

MEETING AGENDA
THURSDAY, JUNE 23, 2016 AT 9:00 A.M.
SUN VALLEY PLANNING AND ZONING COMMISSION
TO BE HELD IN SUN VALLEY COUNCIL CHAMBER AT CITY HALL

***The meeting will begin with a site visit at 9am at 105 Defiance St and then adjourn to the Council Chambers of City Hall, 81 Elkhorn Road, Sun Valley, Idaho directly thereafter for the required public hearing and all remaining meeting items.**

1. Call To Order

The Idaho Code requires that, "...A member or employee of a [Planning and Zoning] Commission shall not participate in any proceeding or action when the member or employee or his employer, business partner, business associate, or any person related to him by affinity or consanguinity within the second degree has an economic interest in the procedure or action." Any actual or potential interest in any proceeding shall be disclosed at or before any meeting at which the action is being heard or considered. A knowing violation of this section shall be a misdemeanor.

2. Public Comment

Opportunity for the public to talk with the Planning and Zoning Commissioners about general issues and ideas not otherwise agendaized below (3 minutes max. each).

3. Consent Agenda

- a) Draft Minutes from the Planning & Zoning Commission Meeting of June 9, 2016.

4. New Business

- a) **Design Review #2016-25:** Substantial exterior alterations and addition of 2,514 sf to an existing residence at 105 Defiance St. Applicant: Mark Pynn, AIA for the Galloway Family Trust. Location: Lot 39, June Day Sub.
- b) **Design Review #2016-32:** Replacement of existing Community School entry sign with an internally lit, shielded case sign. Applicant: The Community School. Location: within the City-owned Right-of-Way, at the corner of Dollar Road and Community School Drive.
- c) **Design Review #2016-29 and Conditional Use Permit 2016-04:** Addition of antennas to existing wireless facility atop Dollar Mountain. Applicant: Steven Meyer, Powder River Development for American Tower Company and T-Mobile Wireless.
- d) **Design Review #2016-30:** Installation of 32 new solar panels and relocation of 3 thermal panels on an existing single-family residence at 700 Fairway Rd. Applicant: Jolyon H. Sawrey, AIA for Maud Alison Long Trust. Location: Upper Fairway Subdivision No. 2 Lot 20.

5. Continued Business

None

6. Discussion Items

- a) Discussion of scheduling proposed rezones to meet compliance with new Comprehensive Plan

7. Adjourn

Meeting Schedule: Regular Meeting at 9:00 am on Thursday, July 14, 2016

**CITY OF SUN VALLEY
PLANNING AND ZONING COMMISSION
AGENDA REPORT**

From: Abby Rivin, CFM, Associate Planner
Meeting Date: 23 June 2016

DESIGN REVIEW (DR 2016-25)

APPLICANT: Mark Pynn, AIA for The Galloway Family Trust

LEGAL DESCRIPTION: June Day Subdivision Lot 39

LOCATION: 105 Defiance St

ZONING DISTRICTS: Rural Estate and Ranch (RA)

REQUEST: Approve the design of additions totaling 2,514 sq ft as well as other exterior alterations to an existing 2,839 sq ft single-family residence.

ANALYSIS: The applicant submitted an application for design review approval for additions totaling 2,514 sq ft as well as other alterations including modifications to the entry drive and new landscaping to an existing, detached single-family dwelling in June Day Subdivision.

The lower level of the structure is excavated into the site's grade. Changes to this level include removing the existing 430 sq deck, enclosing the crawl space, installing a 546 sq ft terrace, and increasing the building footprint to accommodate a new mini-master bedroom, multi-purpose room, and new storage. Changes to the upper level include additions totaling 1,333 sq ft to accommodate a new living room, master bedroom, office space, and dining room. The interior remodel does not require approval as part of this design review application. The upper level addition is cantilevered over the lower level. The new 780 sq ft upper level deck includes a roof overhang and extends over the lower level terrace area. While portions of the setback extend into the required 15' setback, the encroachment complies with SVMC §9-2A-3E-2 allowing eaves, roofs, awnings, or canopies to encroach a maximum of 4'.

The addition and remodel project significantly changes the design and styling of the existing single-family residence. New exterior materials include stucco (smooth finish, color: La Habra #x 434 "Fall Brook"), natural stone veneer ("Silver LedgeStone"), powder-coated steel deck framing and guardrails, bonderized steel fascia metal with a natural finish, and an aluminum, translucent insulated glass garage door.

Landscaping changes include removing trees to accommodate the additions. Trees that will be removed include 19 Aspen, 5 Colorado Spruce, 1 Crab Apple, 3 Maple, and 3 Pine. Groves of Aspens and Douglas Fir trees will be planted to the northeast and southwest adjacent to the residence. New planting also includes ground covers and natural grasses.

The project drawings stamped received by the City of Sun Valley on May 2, 2016 detail all proposed

changes and alterations to the existing structure.

Single-Family Residence Floor Area:

	Existing Floor Area (sq ft)	Proposed Floor Area (sq ft)
Lower Level Living	527	1,358
Lower Level Mechanical	66	350
Upper Level Living	1,822	3,091
Upper Level Garage	490	554

Lot Area: 46,339 sq ft

Building Footprint Allowed: 5,454 sq ft max. (calculated as per Section 9-2A-3I)

Building Footprint Proposed: 3,800 sq ft

Allowed Footprint Outside Building Envelope: 1,818 sq ft

Proposed Footprint Outside Building Envelope: 675 sq ft

Proposed Roof Area Between 30' and 35': 145 sq ft (2.4%)

Allowed Roof Area Between 30' and 35': 2,013 sq ft

Maximum Height (Excluding Chimney): 33'-1"

Maximum Height (Including Chimney): 37'-1"

Applications for design review are subject to standards in SVMC § 9-3A-3.

A. Design and Siting:

1. The design of proposed improvements is appropriate and compatible to the lot and the surrounding neighborhood. Attention has been given to the location and design of streets, view corridors, privacy of adjacent properties, outdoor spaces, shadows, solar access, view access, lighting, vehicular access, building massing, privacy of other noise generating equipment, openings and doors as these elements impact adjacent properties. While disparate from the existing residence, the proposed design is similar in styling, color, and materials to other existing single-family homes in the subdivision. The construction of the new single-family dwelling with associated site improvements is in conformance with all applicable dimensional regulations of the RA Zoning District. The proposed structure is located on the site to meet all setback requirements to the exterior property lines. No portion of the structure exceeds 35 feet above adjacent record grade, where a 35 foot maximum is permissible by Code. The proposed residence is compatible in scale with neighborhood homes on similarly sized lots.

2. The location and design of the proposed improvements has given consideration to special sites of historical, natural, ecological, architectural, archaeological, and scenic value or significance, including, but not limited to, those identified in the city's comprehensive plan. The essential character of special sites should be preserved and protected with any proposed site or structure improvements. Not applicable as no special sites are adjacent to the property.

3. *The siting of the proposed improvements complies with the adopted uniform fire code and any other applicable regulations regarding emergency vehicle access and circulation as set forth in title 7 of this code. **Vehicle access and circulation will not be altered with this project. Asphalt will replace existing pavers on the existing entry drive.***

4. *The proposed improvements are sited to meet the ingress, egress, and driveway standards and requirements set forth in title 7 of this code, and the siting standard in subsection A1 of this section. **No changes are proposed to ingress, egress, or the driveway.***

5. *The proposed improvements are sited to take into consideration and to mitigate natural hazards such as floodplains and avalanches as set forth in this chapter. Mitigation measures shall not adversely impact other properties. **Not applicable.***

6. *The siting of the proposed improvements minimizes interference with natural drainage patterns and is designed to minimize adverse impact on other properties. All drainage shall comply with the standards set forth in title 7 of this code; be contained on site, or be connected to drainage easements or rights of way. No drainage shall be diverted off site onto private property. **All drainage is contained on site through soil percolation and drywells may be installed for the roof drain (location TBD).***

7. *The site design provides for adequate space or means to maintain snow storage. Snow storage areas are in accordance with the requirements set forth in article G of this chapter. **The applicant has proposed 1,225 sq ft of snow storage area (See Sheet L2.0 and L2.1 of the submittal).***

8. *Appropriate address numbers and monuments are shown in accordance with the requirements as set forth in article G of this chapter. **Applicant has proposed new address numbers to be installed on the structure (see A200 of the submittal).***

9. *The siting of the proposed improvements, including streets and driveways, where applicable, minimizes hillside visibility and, where applicable, skylining by using a combination of stepped building forms, natural colors and materials, sloped roofs, and landscaping. **No ridges or prominent terrain features exist on or directly adjacent to the site.***

10. *Every lot shall be designed to be connected to public water and sewer systems, unless the property is over five hundred feet (500') from a public system as measured from the closest property line and an alternative utility system is approved by the city engineer. **All utilities are connected to the existing residence.***

B. Grading:

1. *Essential grading is shaped to blend with natural landforms and to minimize the necessity of padding and/or terracing of building sites. Cut and fill are shaped, rounded, minimized and nonuniform to simulate natural existing contours. **The project will not significantly alter the existing grade. The lower-level is excavated into the site's grade.***

2. *Areas which are not well suited for development because of existing soil conditions, ridges, ridgelines, ridge tops, knolls, saddles, summits, wildlife habitat, natural features or hydrology are allocated for open site area or recreational uses. **Not applicable.***

3. *The development is in accordance with the design criteria, as applicable, as set forth in article H of this chapter and title 7 of this code. **No ridges or prominent terrain features exist on or directly adjacent to the site.***

C. Architectural Quality:

1. *The proposed project maintains the quality of materials and design that is appropriate to the location, the lot and the neighborhood. **The house utilizes high quality, natural materials that are appropriate for the neighborhood and complement the surrounding landscape. The new residence will add a contemporary design to the neighborhood. The proposed landscaping will adequately screen the structure.***

2. *The proposed improvements conform to natural landscape features by minimizing the degree of cuts and fills. **The project does not significantly alter the site's grade.***

3. *The plan includes the location of all exterior lighting. All lighting shall be directed onto the subject lot and shall not be directed towards other properties. **The exterior lighting on the residence is recessed into the soffit and all landscape lighting is downcast and fully shielded.***

4. *Building design includes weather protection that prevents water from dripping or snow from sliding onto pedestrian or vehicle areas or onto adjacent properties. **The new roof includes drainpipes.***

5. *Any exterior addition or alteration to an existing building is compatible with the design character of the original building. Any new detached structure is compatible with the design character of the existing buildings and/or structure(s). **The addition project is inconsistent with the design character of the existing building, however, the new structure is similar in design and styling to other structures in the vicinity.***

6. *All improvements are designed to minimize light and sound emanating to other properties as set forth in article B of this chapter. **The lighting conforms to the City's Exterior Lighting Regulations.***

7. *Rooftop chimneys and utilities are enclosed and design is consistent with the primary structure. **The chimney flue is enclosed in a steel chimney shroud.***

*D. Pedestrian and Vehicle Circulation Design: **Vehicle circulation will be unaffected as the only proposed change is replacing the existing pavers on the entry drive with asphalt. The new ground level terrace and entry walk will enhance pedestrian circulation.***

*E. Landscaping Quality: **The landscaping provides relief from the face of the structure and also enhances screening from Defiance Street. The landscape includes a combination of groves of Aspen and Fir trees as well as ground covers and natural grasses.***

*F. Irrigation Limits: **See Irrigation and Wildfire Suppression Note on Sheet L1.0 of the submittal.***

*G. Fences, Walls, Retaining Walls, Screens, and Dog Runs: **Retaining boulders will be installed.***

*H. Sign Design: **Not applicable.***

I. Exterior Lighting: All existing lighting complies with the City's Exterior Lighting Regulations. Exterior lighting includes a strip light and 6" diameter recessed, downcast lighting.

RECOMMENDATION: Staff recommends approval of DR2016-25.

RECOMMENDED MOTION: "I move to approve DR2016-25 to allow for construction of additions totaling 2,514 sq ft and other exterior alterations, pursuant to the Findings of Fact."

ALTERNATIVE ACTIONS: Move denial of the application and draft findings supporting denial.

ATTACHMENTS:

1. Findings of Fact
2. Application Materials

DRAFT
FINDINGS OF FACT AND CONCLUSIONS OF LAW
CITY OF SUN VALLEY PLANNING & ZONING COMMISSION
DESIGN REVIEW

Project Name: **105 Defiance Addition**

Applicant: **Mark Pynn, AIA for The Galloway Family Trust**

Location: **105 Defiance St, June Day Subdivision Lot 39**

Zoning District: **Rural Estate and Ranch (RA)**

Request: Approve the design of additions totaling 2,514 sq ft as well as other exterior alterations to an existing 2,839 single-family residence.

Project Description: The applicant submitted an application for design review approval for additions totaling 2,514 sq ft as well as other alterations including modifications to the entry drive and new landscaping to an existing, detached single-family dwelling in June Day Subdivision.

The lower level of the structure is excavated into the site's grade. Changes include removing the existing 430 sq deck, enclosing the existing crawl space, installing a 546 sq ft terrace, and increasing the building footprint to accommodate a new mini-master bedroom, multi-purpose room, and new storage. Changes to the upper level include additions totaling 1,333 sq ft to accommodate a new living room, master bedroom, office space, and dining room. The interior remodel does not require approval as a part of this design review application. The upper level addition is cantilevered over the lower level. Other exterior changes include replacing the existing 430 sq ft deck with a 546 sq ft terrace. The new 780 sq ft upper level deck includes a roof overhang and extends over the lower level terrace area. While portions of the roof eave extend into the required 15' setback, the encroachment complies with SVMC §9-2A-3E-2 allowing eaves, roofs, awnings, or canopies to encroach a maximum of 4'.

The addition project complies with the purpose and all applicable dimensional regulations of the RA Zoning District. All aspects of the project have been reviewed by the Planning Commission and staff to ensure compliance with all applicable standards including minimum setbacks, building envelope, lot coverage, maximum height, snow storage, and exterior lighting regulation compliance. The project drawings stamped received by the City of Sun Valley on May 2, 2016 detail all changes to the proposed residence.

Required Findings: In order to approve a design review application and based on the standards set forth in **Sun Valley Municipal Code, Title 9, Chapter 3A (DESIGN REVIEW REGULATIONS)**, the Planning Commission shall make the following findings pursuant to **Development Code Section 9-5B-3 (DESIGN REVIEW)**.

1. The proposed design is in conformance with the purpose of the zoning district and all dimensional regulations of that district. **The addition project is in conformance with the purpose and dimensional regulations of the zoning district because the design complies with all applicable standards appropriate for single-family structures within the Rural Estate and Ranch (RA) Zone including setbacks, height, and lot coverage.**
2. The proposed design is in conformance with the standards for design review as set forth in Chapter 3A (DESIGN REVIEW REGULATIONS) of this Title. **The proposed structure meets the setback and height requirements established in the zone. The high quality materials and natural colors utilized are consistent with the surrounding neighborhood and greater Sun Valley area.**
3. The proposed design does not significantly impact the natural, scenic character and aesthetic value of hillsides, ridges, ridgelines, ridge tops, knolls, saddles, and summits in the City. **No ridges or prominent terrain features exist directly on the site.**
4. The proposed design is in context and complimentary to adjacent properties. **The materials and colors are consistent with other adjacent structure in the neighborhood. The design utilizes stepped forms and natural materials and colors to blend into the surrounding landscape.**
5. The proposed design is compatible with the community character and scale of the neighborhood. **The updated single-family dwelling will add a modern residence to the neighborhood. The new structure is consistent with the siting of the original dwelling**
6. The proposed design adheres to standards for the protection of health, safety, and general welfare. **The project proposal has adequate snow storage areas, connection to public utilities, and other characteristics which protect the health and safety of the neighborhood.**
7. The proposed design is of quality architectural character and materials. **The proposed design of the structure is integrated into the sloping natural grade minimizing visual impacts.**
8. The use is not in conflict with the Comprehensive Plan or other adopted plans, policies, or ordinances of the City. **The subject site is designated as Low Density Residential by the Future Land Use Map of the Comprehensive Plan. The Rural Estate and Ranch (RA) Zoning District implements the Low Density Residential Land Use Designation and the proposed additions to the single-family dwelling are consistent with all applicable provisions of the RA Zoning District.**

CONDITIONS OF APPROVAL

1. Applicant and their representatives shall comply with all applicable City codes and ordinances, including those related to noise (Section 4-4D-2 and 3) and water pollution control (Section 4-4C-2).
2. Design Review approval is good for one year from the date of approval, unless extended pursuant to Sun Valley Municipal Code Section 9-5A-8.
3. Any requirements and/or approvals of private associations or other entities are the sole responsibility of the property owner.
4. Any permits issued during the 10-day appeal period provided for under section 9-5A-9 may be subject to a stop work order in the event of an appeal. Any work commenced during the appeal period shall be at the applicant's own risk.
5. Approval is specific to the project drawings and the construction management plan dated received by the City of Sun Valley on May 2, 2016.
6. The address monument shall be posted in a place that is visible from Defiance Street and on contrasting background to be visible both day and night and in all weather conditions. Any planned permanent address monument shall meet all applicable requirements of City Code Section 9-3G-14, including letter size and height.
7. Defiance Road shall be kept free and clear for emergency vehicle access at all times. Any significant access issues shall be brought to the attention of the City and project neighbors in advance.
8. No modifications to the approved plans shall be made without written permission of the Community Development Director, Building Official, and Fire Code Official.

CONCLUSIONS OF LAW

Therefore, this project does meet the standards for approval under Title 9, Chapter 3A, City of Sun Valley Municipal Code provided the conditions of approval are met. Design Review approval shall expire 365 days from the date of approval, unless extended as per Municipal Code Section 9-5A-8.

DECISION

Therefore, the Sun Valley Planning and Zoning Commission approves this Design Review Application No. DR2016-25.

Dated this 23rd day of June, 2016.

Ken Herich, Chairman
Sun Valley Planning and Zoning Commission

Date Findings of Fact signed _____

**DESIGN REVIEW SUBMITTAL
MAY 3, 2016**

**ADDITIONS AND ALTERATIONS TO A RESIDENCE FOR:
THE GALLOWAY FAMILY TRUST**

105 DEFIANCE STREET
LOT 39 JUNE DAY SUBDIVISION
ELKHORN, SUN VALLEY IDAHO



CITY OF SUN VALLEY VICINITY MAP



NEIGHBORHOOD MAP



MARK PYNN
ARCHITECT
QUALITY • DESIGN • EXPERIENCE



KEYNOTES

PROJECT NO
1502

LEGEND

	BOUNDARY LINE
	EDGE OF LANDSCAPING/LAWN
	EASEMENT LINE (PER PLAT)
	EDGE PAVEMENT
	BUILDING ENVELOPE (PER PLAT)
	BUILDING ENVELOPE (PER ORDINANCE)
	ELECTRIC BOX
	CATV BOX
	CLEANOUT
	IRRIGATION BOX
	TELEPHONE BOX
	ELECTRIC METER
	GAS METER
	STONE
	EVERGREEN TREE
	DECIDUOUS TREE

NOTES

GENERAL RESTRICTIONS & TITLE INFORMATION:

- THE PURPOSE OF THIS MAP IS TO SHOW TOPOGRAPHICAL/SITE INFORMATION AS IT EXISTED ON THE DATE THE FIELD SURVEY WAS PERFORMED. CHANGES MAY HAVE OCCURRED TO SITE CONDITIONS SINCE SURVEY DATE.
- THIS MAP WAS PREPARED FOR THE EXPRESS USE OF THE CLIENT AND IS NOT TRANSFERABLE TO OTHERS WITHOUT WRITTEN CONSENT.
- A TITLE POLICY HAS NOT BEEN SUBMITTED TO BENCHMARK ASSOCIATES, NOR HAS A TITLE SEARCH BEEN REQUESTED. CERTAIN INFORMATION CONTAINED WITHIN SAID POLICY MAY NOT APPEAR ON THIS MAP OR MAY AFFECT ITEMS SHOWN ON THIS MAP. IT IS THE RESPONSIBILITY OF THE OWNER OR AGENT TO REQUEST OR FURNISH SAID INFORMATION.

EASEMENTS, ENCUMBRANCES AND RESTRICTIONS:

- BUILDING AREA: BUILDING ENVELOPE AS SHOWN IS PER PLAT AND PER CITY OF SUN VALLEY ORDINANCE. SETBACK AND FOOTPRINT REQUIREMENTS PER CURRENT CITY OF SUN VALLEY ORDINANCES MAY VARY. IT IS RECOMMENDED THAT SAID ORDINANCES BE REVIEWED PRIOR TO DESIGN.
- GENERAL RESTRICTIONS: EXCEPT AS SPECIFICALLY STATED OR SHOWN ON THIS MAP, THIS SURVEY DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING WHICH MAY APPLICABLE TO THE SUBJECT OF REAL ESTATE: EASEMENTS, OTHER THAN THOSE SHOWN OR LISTED HEREON, BUILDING SETBACK LINES, RESTRICTIVE COVENANTS, SUBDIVISION RESTRICTIONS, ZONING, WETLANDS OR ANY OTHER LAND-USE REGULATIONS.
- STORMWATER PLAN: IF SOIL DISTURBANCE, CLEARING, GRADING AND/OR EXCAVATION OF ONE (1) ACRE OR MORE IS TO TAKE PLACE A FEDERAL GENERAL CONSTRUCTION PERMIT, INCLUDING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), MUST BE PREPARED AND SUBMITTED TO AND APPROVED BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY PRIOR TO ANY SITE DISTURBANCE.

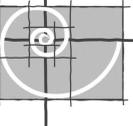
SURVEY AND SITE FEATURES:

- BASES OF BEARINGS IS PER THE ORIGINAL PLAT OF JUNE DAY SUBDIVISION. BOUNDARY LINES AND CERTAIN EASEMENTS SHOWN HEREON ARE PER SAID PLAT. REFER TO SAID PLAT & C&G'S FOR CONDITIONS AND/OR RESTRICTIONS REGARDING THIS PROPERTY.
- ELEVATIONS BASED ON NAVD 88 (GEOID03) DATUM.
- UTILITIES AND DRAIN PIPES SHOWN HEREON ARE PER SURFACE EVIDENCE ONLY. OTHER UNDERGROUND UTILITIES MAY EXIST. LOCATION OF UNDERGROUND UTILITIES AND SERVICES SHOULD BE CONFIRMED PRIOR TO EXCAVATION OR DESIGN.
- BUILDING WALLS SHOWN HEREON ARE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
- SPRINKLER HEADS AND IRRIGATION LINES ARE NOT SHOWN HEREON.
- TREE LOCATIONS AND DIAPHRANES AS SHOWN HEREON ARE APPROXIMATE.

EXISTING SITE PLAN
- PRELIMINARY -
NOT FOR CONSTRUCTION

220 RIVER STREET EAST
KETCHUM, IDAHO
83340
FAX: 208.726.7108

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ARCHITECT
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83340
PHONE: 208.622.4656

ADDITIONS AND ALTERATIONS
TO A RESIDENCE FOR:
THE GALLOWAY FAMILY TRUST
105 DEFFINANCE STREET
LOT 39 JUNE DAY SUBDIVISION
ELKHORN, SUN VALLEY IDAHO

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PREPARED BY: BENCHMARK ASSOCIATES, P.A.
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JUNE DAY
LOT 39
LOCATED WITHIN
SECTION 16, TOWNSHIP 4 NORTH, RANGE 18 EAST, B.M.
CITY OF SUN VALLEY, BLAINE COUNTY, IDAHO
PREPARED FOR : GALLOWAY
PROJECT NO. 15100 | DWG BY: DWS | CRD: 15100.GRD | 15100.DWG

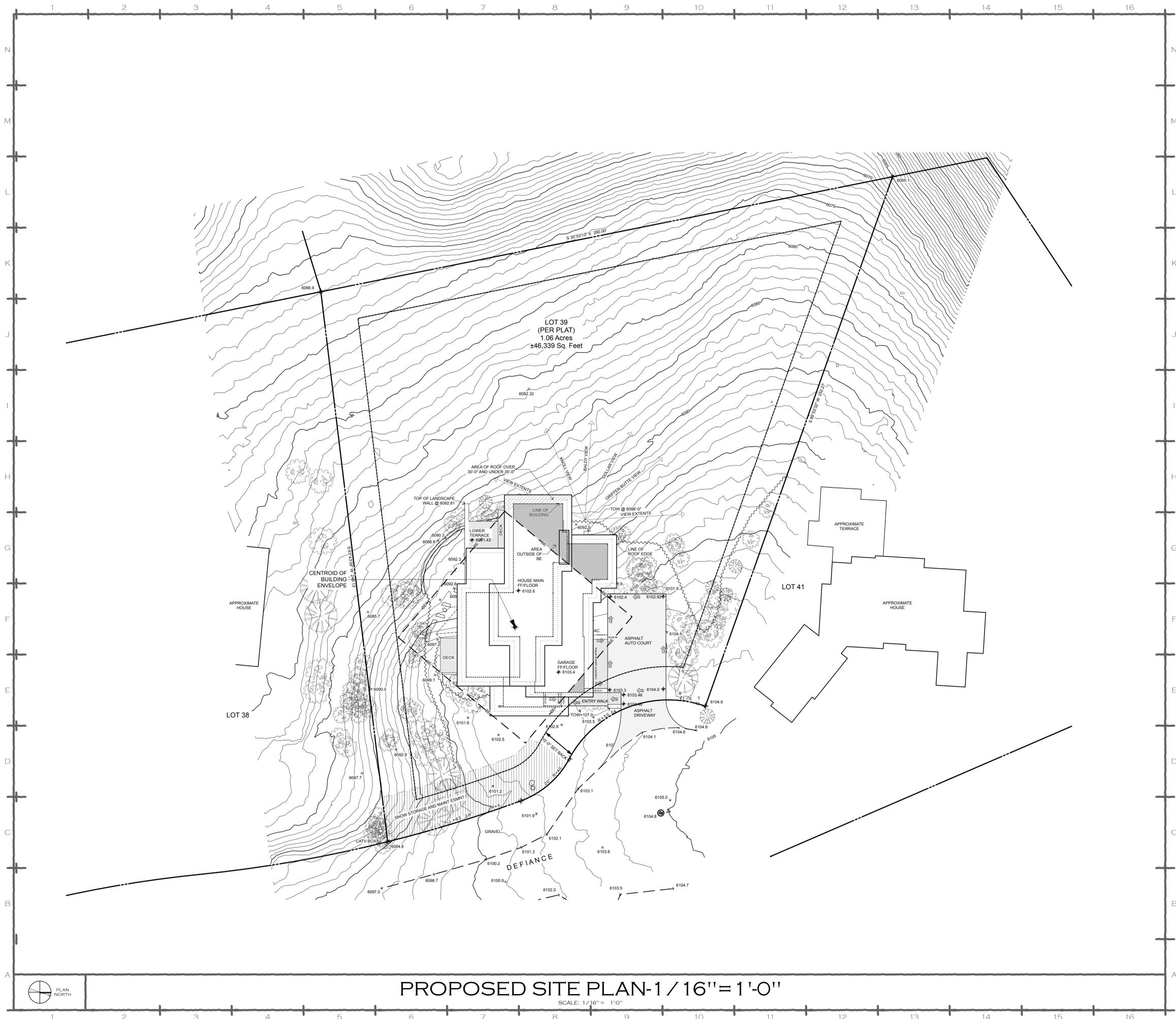


DRAWN BY
DATE
4/29/16
SHEET NUMBER
TS001
NO. OF

EXISTING SITE PLAN
SCALE: 1/16" = 1'-0"



PLAN NORTH



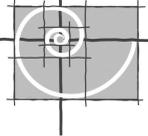
KEYNOTES

LICENSED ARCHITECT
 MARK ROBERT PYNN
 STATE OF IDAHO
 PROJECT NO.
1502

PROPOSED SITE PLAN-1/16"=1'-0"
 - PRELIMINARY -
 NOT FOR CONSTRUCTION

220 RIVER STREET EAST
 KETCHUM, IDAHO
 83340
 FAX: 208.726.7108

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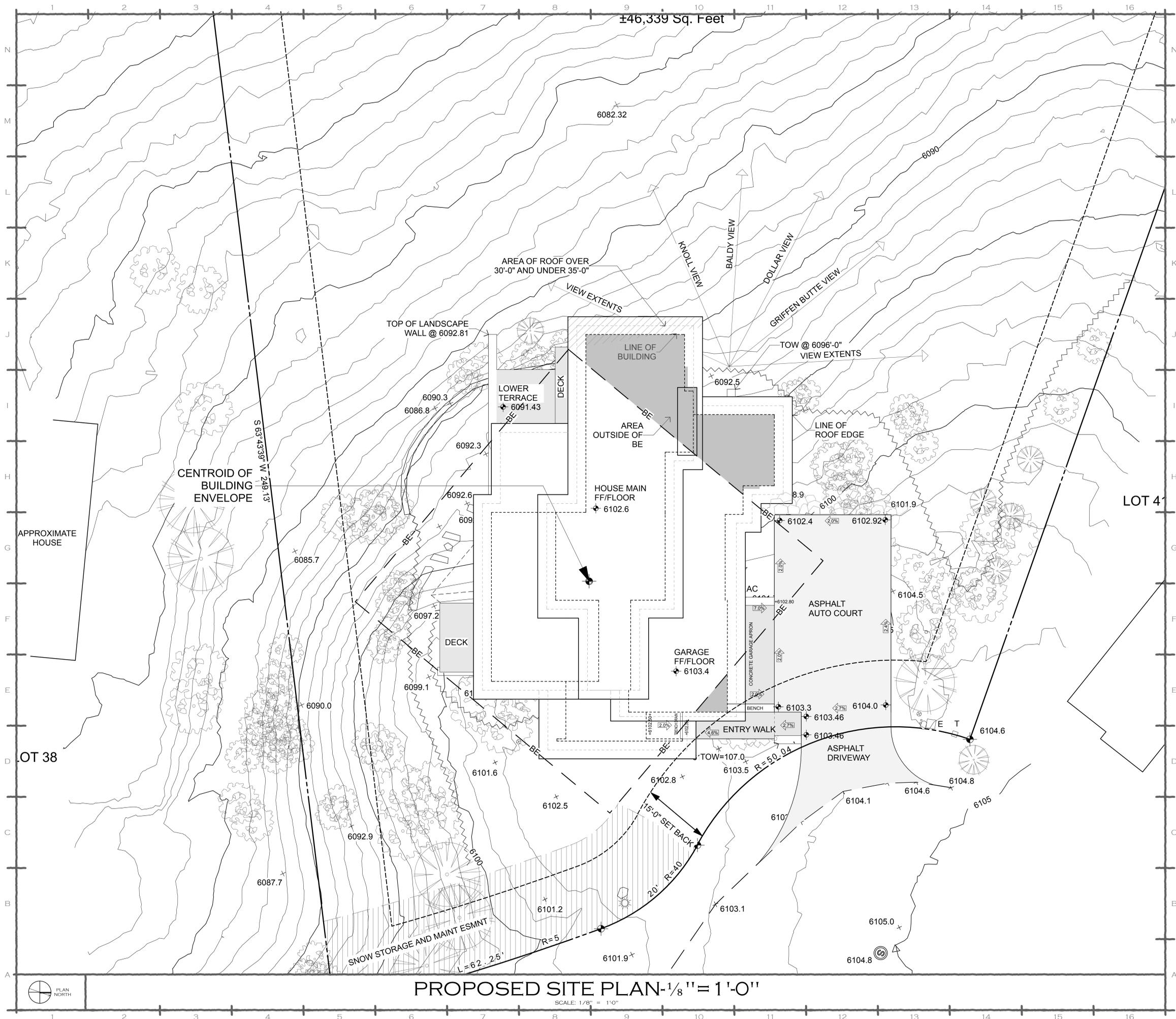
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 PHONE: 208.622.4656

ADDITIONS AND ALTERATIONS
 TO A RESIDENCE FOR:
THE GALLOWAY FAMILY TRUST
 105 DEFIANCE STREET
 LOT 39 JUNE DAY SUBDIVISION
 ELKHORN, SUN VALLEY IDAHO
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FOOTPRINT AREA TABULATION	
PROPOSED FOOTPRINT AREA =	3,800 S.F.
AVAILABLE EXISTING BUILDING ENVELOPE =	5,476 S.F.
PROPOSED FOOTPRINT OUTSIDE OF THE BUILDING ENVELOPE =	675 S.F.
PROPOSED ROOF AREA OVER 30'-0" AND UNDER 35'-0" =	145 S.F. = 2.4% OF ROOF AREA

DRAWN BY	
DATE	4/29/16
SHEET NUMBER	A002
NO. OF	

PROPOSED SITE PLAN-1/16"=1'-0"
 SCALE: 1/16" = 1'-0"



±46,339 Sq. Feet

CENTROID OF BUILDING ENVELOPE
S 63°43'39" W 248.13'

APPROXIMATE HOUSE

LOT 38

LOT 4

SNOW STORAGE AND MAINT ESMT
L=62.25'
R=5'



PROPOSED SITE PLAN-1/8" = 1'-0"

SCALE: 1/8" = 1'-0"

KEYNOTES

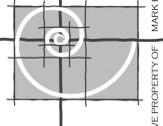
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PROPOSED ROOF AREA OVER 30'-0" AND UNDER 35'-0" =	145 S.F. = 2.4% OF ROOF AREA

PROJECT NO.
1502

PROPOSED SITE PLAN-1/8" = 1'-0"
 - PRELIMINARY -
 NOT FOR CONSTRUCTION

220 RIVER STREET EAST
 KETCHUM, IDAHO
 83340
 FAX: 208.726.7108

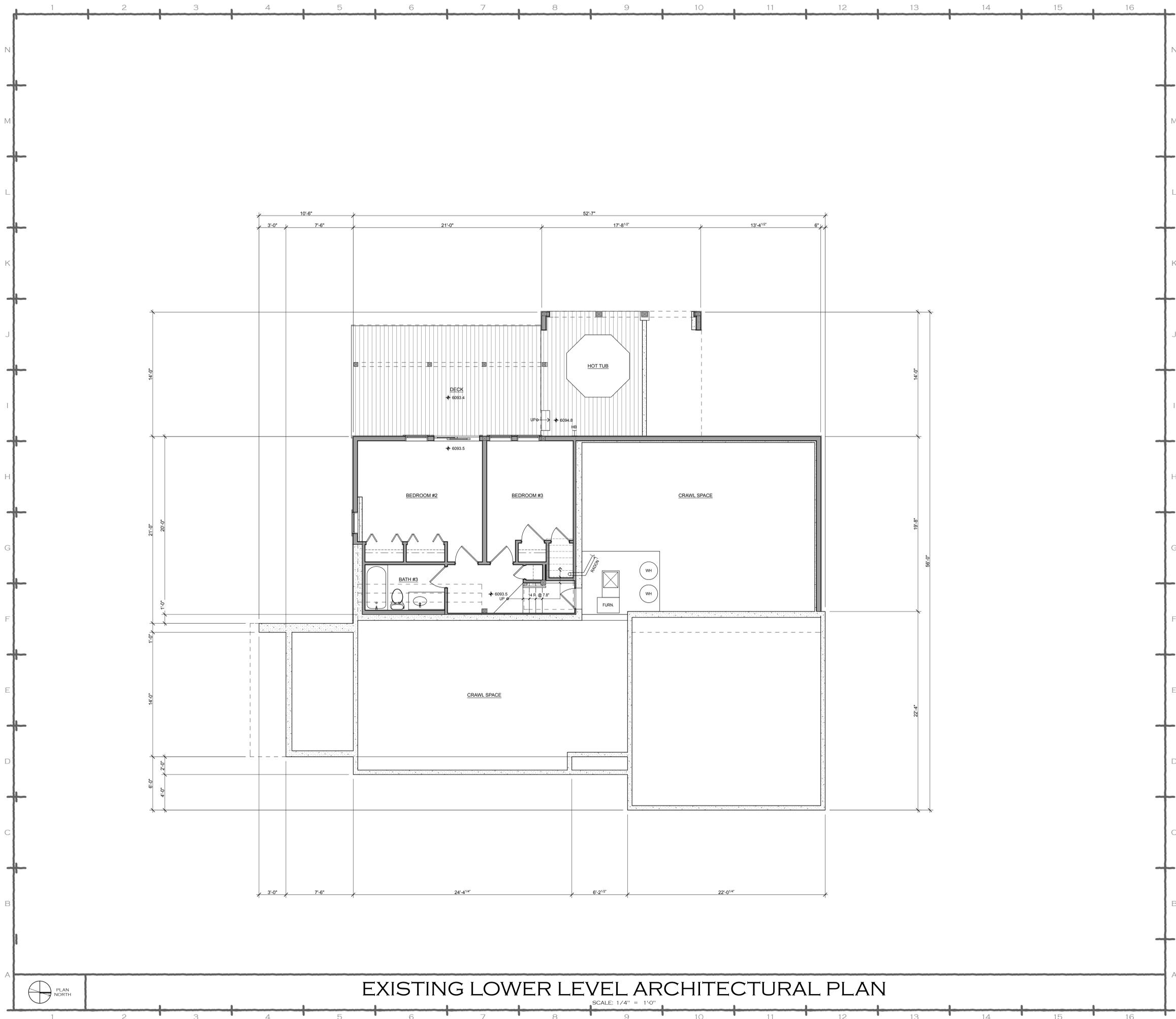
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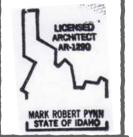
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ADDITIONS AND ALTERATIONS
 TO A RESIDENCE FOR:
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 105 DEFIANCE STREET
 LOT 39 JUNE DAY SUBDIVISION
 ELKHORN, SUN VALLEY IDAHO

DRAWN BY
 DATE
 4/29/16
 SHEET NUMBER
A003
 NO. OF



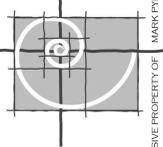
KEYNOTES


 PROJECT NO.
1502

EXISTING LOWER LEVEL ARCHITECTURAL PLAN
 - PRELIMINARY -
 NOT FOR CONSTRUCTION

220 RIVER STREET EAST
 KETCHUM, IDAHO
 83340
 FAX: 208.726.7108

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 KETCHUM, IDAHO
 83340
 PHONE: 208.622.4656

ADDITIONS AND ALTERATIONS
 TO A RESIDENCE FOR:
THE GALLOWAY FAMILY TRUST
 105 DEFIANCE STREET
 LOT 39 JUNE DAY SUBDIVISION
 ELKHORN, SUN VALLEY IDAHO
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EXISTING LOWER LEVEL S.F.
 LIVING = 527 S.F.
 MECH. = 66 S.F.
 TOTAL GROSS EXISTING = 593 S.F.
 DECK = 430 S.F.

WALL KEY

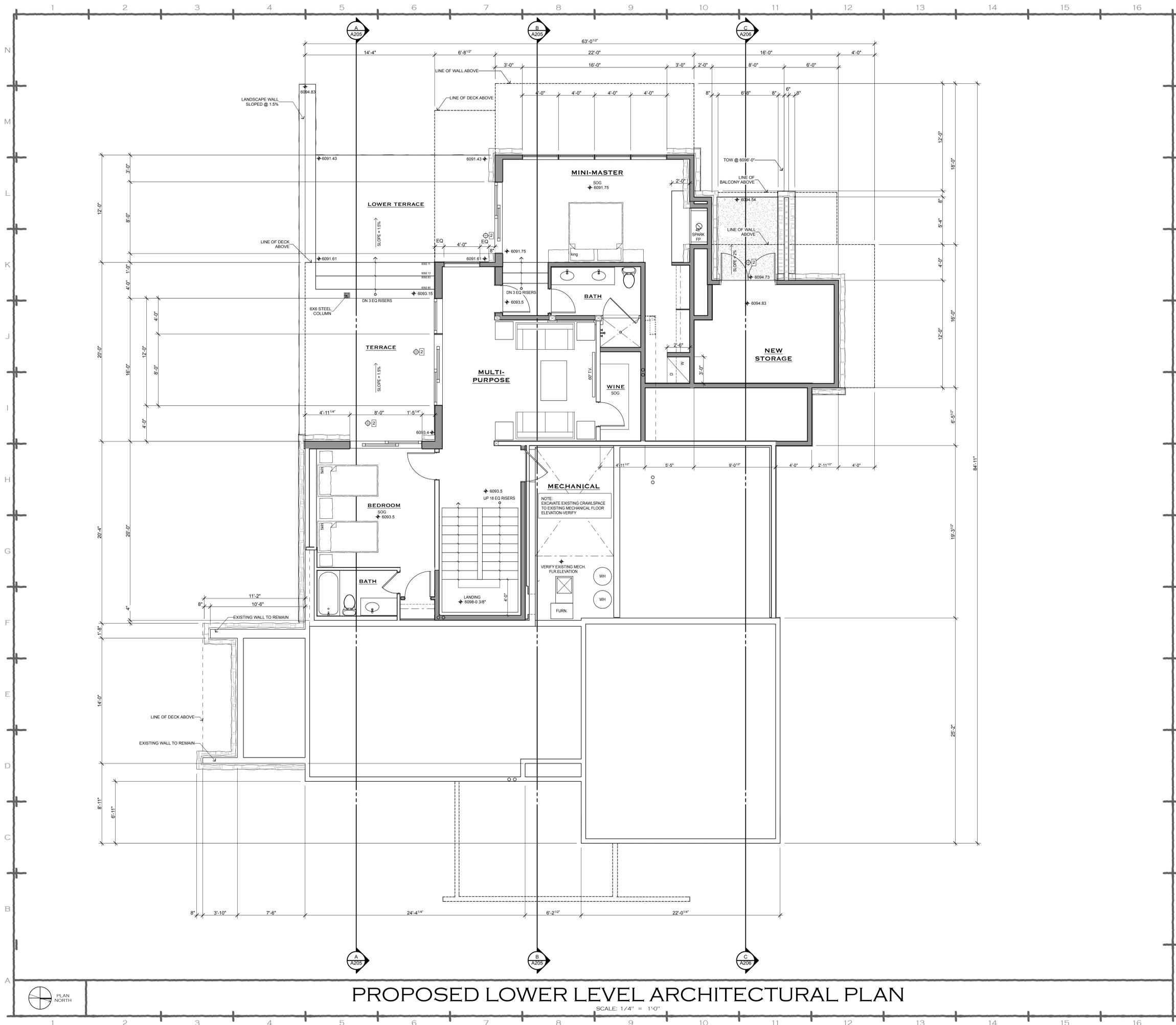
	EXISTING WALL TO REMAIN
	EXISTING WALL TO BE REMOVED
	PROPOSED NEW 2X6 WALL
	PROPOSED NEW 2X4 WALL

EXISTING LOWER LEVEL ARCHITECTURAL PLAN

SCALE: 1/4" = 1'-0"

DRAWN BY

DATE	4/29/16
SHEET NUMBER	A100
NO. OF	



- KEYNOTES**
- 1 UNDER WALL CAP CONTINUES STRIP LIGHT
 - 2 6" DIAMETER RECESSED DOWNLIGHT WITH FULL CUT OFF

PROPOSED LOWER LEVEL S.F.

LIVING = 1,358 S.F.
 MECH/STORAGE = 350 S.F.
 TOTAL GROSS PROPOSED = 1,708 S.F.
 TERRACES = 546 S.F.

