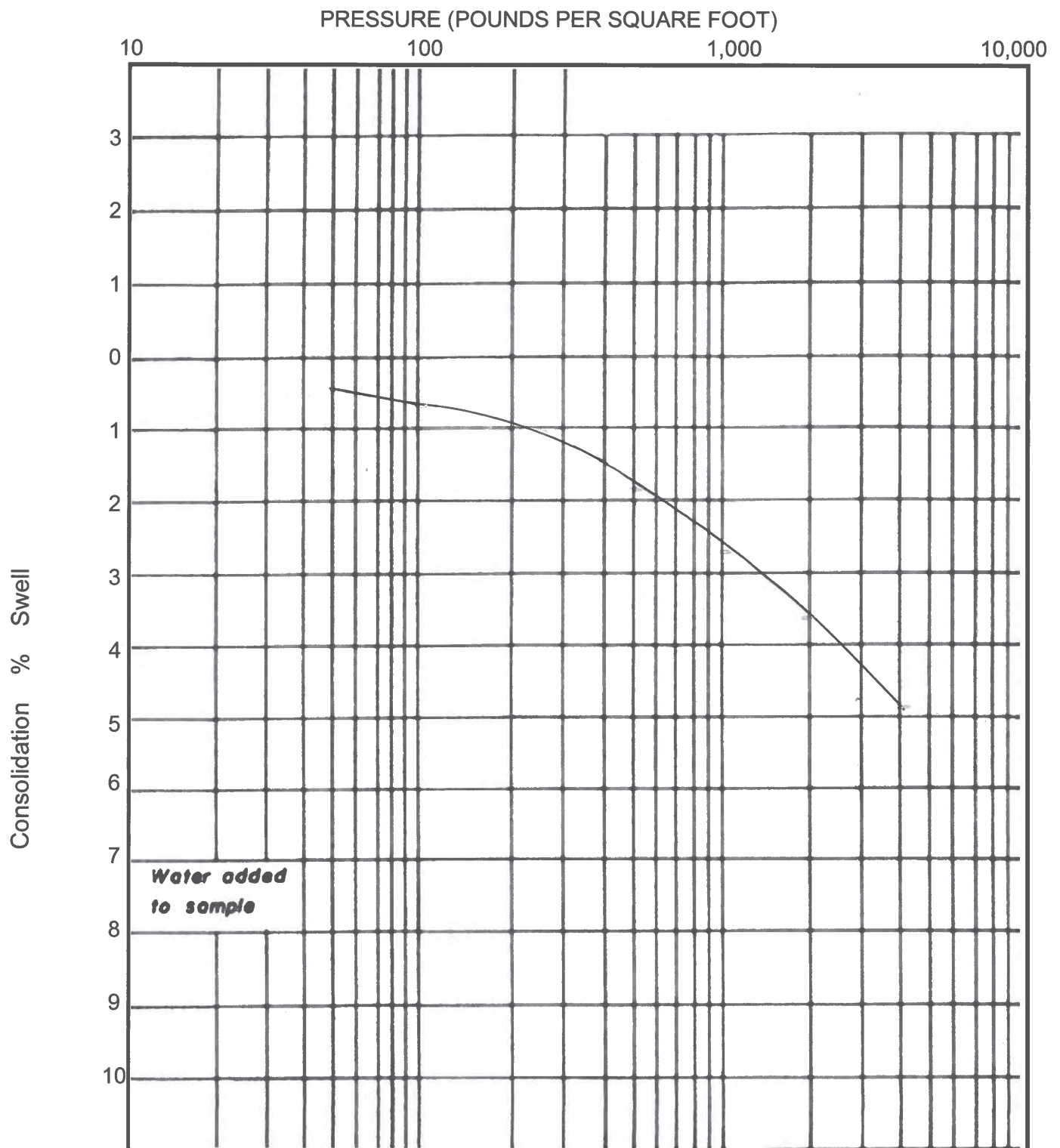


	SUMMARY OF TEST RESULTS				
Boring No. 2 Depth 9-10 ft	Moisture Content %	Dry Density PCF	Height in	Diameter In	Swell Pressure PSF
Initial	19.5	107	1.00	1.94	± 300
Final	21.8	115	0.927	1.94	
Soil Description	Clay, sandy, gravels, brown				

### SWELL-CONSOLIDATION TEST

**Lambert and Associates**

Project No.	M22015GE
Date:	August 4, 2022
Figure:	B3

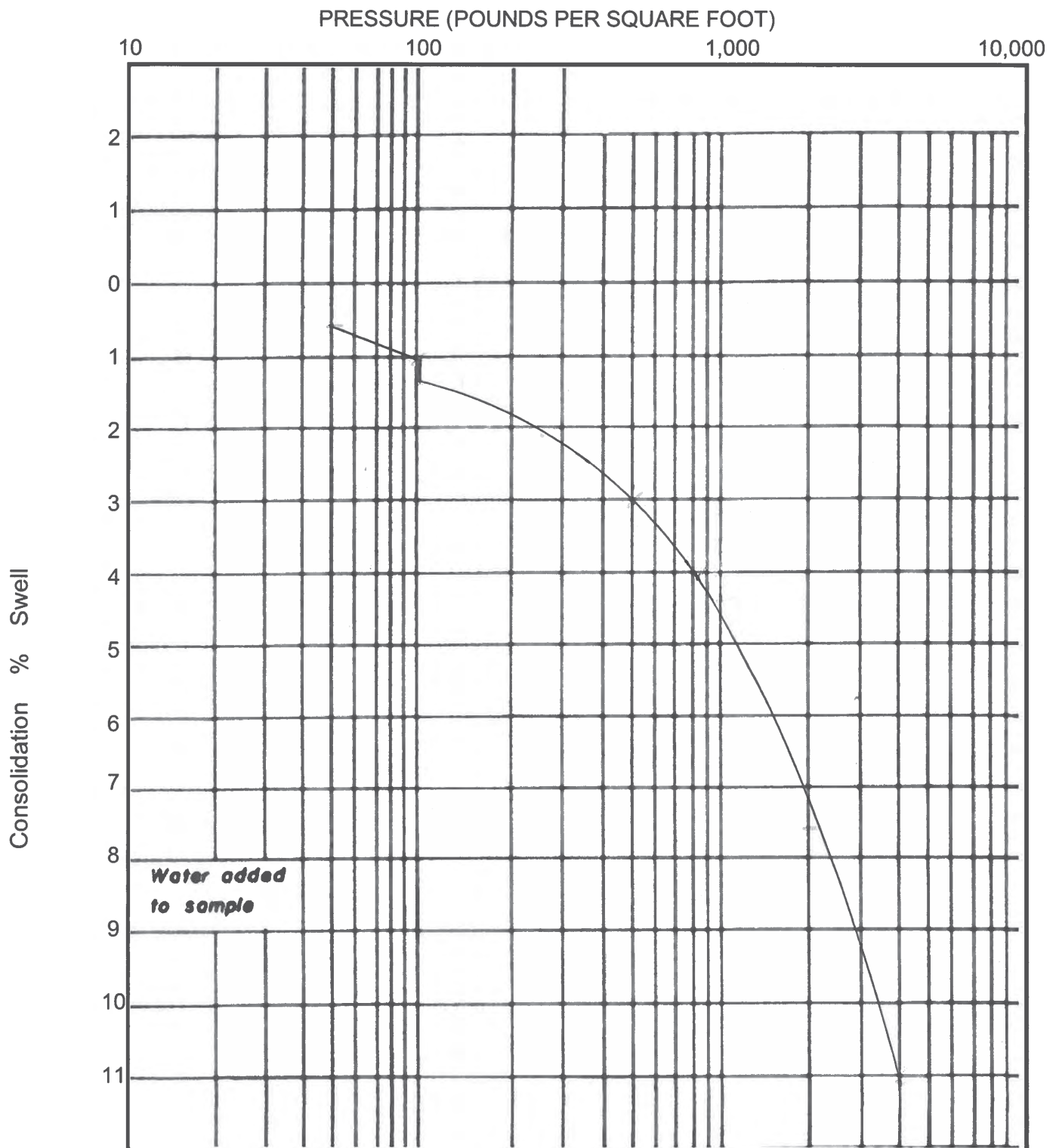


SUMMARY OF TEST RESULTS					
Boring No. 3	Moisture	Dry Density	Height	Diameter	Swell Pressure
Depth 15-16 ft	Content %	PCF	in	In	PSF
Initial	13.6	117	1.00	1.94	± 150
Final	14.8	121	0.952	1.94	
Soil Description	Clay, sandy, dark brown				

### SWELL-CONSOLIDATION TEST

**Lambert and Associates**

Project No.	M22015GE
Date:	August 4, 2022
Figure:	B4



	SUMMARY OF TEST RESULTS				
Boring No. 5 Depth 14-15 ft	Moisture Content %	Dry Density PCF	Height in	Diameter In	Swell Pressure PSF
Initial	9.3	119	1.00	1.94	≤ 100
Final	17.1	124	0.888	1.94	
Soil Description	Sand, gravel, clayey, brown				

### SWELL-CONSOLIDATION TEST

**Lambert and Associates**

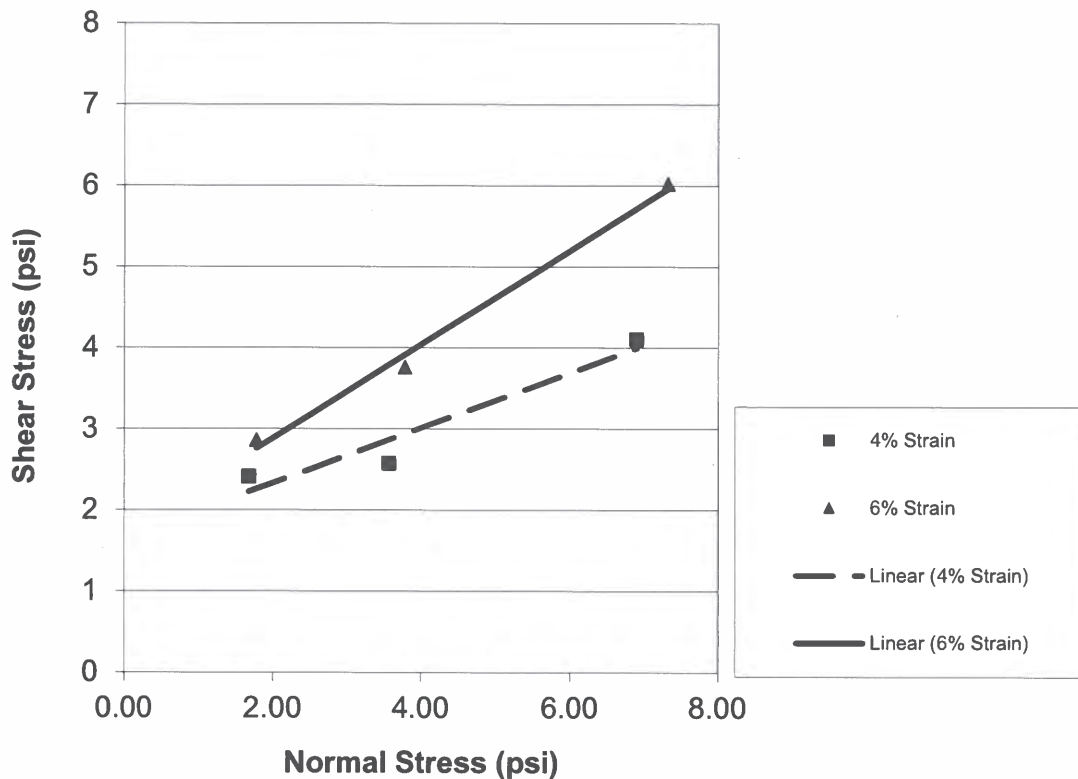
Project No.	M22015GE
Date:	August 4, 2022
Figure:	B5

# Lambert and Associates

CONSULTING GEOTECHNICAL ENGINEERS AND MATERIAL TESTING

Project:	Lot 109R Telluride	Project Number:	M22015GE	Date Sampled:	4/25/2022
Location:	Telluride, CO	Sample Source:	TB 3 @ 10-11 ft	Lab Sample #:	4390
Sample Description:	Clay, sandy, gravels, brown	Date Tested:	5/16/2022	Tested By:	AC

## Direct Shear Test Results



% Strain	Cohesion (psf)	Friction Angle (deg)
4	239	19
6	249	30

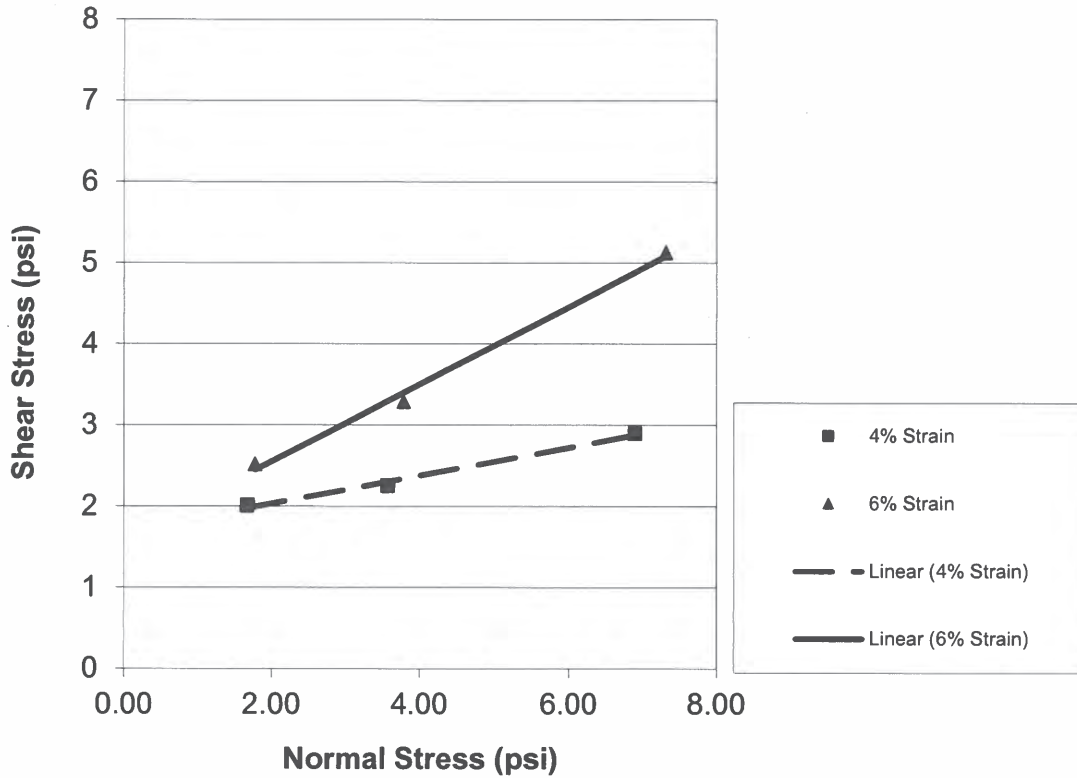
Project No.:	M22015GE
Date:	August 4, 2022
Figure:	B6

# Lambert and Associates

CONSULTING GEOTECHNICAL ENGINEERS AND MATERIAL TESTING

Project:	Lot 109R Telluride	Project Number:	M22015GE	Date Sampled:	4/25/2022
Location:	Telluride, CO	Sample Source:	TB 5 @ 9-10 ft	Lab Sample #:	4390
Sample Description:	Clay, sandy, gravels, brown	Date Tested:	5/17/2022	Tested By:	AC

## Direct Shear Test Results



% Strain	Cohesion (psf)	Friction Angle (deg)
4	243	10
6	231	25

Project No.:	M22015GE
Date:	August 4, 2022
Figure:	B7

## APPENDIX C

GEOLOGY DISCUSSION  
SOUTHWEST COLORADO GEOLOGY

Southwest Colorado exhibits many geologic features formed by a multitude of geologic processes. Regional inundation, uplift, volcanism and glaciation are responsible for some of the complex geology of the region. Many theories and speculations concerning the mode of occurrence of the regions's geology have been presented over the years. This cursory discussion of the geology of southwest Colorado presents some theories accepted by the geologic community, but is only intended to introduce the basic concepts and restraints that arise due to geologic activity.

Prior to the formation of the Rocky Mountains southwest Colorado was a primarily a flat lying region with little topographic expression. The North American continent was experiencing many episodes of deposition. The Transcontinental Sea was transgressing and regressing across the continent, these transgressions and regressions are the cause for such diverse rock types. The stratigraphic column in southwestern Colorado expresses rock types from variable depositional environments. Limestones are formed in deeper water, sandstones are formed in beach and tidal flat environments, while arkosic sandstone and conglomerates are formed in alluvial plains and fans. Particle size and mineralogic content in rock units are related to the depositional environment. A sandstone or conglomerate would not be likely to form in a deep sea environment because there would not be enough energy to carry such large particles a great distance from the source lands. As one observes the stratigraphic column of southwest Colorado a siltstone may be overlain by a sandstone which is in turn overlain by a siltstone. This represents a regressional then transgressional sequence. Many such sequences or combinations of other rock units are exhibited throughout southwest Colorado.

The final regression of the sea may have been caused by orogenic activity and uplift. This uplift was not confined to Colorado, it was a regional uplift that occurred in many stages. The uplift is what caused the formation of the ancestral rockies. The Larimide Orogenic episode is responsible for the formation of the San Juan dome. (Note: The San Juan dome theory is not accepted by the entire geologic community. It is used here for descriptive purposes). The San Juan dome was essentially an upwarp of the stratigraphy formed by sedimentation during the Transcontinental Sea. An actual dome probably never

existed due to erosion during the uplift. The idea being that a dome of sediments and rock units would have existed had erosion and diastrophism not taken place. The orientation of bedding planes forms a radial pattern around the San Juan region which seems to vindicate this theory.