WALL KEY

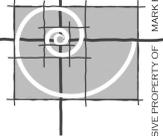
	EXISTING WALL TO REMAIN
	EXISTING WALL TO BE REMOVED
	PROPOSED NEW 2X6 WALL
	PROPOSED NEW 2X4 WALL

MARK ROBERT PYNN ARCHITECT
 LICENSED ARCHITECT
 STATE OF IDAHO
 PROJECT NO.
1502

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DRAWN BY

DATE

4/29/16

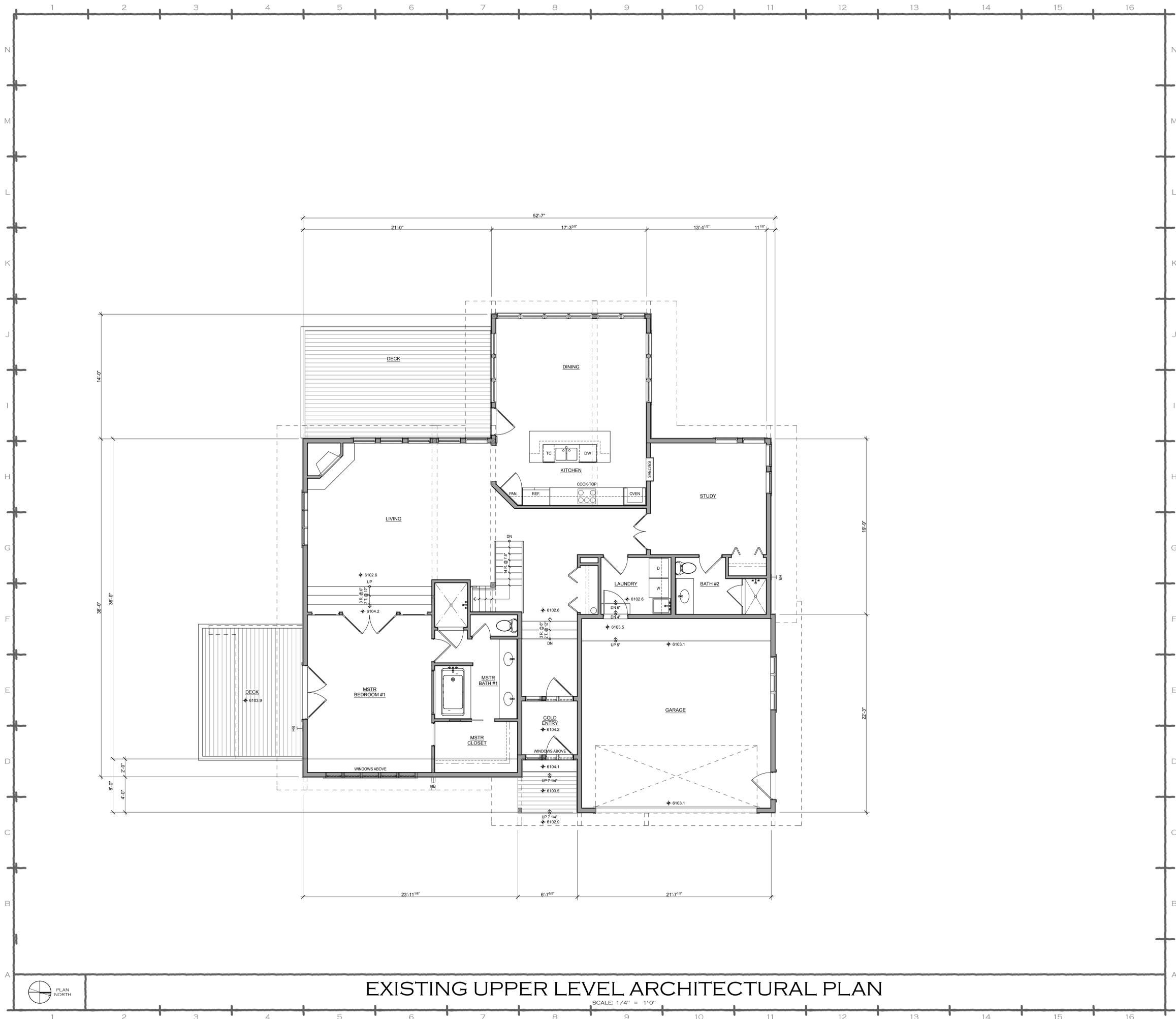
SHEET NUMBER

A101

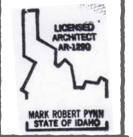
NO. OF

PROPOSED LOWER LEVEL ARCHITECTURAL PLAN

SCALE: 1/4" = 1'-0"



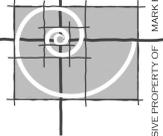
KEYNOTES


 LICENSED ARCHITECT
 MARK ROBERT PYNN
 STATE OF IDAHO
 PROJECT NO.
1502

EXISTING UPPER LEVEL ARCHITECTURAL PLAN
 - PRELIMINARY -
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220 RIVER STREET EAST
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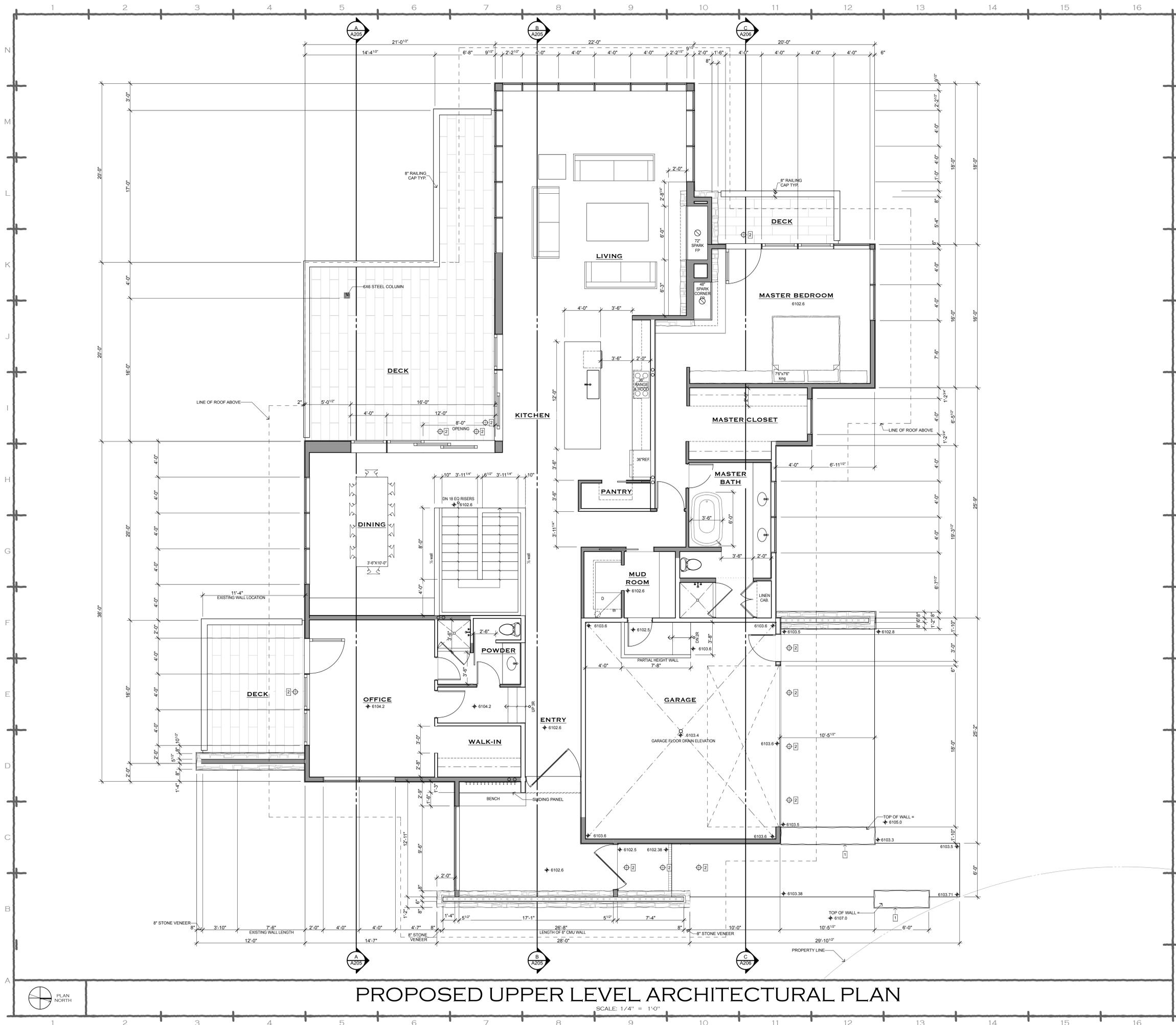
EXISTING UPPER LEVEL S.F.
 LIVING = 1,822 S.F.
 GARAGE = 490 S.F.
 TOTAL GROSS EXISTING = 2,312 S.F.
 DECKS = 445 S.F.

WALL KEY
 [Solid line] EXISTING WALL TO REMAIN
 [Dashed line] EXISTING WALL TO BE REMOVED
 [Thick solid line] PROPOSED NEW 2X6 WALL
 [Thin solid line] PROPOSED NEW 2X4 WALL

EXISTING UPPER LEVEL ARCHITECTURAL PLAN

SCALE: 1/4" = 1'-0"

DRAWN BY
 DATE
 4/29/16
 SHEET NUMBER
A102
 NO. OF



- KEYNOTES**
- 1 UNDER WALL CAP CONTINUES STRIP LIGHT
 - 2 6" DIAMETER RECESSED DOWNLIGHT WITH FULL CUT OFF

PROPOSED UPPER LEVEL S.F.

LIVING = 3,091 S.F.
 GARAGE = 554 S.F.
 TOTAL GROSS PROPOSED = 3,645 S.F.
 DECKS = 780 S.F.

WALL KEY

	EXISTING WALL TO REMAIN
	EXISTING WALL TO BE REMOVED
	PROPOSED NEW 2X6 WALL
	PROPOSED NEW 2X4 WALL

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PROPOSED UPPER LEVEL ARCHITECTURAL PLAN
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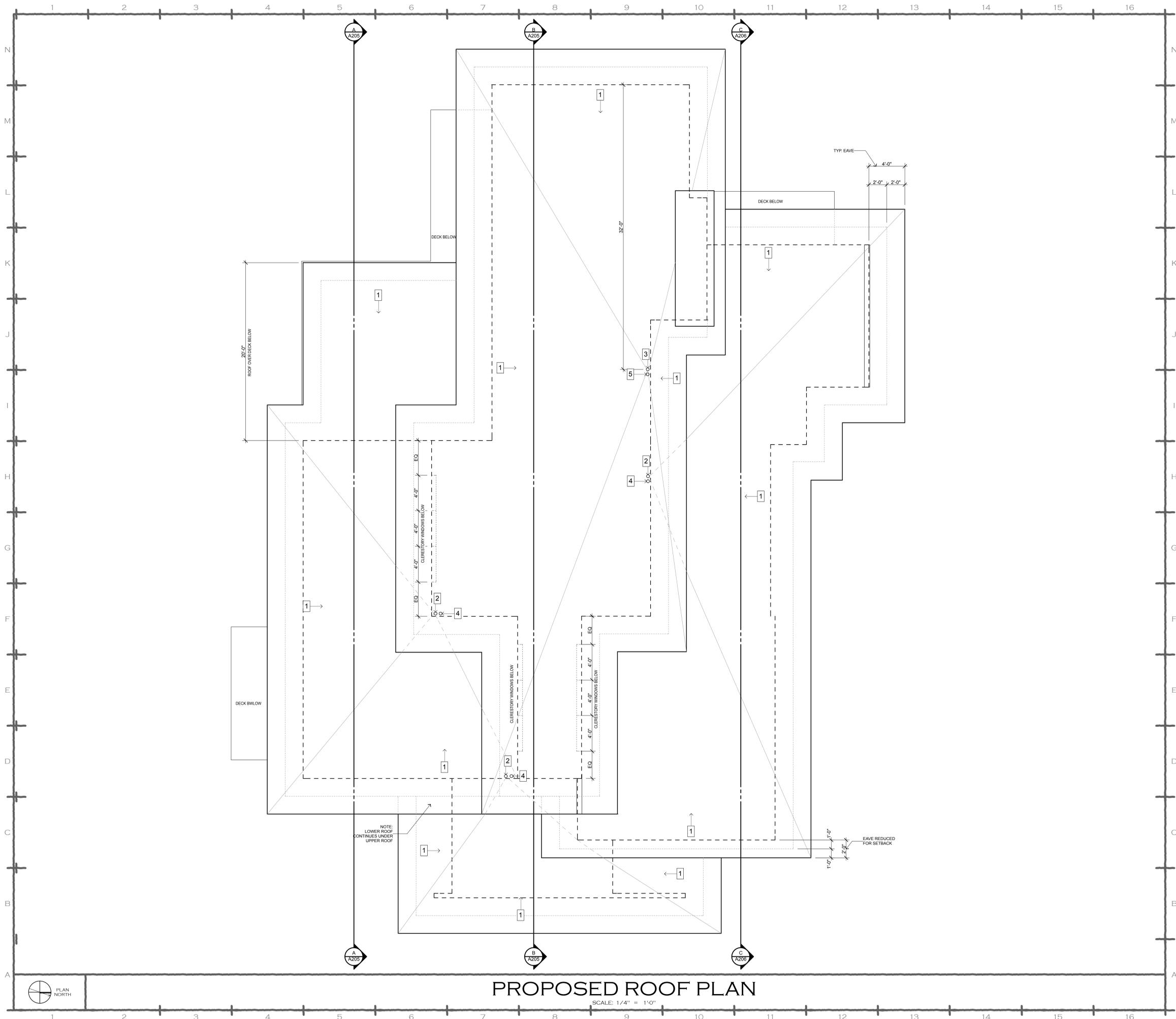
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 DATE
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 SHEET NUMBER
A103
 NO. OF

PROPOSED UPPER LEVEL ARCHITECTURAL PLAN

SCALE: 1/4" = 1'-0"



- KEYNOTES**
- 1 SLOPED ROOF 1/2" / 1'-0" TO DRAIN AS INDICATED
 - 2 SIDEWALL ROOF DRAIN INLET 4" DIA. DRAIN PIPE WITHIN INTERIOR WALL
 - 3 ROOFTOP DRAIN - CONNECTED TO 4" DIA. DRAINPIPE WITHIN INTERIOR WALL
 - 4 PROVIDE SIDEWALL OVERFLOW ROOF DRAIN INLET TO 4" DIA. DRAINPIPE WITHIN INTERIOR WALL
 - 5 PROVIDE ROOF TOP OVERFLOW ROOF DRAIN INLET TO 4" DIA. DRAINPIPE WITHIN INTERIOR WALL

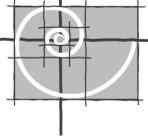
PROPOSED ROOF S.F.
 PROPOSED ROOF = 6,039 S.F.



PROPOSED ROOF PLAN
 - PRELIMINARY -
 NOT FOR CONSTRUCTION

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A104
 NO. OF

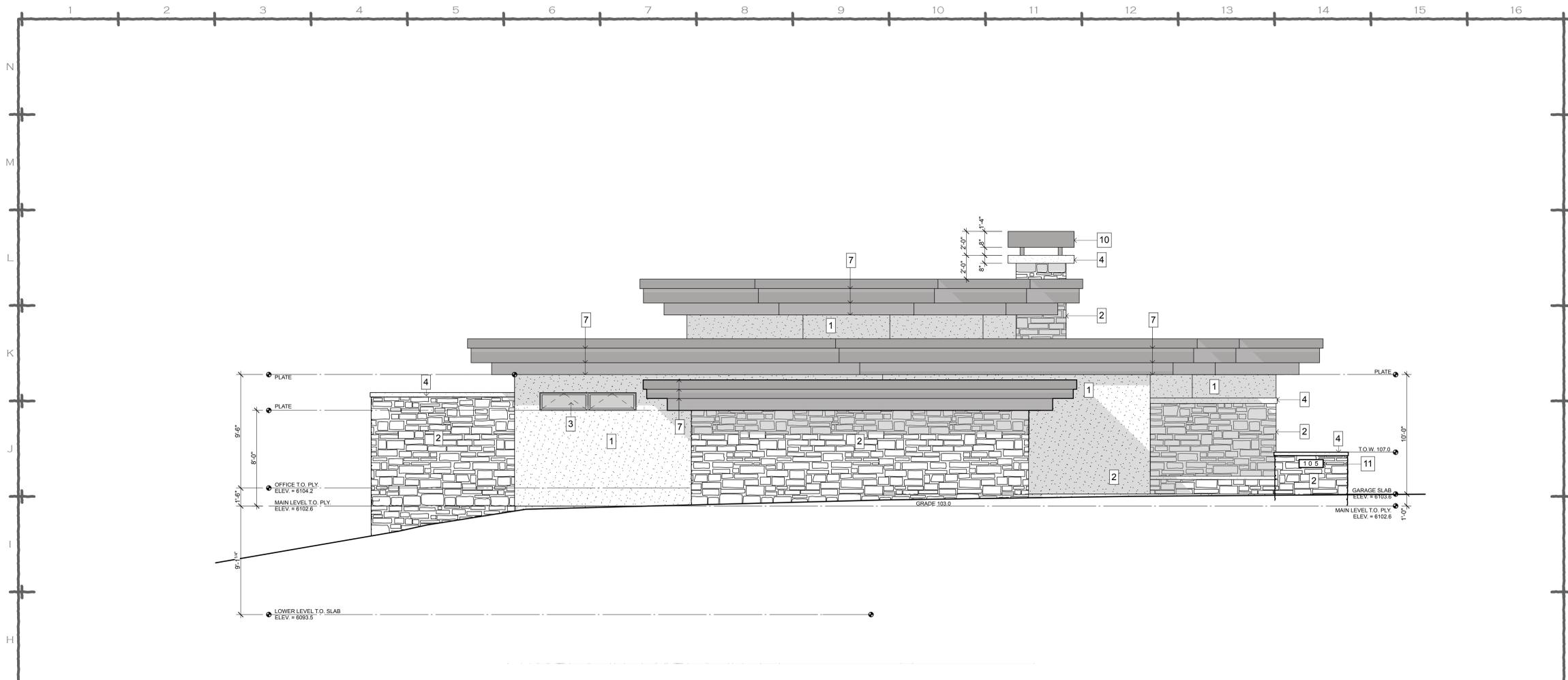
PROPOSED ROOF PLAN

SCALE: 1/4" = 1'-0"



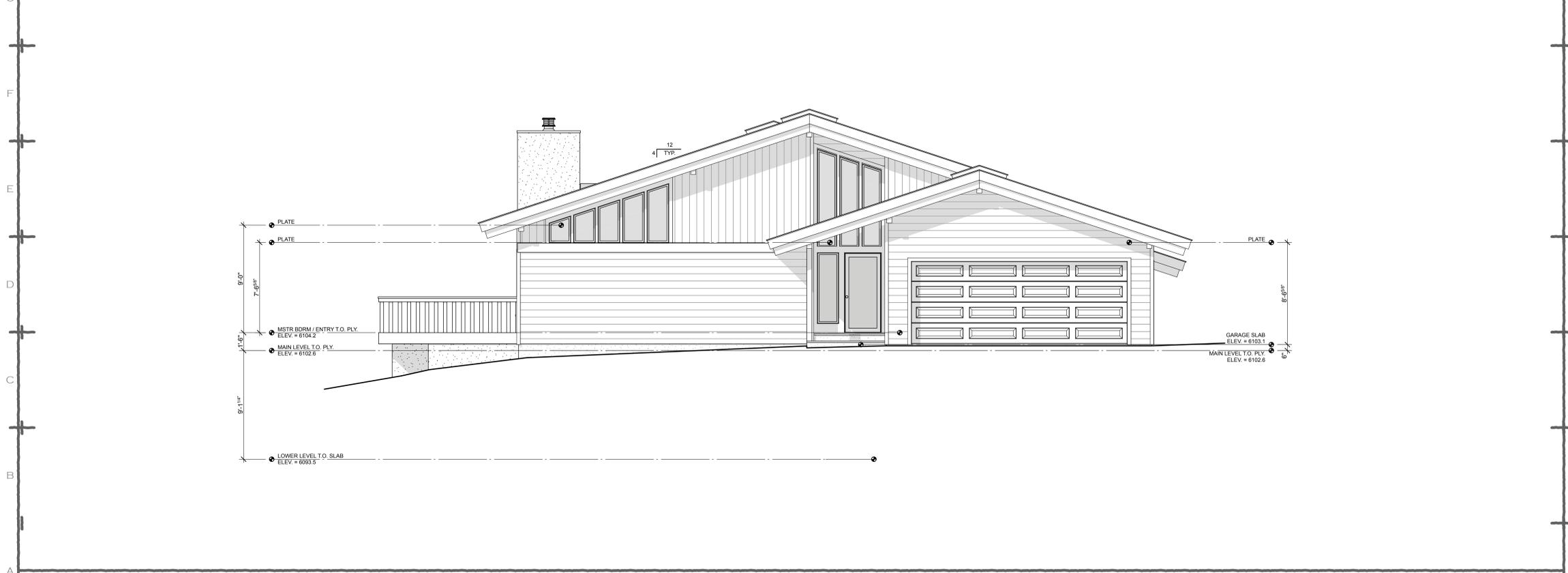
PLAN NORTH

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PROPOSED EAST EXTERIOR ELEVATION

SCALE: 1/4" = 1'-0"



EXISTING EAST EXTERIOR ELEVATION

SCALE: 1/4" = 1'-0"

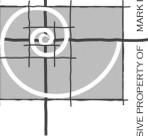
- KEYNOTES**
- 1 SMOOTH FINISH/HARD TROWELED- 3 COAT STUCCO FINISH WITH INTEGRAL COLOR, LA HABRA # X 434 "FALL BROOK, (BASE 200)
 - 2 "SILVER LEDGESTONE" NATURAL STONE VENEER WITH FLUSH, UNIFORM FACE, THIN, UNIFORM HORIZONTAL STONES WITH DEEPLY RAKED JOINTS
 - 3 THIN-PROFILE THERMALLY BROKEN STEEL WINDOWS AND SLIDING GLASS DOORS WITH POWDER-COAT FINISH TO MATCH BONDERIZED STEEL FINISH
 - 4 HARD-TROWELED CAST-IN-PLACE CONCRETE CAP
 - 5 POWDER-COATED STEEL DECK FRAMING AND GUARDRAIL- COLOR TO MATCH BONDERIZED STEEL FINISH
 - 6 TUBULAR STEEL COLUMN- POWDER-COATED OR PRIMED AND PAINTED TO MATCH BONDERIZED STEEL COLOR AND FINISH
 - 7 BONDERIZED STEEL FASCIA METAL- NATURAL FINISH
 - 8 BONDERIZED STEEL METAL CLADDING AND TRIM - NATURAL FINISH
 - 9 ALUMINUM (COLOR TO MATCH BONDERIZED STEEL) AND TRANSLUCENT INSULATED GLASS GARAGE DOOR, WITH MATCHING ADJOINING HUMAN ENTRY DOOR
 - 10 BONDERIZED STEEL CHIMNEY SHROUD WITH 4"x4" BONDERIZED TUBE SUPPORTS AT 4'-0" O.C.
 - 11 ADDRESS NUMBER FOR RESIDENCE

MARK ROBERT PYNN
 ARCHITECT
 LICENSED ARCHITECT
 STATE OF IDAHO
 PROJECT NO.
 1502

EXISTING & PROPOSED EAST EXTERIOR ELEVATIONS
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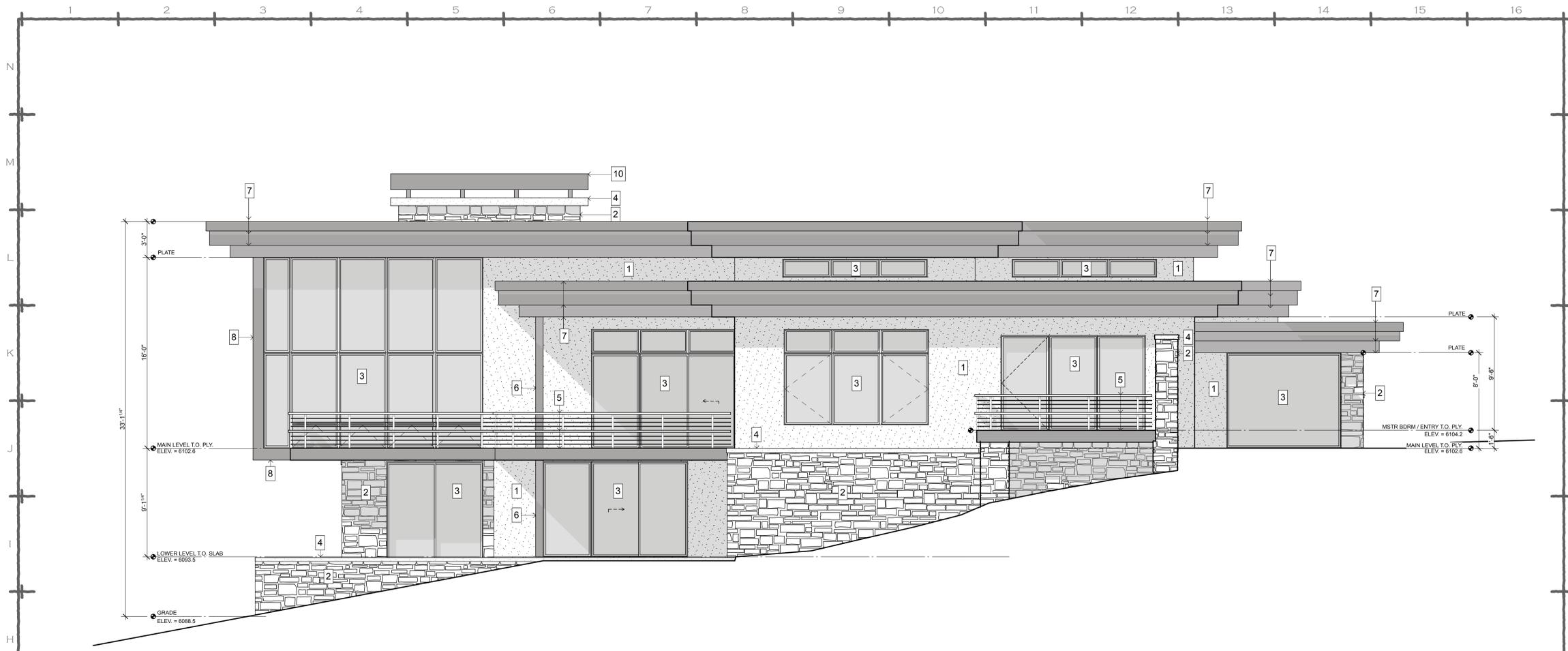
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ADDITIONS AND ALTERATIONS TO A RESIDENCE FOR:
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 105 DEFIANCE STREET
 LOT 39 JUNE DAY SUBDIVISION
 ELKHORN, SUN VALLEY IDAHO
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 A200
 NO. OF



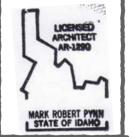
PROPOSED SOUTH EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



EXISTING SOUTH EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0"

KEYNOTES

- 1 SMOOTH FINISH/HARD TROWELED- 3 COAT STUCCO FINISH WITH INTEGRAL COLOR, LA HABRA # X 434 "FALL BROOK, (BASE 200)
- 2 "SILVER LEDGESTONE" NATURAL STONE VENEER WITH FLUSH, UNIFORM FACE, THIN, UNIFORM HORIZONTAL STONES WITH DEEPLY RAKED JOINTS
- 3 THIN- PROFILE THERMALLY BROKEN STEEL WINDOWS AND SLIDING GLASS DOORS WITH POWDER-COAT FINISH- TO MATCH BONDERIZED STEEL FINISH
- 4 HARD-TROWELED CAST-IN-PLACE CONCRETE CAP
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- 9 ALUMINUM (COLOR TO MATCH BONDERIZED STEEL) AND TRANSLUCENT INSULATED GLASS GARAGE DOOR, WITH MATCHING ADJOINING HUMAN ENTRY DOOR
- 10 BONDERIZED STEEL CHIMNEY SHROUD WITH 4"x4" BONDERIZED TUBE SUPPORTS AT 4'-0" O.C.
- 11 ADDRESS NUMBER FOR RESIDENCE


 LICENSED ARCHITECT
 AR-1880
 MARK ROBERT PYYN
 STATE OF IDAHO
 PROJECT NO.
 1502

EXISTING & PROPOSED SOUTH EXTERIOR ELEVATIONS
 - PRELIMINARY -
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 220 RIVER STREET EAST
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ADDITIONS AND ALTERATIONS
 TO A RESIDENCE FOR:
THE GALLOWAY FAMILY TRUST
 105 DEFANCE STREET
 LOT 39 JUNE DAY SUBDIVISION
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 NO. OF



PROPOSED WEST EXTERIOR ELEVATION

SCALE: 1/4" = 1'-0"

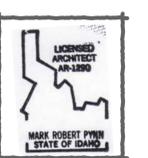


EXISTING WEST EXTERIOR ELEVATION

SCALE: 1/4" = 1'-0"

KEYNOTES

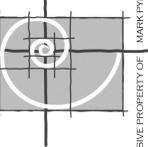
- 1 SMOOTH FINISH/HARD TROWELED- 3 COAT STUCCO FINISH WITH INTEGRAL COLOR, LA HABRA # X 434 "FALL BROOK, (BASE 200)
- 2 "SILVER LEDGESTONE"
NATURAL STONE VENEER WITH FLUSH, UNIFORM FACE, THIN, UNIFORM HORIZONTAL STONES WITH DEEPLY RAKED JOINTS
- 3 THIN-PROFILE THERMALLY BROKEN STEEL WINDOWS AND SLIDING GLASS DOORS WITH POWDER-COAT FINISH TO MATCH BONDERIZED STEEL FINISH
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- 11 ADDRESS NUMBER FOR RESIDENCE


 LICENSED ARCHITECT
 AR-1280
 PROJECT NO.
1502

EXISTING & PROPOSED WEST EXTERIOR ELEVATIONS
 - PRELIMINARY -
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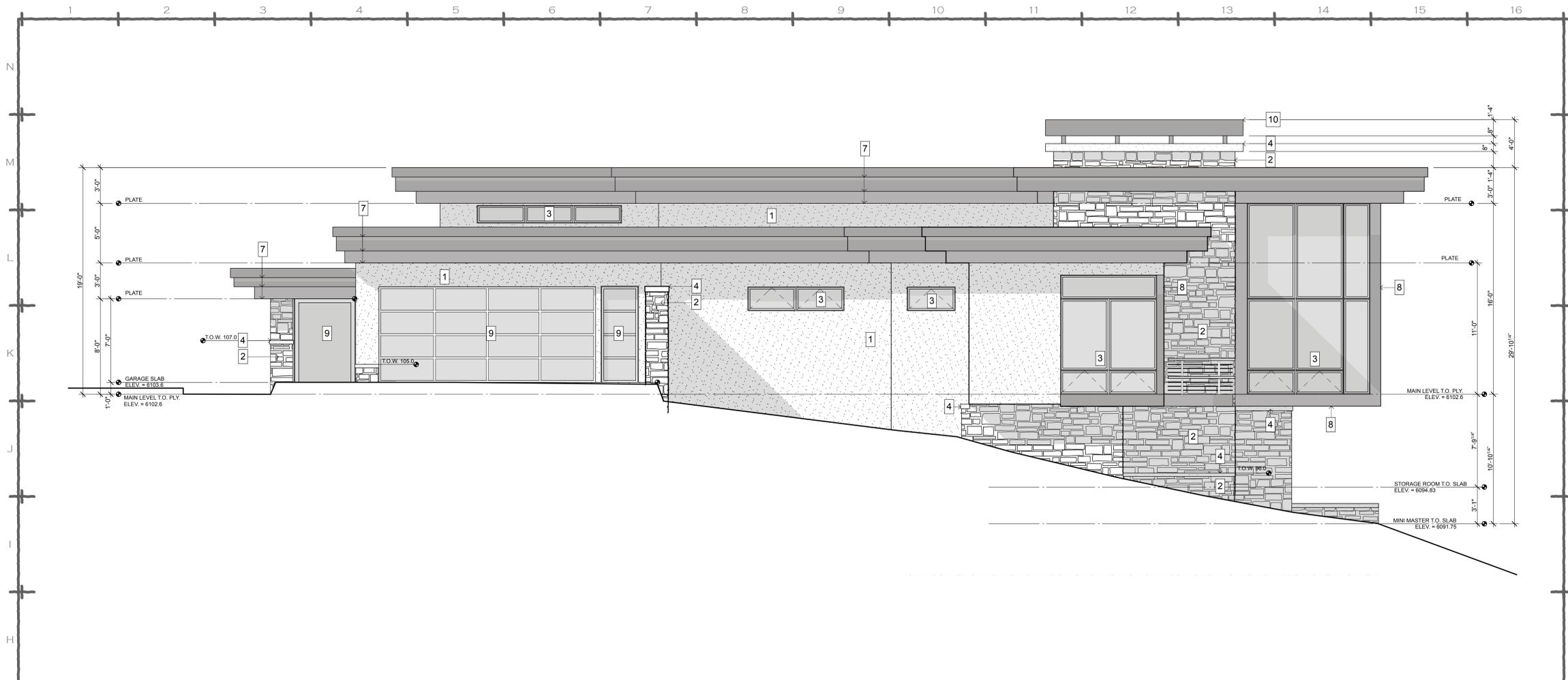
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ADDITIONS AND ALTERATIONS
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 105 DEFIANCE STREET
 LOT 39 JUNE DAY SUBDIVISION
 ELKHORN, SUN VALLEY IDAHO

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A202
 NO. OF



PROPOSED NORTH EXTERIOR ELEVATION

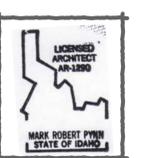
SCALE: 1/4" = 1'-0"



EXISTING NORTH EXTERIOR ELEVATION

SCALE: 1/4" = 1'-0"

- KEYNOTES**
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 - 11 ADDRESS NUMBER FOR RESIDENCE


 LICENSED ARCHITECT
 AR-1280
 MARK ROBERT PYYN
 STATE OF IDAHO
 PROJECT NO.
1502

EXISTING & PROPOSED NORTH EXTERIOR ELEVATIONS
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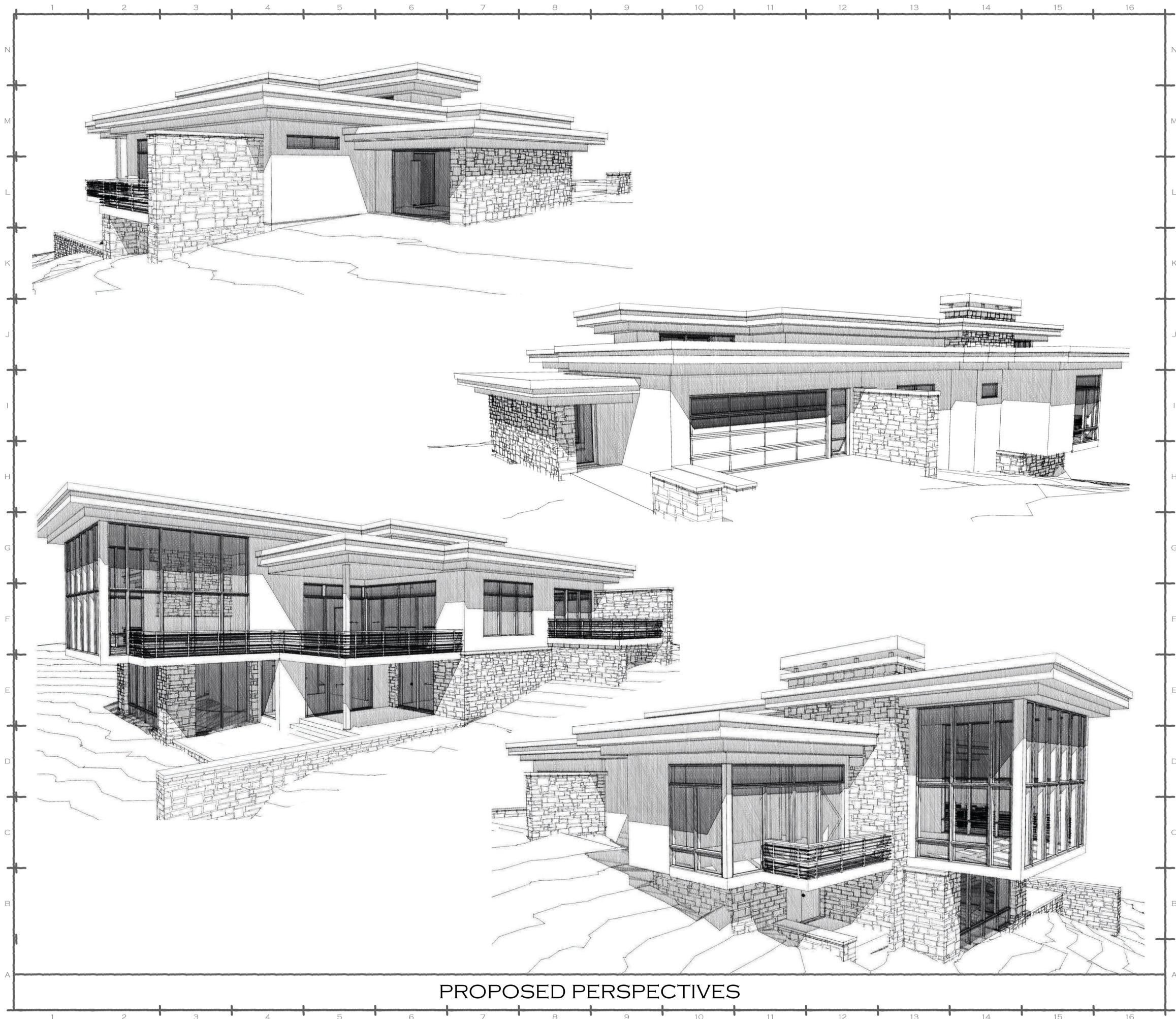
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ADDITIONS AND ALTERATIONS
 TO A RESIDENCE FOR:
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 LOT 39 JUNE DAY SUBDIVISION
 ELKHORN, SUN VALLEY IDAHO

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A203
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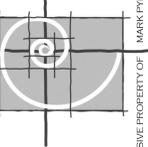


KEYNOTES

PROPOSED PERSPECTIVE VIEWS
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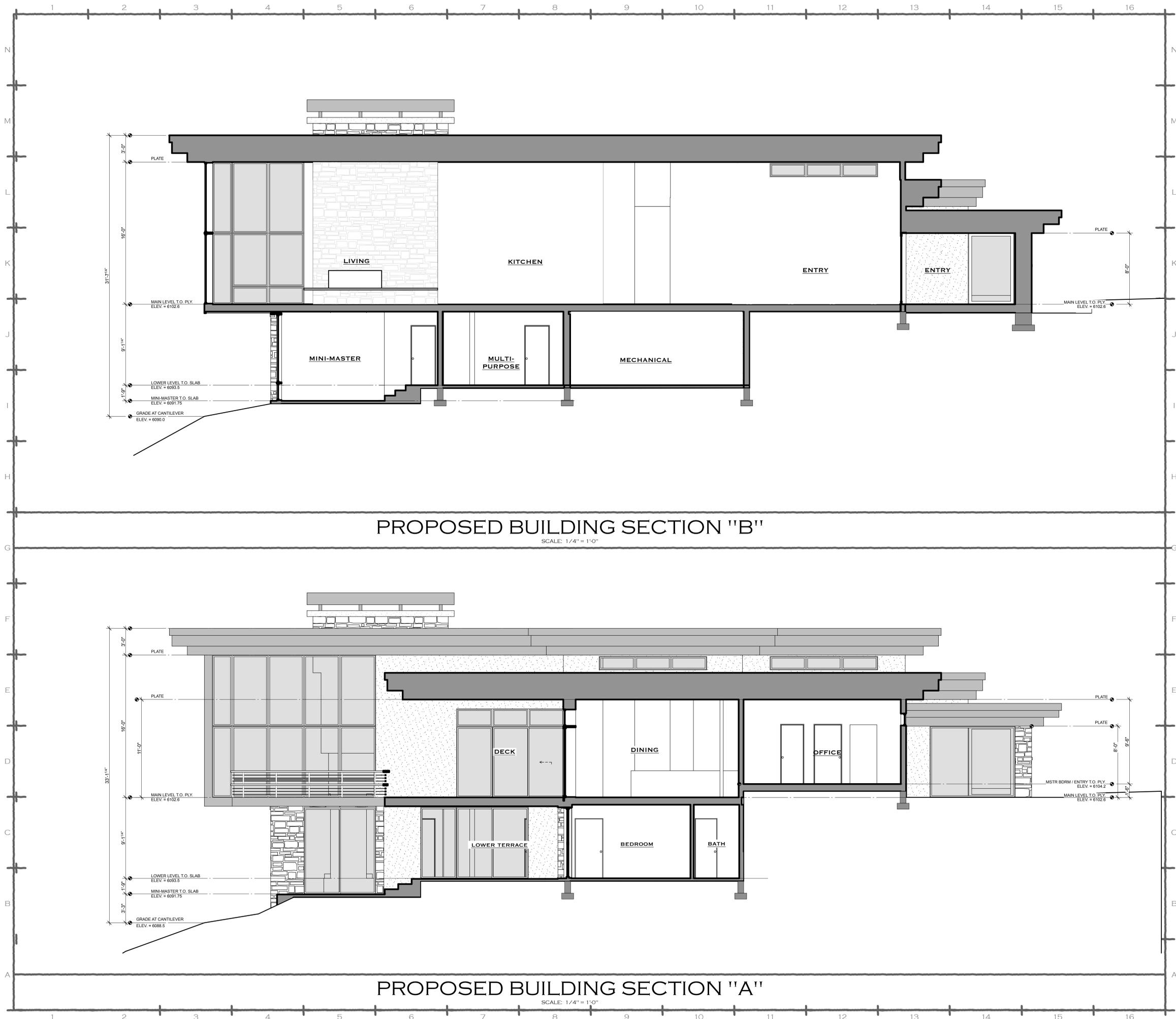


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DATE	4/29/16
SHEET NUMBER	A204
NO.	OF

PROPOSED PERSPECTIVES



PROPOSED BUILDING SECTION "B"

SCALE: 1/4" = 1'-0"

PROPOSED BUILDING SECTION "A"

SCALE: 1/4" = 1'-0"

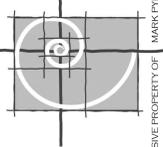
KEYNOTES

LICENSED ARCHITECT
 MARK ROBERT PYNN
 STATE OF IDAHO
 PROJECT NO.
 1502

BUILDING SECTIONS
 - PRELIMINARY -
 NOT FOR CONSTRUCTION

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 KETCHUM, IDAHO
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 FAX: 208.726.7108

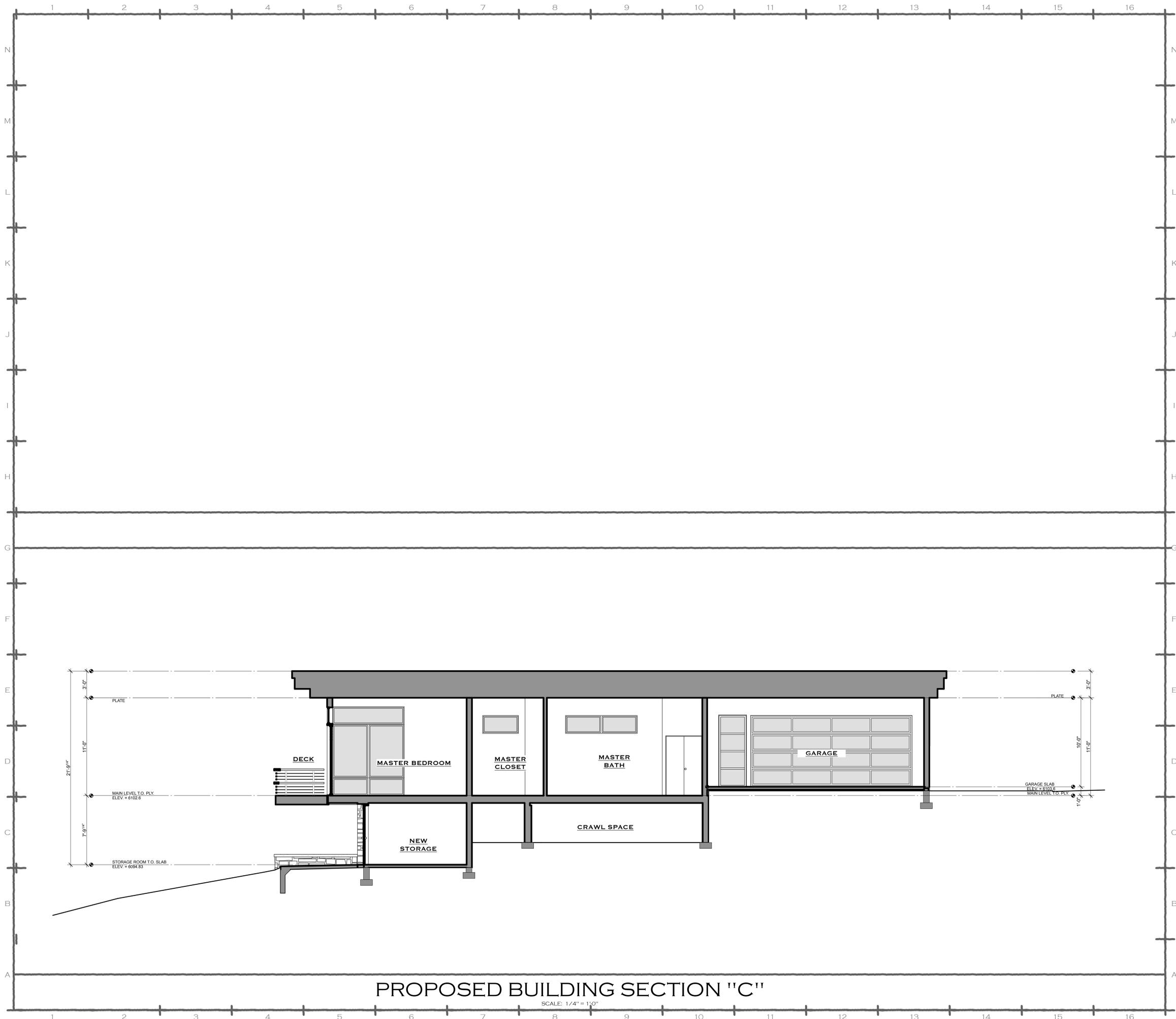
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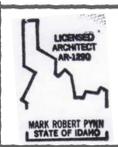
P.O. BOX 754
 KETCHUM, IDAHO
 83340
 PHONE: 208.622.4656

ADDITIONS AND ALTERATIONS
 TO A RESIDENCE FOR:
THE GALLOWAY FAMILY TRUST
 105 DEFIANCE STREET
 LOT 39 JUNE DAY SUBDIVISION
 ELKHORN, SUN VALLEY IDAHO
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DRAWN BY	
DATE	4/29/16
SHEET NUMBER	A205
NO. OF	



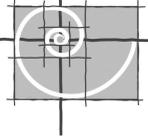
KEYNOTES


 PROJECT NO.
1502

BUILDING SECTIONS
 - PRELIMINARY -
NOT FOR CONSTRUCTION

220 RIVER STREET EAST
 KETCHUM, IDAHO
 83340
 FAX: 208.726.7108

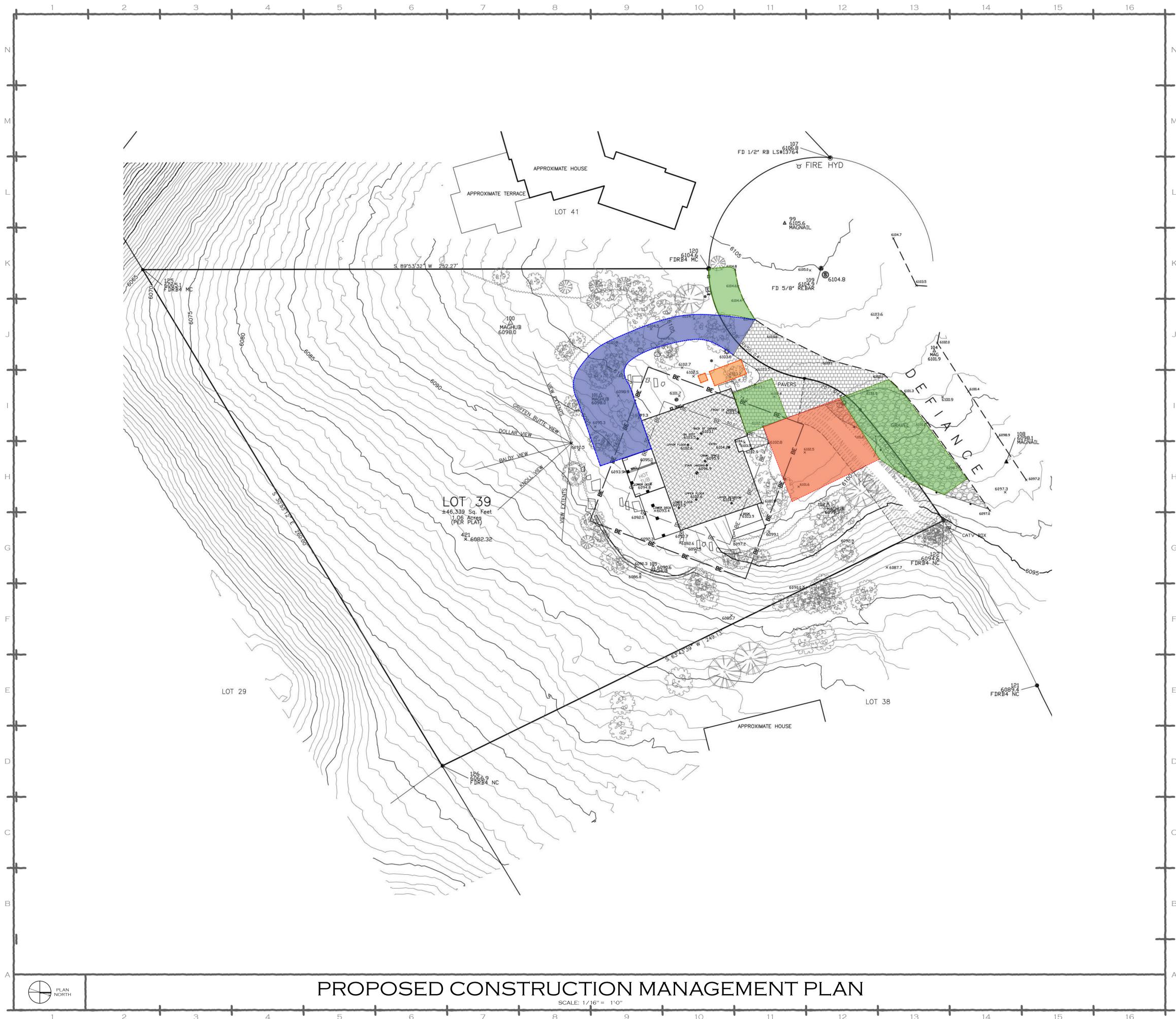
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 DATE
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KEYNOTES

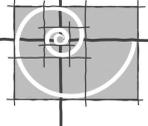


PROJECT NO.
1502

PROPOSED CONSTRUCTION MANAGEMENT
PLAN
- PRELIMINARY -
NOT FOR CONSTRUCTION

220 RIVER STREET EAST
KETCHUM, IDAHO
83340
FAX: 208.726.7108

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ADDITIONS AND ALTERATIONS
TO A RESIDENCE FOR:
THE GALLOWAY FAMILY TRUST
105 DEFANCE STREET
LOT 39 JUNE DAY SUBDIVISION
ELKHORN, SUN VALLEY IDAHO

DRAWN BY
DATE
4/28/16
SHEET NUMBER
CM001
NO. OF

KEY	
	TEMPORARY CONSTRUCTION ACCESS ROAD
	JOB SITE CONSTRUCTION TRAILER & PORT-A-POTTY
	CONSTRUCTION WORKERS PARKING
	CONSTRUCTION MATERIALS STAGING AREA

PROPOSED CONSTRUCTION MANAGEMENT PLAN

SCALE: 1/16" = 1'-0"

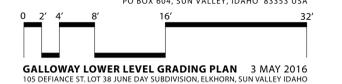




--- CONSTRUCTION FENCE
 CONSTRUCTION FENCING SHALL
 BE INSTALLED PRIOR TO ANY
 SITE GRADING OR EXCAVATION



(208) 726-3256
 アルカミ
Alchemie
 PO BOX 604, SUN VALLEY, IDAHO 83353 USA



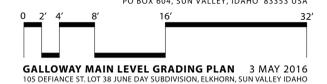
GALLOWAY LOWER LEVEL GRADING PLAN 3 MAY 2016
 105 DEFIANCE ST. LOT 38 JUNE DAY SUBDIVISION, ELKHORN, SUN VALLEY IDAHO



--- CONSTRUCTION FENCE
 --- CONSTRUCTION FENCING SHALL BE INSTALLED PRIOR TO ANY SITE GRADING OR EXCAVATION



(208) 726-3256
 アルカミ
Alchemie
 PO BOX 604, SUN VALLEY, IDAHO 83353 USA



GALLOWAY MAIN LEVEL GRADING PLAN 3 MAY 2016
 105 DEFIANCE ST. LOT 38 JUNE DAY SUBDIVISION, ELKHORN, SUN VALLEY IDAHO



L2.0

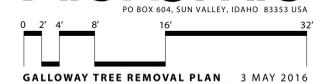


✕ EXISTING TREE TO BE REMOVED

- TREES TO BE REMOVED
- 19 - ASPEN
 - 5 - COLORADO SPRUCE
 - 1 - CRAB APPLE
 - 3 - MAPLE
 - 3 - PINE



(208) 726-3256
Alchemie
 PO BOX 604, SUN VALLEY, IDAHO 83353 USA



GALLOWAY TREE REMOVAL PLAN 3 MAY 2016
 105 DEFIANCE ST. LOT 38 JUNE DAY SUBDIVISION, ELKHORN, SUN VALLEY IDAHO



**CITY OF SUN VALLEY
PLANNING AND ZONING COMMISSION
AGENDA REPORT**

From: Abby Rivin, CFM, Associate Planner
Meeting Date: 23 June 2016

DESIGN REVIEW (DR 2016-32)

APPLICANT: The Community School

LOCATION: 1 Community School Drive, Community School Sub AM Lot 1A BLK 1
EXEMPTION APP RECD FOR 2016

ZONING DISTRICTS: City-owned Right-of-Way

REQUEST: Approve the design of a new monument sign to replace the existing entry sign to the Community School campus.

ANALYSIS: The applicant submitted an application for design review approval for a new sign for the Community School campus entrance. The sign is located in the City-owned Right-of-Way at the intersection of Community School Rd and Dollar Rd. The sign will be comprised of a 1/8" steel box with internal LED lighting. The letters and logo will be laser cut with two translucent, milky white lexan panels to shield the emitting light. The sign will be mounted to two 6"X6" posts and two 4"X10" beams and will be placed on a concrete foundation. The sign also includes a seamed steel roof with wood fascia. No changes are proposed to the existing grade and the sign will be sited in the exact same location as the existing sign. Landscaping improvements include the installation of small, decorative boulders as well as new drought-tolerant and native grasses and plants, which include red feather grass, potentilla, pampas grass, blue fescue, lupine, common flax, and common snowberry.

Signs in the City of Sun Valley are subject to standards in SVMC §9-3f-2 & 3. Sign Regulations (Article F) were recently modified through Ordinance 482, which was passed by Sun Valley City Council March 3rd, 2016. The review of this new sign proposal is subject to the changes incorporated into Code through Ordinance 482. The height of the sign including the roof is 9'-5" from existing grade, where a 10 ft maximum is permissible by Sun Valley City Code Section § 9-3F-2. The sign face is 18 sq ft, which is 52 sq ft less than the maximum permitted. The internally-lit case, which achieves the look of channel lettering without relief by shielding the majority of the sign face with the lexan panels, is compliant with both the City's Sign Regulations and Exterior Lighting Regulations. 1 monument sign per major vehicular access to a subdivision or commercial district is permitted in the City-owned Right-of-Way. The proposed sign will replace the existing and serve as the only entrance sign to the Community School campus. Signs in the City-owned Right-of-Way are subject to approval of an Encroachment Permit, per SVMC §7-4-1.

As per SVMC § 9-3F-3A of Sun Valley Municipal Code, all permanent signs are subject to review and approval by the Planning & Zoning Commission.

Applications for design review are subject to standards in SVMC § 9-3A-3. Many of the standards are not applicable to this minor sign project.

A. Design and Siting:

*1. The design of proposed improvements is appropriate and compatible to the lot and the surrounding neighborhood. Attention has been given to the location and design of streets, view corridors, privacy of adjacent properties, outdoor spaces, shadows, solar access, view access, lighting, vehicular access, building massing, privacy of other noise generating equipment, openings and doors as these elements impact adjacent properties. **The proposed project will upgrade the Community School campus entrance with a new sign. The new sign will be placed in the exact location as the existing, so impact on adjacent properties will remain relatively unchanged. The project also enhances the entrance through the installation of new drought-tolerant and native landscaping.***

*2. The location and design of the proposed improvements has given consideration to special sites of historical, natural, ecological, architectural, archaeological, and scenic value or significance, including, but not limited to, those identified in the city's comprehensive plan. The essential character of special sites should be preserved and protected with any proposed site or structure improvements. **Not applicable as no special sites are adjacent to the property.***

*3. The siting of the proposed improvements complies with the adopted uniform fire code and any other applicable regulations regarding emergency vehicle access and circulation as set forth in title 7 of this code. **Not applicable.***

*4. The proposed improvements are sited to meet the ingress, egress, and driveway standards and requirements set forth in title 7 of this code, and the siting standard in subsection A1 of this section. **Not applicable.***

*5. The proposed improvements are sited to take into consideration and to mitigate natural hazards such as floodplains and avalanches as set forth in this chapter. Mitigation measures shall not adversely impact other properties. **The site is not located in a floodplain or avalanche zone.***

*6. The siting of the proposed improvements minimizes interference with natural drainage patterns and is designed to minimize adverse impact on other properties. All drainage shall comply with the standards set forth in title 7 of this code; be contained on site, or be connected to drainage easements or rights of way. No drainage shall be diverted off site onto private property. **Not applicable.***

*7. The site design provides for adequate space or means to maintain snow storage. Snow storage areas are in accordance with the requirements set forth in article G of this chapter. **Not applicable***

*8. Appropriate address numbers and monuments are shown in accordance with the requirements as set forth in article G of this chapter. **Not applicable.***

*9. The siting of the proposed improvements, including streets and driveways, where applicable, minimizes hillside visibility and, where applicable, skylining by using a combination of stepped building forms, natural colors and materials, sloped roofs, and landscaping. **The design uses natural colors and materials to blend into the landscape.***

10. Every lot shall be designed to be connected to public water and sewer systems, unless the property is over five hundred feet (500') from a public system as measured from the closest property line and an alternative utility system is approved by the city engineer. **Not applicable.**

B. Grading:

1. Essential grading is shaped to blend with natural landforms and to minimize the necessity of padding and/or terracing of building sites. Cut and fill are shaped, rounded, minimized and nonuniform to simulate natural existing contours. **Grading will remain unchanged.**

2. Areas which are not well suited for development because of existing soil conditions, ridges, ridgelines, ridge tops, knolls, saddles, summits, wildlife habitat, natural features or hydrology are allocated for open site area or recreational uses. **Not applicable.**

3. The development is in accordance with the design criteria, as applicable, as set forth in article H of this chapter and title 7 of this code. **Not applicable as the proposed sign is situated on the existing grade in the exact location as the existing sign.**

C. Architectural Quality:

1. The proposed project maintains the quality of materials and design that is appropriate to the location, the lot and the neighborhood. **The sign design utilizes a natural, "antique brown" finish that is compatible with the Community School campus and the surrounding landscape.**

2. The proposed improvements conform to natural landscape features by minimizing the degree of cuts and fills. **The project does not alter the site's existing grade.**

3. The plan includes the location of all exterior lighting. All lighting shall be directed onto the subject lot and shall not be directed towards other properties. **The monument sign is comprised of an internally-lit sealed-case which achieves the look of channel lettering without relief by shielding the majority of the sign face with lexan panels.**

4. Building design includes weather protection that prevents water from dripping or snow from sliding onto pedestrian or vehicle areas or onto adjacent properties. **Not applicable.**

5. Any exterior addition or alteration to an existing building is compatible with the design character of the original building. Any new detached structure is compatible with the design character of the existing buildings and/or structure(s). **Not applicable.**

6. All improvements are designed to minimize light and sound emanating to other properties as set forth in article B of this chapter. **The sign lighting complies with the requirements of SVMC § 9-3F-2 as well as the City's Exterior Lighting Regulations (Article B of the Development Code).**

7. Rooftop chimneys and utilities are enclosed and design is consistent with the primary structure. **Not applicable.**

D. Pedestrian and Vehicle Circulation Design: Not applicable.

E. Landscaping Quality: **The proposed landscaping will incorporate new drought tolerant and native grasses and plants, which include red feather grass, potentilla, pampas grass, blue fescue, lupine, common flax, and common snowberry. New small, decorative boulders will also be installed.**

F. Irrigation Limits: **Not applicable.**

G. Fences, Walls, Retaining Walls, Screens, and Dog Runs: **Not applicable.**

H. Sign Design: **The proposal will upgrade the Community School campus entrance with an upgraded sign and new landscaping.**

I. Exterior Lighting: **All proposed sign lighting complies with the City's Sign and Exterior Lighting Regulations.**

RECOMMENDATION: Staff recommends approval of DR2016-32.

RECOMMENDED MOTION: "I move to approve DR2016-32 to allow for the installation of a new Community School campus entrance sign with landscaping improvements, pursuant to the Findings of Fact."

ALTERNATIVE ACTIONS: Move denial of the application and draft findings supporting denial.

ATTACHMENTS:

1. Findings of Fact
2. Application Materials

DRAFT
FINDINGS OF FACT AND CONCLUSIONS OF LAW
CITY OF SUN VALLEY
DESIGN REVIEW

Project Name: **Community School Entry Sign Replacement**

Applicant: **The Community School**

Location: **1 Community School Drive, Community School Sub AM Lot 1A BLK 1 EXEMPTION
APP RECD FOR 2016**

Zoning District: **City-owned Right-of-Way**

Request: Approve the design of a new monument sign to replace the existing entry sign to the Community School campus.

Entry Sign Calculations:

Dimensional Standards	Proposed Sign	Permissible Dimensions
<i>Sign Face Area (sq ft)</i>	18	70 (max)
<i>Sign Height (ft)</i>	9.4	10 (max)

Project Description: The applicant submitted an application for design review approval for a new sign for the Community School campus entrance. The sign is located in the City-owned Right-of-Way at the intersection of Community School Rd and Dollar Rd. The sign will be comprised of a 1/8" steel box with internal LED lighting. The letters and logo will be laser cut with two translucent lexan, milky white panels to shield the emitting light. The sign will be mounted to two 6"X6" posts and two 4"X10" beams and will be placed on a concrete foundation. The sign also includes a seamed steel roof with wood fascia. No changes are proposed to the existing grade and the sign will be sited in the exact same location as the existing sign. Landscaping improvements include the installation of small, decorative boulders as well as new drought-tolerant and native grasses and plants, which include red feather grass, potentilla, pampas grass, blue fescue, lupine, common flax, and common snowberry. The project drawings stamped received by the City of Sun Valley on May 24, 2016 detail all proposed elements of the replacement sign.

Required Findings: In order to approve a design review application and based on the standards set forth in **Sun Valley Municipal Code, Title 9, Chapter 3A (DESIGN REVIEW REGULATIONS)**, the Planning Commission shall make the following findings pursuant to **Development Code Section 9-5B-3 (DESIGN REVIEW)**.

1. The proposed design is in conformance with the purpose of the zoning district and all dimensional regulations of that district. **The subject sign is a "monument sign" per Table 9-3F-2; the sign face is 52 square feet less than the maximum allowable area, and is within the height requirement stated in Sun Valley Municipal Code.**

June 23, 2016

2. The proposed design is in conformance with the standards for design review as set forth in Chapter 3A (DESIGN REVIEW REGULATIONS) of this Title. **The proposed replacement sign uses natural materials as well as an “antique brown” finish and is appropriately located to identify the Community School campus entrance. The sign’s design styling is compatible with the materials and design of the Community School campus.**
3. The proposed design does not significantly impact the natural, scenic character and aesthetic value of HILLSIDES, RIDGES, RIDGELINES, ridge tops, knolls, saddles, and summits in the City. **No ridges or prominent terrain features exist on or directly adjacent to the site.**
4. The proposed design is in context and complementary to adjacent properties. **The new sign will be placed in the exact location as the existing, so impact on adjacent properties will remain relatively unchanged. The site’s landscaping will be enhanced through the installation of decorative boulders as well as new drought tolerant and native plants and grasses.**
5. The proposed design is compatible with the community character and scale of the neighborhood. **The project’s styling is consistent with the design of the Community School campus and will enhance the entrance with an upgraded appearance.**
6. The proposed design adheres to standards for the protection of health, safety, and general welfare. **No activity or development is proposed that adversely affects any aspect of access or other public safety design element.**
7. The proposed design is of quality architectural character and materials. **Exterior materials and colors will provide a consistent appearance and design theme for the Community School campus.**
8. The use is not in conflict with the Comprehensive Plan or other adopted plans, policies, or ordinances of the City. **No land use change is involved with this sign replacement project. The monument sign is context-sensitive and complementary to adjacent properties and enhances the entrance to an important educational asset that serves the existing population.**

CONDITIONS OF APPROVAL

1. Applicant and their representatives shall comply with all applicable City codes and ordinances, including those related to noise (Section 4-4D-2 and 3) and water pollution control (Section 4-4C-2).
2. Design Review approval is good for one year from the date of approval, unless extended pursuant to Sun Valley Municipal Code Section 9-5A-8.
3. Any requirements and/or approvals of private associations or other entities are the sole responsibility of the property owner.
4. Any permits issued during the 10-day appeal period provided for under section 9-5A-9 may be subject to a stop work order in the event of an appeal. Any work commenced during the appeal period shall be at the applicant's own risk.
5. Approval is specific to the project drawings dated received by the City of Sun Valley on May 24, 2016.
6. Dollar Road and Community School Drive shall be kept free and clear for traffic and emergency vehicle access at all times. Any significant access issues shall be brought to the attention of the City and project neighbors in advance.
7. The applicant must obtain an Encroachment Permit per SVMC §7-4-1 prior to installation.

CONCLUSIONS OF LAW

Therefore, this project does meet the standards for approval under Title 9, Chapter 3A, City of Sun Valley Municipal Code provided the conditions of approval are met. Design Review approval shall expire 365 days from the date of approval, unless extended as per Municipal Code Section 9-5A-8.

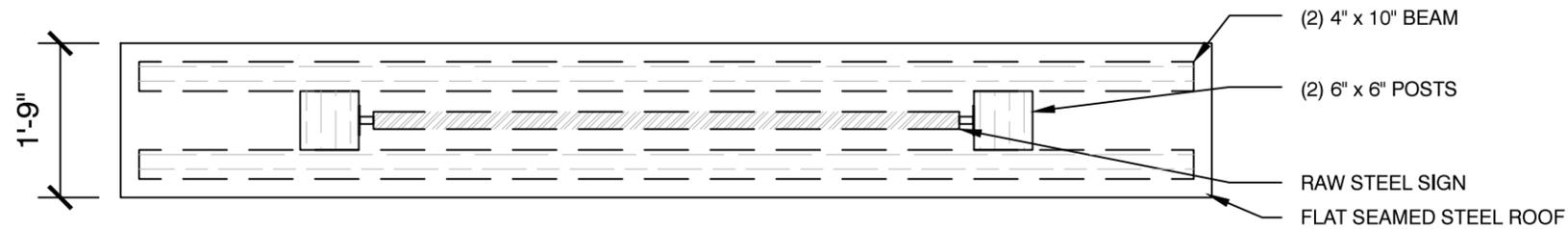
DECISION

Therefore, the Sun Valley Planning and Zoning Commission approves this Design Review Application No. DR 2016-32, subject to the Conditions of Approval stated above.

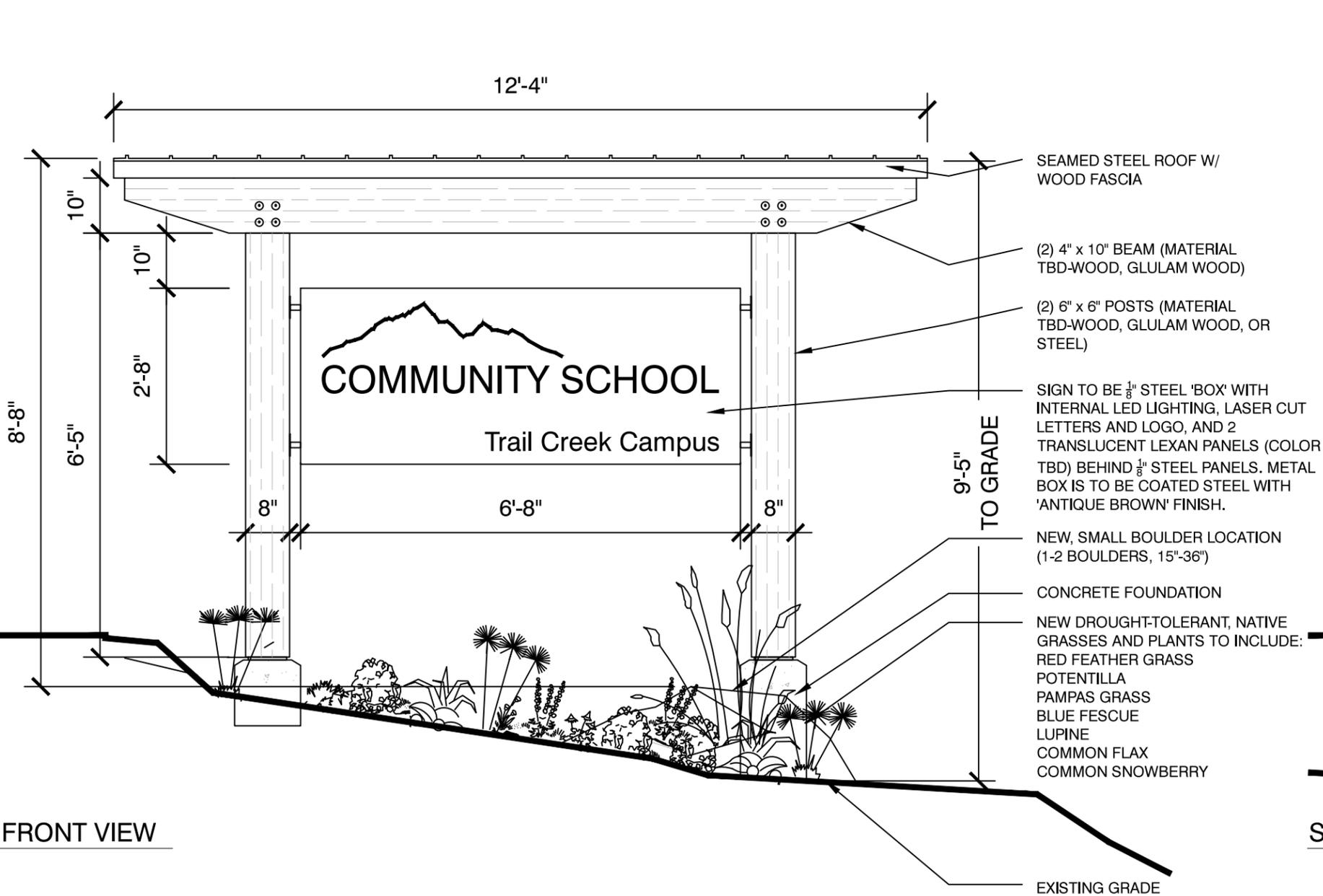
Dated this 23rd day of June, 2016.

Ken Herich, Chairman
Sun Valley Planning and Zoning Commission

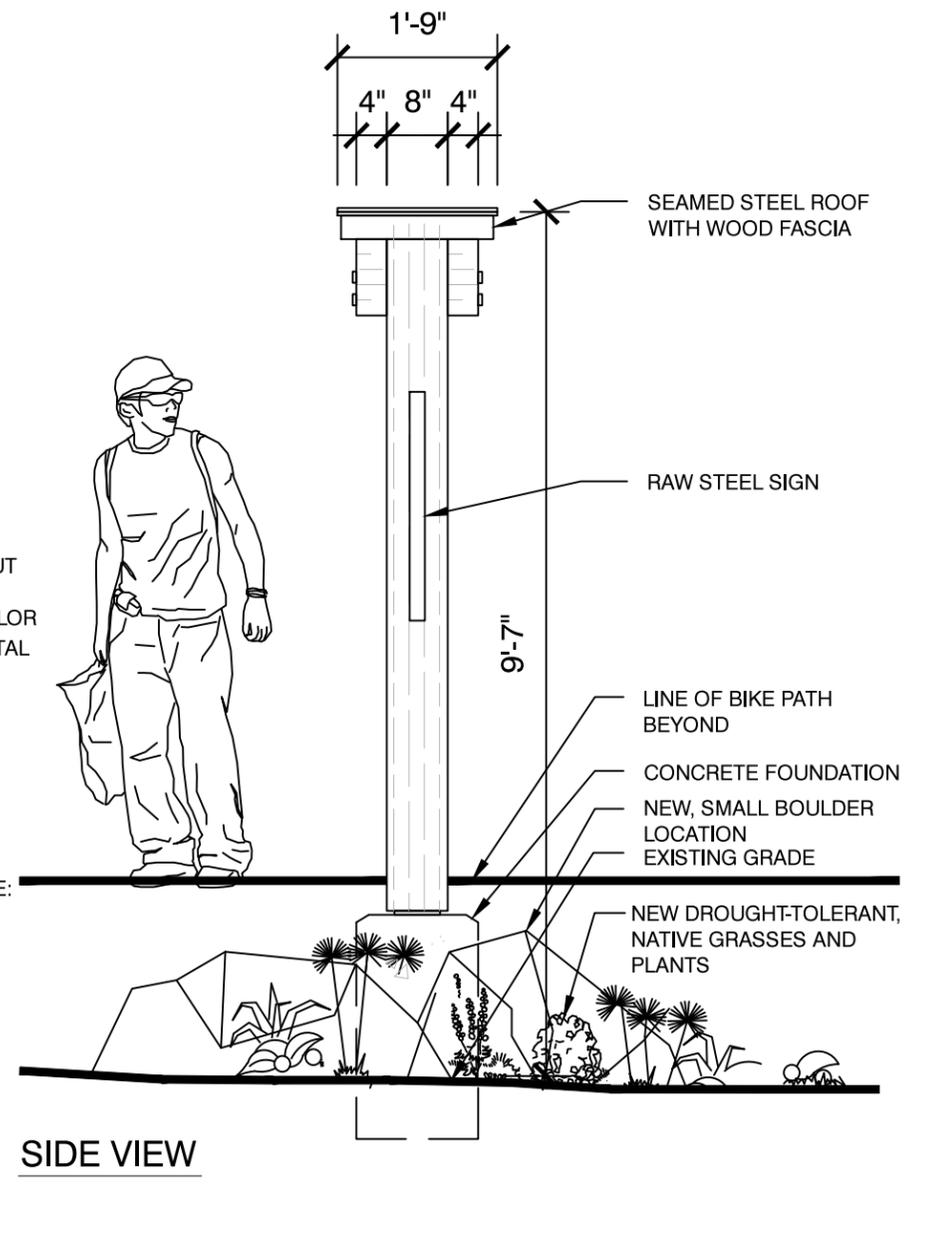
Date Findings of Fact signed _____



TOP VIEW



FRONT VIEW



SIDE VIEW

1

COMMUNITY SCHOOL ENTRY SIGNAGE

SCALE: 1/2" = 1'-0"

1 Community School Drive • Sun Valley, Idaho • 83353

PA: Rachel Aanestad 773-909-7224

raanestad@communityschool.org





SHADOW OF EXISTING SIGNAGE
NEW SIGNAGE LOCATION

**CITY OF SUN VALLEY
PLANNING & ZONING COMMISSION
AGENDA REPORT**

From: Jae Hill, AICP, CFM, Community Development Director
Meeting Date: 23 June 2016

DESIGN REVIEW (DR2016-29)

APPLICANT: Powder River Development Services for American Tower (for T-Mobile and Sun Valley Company)

LEGAL DESC.: SUN VALLEY GOLF COURSE/HILLSIDE/GAS STATIONS/HORSE CENTER; SEC 5,6,7,8,17,18 4N R18E

LOCATION: Top of Dollar Mountain

ZONING DISTRICT: Recreation (REC)

REQUEST: Approve a collocation of three new antennas and associated equipment to an existing wireless facility, a conditionally permitted use in the Recreational zoning district.

ANALYSIS: The applicant, Powder River Development Services, is representing the tower owner, American Towers, LLC, in regards to an expansion of the T-Mobile network; the tower is on property leased from the Sun Valley Company. The applicant proposes to remove three existing antenna and install six new ones, as well as add three new Tower Mounted Amplifiers (TMAs) to the tower. The proposed development also includes new cabinet equipment affixed to the existing equipment cabinet.

Per Section 9-3K-5 of the Municipal Code, changes to wireless communications facilities are required to receive Design Review approval of the application.

Per Section 9-3K-6, a conditional use permit is required for a wireless communications facility; the applicant has applied for CUP2016-04 concurrent with this application, and approval of this Design Review is contingent on approval of the CUP.

Though the Commission has the ability to impose conditions (such as requiring additional on- or off-site improvements) through the City's Conditional Use Permit approval process, Staff finds that this project has no adverse impacts on the provision of public services (such as fire or police service) and in fact *enhances* the provision of mobile communications to homes and businesses within the service area.

From 47 USC § 1455(a)(1) – “Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government **may not deny, and shall approve,**

any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.”

The Commission retains the right to impose reasonable conditions on the tower’s operation or appearance, or that of the site, but CAN NOT deny the application, under federal law. The law further defines "substantial change" as being limited to the height of the "eligible support structure" or to modifications to appurtenances that would increase the width by an amount equivalent to the width of the support structure; the regulation does not cover the modification of an individual antenna panel, regardless of the changes in dimensions of a particular array or panel. The support structure dimensions remain unchanged by this proposal.

EVALUATION STANDARDS (SVMC § 9-3A-3):

A. Design and Siting:

1. The design of proposed improvements is appropriate and compatible to the lot and the surrounding neighborhood. Attention has been given to the location and design of streets, view corridors, privacy of adjacent properties, outdoor spaces, shadows, solar access, view access, lighting, vehicular access, building massing, privacy of other noise generating equipment, openings and doors as these elements impact adjacent properties. **The backup generators are several hundred feet from any habitable structure or residence.**

2. The location and design of the proposed improvements has given consideration to special sites of historical, natural, ecological, architectural, archaeological, and scenic value or significance, including, but not limited to, those identified in the city's comprehensive plan. The essential character of special sites should be preserved and protected with any proposed site or structure improvements. **The top of Dollar Mountain IS identified as a special site in the City’s Comprehensive Plan; additions to the existing tower will not dramatically alter the appearance from adjoining areas (see the provided photo simulations for details.)**

3. The siting of the proposed improvements complies with the adopted uniform fire code and any other applicable regulations regarding emergency vehicle access and circulation as set forth in title 7 of this code. **This structure complies with the Fire Code; access is provided by a dirt access road and only serviced by Type 6 or Wildland apparatus.**

4. The proposed improvements are sited to meet the ingress, egress, and driveway standards and requirements set forth in title 7 of this code, and the siting standard in subsection A1 of this section. **Not applicable, as service to these site is intermittent and not undertaken by the public.**

5. The proposed improvements are sited to take into consideration and to mitigate natural hazards such as floodplains and avalanches as set forth in this chapter. Mitigation measures shall not adversely impact other properties. **The site, at the top of Dollar Mountain, is not subject to flooding or avalanche hazards.**

6. The siting of the proposed improvements minimizes interference with natural drainage patterns and is designed to minimize adverse impact on other properties. All drainage shall comply with the standards set forth in title 7 of this code; be contained on site, or be connected to drainage easements or rights of way. No drainage shall be diverted off site onto private property. **Not applicable, as the footprint of the development is unchanged by this application.**

7. The site design provides for adequate space or means to maintain snow storage. Snow storage areas are in accordance with the requirements set forth in article G of this chapter. **Not applicable, as the development is only accessed by snow-mobile or similar apparatus during the winter.**

8. Appropriate address numbers and monuments are shown in accordance with the requirements as set forth in article G of this chapter. **Not applicable, as the Fire Department has no means of serving the site by traditional means.**

9. The siting of the proposed improvements, including streets and driveways, where applicable, minimizes hillside visibility and, where applicable, skylining by using a combination of stepped building forms, natural colors and materials, sloped roofs, and landscaping. **The existing tower already skylines the top of Dollar Mountain, by necessity.**

10. Every lot shall be designed to be connected to public water and sewer systems, unless the property is over five hundred feet (500') from a public system as measured from the closest property line and an alternative utility system is approved by the city engineer. **The lot is connected by water and sewer.**

B. Grading: **Not applicable.**

C. Architectural Quality:

1. The proposed project maintains the quality of materials and design that is appropriate to the location, the lot and the neighborhood. **This project requires the additions of antennas and electrical equipment only.**

2. The proposed improvements conform to natural landscape features by minimizing the degree of cuts and fills. **No cuts or fills are proposed.**

3. The plan includes the location of all exterior lighting. All lighting shall be directed onto the subject lot and shall not be directed towards other properties. **The site is unlit.**

4. Building design includes weather protection that prevents water from dripping or snow from sliding onto pedestrian or vehicle areas or onto adjacent properties. **There are no adjacent pedestrian or vehicular areas, and no adjacent properties.**

5. Any exterior addition or alteration to an existing building is compatible with the design character of the original building. Any new detached structure is compatible with the design character of the existing buildings and/or structure(s). **The only addition to the building and tower are electrical equipment.**

6. All improvements are designed to minimize light and sound emanating to other properties as set forth in article B of this chapter. **The tower will remain unlit. No additional lighting is proposed. The only sound are from intermittent backup generators.**

7. Rooftop chimneys and utilities are enclosed and design is consistent with the primary structure. **Not applicable.**

D. Pedestrian And Vehicle Circulation Design: **Not applicable.**

E. Landscaping Quality: **Not applicable.**

F. Irrigation Limits: **Not applicable.**

G. Fences, Walls, Retaining Walls, Screens, And Dog Runs: **Not applicable.**

H. Sign Design: **Not applicable.**

I. Exterior Lighting: **The site is unlit.**

J. Additional Evaluation Standards For Commercial, Public, And Multiple-Unit Projects (PUDs, RM-1, RM-2, SC, CC And OS-1 Zones, And Condominium And Townhouse Projects): **Not applicable.**

RELEVANT DEFINITIONS:

WIRELESS COMMUNICATION FACILITY: A steel monopole, guywire tower, lattice tower or other similar structure designed to support directional antennas, parabolic dishes or antennas, microwave dishes, in addition to associated ground equipment and other similar equipment used in the wireless communications industry

RECOMMENDATION: Staff recommends approval of DR2016-29 allowing for collocation of three new antennas and other associated equipment to the existing wireless communication facility.

RECOMMENDED MOTION: "I move to approve Design Review DR2016-29, approving the collocation of new antennas on an existing wireless communications facility, pursuant to the Findings of Fact and Conditions of Approval."

ALTERNATIVE ACTIONS: Move denial of the application and draft findings supporting denial.

ATTACHMENTS:

1. Findings of Fact
2. Application Materials

**FINDINGS OF FACT AND CONCLUSIONS OF LAW
CITY OF SUN VALLEY
DESIGN REVIEW APPROVAL**

Project Name: **Design Review Application DR2016-29**

Applicant: **Powder River Development Services for American Tower (for T-Mobile and Sun Valley Company)**

Legal Desc.: **SUN VALLEY GOLF COURSE/HILLSIDE/GAS STATIONS/HORSE CENTER; SEC 5,6,7,8,17,18
4N R18E**

Location: **Top of Dollar Mountain**

Zoning District: **Recreation (REC)**

Request: Approve a collocation of new antennas to an existing wireless facility, a conditionally permitted use in the Recreational zoning district.

Required Findings: In order to approve a design review application, and based on the standards set forth in **Sun Valley Municipal Code, Title 9, Chapter 3, Article A (DESIGN REVIEW)**, the Planning and Zoning Commission shall make the following findings:

1. The proposed design is in conformance with the purpose of the zoning district and all dimensional regulations of that district. **Wireless communications facilities are a conditionally-permitted use in the Recreation zoning district; the tower is setback several hundred feet from the nearest property line.**
2. The proposed design is in conformance with the standards for design review as set forth in chapter 3, article A of this title. **The tower meets all of the applicable, enumerated standards for the use in the REC zoning district, as conditionally-permitted.**
3. The proposed design does not significantly impact the natural, scenic character and aesthetic value of hillsides, ridges, ridgelines, ridge tops, knolls, saddles, and summits in the city. **The additions of antenna to the existing tower will not substantially change the dimensions of the structure; and collocation will reduce the need for additional towers and facilities.**
4. The proposed design is in context and complementary to adjacent properties. **The existing facility is located atop Dollar Mountain, adjacent to a chairlift which contains other metal towers.**
5. The proposed design is compatible with the community character and scale of the neighborhood. **The existing facility is located over 2,000 feet from the nearest neighborhood.**
6. The proposed design adheres to standards for the protection of health, safety, and general welfare. **The existing structure is engineered to withstand with and snow loads, and the facility poses no additional**

need for services by fire, police, water, or other agencies.

7. The proposed design is of quality architectural character and materials. **The collocation uses very expensive, high-end communications antenna; collocation further reduces the need for additional facilities.**
8. The use is not in conflict with the comprehensive plan or other adopted plans, policies, or ordinances of the city. **The collocation is providing for an essential public service facility as per Goal 6 of the Comprehensive Plan, and is not in conflict with any other section.**

DRAFT

CONDITIONS OF APPROVAL

1. Prior to any new construction activity, the applicant shall receive City approval for Conditional Use Permit Application No. 2016-04 as well as the building permit application.

CONCLUSIONS OF LAW

The Sun Valley Planning & Zoning Commission concludes that the proposed collocation on the existing wireless facility meets the standards for approval under Articles 9-3K and 9-3A, of the City of Sun Valley Municipal Code provided the above conditions of approval are met.

DECISION

Therefore, the Sun Valley Planning & Zoning Commission **approves** the subject Conditional Use Permit Application No. DR2016-29, subject to the Conditions of Approval above.

Dated this 23rd day of June, 2016.

Ken Herich, Chairman
Sun Valley Planning & Zoning Commission

Date Findings of Fact signed



Powder River Development Services, LLC
219 S Wooddale Avenue
Eagle, ID 83616
(208) 938-8844 office
(208) 938-8855 fax
www.powderriverdev.com

April 28, 2016

City of Sun Valley
Development Services
81 Elkhorn Road
PO Box 416
Sun Valley, ID 83353

Subject:

Site No: 82705 / Sun Valley Ketchum / SL02043A
Site Address: Dollar Mountain
Sun Valley, ID 83353
Parcel # RPS000000001F

Planning and Development Services,

Powder River Development Services is representing American Tower Corporation (American Towers, LLC; ATC) in regards to the T-Mobile L700 network expansion project on the existing wireless communication facility ATC owns in City of Sun Valley referenced above.

The scope of work for this project is to remove (3) panel antennas and install (6) new panel antennas and (3) new TMA units at the antenna height. They will also be installing (1) RSB 6201-ODE cabinet and a new H-frame with (3) diplexers at ground level. There will be no expansion to the height of the tower and there will be no expansion to the fenced compound as well. The new panel antennas will be mounted utilizing the existing antenna mounts. There will be (1) additional antenna being added to each sector.

Below is the response to City of Sun Valley's 9-3k-7 supplementary materials.

A. Description Of Services: A description of the services the applicant proposes to offer at the proposed site, including:

1. A description of the location, type, capacity, field strength or power density, and calculated geographic service area of the proposed antenna or antenna array. In instances of applications that generate public controversy, the city retains the right to retain experts, at the applicant's expense, to review and assess the technical data.

This is an existing communications facility located approximately 360' west of the top terminal of Dollar Mt's Dollar chairlift. Existing within the compound is a 30' monopole. T-Mobile currently has 2 antennas per sector installed. The additional antenna proposed for installation will increase T-Mobiles coverage area allowing for a better coverage as far as to Galena Lodge. Please see propagation maps provided in submittal.

2. Documentation that the applicant has obtained and is in compliance with all applicable licenses, permits or authorizations required by the federal communications commission.

Please see FCC licenses attached (Pg. 13-16)

3. Location of all existing, proposed and anticipated wireless communication facilities in the applicant's network located in the city, or within one mile of the city limits, in any direction.

A map showing all existing communications facilities is on Pg 10 in the submittal packet.

4. A description of how the proposed facility fits into, and is a necessary part of, the applicant's network.

The addition of these antennas will help T-Mobiles coverage with in the Wood River Valley. Providing T-Mobile customers with better service will help eliminate some of the customers complaints of poor coverage thought out the area. The L700 Technologies will have better in building penetration allowing customers to have better service with in their homes and cars. Overall the additional antennas will increase T-Mobiles service to customers.

5. If the proposal does not include collocation, written documentation of all efforts made to collocate at another site, and a justification for the decision not to collocate.

Site already exists and therefore is not a collocation project.

6. In the instance where a facility is proposed within five hundred feet (500') of any school, child daycare center, hospital or residential dwelling, the applicant shall submit a narrative description of alternative sites considered, if any, and include specific reasons these alternative sites were deemed infeasible.

Facility is not within 500' of any of the above referenced locations.

C. Operational Plan: All applications for wireless communication facilities shall include written assurances that the facilities shall be operated in accordance with the following:

1. Security Lighting: Security lighting shall be kept to a minimum in every instance and should only be triggered by a motion detector where practical. Security lighting potentially impacting residential districts and prominent view areas shall be minimized and all lighting shall be compliant with the city's exterior lighting regulations¹. Prominent views are listed in action item 1.1.2 of the comprehensive plan.

This facility is an existing facility and all previous security measures are still in place.

2. Maintenance: All facilities, landscaping, and related equipment shall be maintained in good working order and free from trash, debris, graffiti and designed to discourage vandalism. Any damaged equipment shall be repaired or replaced within thirty (30) calendar days. Damaged, dead or decaying plant materials shall be removed and replaced within thirty (30) calendar days.

The maintenance proposed on the facility will not be affected by this proposed work.

3. Maintenance Hours:

a. Routine Maintenance: Routine maintenance of equipment located in or adjacent to existing residential land uses shall be conducted only during the hours of eight o'clock (8:00) A.M. to five o'clock (5:00) P.M. weekdays, not including holidays. In other areas, routine maintenance may be conducted at any time.

Facility is not located adjacent to any residential land use properties.

b. Emergency Repairs And Maintenance: Emergency repairs and maintenance shall be conducted only in the cases of power outages and equipment failures or malfunctions.

T-Mobile will comply with regulation. Equipment Change Out And Overhaul: Equipment change out and overhaul may occur any time with thirty (30) days' notice to the city to allow notice to property

owners and residents within three hundred feet (300') of the facility, if applicable.

T-Mobile will comply with this requirement

4. Monitoring: Once the wireless communication facility is operating, the city may require the applicant to submit documentation that the facility is operating within the technical standards as described in the application and the federal communications commission permit. Independent field strength or power density measurements shall be provided to the city within thirty (30) days of written request to the applicant. At five (5) year intervals from the date when the city issues any permit authorized by this article, the applicant shall submit the following information, in writing, to the community development director:

- a. Confirmation that the facility continues to operate in compliance with all terms and conditions of approval by the city.
- b. Independent field strength or power density measurements taken within the past thirty (30) days that verify that the facility continues to operate in compliance with all terms and conditions and emissions standards imposed by the federal communications commission.
- c. Confirmation that there is no equipment available that would enhance the safety, efficiency or visibility of the facility or reduce the size of the facility.
- d. Confirmation that there are not more appropriate locations available for the facility.
- e. Confirmation that the facility continues to function as an essential element of the applicant's network.
- f. Documentation of any complaints received by the applicant since the inception of operations regarding the operation and maintenance of the facility, including the applicant's actions to address the complaints.

T-Mobile will comply will all regulations under this section.

5. Construction Time, Abandonment And Decommissioning: All wireless communication facilities which receive a conditional use permit under this article shall be completed and operational within one hundred eighty (180) calendar days of the issuance of the permit and all related permits or licenses. The construction time may be extended for an additional one hundred eighty (180) calendar days upon a showing of good faith efforts to complete the facility, which shall take into account complications beyond the control of applicant, including seasonal considerations. If the facility is not completed and operational by the end of the extension period, then the permit shall expire, and the applicant must reapply for the permit; however, this provision shall not apply when the applicant demonstrates to the satisfaction of the community development director that the operational delay is due entirely to factors beyond the control of the applicant, in which event, the director may extend the construction time in his or her discretion. The director reserves the right to consult with the planning and zoning commission regarding any proposed extension. Any facility that ceases operating for more than ninety (90) consecutive days shall be considered abandoned. In such an event, the applicant must either: a) apply for all permits required at the time of expiration to reactivate the operation; or b) remove all elements of the facility and restore the site. In the event the applicant fails to apply for permits or perform the removal and restoration within these ninety (90) days, the property owner shall have the facility removed. (Ord. 382, 10-25-2006)

T-Mobile will comply with this regulation.

This is an existing facility and the proposed work will not have any effects on any of the adjoining properties. The noise being generated from the site will continue to be at the previously approved levels and there will be no visual aspect changes.

This project will help T-mobiles network and allow for better services to their customers including the surrounding community. This project is atypical of routine network upgrades that have been approved by this community before.

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

Respectfully,

Steven Meyer
Site Acquisition Agent
Powder River Development Services, LLC
219 S. Wooddale Avenue
Eagle, ID 83616
208-501-7052

CITY OF SUN VALLEY
CONDITIONAL USE PERMIT APPLICATION

File No. CUP- _____ Submittal Date _____
Project Name ATC/TMO L700
Legal Description of Property: Lot _____ Block _____ Subdivision _____
Street Address of Property: Dollar Mountain (43.68305, -114.3475)
Current Zoning of Property: OR-1
Proposed Use: Wireless Communications tower
Application Fee: _____ Public Notice Fee: _____ Total Fee: _____

Name of Owner of Property: Sun Valley Company
Mailing Address: PO Box 10 City: Sun Valley State: ID Zip: 8353
Phone: 208 309 5145 Fax: _____ Cell: _____
Email Address: tsilva@sunvalley.com

Property Owner Consent:

By signature hereon, the property owner acknowledges that City officials and/or employees may, in the performance of their functions, enter upon the property to inspect, post legal notices, and/or other standard activities in the course of processing this application, pursuant to Idaho Code §67-6507. The property owner is also hereby notified that members of the Planning and Zoning Commission and City Council are required to generally disclose the content of any *ex parte* discussion (outside the hearing) with any person, including the property owner or representative, regarding this application.