The stresses need to "upwarp" this large area were obviously tremendous. Locally occurring stresses may not be sufficient to move this quantity of material, global tectonics, directly or indirectly, may have been involved. Compression of the entire North American plate could have occurred. The magnitude of the stresses and the deep seated origin of these stresses also have caused extensive volcanism. Colorado has many large remnants of Calderas that were active during the orogenic activity. The Silverton and Lake City Calderas are the largest in the San Juan region. Activity in the Silverton Caldera has been estimated (radiometrically) to have occurred 22 million years ago. Calderas of this magnitude are believed to have formed by the collapse of epierogenic magma chambers. Volcanic and metamorphic rock bodies are common in the San Juan region, many of these units are related to the orogenic activity in the region.

Faults associated with local orogenic activity are another common geologic feature found in southwestern Colorado. As stated previously, extreme stresses were probably associated with the formation of the San Juan Mountains and may be responsible for deep-seated volcanic and metamorphic processes. These stresses had to be released, the geologic mode for stress release is faulting. Diastrophic activity in the area today is quite low, the lack of seismic activity indicates that stresses are not currently being released. An explanation for the loss of stresses is through faulting.

The last episode of regional geologic activity in the area was glaciation. The most recent period of glacial activity ended approximately 10,000 years ago. Glacial activity is responsible for much of the topographic expression in the area. "U-Shaped" valleys, moraine deposits, tarns, (glacial formed lakes), and rock glaciers are the most prominent features which are found in southwestern Colorado as a result of glacial activity. The valley configurations are a result of the erosional activity of the glaciers. Moraine deposits developed during the glacial activity. Rock glaciers are moving masses of rock which are thought to have an ice core which may be the last remnant of glacial ice. As the subsurface ice core moves and melts, the overlying mass of rock also moves.

## APPENDIX D

### GENERAL GEOTECHNICAL ENGINEERING CONSIDERATIONS

#### D1.0 INTRODUCTION

Appendix D presents general geotechnical engineering considerations for design and construction of structures which will be in contact with soils. The discussion presented in this appendix are referred to in the text of the report and are intended as tutorial and supplemental information to the appropriate sections of the text of the report.

#### D2.0 FOUNDATION RECOMMENDATIONS

Two criteria for any foundation which must be satisfied for satisfactory foundation performance are:

- . contact stresses must be low enough to preclude shear failure of the foundation soils which would result in lateral movement of the soils from beneath the foundation, and
- . settlement or heave of the foundation must be within amounts tolerable to the superstructure.

The soils encountered during our field study have varying engineering characteristics that may influence the design and construction considerations of the foundations. The characteristics include swell potential, settlement potential, bearing capacity and the bearing conditions of the soils supporting the foundations. The general discussion below is intended to increase the readers familiarity with characteristics that can influence any structure.

##### D2.1 Swell Potential

Some of the materials encountered during our field study at the anticipated foundation depth may have swell potential. Swell potential is the tendency of the soil to increase in volume when it becomes wetted. The volume change occurs as moisture is absorbed into the soil and water molecules become attached to or adsorbed by the individual clay platlets. Associated with the process of volume change is swell pressure. The swell pressure is the force the soil applies on its surroundings when moisture is absorbed into the soil. Foundation design considerations concerning swelling soils include structure tolerance to movement and dead load pressures to help restrict uplift. The structure's tolerance to movement should be addressed by the structural engineer and is dependent upon many facets of the design including the overall structural concept and the building material. The uplift forces or pressure due to wetted clay soils can be addressed by designing the foundations with a minimum dead load and/or placing the foundations on a blanket of compacted structural fill. The compacted structural fill blanket will increase the dead load on the swelling foundations soils and will

increase the separation of the foundation from the swelling soils. Suggestions and recommendations for design dead load and compacted structural fill blanket are presented below. Compacted structural fill recommendations are presented under COMPACTED STRUCTURAL FILL below.

## D2.2 Settlement Potential

Settlement potential of a soil is the tendency for the soil to experience volume change when subjected to a load. Settlement is characterized by downward movement of all or a portion of the supported structure as the soil particles move closer together resulting in decreased soil volume. Settlement potential is a function of;

- . foundation loads,
- . depth of footing embedment,
- . the width of the footing, and
- . the settlement potential or compressibility of the influenced soil.

Foundation design considerations concerning settlement potential include the amount of movement tolerable to the structure and the design and construction concepts to help reduce the potential movement. The settlement potential of the foundation can be reduced by reducing foundation pressures and/or by placing the foundations on a blanket of compacted structural fill. The anticipated post construction settlement potential and suggested compacted fill thickness recommendations are based on site specific soil conditions and are presented in the text of the report.

## D2.3 Soil Support Characteristics

The soil bearing capacity is a function of;

- . the engineering properties of the soil material supporting the foundations,
- . the foundation width,
- . the depth of embedment of the bottom of the foundation below the
- . lowest adjacent grade,
- . the influence of the ground water, and
- . the amount of settlement tolerable to the structure.

Soil bearing capacity and associated minimum depth of embedment are presented in the text of the report.

The foundation for the structure should be placed on relatively uniform bearing conditions. Varying support characteristics of the soils supporting the foundation may result in nonuniform or differential performance of the foundation. Soils encountered at foundation depths may contain cobbles and boulders. The cobbles and boulders encountered at foundation depths

may apply point loads on the foundation resulting in nonuniform bearing conditions. The surface of the formational material may undulate throughout the building site. If this is the case it may result in a portion of the foundation for the structure being placed on the formational material and a portion of the foundation being placed on the overlying soils. Varying support material will result in nonuniform bearing conditions. The influence of nonuniform bearing conditions may be reduced by placing the foundation members on a blanket of compacted structural fill. Suggestions and recommendations for constructing compacted structural fill are presented under COMPACTED STRUCTURAL FILL below and in the text of the report.

### D3.0 COMPACTED STRUCTURAL FILL

Compacted structural fill is typically a material which is constructed for direct support of structures or structural components.

There are several material characteristics which should be examined before choosing a material for potential use as compacted structural fill. These characteristics include;

- . the size of the larger particles,
- . the engineering characteristics of the fine grained portion of material matrix,
- . the moisture content that the material will need to be for compaction with respect to the existing initial moisture content,
- . the organic content of the material, and
- . the items that influence the cost to use the material.

Compacted fill should be a non-expansive material with the maximum aggregate size less than about two (2) inches and less than about twenty five (25) percent coarser than three quarter (3/4) inch size.

The reason for the maximum size is that larger sizes may have too great an influence on the compaction characteristics of the material and may also impose point loads on the footings or floor slabs that are in contact with the material. Frequently pit-run material or crushed aggregate material is used for structural fill material. Pit-run material may be satisfactory, however crushed aggregate material with angular grains is preferable. Angular particles tend to interlock with each other better than rounded particles.

The fine grained portion of the fill material will have a significant influence on the performance of the fill. Material which has a fine grained matrix composed of silt and/or clay which exhibits expansive characteristics should be avoided for use as structural fill. The moisture content of the material should be monitored during construction and maintained near optimum moisture content for compaction of the material.

Soil with an appreciable organic content may not perform adequately for use as structural fill material due to the compressibility of the material and ultimately due to the decay of the organic portion of the material.

#### D4.0 RADON CONSIDERATIONS

Information presented in "Radon Reduction in New Construction, An Interim Guide: OPA-87-009 by the Environmental Protection Agency dated August 1987 indicates that currently there are no standard soil tests or specific standards for correlating the results of soil tests at a building site with subsequent indoor radon levels. Actual indoor levels can be affected by construction techniques and may vary greatly from soil radon test results. Therefore it is recommended that radon tests be conducted in the structure after construction is complete to verify the actual radon levels in the home.

We suggest that you consider incorporating construction techniques into the development to reduce radon levels in the residential structures and provide for retrofitting equipment for radon gas removal if it becomes necessary.

Measures to reduce radon levels in structures include vented crawl spaces with vapor barrier at the surface of the crawl space to restrict radon gas flow into the structure or a vented gravel layer with a vapor barrier beneath a concrete slab-on-grade floor to allow venting of radon gas collected beneath the floor and to restrict radon gas flow through the slab-on-grade floor into the structure. These concepts are shown on Figure D1.

If you have any questions or would like more information about radon, please contact us or the State Health Department at 303-692-3030.

Replat and Rezone  
of Lot 109R, Tract OS-3BR-2B, Tract OS-3BR-2C, Tract OS-3BR-2D, Tract OS-3BR-2E, Tract OS-3BR-2F, Tract OS-3BR-2G  
Town of Mountain Village, County of San Miguel, State of Colorado.

CERTIFICATE OF OWNERSHIP

KNOW ALL PERSONS BY THESE PRESENTS:

TIARA TELLURIDE, LLC – (Title Commitment Parcel A) THAT  
Tiara Telluride, LLC, a Colorado limited liability company  
("TIARA TELLURIDE"), is the owner in fee simple of:

LOT 109R TELLURIDE MOUNTAIN VILLAGE ACCORDING TO THE  
REPLAT OF LOTS 73–76R, 109, 110, TRACT 89–A AND TRACT  
OS–3BR–1 RECORDED MARCH 18, 2011 IN PLAT BOOK 1 AT  
PAGE 4455, COUNTY OF SAN MIGUEL, STATE OF COLORADO

TOGETHER WITH

TRACT OS–3BR–2A, TRACT OS–3BR–2B, TRACT OS–3BR–2C,  
TRACT OS–3BR–2D, TRACT OS–3BR–2E, TRACT OS–3BR–2F  
and TRACT OS–3BR–2G, MOUNTAIN VILLAGE, ACCORDING TO  
THE REPLAT OF TRACT OS–3XRR AND TRACT OS–3BR–2, TOWN  
OF MOUNTAIN VILLAGE, RECORDED \_\_\_\_\_ IN PLAT  
BOOK 1 AT PAGE \_\_\_\_\_, COUNTY OF SAN MIGUEL, STATE  
OF COLORADO.

TIARA TELLURDE DOES HEREBY , EXECUTE, DELIVER, AND  
ENTER INTO this Replat under the name and style of "REPLAT  
AND REZONE OF LOT 109R, TRACT OS–3BR–2B, TRACT  
OS–3BR–2C, TRACT OS–3BR–2D, TRACT OS–3BR–2E, TRACT  
OS–3BR–2F, TRACT OS–3BR–2G, TOWN OF MOUNTAIN VILLAGE  
, COUNTY OF SAN MIGUEL, STATE OF COLORADO" (the  
"Replat"); AND

THEREBY, CREATE the following new parcels LOT 109R2, TRACT  
OS–3BR–ROW, TRACT OS–3BR–2B1, TRACT OS–3BR–2C1,  
TRACT OS–3BR–2D1, TRACT OS–3BR–2E1,TRACT OS–3BR–2F1,  
TRACT OS–3BR–2G1 TOWN OF MOUNTAIN VILLAGE ("Created  
Parcels")

TIARA TELLURDE hereby vacates the former property boundary  
lines of LOT 109R, TRACT OS–3BR–2B, TRACT OS–3BR–2C,  
TRACT OS–3BR–2D, TRACT OS–3BR–2E, TRACT OS–3BR–2F,  
TRACT OS–3BR–2G and establishes the boundaries of Created  
Parcels as set forth, depicted and described on this Replat.

TIARA TELLURDE HEREBY CONFIRMS that, by virtue of and  
through this Replat, fee simple title ownership is hereby  
established in and to Lot 109R2 in and to TIARA TELLURDE  
LLC, a Colorado limited liability company and fee simple title  
ownership is hereby established in and to TRACT  
OS–3BR–ROW, TRACT OS–3BR–2B1, TRACT OS–3BR–2C1,  
TRACT OS–3BR–2D1, TRACT OS–3BR–2E1,TRACT OS–3BR–2F1,  
TRACT OS–3BR–2G1, in and to the TOWN OF MOUNTAIN  
VILLAGE

IN WITNESS WHEREOF, Owner executes this Plat as of  
\_\_\_\_\_, 200\_\_\_\_ ("Effective  
Date") for the purposes stated herein.

TAIRA TELLURIDE LLC, A COLORADO LIMITED LIABILITY COMPANY

by:\_\_\_\_\_  
printed name: \_\_\_\_\_  
Title: \_\_\_\_\_

ACKNOWLEDGMENT

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss

The foregoing signature was acknowledged before me this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ A.D. by  
\_\_\_\_\_ as \_\_\_\_\_ TIARA TELLURIDE LLC, A  
COLORADO LIMITED LIABILITY COMPANY

Witness my hand and seal.  
My commission expires \_\_\_\_\_.

Notary Public

Name	Sq. Ft.	Acres	Zoning	Use	DENSITY UNITS	PERSONS OF DENSITY PER UNIT	TOTAL PERSONS OF DENSITY
Lot 109R2	35771	0.821	Village Center	Efficiency Lodge	50	0.5	25
				Lodge	31	0.75	23.25
				Condominium	20	3	60
				Employee Condo	2	3	6
				Employee Dorm	18	1	18
TOTALS					121		132.25
Tract OS-3BR-ROW	77	0.000	Active Open Space				
Tract OS-3BR-2B1	201	0.004	Active Open Space				
Tract OS-3BR-2C1	68	0.001	Active Open Space				
Tract OS-3BR-2D1	2	0.000	Active Open Space				
Tract OS-3BR-2E1	19	0.000	Active Open Space				
Tract OS-3BR-2F1	408	0.009	Active Open Space				
Tract OS-3BR-2G1	546	0.012	Active Open Space				

TOWN OF MOUNTAIN VILLAGE APPROVAL

I, \_\_\_\_\_, as Mayor, of the Town of Mountain  
Village, Colorado, do hereby certify that this Replat has been  
approved by the Town of Mountain Village Town Council in  
accordance with Ordinance No. \_\_\_\_\_, the Development  
Agreement recorded at Reception No. \_\_\_\_\_ and Town of  
Mountain Village Resolution No. \_\_\_\_\_ recorded at Reception  
No. \_\_\_\_\_ which authorized my execution of this Replat. .

\_\_\_\_\_, Mayor, \_\_\_\_\_ Date

ACKNOWLEDGMENT

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss

The foregoing signature was acknowledged before me this \_\_\_\_\_  
day of \_\_\_\_\_, 20\_\_\_\_ A.D. by  
\_\_\_\_\_ as Mayor of the Town of Mountain Village.

Witness my hand and seal.  
My commission expires \_\_\_\_\_.

Notary Public

COMMUNITY DEVELOPMENT DIRECTOR APPROVAL:

I, \_\_\_\_\_, as the Community Development  
Director of Mountain Village, Colorado, do hereby certify that this  
Replat has been approved by the Town in accordance with the  
Community Development Code.

\_\_\_\_\_, \_\_\_\_\_ Date: \_\_\_\_\_  
Community Development Director

TREASURER'S CERTIFICATE

I, the undersigned, Treasurer of the County of San Miguel, do hereby  
certify that according to the records of the San Miguel County  
Treasurer there are no liens against the subdivision or any part  
thereof for unpaid state, county, municipal or local taxes or special  
assessments due and payable, in accordance with Land Use Code  
Section 3–101.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

San Miguel County Treasurer

RECORDER'S CERTIFICATE

This Replat was filed for record in the office of the San Miguel  
County Clerk and Recorder on this \_\_\_\_\_ day of  
\_\_\_\_\_, 20\_\_\_\_, at  
Reception No. \_\_\_\_\_,  
Time \_\_\_\_\_.

San Miguel County Clerk and Recorder

TITLE INSURANCE COMPANY CERTIFICATE

Fidelity National Title Company does hereby certify that we  
have examined the title to the lands herein shown on this  
Replat and that the title to this land is in the name of  
TIARA TELLURIDE LLC, A COLORADO LIMITED LIABILITY COMPANY  
is free and clear of all encumbrances, liens, taxes, and  
special assessments except as follows:

\_\_\_\_\_  
Title Insurance Company Representative

SECURITY INTEREST HOLDER'S CONSENT

The undersigned \_\_\_\_\_, as a beneficiary  
of a deed of trust which constitutes a lien upon the  
declarant's property, recorded at Reception No. \_\_\_\_\_,  
in the San Miguel County Clerk and Recorder's real property  
records, hereby consents to the subdivision of the real  
property as depicted on this Plat and to the dedication of  
land as streets, alleys, roads and other public areas, as  
designated on this Plat, and hereby releases said dedicated  
lands from the lien created by said instrument.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Address: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

ACKNOWLEDGMENT

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss

The foregoing signature was acknowledged before  
me this \_\_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_ A.D. by  
\_\_\_\_\_ as  
\_\_\_\_\_ of \_\_\_\_\_.

Witness my hand and seal.  
My commission expires \_\_\_\_\_.

Notary Public

SURVEYOR'S CERTIFICATE

I, David R. Bulson of Bulson Surveying, a Professional Land  
Surveyor licensed under the laws of the State of Colorado, do  
hereby certify that this REPLAT AND REZONE OF LOT 109R,  
TRACT OS–3BR–2B, TRACT OS–3BR–2C, TRACT OS–3BR–2D,  
TRACT OS–3BR–2E, TRACT OS–3BR–2F, TRACT OS–3BR–2G,  
TOWN OF MOUNTAIN VILLAGE , COUNTY OF SAN MIGUEL, STATE OF  
COLORADO" shown hereon has been prepared under my direct  
responsibility and checking and accurately represents a survey  
conducted under my direct supervision. This survey complies with  
applicable provisions of Title 38, Article 51, C.R.S. to the best  
of my knowledge and belief.