Property Owner's Signature: 

Application Contact (if different than above): Steven Meyer
***Contact will be the primary point of contact for questions related to the application.*
Mailing Address: 219 S Wooddale Ave City: Eagle State: ID Zip: 83616
Phone: 208-501-7052 Fax: _____ Cell: _____
Email Address: steven.meyer@powderriverdev.com

Project Description:

Remove (3) antennas and install (6) new panel antennas and (3) TMA units at antenna level.
Install (1) RBS 6201-ODE cabinet and new H Frame with (3) new diplexers at ground level

**CITY OF SUN VALLEY
DESIGN REVIEW APPLICATION**

File No. DR-_____ Submittal Date ____/____/____ Fee _____

Project Name _____

Legal Description of Property: Lot _____ Block _____ Subdivision _____

Street Address of Property: _____

Current Zoning of Property: _____

Existing Building gross sq. ft. (if applicable) _____ Proposed addition or new construction sq. ft. _____

Name of Owner of Property: _____

Mailing Address: _____ City: _____ State: _____ Zip _____

Phone: _____ Fax: _____ Cell: _____

Email Address: _____

Property Owner Consent:

By signature hereon, the property owner acknowledges that City officials and/or employees may, in the performance of their functions, enter upon the property to inspect, post legal notices, and/or other standard activities in the course of processing this application, pursuant to Idaho Code §67-6507. The property owner is also hereby notified that members of the Planning and Zoning Commission and City Council are required to generally disclose the content of any *ex parte* discussion (outside the hearing) with any person, including the property owner or representative, regarding this application.

Property Owner's Signature: _____

Application Contact (if different than above): _____

***Contact will be the primary point of contact for questions related to the application.*

Mailing Address: _____ City: _____ State: _____ Zip _____

Phone: _____ Fax: _____ Cell: _____

Email Address: _____

Description of Project:

See reverse page for items that must be submitted in order for the application to be considered complete.

Action Taken: ___Approved ___Denied ___Conditionally Approved ___Other

PUBLIC NOTICE

NOTICE TO ADJACENT PROPERTY OWNERS OF AN APPLICATION FOR DESIGN REVIEW

NOTICE IS HEREBY GIVEN that on Thursday, _____,

at 9 a.m. in Sun Valley City Hall the Sun Valley Planning and Zoning Commission will hold a public hearing to consider an application submitted by

for Design Review of a

located at _____.

The applicant proposes to:

NOTICE IS FURTHER GIVEN that at the aforementioned time and place, all interested persons may appear and shall be given an opportunity to comment on the matter stated above.

Comments or questions prior to the public meeting should be directed to the Sun Valley Community Development Department at P.O. Box 416, Sun Valley ID 83353 or faxed to (208) 622- 3401. Written comments received prior to the meeting shall be made part of the public record at the meeting. Plans and supporting documents are on file in City Hall for public inspection.

BY ORDER OF THE SUN VALLEY PLANNING AND ZONING COMMISSION.

Notice prepared by:  _____

Signature of architect, owner or representative

Dated this 31st day of March.

Any person needing special assistance to participate in the above noticed meeting should contact the City of Sun Valley at least 5 days prior to the meeting at (208) 622-4438. City Hall is located at 81 Elkhorn Road.



Sun Valley

Sun Valley Rd

65

Atkinson Park

Sun Valley Rd



Ketchum

Main St S

25

Dollar Mountain

Dollar Face

Dollar Bowl

Forbidden Summit

Sepp's Bowl

Elkhorn

ELKHORN VILLAGE

Elkhorn Bowl

River Run

Sandhouse Express

Olympic

Olympic Lane





SL02043A 82705 Sun Valley Ketchum T-Mobile Photosimulation

Before





SL02043A 82705 Sun Valley Ketchum T-Mobile Photosimulation

After



ULS License

PCS Broadband License - KNLF271 - VoiceStream PCS II License Corporation

Call Sign	KNLF271	Radio Service	CW - PCS Broadband
Status	Active	Auth Type	Regular

Market

Market	MTA036 - Salt Lake City	Channel Block	A
Submarket	9	Associated Frequencies (MHz)	1850.00000-1865.00000 1930.00000-1945.00000

Dates

Grant	06/30/2005	Expiration	06/23/2015
Effective	06/30/2005	Cancellation	

Buildout Deadlines

1st	06/23/2000	2nd	06/23/2005
-----	------------	-----	------------

Notification Dates

1st	06/22/2000	2nd	05/04/2005
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Licensee

FRN	0001567783	Type	Corporation
-----	------------	------	-------------

Licensee

VoiceStream PCS II License Corporation 12920 SE 38th Street BELLEVUE, WA 98006 ATTN Dan Menser	P:(425)378-4000 F:(425)378-4040 E:dan.menser@t-mobile.com
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Contact

Dan Menser Esq 12920 SE 38th Street Bellevue, WA 98006	P:(425)378-4000 F:(425)378-4040 E:dan.menser@voicestream.com
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Ownership and Qualifications

Radio Service Type	Mobile
Regulatory Status	Common Carrier Interconnected Yes

Alien Ownership

Is the applicant a foreign government or the representative of any foreign government?	No
Is the applicant an alien or the representative of an alien?	No
Is the applicant a corporation organized under the laws of any foreign government?	No
Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their	No



Federal Communications Commission
Wireless Telecommunications Bureau
Radio Station Authorization

LICENSEE NAME: T-Mobile License LLC

DAN MENSER
T-MOBILE LICENSE LLC
12920 SE 38TH ST.
BELLEVUE WA 98006

FCC Registration Number (FRN)	
0001568449	
Call Sign	File Number
KNLF271	0002581244
Radio Service	
CW - PGS Broadband	

Grant Date	Effective Date	Expiration Date	Print Date
06-30-2005	01-30-2006	06-23-2015	04-25-2006

Market Number	Channel Block	Sub-Market Designator
MTA036	A	9

Market Name: Salt Lake City

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date
06-23-2000	06-23-2005		

SPECIAL CONDITIONS OR WAIVERS/CONDITIONS

Conditions:
Pursuant to Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. Section 309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. Section 310(d). This license is subject in terms to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended. See 47 U.S.C. Section 606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at <http://wireless.fcc.gov/uls> and select "License Search". Follow the instructions on how to search for license information.



Federal Communications Commission
Wireless Telecommunications Bureau
Radio Station Authorization

LICENSEE NAME: T-Mobile License LLC

DAN MENSER
T-MOBILE LICENSE LLC
12920 SE 38TH STREET,
BELLEVUE WA 98006

FCC Registration Number (FRN)	
0001565449	
Call Sign	File Number
WQGB379	0002769270
Radio Service	
AW - AWS, 1710-1755/2110-2155 MHz bands	

Grant Date	Effective Date	Expiration Date	Print Date
11-29-2006	11-29-2006	11-29-2021	11-30-2006

Market Number	Channel Block	Sub-Market Designator
REA006	F	0

Market Name: West

1st Build-out Date	2nd Build-out Date	3rd Build-out Date	4th Build-out Date

SPECIAL CONDITIONS OR WAIVERS/CONDITIONS

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

The license is subject to compliance with the provisions of the January 12, 2001 Agreement between

("Special Conditions or Waivers/Conditions" continued on next page ...)

Conditions:
Pursuant to Section 309(h) of the Communications Act of 1934, as amended, 47 U.S.C. Section 309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. Section 310(d). This license is subject in terms to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended. See 47 U.S.C. Section 606.

To view the geographic areas associated with the license, go to the Universal Licensing System (ULS) homepage at <http://wireless.fcc.gov/uls> and select "License Search". Follow the Instructions on how to search for license information.



Federal Communications Commission

Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: T-MOBILE LICENSE LLC

ATTN: FCC REGULATORY COMPLIANCE
T-MOBILE LICENSE LLC
12920 SE 38TH STREET
BELLEVUE, WA 98006

Call Sign WQIZ544	File Number
Radio Service WY - 700 MHz Lower Band (Blocks A, B & E)	

FCC Registration Number (FRN): 0001565449

Grant Date 06-26-2008	Effective Date 12-28-2015	Expiration Date 06-13-2019	Print Date
Market Number BEA153	Channel Block A	Sub-Market Designator 0	
Market Name Las Vegas, NV-AZ-UT			
1st Build-out Date 12-13-2016	2nd Build-out Date 06-13-2019	3rd Build-out Date	4th Build-out Date

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

Grant of the request to update licensee name is conditioned on it not reflecting an assignment or transfer of control (see Rule 1.948); if an assignment or transfer occurred without proper notification or FCC approval, the grant is void and the station is licensed under the prior name.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at <http://wireless.fcc.gov/uls/index.htm?job=home> and select "License Search". Follow the instructions on how to search for license information.



ATC ASSET #: 82705

SITE NAME: DOLLAR MOUNTAIN

SITE NUMBER: SL02043A

FILE NAME: SL02043A_DOLLAR MOUNTAIN_L700 OVERLAY_FCD_REV 1_042716

LOCATION: DOLLAR MOUNTAIN, SUN VALLEY, ID 83353

30' MONOPOLE TOWER L700 OVERLAY

SITE INFORMATION

TOWER OWNER: AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801
SITE ADDRESS: DOLLAR MOUNTAIN SUN VALLEY, ID 83353
COUNTY: BLAINE
LATITUDE: 43.68305° LONGITUDE: -114.3475°
GROUND ELEVATION: 6,643' AMSL
OCCUPANCY TYPE: UNMANNED
ZONING JURISDICTION: CITY OF SUN VALLEY OR-1
PARCEL NUMBER: RPS000000001F
POWER PROVIDER: IDAHO POWER
TELCO PROVIDER: CENTURYLNK

CONTACT INFORMATION

A&E SERVICES: POWDER RIVER DEVELOPMENT SERVICES, LLC. 219 S. WOODDALE AVE. EAGLE, ID 83616
CONTACT: JASON BROWN PHONE: 208.938.8844 EMAIL: jason.brown@powderriverdev.com
ENGINEERING: POWDER RIVER DEVELOPMENT SERVICES, LLC. 219 S. WOODDALE AVE. EAGLE, ID 83616
CONTACT: DONALD W. GEORGE, PE, SE, MLSE PHONE: 208.938.8844 EMAIL: don.george@powderriverdev.com
APPLICANT: T-MOBILE WEST LLC 121 W. ELECTION ROAD, SUITE 330 DRAPER, UT 84020
CONTACT: TERRY COX PHONE: - EMAIL: terry.cox@t-mobile.com
APPLICANT: AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801
CONTACT: BRANDI SAVAGE PHONE: 425.306.6965 EMAIL: brandi.savage@americantower.com



DRIVING DIRECTIONS

DIRECTIONS FROM SALT LAKE INTERNATIONAL AIRPORT: DEPART N TERMINAL DR TOWARD TERMINAL DR. TAKE RAMP LEFT FOR I-80 EAST TOWARD CITY CENTER / OGDEN / PROVO. AT EXIT 117, TAKE RAMP RIGHT FOR I-215 NORTH TOWARD OGDEN. TAKE RAMP FOR I-15 N. KEEP LEFT ONTO I-84 W. TAKE RAMP LEFT FOR I-84 WEST / US-30 WEST TOWARD TWIN FALLS. AT EXIT 173, TAKE RAMP RIGHT FOR US-93 TOWARD SHOSHONE. TURN RIGHT ONTO US-93. KEEP STRAIGHT ONTO US-26 / US-93 / S GREENWOOD ST. KEEP STRAIGHT ONTO ID-75 / N GREENWOOD ST. FROM HWY 75 (NEAR SUN VALLEY) TURN ONTO ELKHORN RD. (TO DOLLAR MTN.) GO 4.3 MILES TO DOLLAR LODGE PARKING LOT. GO PAST DOLLAR LODGE AND TURN INTO LEFT PARKING LOT. GO 0.1 MILES. VEER LEFT AND GO 0.3 MILES PAST DOLLAR SKI LIFT AND IN FRONT OF DOLLAR LODGE. VEER LEFT AN 0.3 MILES. VEER RIGHT GO 0.15 MILES TO BUILDING AND ANOTHER 0.05 MILES TO TOWER.

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME

DRAWING INDEX

Table with 3 columns: SHEET NO., DESCRIPTION, REV. Lists drawing sheets T-1 through E-2.

SCOPE OF WORK

REMOVE (3) ANTENNAS AND INSTALL (6) NEW PANEL ANTENNAS AND (3) TMA UNITS AT ANTENNA LEVEL. INSTALL (1) RBS 6201-ODE CABINET AND NEW H-FRAME WITH (3) NEW DIPLEXERS AT GROUND LEVEL.

APPLICABLE CODES

BUILDING CODE 2012 IBC ELECTRICAL CODE 2014 NEC



LICENSE #: C-3065

REVISIONS table with columns: REV, DATE, DESCRIPTION, INT. Shows revisions 1, 0, and A.



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION

T-MOBILE #: SL02043A

ATC #: 82705

DOLLAR MOUNTAIN SUN VALLEY, ID 83353

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

T-1

GENERAL NOTES

1. THE CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE ALL ITEMS DEFINED IN THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: THE CONTRACT, SPECIFICATIONS AND CONSTRUCTION DRAWINGS.

2. ALL EQUIPMENT SUPPLIED BY THE OWNER SHALL BE PICKED UP BY THE CONTRACTOR AT THE APPROPRIATE WAREHOUSE.

3. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK.

4. THE CONTRACTOR SHALL PROVIDE ON-SITE SUPERVISION AT ALL TIMES WHILE THE WORK IS BEING PERFORMED AND SHALL DIRECT ALL WORK, USING HIS BEST SKILL AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES AND SEQUENCES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

5. THE CONTRACTOR SHALL VISIT THE JOB SITE TO REVIEW THE SCOPE OF WORK AND EXISTING JOB SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL SERVICE AND OVERALL COORDINATION. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCIES, CONFLICTS OR OMISSIONS, ETC., SHALL BE REPORTED TO THE T-MOBILE CONSTRUCTION SUPERVISOR BEFORE PROCEEDING WITH THE WORK.

6. THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW AND EXISTING CONSTRUCTION, STRUCTURE, LANDSCAPING OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE TENANT, BUILDING OWNER OR OWNER'S REPRESENTATIVE AT THE EXPENSE OF THE CONTRACTOR.

7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, WHETHER SHOWN HEREON OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSES FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE WHILE THE JOB IS IN PROGRESS AND UNTIL THE JOB IS COMPLETED.

9. THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER, POWER AND TOILET FACILITIES AS REQUIRED BY THE CITY OR GOVERNING AGENCY.

10. THE CONTRACTOR AND ALL SUBORDINATE CONTRACTORS SHALL COMPLY WITH ALL LOCAL AND STATE REGULATIONS.

11. THE CONTRACTOR SHALL OBTAIN AND PAY FOR PERMITS, LICENSES AND INSPECTIONS NECESSARY FOR PERFORMANCE OF THE WORK AND INCLUDE THOSE IN THE COST OF THE WORK TO T-MOBILE.

12. FIGURED DIMENSIONS HAVE PRECEDENCE OVER DRAWING SCALE, AND DETAIL DRAWINGS HAVE PRECEDENCE OVER SMALL DRAWINGS. CHECK ACCURACY OF ALL DIMENSIONS IN THE FIELD. UNLESS SPECIFICALLY NOTED, DO NOT FABRICATE ANY MATERIALS OFF SITE, NOR DO ANY CONSTRUCTION UNTIL THE ACCURACY OF DRAWING DIMENSIONS HAVE BEEN VERIFIED AGAINST ACTUAL FIELD DIMENSIONS.

13. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE CONSTRUCTION SUPERVISOR OF ANY CONFLICTS OR DISCREPANCIES IN THE CONTRACT DOCUMENTS OR FIELD CONDITIONS PRIOR TO EXECUTING THE WORK IN QUESTION.

14. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE CONSTRUCTION SUPERVISOR IF DETAILS ARE CONSIDERED UNSOUND, UNSAFE, NOT WATERPROOF, OR NOT WITHIN CUSTOMARY TRADE PRACTICE. IF WORK IS PERFORMED, IT WILL BE ASSUMED THAT THERE IS NO OBJECTION TO THE DETAIL. DETAILS ARE INTENDED TO SHOW THE END RESULT OF THE DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS, AND SHALL BE INCLUDED AS PART OF THE WORK.

15. EXISTING ELEVATIONS AND LOCATIONS TO BE JOINED SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION. IF THEY DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE T-MOBILE CONSTRUCTION SUPERVISOR SO THAT MODIFICATIONS CAN BE MADE BEFORE PROCEEDING WITH THE WORK.

16. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING THEIR EXACT MEANING, THE T-MOBILE CONSTRUCTION SUPERVISOR SHALL BE NOTIFIED FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

17. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR OTHER SUPPORT FOR ALL OTHER ITEMS REQUIRING THE SAME.

18. CITY APPROVED PLANS SHALL BE KEPT IN A PLAN BOX AND SHALL NOT BE USED BY WORKMEN. ALL CONSTRUCTION SETS SHALL REFLECT SAME INFORMATION. AT ALL TIMES THESE ARE TO BE UNDER THE CARE OF THE JOB SUPERINTENDENT.

19. DESIGN DRAWINGS ARE DIAGRAMMATIC ONLY AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION CONDITIONS WILL PERMIT. ANY ERROR, OMISSION, OR DESIGN DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE T-MOBILE CONSTRUCTION SUPERVISOR FOR CLARIFICATION OR CORRECTION BEFORE CONSTRUCTION.

20. AS-BUILTS REQUIREMENTS: DO NOT USE RECORD DOCUMENTS FOR CONSTRUCTION PURPOSES. PROTECT RECORD DOCUMENTS FROM DETERIORATION AND LOSS IN A SECURE, FIRE-RESISTANT LOCATION. PROVIDE ACCESS TO RECORD DOCUMENTS FOR THE T-MOBILE CONSTRUCTION SUPERVISOR'S REFERENCE DURING NORMAL WORKING HOURS. MAINTAIN A CLEAN, UNDAMAGED SET OF BLUE OR BLACK LINE PRINTS OF CONTRACT DRAWINGS AND SHOP DRAWINGS. MARK THE SET TO SHOW THE ACTUAL INSTALLATION WHERE THE INSTALLATION VARIES SUBSTANTIALLY FROM THE WORK AS ORIGINALLY SHOWN. MARK WHICH DRAWINGS IS MOST CAPABLE OF SHOWING CONDITIONS FULLY AND ACCURATELY. WHERE SHOP DRAWINGS ARE USED, RECORD A CROSS-REFERENCE AT THE CORRESPONDING LOCATION ON THE CONTRACT DRAWINGS. GIVE PARTICULAR ATTENTION TO CONCEALED ELEMENTS THAT WOULD BE DIFFICULT TO MEASURE AND RECORD AT A LATER DATE. MARK RECORD SETS WITH RED ERASABLE PENCIL. USE OTHER COLORS TO DISTINGUISH BETWEEN VARIATIONS IN SEPARATE CATEGORIES OF THE WORK. MARK NEW INFORMATION THAT IS IMPORTANT TO THE OWNER BUT WAS NOT SHOWN ON THE CONTRACT DRAWINGS, DETAILS OR SHOP DRAWINGS. NOTE RELATED CHANGE ORDER NUMBERS WHERE APPLICABLE. NOTE RELATED RECORD DRAWING INFORMATION AND PRODUCT DATA. UPON COMPLETION OF THE WORK, SUBMIT ONE (1) COMPLETE SET OF RECORD DOCUMENTS TO THE T-MOBILE CONSTRUCTION SUPERVISOR FOR THE OWNER'S RECORDS.

PART 1: GENERAL

1.1 SCOPE: CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUB GRADE PREPARATION, FINISH GRADING AND SECURITY FENCE, AS REQUIRED BY CONSTRUCTION DRAWINGS AND DETAIL DRAWINGS.

1.2 REFERENCES

A. DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR THE STATE IN WHICH THE PROJECT IS LOCATED.

B. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)

C. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)

D. AASHTO (AMERICAN ASSOCIATION OF STATE HIGHWAY TRANSPORTATION OFFICIALS)

1.3 INSPECTION AND TESTING

A. FIELD TESTING OF EARTHWORK, AGGREGATE BASE COURSE, COMPACTION, AND CONCRETE TESTING SHALL BE PERFORMED BY THE CONTRACTOR'S INDEPENDENT TESTING LAB.

B. ALL WORK SHALL BE INSPECTED AND RELEASED BY THE T-MOBILE CONSTRUCTION SUPERVISOR WHO SHALL CARRY OUT THE GENERAL INSPECTION OF THE WORK WITH SPECIFIC CONCERN TO PROPER PERFORMANCE OF THE WORK AS SPECIFIED AND/OR CALLED FOR ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF THE WORK INACCESSIBLE OR DIFFICULT TO INSPECT.

1.4 SITE MAINTENANCE AND PROTECTION

A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF THE WORK UNTIL COMPLETION OF THE CONTRACT.

B. CONTACT THE ONE-CALL UTILITY LOCATION SERVICE PRIOR TO ANY EXCAVATING ACTIVITIES TO HAVE LOCATIONS OF UNDERGROUND UTILITIES VERIFIED.

C. AVOID DAMAGE TO THE SITE INCLUDING EXISTING FACILITIES, STRUCTURES, TREES AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACSIMILES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.

D. KEEP SITE FREE OF ALL PONDING WATER.

E. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR THE STATE IN WHICH THE PROJECT IS LOCATED.

F. PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT LIFE AND PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.

PART II: PRODUCTS

2.1 SUITABLE BACK FILL: EXCAVATED INORGANIC MATERIAL, COHESIVE AND NON-COHESIVE MATERIALS, INCLUDING GRAVEL, SAND, INORGANIC LEAN CLAY, GRAVEL SILT, GRAVEL CLAY, SAND CLAY, SAND SILT OR SILT CLAY MATERIAL FREE FROM FROZEN LUMPS, REFUSE, STONES OR ROCKS LARGER THAN 3-INCHES IN ANY DIMENSION OR OTHER MATERIAL THAT MAY MAKE THE INORGANIC MATERIAL UNSUITABLE FOR BACKFILL OR FILL MATERIAL AS DETERMINED BY THE T-MOBILE CONSTRUCTION SUPERVISOR AND GEOTECHNICAL ENGINEER.

2.2 UNSUITABLE MATERIALS: TOP SOIL, HIGH AND MODERATELY PLASTIC SILTS AND CLAY, MATERIAL CONTAINING REFUSE, FROZEN LUMPS, DEMOLISHED BITUMINOUS MATERIAL, VEGETATIVE MATTER, WOOD, STONES IN EXCESS OF 3-INCHES IN ANY DIMENSION AND DEBRIS AS DETERMINED BY THE CONSTRUCTION SUPERVISOR AND T-MOBILE GEOTECHNICAL ENGINEER. TYPICALLY, THESE WILL BE SOILS CLASSIFIED AS PT, MH, CH, OH, ML OR OL.

2.3 GEOTEXTILE FABRIC: MIRAFI 500X OR APPROVED EQUIVALENT

2.4 PLASTIC MARKING TAPE: SHALL BE ACID- AND ALKALI-RESISTANT POLYETHYLENE FILM, SPECIFICALLY MANUFACTURED FOR MARKING AND LOCATING UNDERGROUND UTILITIES. 6-INCHES WIDE WITH A MINIMUM THICKNESS OF 0.004-INCH. TAPE SHALL HAVE MINIMUM STRENGTH OF 1500 PSI IN BOTH DIRECTIONS AND MANUFACTURED WITH INTEGRAL WIRES, FOIL BACKING OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN BURIED UP TO 3 FEET DEEP. THE METALLIC CORE OF THE TAPE SHALL BE ENCASED IN A PROTECTIVE JACKET OR PROVIDED WITH OTHER MEANS TO PROTECT IT FROM CORROSION. TAPE COLOR SHALL BE RED FOR ELECTRIC UTILITIES AND ORANGE FOR TELECOMMUNICATION UTILITIES.

2.5 SECURITY FENCE

A. PROVIDE AND INSTALL THE GALVANIZED FENCE WITH ASSOCIATED POSTS, RAILS, BRACES, FABRIC, TERMINAL POST, GATES, DROP BAR AND BARBED WIRE. USE APPLICABLE PROVISIONS OF ASTM FOR MATERIALS.

B. FABRIC SHALL BE HEAVY GALVANIZED CHAIN LINK FENCE, CONFORMING TO ASTM A392 2-INCH MESH 9 GAUGE WIRE (0.148 INCHES IN DIAMETER) WITH THE TOP AND BOTTOM SELVAGES TWISTED AND BARBED.

C. POSTS

1. LINE POST FOR FABRIC UP TO 8 FEET HIGH SHALL BE 2-3/8 INCH O.D.

2. END CORNER, PULL POST AND GATE POST SHALL BE 2-7/8 INCH O.D.

ALL POSTS SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE IN ACCORDANCE WITH ASTM. I A 12D, A570 AND A525. FOR FENCE OVER 8 FEET HIGH, SIZE POST ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

D. TOP RAILS SHALL CONFORM TO 1-1/4 INCH (1.66 INCH O.D.), SCHEDULE 40 GALVANIZED STEEL PIPE IN ACCORDANCE WITH ASTM A12D.

E. TENSION WIRE SHALL BE 7 GAUGE U.S. STEEL WIRE GALVANIZED IN ACCORDANCE WITH ASTM A116, COATING CLASS III.

F. BRACE BANDS, TENSION BANDS AND TENSION BARS SHALL BE FABRICATED OF 1/8 INCH BY 7/8 INCH GALVANIZED STEEL WITH GALVANIZED STEEL CARRIAGE BOLTS AND NUTS IN ACCORDANCE WITH ASTM A123. TENSION BARS SHALL BE 1/4 INCH BY 3/4 INCH GALVANIZED STEEL BAR IN ACCORDANCE WITH ASTM A153.

G. FABRIC TIES SHALL BE CLASS I GALVANIZED STEEL WIRE NO LESS THAN 9 GAUGE.

H. POST TOPS SHALL BE PRESSED STEEL OR MALLEABLE IRON AND SHALL BE GALVANIZED PER ASTM A15J.

I. BARBED WIRE SHALL CONSIST OF DOUBLE STRANDED 12 1/2 GAUGE WIRE ASTM A121, CLASS 3 WITH 4-POINT BARBS SPACED 5 INCHES APART. THE TOP 1 FOOT OF THE FENCE SHALL CONSIST OF 3 STRANDS OF BARBED WIRE ATTACHED TO 45 DEGREE ANGLE, HEAVY-PRESSED ARMS CAPABLE OF WITHSTANDING WITHOUT FAILURE 250 POUNDS DOWNWARD PULL AT THE OUTERMOST END OF THE ARM

J. GATE MATERIALS, SUCH AS FABRIC, BOLTS, NUTS, TENSION BARS AND BARBED WIRE SHALL BE CONSISTENT WITH FENCE MATERIALS.

PART III: EXECUTION

3.1 GENERAL

A. BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE WELL DRAINED AT ALL TIMES.

B. PERFORM ALL SURVEY, LAYOUT, STAKING AND MARKING TO ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK.

C. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE AND ONLY THE IMMEDIATE SURROUNDINGS NECESSARY TO COMPLETE THE WORK. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED AND GRUBBED.

1. REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12-INCHES BELOW THE ORIGINAL GROUND SURFACE: ROOTS, STUMPS AND OTHER DEBRIS, BRUSH AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE. RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6-INCHES, AND REMOVE UP TO A DEPTH OF 12-INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.

2. REMOVE TOPSOIL MATERIALS COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER EXCAVATED MATERIALS. TOPSOIL SHALL BE STOCKPILED SEPARATELY FOR REUSE, AS DIRECTED BY THE CONSTRUCTION SUPERVISOR.

3. EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION COMPLETELY WITH SUITABLE FILL.

D. REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING IS NOT PERMITTED.

E. PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS, AND ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, CULVERT, STREAM CROSSING OR OTHER ITEM NOT SHOWN THAT MIGHT AFFECT OR INTERFERE WITH THE NEW CONSTRUCTION. NOTIFY THE T-MOBILE CONSTRUCTION SUPERVISOR OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.

F. SEPARATE AND STOCKPILE ALL EXCAVATED MATERIALS SUITABLE FOR BACK FILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF IN AN AREA DESIGNATED BY THE T-MOBILE CONSTRUCTION SUPERVISOR. (UNSUITABLE MATERIAL MAY BE REQUIRED TO BE REMOVED FROM THE SITE.)

3.2 STRUCTURAL EXCAVATION

A. FOUNDATION EXCAVATIONS SHALL BE CUT TO FIRM MATERIAL HAVING A SAFE BEARING VALUE OF 3000 PSF AND SHALL BE FREE OF ALL LOOSE AND WET MATERIALS. IF THE BOTTOM OF THE EXCAVATION IS NOT FIRM AND STABLE, OVER-EXCAVATE AN ADDITIONAL 12 INCHES, COMPACT SUB-GRADE AND FILL WITH 12 INCHES OF SELECT STRUCTURAL FILL.

B. AFTER EXCAVATION, THE EXPOSED SOILS SHALL BE INSPECTED AND TESTED AND ANY UNSUITABLE DEPOSITS REMOVED AS DIRECTED TO REACH SUITABLE BEARING SOIL. ALL OVER-EXCAVATED AREAS SHALL BE BACK FILLED WITH SELECT STRUCTURAL FILL OR WITH LEAN CONCRETE FILL TO THE ELEVATION OF THE BOTTOM OF FOOTING OR FOUNDATION AS INDICATED ON THE DRAWINGS.

C. PRIOR TO PLACEMENT OF CONC. FOUNDATIONS, THE SURFACE ON WHICH THE CONCRETE IS TO BE PLACED SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MODIFIED PROCTOR DENSITY BY THE MODIFIED PROCTOR TEST, ASTM D1557.

D. NO FOUNDATIONS OR STRUCTURES SHALL BE CONSTRUCTED UNTIL THE BASE MATERIALS HAVE BEEN INSPECTED BY THE T-MOBILE CONSTRUCTION SUPERVISOR.

3.3 STRUCTURAL FILL: ALL COMPACTED FILL SHALL BE PLACED IN LAYERS NOT EXCEEDING A LOOSE THICKNESS AND COMPACTED TO A MINIMUM DENSITY OF 95% OF THE MODIFIED PROCTOR DENSITY OBTAINED IN ACCORDANCE WITH ASTM D-1557.

3.4 BACK FILL AS SOON AS PRACTICAL AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISH GRADE.

1. PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL HAVE BEEN REMOVED AND THE EXCAVATION CLEARED OF ALL TRASH, DEBRIS AND UNSUITABLE MATERIALS.

2. BACK FILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL, WHEN REQUIRED, IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCH LOOSE THICKNESS. WHERE HAND-OPERATED COMPACTORS ARE USED, THE FILL MATERIALS SHALL BE PLACED IN LIFTS NOT TO EXCEED FOUR INCHES IN LOOSE DEPTH.

3. WHENEVER THE DENSITY TESTS INDICATE THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE SPECIFICATION REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE GEOTECHNICAL ENGINEER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DISKING AND DRYING, ADDING WATER OR INCREASING THE COMPACTIVE EFFORT.

B. THOROUGHLY COMPACT EACH LAYER OF BACKFILL TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE MODIFIED PROCTOR TEST C. DO NOT PLACE

UNTIL THE CONCRETE HAS CURED FOR AT LEAST 7 DAYS OR COMPRESSIVE STRENGTH TESTS INDICATE THAT THE CONCRETE HAS ACHIEVED MORE THAN BOX OF ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH.

3.5 TRENCH EXCAVATION

A. UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE T-MOBILE CONSTRUCTION SUPERVISOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.

B. THE TRENCH WIDTH EXTENDS A MINIMUM OF 6 INCHES BEYOND EACH OUTSIDE EDGE OF THE CONDUIT OR OUTERMOST CONDUIT, WHICHEVER IS APPLICABLE.

C. WHEN SOFT, YIELDING OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED AT THE REQUIRED TRENCH BOTTOM ELEVATION, OVER-EXCAVATE THE TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION AND BACKFILL WITH GRANULAR BEDDING MATERIAL.

3.6 TRENCH BACK FILL

A. PROVIDE GRANULAR BEDDING MATERIAL IN ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS AND THE UTILITY REQUIREMENTS.

B. NOTIFY THE T-MOBILE CONSTRUCTION SUPERVISOR 24 HOURS IN ADVANCE OF BACK FILLING

C. CONDUCT UTILITY CHECK TESTS BEFORE BACK FILLING BACK FILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.

D. PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACES AROUND THE CONDUITS.

E. PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT OR UNBALANCED LOADING.

F. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 9-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.

G. COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH BUT NO LESS THAN A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE MODIFIED PROCTOR TEST, ASTM D1557

3.7 AGGREGATE ACCESS ROAD AND SITE

A. CLEAR, GRUB, STRIP AND EXCAVATE FOR THE ACCESS ROAD AND TOWER COMPOUND TO THE LINES AND GRADES INDICATED ON THE DRAWINGS. SCARIFY TO A DEPTH OF 6 INCHES AND PROOF-ROLL ALL HOLES, RUTS, SOFT PLACES AND OTHER DEFECTS SHALL BE CORRECTED.

B. THE ENTIRE SUB GRADE SHALL BE COMPACTED TO NOT LESS THAN 95:2:OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE MODIFIED PROCTOR TEST, ASTM D 1557.

C. AFTER PREPARATION OF THE SUB GRADE IS COMPLETED, THE GEOTEXTILE FABRIC SHALL BE INSTALLED TO THE LIMITS INDICATED ON THE DRAWINGS BY ROLLING THE FABRIC OUT LONGITUDINALLY ALONG THE ROADWAY OR SITE. THE FABRIC SHALL NOT BE DRAGGED ACROSS THE SUB GRADE. PLACE THE ENTIRE ROLL IN A SINGLE OPERATION, ROLLING THE MATERIAL AS SMOOTHLY AS POSSIBLE.

1. OVERLAPS PARALLEL TO THE ROADWAY AND SITE WILL BE PERMITTED AT THE CENTERLINE AND AT LOCATIONS BEYOND THE ROADWAY OR SITE SURFACE WIDTH (I.E., WITHIN THE SHOULDER WIDTH) ONLY. NO LONGITUDINAL OVERLAPS SHALL BE LOCATED BETWEEN THE CENTERLINE AND THE SHOULDER. PARALLEL OVERLAPS SHALL BE A MINIMUM OF 3 FEET WIDE.

2. TRANSVERSE (PERPENDICULAR TO THE ROADWAY) OVERLAPS AT THE END OF A ROLL SHALL OVERLAP IN THE DIRECTION OF THE AGGREGATE PLACEMENT (PREVIOUS ROLL ON TOP) AND SHALL HAVE A MINIMUM LENGTH OF 3 FEET.

3. ALL OVERLAPS SHALL BE PINNED WITH STAPLES OR NAILS BETWEEN 10 AND 12 INCHES LONG TO INSURE STABLE POSITIONING DURING PLACEMENT OF AGGREGATE. PIN LONGITUDINAL SEAMS AT 25-FOOT CENTERS AND TRANSVERSE SEAMS EVERY 5 FEET ON CENTER.

D. THE AGGREGATE SUB BASE, BASE AND SURFACE COURSES SHALL BE CONSTRUCTED IN LAYERS NOT MORE THAN 4 INCHES (COMPACTED) THICKNESS. AGGREGATE TO BE PLACED ON GEOTEXTILE FABRIC SHALL BE END-DUMPED ON THE FABRIC FROM THE FREE END OF THE FABRIC OR OVER PREVIOUSLY PLACED AGGREGATE. AT NO TIME SHALL EQUIPMENT, EITHER DUMPING THE AGGREGATE OR GRADING THE AGGREGATE, BE PERMITTED ON THE ROADWAY OR COMPOUND WITH LESS THAN 8 INCHES OF MATERIAL COVERING THE FABRIC.

E. THE AGGREGATE SUB BASE AND BASE SHALL BE IMMEDIATELY COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE MODIFIED PROCTOR TEST, ASTM D 1557.

3.8 FINISH GRADING

A. PERFORM ALL FINISHED GRADING TO PROVIDE SMOOTH, EVEN SURFACE AND SUBSURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.

B. UTILIZE SATISFACTORY FILL MATERIALS RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR THE REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.

C. REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

3.9 SECURITY FENCE

A. THE BOTTOM OF THE FENCE SHALL BE 2 INCHES BELOW THE TOP OF THE COMPOUND GRAVEL IF THE SITE CROSSES FEATURES SUCH AS DRAINAGE DITCHES, ETC. THE FENCE SHALL SPAN THE DEPRESSION. CLOSE THE SPACE BELOW THE BOTTOM OF THE FENCE WITH EXTRA FENCE FABRIC OR BARBED WIRE AS DIRECTED BY THE T-MOBILE CONSTRUCTION SUPERVISOR. PRIOR TO PLACING COMPONENTS SUCH AS FABRIC, RAILS, TENSION WIRE AND GATES, ENSURE THAT THE CONCRETE POST FOUNDATION HAS REACHED AT LEAST 75% OF ITS DESIGN STRENGTH OR HAS CURED A MINIMUM OF 7 DAYS AFTER SETTING THE POST.

B. FURNISH GATES WITH NECESSARY FITTINGS AND HARDWARE. HINGES SHALL ALLOW SWING GATES TO SWING 180 DEGREES. PLUNGER BARS SHALL HAVE TOP, BOTTOM AND MIDDLE LOCKING POINTS WITH THE MIDDLE POINT ARRANGED FOR PADLOCKING. GATES SHALL HAVE KEYPERS ON EACH LEAF THAT ENGAGE AUTOMATICALLY WHEN THE GATE IS SWUNG OPEN. REPAIR GALVANIZED COATING DAMAGED IN THE FIELD WITH METHODS AND TECHNIQUES AS RECOMMENDED BY THE MANUFACTURER.



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LICENSE #: C-3065

REVISIONS			
REV	DATE	DESCRIPTION	INT
1	04/28/16	REVISIONS	JMB
0	03/15/16	100% CONSTRUCTION	JMB
A	02/15/16	ISSUED FOR REVIEW 90%	CDE



THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF POWDER RIVER DEVELOPMENT SERVICES, LLC WHETHER THE PROJECTS FOR WHICH THEY ARE MADE ARE EXECUTED OR NOT. THESE DRAWINGS AND SPECIFICATIONS SHALL NOT BE USED BY ANY PERSON OR ENTITY ON OTHER PROJECTS WITHOUT PRIOR WRITTEN CONSENT OF THE ENGINEER.

SITE INFORMATION

T-MOBILE #: SL02043A

ATC #: 82705

**DOLLAR MOUNTAIN
SUN VALLEY, ID
83353**

SHEET TITLE:

**GENERAL
NOTES**

SHEET NUMBER:

GN-1

GENERAL NOTES

SCALE:	1
NTS	

PROJECT SPECIFICATION 16000 (ELECTRICAL)

PART 1: GENERAL

1.1 SCOPE THIS SPECIFICATION DESCRIBES THE MINIMUM REQUIREMENT FOR INSTALLATION OF ALL ELECTRICAL SYSTEMS.

1.2 REFERENCES: THE PUBLICATIONS LISTED BELOW FORM PART OF THIS SPECIFICATION. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION, UNLESS NOTED OTHERWISE, EXCEPT AS MODIFIED BY THE REQUIREMENTS SPECIFIED HEREIN, OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS.

- A. ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
- B. NESC (NATIONAL ELECTRICAL SAFETY CODE), LATEST EDITION
- C. NEC (NATIONAL ELECTRICAL CODE), LATEST EDITION
- D. NFPA 70 (NATIONAL FIRE PROTECTION ASSOCIATION)
- E. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION), INCLUDING ALL APPLICABLE AMENDMENTS
- F. U.L. (UNDERWRITERS LABORATORIES)

1.3 SYSTEM DESCRIPTION
A. DESIGN REQUIREMENTS: THE CONTRACTOR SHALL INSTALL UNDERGROUND ELECTRICAL AND TELEPHONE CONDUITS AND CABLE AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS.

B. PERFORMANCE REQUIREMENTS: WHEN FINISHED, WORK SHALL BE IN A COMPLETE AND UNDAMAGED STATE, AS REQUIRED IN THE CONTRACT DOCUMENTS.

PART II: PRODUCTS

2.1 GENERAL

A. ITEMS SHALL BE NEW AND SHALL BE INSTALLED ONLY IF IN FIRST-CLASS CONDITION.

B. SUBSTITUTIONS FOR MATERIAL WILL BE PERMITTED ONLY BY WRITTEN APPROVAL OF THE T-MOBILE CONSTRUCTION SUPERVISOR.

2.2 MATERIALS: THE CONTRACTOR SHALL PROVIDE ALL MATERIAL EXCEPT AS SPECIFIED IN THE CONTRACT DOCUMENTS. ALL MATERIAL SHALL BE APPROVED AND LISTED BY OR BEAR THE U.L. LABEL, AND WILL COMPLY WITH ANSI, IEEE AND NEMA STANDARDS WHERE APPLICABLE.

A. CONDUITS:

1. ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, SIZED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

2. ALL EXTERIOR ABOVEGROUND CONDUIT SHALL BE PER LOCAL CODE REQUIREMENTS.

3. ALL INTERIOR CONDUIT SHALL BE EMT WITH COMPRESSION-TYPE FITTINGS.

4. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR OUTDOOR LOCATIONS WHERE FLEXIBLE CONNECTION IS REQUIRED.

B. CABLES CONDUCTORS FOR GENERAL WIRING SHALL BE NEC STANDARD ANNEALED COPPER WIRE WITH NEC 600 VOLT INSULATION.

1. #B AND LARGER-STRANDED TYPE, THHN OR THWN

2. #10 AND SMALLER-SOLID TYPE THHN OR THWN

3. CONDUCTORS IN CONDUIT IN OR ADJACENT TO HIGH HEAT SOURCE SHALL BE TYPE XHHW

4. CONDUCTORS IN CONDUITS ABOVE ROOF, ON TOP OF ROOF OR INSIDE BUILT-UP ROOFING MATERIAL SHALL BE TYPE XHHW

C. CONVENIENCE OUTLET, UNLESS NOTED OTHERWISE, SURFACE-MOUNTED OUTLETS FOR EXTERIOR LOCATIONS SHALL BE FERALOY, CAD/ZINC ELECTROPLATED WITH THREADED HUBS OR CONDUIT ENTRANCES DRILLED AND TAPPED. ALL COVERS SHALL BE SELF-CLOSING AND GASKETED. SURFACE MOUNTED OUTLETS FOR INTERIOR LOCATIONS SHALL BE GALVANIZED, PRESSED STEEL WITH COVER PLATE, SIERRA PLASTIC STYLE, IVORY COLOR.

D. COAXIAL CABLE SUPPORTS 1. ALL WAVE GUIDE SUPPORTS SHALL BE MANUFACTURED TO MEET ALL COAX MINIMUM BENDING REQUIREMENTS WAVE GUIDES, AND B1587 FOR 6 WAVE GUIDES. SUPPORTS SHALL BE PROVIDED 3'-0" ON CENTERS.

PART III: EXECUTION

3.1 PREPARATION

A. BEFORE LAYING OUT WORK, EXERCISE PROPER PRECAUTION TO VERIFY EACH MEASUREMENT.

B. USE EXTREME CAUTION BEFORE EXCAVATING IN EXISTING AREAS TO LOCATE EXISTING UNDERGROUND SERVICES.

3.2 INSPECTION

A. A VISUAL CHECK OF ELECTRICAL AND TELEPHONE CABLES, CONDUITS AND OTHER ITEMS SHALL BE MADE BY A T-MOBILE CONSTRUCTION SUPERVISOR BEFORE THESE ITEMS ARE PERMANENTLY INSTALLED.

B. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE CONSTRUCTION SUPERVISOR 24 HOURS PRIOR TO TRENCH BACK FILL

3.3 INSTALLATION

A. TRENCHING, BACK FILLING, BEDDING AND COMPACTING SHALL COMPLY WITH SITE WORK SPECIFICATIONS.

B. DIG TRENCHES TO THE REQUIRED DEPTH AS SHOWN ON THE DRAWINGS WITHOUT POCKETS OR DIPS. REMOVE LARGE STONES FROM THE BOTTOM OF THE TRENCH AND FIRMLY TAMP LOOSE FILL IN THE BOTTOM BEFORE CONDUIT IS LAID.

C. INSTALL UNDERGROUND CONDUIT WITH A MINIMUM 3-INCH TO 100-FOOT SLOPE OR TO A SLOPE SHOWN ON THE DRAWINGS.

D. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, TERMINATE AND CAP ALL STUB-UPS 12 INCHES ABOVE FINISHED GRADE ELEVATION.

E. WHEREVER CONDUITS CROSS UNDER ROADWAYS, USE GALVANIZED RIGID STEEL CONDUITS IN ALL CASES, EXTENDING 5 FEET BEYOND THE EDGE OF THE ROAD BED. MINIMUM DEPTH FOR CONDUIT SHALL BE 4 FEET BELOW ROADWAY GRADE.

F. MARK UNDERGROUND CONDUITS WITH A 6-INCH WIDE RED POLYETHYLENE TAPE BURIED 6 INCHES UNDER THE SURFACE DIRECTLY OVER THE CONDUITS. MARK THE TAPE THUS: CAUTION-BURIED ELECTRICAL CABLE.

G. FOR SEALING CONDUITS, USE ONLY NON-THERMOPLASTIC COMPOUNDS SUCH AS J.M. DUXSEAL, OR AN APPROVED SUBSTITUTE. THE COMPOUND SHALL HAVE NO EFFECT ON RUBBER OR RUBBER-LIKE INSULATIONS, LEAD, ALUMINUM OR FERROUS ALLOYS; IT SHALL BE INSOLUBLE IN WATER AND WITHSTAND MAXIMUM TEMPERATURE RANGES OF THE LOCALITY.

H. COAXIAL - REFER TO NOKIA ANTENNA AND COAXIAL CABLE INSULATION PROCEDURES.

I. ANTENNA - REFER TO NOKIA ANTENNA AND COAXIAL CABLE INSULATION PROCEDURES.

J. LNA/MHA - REFER TO NOKIA ANTENNA AND COAXIAL CABLE INSULATION PROCEDURES.

END OF ELECTRICAL SPECIFICATIONS

PROJECT SPECIFICATION 16670 (GROUNDING)

PART 1: GENERAL

1.1 SCOPE

A. THIS SPECIFICATION PRESCRIBES THE REQUIREMENTS FOR FURNISHING, INSTALLATION AND TESTING OF THE GROUNDING CABLE, CONNECTORS AND ASSOCIATED COMPONENTS AS INDICATED ON THE DRAWINGS.

8. APPLICATIONS OF ELECTRICAL GROUNDING AND BONDING WORK SPECIFIED IN THIS SPECIFICATION INCLUDE THE FOLLOWING:

- 1. FENCE AND GATE POSTS
- 2. ELECTRICAL POWER SYSTEMS
- 3. GROUNDING ELECTRODES
- 4. GROUND BUS BAR
- 5. SERVICE EQUIPMENT
- 6. ENCLOSURES
- 7. MONOPOLE/LATTICE TOWER
- B. ICE BRIDGE

1.2 REFERENCES: THE PUBLICATIONS LISTED BELOW FORM PART OF THIS SPECIFICATION. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION, UNLESS NOTED OTHERWISE, EXCEPT AS MODIFIED BY THE REQUIREMENTS SPECIFIED HEREIN, OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS.

- A. ANSI (AMERICAN NATIONAL STANDARDS INSTITUTE)
- B. IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS)
- C. NEC (NATIONAL ELECTRICAL CODE), LATEST EDITION
- D. NEMA (NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION)
- E. NESC (NATIONAL ELECTRICAL SAFETY CODE), LATEST EDITION
- F. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
- G. U.L. (UNDERWRITERS LABORATORIES)
- H. APPLICABLE LOCAL CODES AND ORDINANCES

PART II PRODUCTS

2.1 MATERIALS EXCEPT AS OTHERWISE INDICATED, PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEMS INDICATED; WITH ASSEMBLY OF MATERIAL, INCLUDING, BUT NOT LIMITED TO, GROUNDING ELECTRODES, BONDING JUMPER AND ADDITIONAL ACCESSORIES NEEDED FOR A COMPLETE INSTALLATION. WHERE MORE THAN ONE TYPE COMPONENT PRODUCT MEETS INDICATED REQUIREMENTS, SELECTION IS INSTALLER'S OPTION. WHERE MATERIALS OR COMPONENTS ARE NOT INDICATED, PROVIDE PRODUCTS WHICH COMPLY WITH NEC, U.L. AND IEEE REQUIREMENTS AND WITH ESTABLISHED INDUSTRY STANDARDS FOR THOSE APPLICATIONS INDICATED.

A. GROUNDING

1. THE EQUIPMENT SHALL BE GROUNDED AS FOLLOWS, AS SHOWN ON THE DRAWINGS AND IN COMPLIANCE WITH NEC ARTICLE 250 AND STATE AND LOCAL CODES.

2. GROUND RODS AND QUANTITY SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL PERFORM A GROUND-RESISTANCE-TO-EARTH TEST. SHOULD THE INSTALLATION HAVE A RESISTANCE OF 5 OHMS OR MORE, CONTRACTOR SHALL INSTALL MORE GROUND RODS AS NECESSARY SO THAT THE OVERALL GROUND-TO-EARTH RESISTANCE IS LESS THAN 5 OHMS.

3. INSTALL ELECTRICAL GROUNDING AND BONDING SYSTEMS AS INDICATED, IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, NEC'S "STANDARD OF INSTALLATION," AND IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PRODUCTS COMPLY WITH REQUIREMENTS.

4. COORDINATE WITH OTHER ELECTRICAL WORK AS NECESSARY TO INTERFACE INSTALLATION OF ELECTRICAL GROUNDING AND BONDING SYSTEMS.

5. INSTALL GROUND CONDUCTORS A MINIMUM OF 36 INCHES BELOW FINISHED GRADE WHICH ENCIRCLES THE TOWER AND EQUIPMENT AND ARE CONNECTED TO EACH DRIVEN GROUND ROD. GROUND TRENCH SHALL BE AT LEAST 24 INCHES AWAY FROM FOUNDATIONS.

6. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUE FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUE SPECIFIED IN U.L. 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.

7. APPLY CORROSION-RESISTANT FINISH (NO-OX) TO FIELD-CONNECTIONS, AT COPPER GROUND BARS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATING HAVE BEEN DESTROYED, WHICH ARE SUBJECTED TO CORROSIVE AND/OR OXIDATION PROCESS.

8. ON EXISTING LATTICE TOWERS, WATER TOWERS AND ROOF TOPS WHEN A NEW GROUNDING SYSTEM IS INSTALLED, THE CONTRACTOR SHALL TIE THE NEW GROUND SYSTEM TO THE EXISTING WATER TOWER, LATTICE TOWER STRUCTURAL STEEL OR BUILDING STRUCTURAL STEEL AS THE CASE MAY BE AT LEAST AT ONE LOCATION SO THAT THEY ARE AT THE SAME POTENTIAL.

B. GROUND RODS

1. GROUND RODS SHALL BE 5/8" DIAMETER 8'-0" LONG, COPPER CLAD DRIVEN ROD(S).

2. GROUND ROD(S) SHALL BE LOCATED AT THE PERIMETER OF EQUIPMENT AS TO CREATE A GROUND RING AS SHOWN ON THE DRAWINGS.

3. GROUND ROD(S) SHALL BE SPACED AT A MINIMUM SPACING OF 8'-0" AND A MAXIMUM SPACING OF 10'-0".

4. GROUND RODS SHALL BE BURIED BELOW THE FROSTLINE. AT NO TIME SHALL THIS DEPTH BE LESS THAN 18" BELOW FINISHED GRADE.

5. GROUND RODS WHICH CANNOT BE DRIVEN STRAIGHT DOWN THE ENTIRE (10) FEET, SHALL BE DRIVEN AT AN ANGLE NOT GRATER THAN 45 DEGREES (NEC 250-83 AND 250-84).

6. GROUND ROD LOCATIONS SHALL BE NOTED ON THE AS-BUILT DRAWING COMPLETE WITH DIMENSIONS.

7. PROVIDE GROUND TEST WELLS AS SHOWN ON THE CONSTRUCTION DRAWINGS.

C. GROUND CONDUCTOR

1. ALL DIRECT BURIED GROUND CONDUCTORS SHALL BE TINNED SOLID (#2 AWG) WIRE. BURIED GROUND CONDUCTOR SHALL BE INSTALLED AT MINIMUM DEPTH OF 36" BELOW GRADE.

2. ALL SUB GRADE GROUND CONNECTIONS SHALL BE MADE THROUGH THE USE OF EXOTHERMIC WELD PROCESS. CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE SPLICES, TEES AND ALL GROUND ROD CONNECTIONS. MOLD, WELD KITS, ETC., SHALL BE MANUFACTURED BY CADWELD AND SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS.

3. GROUND CONDUCTORS SHALL BE ROUTED IN THE SHORTEST AND STRAIGHTEST DISTANCES POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES. CONDUCTORS SHALL BE INSTALLED AS FOLLOWS:

A. ALL GROUND CONDUCTORS SHALL FOLLOW A CONTINUOUS DOWNWARD PATTERN TO THE GROUND SOURCE. (NEVER RUN GROUND CONDUCTOR IN AN UPWARD DIRECTION.)

B. CONDUCTORS SHALL BE INSTALLED WITH A MINIMUM OF 12 INCH MINIMUM BENDING RADIUS.

C. WHEN THE MINIMUM BENDING RADIUS CANNOT BE ACHIEVED, GROUND CABLES SHALL BE ROUTED AT 90 DEGREE BENDS WITH THE USE OF EXOTHERMIC CONNECTIONS AT 90 DEGREES. THE INTENT IS TO ELIMINATE THE CABLE BEND RADIUS AND REPLACE THE RADIUS WITH AN EXOTHERMIC CONNECTION.

PART III: EXECUTION

3.1 PREPARATION

A. ALL SURFACES TO WHICH GROUND CONNECTIONS WILL BE MADE SHALL BE FREE OF PAINT, GALVANIZING DIRECT CORROSION ETC ..

B. ALL METAL SURFACES EXPOSED ON GROUNDING SHALL BE EITHER COLD GALVANIZE, OR PAINTED TO MATCH ORIGINAL SURFACE.

3.2 EXAMINATION.

A. EXAMINE AREAS AND CONDITIONS UNDER WHICH ELECTRICAL GROUNDING AND BONDING CONNECTIONS ARE TO BE MADE AND NOTIFY T-MOBILE CONSTRUCTION SUPERVISOR IN WRITING OF CONDITIONS DETRIMENTAL TO PROPER COMPLETION OF WORK. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE

B. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE CONSTRUCTION SUPERVISOR 24 HOURS PRIOR TO TRENCH BACK FILL ALL WORK DONE BELOW FINISHED GRADE SHALL BE INSPECTED BY THE AERIAL CONSTRUCTION SUPERVISOR DURING THAT PERIOD OR THE CONTRACTOR SHALL PROCEED.

3.3 GROUND TESTING

A. THE CONTRACTOR SHALL TEST THE GROUND ELECTRODE ROD RESISTANCE IN ACCORDANCE WITH THE METHODS OF MEASUREMENT SHOWN IN THE FALL OF POTENTIAL METHOD.

B. TEST INSTRUMENTS SHALL OPERATE AT A FREQUENCY OTHER THAN 60 HERTZ AND SHALL CONTAIN STRAY CURRENT AND DC FILTERS, FAULT CURRENT PROTECTION AND HAVE SENSITIVITY TO OPERATE A LOW SIGNAL STRENGTH.

C. PRIOR TO TESTING, THE CONTRACTOR SHALL DE-ENERGIZE ALL POWER SOURCES, DISCONNECT THE ELECTRODE CONDUCTOR FROM THE GROUND ROD, WEAR HIGH VOLTAGE RUBBER SAFETY GLOVES AND WILL NOT HANDLE TEST INSTRUMENTS IF AT ALL POSSIBLE.

D. GROUND TESTS ARE TO BE PERFORMED BY QUALIFIED PERSONS FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE EQUIPMENT AND THE HAZARDS INVOLVED.

E. AN INDEPENDENT, APPROVED OUTSIDE FIRM SHALL PERFORM THE GROUND TEST AS OUTLINED. ALL TEST RESULTS SHALL BE FORWARDED TO THE T-MOBILE CONSTRUCTION SUPERVISOR FOR APPROVAL.

END OF GROUNDING SPECIFICATIONS

CLOSE OUT DOCUMENTATION

CLOSEOUT BOOK CONTAINING THE FOLLOWING'

- 1. AS BUILT DESIGN DRAWINGS
 - 2. SWEEP TEST RESULTS
 - 3. RESISTIVELY TEST
 - 4. PHOTO DOCUMENTATION OF
 - UNDERGROUND CONDUITS AND GROUND RING
 - ANTENNA, COAX\L, JUMPER ATTACHMENTS AND GROUND KIT ATTACHMENTS
 - ANTENNA DOWN TILT MEASUREMENT USING AN INCLINOMETER ON THE BACK PLANE OF THE ANTENNA
 - GROUND BAR ATTACHMENTS
 - 5. SIGNED OFF PERMIT CARDS
 - 6. CERTIFICATE OF OCCUPANCY
 - 7. RETURN OF KEYS AND/OR ACCESS AUTHORIZATION
- B. ORIGINAL BUILDING PERMIT

GENERAL NOTES

SCALE:
NTS

1



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REVISIONS			
REV	DATE	DESCRIPTION	INT
1	04/28/16	REVISIONS	JMB
0	03/15/16	100% CONSTRUCTION	JMB
A	02/15/16	ISSUED FOR REVIEW 90%	CDE



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SITE INFORMATION

T-MOBILE #: SL02043A

ATC #: 82705

DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

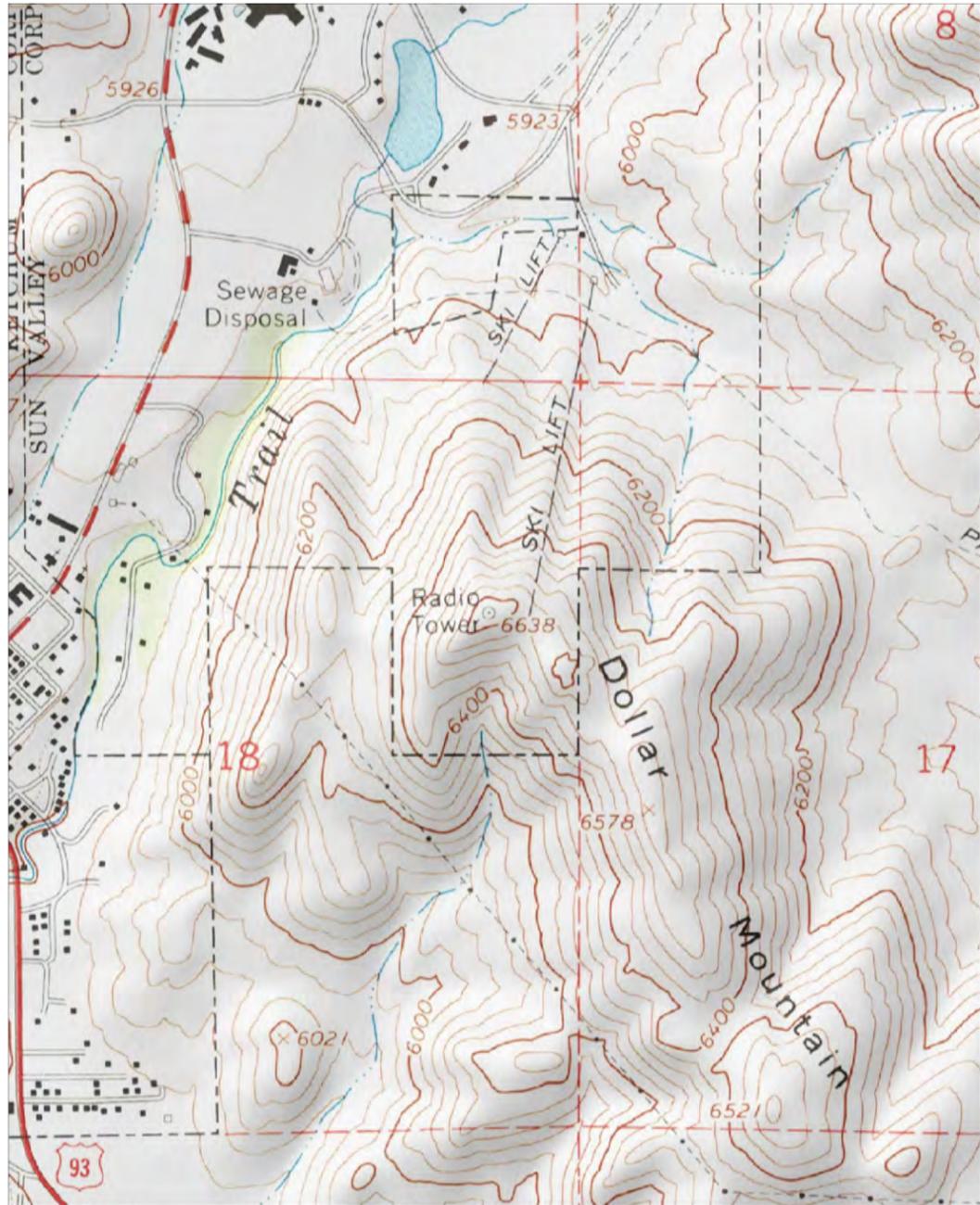
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GENERAL
NOTES

SHEET NUMBER:

GN-2

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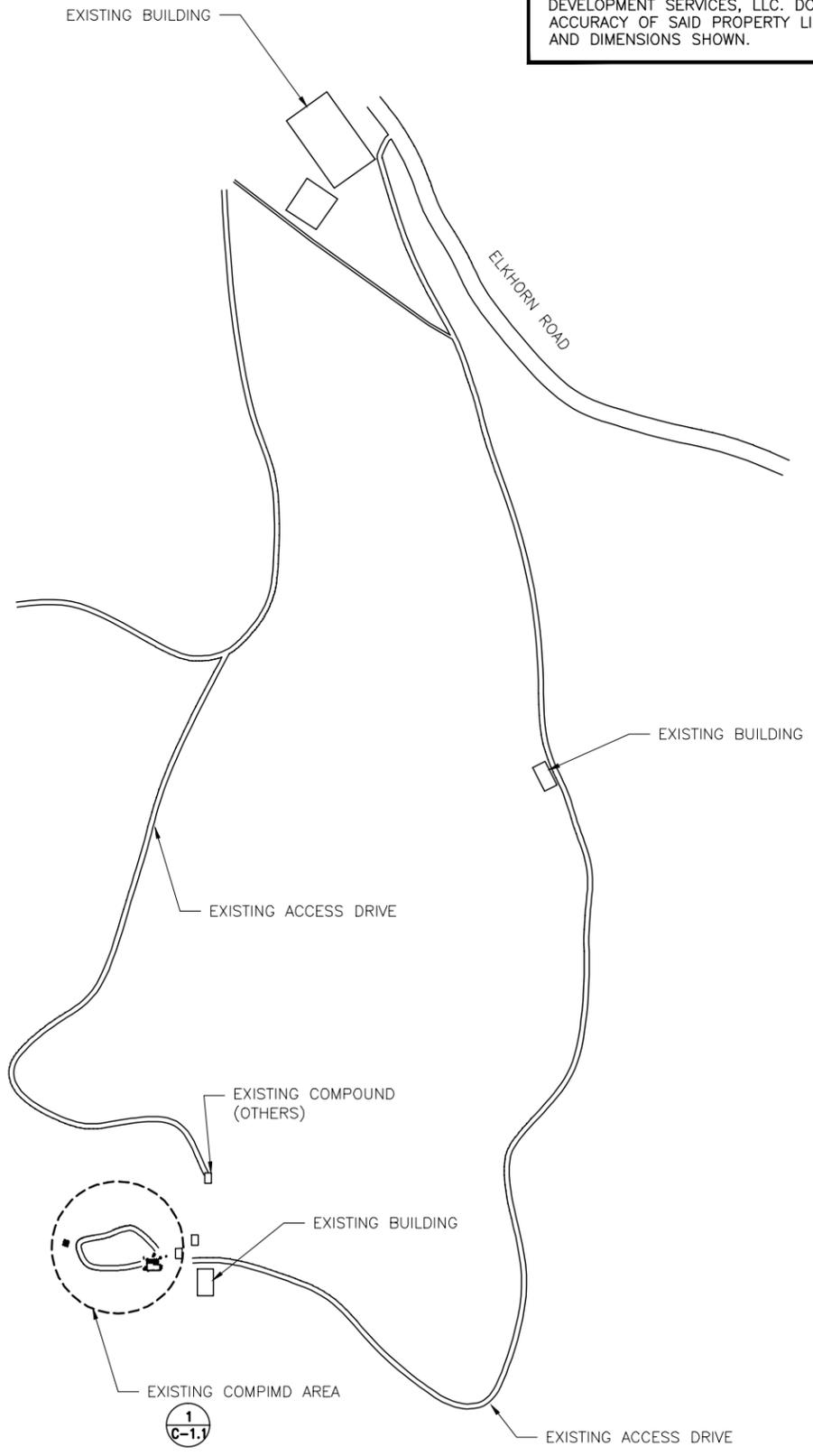


Mercator Projection
WGS84
USNG Zone 11TQJ
CalTopo.com

0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 km
0.1 0.2 0.3 0.4 0.5 0.6 0.7 mi
Scale 1:11128 1 inch = 927 feet



DISCLAIMER:
THESE DRAWINGS WERE PRODUCED WITHOUT THE BENEFIT OF A CURRENT LAND SURVEY. ALL PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION. POWDER RIVER DEVELOPMENT SERVICES, LLC. DOES NOT GUARANTEE THE ACCURACY OF SAID PROPERTY LINES, EASEMENTS, SETBACKS, AND DIMENSIONS SHOWN.



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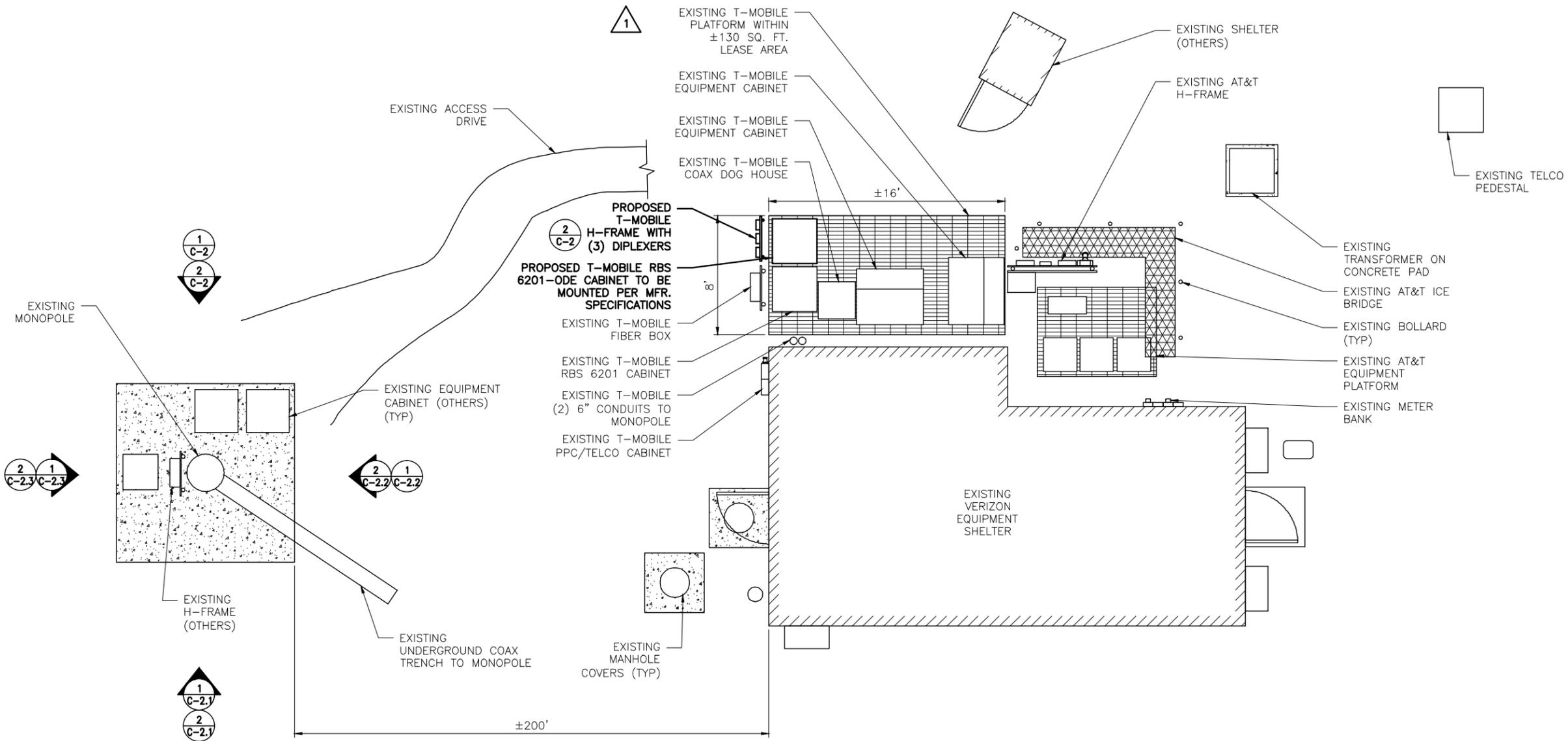
SITE INFORMATION
T-MOBILE #: SL02043A
ATC #: 82705
DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

SHEET TITLE:
TOPO MAP & OVERALL SITE PLAN

SHEET NUMBER:
C-1

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SITE INFORMATION

T-MOBILE #: SL02043A

ATC #: 82705

DOLLAR MOUNTAIN SUN VALLEY, ID 83353

SHEET TITLE:
ENLARGED SITE PLAN

SHEET NUMBER:

C-1.1

THE UTILITIES AS SHOWN ON THIS SET OF DRAWINGS WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THE INFORMATION PROVIDED IS NOT IMPLIED NOR INTENDED TO BE A COMPLETE INVENTORY OF THE UTILITIES IN THIS AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE CAUSED BY CONTRACTOR'S ACTIVITIES.



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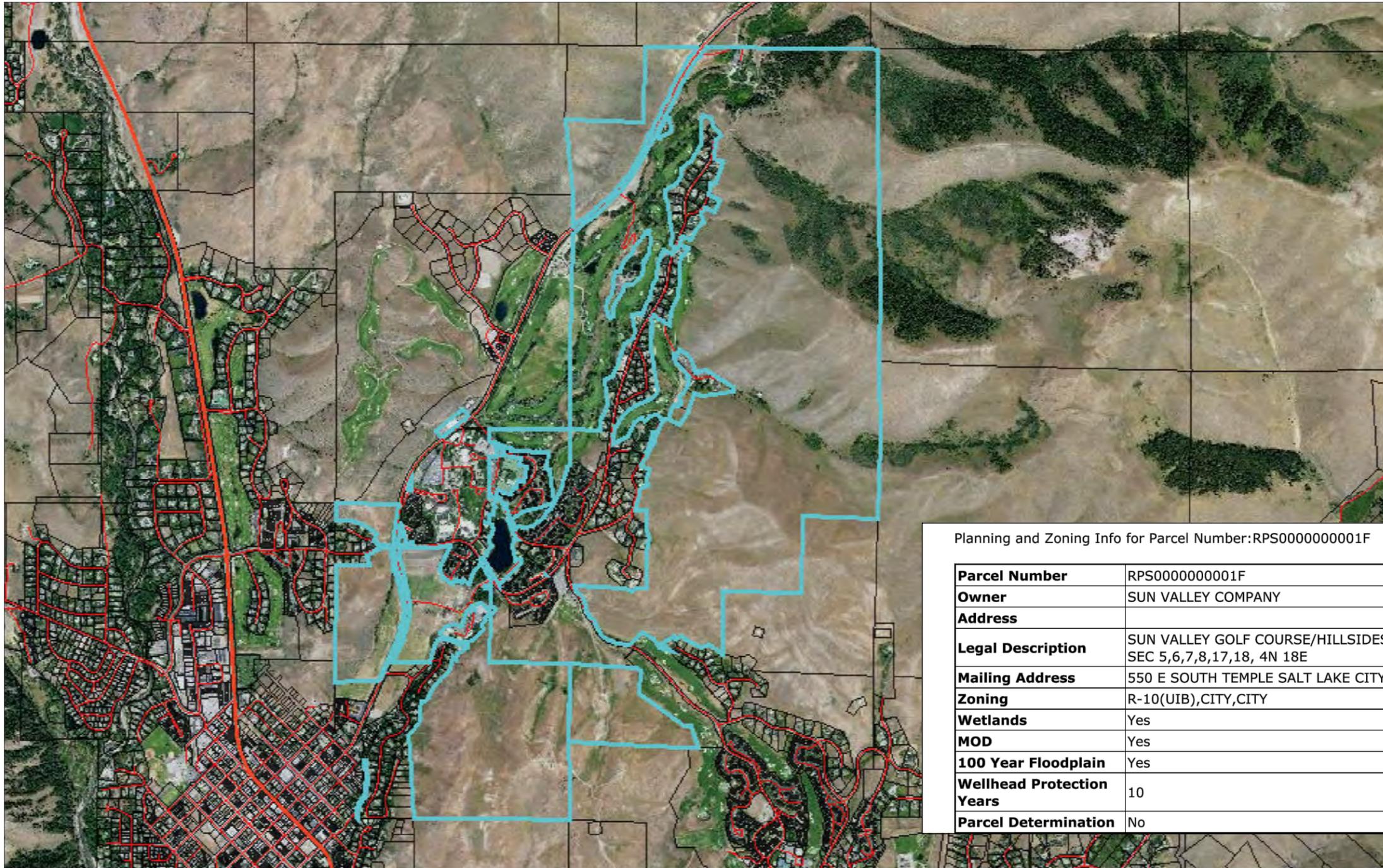
DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

SHEET TITLE:

PARCEL MAP

SHEET NUMBER:

C-1.2

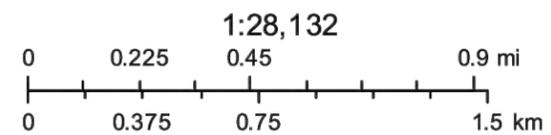


Planning and Zoning Info for Parcel Number:RPS0000000001F

Parcel Number	RPS0000000001F
Owner	SUN VALLEY COMPANY
Address	
Legal Description	SUN VALLEY GOLF COURSE/HILLSIDES GAS STATIONS/HORSE CENTER SEC 5,6,7,8,17,18, 4N 18E
Mailing Address	550 E SOUTH TEMPLE SALT LAKE CITY UT 84102-0000
Zoning	R-10(UIB),CITY,CITY
Wetlands	Yes
MOD	Yes
100 Year Floodplain	Yes
Wellhead Protection Years	10
Parcel Determination	No

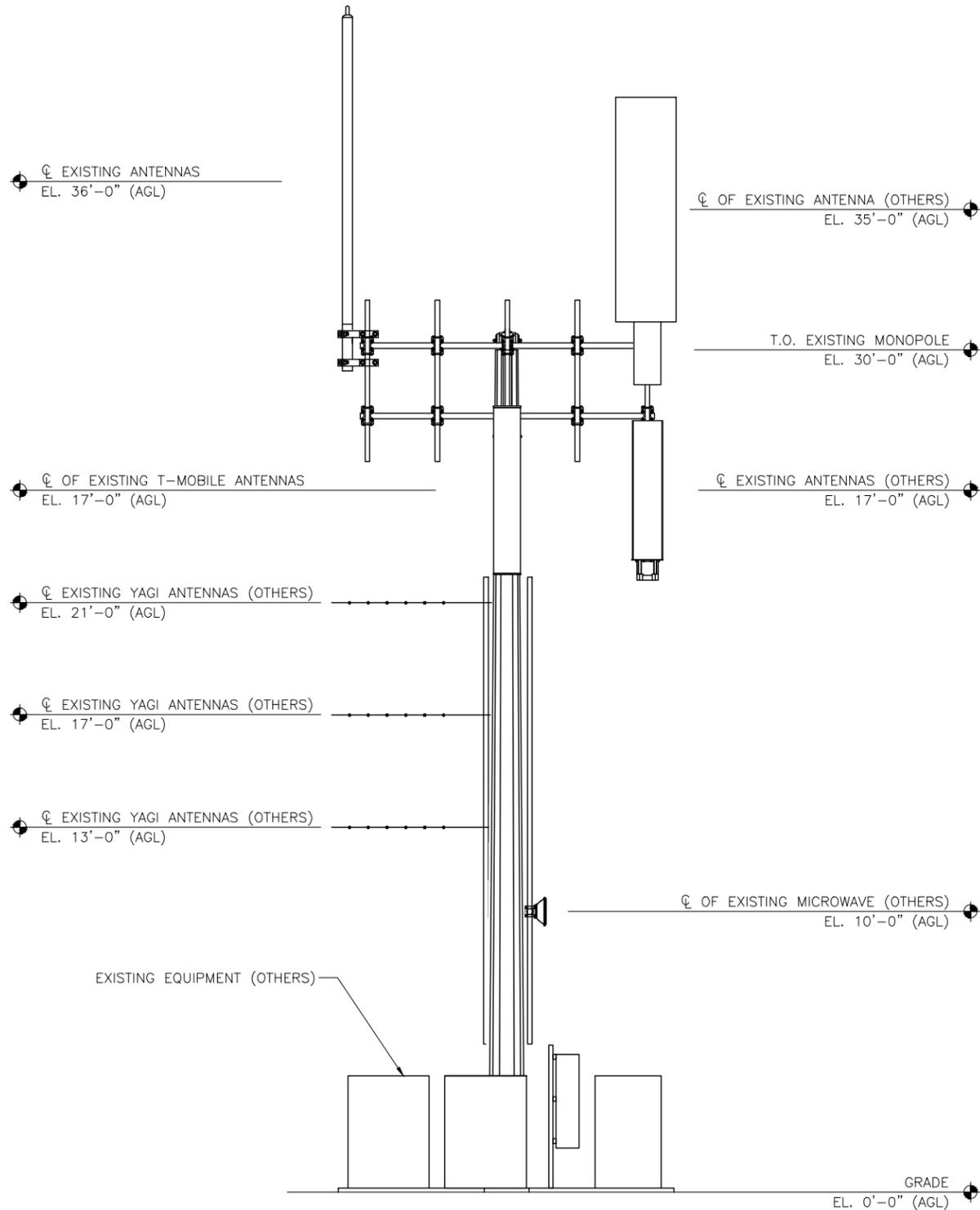
April 20, 2016

Total Acres 1285.953



EXISTING T-MOBILE APPURTENANCE LIST:

- (1) ANTENNA PLATFORM
- (3) DUAL PORT ANTENNAS
- (6) COAX LINES

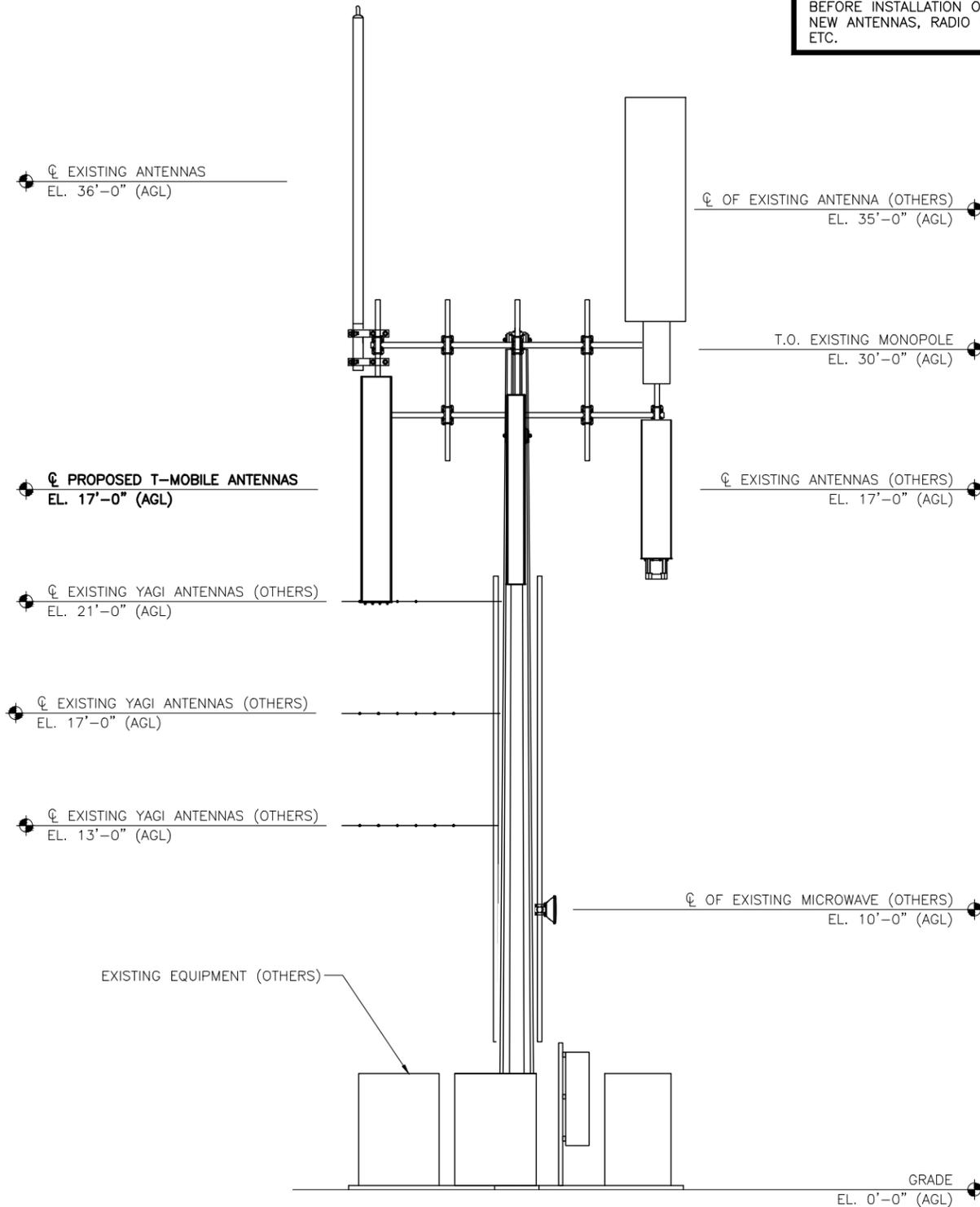


FINAL T-MOBILE APPURTENANCE LIST:

- (1) ANTENNA PLATFORM
- (6) DUAL PORT ANTENNAS
- (3) "STYLE 3C" TMA UNITS
- (6) COAX LINES



NOTE:
STRUCTURAL ANALYSIS MUST BE PERFORMED ON ALL ROOFTOPS, FLAGPOLES, LIGHT POLES, AND TOWER SITES BEFORE INSTALLATION OF NEW ANTENNAS, RADIO UNITS, ETC.



NORTH TOWER ELEVATION (EXISTING)



SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

NORTH TOWER ELEVATION (PROPOSED)



SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)



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DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

SHEET TITLE:

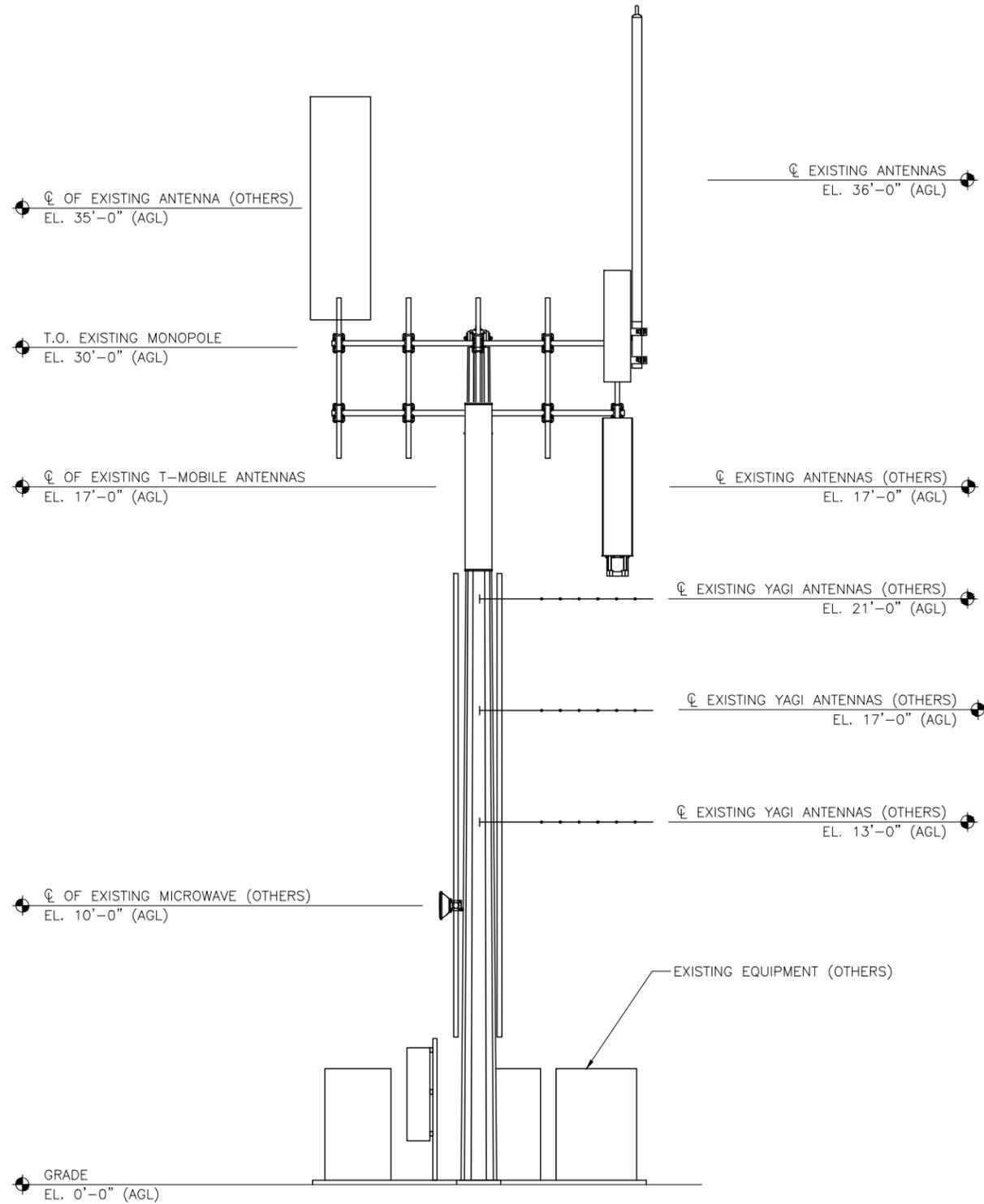
ELEVATIONS

SHEET NUMBER:

C-2

EXISTING T-MOBILE APPURTENANCE LIST:

- (1) ANTENNA PLATFORM
- (3) DUAL PORT ANTENNAS
- (6) COAX LINES



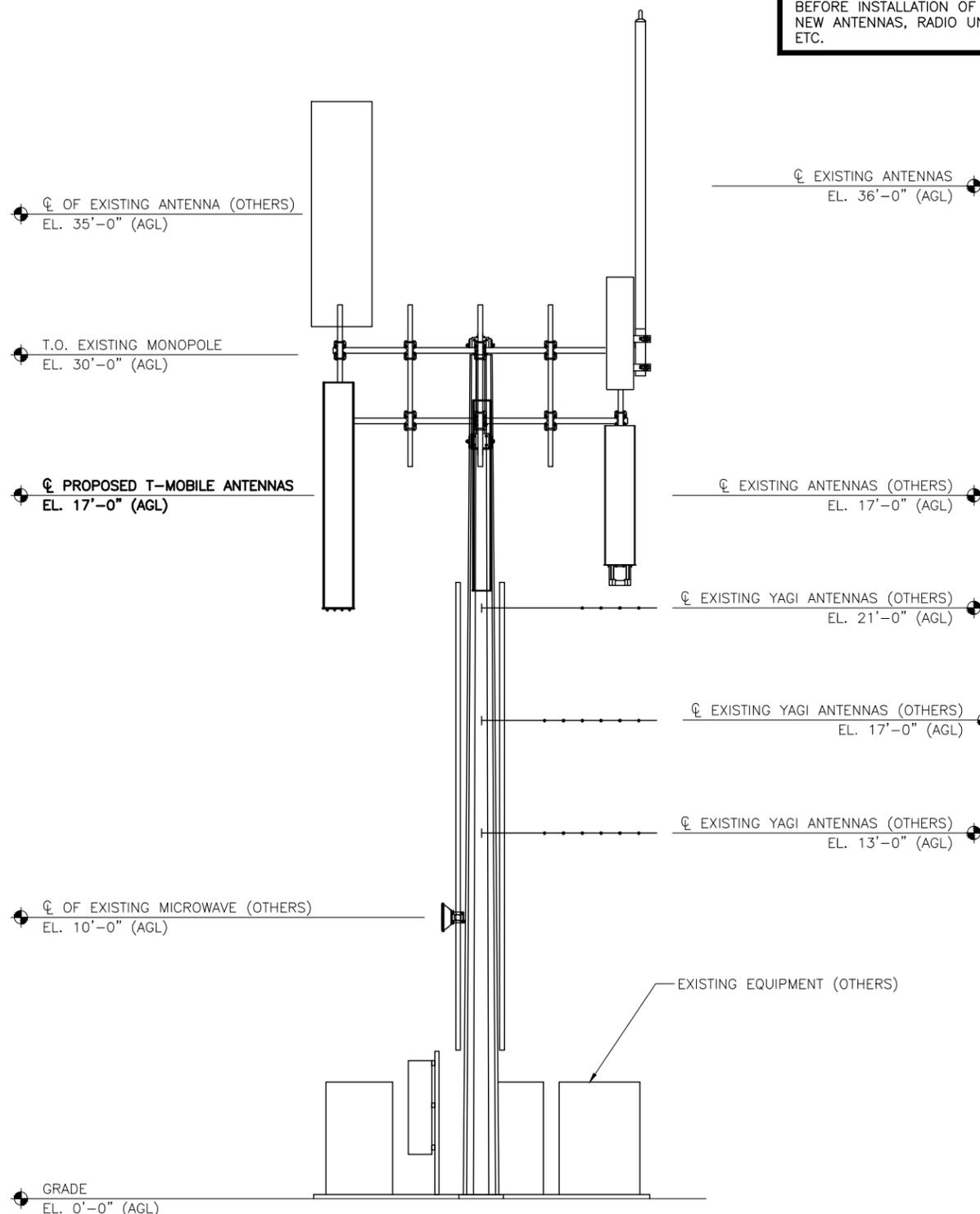
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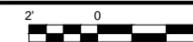
SOUTH TOWER ELEVATION (EXISTING)



SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

2

SOUTH TOWER ELEVATION (PROPOSED)



SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

1



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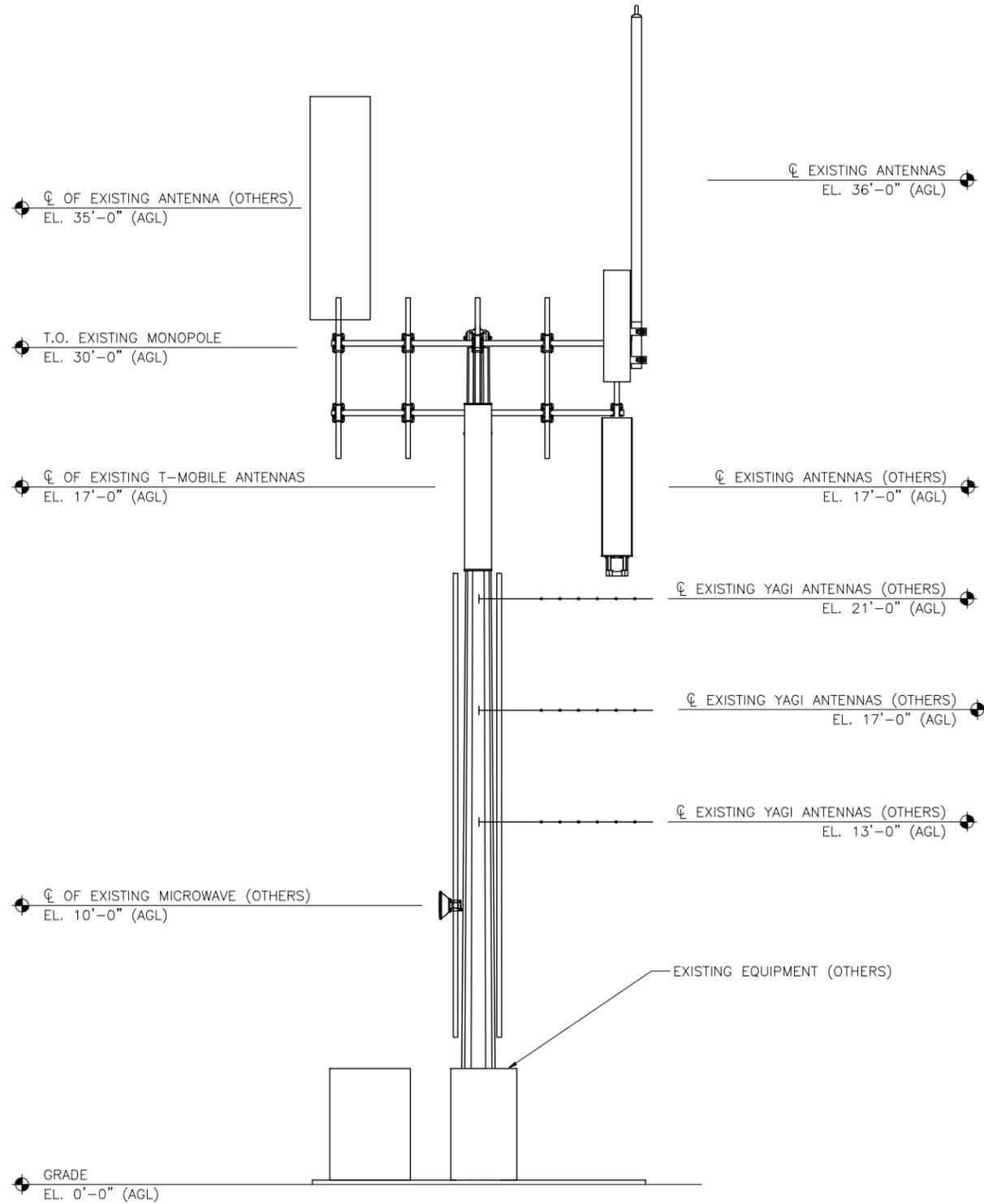
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C2.1

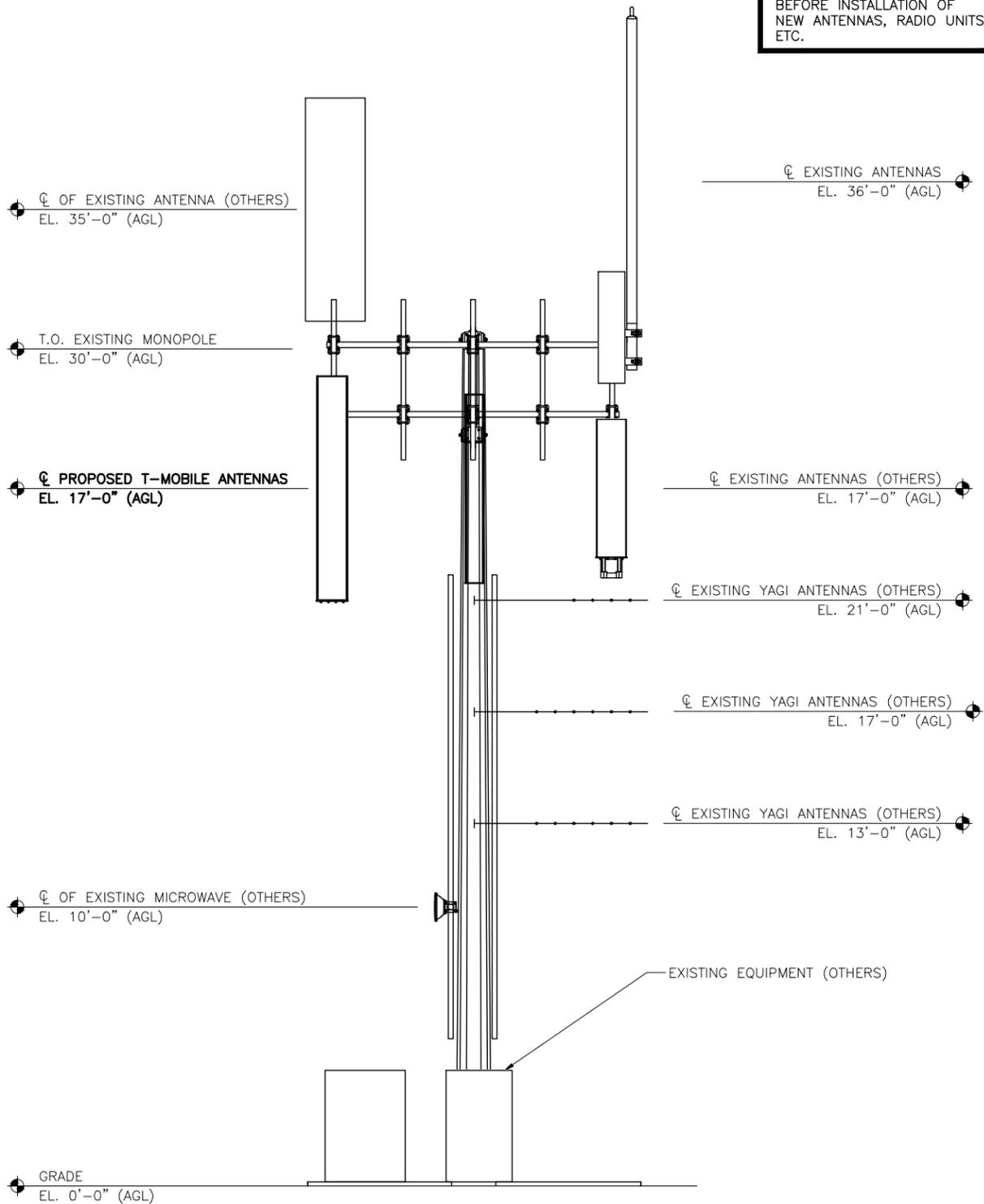
EXISTING T-MOBILE APPURTENANCE LIST:

- (1) ANTENNA PLATFORM
- (3) DUAL PORT ANTENNAS
- (6) COAX LINES



FINAL T-MOBILE APPURTENANCE LIST:

- (1) ANTENNA PLATFORM
- (6) DUAL PORT ANTENNAS
- (3) "STYLE 3C" TMA UNITS
- (6) COAX LINES



NOTE:
STRUCTURAL ANALYSIS MUST BE PERFORMED ON ALL ROOFTOPS, FLAGPOLES, LIGHT POLES, AND TOWER SITES BEFORE INSTALLATION OF NEW ANTENNAS, RADIO UNITS, ETC.