IN WITNESS HEREOF, I here unto affix my hand and official seal  
this \_\_\_\_\_ day of \_\_\_\_\_, A.D. 200\_\_\_\_.

SUBMITTED FOR APPROVAL

P.L.S. No. 37662 \_\_\_\_\_ Date

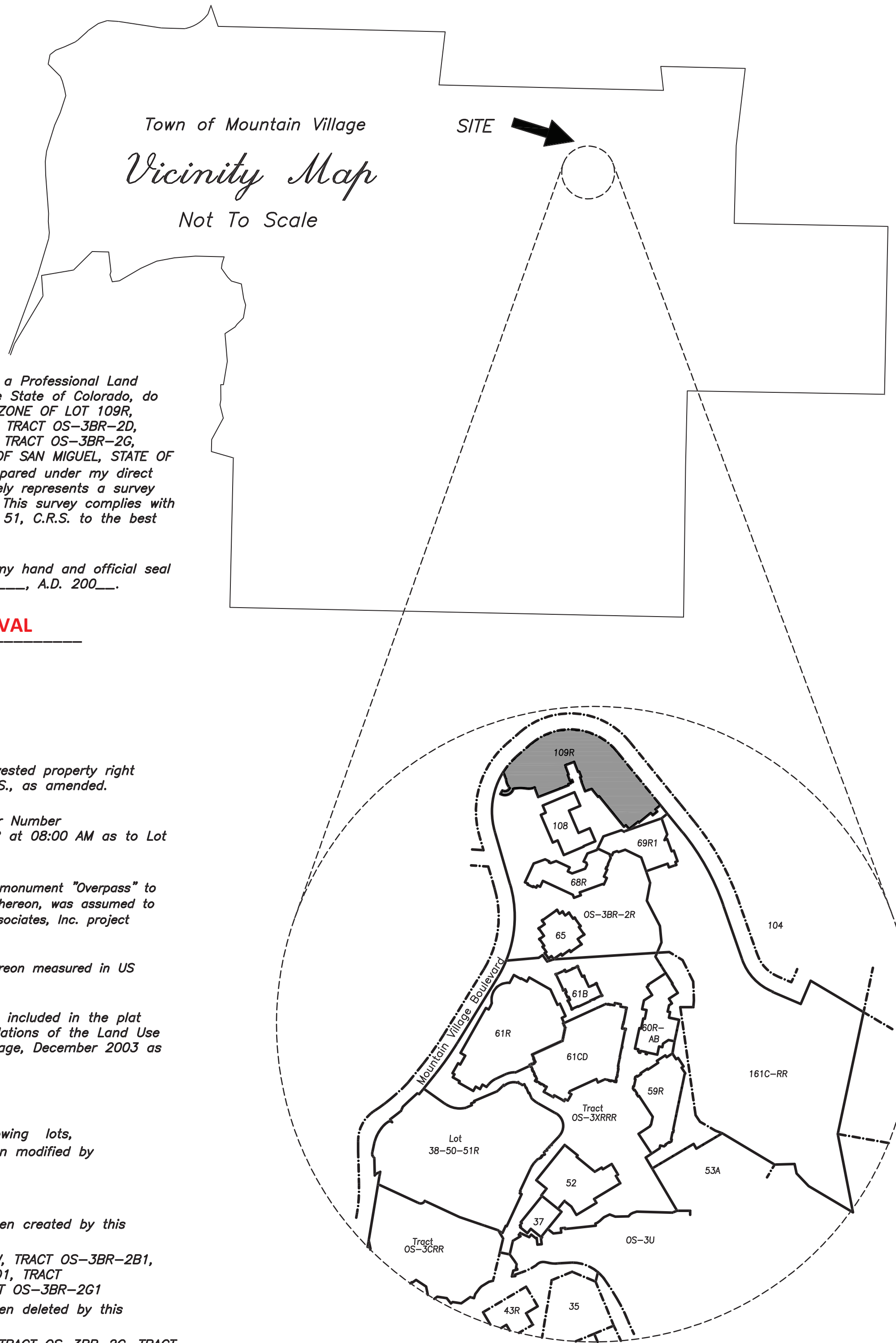
NOTES

- Approval of this plat may create a vested property right  
pursuant to Article 68 of Title 24, C.R.S., as amended.
- Fidelity National Title Company, Order Number  
150–F17796–22 dated October 5, 2022 at 08:00 AM as to Lot  
109R
- BASIS OF BEARINGS. The bearing from monument "Overpass" to  
monument "Rim", as shown monumented hereon, was assumed to  
bear N31°16'24"W according to Banner Associates, Inc. project  
bearings.
- LINEAL UNITS. LINEAL DISTANCES shown hereon measured in US  
survey feet.
- Notice is hereby given that the area included in the plat  
described herein is subject to the regulations of the Land Use  
Ordinance, of the Town of Mountain Village, December 2003 as  
amended.
- NOTES OF CLARIFICATION

- The Configuration of the following lots,  
tracts, and right-of-way have been modified by  
this plat:  
None
- The following lots/tracts have been created by this  
plat:  
Lot 109R2, TRACT OS–3BR–ROW, TRACT OS–3BR–2B1,  
TRACT OS–3BR–2C1, TRACT OS–3BR–2D1, TRACT  
OS–3BR–2E1,TRACT OS–3BR–2F1, TRACT OS–3BR–2G1
- The following lots/tracts have been deleted by this  
plat:  
LOT 109R, TRACT OS–3BR–2B, TRACT OS–3BR–2C, TRACT  
OS–3BR–2D, TRACT OS–3BR–2E, TRACT OS–3BR–2F and TRACT  
OS–3BR–2G

- The approval of this Plat Amendment vacates all prior plats  
and Lot boundary lines for the area described in the Legal  
Description as shown hereon in the Certificate of Ownership.

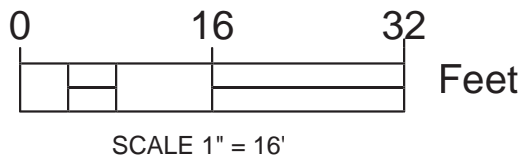
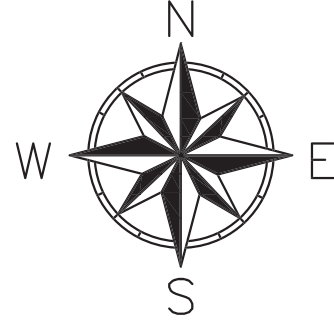
- NOTICE: According to Colorado law you must commence any  
legal action based upon defect in this survey within three years  
after you first discover such defect. In no event may any  
action based upon any defect in this survey be commenced  
more than ten years from the date of the certification shown  
hereon.



Replat and Rezone  
of Lot 109R, Tract OS-3BR-2B, Tract OS-3BR-2C, Tract OS-3BR-2D, Tract OS-3BR-2E, Tract OS-3BR-2F, Tract OS-3BR-2G  
Town of Mountain Village, County of San Miguel, State of Colorado.

Curve Table		Curve Table				
Curve #	Length	Radius	Delta	Chord Bearing	Chord Distance	
C18	13.32'	41.70'	199.57'	S 78° 18' 45" E	13.85'	
C19	5.09'	97.36'	2° 57'	N 29° 59' 39" W	5.89'	
C20	17.92'	38.12'	33° 01'	S 82° 18' 30" W	17.69'	
C21	7.11'	64.28'	4° 28'	N 81° 51' 12" W	7.11'	
C44	16.80'	16.98'	56° 30'	N 88° 08' 39" W	18.41'	
C45	33.48'	19.98'	95° 59'	N 72° 09' 27" E	29.70'	
C48	49.67'	132.50'	21° 29'	S 68° 57' 03" W	49.38'	

Line Table			Line Table		
Line #	Direction	Length	Line #	Direction	Length
L77	N 39° 03' 27" W	1.56'	L92	N 38° 58' 01" W	22.88'
L80	S 39° 00' 00" E	5.99'	L93	S 68° 59' 54" W	15.26'
L81	S 59° 56' 32" W	14.32'	L94	N 21° 00' 23" E	23.15'
L82	S 39° 03' 27" E	6.83'	L95	N 68° 59' 37" E	6.66'
L83	S 59° 56' 32" W	13.80'	L96	N 21° 00' 05" E	6.39'
L84	N 39° 03' 27" W	6.83'	L97	S 21° 00' 05" E	5.00'
L85	S 59° 56' 32" W	33.36'	L98	S 68° 57' 08" W	3.75'
L86	N 39° 03' 27" W	2.50'	L100	N 68° 59' 55" E	3.74'
L87	S 59° 56' 44" W	26.80'	L103	N 80° 13' 23" E	23.74'
L88	N 39° 03' 27" W	11.12'	L104	S 22° 06' 46" E	3.21'
L89	S 59° 56' 32" W	5.38'	L140	S 30° 09' 04" W	9.00'
L90	S 39° 03' 27" E	43.63'			
L91	S 51° 01' 50" W	2.49'			



Monument Legend

- FOUND 1-1/2" ALUMINUM CAP ON No. 5 REBAR, L.S. 24966
- FOUND 1-1/2" ALUMINUM CAP ON No. 5 REBAR, L.S. 24954
- FOUND No. 5 REBAR, NO CAP
- FOUND 1-1/2" ALUMINUM CAP ON 18" No. 5 REBAR, L.S. 37662
- ⊙ FOUND BRASS TAG, L.S. 37662
- ▲ SET BRASS TAG, L.S. 37662

SHEET 2 - PROPERTY DIMENSIONS

Tiara Telluride LLC  
450 South Old Dixie Highway  
Suite 8, Jupiter, FL 33458

October 4, 2022

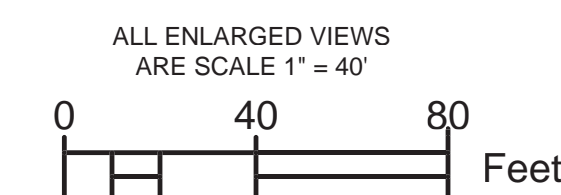
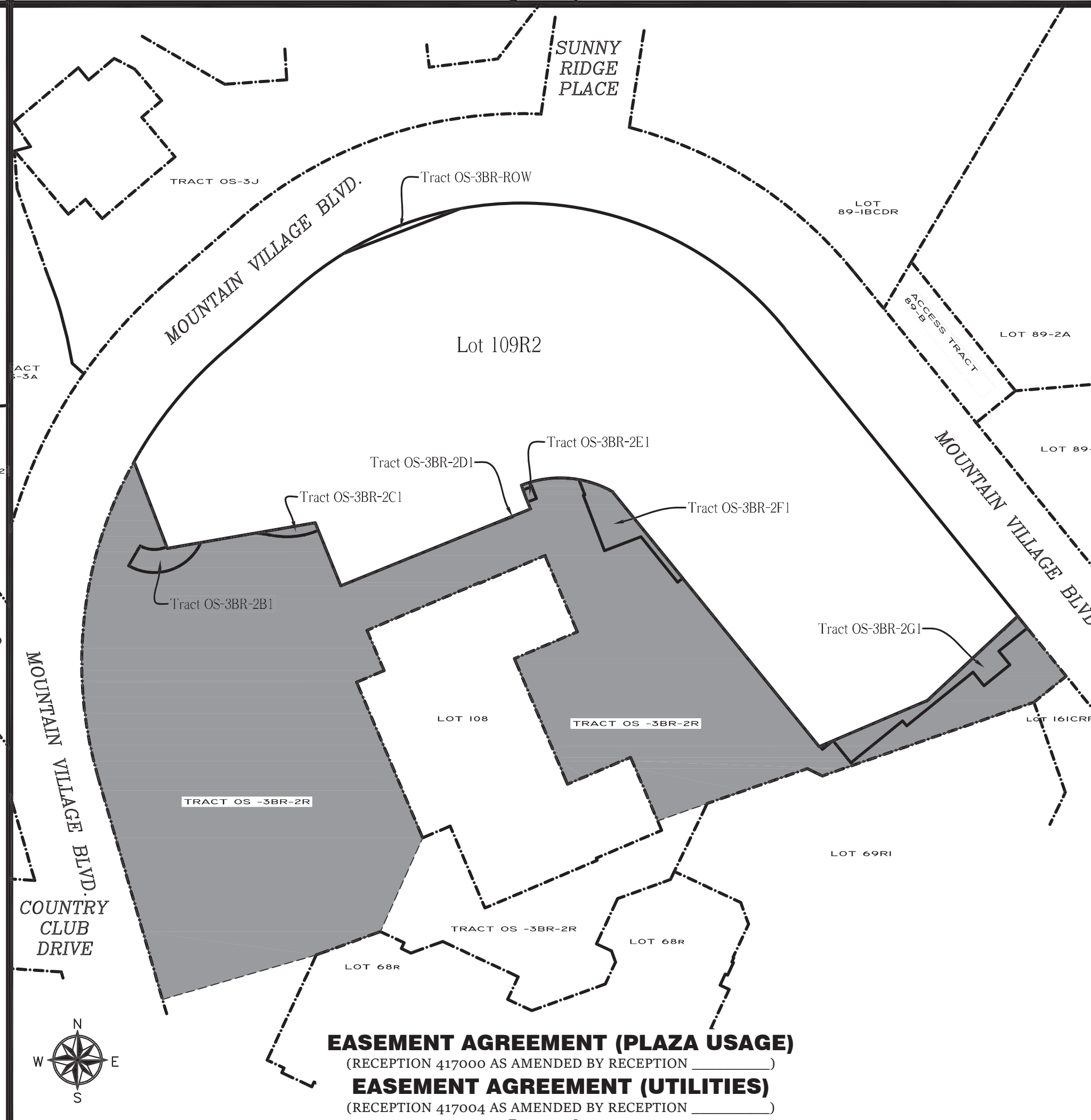
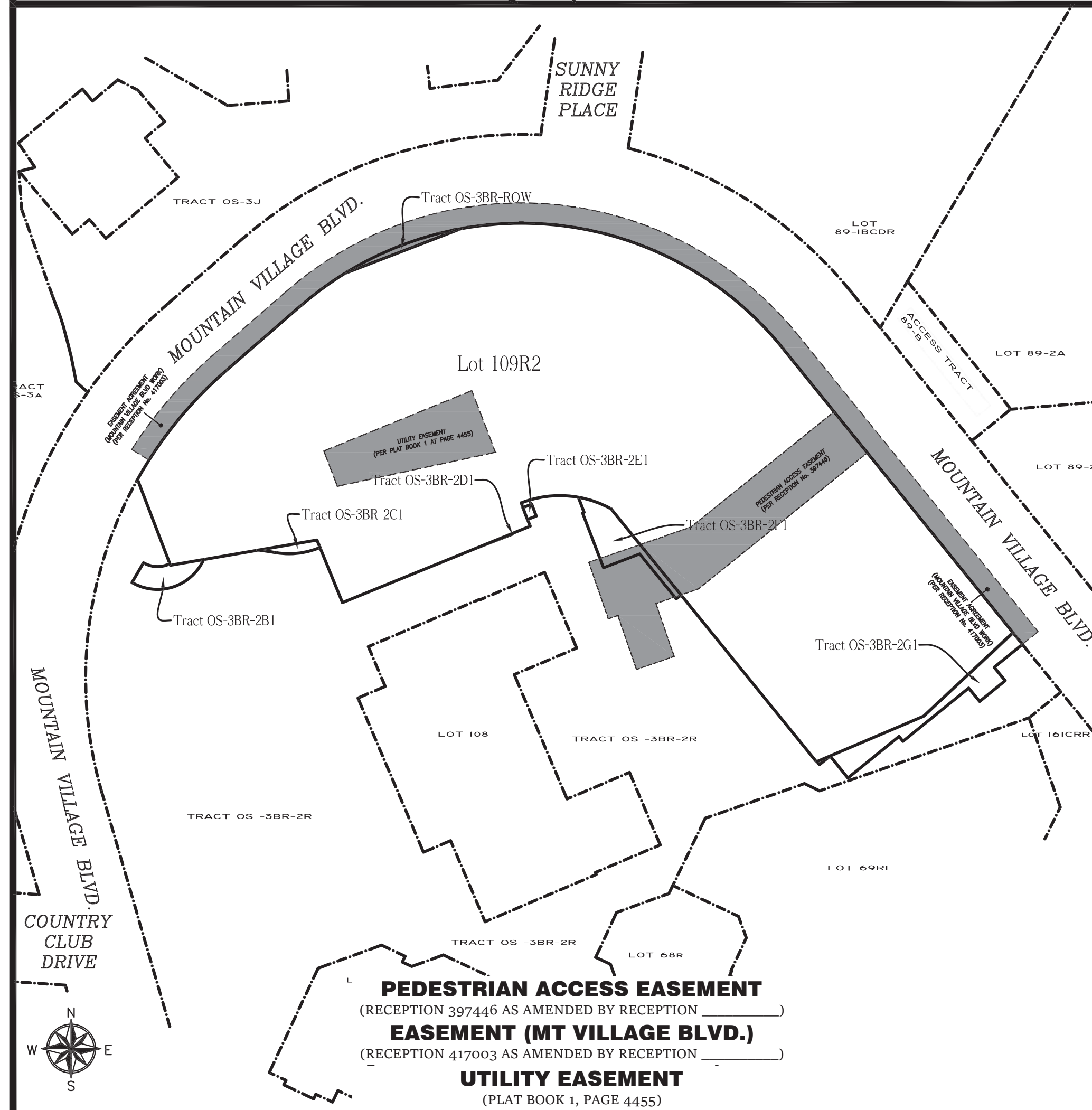
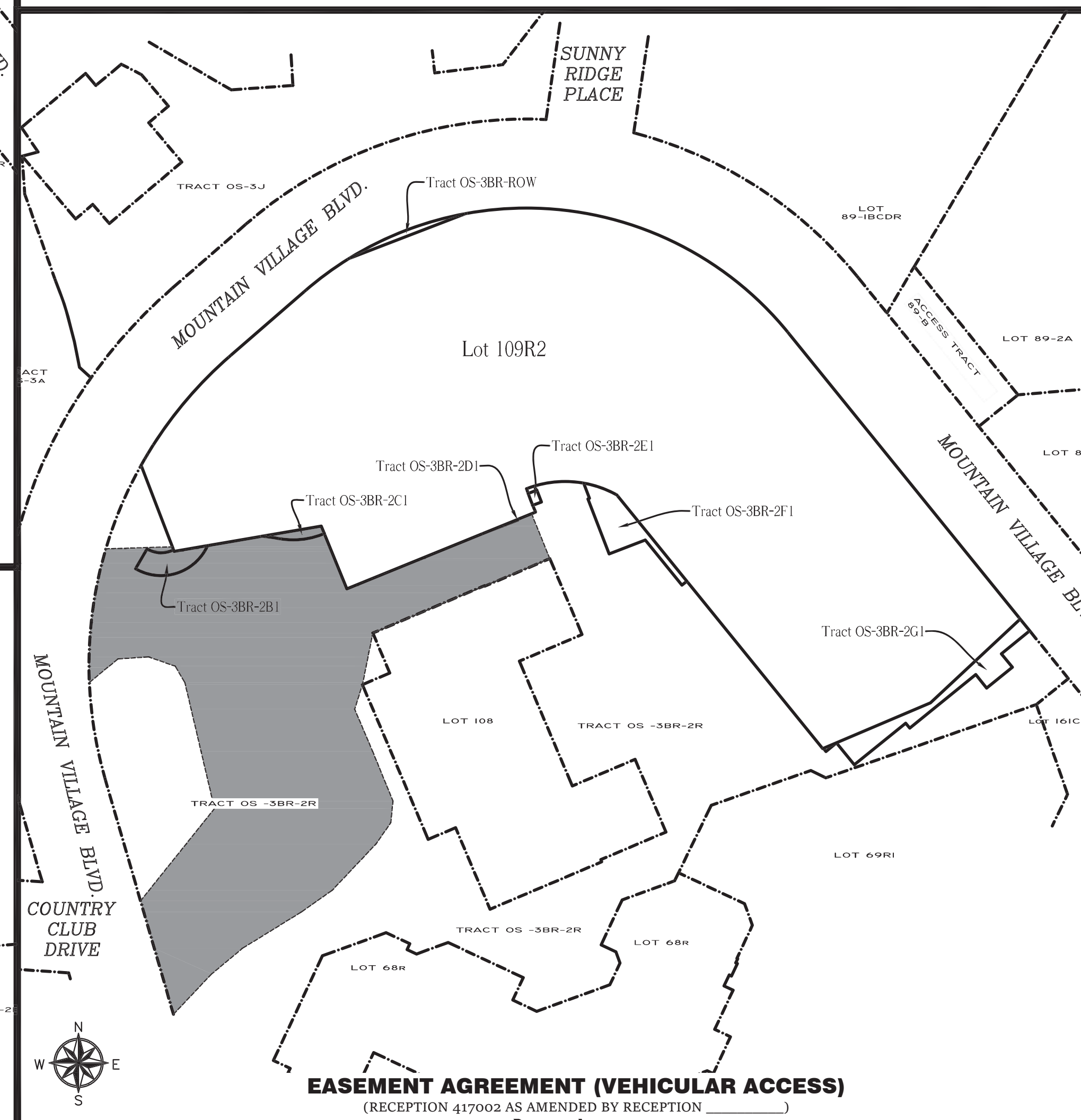
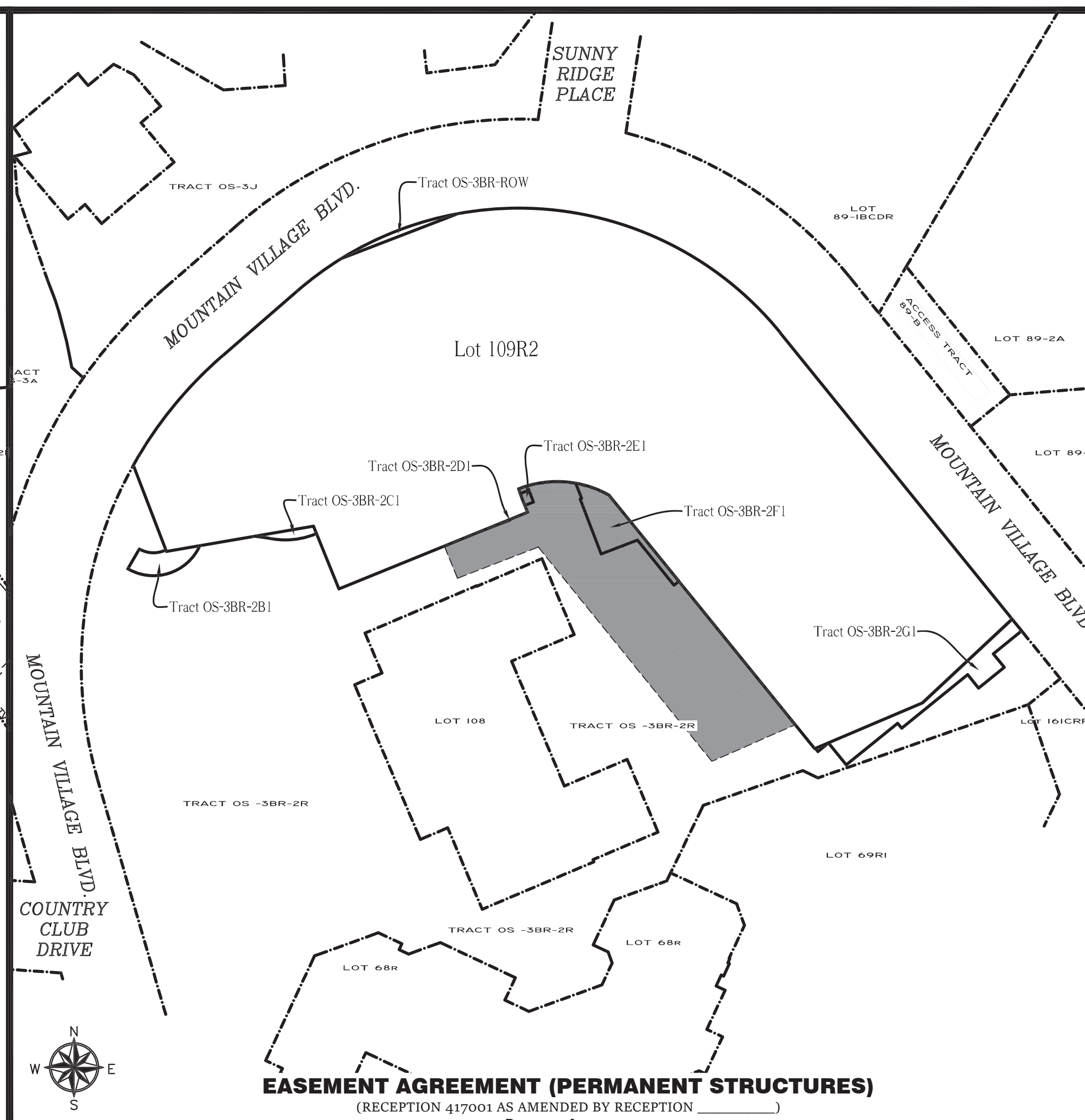
PROJECT NUMBER 21062  
Sheet 2 of 3