LICENSE #: C-3065

REVISIONS			
REV	DATE	DESCRIPTION	INT
1	04/28/16	REVISIONS	JMB
0	03/15/16	100% CONSTRUCTION	JMB
A	02/15/16	ISSUED FOR REVIEW 90%	CDE



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SITE INFORMATION

T-MOBILE #: SL02043A

ATC #: 82705

DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

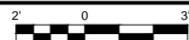
SHEET TITLE:

ELEVATIONS

SHEET NUMBER:

C-2.2

EAST TOWER ELEVATION (EXISTING)



SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

2

EAST TOWER ELEVATION (PROPOSED)

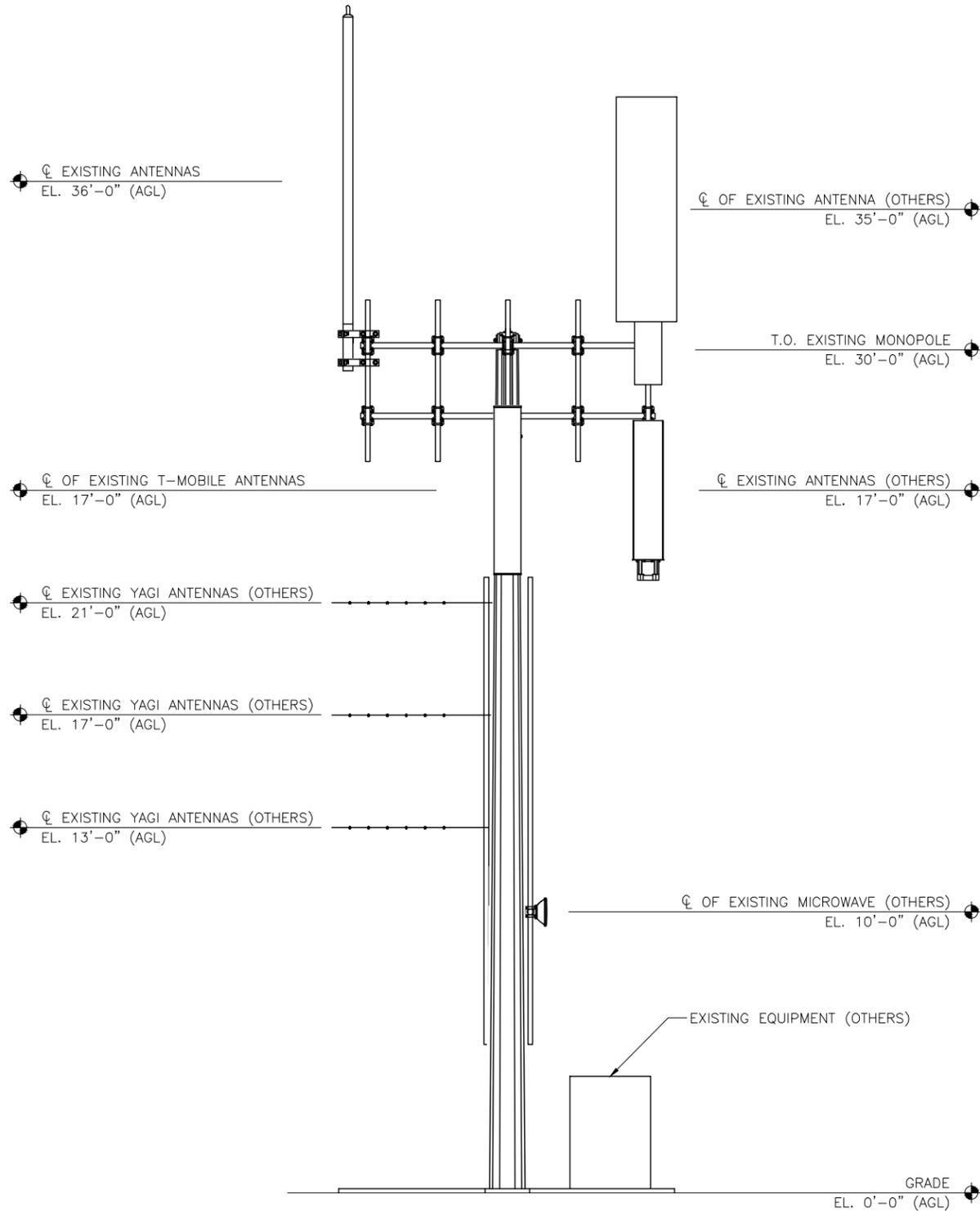


SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

1

EXISTING T-MOBILE APPURTENANCE LIST:

- (1) ANTENNA PLATFORM
- (3) DUAL PORT ANTENNAS
- (6) COAX LINES



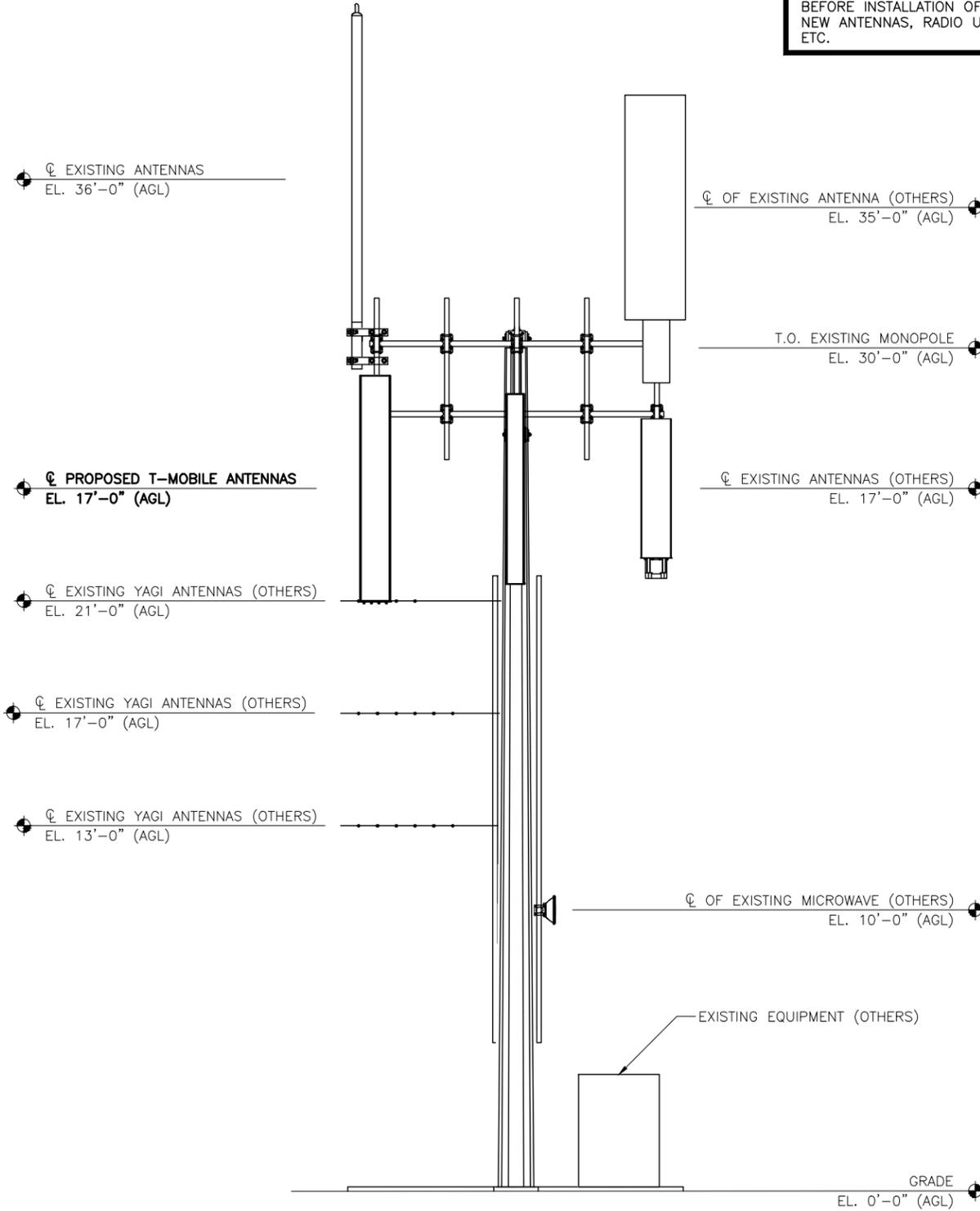
FINAL T-MOBILE APPURTENANCE LIST:

- (1) ANTENNA PLATFORM
- (6) DUAL PORT ANTENNAS
- (3) "STYLE 3C" TMA UNITS
- (6) COAX LINES



NOTE:

STRUCTURAL ANALYSIS MUST BE PERFORMED ON ALL ROOFTOPS, FLAGPOLES, LIGHT POLES, AND TOWER SITES BEFORE INSTALLATION OF NEW ANTENNAS, RADIO UNITS, ETC.



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SITE INFORMATION

T-MOBILE #: SL02043A

ATC #: 82705

DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

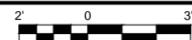
SHEET TITLE:

ELEVATIONS

SHEET NUMBER:

C-2.3

WEST TOWER ELEVATION (EXISTING)



SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

2

WEST TOWER ELEVATION (PROPOSED)



SCALE: 3/8" = 1'-0" (24x36)
(OR) 3/16" = 1'-0" (11x17)

1

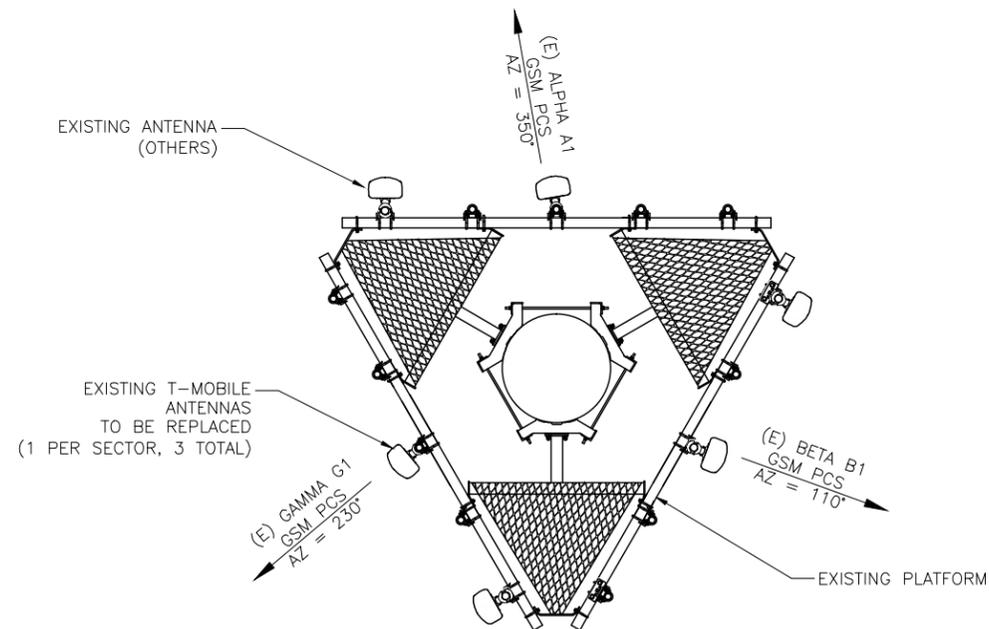
NOTE:

STRUCTURAL ANALYSIS MUST BE PERFORMED ON ALL ROOFTOPS, FLAGPOLES, LIGHT POLES, AND TOWER SITES BEFORE INSTALLATION OF NEW ANTENNAS, RADIO UNITS, ETC.

ANTENNA SCHEDULE						
SECTOR	ALPHA (RED)		BETA (GREEN)		GAMMA (BLUE)	
ANTENNA POSITION	A-1	A-2	B-1	B-2	G-1	G-2
ANTENNA TYPE	GSM/LTE PCS	LTE 700	GSM/LTE PCS	LTE 700	GSM/LTE PCS	LTE 700
AZIMUTH	350°	350°	110°	110°	230°	230°
RAD CENTER (AGL)	17'-0"	17'-0"	17'-0"	17'-0"	17'-0"	17'-0"
MODEL	CELLMAX CMA-B-6521-E0-6	COMMSCOPE LNX-6515DS-A1M	CELLMAX CMA-B-6521-E0-6	COMMSCOPE LNX-6515DS-A1M	CELLMAX CMA-B-6521-E0-6	COMMSCOPE LNX-6515DS-A1M
CABLE LENGTH	±55'-0"					

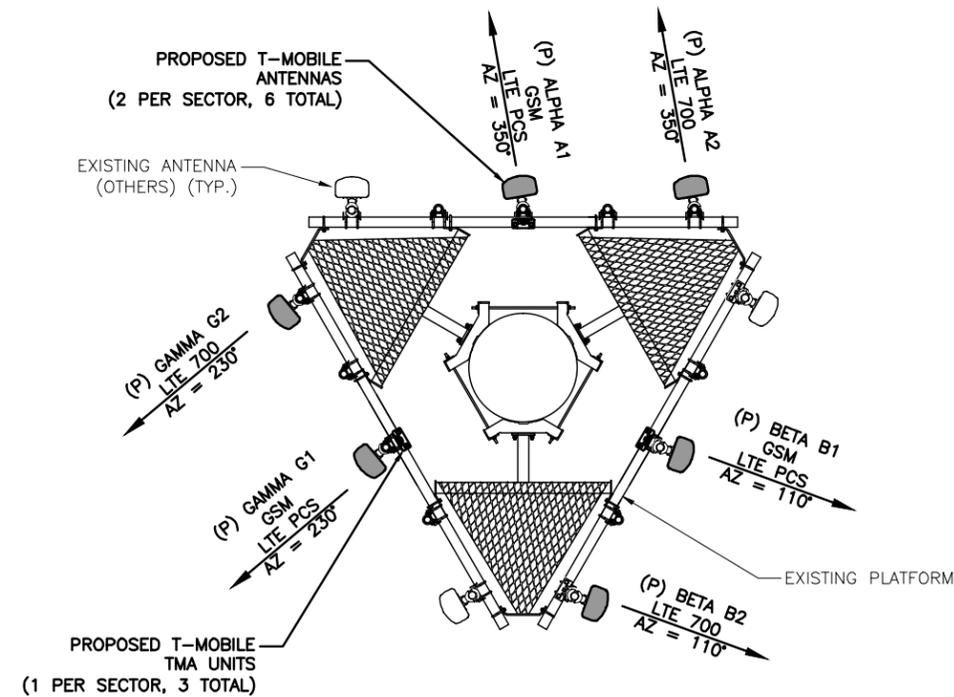
ANTENNA SCHEDULE (PROPOSED)

SCALE: 1
NTS



ANTENNA PLAN (EXISTING)

SCALE: 3
NTS



ANTENNA PLAN (PROPOSED)

SCALE: 2
NTS



LICENSE #: C-3065

REVISIONS			
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1	04/28/16	REVISIONS	JMB
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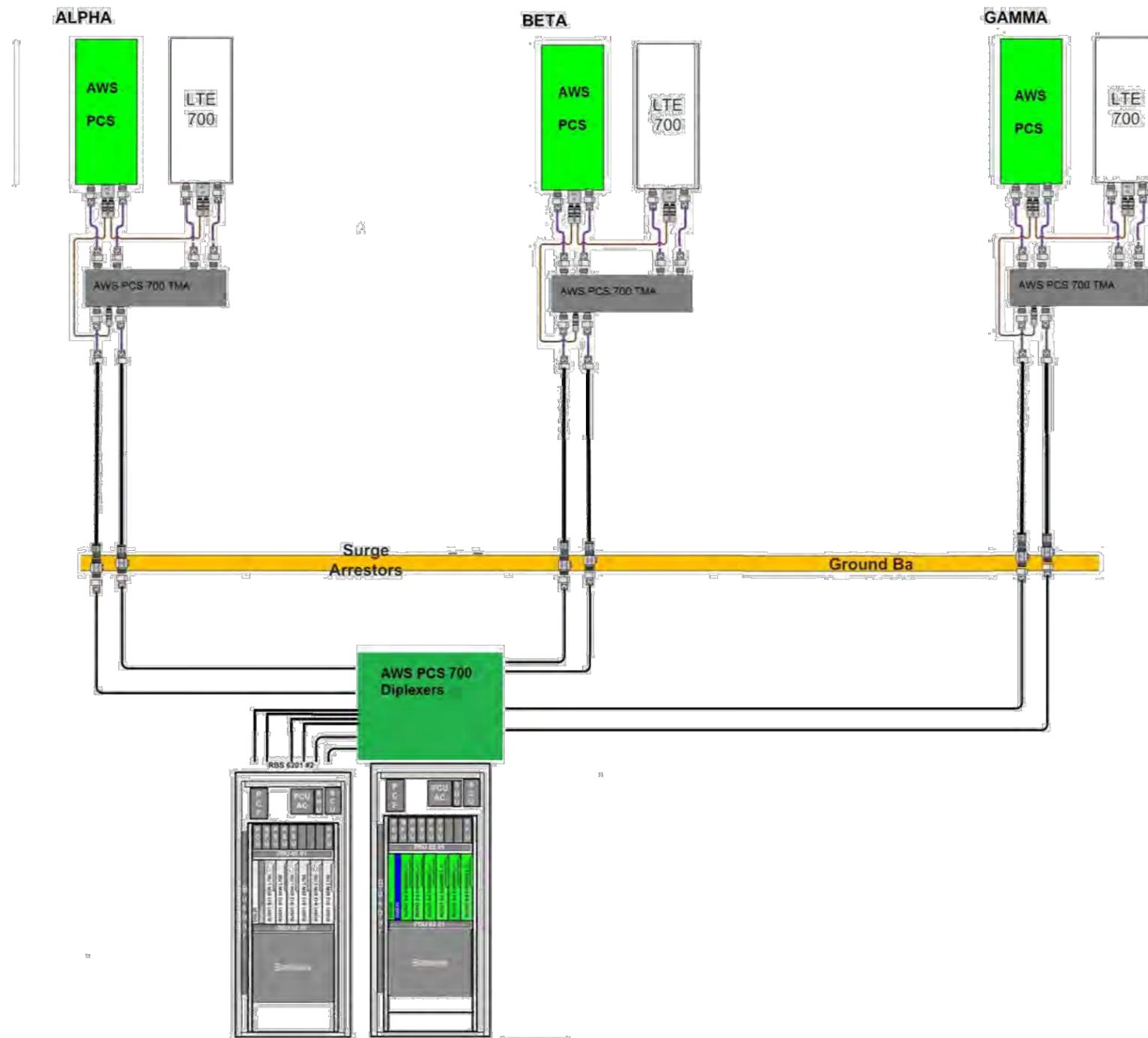
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SITE INFORMATION
T-MOBILE #: SL02043A
ATC #: 82705
DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

SHEET TITLE:
ANTENNA PLANS

SHEET NUMBER:
C-3

Proposed Configuration



Site ID - SL02043A, Version - 2, Design Status - APPROVED



LICENSE #: C-3065

REVISIONS			
REV	DATE	DESCRIPTION	INT
1	04/28/16	REVISIONS	JMB
0	03/15/16	100% CONSTRUCTION	JMB
A	02/15/16	ISSUED FOR REVIEW 90%	CDE

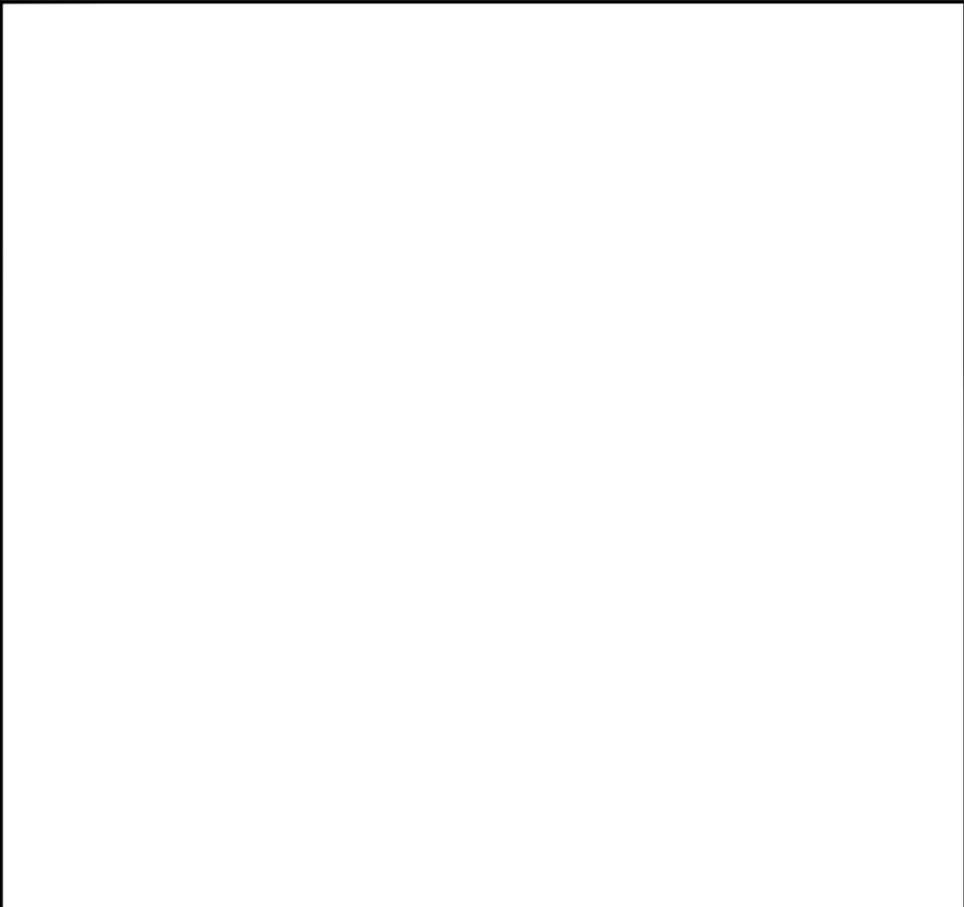


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SITE INFORMATION
T-MOBILE #: SL02043A
ATC #: 82705
DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

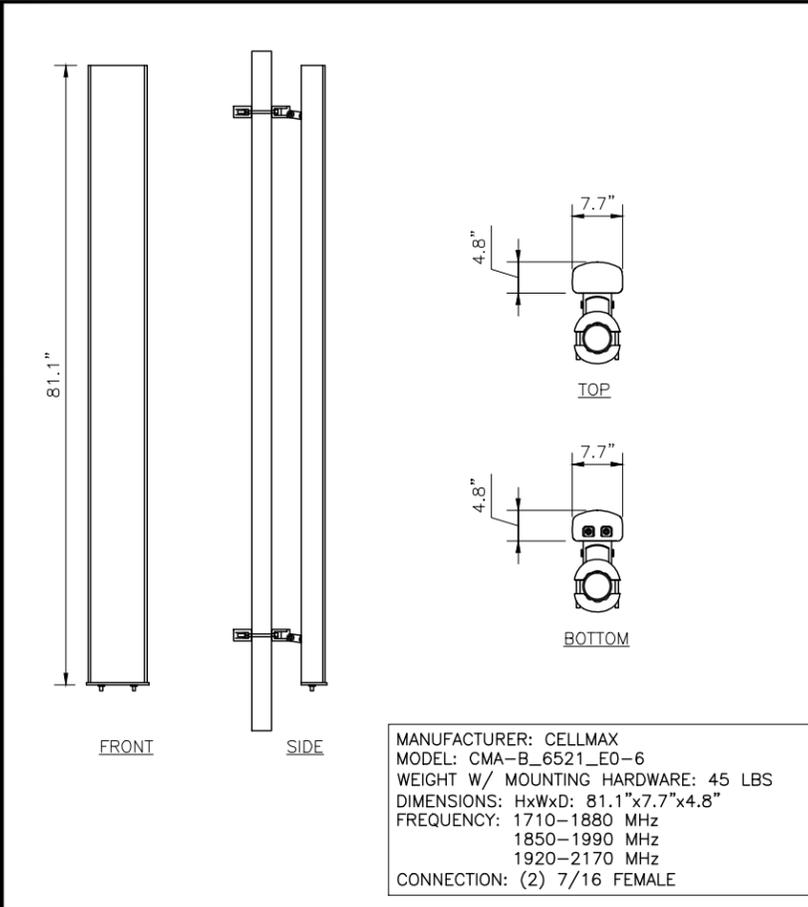
SHEET TITLE:
RFDS & CABLE
SPECIFICATIONS

SHEET NUMBER:
C-3.1



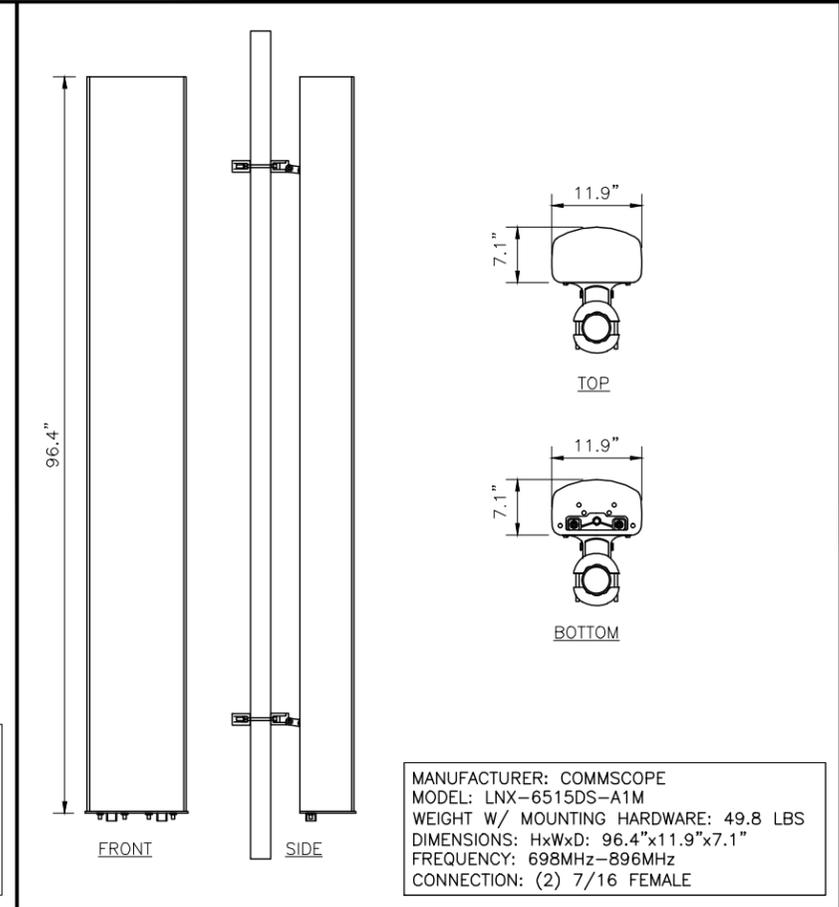
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SCALE: NTS 5



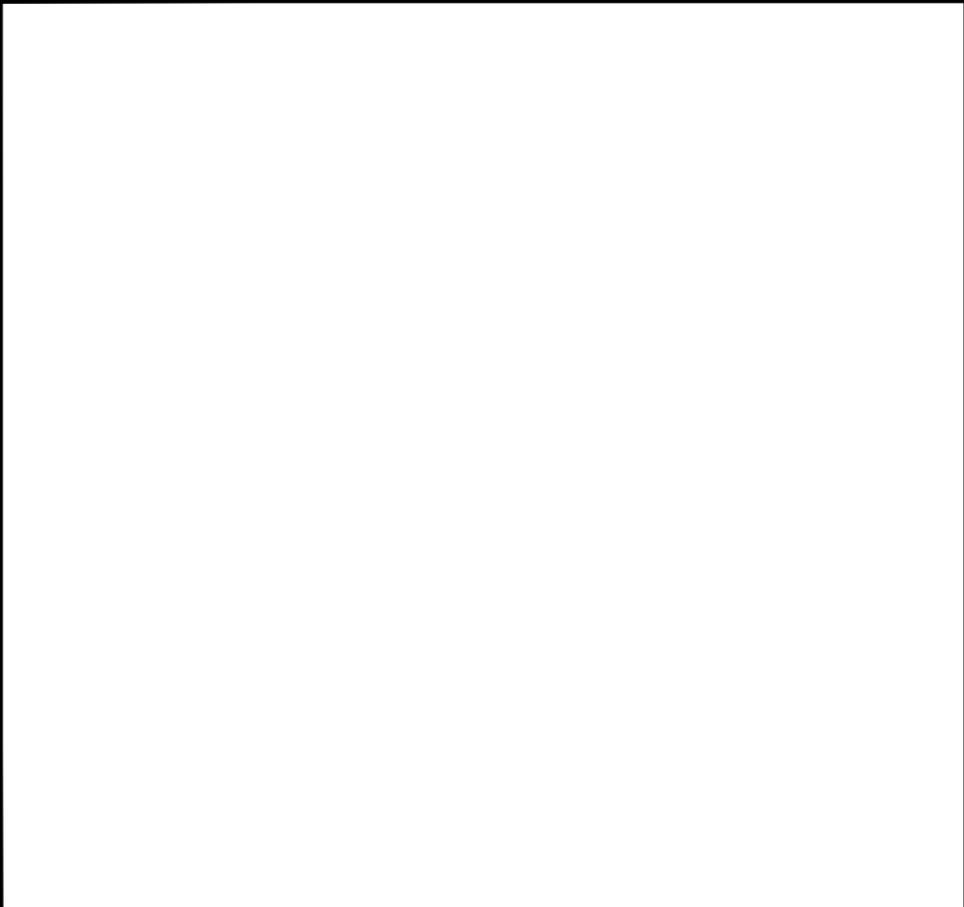
ANTENNA DETAIL

SCALE: NTS 3



ANTENNA DETAIL

SCALE: NTS 1



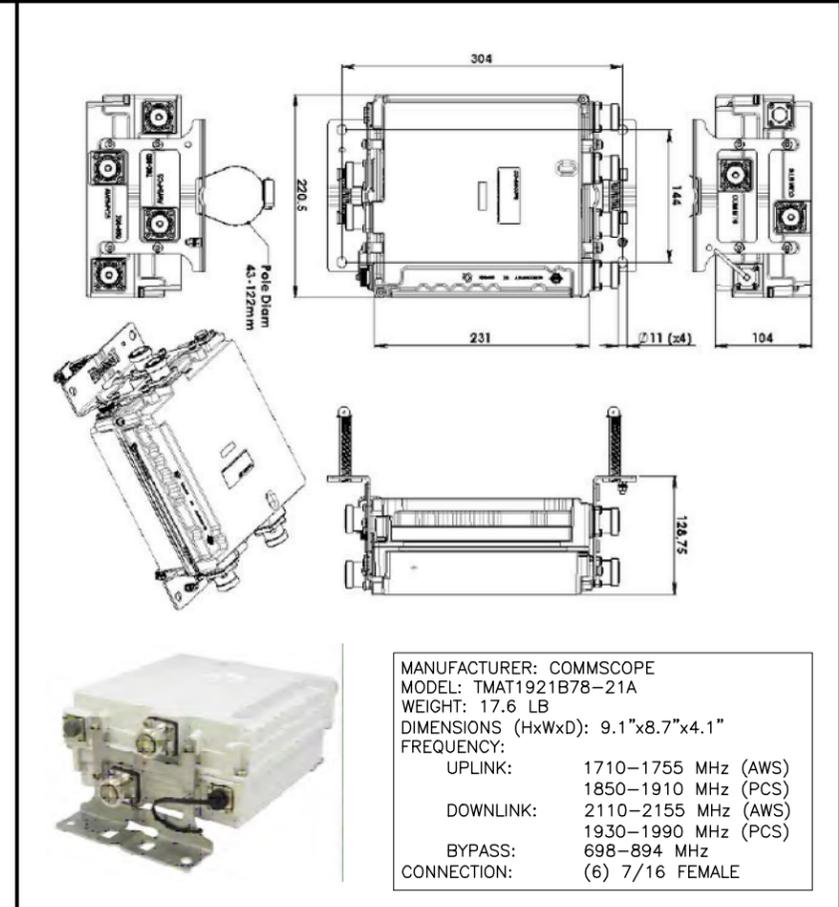
NOT USED

SCALE: NTS 6



NOT USED

SCALE: NTS 4



TMA DETAIL

SCALE: NTS 2



LICENSE #: C-3065

REVISIONS			
REV	DATE	DESCRIPTION	INT
1	04/28/16	REVISIONS	JMB
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SITE INFORMATION

T-MOBILE #: SL02043A

ATC #: 82705

**DOLLAR MOUNTAIN
 SUN VALLEY, ID
 83353**

SHEET TITLE:
**EQUIPMENT
 DETAILS**

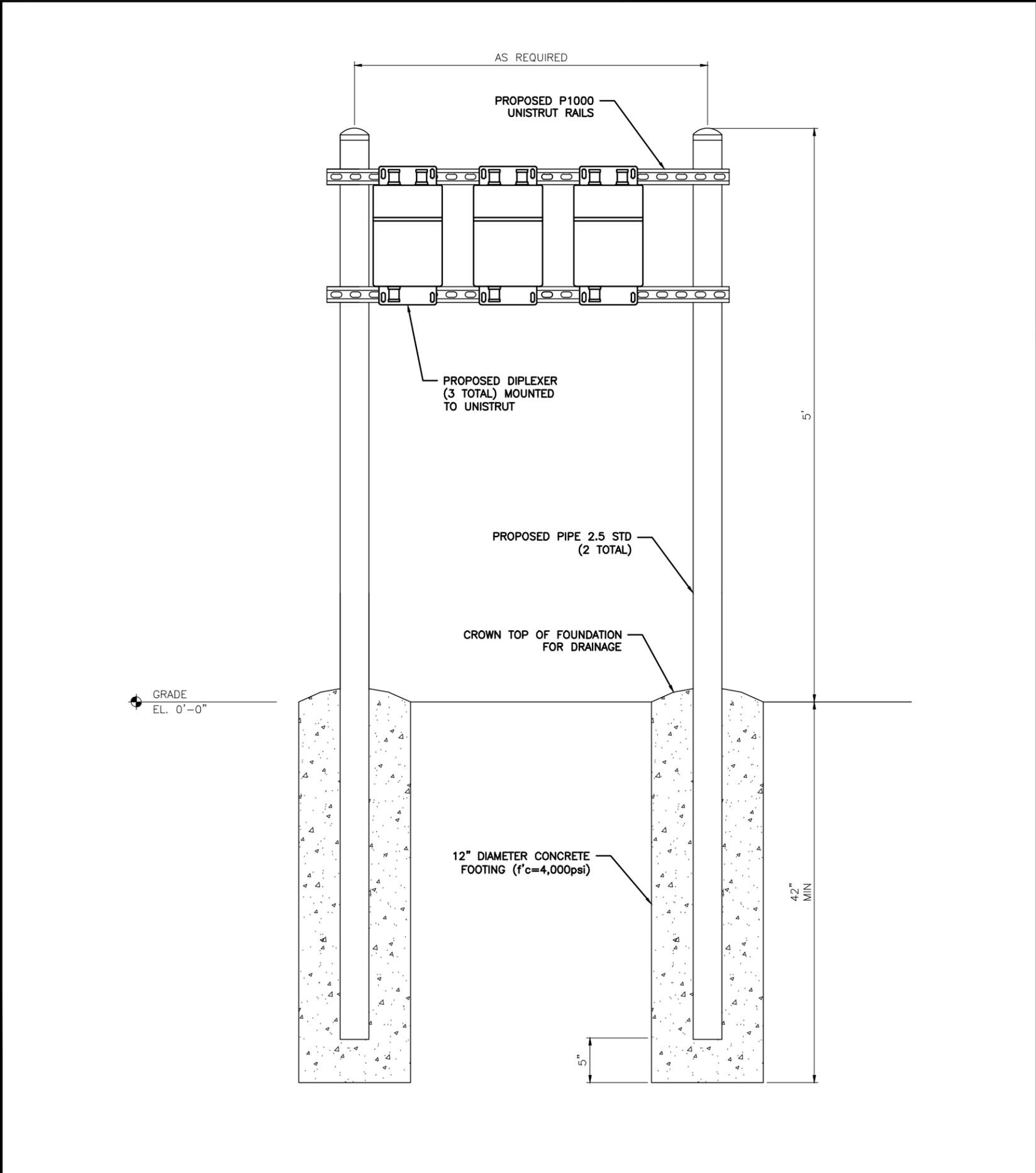
SHEET NUMBER:
C-4

NOT USED

SCALE:
NTS 2

NOT USED

SCALE:
NTS 3



DIPLEXER H-FRAME DETAIL

SCALE:
NTS 1



LICENSE #: C-3065

REVISIONS			
REV	DATE	DESCRIPTION	INT
1	04/28/16	REVISIONS	JMB
0	03/15/16	100% CONSTRUCTION	JMB
A	02/15/16	ISSUED FOR REVIEW 90%	CDE



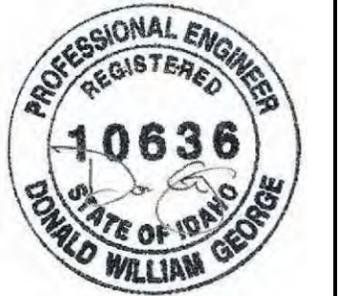
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SITE INFORMATION
T-MOBILE #: SL02043A
ATC #: 82705
DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

SHEET TITLE:
EQUIPMENT
DETAILS

SHEET NUMBER:
C-5

REVISIONS			
REV	DATE	DESCRIPTION	INT
1	04/28/16	REVISIONS	JMB
0	03/15/16	100% CONSTRUCTION	JMB
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SITE INFORMATION

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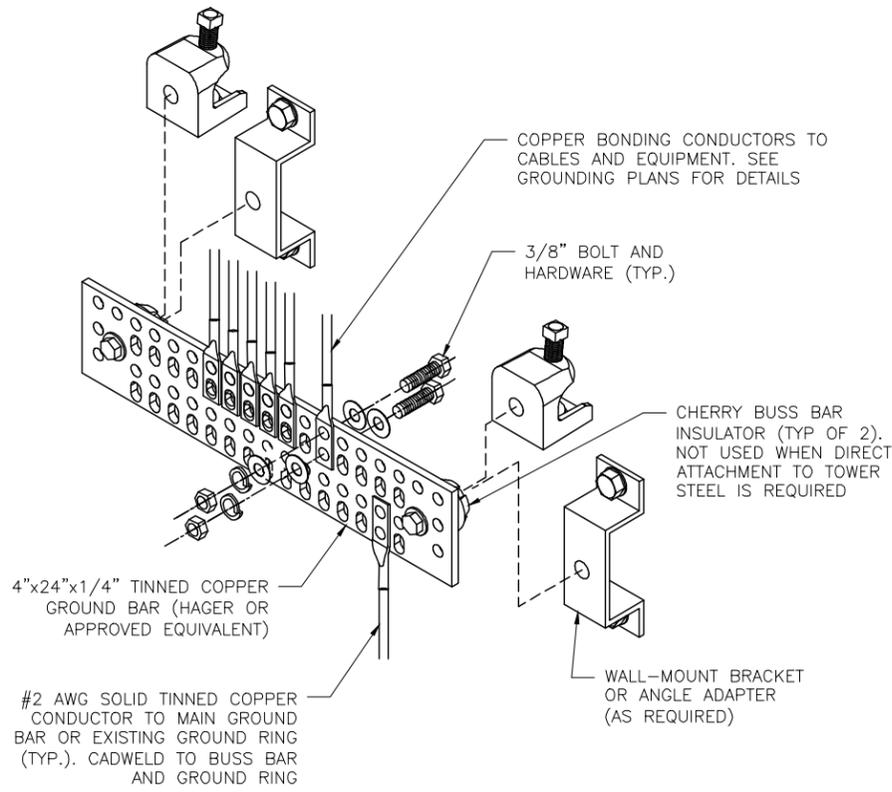
ATC #: 82705

DOLLAR MOUNTAIN
SUN VALLEY, ID
83353

SHEET TITLE:
ELECTRICAL
DETAILS

SHEET NUMBER:

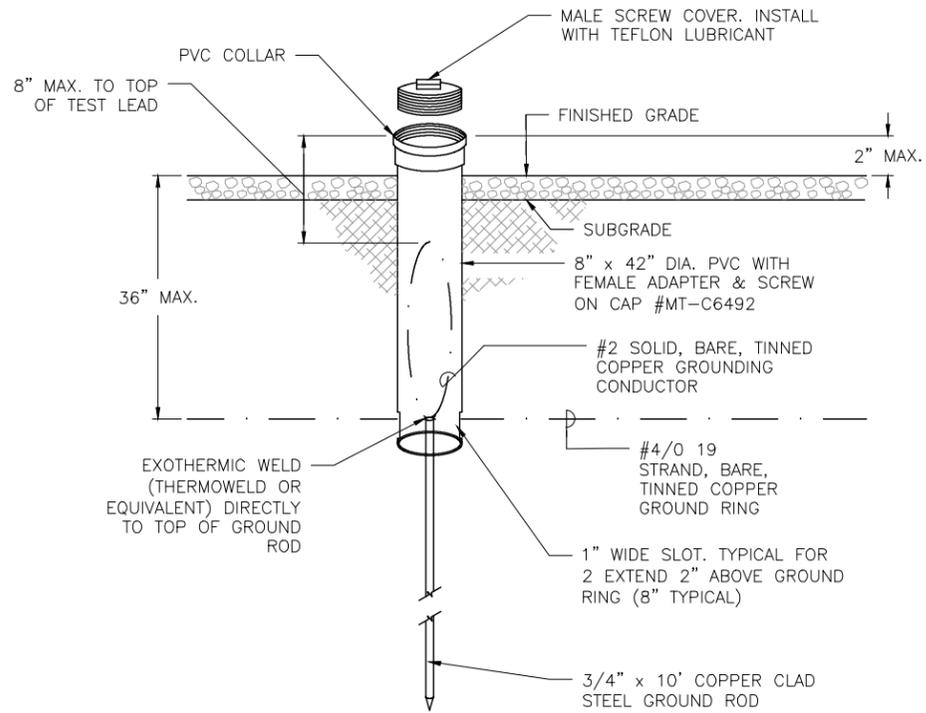
E-1



GROUND BAR DETAIL

SCALE:
NTS

3



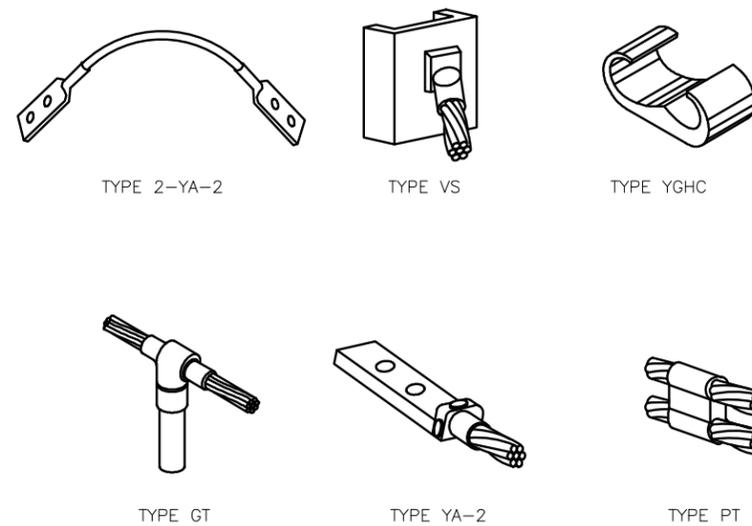
TEST WELL DETAIL

SCALE:
NTS

1

NOTES:

- CADWELD "TYPES" SHOWN ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC TYPES OF CADWELDS TO BE USED FOR THIS PROJECT.
- CADWELDING IS NOT ALLOWED ON CROWN CASTLE TOWERS.