REPLAT/REZONE  
Lot 109R, Tract OS-3BR-2A, Tract OS-3BR-2B, Tract OS-3BR-2C, Tract OS-3BR-2D, Tract OS-3BR-2E, Tract OS-3BR-2F, Tract OS-3BR-2G

Town of Mountain Village

BULSON SURVEYING

**Replat and Rezone**  
of Lot 109R, Tract OS-3BR-2A, Tract OS-3BR-2B,  
Tract OS-3BR-2C, Tract OS-3BR-2D, Tract  
OS-3BR-2E, Tract OS-3BR-2F, Tract OS-3BR-2G  
Town of Mountain Village, County of San Miguel,  
State of Colorado.



**SHEET 3 - EASEMENT DEPICTIONS**

Tiara Telluride LLC  
450 South Old Dixie Highway  
Suite 8, Jupiter, FL 33458

October 14, 2022

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PROJECT NUMBER 21062  
Sheet 3 of 3

**REPLAT/REZONE**  
 Lot 109R, Tract OS-3BR-2A, Tract OS-3BR-2B, Tract  
 OS-3BR-2C, Tract OS-3BR-2D, Tract OS-3BR-2E, Tract  
 OS-3BR-2F, Tract OS-3BR-2G



## Katsia Lord

---

**From:** Katsia Lord  
**Sent:** Monday, October 10, 2022 12:45 PM  
**To:** Ankur Patel  
**Cc:** Steven.paletz@akerman.com; Adam Raiffe; Sofia Bolio Hernandez  
**Subject:** FW: Lot 109 Will Serve Letter - For Sewer and Water

This email acts as the will serve for water and sewer.

---

**From:** Finn KJome <[FKJome@mtnvillage.org](mailto:FKJome@mtnvillage.org)>  
**Sent:** Monday, October 10, 2022 11:14 AM  
**To:** David Ballode <[dballode@msn.com](mailto:dballode@msn.com)>  
**Subject:** RE: Lot 109 Will Serve Letter

Dave,  
The Town will serve Lot 109R with water and sewer.  
Finn

---

**From:** David Ballode <[dballode@msn.com](mailto:dballode@msn.com)>  
**Sent:** Thursday, October 6, 2022 4:56 PM  
**To:** Finn KJome <[FKJome@mtnvillage.org](mailto:FKJome@mtnvillage.org)>  
**Subject:** Lot 109 Will Serve Letter

Finn –

Once again, it is necessary to obtain a Will Serve letter for the sewer and water – this time for the Lot 109 Hotel.

A positive response to this e-mail is all that's required and I will submit the e-mail.

Thank you –

David Ballode



Date: \_\_10-13-2022\_\_

To whom it may concern:

I have reviewed the preliminary load calculation.

SMPA will be the electric service provider for Lot 109R in the Mountain Village and has sufficient capacity and ability to provide 3-phase- 6000-amp electrical service subject to the provisions of the Service Connection and Line Extension Policy as found in SMPA's Rules, Regulations, and Policies.

If you have any questions, please feel free to contact me at our Telluride office.

Best regards,

Byrd Williams  
*Service Planner*  
Office: 970.626.5549 x567  
Email: bwilliams@smpa.coop



**Paul Ficklin**  
Utility Construction Planner  
Colorado Gas  
Paul.ficklin@blackhillscorp.com

Black Hills Energy  
580 Hwy 92  
Delta, Co  
81416

October 10, 2022

Re: Lot 109R

To Whom It May Concern:

This letter will confirm that Black Hills Energy will provide Natural Gas Distribution service to the development commonly known as Lot 109R Mountain Village. Black Hills Energy will install a distribution system capable of serving the demand of the development that lies within the BHE certificated service territory. This is with the understanding that a regulator station and 4"PE main needs to be run to serve the development.

This service will be subject to Black Hills Energy tariffs filed with the Colorado Public Utilities Commission and the Black Hills Energy Gas Network Main Extension Policy.

If you have any questions please feel free to contact me.

Sincerely,

Paul Ficklin  
Utility Construction Planner  
Colorado Gas  
[Paul.ficklin@blackhillscorp.com](mailto:Paul.ficklin@blackhillscorp.com)  
Cell: 970-596-1122

## 08.08.2022 PUBLIC AND COMMUNITY BENEFITS

In this submittal Tiara has included the addition of tables to better communicate the public and community benefits Tiara is proposing for this project.

Table 2 Public Benefits. These both support general conformance and are considered Public Benefits pursuant to the Comprehensive Plan

Public Benefit	Value
#1.Hot Beds	\$1,000,000 to \$1,500,000 annual lodging tax**
#19. Provide Necessary Easements to and from sites***	
a. Providing an Easement and constructing pedestrian walkway from See Forever Village to Village Center. Pedestrian Access occurs under the existing tunnel from See Forever Village to the Village Center. The existing corridor connection has been maintained by carving a void from the buildings mass which allows pedestrians to circulate from the tunnel to the Village Center under the protection of cover.	Costs included in Community Benefits' Plaza improvements
b. Providing Easement and constructing stairway access from Mountain Village Blvd via Porte Cochere to Plaza in the Village Center. Public access is improved when circulating from Mountain Village Blvd to the Plaza via the covered Porte Cochere down the stair or via the lobby elevator.	\$75,000***
TOTAL VALUE	\$1,275,000

\*\* Once Constructed this is an Annual Value to the town based on Six Senses

\*\*\*Dependent on approval of subdivision application

\*\*\*\*Construction Cost estimations provided by General Contractor

\

Table 3 Community Benefits

Community Benefit	Value
Provide 22 Spots for Town Parking	N/A
Provide 20 Spots to Employee Parking	\$2,000,000
Provide 18 Employee Dorms and 2 Employee Apartments housing over 50 employees (14,455 sq ft)	\$7,950,250****
Pedestrian Access Stairs from Access Tract 89B to Village Center, Corten steel staircase, grated, to allow snow to pass	\$150,000****
Plaza Improvements between lot 109 R and Shirana; heated natural stone paver, landscaped, small greenhouse	\$1,500,000****
Plaza Improvements between Plaza and Westermere Façade, new heated pavers, new lighting, stucco building finish (see attached rendering)	\$250,000****
Plaza Improvements to Village Pond Area Designated in Original PUD (payment to Town),	\$250,000****
Emergency Access Lane & Fire Utilities, heated drive, landscaped	\$200,000****
Sidewalk along Mountain Village Blvd from Lot 161 CR Stairs to Porte Cochere, heated walkway, lighted, landscaped	\$500,000****
Sidewalk along Mountain Village Blvd from Porte Cochere to Entrance at Level G2, heated walkway, lighted, landscaped	\$250,000****
Snow Melt System for all Roads, Plazas, and Sidewalks with Boiler Cost, developer to include engineering plans prior to permit	\$1,500,000****
Construction of a Public Restroom (381 sq ft), high design, build in the same interior design scheme as the hotel	\$150,000****
Operation & Maintenance of Public Restroom	\$50,000-\$70,000 annually****

New Trash Facility Building Structure for Town Use (Not utilized by Hotel Building Management) Updated exterior finishes include stone, wood, craftsman style garage doors for trash collection, and weathered steel.	\$800,000****
New concrete snowmelted sidewalks flanking the edge of the building to the plaza stair. New snowmelted concrete sidewalk connecting the existing sidewalk at Mountain Village Boulevard to the Shirana.	\$200,000****
Waiving HOA fees due for the Public Restroom and Parking spaces	TBD
Mitigation Fee	\$996,288
EV capabilities provided in Town Parking Spaces	\$120,000*****
Sustainability Fund committed to be spent locally	\$200,000 - \$350,000 annually*****
LEED Certified	\$2,460,000*****
Payments per Employee in excess of 90 full time equivalent employees beginning on Second Anniversary	TBD
Conference Facility	NA
Commercial Spaces and uses contemplated therefore (Additional Spa and Restaurant Spaces	NA
<b>TOTAL VALUE</b>	<b>\$19,611,538</b>

\*\*\*\*Construction cost estimations provided by General Contractors

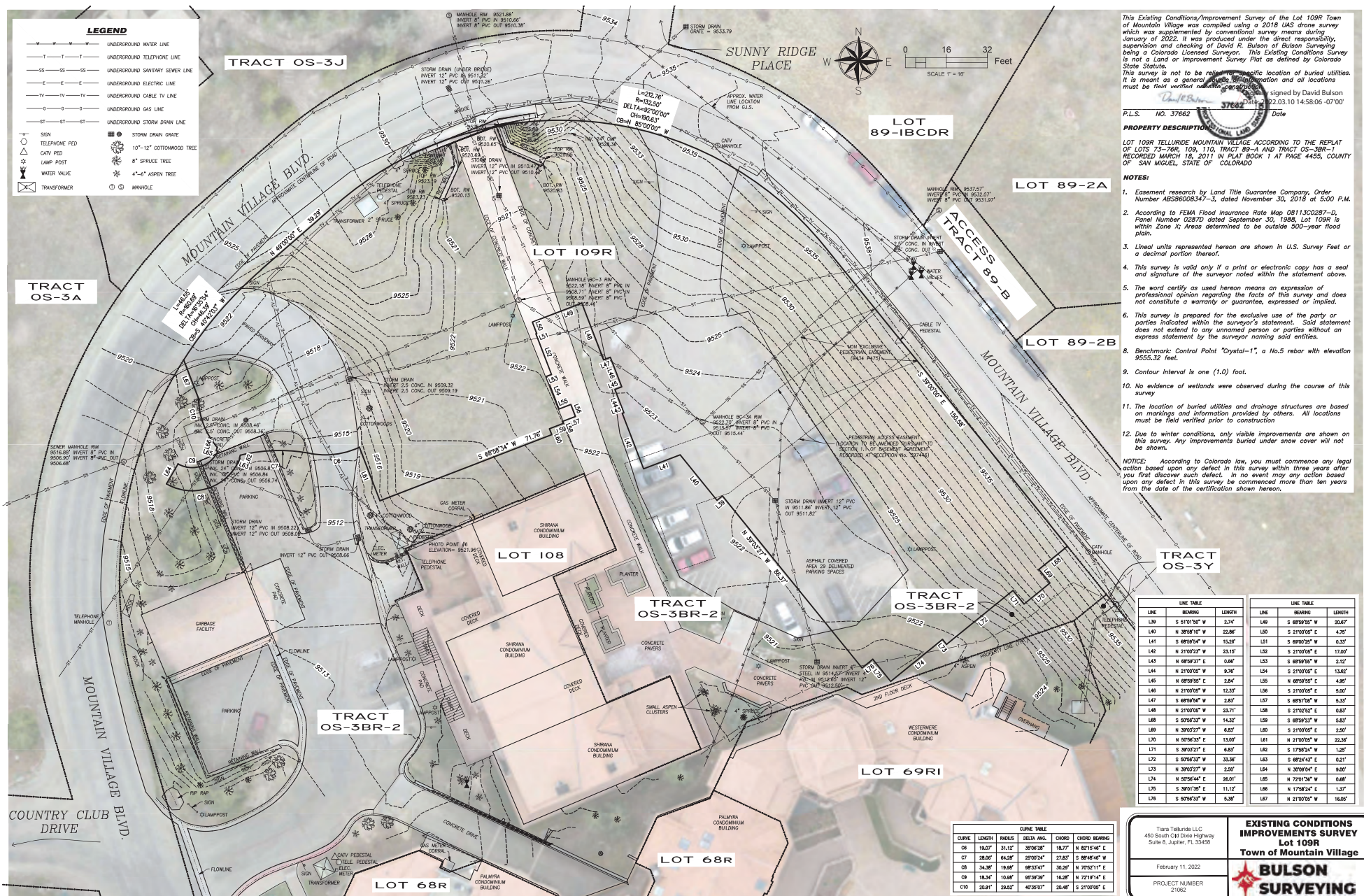
\*\*\*\*\*Once constructed, cost provided by Six Senses

\*\*\*\*\*Estimated cost provided by Solar Consultant

\*\*\*\*\*Once Constructed this is based on a % of annual revenue while Six Senses is the Hotel Operator

\*\*\*\*\*Based on % of construction costs as per our LEED certification consultant

## 2. Existing Conditions 109R



Replat and Rezone  
of Lot 109R, Tract OS-3BR-2B, Tract OS-3BR-2C, Tract OS-3BR-2D, Tract OS-3BR-2E, Tract OS-3BR-2F, Tract OS-3BR-2G  
Town of Mountain Village, County of San Miguel, State of Colorado.

CERTIFICATE OF OWNERSHIP

KNOW ALL PERSONS BY THESE PRESENTS:

TIARA TELLURIDE, LLC – (Title Commitment Parcel A) THAT  
Tiara Telluride, LLC, a Colorado limited liability company  
("TIARA TELLURIDE"), is the owner in fee simple of:

LOT 109R TELLURIDE MOUNTAIN VILLAGE ACCORDING TO THE  
REPLAT OF LOTS 73–76R, 109, 110, TRACT 89–A AND TRACT  
OS–3BR–1 RECORDED MARCH 18, 2011 IN PLAT BOOK 1 AT  
PAGE 4455, COUNTY OF SAN MIGUEL, STATE OF COLORADO

TOGETHER WITH

TRACT OS–3BR–2A, TRACT OS–3BR–2B, TRACT OS–3BR–2C,  
TRACT OS–3BR–2D, TRACT OS–3BR–2E, TRACT OS–3BR–2F  
and TRACT OS–3BR–2G, MOUNTAIN VILLAGE, ACCORDING TO  
THE REPLAT OF TRACT OS–3XRR AND TRACT OS–3BR–2, TOWN  
OF MOUNTAIN VILLAGE, RECORDED \_\_\_\_\_ IN PLAT  
BOOK 1 AT PAGE \_\_\_\_\_, COUNTY OF SAN MIGUEL, STATE  
OF COLORADO.

TIARA TELLURDE DOES HEREBY , EXECUTE, DELIVER, AND  
ENTER INTO this Replat under the name and style of "REPLAT  
AND REZONE OF LOT 109R, TRACT OS–3BR–2B, TRACT  
OS–3BR–2C, TRACT OS–3BR–2D, TRACT OS–3BR–2E, TRACT  
OS–3BR–2F, TRACT OS–3BR–2G, TOWN OF MOUNTAIN VILLAGE  
, COUNTY OF SAN MIGUEL, STATE OF COLORADO" (the  
"Replat"); AND

THEREBY, CREATE the following new parcels LOT 109R2, TRACT  
OS–3BR–ROW, TRACT OS–3BR–2B1, TRACT OS–3BR–2C1,  
TRACT OS–3BR–2D1, TRACT OS–3BR–2E1,TRACT OS–3BR–2F1,  
TRACT OS–3BR–2G1 TOWN OF MOUNTAIN VILLAGE ("Created  
Parcels")

TIARA TELLURDE hereby vacates the former property boundary  
lines of LOT 109R, TRACT OS–3BR–2B, TRACT OS–3BR–2C,  
TRACT OS–3BR–2D, TRACT OS–3BR–2E, TRACT OS–3BR–2F,  
TRACT OS–3BR–2G and establishes the boundaries of Created  
Parcels as set forth, depicted and described on this Replat.

TIARA TELLURDE HEREBY CONFIRMS that, by virtue of and  
through this Replat, fee simple title ownership is hereby  
established in and to Lot 109R2 in and to TIARA TELLURDE  
LLC, a Colorado limited liability company and fee simple title  
ownership is hereby established in and to TRACT  
OS–3BR–ROW, TRACT OS–3BR–2B1, TRACT OS–3BR–2C1,  
TRACT OS–3BR–2D1, TRACT OS–3BR–2E1,TRACT OS–3BR–2F1,  
TRACT OS–3BR–2G1, in and to the TOWN OF MOUNTAIN  
VILLAGE

IN WITNESS WHEREOF, Owner executes this Plat as of  
\_\_\_\_\_, 200\_\_\_\_ ("Effective  
Date") for the purposes stated herein.

TAIRA TELLURIDE LLC, A COLORADO LIMITED LIABILITY COMPANY

by:\_\_\_\_\_  
printed name: \_\_\_\_\_  
Title: \_\_\_\_\_

ACKNOWLEDGMENT

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss

The foregoing signature was acknowledged before me this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ A.D. by  
\_\_\_\_\_ as \_\_\_\_\_ TIARA TELLURIDE LLC, A  
COLORADO LIMITED LIABILITY COMPANY

Witness my hand and seal.  
My commission expires \_\_\_\_\_.

Notary Public

Name	Sq. Ft.	Acres	Zoning	Use	DENSITY UNITS	PERSONS OF DENSITY PER UNIT	TOTAL PERSONS OF DENSITY
Lot 109R2	35771	0.821	Village Center	Efficiency Lodge	50	0.5	25
				Lodge	31	0.75	23.25
				Condominium	20	3	60
				Employee Condo	2	3	6
				Employee Dorm	18	1	18
TOTALS					121		132.25
Tract OS-3BR-ROW	77	0.000	Active Open Space				
Tract OS-3BR-2B1	201	0.004	Active Open Space				
Tract OS-3BR-2C1	68	0.001	Active Open Space				
Tract OS-3BR-2D1	2	0.000	Active Open Space				
Tract OS-3BR-2E1	19	0.000	Active Open Space				
Tract OS-3BR-2F1	408	0.009	Active Open Space				
Tract OS-3BR-2G1	546	0.012	Active Open Space				

TOWN OF MOUNTAIN VILLAGE APPROVAL

I, \_\_\_\_\_, as Mayor, of the Town of Mountain  
Village, Colorado, do hereby certify that this Replat has been  
approved by the Town of Mountain Village Town Council in  
accordance with Ordinance No. \_\_\_\_\_, the Development  
Agreement recorded at Reception No. \_\_\_\_\_ and Town of  
Mountain Village Resolution No. \_\_\_\_\_ recorded at Reception  
No. \_\_\_\_\_ which authorized my execution of this Replat. .

\_\_\_\_\_, Mayor, \_\_\_\_\_ Date

ACKNOWLEDGMENT

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss

The foregoing signature was acknowledged before me this \_\_\_\_\_  
day of \_\_\_\_\_, 20\_\_\_\_ A.D. by  
\_\_\_\_\_ as Mayor of the Town of Mountain Village.

Witness my hand and seal.  
My commission expires \_\_\_\_\_.

Notary Public

COMMUNITY DEVELOPMENT DIRECTOR APPROVAL:

I, \_\_\_\_\_, as the Community Development  
Director of Mountain Village, Colorado, do hereby certify that this  
Replat has been approved by the Town in accordance with the  
Community Development Code.

\_\_\_\_\_, \_\_\_\_\_ Date: \_\_\_\_\_  
Community Development Director

TREASURER'S CERTIFICATE

I, the undersigned, Treasurer of the County of San Miguel, do hereby  
certify that according to the records of the San Miguel County  
Treasurer there are no liens against the subdivision or any part  
thereof for unpaid state, county, municipal or local taxes or special  
assessments due and payable, in accordance with Land Use Code  
Section 3–101.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

San Miguel County Treasurer

RECORDER'S CERTIFICATE

This Replat was filed for record in the office of the San Miguel  
County Clerk and Recorder on this \_\_\_\_\_ day of  
\_\_\_\_\_, 20\_\_\_\_, at  
Reception No. \_\_\_\_\_,  
Time \_\_\_\_\_.

San Miguel County Clerk and Recorder

TITLE INSURANCE COMPANY CERTIFICATE

Fidelity National Title Company does hereby certify that we  
have examined the title to the lands herein shown on this  
Replat and that the title to this land is in the name of  
TIARA TELLURIDE LLC, A COLORADO LIMITED LIABILITY COMPANY  
is free and clear of all encumbrances, liens, taxes, and  
special assessments except as follows:

\_\_\_\_\_  
Title Insurance Company Representative

SECURITY INTEREST HOLDER'S CONSENT

The undersigned \_\_\_\_\_, as a beneficiary  
of a deed of trust which constitutes a lien upon the  
declarant's property, recorded at Reception No. \_\_\_\_\_,  
in the San Miguel County Clerk and Recorder's real property  
records, hereby consents to the subdivision of the real  
property as depicted on this Plat and to the dedication of  
land as streets, alleys, roads and other public areas, as  
designated on this Plat, and hereby releases said dedicated  
lands from the lien created by said instrument.

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Address: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

ACKNOWLEDGMENT

State of \_\_\_\_\_ )  
County of \_\_\_\_\_ ) ss

The foregoing signature was acknowledged before  
me this \_\_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_ A.D. by  
\_\_\_\_\_ as  
\_\_\_\_\_ of \_\_\_\_\_.

Witness my hand and seal.  
My commission expires \_\_\_\_\_.

Notary Public

SURVEYOR'S CERTIFICATE

I, David R. Bulson of Bulson Surveying, a Professional Land  
Surveyor licensed under the laws of the State of Colorado, do  
hereby certify that this REPLAT AND REZONE OF LOT 109R,  
TRACT OS–3BR–2B, TRACT OS–3BR–2C, TRACT OS–3BR–2D,  
TRACT OS–3BR–2E, TRACT OS–3BR–2F, TRACT OS–3BR–2G,  
TOWN OF MOUNTAIN VILLAGE , COUNTY OF SAN MIGUEL, STATE OF  
COLORADO" shown hereon has been prepared under my direct  
responsibility and checking and accurately represents a survey  
conducted under my direct supervision. This survey complies with  
applicable provisions of Title 38, Article 51, C.R.S. to the best  
of my knowledge and belief.

IN WITNESS HEREOF, I here unto affix my hand and official seal  
this \_\_\_\_\_ day of \_\_\_\_\_, A.D. 200\_\_\_\_.

SUBMITTED FOR APPROVAL

P.L.S. No. 37662 \_\_\_\_\_ Date

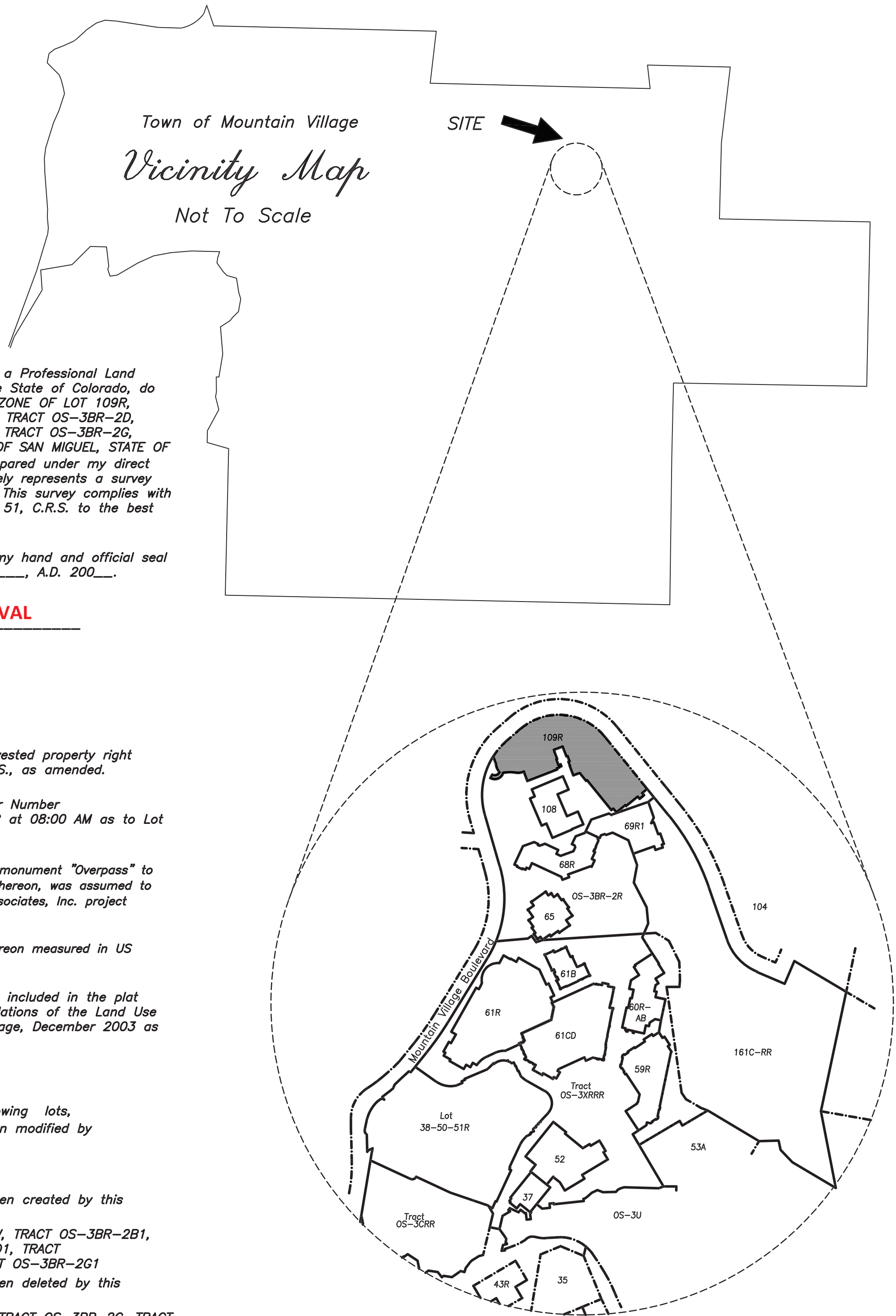
NOTES

- Approval of this plat may create a vested property right  
pursuant to Article 68 of Title 24, C.R.S., as amended.
- Fidelity National Title Company, Order Number  
150–F17796–22 dated October 5, 2022 at 08:00 AM as to Lot  
109R
- BASIS OF BEARINGS. The bearing from monument "Overpass" to  
monument "Rim", as shown monumented hereon, was assumed to  
bear N31°16'24"W according to Banner Associates, Inc. project  
bearings.
- LINEAL UNITS. LINEAL DISTANCES shown hereon measured in US  
survey feet.
- Notice is hereby given that the area included in the plat  
described herein is subject to the regulations of the Land Use  
Ordinance, of the Town of Mountain Village, December 2003 as  
amended.
- NOTES OF CLARIFICATION

- The Configuration of the following lots,  
tracts, and right-of-way have been modified by  
this plat:  
None
- The following lots/tracts have been created by this  
plat:  
Lot 109R2, TRACT OS–3BR–ROW, TRACT OS–3BR–2B1,  
TRACT OS–3BR–2C1, TRACT OS–3BR–2D1, TRACT  
OS–3BR–2E1,TRACT OS–3BR–2F1, TRACT OS–3BR–2G1
- The following lots/tracts have been deleted by this  
plat:  
LOT 109R, TRACT OS–3BR–2B, TRACT OS–3BR–2C, TRACT  
OS–3BR–2D, TRACT OS–3BR–2E, TRACT OS–3BR–2F and TRACT  
OS–3BR–2G

- The approval of this Plat Amendment vacates all prior plats  
and Lot boundary lines for the area described in the Legal  
Description as shown hereon in the Certificate of Ownership.

- NOTICE: According to Colorado law you must commence any  
legal action based upon defect in this survey within three years  
after you first discover such defect. In no event may any  
action based upon any defect in this survey be commenced  
more than ten years from the date of the certification shown  
hereon.