NOT USED

SCALE:
NTS

4

CADWELD CONNECTION TYPES

SCALE:
NTS

2

REVISIONS			
REV	DATE	DESCRIPTION	INT
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SITE INFORMATION

T-MOBILE #: SL02043A

ATC #: 82705

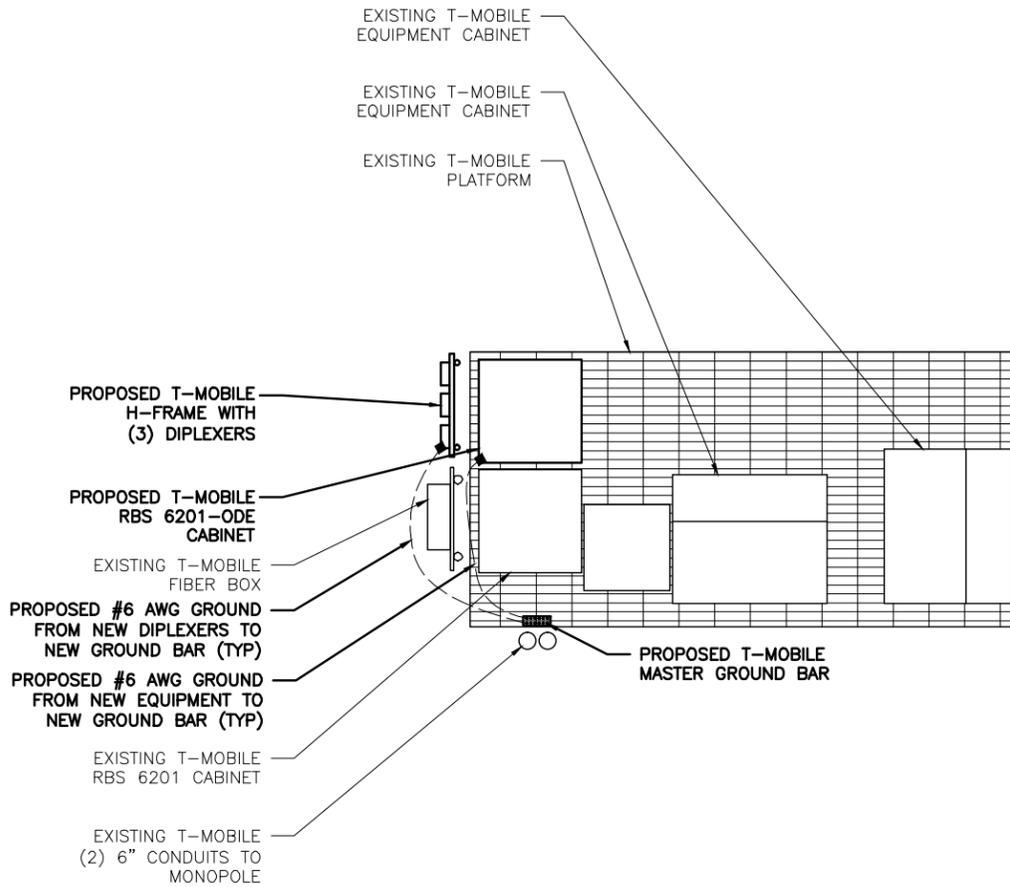
**DOLLAR MOUNTAIN
SUN VALLEY, ID
83353**

SHEET TITLE:

**GROUNDING
PLANS**

SHEET NUMBER:

E-2



GENERAL GROUNDING NOTES:

- GROUNDING SHALL COMPLY WITH NEC, T-MOBILE AND NSN STANDARDS. CONTRACTOR SHALL VERIFY EXISTING GROUNDING CONDITIONS. CORRECTING ANY DEFICIENCIES TO BE INCLUDED IN ORIGINAL PRICING AND CORRECT DEFICIENCIES DURING NEW CONSTRUCTION. INCLUDING MISSING GROUND BARS, BAD GROUND WELDS, MISSING GROUND LEADS OR BROKEN GROUND LEADS, ETC.
- ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/ GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TIN PLATED COPPER IN 3/4" PROTECTIVE PVC UNLESS OTHERWISE INDICATED.
- APPROVED ANTIOXIDANT COATINGS (NO-OX) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 12 INCHES.
- ALL TOWER TOP GROUND WIRES SHALL BE SUPPORTED EVERY TWO FEET.

LEGEND:

- EXISTING GROUND RING
- ▲ CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- ⊗ GROUND ROD
- TEST WELL





AMERICAN TOWER®
CORPORATION

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Structural Analysis Report

Structure : 30 ft Monopole
ATC Site Name : Sun Valley - Ketchum, ID
ATC Site Number : 82705
Engineering Number : 65136322
Proposed Carrier : T-Mobile
Carrier Site Name : Dollar_Mountain
Carrier Site Number : SL02043A
Site Location : Dollar Mountain
Sun Valley, ID 83353-7700
43.683028,-114.348444
County : Blaine
Date : February 8, 2016
Max Usage : 60%
Result : Pass

Prepared By:
Aaron Estabrooks
Infinigy





Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion.....	1
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Deflection, Twist, and Sway.....	3
Standard Conditions	4
Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 30 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	Pirol Drawing #122291-B, dated September 1, 1993
Foundation Drawing	Pirol Drawing #122291-B, dated September 21, 1993
Geotechnical Report	RZA Project #11-09092-00, dated September 1, 1993

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	90 mph (3-Second Gust, V_{ASD}) / 115 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC
Structure Class:	II
Exposure Category:	C
Topographic Category:	3
Crest Height:	690 ft
Spectral Response:	$S_s = 0.60$, $S_1 = 0.17$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
30.0	40.0	2	5' Omni	Platform w/ Handrails	(14) 1 5/8" Coax (1) 1 5/8" Hybriflex	Verizon
	38.0	1	RFS DB-B1-6C-12AB-0Z (32 lbs.)			
		3	Alcatel-Lucent B4 RRH2X60-4R			
		3	Antel HEX654CW0000x w/ RET			
36.0	3	Antel BXA-70063-4CF-EDIN-10				
25.0	25.0	3	60" x 10" Panel	Flush	(6) 7/8" Coax	Sprint Nextel
20.0	20.0	1	40.8" x 36" Yagi	Side Arm	(1) 7/8" Coax	Unknown
15.0	15.0	12	Alvarion BMAX-BST-AU-ODU-HP-2.5-A	Sector Frames	(13) 3/8" Coax	Digital Bridge Communications
		6	PCTel Z3247			
		1	Radio Waves HPD2-18			

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
30.0	17.0	3	Comsat PCSA090-19-2	-	(6) 7/8" Coax	T-Mobile

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
30.0	17.0	3	Commscope TMat1921B78-21A	Platform w/ Handrails	(6) 1 5/8" Coax	T-Mobile
		3	CellMax CMA-B/6521/E0-6			
		3	Andrew LNX-6515DS-A1M			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	28%	Pass
Shaft	41%	Pass
Base Plate	10%	Pass
Flanges	20%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	322.8	50%
Axial (Kips)	10.7	60%
Shear (Kips)	14.1	19%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
30.0	Commscope TMAT1921B78-21A	T-Mobile	0.031	0.085
	CellMax CMA-B/6521/E0-6			
	Andrew LNX-6515DS-A1M			
15.0	Radio Waves HPD2-18	Digital Bridge Communications	0.010	0.068

*Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

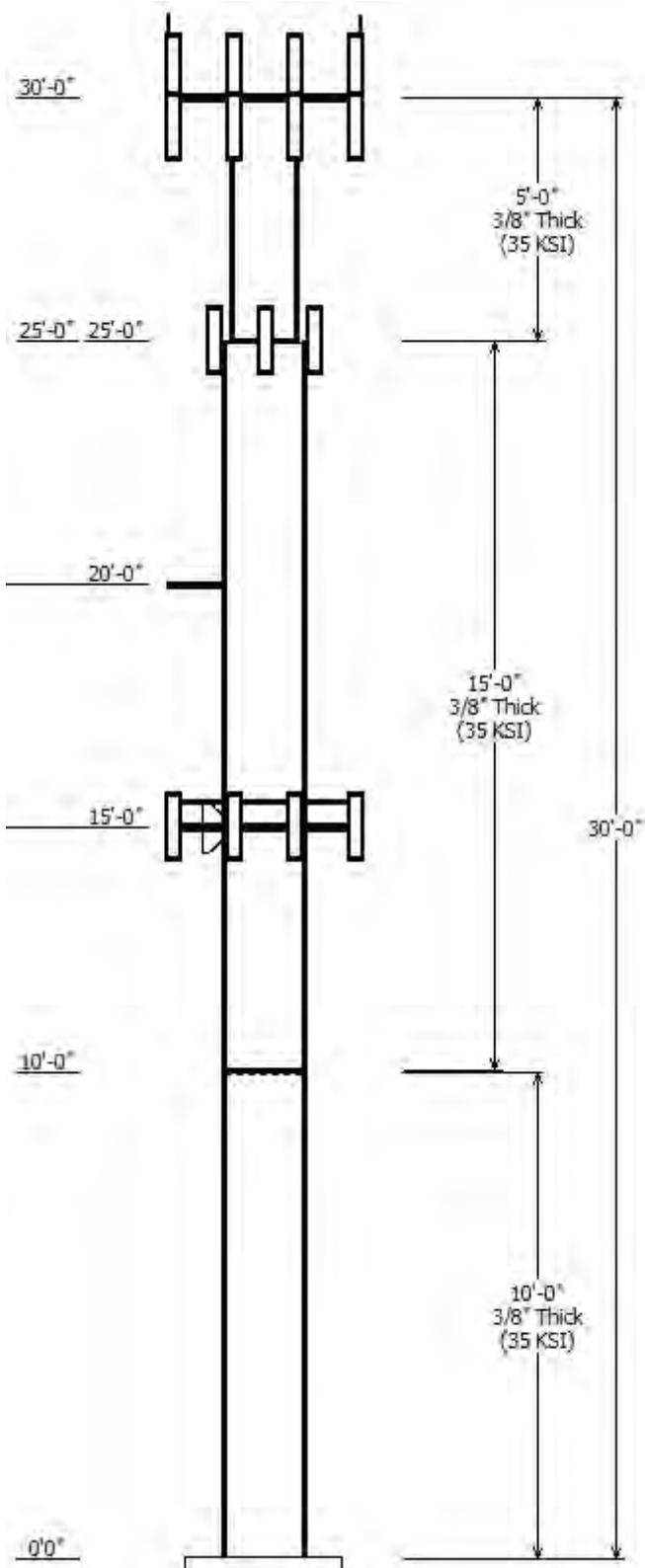
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Tower Services LLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

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Job Information	
Pole :	82705
Code:	ANSI/TIA-222-G
Description :	30' Pirod Monopole
Client :	T-MOBILE
Struct Class :	II
Location :	Sun Valley - Ketchum, ID
Shape :	Round
Exposure :	C
Height :	30.00 (ft)
Topo :	3
Base Elev (ft):	0.00
Taper:	0.00000(in/ft)

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap		Steel Grade (ksi)
		Top	Bottom			Length (in)	Taper (in/ft)	
1	10.000	30.00	30.00	0.375		0.000	0.000000	35
2	15.000	30.00	30.00	0.375	Butt Joint	0.000	0.000000	35
3	5.000	24.00	24.00	0.375	Butt Joint	0.000	0.000000	35

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
30.000	17.000	3	Andrew LNX-6515DS-A1M
30.000	17.000	3	CellMax CMA-B/6521/E0-6
30.000	17.000	3	Commscope TMAT1921B78-
30.000	36.000	3	Antel BXA-70063-4CF-EDIN-10
30.000	30.000	1	Round Platform w/ Handrails
30.000	38.000	3	Amphenol Antel
30.000	38.000	3	Alcatel-Lucent B4 RRH2X60-4R
30.000	38.000	1	RFS DB-B1-6C-12AB-0Z (32 lbs.)
30.000	40.000	2	5' Omni
25.000	25.000	3	60" x 10" Panel
20.000	20.000	1	Round Side Arm
20.000	20.000	1	40.8" x 36" Yagi
15.000	15.000	1	Round Side Arm
15.000	15.000	3	Flat Light Sector Frame
15.000	15.000	1	Radio Waves HPD2-18
15.000	15.000	6	PCTel Z3247
15.000	15.000	12	Alvarion BMAX-BST-AU-ODU-

Linear Appurtenance			
Elev (ft) From	To	Description	Exposed To Wind
10.000	25.000	Climbing Ladder	Yes
0.000	30.000	1 5/8" Coax	No
0.000	30.000	1 5/8" Coax	No
0.000	30.000	1 5/8" Coax	No
0.000	30.000	1 5/8" Coax	No
0.000	30.000	1 5/8" Hybriflex	No
0.000	15.000	3/8" Coax	No
0.000	20.000	7/8" Coax	No
0.000	25.000	7/8" Coax	No

Load Cases	
1.2D + 1.6W	90 mph with No Ice
0.9D + 1.6W	90 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.25 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal

1.0D + 1.0W

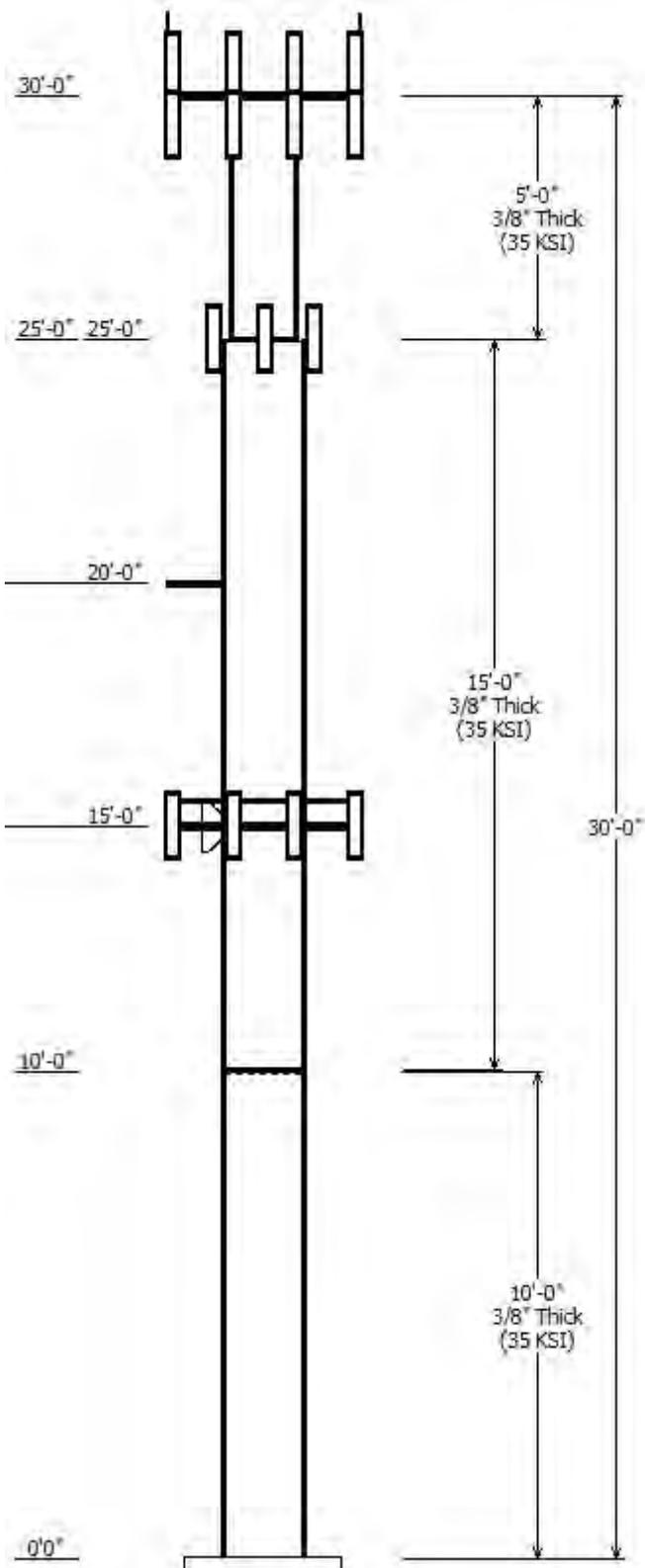
Serviceability 60 mph

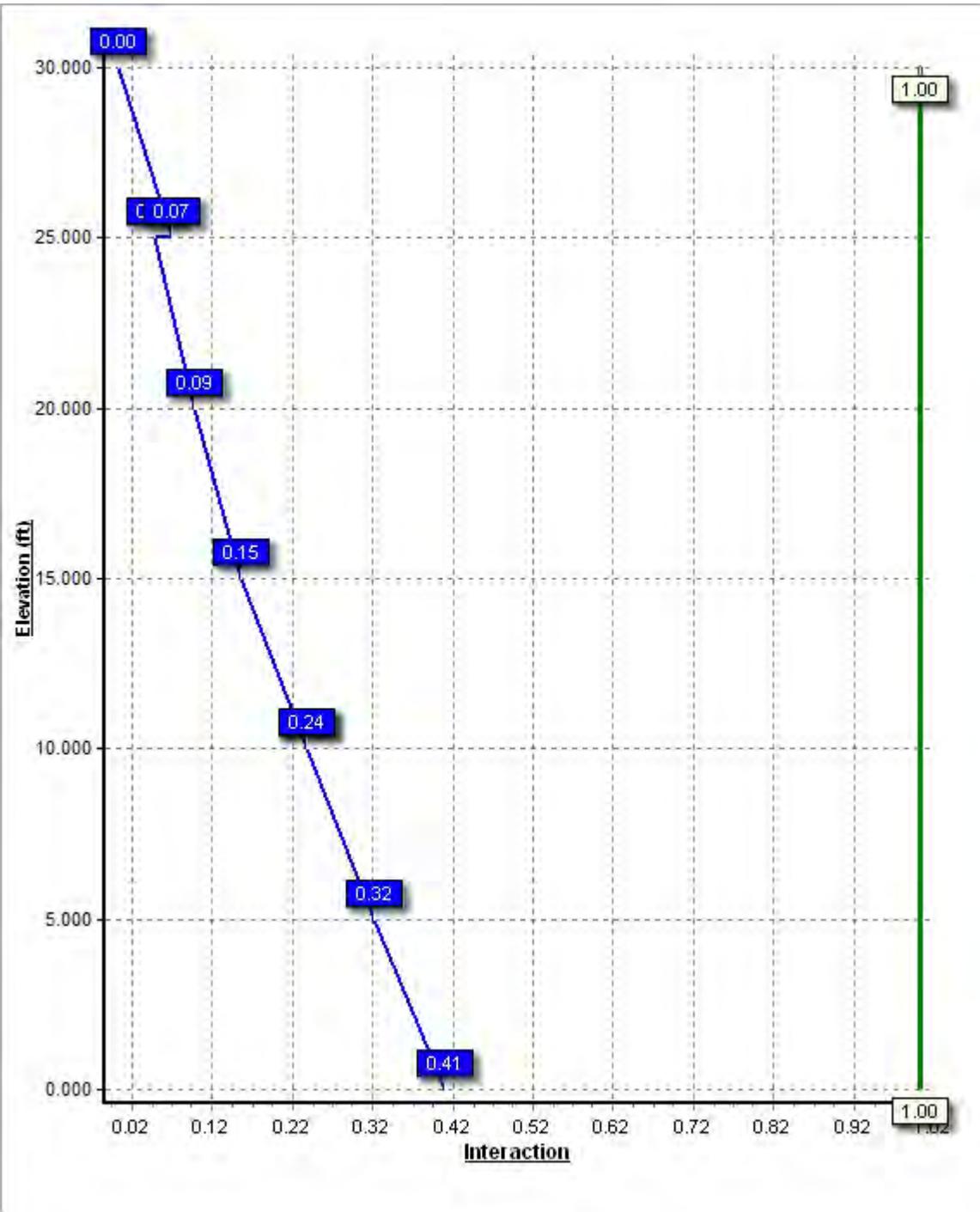
Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	322.78	14.06	10.66
0.9D + 1.6W	322.60	14.05	7.99
1.2D + 1.0Di + 1.0Wi	81.74	3.72	12.82
(1.2 + 0.2Sds) * DL + E ELFM	92.10	4.01	10.69
(1.2 + 0.2Sds) * DL + E EMAM	125.66	4.81	10.69
(0.9 - 0.2Sds) * DL + E ELFM	92.03	4.01	6.51
(0.9 - 0.2Sds) * DL + E EMAM	125.56	4.81	6.51
1.0D + 1.0W	89.63	3.90	8.89

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	15.00	0.124	0.068





Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Analysis Parameters

Location:	Blaine County, ID		
Code:	ANSI/TIA-222-G	Height (ft):	30
Shape:	Round	Base Diameter (in):	30.00
Pole Type:	Stepped	Top Diameter (in):	24.00
Pole Manufacturer:	Pirod	Taper (in/ft) :	0.000

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	90 mph
Exposure Category:	C	Design Wind Speed With Ice:	50 mph
Topographic Category:	3	Operational Wind Speed:	60 mph
Crest Height:	690.4 ft	Design Ice Thickness:	0.25 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	0.25		
T _L (sec):	6	p:	1.3
S _s :	0.595	S ₁ :	0.172
F _a :	1.324	F _v :	2.112
S _{ds} :	0.525	S _{d1} :	0.242
		C _s :	0.350
		C _s Max:	0.657
		C _s Min:	0.030

Load Cases

1.2D + 1.6W	90 mph with No Ice
0.9D + 1.6W	90 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.25 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-R	10.000	0.3750	35		0.00	1,188	30.00	0.00	34.90	3831.8	0.00	80.00	30.00	10.00	34.90	3831.8	0.00	80.00	0.000000
2-R	15.000	0.3750	35	Butt	0.00	1,781	30.00	10.00	34.90	3831.8	0.00	80.00	30.00	25.00	34.90	3831.8	0.00	80.00	0.000000
3-R	5.000	0.3750	35	Butt	0.00	474	24.00	25.00	27.83	1943.3	0.00	64.00	24.00	30.00	27.83	1943.3	0.00	64.00	0.000000
Shaft Weight						3,443													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor		
30.00	5' Omni	2	10.00	1.000	1.00	29.19	1.759	1.00	0.000	10.000
30.00	Alcatel-Lucent B4 RRH2X60-	3	55.00	3.350	0.67	94.19	3.817	0.67	0.000	8.000
30.00	Amphenol Antel	3	29.80	5.440	0.83	126.45	6.179	0.83	0.000	8.000
30.00	Andrew LNX-6515DS-A1M	3	49.80	11.450	0.84	136.72	12.053	0.84	0.000	-13.000
30.00	Antel BXA-70063-4CF-EDIN-10	3	9.90	4.710	0.77	48.60	5.047	0.77	0.000	6.000
30.00	CellMax CMA-B/6521/E0-6	3	31.00	6.570	0.86	80.31	7.061	0.86	0.000	-13.000
30.00	Commscope TMTAT1921B78-	3	17.60	0.770	0.50	25.28	0.782	0.50	0.000	-13.000
30.00	RFS DB-B1-6C-12AB-0Z (32	1	32.00	2.510	0.67	62.33	2.740	0.67	0.000	8.000
30.00	Round Platform w/ Handrails	1	2000.00	27.200	1.00	2,482.77	36.307	1.00	0.000	0.000
25.00	60" x 10" Panel	3	30.00	5.650	0.79	73.32	6.027	0.79	0.000	0.000
20.00	40.8" x 36" Yagi	1	11.00	4.910	1.00	38.73	7.220	1.00	0.000	0.000
20.00	Round Side Arm	1	150.00	5.200	1.00	176.22	6.174	1.00	0.000	0.000
15.00	Alvarion BMAX-BST-AU-ODU-	12	18.90	0.880	0.50	29.61	1.020	0.50	0.000	0.000
15.00	Flat Light Sector Frame	3	400.00	17.900	0.75	504.68	23.148	0.75	0.000	0.000
15.00	PCTel Z3247	6	6.00	1.470	0.90	18.47	1.683	0.90	0.000	0.000
15.00	Radio Waves HPD2-18	1	90.00	3.960	1.00	186.37	4.368	1.00	0.000	0.000
15.00	Round Side Arm	1	150.00	5.200	1.00	175.44	6.145	1.00	0.000	0.000
Totals		50	4585.10			6,914.97			Number of Loadings : 17	

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	30.00	2	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	30.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	30.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	Verizon
0.00	30.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	30.00	1	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	Verizon
0.00	25.00	6	7/8" Coax	1.09	0.33	N	0.00	N	Sprint Nextel
10.00	25.00	3	Climbing Ladder	2.88	5.80	N	2.88	Y	Tower
0.00	20.00	1	7/8" Coax	1.09	0.33	N	0.00	N	Unknown
0.00	15.00	13	3/8" Coax	0.44	0.08	N	0.00	N	Digital Bridge Communications

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Segment Properties (Max Len : 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.3750	30.000	34.901	3,831.8	0.00	80.00	35.0	255.5	329.1	0.0
5.00		0.3750	30.000	34.901	3,831.8	0.00	80.00	35.0	255.5	329.1	593.8
10.00	Top - Section 1	0.3750	30.000	34.901	3,831.8	0.00	80.00	35.0	255.5	329.1	593.8
10.00	Bot - Section 2	0.3750	30.000	34.901	3,831.8	0.00	80.00	35.0	255.5	329.1	593.8
15.00		0.3750	30.000	34.901	3,831.8	0.00	80.00	35.0	255.5	329.1	593.8
20.00		0.3750	30.000	34.901	3,831.8	0.00	80.00	35.0	255.5	329.1	593.8
25.00	Top - Section 2	0.3750	30.000	34.901	3,831.8	0.00	80.00	35.0	255.5	329.1	593.8
25.00	Bot - Section 3	0.3750	24.000	27.833	1,943.3	0.00	64.00	35.0	161.9	209.3	473.5
30.00		0.3750	24.000	27.833	1,943.3	0.00	64.00	35.0	161.9	209.3	473.5
											3,442.6

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case: 1.2D + 1.6W

90 mph with No Ice

9 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		257.4	0.0					0.0	0.0	257.4	0.0	0.0	0.0
5.00		512.3	712.6					0.0	126.3	512.3	838.9	0.0	0.0
10.00	Top - Section 1	507.2	712.6					0.0	126.3	507.2	838.9	0.0	0.0
15.00	Appertunance(s)	510.2	712.6	3,344.5	0.0	0.0	2,043.4	0.0	230.7	3,854.7	2,986.6	0.0	0.0
20.00	Appertunance(s)	527.0	712.6	711.4	0.0	0.0	193.2	0.0	224.4	1,238.5	1,130.2	0.0	0.0
25.00	Top - Section 2	491.7	712.6	733.6	0.0	0.0	108.0	0.0	222.5	1,225.4	1,043.0	0.0	0.0
30.00	Appertunance(s)	222.5	568.2	6,484.4	0.0	-16,101.6	3,157.6	0.0	106.2	6,706.9	3,832.0	0.0	0.0
Totals:										14,302.3	10,669.5	0.00	0.00

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case: 1.2D + 1.6W

90 mph with No Ice

9 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-10.66	-14.06	0.00	-322.78	0.00	322.78	1,099.39	549.69	1,339.29	814.32	0.00	0.00	0.407
5.00	-9.80	-13.56	0.00	-252.50	0.00	252.50	1,099.39	549.69	1,339.29	814.32	0.06	-0.11	0.320
10.00	-8.94	-13.06	0.00	-184.71	0.00	184.71	1,099.39	549.69	1,339.29	814.32	0.22	-0.19	0.236
10.00	-8.94	-13.06	0.00	-184.71	0.00	184.71	1,099.39	549.69	1,339.29	814.32	0.22	-0.19	0.236
15.00	-5.96	-9.20	0.00	-119.41	0.00	119.41	1,099.39	549.69	1,339.29	814.32	0.45	-0.24	0.152
20.00	-4.83	-7.96	0.00	-73.42	0.00	73.42	1,099.39	549.69	1,339.29	814.32	0.73	-0.28	0.095
25.00	-3.80	-6.73	0.00	-33.64	0.00	33.64	1,099.39	549.69	1,339.29	814.32	1.03	-0.30	0.045
25.00	-3.80	-6.73	0.00	-33.64	0.00	33.64	876.73	438.36	849.03	539.02	1.03	-0.30	0.067
30.00	0.00	-6.71	0.00	0.00	0.00	0.00	876.73	438.36	849.03	539.02	1.35	-0.31	0.000

Site Number: 82705

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case: 0.9D + 1.6W

90 mph with No Ice (Reduced DL)

9 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		257.4	0.0					0.0	0.0	257.4	0.0	0.0	0.0
5.00		512.3	534.4					0.0	94.7	512.3	629.1	0.0	0.0
10.00	Top - Section 1	507.2	534.4					0.0	94.7	507.2	629.1	0.0	0.0
15.00	Appertunance(s)	510.2	534.4	3,344.5	0.0	0.0	1,532.5	0.0	173.0	3,854.7	2,240.0	0.0	0.0
20.00	Appertunance(s)	527.0	534.4	711.4	0.0	0.0	144.9	0.0	168.3	1,238.5	847.7	0.0	0.0
25.00	Top - Section 2	491.7	534.4	733.6	0.0	0.0	81.0	0.0	166.9	1,225.4	782.3	0.0	0.0
30.00	Appertunance(s)	222.5	426.2	6,484.4	0.0	-16,101.6	2,368.2	0.0	79.6	6,706.9	2,874.0	0.0	0.0
Totals:										14,302.3	8,002.17	0.00	0.00

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case: 0.9D + 1.6W

90 mph with No Ice (Reduced DL)

9 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 0.90

Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-7.99	-14.05	0.00	-322.60	0.00	322.60	1,099.39	549.69	1,339.29	814.32	0.00	0.00	0.404
5.00	-7.34	-13.55	0.00	-252.33	0.00	252.33	1,099.39	549.69	1,339.29	814.32	0.06	-0.11	0.317
10.00	-6.69	-13.05	0.00	-184.58	0.00	184.58	1,099.39	549.69	1,339.29	814.32	0.22	-0.19	0.233
10.00	-6.69	-13.05	0.00	-184.58	0.00	184.58	1,099.39	549.69	1,339.29	814.32	0.22	-0.19	0.233
15.00	-4.46	-9.19	0.00	-119.32	0.00	119.32	1,099.39	549.69	1,339.29	814.32	0.45	-0.24	0.151
20.00	-3.62	-7.95	0.00	-73.36	0.00	73.36	1,099.39	549.69	1,339.29	814.32	0.72	-0.28	0.094
25.00	-2.84	-6.72	0.00	-33.61	0.00	33.61	1,099.39	549.69	1,339.29	814.32	1.03	-0.30	0.044
25.00	-2.84	-6.72	0.00	-33.61	0.00	33.61	876.73	438.36	849.03	539.02	1.03	-0.30	0.066
30.00	0.00	-6.71	0.00	0.00	0.00	0.00	876.73	438.36	849.03	539.02	1.35	-0.31	0.000

Site Number: 82705

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph with 0.25 in Radial Ice	9 Iterations
Gust Response Factor : 1.10	Ice Dead Load Factor : 1.00	Wind Importance Factor : 1.00
Dead Load Factor : 1.20		Ice Importance Factor : 1.00
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		102.7	0.0					0.0	0.0	102.7	0.0	0.0	0.0
5.00		204.9	809.3					0.0	126.3	204.9	935.6	0.0	0.0
10.00	Top - Section 1	203.4	820.4					0.0	126.3	203.4	946.7	0.0	0.0
15.00	Appertunance(s)	204.9	825.8	797.6	0.0	0.0	2,366.7	0.0	263.7	1,002.5	3,456.1	0.0	0.0
20.00	Appertunance(s)	211.9	829.3	181.8	0.0	0.0	172.9	0.0	258.2	393.7	1,260.4	0.0	0.0
25.00	Top - Section 2	198.8	831.9	151.0	0.0	0.0	238.0	0.0	256.8	349.7	1,326.7	0.0	0.0
30.00	Appertunance(s)	90.5	665.9	1,469.6	0.0	-2,978.3	4,119.2	0.0	106.2	1,560.1	4,891.3	0.0	0.0
Totals:										3,817.12	12,816.6	0.00	0.00

Site Number: 82705

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

50 mph with 0.25 in Radial Ice

9 Iterations

Gust Response Factor : 1.10

Ice Dead Load Factor : 1.00

Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Ice Importance Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-12.82	-3.72	0.00	-81.74	0.00	81.74	1,099.39	549.69	1,339.29	814.32	0.00	0.00	0.112
5.00	-11.88	-3.52	0.00	-63.15	0.00	63.15	1,099.39	549.69	1,339.29	814.32	0.02	-0.03	0.088
10.00	-10.93	-3.32	0.00	-45.56	0.00	45.56	1,099.39	549.69	1,339.29	814.32	0.05	-0.05	0.066
10.00	-10.93	-3.32	0.00	-45.56	0.00	45.56	1,099.39	549.69	1,339.29	814.32	0.05	-0.05	0.066
15.00	-7.48	-2.31	0.00	-28.98	0.00	28.98	1,099.39	549.69	1,339.29	814.32	0.11	-0.06	0.042
20.00	-6.22	-1.92	0.00	-17.42	0.00	17.42	1,099.39	549.69	1,339.29	814.32	0.18	-0.07	0.027
25.00	-4.89	-1.57	0.00	-7.83	0.00	7.83	1,099.39	549.69	1,339.29	814.32	0.26	-0.07	0.014
25.00	-4.89	-1.57	0.00	-7.83	0.00	7.83	876.73	438.36	849.03	539.02	0.26	-0.07	0.020
30.00	0.00	-1.56	0.00	0.00	0.00	0.00	876.73	438.36	849.03	539.02	0.34	-0.08	0.000

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

9 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		71.5	0.0					0.0	0.0	71.5	0.0	0.0	0.0
5.00		142.3	593.8					0.0	105.2	142.3	699.0	0.0	0.0
10.00	Top - Section 1	140.9	593.8					0.0	105.2	140.9	699.0	0.0	0.0
15.00	Appertunance(s)	141.7	593.8	929.0	0.0	0.0	1,702.8	0.0	192.2	1,070.7	2,488.8	0.0	0.0
20.00	Appertunance(s)	146.4	593.8	197.6	0.0	0.0	161.0	0.0	187.0	344.0	941.8	0.0	0.0
25.00	Top - Section 2	136.6	593.8	203.8	0.0	0.0	90.0	0.0	185.4	340.4	869.2	0.0	0.0
30.00	Appertunance(s)	61.8	473.5	1,801.2	0.0	-4,472.7	2,631.3	0.0	88.5	1,863.0	3,193.3	0.0	0.0
Totals:										3,972.86	8,891.30	0.00	0.00

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

2/8/2016 12:43:08 PM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

9 Iterations

Gust Response Factor : 1.10

Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-8.89	-3.90	0.00	-89.63	0.00	89.63	1,099.39	549.69	1,339.29	814.32	0.00	0.00	0.118
5.00	-8.19	-3.77	0.00	-70.11	0.00	70.11	1,099.39	549.69	1,339.29	814.32	0.02	-0.03	0.094
10.00	-7.49	-3.63	0.00	-51.28	0.00	51.28	1,099.39	549.69	1,339.29	814.32	0.06	-0.05	0.070
10.00	-7.49	-3.63	0.00	-51.28	0.00	51.28	1,099.39	549.69	1,339.29	814.32	0.06	-0.05	0.070
15.00	-5.00	-2.55	0.00	-33.15	0.00	33.15	1,099.39	549.69	1,339.29	814.32	0.12	-0.07	0.045
20.00	-4.06	-2.21	0.00	-20.38	0.00	20.38	1,099.39	549.69	1,339.29	814.32	0.20	-0.08	0.029
25.00	-3.19	-1.87	0.00	-9.34	0.00	9.34	1,099.39	549.69	1,339.29	814.32	0.29	-0.08	0.014
25.00	-3.19	-1.87	0.00	-9.34	0.00	9.34	876.73	438.36	849.03	539.02	0.29	-0.08	0.021
30.00	0.00	-1.86	0.00	0.00	0.00	0.00	876.73	438.36	849.03	539.02	0.38	-0.09	0.000

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Equivalent Lateral Forces Method Analysis

(Based on ASCE7-10 Chapters 11, 12, 15)

Spectral Response Acceleration for Short Period (S_s):	0.60
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.17
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.32
Site Coefficient F_v :	2.11
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.53
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.24
Seismic Response Coefficient (C_s):	0.35
Upper Limit C_s	0.66
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	0.25
Redundancy Factor (ρ):	1.30
Seismic Force Distribution Exponent (k):	1.00
Total Unfactored Dead Load:	8.89 k
Seismic Base Shear (E):	4.05 k

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
6	27.50	562	15	0.089	361	733
5	22.50	779	18	0.101	409	1,017
4	17.50	781	14	0.079	319	1,019
3	12.50	786	10	0.057	229	1,026
2	7.50	699	5	0.030	122	912
1	2.50	699	2	0.010	41	912
Commscope TMA1921B7	30.00	53	2	0.009	37	69
5' Omni	30.00	20	1	0.003	14	26
RFS DB-B1-6C-12AB-0Z	30.00	32	1	0.006	22	42
Alcatel-Lucent B4 RR	30.00	165	5	0.029	116	215
Antel BXA-70063-4CF-	30.00	30	1	0.005	21	39
Amphenol Antel HEX65	30.00	89	3	0.015	63	117
CellMax CMA-B/6521/E	30.00	93	3	0.016	65	121
Andrew LNX-6515DS-A1	30.00	149	4	0.026	105	195
Round Platform w/ Ha	30.00	2,000	60	0.346	1,400	2,610
60" x 10" Panel	25.00	90	2	0.013	53	117
40.8" x 36" Yagi	20.00	11	0	0.001	5	14
Round Side Arm	20.00	150	3	0.017	70	196
Alvarion BMAX-BST-AU	15.00	227	3	0.020	79	296
PCTel Z3247	15.00	36	1	0.003	13	47
Radio Waves HPD2-18	15.00	90	1	0.008	32	117
Round Side Arm	15.00	150	2	0.013	53	196
Flat Light Sector Fr	15.00	1,200	18	0.104	420	1,566

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

8,891 173 1.000 4,047 11,603

Load Case (0.9 - 0.2Sds) * DL + E ELFM

Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
6	27.50	562	15	0.089	361	447
5	22.50	779	18	0.101	409	619
4	17.50	781	14	0.079	319	621
3	12.50	786	10	0.057	229	625
2	7.50	699	5	0.030	122	556
1	2.50	699	2	0.010	41	556
Commscope TMAT1921B7	30.00	53	2	0.009	37	42
5' Omni	30.00	20	1	0.003	14	16
RFS DB-B1-6C-12AB-0Z	30.00	32	1	0.006	22	25
Alcatel-Lucent B4 RR	30.00	165	5	0.029	116	131
Antel BXA-70063-4CF-	30.00	30	1	0.005	21	24
Amphenol Antel HEX65	30.00	89	3	0.015	63	71
CellMax CMA-B/6521/E	30.00	93	3	0.016	65	74
Andrew LNX-6515DS-A1	30.00	149	4	0.026	105	119
Round Platform w/ Ha	30.00	2,000	60	0.346	1,400	1,590
60" x 10" Panel	25.00	90	2	0.013	53	72
40.8" x 36" Yagi	20.00	11	0	0.001	5	9
Round Side Arm	20.00	150	3	0.017	70	119
Alvarion BMAX-BST-AU	15.00	227	3	0.020	79	180
PCTel Z3247	15.00	36	1	0.003	13	29
Radio Waves HPD2-18	15.00	90	1	0.008	32	72
Round Side Arm	15.00	150	2	0.013	53	119
Flat Light Sector Fr	15.00	1,200	18	0.104	420	954
		8,891	173	1.000	4,047	7,068

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case (1.2 + 0.2Sds) * DL + E ELFM

Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-10.69	-4.01	0.00	-92.10	0.00	92.10	1,099.39	549.69	1,339.29	814.32	0.00	0.00	0.123
5.00	-9.78	-3.89	0.00	-72.05	0.00	72.05	1,099.39	549.69	1,339.29	814.32	0.02	-0.03	0.097
10.00	-8.75	-3.66	0.00	-52.60	0.00	52.60	1,099.39	549.69	1,339.29	814.32	0.06	-0.05	0.073
10.00	-8.75	-3.66	0.00	-52.60	0.00	52.60	1,099.39	549.69	1,339.29	814.32	0.06	-0.05	0.073
15.00	-5.51	-2.75	0.00	-34.28	0.00	34.28	1,099.39	549.69	1,339.29	814.32	0.13	-0.07	0.047
20.00	-4.28	-2.26	0.00	-20.54	0.00	20.54	1,099.39	549.69	1,339.29	814.32	0.21	-0.08	0.029
25.00	-3.43	-1.85	0.00	-9.24	0.00	9.24	1,099.39	549.69	1,339.29	814.32	0.29	-0.09	0.014
25.00	-3.43	-1.85	0.00	-9.24	0.00	9.24	876.73	438.36	849.03	539.02	0.29	-0.09	0.021
30.00	0.00	-1.84	0.00	0.00	0.00	0.00	876.73	438.36	849.03	539.02	0.39	-0.09	0.000

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case (0.9 - 0.2Sds) * DL + E ELFM

Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-6.51	-4.01	0.00	-92.03	0.00	92.03	1,099.39	549.69	1,339.29	814.32	0.00	0.00	0.119
5.00	-5.95	-3.89	0.00	-71.99	0.00	71.99	1,099.39	549.69	1,339.29	814.32	0.02	-0.03	0.094
10.00	-5.33	-3.66	0.00	-52.54	0.00	52.54	1,099.39	549.69	1,339.29	814.32	0.06	-0.05	0.069
10.00	-5.33	-3.66	0.00	-52.54	0.00	52.54	1,099.39	549.69	1,339.29	814.32	0.06	-0.05	0.069
15.00	-3.35	-2.74	0.00	-34.24	0.00	34.24	1,099.39	549.69	1,339.29	814.32	0.13	-0.07	0.045
20.00	-2.61	-2.26	0.00	-20.52	0.00	20.52	1,099.39	549.69	1,339.29	814.32	0.21	-0.08	0.028
25.00	-2.09	-1.85	0.00	-9.23	0.00	9.23	1,099.39	549.69	1,339.29	814.32	0.29	-0.09	0.013
25.00	-2.09	-1.85	0.00	-9.23	0.00	9.23	876.73	438.36	849.03	539.02	0.29	-0.09	0.020
30.00	0.00	-1.84	0.00	0.00	0.00	0.00	876.73	438.36	849.03	539.02	0.38	-0.09	0.000