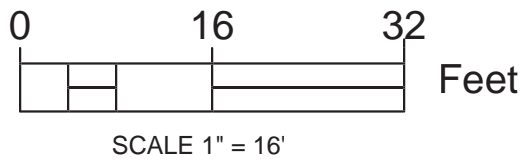
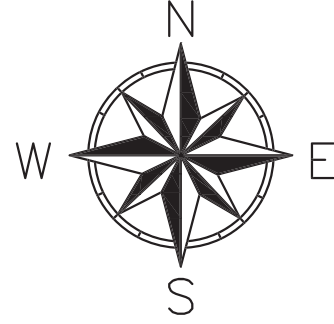
SHEET 1 - MAP CERTIFICATIONS

TIARA Telluride LLC 450 South Old Dixie Highway Suite 8, Jupiter, FL 33458	<b>REPLAT/REZONE</b> Lot 109R, Tract OS-3BR-2A, Tract OS-3BR-2B, Tract OS-3BR-2C, Tract OS-3BR-2D, Tract OS-3BR-2E, Tract OS-3BR-2F, Tract OS-3BR-2G <b>Town of Mountain Village</b>
October 14, 2022	<b>BULSON</b> <b>SURVEYING</b>
PROJECT NUMBER 21062 Sheet 1 of 3	

Replat and Rezone  
of Lot 109R, Tract OS-3BR-2B, Tract OS-3BR-2C, Tract OS-3BR-2D, Tract OS-3BR-2E, Tract OS-3BR-2F, Tract OS-3BR-2G  
Town of Mountain Village, County of San Miguel, State of Colorado.

Curve Table		Curve Table				
Curve #	Length	Radius	Delta	Chord Bearing	Chord Distance	
C18	13.92'	41.70'	199.57'	S 78° 18' 45" E	13.85'	
C19	5.09'	97.36'	2° 57'	N 29° 59' 39" W	5.09'	
C20	17.92'	31.12'	33° 01'	S 82° 18' 30" W	17.69'	
C21	7.11'	64.28'	4° 28'	N 81° 51' 12" W	7.11'	
C44	16.80'	16.98'	56° 30'	N 88° 08' 39" W	18.41'	
C45	33.48'	19.98'	95° 59'	N 72° 09' 27" E	29.70'	
C48	49.67'	132.50'	21° 29'	S 68° 57' 03" W	49.38'	

Line Table			Line Table		
Line #	Direction	Length	Line #	Direction	Length
L77	N 39° 03' 27" W	1.56'	L92	N 38° 58' 01" W	22.86'
L80	S 39° 00' 00" E	5.99'	L93	S 68° 59' 54" W	15.26'
L81	S 59° 56' 32" W	14.32'	L94	N 21° 00' 23" E	23.15'
L82	S 39° 03' 27" E	6.83'	L95	N 68° 59' 37" E	6.66'
L83	S 59° 56' 32" W	13.80'	L96	N 21° 00' 05" E	6.39'
L84	N 39° 03' 27" W	6.83'	L97	S 21° 00' 05" E	5.00'
L85	S 59° 56' 32" W	33.36'	L98	S 68° 57' 08" W	3.75'
L86	N 39° 03' 27" W	2.50'	L100	N 68° 59' 55" E	3.74'
L87	S 59° 56' 44" W	26.80'	L103	N 80° 13' 23" E	23.74'
L88	N 39° 03' 27" W	11.12'	L104	S 22° 06' 46" E	3.21'
L89	S 59° 56' 32" W	5.38'	L140	S 30° 09' 04" W	9.00'
L90	S 39° 03' 27" E	43.63'			
L91	S 51° 01' 50" W	2.49'			



Monument Legend

- FOUND 1-1/2" ALUMINUM CAP ON No. 5 REBAR, L.S. 24966
- FOUND 1-1/2" ALUMINUM CAP ON No. 5 REBAR, L.S. 24954
- FOUND No. 5 REBAR, NO CAP
- FOUND 1-1/2" ALUMINUM CAP ON 18" No. 5 REBAR, L.S. 37662
- ⊙ FOUND BRASS TAG, L.S. 37662
- ▲ SET BRASS TAG, L.S. 37662

SHEET 2 - PROPERTY DIMENSIONS

Tiara Telluride LLC  
450 South Old Dixie Highway  
Suite 8, Jupiter, FL 33458

October 4, 2022

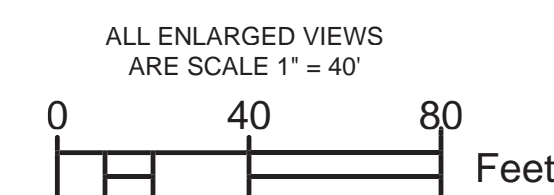
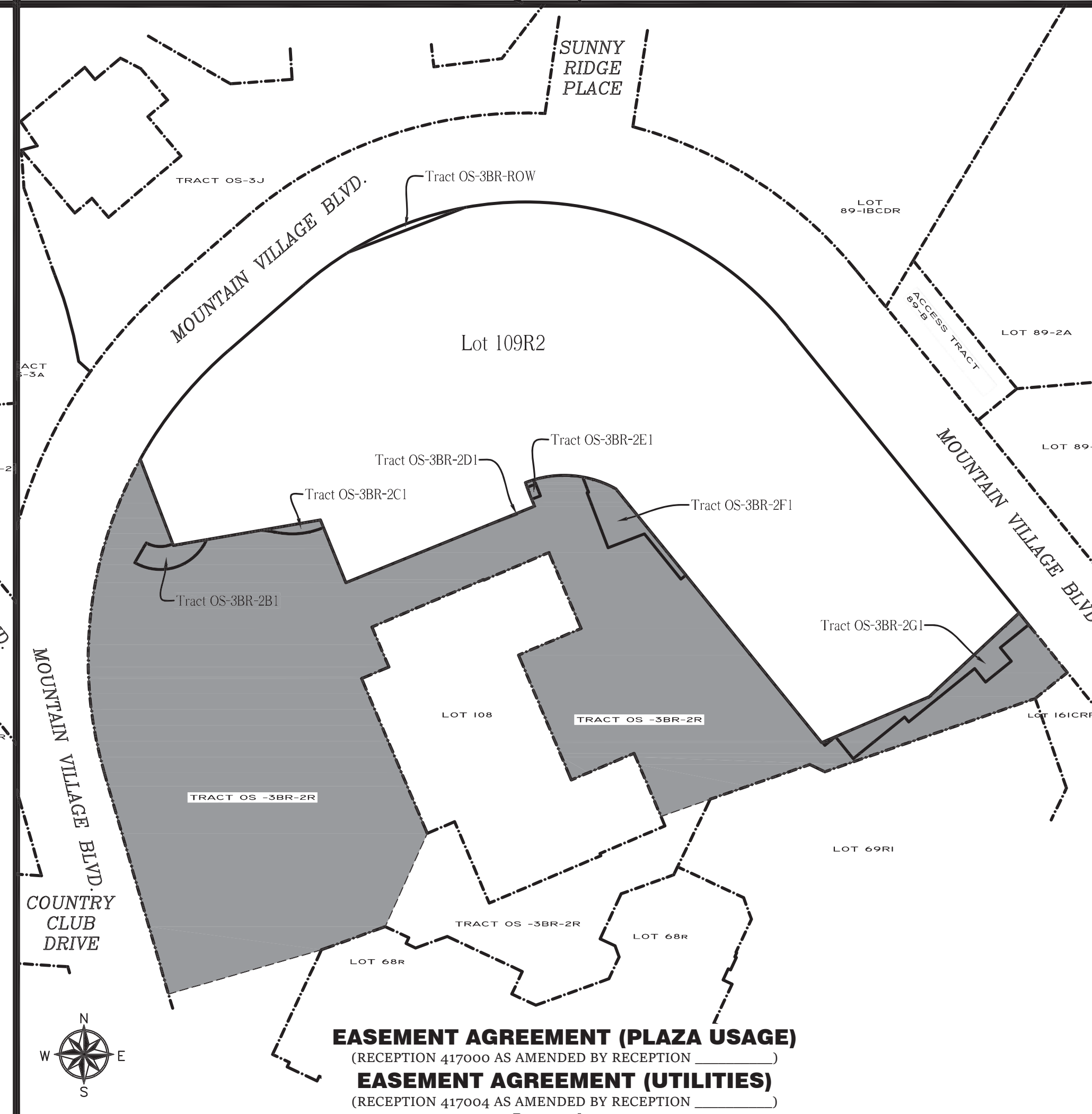
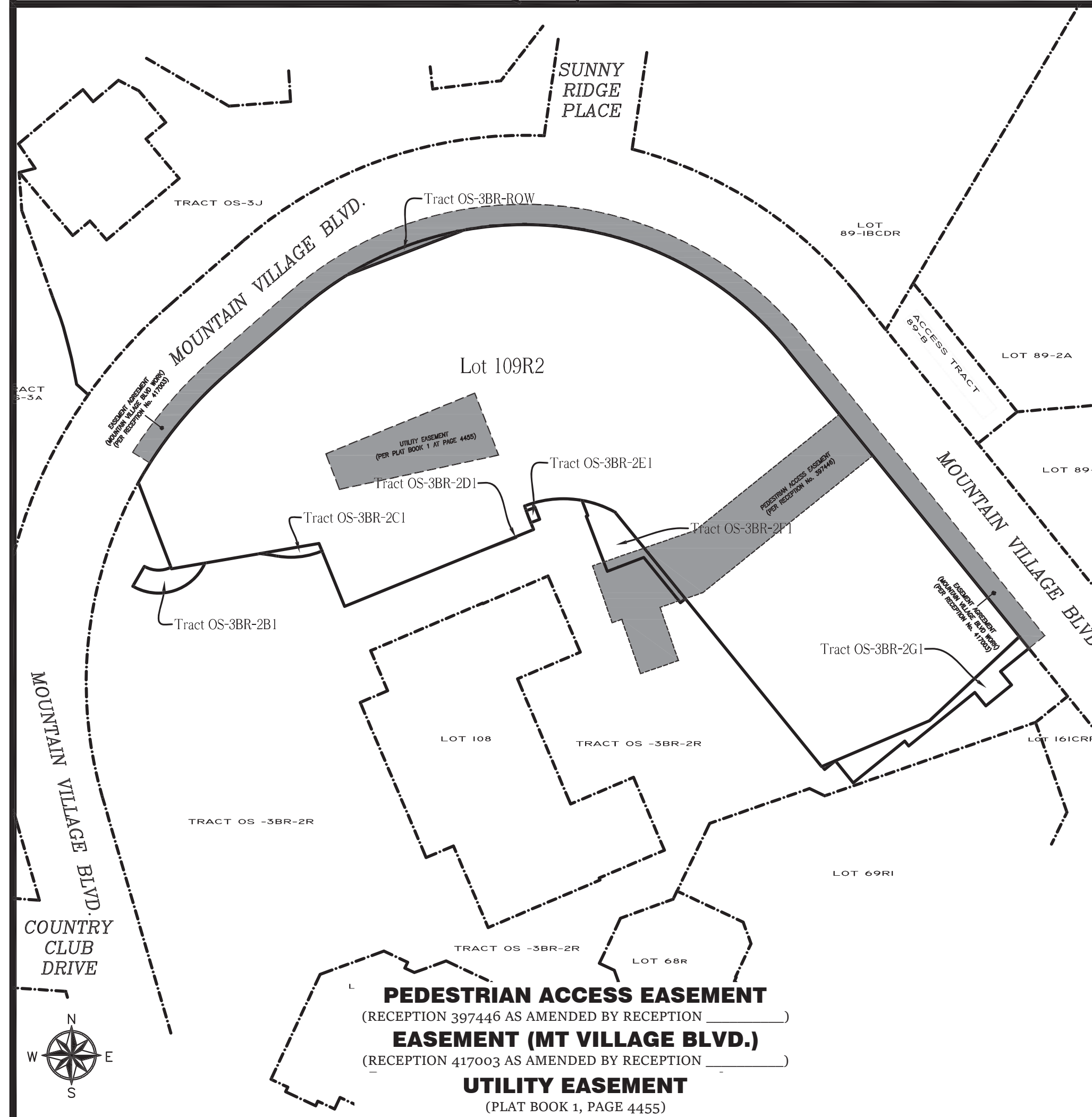
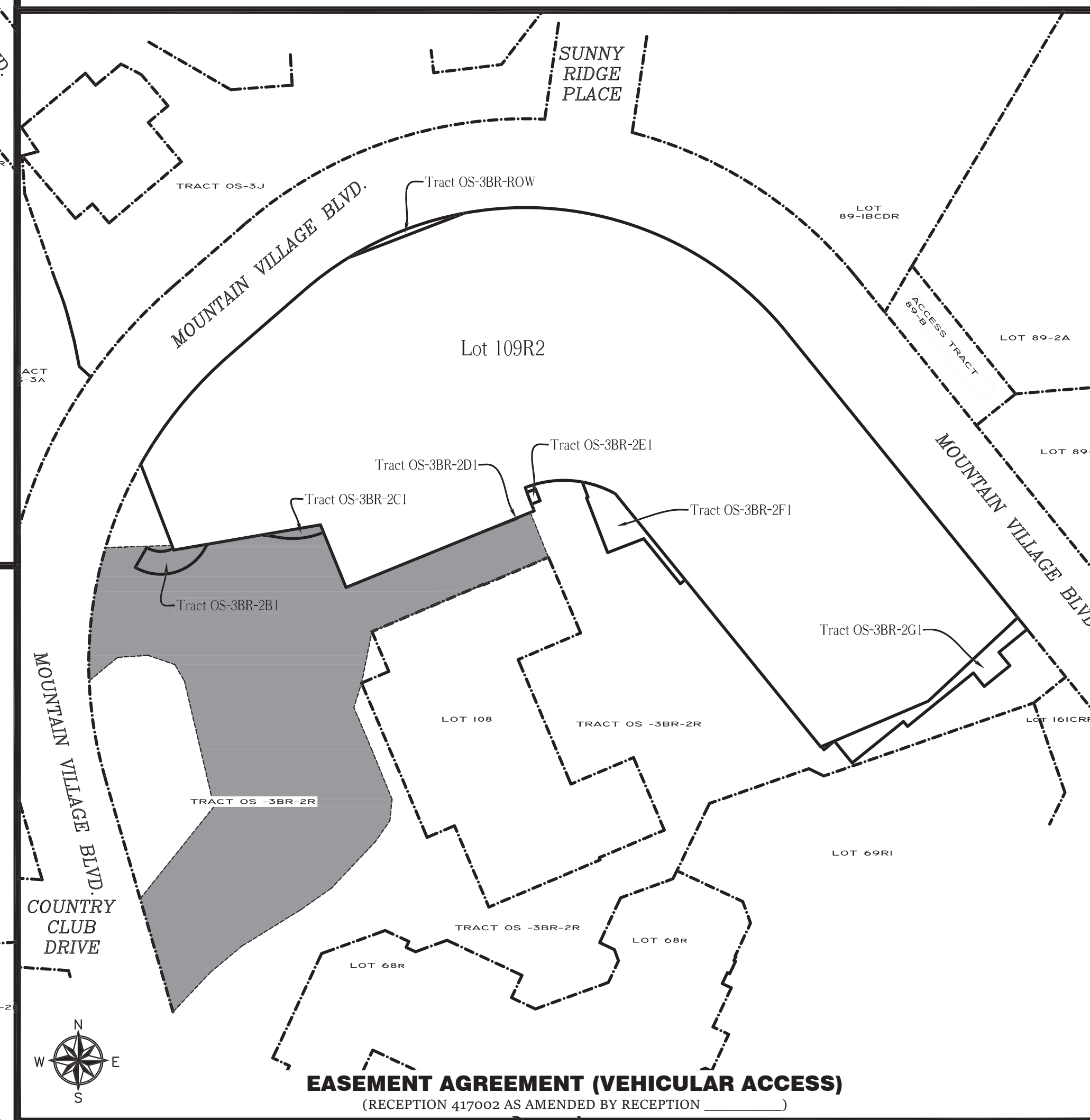
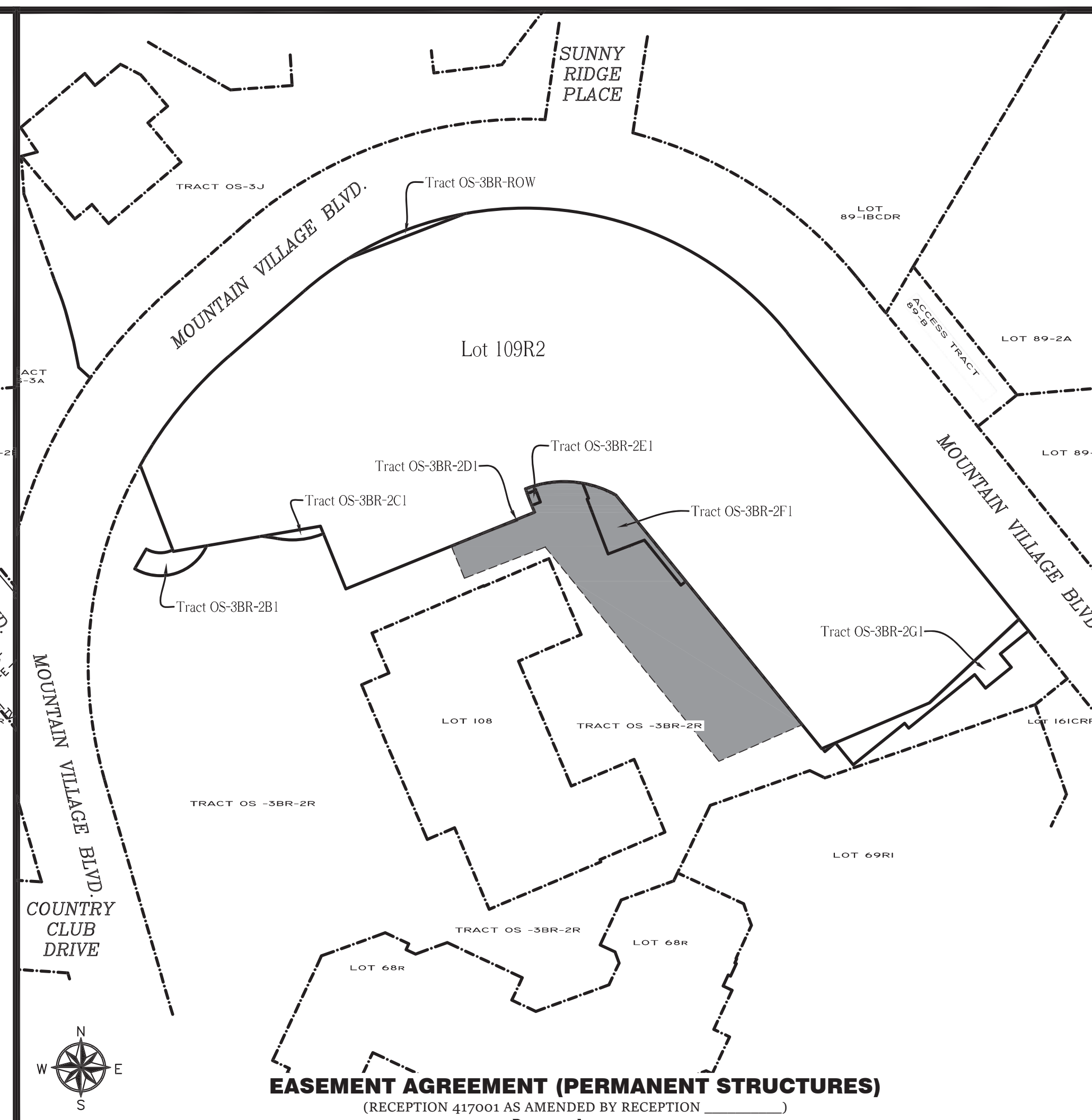
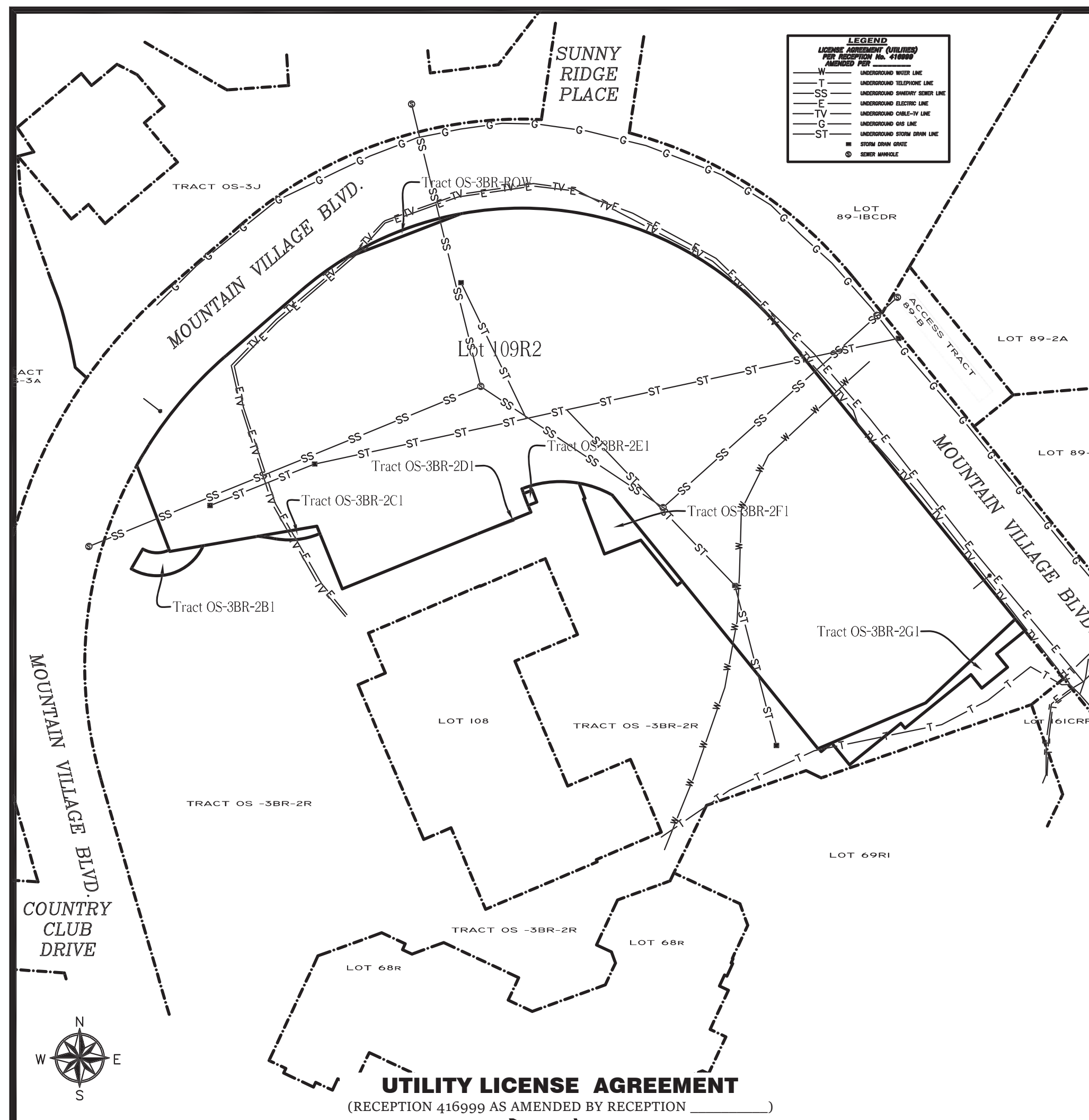
PROJECT NUMBER 21062  
Sheet 2 of 3

REPLAT/REZONE  
Lot 109R, Tract OS-3BR-2A, Tract OS-3BR-2B, Tract OS-3BR-2C, Tract OS-3BR-2D, Tract OS-3BR-2E, Tract OS-3BR-2F, Tract OS-3BR-2G


Town of Mountain Village

BULSON SURVEYING

**Replat and Rezone**  
of Lot 109R, Tract OS-3BR-2A, Tract OS-3BR-2B,  
Tract OS-3BR-2C, Tract OS-3BR-2D, Tract  
OS-3BR-2E, Tract OS-3BR-2F, Tract OS-3BR-2G  
Town of Mountain Village, County of San Miguel,  
State of Colorado.



**SHEET 3 - EASEMENT DEPICTIONS**

<p>Tiana Telluride LLC 450 South Old Dixie Highway Suite B, Jupiter, FL 33458</p>	<p><b>REPLAT/REZONE</b> Lot 109R, Tract OS-38R-2A, Tract OS-38R-2B, Tract OS-38R-2C, Tract OS-38R-2D, Tract OS-38R-2E, Tract OS-38R-2F, Tract OS-38R-2G</p>
<p>October 14, 2022</p>	<p><b>Town of Mountain Village</b></p>
<p>PROJECT NUMBER 21062 Sheet 3 of 3</p>	<p> <b>BULSON SURVEYING</b></p>

From: [JD Wise](#)  
To: [Amy Ward](#)  
Cc: [Finn KJome](#); [Lauren Kirn](#); [Molly Norton](#); [Michelle Haynes](#)  
Subject: RE: 109R referral REMINDER  
Date: Friday, November 18, 2022 9:09:48 AM

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Hi Amy,

Please find my comments below regarding the Lot 109R Major PUD amendment:

- The proposed landscaping throughout the plaza area looks very attractive. I think there would be value in flattening out some of the curves in the permanent planter beds. Town utility vehicles will be able to navigate the 10' + clearances, but I am concerned that larger maintenance equipment that will be needed for exterior maintenance of the building and neighboring buildings (i.e., 60' boom lifts for window washing, exterior façade maintenance, etc.) will have a difficult time navigating the tight corridors.
- In a similar vein, I would like to see less permanent seating/furniture and more moveable furniture – this will allow access for maintenance equipment as mentioned above, as well as allow flexibility for public events.
- I would strongly request that natural gas fire features on the exterior of the building are not included as part of the approved design, and that electric “fire” features be considered to allow for the aesthetic of fire without the emissions of burning natural gas. TMV has committed to a goal of reaching carbon neutrality by 2050, and greenhouse gas emissions from buildings are the largest contributor to our community greenhouse gas emissions.
- I see the value in the warmth and ambiance of outdoor, natural gas fire pits and would suggest they be utilized in the winter months and be converted to flower features in the summer. We continue to experience wildland fires across the western United States which frequently blanket TMV with smoke. Fire features can feel out of place in dry summers and TMV has taken a similar approach with the Heritage Plaza Fire Pit, which is converted into a beautiful floral centerpiece for the summer season.
- I would like to see a service parking spot at/near the trash/boiler room as this building will frequently have contractors servicing this facility.
- I am unclear if there is space in the trash/boiler facility for TMV boilers that could provide future snowmelt for the plaza in the corridor from MV Boulevard to Conference Center Plaza. I think this building represents a great opportunity to house this infrastructure and would be a worthy public benefit.

Thank you for the opportunity to provide comment on this application.

Best,  
JD

J.D. Wise  
Assistant Public Works Director  
Town of Mountain Village  
O :: 970.369.8235

**From:** [Finn KJome](#)  
**To:** [Amy Ward](#)  
**Subject:** 109R Final Design Review  
**Date:** Thursday, November 17, 2022 2:49:04 PM

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Hi Amy,  
Here are my comments for Public Works.

#### Mitigation Plan

Where is the offsite storage?

Please provide a detailed plan on how plaza trash will be serviced while the old trash building has been demoed but before the new trash room has been completed.

#### Public Benefits

Page G-001 Will the Town be granted easements from Shirana & Westermere for the public walkways running through their buildings? Who carries the insurance for these locations?

G-2 Parking Does the Town own the 20 parking spaces called as public parking? Who carries the insurance for these spaces? Please provide public access route and easement from the 20 public parking spaces to the public walk ways. Who manages the Public Parking spaces?

G-002 Why does the plan say new refuse facility built off site?

#### C2.1

Please make a note that Mountain Village Blvd will need to be completely overlayed with new asphalt from Country Club intersection to the end of the project. There will be extensive damage to the road by this construction project.

#### C3.1

In theory the utility plan looks good. Please provide the construction plans for utilizes when available.

#### C5

I see soil nails are proposed under Mountain Village Blvd. This is not recommended. Please explain why other types of shoring outside of the road right-of-way are not proposed.

To be clear the new stairs off of Mountain Village Blvd must be in place before blocking access from See Forever. Or other routes must be in place and approved.

I recommend not putting fixed structures on the plaza. The area is already narrow. The fixed structures will make future maintenance on all the building extremely difficult.

The McGrath snowmelt letter talks about park spaces for service vehicles, where is this parking?

Parking along Mountain Village Blvd to service the snowmelt boilers will not be allowed. Parking spaces on the south side of the Trash building is preferred.

Does the boiler room have extra space for future Town Boilers? I believe this was discussed.

A general comment and understanding. In the existing PUD all plazas, common areas, utilizes through the project and public benefits are to be maintained by the hotel. Is this still the plan? When would I be able to review this agreement?

From: [Lauren Kirn](#)  
To: [JD Wise](#); [Amy Ward](#)  
Cc: [Finn KJome](#); [Molly Norton](#); [Michelle Haynes](#)  
Subject: RE: 109R referral REMINDER  
Date: Friday, November 18, 2022 3:29:18 PM  
Attachments: [50K Tempest Lantern.pdf](#)

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Hi Amy,

Please see my comments below as well. Let me know if I'm misunderstanding anything.

1. 17.5.12.D PROHIBITED LIGHTING – LANDSCAPE LIGHTING. While the photometric plan includes tree-mounted gobo projectors and landscape bollards, these fixtures are intended to provide minimum illuminance along the walking path for safety and egress purposes.
  - a. Comment: The Town has approved lighting for safety and egress purposes. Lighting that does not comply with the Town requirements or the Dark Sky Reserve requirements should not be permitted.
2. Snowmelt is required within the Village Core per code. This is therefore not a public benefit as it is required and the main beneficiary is the applicant.
  - a. "boilers will provide snowmelt for and improve access to areas including trash enclosure and adjacent drives, ramp and loading dock, emergency (fire) lanes, parking area, walkways, shared plaza, and porte cochere for a total of approximately 31,600 square feet of snowmelt area."
  - b. "the boiler system will provide the public, town, and neighbors with the benefits of additional snowmelt areas provided by the development of lot 109R."
3. The Design Narrative includes an article on bird collisions with buildings and glazing design considerations. The elevations include safety glazing as typical. Do we have a specification for the glazing?
4. The Town of Mountain Village will be included with San Miguel County's Dark Sky Reserve. As a periphery community, we will be required to meet the Reserve's Lighting Management Plan. The proposed alternative light fixtures are not in compliance with the International Dark Sky Requirements. These non-compliant fixtures should not be permitted.
5. The natural gas light fixtures should also not be permitted. In particular, the 50K Tempest Lantern is a gas lantern is not in compliance with Dark Sky Reserve requirements and it is contradictory to the Town's goal of carbon neutrality by 2050. The Lantern requires an input of 50,000 BTUs/hour. The plans show at least 25 lanterns (DF-1) specified around the building. Assuming each lantern runs for 4 hours per day for 365 days, this equates to an addition of 96.6 MTCO<sub>2</sub>e to the Town's GHG emissions each year. If the lanterns are on for longer, which one can assume they would be, particularly during the winter season, the amount of GHG emissions increases.
  - a. Page 8 of the attached spec sheet also says, "Do not locate the lantern....
    - i. Under or near trees, plants, and buildings where debris may constantly fall into the Lantern. Excessive debris will require high maintenance and/or cause malfunctioning of the Lantern.
    - ii. In places where people, children, and pets may contact the Lantern.  
Guards or fences around the Lantern in these locations are recommended."
6. The design proposal includes potentially transformers and other utility equipment serving the

applicant's property on the Town of Mountain Village's property, and designates it as a public benefit. More explanation is needed as this does not appear to reflect the definition of a public benefit.

Thanks,  
Lauren

[Lauren Kirn](#)

Environmental Efficiencies and Grant Coordinator

Town of Mountain Village

[455 Mountain Village Blvd. Suite A](#)

O :: 970.369.8601

M :: 970.729.1874

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## MEMORANDUM

**To:** Michell Haynes, MPA  
Planning and Development Services Director

**From:** Chad Hill, PE  
SGM

**Date:** November 16, 2022

**Re:** Lot 109R Major PUD Amendment Review

SGM has reviewed the Lot 109R PUD amendment documents with a focus on the utility and site design elements. The review comments are organized using SGM's April 20, 2022 memorandum so that all comments are provided in one document.

### Drawing Review Comments:

1. **No change. The alignments are acceptable and the coordination as noted will be a final design item.** The water, sewer, electric and storm sewer utilities will be rerouted. The realignments are acceptable with additional requirements as noted in item 2 below. The applicant noted that rerouting of the electrical service will be coordinated with SMPA. Coordination of the sewer, water, and storm water is also required to be conducted with the Town Public Works Department. It should be noted that the sewer service can not be interrupted so temporary facilities must be in place prior to utility switch over. Same with water and storm drainage.
2. **Final design item.** Details of the routing and pipe support of the utilities (sewer and storm drain) through the garage is to be submitted for review. The pipes must be protected from potential damage and must be fully accessible for maintenance.
3. **Final design item.** Pipes routed under retaining walls must be encased in concrete.
4. **No change to comment.** Ownership of the utilities within the garage is in question. It is recommended that the property owner have full responsibility for the utilities and they be inspected periodically by the Town.
5. **Complete.** The disposition of abandon utilities is to be indicated.
6. **Final design and construction item. Means and methods of construction are the responsibility of the property owner.** Materials and means of construction (ie trench design, etc) are to be submitted to the Town for review.
7. **No change to comment.** The final design drawing and specification documents are to be provided for review by the Town prior to initiation of any construction or material orders.
8. A plan sheet showing and noting how temporary utility services will be implemented and the impacts impacted facilities is required. A public meeting with the affected facility management is recommended prior to commencement of any work. The Town must be involved in the arrangement and meeting.
9. **Complete, sidewalk is now shown.** No sidewalk is included in the design. It is recommended that the proposed stairway be relocated to be adjacent to the pedestrian bridge on Mountain Blvd to allow pedestrians to transition from the street level to the development plaza level for passage to the core. The grade change appears to be only 9-10 feet. The currently proposed exterior stairway location is not convenient and likely wont be used as a typical mode of access to the core. Hence, in pedestrians will likely have to walk in the street which is not a safe route.

10. **Complete, information was provided and is acceptable.** The design delivery truck type should be noted. The turning radius diagram where maneuvering from Mountain Blvd to the BOH is to be provided for review.
11. **Complete, structure was enlarged.** The trash shed is proposed to be used to house the snowmelt boiler system. That leaves space for 5-3 cy bins. That seems insufficient. The enclosure could be expanded to house both uses.
12. **Complete.** No snow melt system drawings were provided to show the extent and layout of the system. Is the roof included in the snowmelt system as it should?
13. **Final design item. The snowmelt drawings do show the drain system.** The roof drain piping system is acceptable but minimal information is available for review. Detailed routing of piping is to be provided on the design drawings.
14. **Final design item and property owner responsibility.** Snow from street plowing will place snow against the building since no set back is provided. The facility design should accommodate the side load and potential damage since the developed chose to leave no set back to accommodate snow or pedestrians.
15. **Complete, slopes shown.** There are no slopes shown for the parking structure. Typical level transition ramp slopes should be 5%-6% per the International Parking and Mobility Institute standards.
16. **The floor-to-floor height was increased to 12 feet per sheet per sheet A-2.22 and is sufficient.** The floor-to-floor height between garage levels G1 and G2 is only 10 feet. Given slab thickness and the required sprinkler system that will allow a clearance of approximately 8.5 feet. That is insufficient for utility maintenance equipment access. For mixed use parking, 16 feet to 20 feet is customary as the Town provided for their own parking structure near Town Hall.

#### Report Review Comments

1. **The traffic circulation study memorandum provided by LSC Transportation Consultants dated August 17, 2022 was reviewed and found to be acceptable.**

**From:** [Rodney Walters](#)  
**To:** [Amy Ward](#)  
**Subject:** Final Comment 109 R  
**Date:** Wednesday, November 16, 2022 8:57:26 AM

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Amy,

Just a final thought for 109 R. Finn is right, the heated sidewalks (“snow melt”) will warm the soil in the landscape beds and mess up the tree’s dormancy cycles. This will lead to stress and tree mortality. If a provision is made to replace dead and dying trees, you could have small trees on the site. It just needs to be understood that trees will have to be replaced every 3-5 years as an ongoing maintenance requirement.

Thank you,

**Rodney Walters**

Town Forester/GIS Assistant

[Town of Mountain Village](#)

455 Mountain Village Blvd, Suite A

Mountain Village, CO 81435

O :: 970.369.8603

M :: 970.708.4358

[Website](#) | [Facebook](#) | [Twitter](#) | [Instagram](#) | [Email Signup](#) | [Careers](#)

*We make Mountain Village a great place to live, work & visit.*

We are experiencing high volumes of development review and have limited staffing. Please be patient regarding our response time

**From:** [Jim Loebe](#)  
**To:** [Amy Ward](#)  
**Subject:** RE: 109R referral REMINDER  
**Date:** Thursday, November 17, 2022 10:36:49 AM

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Hey Amy,

I really only have one comment and it revolves around the front drive loop. We just need to ensure that it remains a viable bus turnaround and that the bus has a place to safely pick up and drop off in the loop. I know the ship has already sailed, but the existing Centrum Bus Stop may offer an alternative location for a trash transfer station. The Centrum Bus Stop could go away and the turnaround/ entry at 109R could serve as both the bus stop and bus turnaround for the north core area. I've been of the vocal opinion that we're just trying to fit too much stuff in too small of a space in this turnaround area.

The traffic in the north core is going to go off the charts once 109 / 161 / and Rosewood are developed. This piece of land to the south of 109 is such an important interface for the community.

That's all I have for you.

Thanks!

Jim Loebe  
Transit Director and Director of Parks and Recreation  
Town of Mountain Village  
O::970.369.8300  
M::970.729.3434

[Website](#) | [Facebook](#) | [Twitter](#) | [Instagram](#) | [Email Signup](#)

For information about The Town of Mountain Village's response to COVID-19 (Coronavirus), please visit [townofmountainvillage.com/coronavirus/](https://townofmountainvillage.com/coronavirus/)

**Si Usted necesita comunicarse conmigo y necesita servicio de traducción al español, simplemente háganoslo saber y podemos proporcionar tal servicio.**

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**From:** Amy Ward <award@mtnvillage.org>  
**Sent:** Wednesday, November 16, 2022 2:09 PM  
**To:** Michelle Haynes <MHaynes@mtnvillage.org>; Finn KJome <FKJome@mtnvillage.org>; JD Wise <JWise@mtnvillage.org>; Chris Broady <CBroady@mtnvillage.org>; Jim Soukup <JSoukup@mtnvillage.org>; Lauren Kirn <LKirn@mtnvillage.org>; Paul Wisor <pwisor@mtnvillage.org>; dmcconaughy@garfieldhecht.com; cgazda@garfieldhecht.com; sheidergott@telluridefire.com; Jim Loebe <JLoebe@mtnvillage.org>; Cc: Chad Hill <chadh@sgm-inc.com>; Paul Ficklin <Paul.Ficklin@blackhillscorp.com>; jeremy@smpa.com; terry@smpa.com; brien.gardner@blackhillscorp.com; Paul Ficklin <paul.ficklin@blackhillscorp.com>; kirby.bryant@centurylink.com; Rodney Walters <rwalters@mtnvillage.org>; Drew Harrington <DHarrington@mtnvillage.org>

To: Design Review Board  
Planning & Development Services  
Town of Mountain Village  
455 Mountain Village Boulevard, Suite A  
Mountain Village, CO 81435

From: Shirana HOA

Date: May 23, 2022

Subject: Comments on Proposed Lot 109R PUD Amendments

This memo revises and extends, to a certain extent, the comments we offered on behalf of the Shirana HOA at the prior hearing on the proposed Lot 109R PUD Amendments. We will be far more brief but would stipulate that our prior comments still obtain as we have not had any revised submission by the developer to consider in the interim. It's a little difficult to get thoughtful comments on the record when we don't know what the revised submission by the developer will contain.

Again, our major concerns are as follows:

- 1) The height and mass of the proposed building far exceeds what is contained in the PUD governing the land the developer purchased. We do not understand why, save for minor design and concept adjustments, which our predecessor board was heavily involved in negotiating, the DRB would seriously consider such a significant change to the existing PUD requirements. It will dwarf our building and everything around it.

We do appreciate the sensitivity of the employee housing issue and understand the Board's receptivity to the relatively significant (and unrequired) commitment to employee housing. However, to use this as the excuse for expanding the size of the building so substantially is, in our view, a bit of a red herring. Furthermore, it's worth noting that there will still be a significant net increase in employees with housing needs regardless of this commitment.

- 2) We object strenuously to the notion that the existing Town trash facility would be rebuilt and expanded. The location is terrible and an extreme nuisance, loud, dirty, and unsightly all at once. The plan was always to relocate this and the developer desires this. We are disappointed that the Town may not have the willingness to take this project on. Indeed, the "Four Seasons" project also under consideration was originally supposed to accommodate this facility, but for some reason, the developer's view that such a decision is inconsistent with the type of resort they wish to build is more important than the concerns of longtime town property owners. Not only should the facility be moved, it should be governed by strict operational standards for noise, cleanliness, and truck

frequency. Finally, we would ask the question, “if the trash facility has to be temporarily relocated for construction, why cannot it not be permanently relocated?” (Several photos of trash facility operations are attached for your information.)

- 3) Closely related to the trash facility is the issue of truck and traffic circulation. As other residents have pointed out, the proposed 109R project is essentially built to the edge of Mountain Village Boulevard, making an already dangerous turn substantially more so. Furthermore, the developer has put its projects “back of house” directly adjacent to our patio, further diminishing its value, while also forcing us to adapt to a left-turn only exit from our garage. While we appreciate the staff’s request that the developer at least modify its plans to accommodate delivery trucks fully within their proposed building, we don’t know if that modification is contemplated at this point. More important is the evident lack of awareness of just how congested our parking lot already is; layer in the daily truck deliveries, resident cars, and employee cars, and the situation becomes untenable and unsafe. (A photo of the Mountain Village Blvd. corner around the trash shed is included for your information, as well as several pictures of the front lot.)
- 4) We are concerned about emergency vehicle access to the plaza area and fire truck access to the back of our building. We trust the Fire Department’s judgment in this area but our building is substantially wooden and access will be extremely limited.
- 5) We are concerned about risks from both vibration and subsidence related to this construction. We will likely have to undertake the expense of an initial current structural survey and ongoing monitoring to detect and identify any impacts from construction.
- 6) While our owners utilize the current town parking lot behind Shirana only casually, it is a really important community asset. Even in the off-season, it is often nearly full. The original PUD required that the 48 parking spaces be preserved in the project. Where will these daily visitors, tradesmen, delivery vehicles, and passenger shuttles go? Certainly we can expect a huge increase in traffic in front of our building and Wells Fargo. (A recent off-season picture of the lot is included for your information.)

Last, we want to reiterate again that we are not, previous comments notwithstanding, opposed to the project. But everything about this is different from what the existing PUD contemplates; the developer requests variances to nearly every design, size, material, access, and usage requirement in the CDC. It’s important to consider the economic reality of this project. Will this be the first hotel ever in Mountain Village to be economically viable 12 months a year? The empirical, historical evidence suggests otherwise. And we all must acknowledge that regardless of what is contemplated at this point in the process, the operator of the hotel will not, in the long term, be bound by any of the promises or lofty goals described in these presentations.

Thank you for your work; we hope that you consider our concerns and those of so many other neighbors seriously.

Sincerely,

Robert C. Connor  
President







From: [neal elinoff](mailto:neal.elinoff)  
To: [cd](#)  
Subject: regarding Final Review for Lot 109R  
Date: Thursday, November 17, 2022 3:00:00 PM

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Dear Planning Team,

Please note that there have been some interesting light encroachments when See Forever Village was developed and it took a few years of working with the developer and their HOA to mitigate after it was built, because no one considered the impact of hallway lighting that was in the INTERIOR of the building but projected a high lumen output OUTSIDE of the building. So, I'm asking that you make sure that the all interior halls and stairwells that have windows, that these windows be curtained so that at night, the interior lights don't ruin the dark skies that can be seen from neighbors. For example, when people turn off their interior lights at night it's no problem, but they don't turn off the hallway and stairwell lights that are outside of their rooms and in the common areas, and these remain on and if there are windows in those spaces as there were with See Forever Village, those windows exposed the lit interior common spaces until eventually they curtained them.

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From: [Jackie Kadin](#)  
To: [cd](#); [Michelle Haynes](#)  
Cc: [Alan Kadin](#)  
Subject: Comments re: 109R for 12/1 DRB meeting  
Date: Tuesday, November 22, 2022 9:35:13 AM

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We are owners at Shirana, directly adjacent to the 109R site. As we have previously stated, we are not opposed to development of the site, so long as it is done safely and in accordance with the PUD, Comprehensive Village Plan and applicable rules and regulations. However, the developers have not addressed any of the concerns previously raised by us and other Mountain Village residents regarding the feasibility of their proposed hotel, and specifically issues related to safety, traffic, and congestion. We are alarmed that the process continues moving forward without any of the numerous concerns being adequately addressed. And the latest plans only raise new issues to compound the existing concerns.

One issue that we and numerous others have raised relates to the parking lot that leads to the Shirana garage. That lot also houses the trash shed and will be the access point for the proposed hotel's back-of-house as well as the proposed fire lane. That lot, which is already busy and full on a regular basis, will also be the sole remaining parking lot in the immediate area if the hotel is developed on the upper lot. At the last Town Council meeting, the developers' only response to the traffic/congestion issues raised by numerous residents was that they had conducted a traffic study and concluded that there were no concerns. There was no detail regarding the study's methodologies or how a conclusion was reached. It would be a disservice to the entire Core area to move forward with this project without adequately and comprehensively addressing the very real traffic, congestion, and safety issues related to the parking lot.

On a related note, the developers' latest plan also provides that the existing trash shed will remain operational during construction and that they will contemporaneously construct a new trash shed on the same site. This seems logistically challenging if not impossible, and will only exacerbate the already existing congestion issues.

The construction mitigation plan (like the traffic study) has no real plans or details, just platitudes on safety and minimizing disruptions to neighboring properties. We fail to see how a construction crane with a 200-foot swing radius that "weathervanes" over the Shirana building could be viewed as either safe or a minimal disruption to our building, the neighboring buildings, and the hundreds of pedestrians in the area. The plan also provides that the developers would work with Shirana to obtain air rights, which is news to us Shirana residents.

There are safety issues on the ground (traffic and congestion), in the air (the crane) and underground. Neither the mitigation plan nor the geotechnical engineering report address the effects that the planned pile driving will have on neighboring buildings and the existing underground parking structures that construction will be taking place right on top of.

We urge the DRB and Town Council to pump the brakes on this 109R project until the developers adequately address the very real issues that have been raised. Specifically, we request: (1) a comprehensive traffic study on traffic on Mountain Village Boulevard and the lower parking lot, both during the construction process as well as following construction; (2) a comprehensive plan regarding the trash shed, both during construction and post-construction (we strongly recommend that the trash shed be moved to another location in light of the

anticipated congestion in the parking lot); (3) a comprehensive safety study which specifically addresses the proposed crane; and (4) a comprehensive engineering study on the effects of construction on the plaza area as well as the neighboring buildings and underground structures. These studies need to be conducted by reputable companies who provide detailed information on their methodologies.

Continuing to move forward without addressing existing issues while adding on new concerns creates unnecessary risk and liability for Mountain Village residents and guests, and the town overall.

Jackie and Alan Kadin

To: Design Review Board  
Planning & Development Services  
Town of Mountain Village  
455 Mountain Village Boulevard, Suite A  
Mountain Village, CO 81435

From: Shirana HOA / Robert Connor, President

Date: November 22, 2022

Subject: Comments on Proposed Lot 109R PUD Amendments and Project

We appreciate the DRB and Town Council's consideration of the following comments on the Lot 109R Project. While the project has evolved from what was originally proposed, we continue to have significant concerns enumerated herewith that should be addressed before this moves forward:

- 1) We have reviewed, as best we can, the developer's recent submissions. We find the proposed Construction Mitigation Plan woefully short on detail. We have asked that steps be taken to survey our property, to protect us from damage and risk, and see nothing in this document that acknowledges these very real concerns. The proposed underground boiler room and parking facility requires significant excavation and construction in a virtually zero lot line environment. How can our building be protected? The accompanying Geotechnical report seems pro forma at best and does not seem to address the construction, subsidence, soil composition, and water table risks to our building. How can we be protected and indemnified against very real risk to our building? The developer has provided no such assurances and we ask that the Town and the DRB consider this concern very seriously. There is also no detail on length of construction, work hours, work days, sound barriers, protection from dirt and dust, etc. These are reasonable and legitimate concerns that must be addressed.

Clearly, a project of this scope and proximity requires a truly robust Construction Mitigation Plan. To be candid, our building is among the oldest in Mountain Village; in just the past few months, we have had both a gas main and water main failure outside our premises. We respectfully request that:

- The developer be required to surround the project with a sound barrier or blanket to insulate the neighbors from the noise.
- The plan must ensure that we (not to mention emergency services) have adequate and safe access to our building at all times.
- The developer be required to conduct a baseline survey of our building and agree to monitor and remediate any impacts the project has on our property.
- The developer be required to confine all staging and storage of materials to Lot 109R, and not on Tract OS-3BR-2.

- All access to the construction site by all construction vehicles be directly from Mountain Village Blvd, and not through Tract OS-3BR-2.
  - The developer and its general contractor be required to obtain project-specific insurance and add the Shirana Owners' Association as an additional insured on the Commercial General Liability and any Excess /Umbrella Insurance Policies, and such policy should be required to be maintained for at least the eight years after completion of construction.
- 2) We continue to be extremely concerned about the disposition of the trash shed in front of our building. We are disappointed that the developer and the Town made no progress in relocating this structure, which was never intended to be a permanent fixture. Despite the developer's commitment to pay to relocate it, the Town evidently can't find a place to put it. We are left as the "beneficiaries" of an expanded trash facility, the developer's snowmelt system, and an untenable traffic situation. We must mention again that nowhere else in our fine community would the current use patterns be tolerated: trucks all day, dumpsters dragged out by hand and mechanically bounced up and down to empty. It's outrageously loud and certainly inconsistent with what we all want in Mountain Village, not to mention what the developer wants adjacent to its proposed hotel. The new design does nothing to address this; it's really just a shed for dumpsters expanded significantly to accommodate their snowmelt system.
  - 3) The developer promised a traffic circulation study. No real study has been completed, as far as we are aware. Their engineers have merely demonstrated the technical feasibility of backing delivery trucks into their facility; their study also acknowledges the very real safety risks caused by the reduction in visibility around the trash shed and the corner heading up MV Boulevard. Furthermore, it would appear all parking is eliminated in the front lot in order to "accommodate" our proposed newly left turn only egress from our garage. Where is the practicality in any of this? Has anyone actually spent time observing the constant flow of delivery vans, service vehicles, trash trucks, and visitor and resident traffic flow around these lots? In a word, where does the plumber or the Fedex van park? How is this supposed to work? (Again, the clear solution to this issue is to move the trash shed and establish some modicum of surface parking.)
  - 4) We ask that the DRB think hard about the impact on residents and property owners that the scale of this project will have. Access to our building for the duration of construction will be limited at best; the "quiet enjoyment" of our property is clearly threatened. We are extremely unlikely to permit a large-scale crane to trespass over our airspace. Is such a request even reasonable? People live on the top floors of our building; safe pedestrian access at ground level is paramount. How can this approach be safe?
  - 5) As plans for the "plaza" area between Shirana and the proposed hotel take shape, we would ask to be a part of discussions on design, lighting, planting, seating, and public uses as we are immediately adjacent to the facility. In different presentations, the developer has discussed greenhouses, earth ovens, and other interesting attractions in

what is a public space; we'd just like to be a part of those discussions. Furthermore, depending on the rendering chosen, there are different plans for the existing planters and screening of the Shirana building. We are extremely concerned about the complete loss of natural light that the back of our building will suffer. While our commercial and residential first floor units need privacy, the monolithic design of this building versus the gabled roofs originally contemplated will further reduce light. And, of course, the opposite is potentially true in the evening hours, where the exterior lighting plan for the hotel directly impacts our property and those of other adjacent property owners, not to mention noise levels.

As we have stated before, we are not opposed to the development of this parcel. What the Board is being asked to approve is so far beyond the scale of what we agreed to more than 10 years ago as to be unreasonable.

Respectfully,

Robert C. Connor  
President  
Shirana HOA