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Equivalent Modal Forces Analysis

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.60
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.17
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.32
Site Coefficient F_v :	2.11
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.53
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.24
Period Based on Rayleigh Method (sec):	0.25
Redundancy Factor (ρ):	1.30

Load Case (1.2 + 0.2Sds) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
6	27.50	562	1.588	0.742	0.654	0.952	464	733
5	22.50	779	1.063	-0.088	0.165	0.474	320	1,017
4	17.50	781	0.643	-0.068	0.020	0.299	202	1,019
3	12.50	786	0.328	0.039	0.010	0.192	131	1,026
2	7.50	699	0.118	0.070	0.035	0.097	59	912
1	2.50	699	0.013	0.059	0.034	0.037	22	912
Commscope	30.00	53	1.890	1.980	1.140	1.389	64	69
5' Omni	30.00	20	1.890	1.980	1.140	1.389	24	26
RFS DB-B1-6C-12AB-0Z	30.00	32	1.890	1.980	1.140	1.389	39	42
Alcatel-Lucent B4 RR	30.00	165	1.890	1.980	1.140	1.389	199	215
Antel BXA-70063-4CF-	30.00	30	1.890	1.980	1.140	1.389	36	39
Amphenol Antel HEX65	30.00	89	1.890	1.980	1.140	1.389	108	117
CellMax CMA-B/6521/E	30.00	93	1.890	1.980	1.140	1.389	112	121
Andrew LNX-6515DS-A1	30.00	149	1.890	1.980	1.140	1.389	180	195
Round Platform w/ Ha	30.00	2,000	1.890	1.980	1.140	1.389	2,408	2,610
60" x 10" Panel	25.00	90	1.312	0.138	0.347	0.656	51	117
40.8" x 36" Yagi	20.00	11	0.840	-0.118	0.066	0.367	4	14
Round Side Arm	20.00	150	0.840	-0.118	0.066	0.367	48	196
Alvarion BMAX-BST-AU	15.00	227	0.472	-0.006	0.006	0.244	48	296
PCTel Z3247	15.00	36	0.472	-0.006	0.006	0.244	8	47
Radio Waves HPD2-18	15.00	90	0.472	-0.006	0.006	0.244	19	117
Round Side Arm	15.00	150	0.472	-0.006	0.006	0.244	32	196
Flat Light Sector Fr	15.00	1,200	0.472	-0.006	0.006	0.244	254	1,566
		8,891	26.119	18.444	11.689	17.166	4,829	11,603

Load Case (0.9 - 0.2Sds) * DL + E EMAM

Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
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Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

6	27.50	562	1.588	0.742	0.654	0.952	464	447
5	22.50	779	1.063	-0.088	0.165	0.474	320	619
4	17.50	781	0.643	-0.068	0.020	0.299	202	621
3	12.50	786	0.328	0.039	0.010	0.192	131	625
2	7.50	699	0.118	0.070	0.035	0.097	59	556
1	2.50	699	0.013	0.059	0.034	0.037	22	556
Commscope	30.00	53	1.890	1.980	1.140	1.389	64	42
5' Omni	30.00	20	1.890	1.980	1.140	1.389	24	16
RFS DB-B1-6C-12AB-0Z	30.00	32	1.890	1.980	1.140	1.389	39	25
Alcatel-Lucent B4 RR	30.00	165	1.890	1.980	1.140	1.389	199	131
Antel BXA-70063-4CF-	30.00	30	1.890	1.980	1.140	1.389	36	24
Amphenol Antel HEX65	30.00	89	1.890	1.980	1.140	1.389	108	71
CellMax CMA-B/6521/E	30.00	93	1.890	1.980	1.140	1.389	112	74
Andrew LNX-6515DS-A1	30.00	149	1.890	1.980	1.140	1.389	180	119
Round Platform w/ Ha	30.00	2,000	1.890	1.980	1.140	1.389	2,408	1,590
60" x 10" Panel	25.00	90	1.312	0.138	0.347	0.656	51	72
40.8" x 36" Yagi	20.00	11	0.840	-0.118	0.066	0.367	4	9
Round Side Arm	20.00	150	0.840	-0.118	0.066	0.367	48	119
Alvarion BMAX-BST-AU	15.00	227	0.472	-0.006	0.006	0.244	48	180
PCTel Z3247	15.00	36	0.472	-0.006	0.006	0.244	8	29
Radio Waves HPD2-18	15.00	90	0.472	-0.006	0.006	0.244	19	72
Round Side Arm	15.00	150	0.472	-0.006	0.006	0.244	32	119
Flat Light Sector Fr	15.00	1,200	0.472	-0.006	0.006	0.244	254	954
		8,891	26.119	18.444	11.689	17.166	4,829	7,068

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Load Case (1.2 + 0.2Sds) * DL + E EMAM

Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-10.69	-4.81	0.00	-125.66	0.00	125.66	1,099.39	549.69	1,339.29	814.32	0.00	0.00	0.164
5.00	-9.77	-4.76	0.00	-101.61	0.00	101.61	1,099.39	549.69	1,339.29	814.32	0.02	-0.04	0.134
10.00	-8.75	-4.63	0.00	-77.82	0.00	77.82	1,099.39	549.69	1,339.29	814.32	0.09	-0.08	0.104
10.00	-8.75	-4.63	0.00	-77.82	0.00	77.82	1,099.39	549.69	1,339.29	814.32	0.09	-0.08	0.104
15.00	-5.50	-4.07	0.00	-54.67	0.00	54.67	1,099.39	549.69	1,339.29	814.32	0.18	-0.10	0.072
20.00	-4.28	-3.69	0.00	-34.34	0.00	34.34	1,099.39	549.69	1,339.29	814.32	0.29	-0.12	0.046
25.00	-3.43	-3.18	0.00	-15.88	0.00	15.88	1,099.39	549.69	1,339.29	814.32	0.42	-0.13	0.023
25.00	-3.43	-3.18	0.00	-15.88	0.00	15.88	876.73	438.36	849.03	539.02	0.42	-0.13	0.033
30.00	0.00	-3.17	0.00	0.00	0.00	0.00	876.73	438.36	849.03	539.02	0.56	-0.13	0.000

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

2/8/2016 12:43:08 PM

Customer: T-MOBILE

Load Case (0.9 - 0.2Sds) * DL + E EMAM

Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-6.51	-4.81	0.00	-125.56	0.00	125.56	1,099.39	549.69	1,339.29	814.32	0.00	0.00	0.160
5.00	-5.95	-4.75	0.00	-101.51	0.00	101.51	1,099.39	549.69	1,339.29	814.32	0.02	-0.04	0.130
10.00	-5.32	-4.63	0.00	-77.74	0.00	77.74	1,099.39	549.69	1,339.29	814.32	0.09	-0.08	0.100
10.00	-5.32	-4.63	0.00	-77.74	0.00	77.74	1,099.39	549.69	1,339.29	814.32	0.09	-0.08	0.100
15.00	-3.35	-4.06	0.00	-54.61	0.00	54.61	1,099.39	549.69	1,339.29	814.32	0.18	-0.10	0.070
20.00	-2.60	-3.69	0.00	-34.31	0.00	34.31	1,099.39	549.69	1,339.29	814.32	0.29	-0.12	0.045
25.00	-2.08	-3.17	0.00	-15.87	0.00	15.87	1,099.39	549.69	1,339.29	814.32	0.42	-0.13	0.021
25.00	-2.08	-3.17	0.00	-15.87	0.00	15.87	876.73	438.36	849.03	539.02	0.42	-0.13	0.032
30.00	0.00	-3.17	0.00	0.00	0.00	0.00	876.73	438.36	849.03	539.02	0.56	-0.13	0.000

Site Number: 82705

Code: ANSI/TIA-222-G

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Site Name: Sun Valley - Ketchum, ID

Engineering Number: 65136322

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Customer: T-MOBILE

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	14.06	0.00	10.66	0.00	0.00	322.78	0.00	0.41
0.9D + 1.6W	14.05	0.00	7.99	0.00	0.00	322.60	0.00	0.40
1.2D + 1.0Di + 1.0Wi	3.72	0.00	12.82	0.00	0.00	81.74	0.00	0.11
(1.2 + 0.2Sds) * DL + E ELFM	4.01	0.00	10.69	0.00	0.00	92.10	0.00	0.12
(1.2 + 0.2Sds) * DL + E EMAM	4.81	0.00	10.69	0.00	0.00	125.66	0.00	0.16
(0.9 - 0.2Sds) * DL + E ELFM	4.01	0.00	6.51	0.00	0.00	92.03	0.00	0.12
(0.9 - 0.2Sds) * DL + E EMAM	4.81	0.00	6.51	0.00	0.00	125.56	0.00	0.16
1.0D + 1.0W	3.90	0.00	8.89	0.00	0.00	89.63	0.00	0.12

Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	30 in
	Pole Thickness	0.375 in
	Plate Diameter	36 in
	Plate Thickness	1 in
	Plate Fy	36 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	124.87 k-in
Applied	12.50 k-in	
Stiffeners	#	12 Show
	Thickness	0.625 in
	Length	3 in
	Height	5 in
	Chamfer	0 in
	Offset Angle	45 °
	Fy	36 ksi

Bolts	#	24
	Bolt Circle (R)adial / (S)quare	33 in R
	Diameter	1 in
	Hole Diameter	1.125 in
	Type	A687
	Fy	105 ksi
	Fu	150 ksi
	ϕ_s Resistance	72.69 k
Applied	20.00 k	

Reinforcement	#	

Extra Bolts	#	0

Code Rev. **G**

Date **2/8/2016**
 Engineer **ATE**
 Site # **82705**
 Carrier **T-Mobile**

Moment **322.8 k-ft**
 Axial **10.7 k**

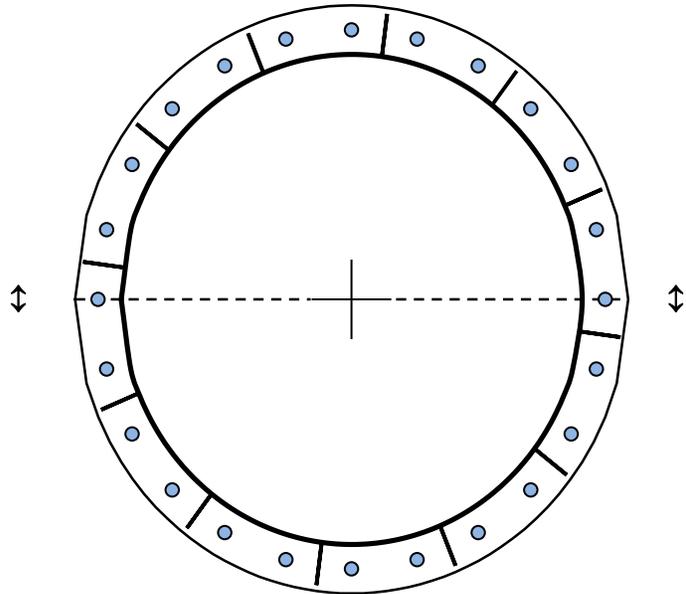


Plate Stress Ratio:
0.10 (Pass)

Bolt Stress Ratio:
0.28 (Pass)

Base/Flange Plate	Plate Type	Flange @ 10.0 ft
	Pole Diameter	30 in
	Pole Thickness	0.375 in
	Plate Diameter	36 in
	Plate Thickness	1 in
	Plate Fy	36 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	124.87 k-in
	Applied	6.76 k-in
Stiffeners	#	12 Show
	Thickness	0.625 in
	Length	3 in
	Height	5 in
	Chamfer	0 in
	Offset Angle	45 °
	Fy	36 ksi

Code Rev. **G**

Date **2/8/2016**
 Engineer **ATE**
 Site # **82705**
 Carrier **T-Mobile**

Moment **184.7 k-ft**
 Axial **8.9 k**

Bolts	#	24
	Bolt Circle	33 in
	(R)adial / (S)quare	R
	Diameter	1 in
	Hole Diameter	1.125 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
	ϕ_s Resistance	54.52 k
Applied	10.82 k	

Reinforcement	#	

Extra Bolts	#	0

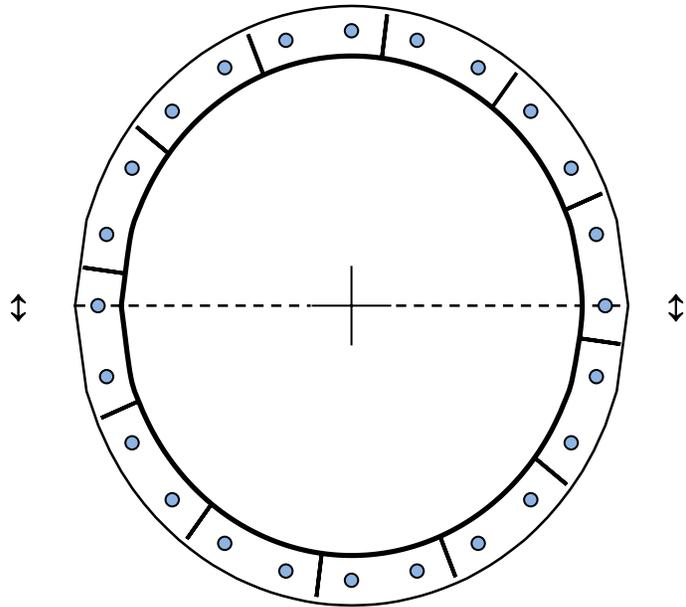


Plate Stress Ratio:
0.05 (Pass)

Bolt Stress Ratio:
0.20 (Pass)

Base/Flange Plate	Plate Type	Flange @ 25.0 ft
	Pole Diameter	24 in
	Pole Thickness	0.375 in
	Plate Diameter	30 in
	Plate Thickness	1 in
	Plate Fy	36 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	219.44 k-in
	Applied	3.50 k-in
Stiffeners	#	10 Show
	Thickness	0.625 in
	Length	3 in
	Height	5 in
	Chamfer	0 in
	Offset Angle	0°
	Fy	36 ksi

Code Rev. **G**

Moment **33.6 k-ft**

Axial **3.8 k**

Date **2/8/2016**

Engineer **ATE**

Site # **82705**

Carrier **T-Mobile**

Bolts	#	10
	Bolt Circle	27 in
	(R)adial / (S)quare	R
	Diameter	1 in
	Hole Diameter	1.125 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
Reinforcement	#	
Extra Bolts	#	0

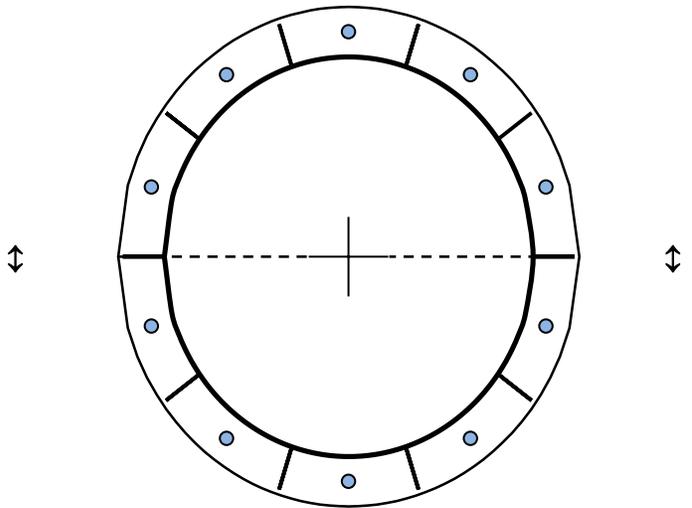
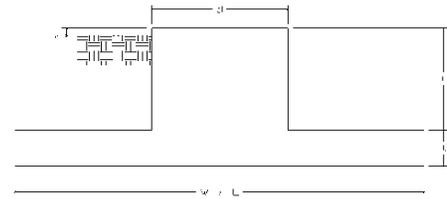


Plate Stress Ratio:
0.02 (Pass)

Bolt Stress Ratio:
0.10 (Pass)

Site Name: Sun Valley, ID
 Site Number: 82705
 Engineering Number: 65136322
 Engineer: ATE
 Date: 02/08/16
 Tower Type: MP

Program Last Updated: 5/13/2014



Design Loads (Factored) - Analysis per TIA-222-G Standards

Design / Analysis / Mapping:	Analysis		
Compression/Leg:	10.7 k	Concrete Strength (f'_c):	3000 psi
Uplift/Leg:	0.0 k	Pad Tension Steel Depth:	74.00 in
Total Shear:	14.1 k	ϕ_{Shear} :	0.75
Moment:	322.8 k-ft	$\phi_{\text{Flexure / Tension}}$:	0.90
Tower + Appurtenance Weight:	14.5 k	$\phi_{\text{Compression}}$:	0.65
Depth to Base of Foundation (l + t - h):	4.00 ft	β :	0.85
Diameter of Pier (d):	3.00 ft	Bottom Pad Rebar Size #:	5
Length of Pier (l):	0.00 ft	Dead Load Factor:	1.20
Height of Pier above Ground (h):	0.00	# of Bottom Pad Rebar:	13
Width of Pad (W):	12.00 ft	Pad Bottom Steel Area:	4.03 in ²
Length of Pad (L):	12.00 ft	Pad Steel F_y :	60000 psi
Thickness of Pad (t):	6.50 ft	Top Pad Rebar Size #:	5
Tower Leg Center to Center:	0.00 ft	# of Top Pad Rebar:	13
Number of Tower Legs:	1.0 (1 if MP or GT)	Pad Top Steel Area:	4.03 in ²
Tower Center from Mat Center:	0.00 ft		
Depth Below Ground Surface to Water Table:	99.00 ft		
Unit Weight of Concrete:	150.0 pcf		
Unit Weight of Soil Above Water Table:	100.0 pcf		
Unit Weight of Water:	62.4 pcf		
Unit Weight of Soil Below Water Table:	50.0 pcf		
Friction Angle of Uplift:	0.0 Degrees		
Ultimate Coefficient of Shear Friction:	0.65		
Ultimate Compressive Bearing Pressure:	6000.0 psf		
Ultimate Passive Pressure on Pad Face:	0.0 psf		
$\phi_{\text{Soil and Concrete Weight}}$:	0.9		
ϕ_{Soil} :	0.75		

Overtuning Moment Usage

Design OTM:	414.2 k-ft
OTM Resistance:	823.3 k-ft
Design OTM / OTM Resistance:	0.50 Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	2704 psf
Factored Nominal Bearing Pressure:	4500 psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.60 Result: OK
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge

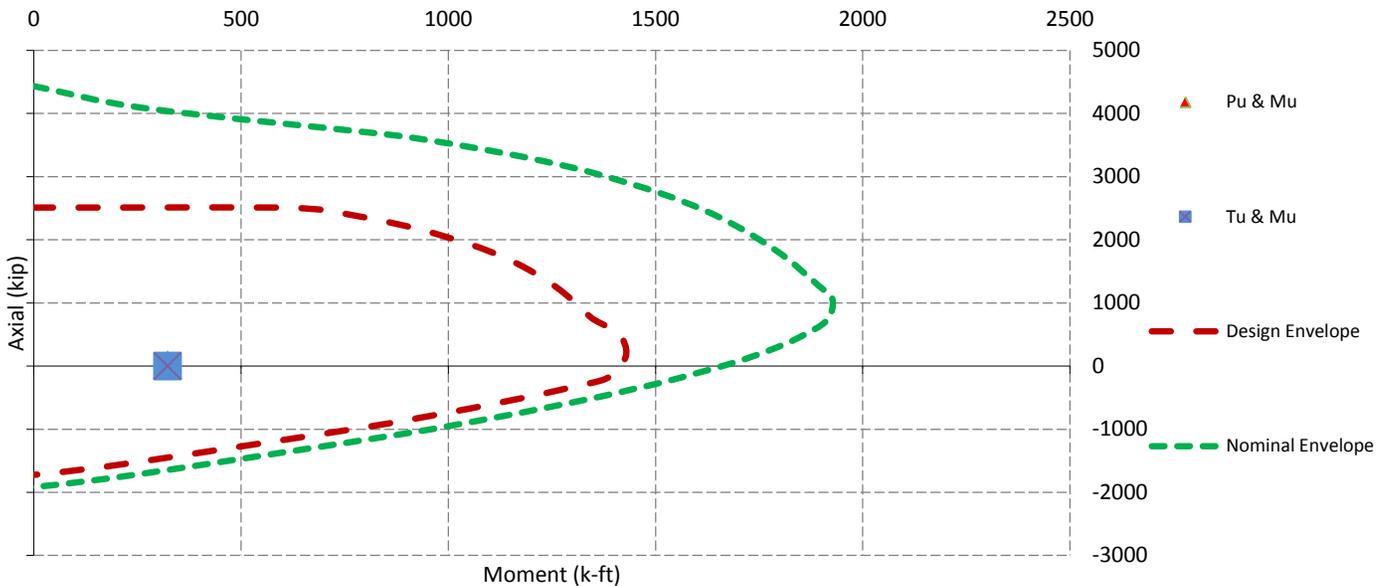
Sliding Factor of Safety

Total Factored Sliding Resistance:	74.3 k
Sliding Design / Sliding Resistance:	0.19 Result: OK

One Way Shear, Flexural Capacity, and Punching Shear

Factored One Way Shear (V_u):	1.7 k
One Way Shear Capacity (ϕV_c):	119.4 k - ACI11.3.1.1
$V_u / \phi V_c$:	0.01 Result: OK
Load Direction Controlling Shear Capacity:	Diagonal to Pad Edge
Lower Steel Pad Factored Moment (M_u):	473.9 k-ft
Lower Steel Pad Moment Capacity (ϕM_n):	1336.9 k-ft - ACI10.3
$M_u / \phi M_n$:	0.35 Result: OK
Load Direction Controlling Flexural Capacity:	Parallel to Pad Edge
Upper Steel Pad Factored Moment (M_u):	182.9 k-ft
Upper Steel Pad Moment Capacity (ϕM_n):	1336.9 k-ft
$M_u / \phi M_n$:	0.14 Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0004 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0004 OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	11 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	11 in - Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0 k
Nominal Punching Shear Capacity ($\phi_c V_n$):	4202.0 k - ACI11.12.2.1
$V_u / \phi V_c$:	0.00 Result: OK

Nominal and Design Moment Capacity and Factored Design Loads



**CITY OF SUN VALLEY
PLANNING AND ZONING COMMISSION
AGENDA REPORT**

From: Abby Rivin, CFM, Associate Planner
Meeting Date: 23 June 2016

DESIGN REVIEW (DR 2016-30)

APPLICANT: Jolyon H. Sawrey for Maud Alison Long Trust

LOCATION: 700 Fairway Rd, Lot 20 Upper Fairway Subdivision No. 2

ZONING DISTRICT: Single-Family Residential (RS-1) Zoning District

REQUEST: Approve the installation of 32 new solar panels and the relocation of 3 existing thermal panels to a detached, single-family dwelling.

ANALYSIS: The applicant submitted an application for design review approval for the installation of 32 photovoltaic panels (5.05 kW PV, 315W array) and the relocation of 3 existing thermal panels to a new location. The solar panels will be installed on the existing single-family residence as well as the new addition, which was approved by the Planning & Zoning Commission on February 11th, 2016 and issued a building permit on March 31st, 2016.

The 32 photovoltaic, solar panels will be installed in two different locations (2 rows of 8 in each location) on the southeast section of the roof. The solar thermal panel will be installed on the west section of the roof. The subject home lies adjacent to single-family residences in all directions as well as a section of OR-1 zoned parcel to the east. While the structure is surrounded by single-family homes, the site is sufficiently screened by mature, existing vegetation. The applicant conducted a view assessment (see Sheet B of the design review submittal) and concluded that the only potential view impact is when driving south on Fairway Road. However, this view is solely peripheral to the primary view corridor. The Community Development Department received no comment from any of the adjacent neighbors regarding this proposal.

The subject home is a nonconforming structure as the existing building footprint exceeds the maximum allowable, as calculated per City Code Section 9-2A-3I, by 121 sq ft. While the home is a nonconforming structure, the project design does not intensify the existing nonconformity as the solar panel installation does not add new footprint. The project drawings stamped received by the City of Sun Valley on May 13, 2016 detail all proposed alterations to the existing structure.

Applications for design review are subject to standards in SVMC § 9-3A-3. Many of the standards are not applicable as the solar panel installation solely upgrades an existing structure without adding building footprint or modifying the site layout or access.

A. Design and Siting:

*1. The design of proposed improvements is appropriate and compatible to the lot and the surrounding neighborhood. Attention has been given to the location and design of streets, view corridors, privacy of adjacent properties, outdoor spaces, shadows, solar access, view access, lighting, vehicular access, building massing, privacy of other noise generating equipment, openings and doors as these elements impact adjacent properties. **The proposed solar panels are sited on the roof to minimize visual impact from adjacent residences as well as Fairway Road. The panel installations do not extend higher than the existing structure's height. The quantity and siting of the proposed panels are similar to the quantity and siting of other solar panels in the vicinity.***

*2. The location and design of the proposed improvements has given consideration to special sites of historical, natural, ecological, architectural, archaeological, and scenic value or significance, including, but not limited to, those identified in the city's comprehensive plan. The essential character of special sites should be preserved and protected with any proposed site or structure improvements. **Not applicable.***

*3. The siting of the proposed improvements complies with the adopted uniform fire code and any other applicable regulations regarding emergency vehicle access and circulation as set forth in title 7 of this code. **Vehicle access and circulation will not be altered with this project.***

*4. The proposed improvements are sited to meet the ingress, egress, and driveway standards and requirements set forth in title 7 of this code, and the siting standard in subsection A1 of this section. **No changes are proposed to ingress, egress, or the driveway.***

*5. The proposed improvements are sited to take into consideration and to mitigate natural hazards such as floodplains and avalanches as set forth in this chapter. Mitigation measures shall not adversely impact other properties. **Not applicable.***

*6. The siting of the proposed improvements minimizes interference with natural drainage patterns and is designed to minimize adverse impact on other properties. All drainage shall comply with the standards set forth in title 7 of this code; be contained on site, or be connected to drainage easements or rights of way. No drainage shall be diverted off site onto private property. **The gutter and downspout will remain unchanged.***

*7. The site design provides for adequate space or means to maintain snow storage. Snow storage areas are in accordance with the requirements set forth in article G of this chapter. **No applicable.***

*8. Appropriate address numbers and monuments are shown in accordance with the requirements as set forth in article G of this chapter. **Not applicable.***

*9. The siting of the proposed improvements, including streets and driveways, where applicable, minimizes hillside visibility and, where applicable, skylining by using a combination of stepped building forms, natural colors and materials, sloped roofs, and landscaping. **No ridges or prominent terrain features exist on or directly adjacent to the site.***

10. Every lot shall be designed to be connected to public water and sewer systems, unless the property is over five hundred feet (500') from a public system as measured from the closest property line and an alternative utility system is approved by the city engineer. **Not applicable.**

B. Grading: **Not applicable.**

C. Architectural Quality:

1. The proposed project maintains the quality of materials and design that is appropriate to the location, the lot and the neighborhood. **The new photovoltaic panels are REC Peak Energy 72 Series, 5.05 kW PV, 315W arrays. The photovoltaic and solar panels are similar to the panels installed on other residences throughout the City of Sun Valley.**

2. The proposed improvements conform to natural landscape features by minimizing the degree of cuts and fills. **The project does not alter the site's grade.**

3. The plan includes the location of all exterior lighting. All lighting shall be directed onto the subject lot and shall not be directed towards other properties. **No new exterior lighting fixtures are proposed.**

4. Building design includes weather protection that prevents water from dripping or snow from sliding onto pedestrian or vehicle areas or onto adjacent properties. **The roof includes a snow fence and gutters.**

5. Any exterior addition or alteration to an existing building is compatible with the design character of the original building. Any new detached structure is compatible with the design character of the existing buildings and/or structure(s). **Not applicable.**

6. All improvements are designed to minimize light and sound emanating to other properties as set forth in article B of this chapter. **The existing lighting conforms to the City's Exterior Lighting Regulations.**

7. Rooftop chimneys and utilities are enclosed and design is consistent with the primary structure. **All existing utilizes are enclosed. No new rooftop chimney or utilities will be installed.**

D. Pedestrian and Vehicle Circulation Design: **These standards are not applicable as the project does not propose any changes to the existing site.**

E. Landscaping Quality: **These standards are not applicable as the project does not propose any changes to the existing landscaping.**

F. Irrigation Limits: **Not applicable.**

G. Fences, Walls, Retaining Walls, Screens, and Dog Runs: **None proposed.**

H. Sign Design: **Not applicable.**

I. Exterior Lighting: **All existing lighting complies with the City's Exterior Lighting Regulations.**

RECOMMENDATION: Staff recommends approval of DR2016-30.

RECOMMENDED MOTION: "I move to approve DR2016-30 to allow for the installation of 32 photovoltaic panels and the relocation of 3 existing thermal panels, pursuant to the Findings of Fact."

ALTERNATIVE ACTIONS: Move denial of the application and draft findings supporting denial.

ATTACHMENTS:

1. Findings of Fact
2. Application Materials

**FINDINGS OF FACT AND CONCLUSIONS OF LAW
CITY OF SUN VALLEY
DESIGN REVIEW APPROVAL**

Project Name: **Design Review Application DR2016-30**

Applicant: **Jolyon H. Sawrey for Maud Alison Long Trust**

Legal Desc.: **Lot 20 Upper Fairway Subdivision No. 2**

Location: **700 Fairway Road**

Zoning District: **Single-Family Residential (RS-1)**

Request: Approve the installation of 32 new solar panels and the relocation of 3 existing thermal panels to a detached, single-family dwelling.

Required Findings: In order to approve a design review application, and based on the standards set forth in **Sun Valley Municipal Code, Title 9, Chapter 3, Article A (DESIGN REVIEW)**, the Planning and Zoning Commission shall make the following findings:

1. The proposed design is in conformance with the purpose of the zoning district and all dimensional regulations of that district. **The solar panel installation project is compliant with all zoning regulations regarding use and height, and the project is not increasing the footprint of the structure.**
2. The proposed design is in conformance with the standards for design review as set forth in chapter 3, article A of this title. **The solar panel installation and relocation project meets all of the applicable, enumerated standards in the RS-1 Zoning District. The proposed solar panels are sited on the roof to minimize visual impact from adjacent residences as well as Fairway Road.**
3. The proposed design does not significantly impact the natural, scenic character and aesthetic value of hillsides, ridges, ridgelines, ridge tops, knolls, saddles, and summits in the city. **No ridges or prominent terrain features exist on or directly adjacent to the site.**
4. The proposed design is in context and complementary to adjacent properties. **The new photovoltaic and existing solar panels are similar to the panels installed on other residences throughout the City of Sun Valley. The site is sufficiently screened by mature, existing vegetation.**
5. The proposed design is compatible with the community character and scale of the neighborhood. **The panel installations do not extend higher than the existing structure's maximum height. The quantity and siting of the proposed panels are similar to the quantity and siting of other solar panels in the vicinity.**
6. The proposed design adheres to standards for the protection of health, safety, and general welfare. **The**

existing snow fence will remain on the roof. The solar panel installation project does not alter access or pose additional need for services by fire, police, water, or other agencies.

7. The proposed design is of quality architectural character and materials. **The new photovoltaic panels are REC Peak Energy 72 Series, 5.05 kW PV, 315W arrays. REC is the largest European brand of solar panels, with more than 15 million high-quality panels produced in 2014. The panels will be installed by Sagebrush Solar.**
8. The use is not in conflict with the comprehensive plan or other adopted plans, policies, or ordinances of the city. **The solar installation project is in compliance with Action Item 5.2.1 of the Comprehensive Plan encouraging solar installations.**

DRAFT

CONDITIONS OF APPROVAL

1. Applicant and their representatives shall comply with all applicable City codes and ordinances, including those related to noise (Section 4-4D-2 and 3) and water pollution control (Section 4-4C-2).
2. Design Review approval is good for one year from the date of approval, unless extended pursuant to Sun Valley Municipal Code Section 9-5A-8.
3. Any requirements and/or approvals of private associations or other entities are the sole responsibility of the property owner.
4. Any permits issued during the 10-day appeal period provided for under section 9-5A-9 may be subject to a stop work order in the event of an appeal. Any work commenced during the appeal period shall be at the applicant's own risk.
5. Approval is specific to the project drawings plan dated received by the City of Sun Valley on May 13, 2016.
6. Fairway Road shall be kept free and clear for emergency vehicle access at all times. Any significant access issues shall be brought to the attention of the City and the project neighbors in advance.
7. No modifications to the approved plans shall be made without written permission of the Building Official and/or Fire Chief.

CONCLUSIONS OF LAW

Therefore, this project does meet the standards for approval under Title 9, Chapter 3A, City of Sun Valley Municipal Code provided the conditions of approval are met. Design Review approval shall expire 365 days from the date of approval, unless extended as per Municipal Code Section 9-5A-8.

DECISION

Therefore, the Sun Valley Planning & Zoning Commission **approves** the subject Conditional Use Permit Application No. DR2016-30, subject to the Conditions of Approval above.

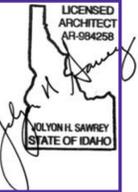
Dated this 23rd day of June, 2016.

Ken Herich, Chairman
Sun Valley Planning & Zoning Commission

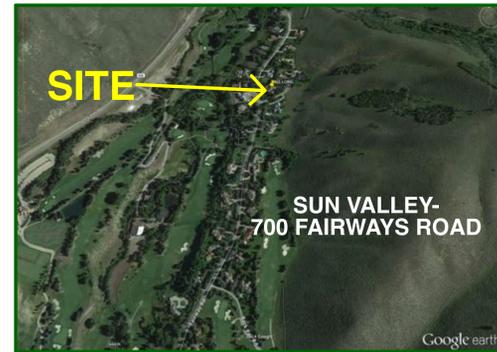
Date Findings of Fact signed

DRAFT

LONG RESIDENCE- SOLAR INSTALLATION



SOUTHEAST VIEW



VICINITY MAP



PROJECT INFORMATION

LEGAL DESCRIPTION: UPPER FAIRWAY SUB 2, LOT 20
SUN VALLEY, IDAHO

ZONE: RS-1

SETBACKS: FRONT: 106'-9 3/8" REAR: 15'-0"
SIDE #1: 32'-0 3/4" SIDE #2 27'- 8 5/8"

BLDG. HEIGHT: 28'-5" SOLAR PANELS ARE NOT INCREASING BLDG. HEIGHT

APPLICABLE BUILDING CODES:
2012 IRC, 2012 IMC, 2012 IPC, 2012 IFC, 2012 IECC AND 2012 NEC, AS AMENDED BY STATE OF IDAHO AND CITY OF SUN VALLEY ARE APPLICABLE TO THIS PROJECT

OCCUPANCY TYPE: RESIDENTIAL
CONSTRUCTION TYPE: V-B

FLOOR AREAS: NEW UPPER ADDITION	654	SQ. FT.
REMODELED MAIN LEVEL	108	SQ. FT.
TOTAL ADDITION AND REMODEL	762	SQ. FT.
EXISTING MAIN LEVEL (CONDITIONED)	4,392	SQ. FT.
EXISTING GARAGE	558	SQ. FT.
TOTAL TOTAL (E) HOME AND ADDITION	5,604	SQ. FT.

PROJECT TEAM

CLIENT:

ALI LONG
(415) 306-4551 PHONE
700 FAIRWAYS ROAD
SUN VALLEY, IDAHO 83353

ARCHITECT:

VITAL INK
JOLYON H. SAWREY
30 WYATT DRIVE
BELLEVUE, IDAHO 83313
(208) 720-6315 PHONE

CONTRACTOR:

SAGE BRUSH SOLAR
BILLY MANN

P.O. BOX 2639
KETCHUM, IDAHO 83340
(208)-720-4624

PROJECT NOTES

This project consist of the installation of (3) areas of solar panels on the roof of the existing home and new addition. Two locations of Photovoltaic (electric) panels totaling 32 Panels and the relocation of (3) solar thermal panels to a new location (New location is due to the new addition consturction project taking place at this residence.)

SHEET INDEX

SHT	REV	DESCRIPTION
ARCHITECTURAL		
0.0		COVER, PROJECT TEAM, BLDG. INFO
A		SITE PLAN- SOLAR
B		SOLAR SITE PHOTOS- (E) COND'S
C		SOLAR SYSTEM SPECS
D		SOLAR ELEVATIONS& PERSPECTIVES

New Renewable Energy:
LONG SOLAR INSTALLATION
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 700 FAIRWAYS ROAD

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 Environmental Architecture
 & Consulting AIA
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 Bellevue, Idaho 83313

REVISIONS

DATE
13 MAY, 2016

0.0



SOLAR PANEL LOCATIONS
A- PHOTOVOLTAIC
B- PHOTOVOLTAIC
C-SOLAR THERMAL(RELOCATE EXISTING)



AREIAL PHOTO- EXISTING CONDITIONS

2

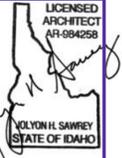
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SITEN PLAN - PROPOSED SOLAR PANEL LOCATIONS- A, B & C

1

1"= 16'-0"



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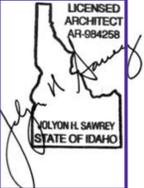
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DESIGN REVIEW SET



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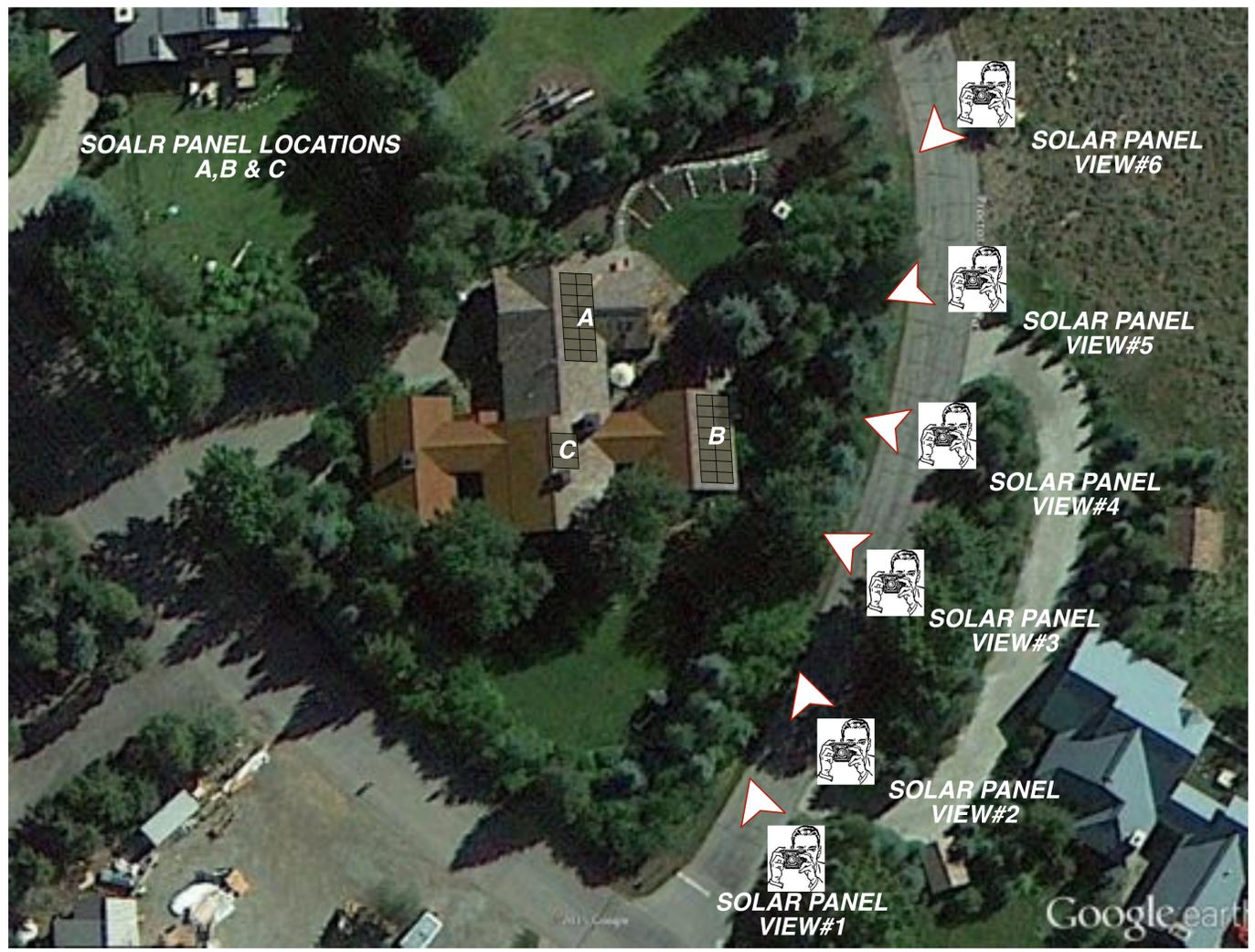
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B

PLOTTED: 5/12/16 3:30 PM



SOLAR PANEL VIEW NARRATIVE:
 PHOTOS WERE TAKN FROM ADJACENT PARCELS TO THE SOUTH SIDE OF THE SUBJECT PROPERTY LOOKING IN A NORTHWARD FASHION. THE INTENT WAS TO SEE WAS IS VISIBLE OF THE (3) SOLAR PANEL LOCATIONS DURING THE SPING, SUMMER AND FALL MONTHS. THE IDEA IS TO PRESENT WHAT MIGHT BE VISIBLE DURING MONTHS THAT THE PROPOSED SOLAR PANELS WOULD NOT HAVE SNOW ON THEM. THE VIEW OF TEH PARCEL FORM TEH PUBLIC WAY IS WELL SCREENED WITH CONIFEROUS TREES. THE LARGER CONIFEROUS TREES ARE PROPOSED TO BE THINNED SO SCREENING WITH THESE TREES IS NOT RELIED ON. THE ADJACENT PARCEL WITH A HOME HAS A LOOP DRIVE WITH A LANDSCAPED ISLAND PROVIDING SCREENING. NO OTHER NEIGHBORS HAVE A VIEW OF THE PROPOSED PANEL LOCATIONS. THE ONLY VIEW POTENTIAL IS FROM THE SOUTH EAST CORNER UPON DRIVING SOUTHWARD. THIS OFFERS THAT THE PANELS ARE QUITE A WAYS REMOVED AND NOT IN A PRIMARY VIEW CORRIDOR, MORE OFF TO A PERIPHERAL SIDE VISION.

PHOTOS OF SOLAR PANEL LOCATIONS



Total Solar PhotoVoltaic System 10.1 Kw (32) Panels

5.05 kW, (2) row of (8) 315W panels, On Existing Western Roof
5.05 kW, (2) row of (8) 315W panels, on the new Addition roof



May 4, 2016

Long 10.1 kW PV System Proposal

Client Name: Ali Long
Project Location: 700 Fairway Road, Sun Valley

Equipment Specifications	
PV Panels	(32) REC 315W – with 25 yr linear performance guarantee
Rack	Snap-N-Rack Flush Mount – with 20 yr manufacturer warranty
Inverter	(1) Fronius Primo 10kW – with 15 year manufacturer warranty
Monitoring	(1) Fronius Solar.web monitoring w/iPhone app
Workmanship	5 year Sagebrush Solar warranty

System Specifications		Solar Resource Data	
DC System Size (kW)	10.1	Zip Code	83340
Number Panels	32	Latitude (deg N)	43.75
Array Tilt (deg)	30	Longitude (deg W)	114.35
Array Orientation (deg)	180	Elevation (ft)	5,660

System Production		Annual Demand	
Annual Output (kWh)	16,084	Annual Usage (kWh)	21,921
30 yr. Output (kWh)	449,121	Annual Solar Offset	73%

ID Power Cost		Environmental Benefits	
Current Rate (\$/kWh)	\$0.10	Annual CO2 Offset (lbs)	13,162
Annual Rate Increase	4%	30 yr CO2 Offset (lbs)	367,530
Avoided 30 yr Cost	\$82,758		

System Cost		System Returns	
Initial Cost	\$40,320	First Year Savings	\$1,608
Current Solarize Rebate	(\$3,024)	First Year Return	7%
Federal Tax Credit	(\$12,100)	Avg Annual Savings	\$5,339
ID State Deduction	(\$3,226)	Avg Annual Return	11%
		30 yr Savings	\$59,538
Net Investment	\$21,970	Payback (yrs)	12.0

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Proposed Array Location



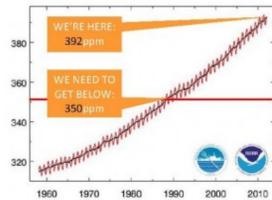
Environmental Benefits

By installing the proposed solar system, your will derive clean, pure energy from the sun, you will not need to burn as much fossil fuel to generate your electricity, and you will stop increasing atmospheric levels of heat-trapping carbon dioxide (CO2) emissions that cause climate change.

Most scientist agree that 350 parts per million (ppm) is the safe upper limit for CO2 in our atmosphere.

Currently, we're above 400 ppm—and we're already beginning to see disastrous impacts on people and places all over the world. And, this number is rising by about 2 ppm every year!

According to the Environmental Protection Agency (EPA), solar offsets 1.22 lbs CO2 per kWh produced. See Annual and 30 yr CO2 Offsets (lbs) in Project Overview (previous page).



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PVWatts Production & Savings Estimate

NREL's PV Watts Calculator estimates system output and savings based on our historical solar radiation data, system specifications, and other information gathered from our site assessment.



Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Energy Value (\$)
January	1.88	521	52
February	3.14	789	79
March	4.51	1,222	122
April	5.71	1,472	147
May	6.79	1,776	178
June	7.03	1,743	174
July	7.59	1,878	188
August	7.38	1,857	186
September	6.50	1,606	161
October	5.52	1,471	147
November	4.20	1,104	110
December	2.31	645	64
Annual	5.21	16,084	\$ 1,608

Location and Station Identification

Requested Location	83340
Weather Data Source	SolarAnywhere® from Clean Power (43.75, -114.35) 10 mi
Latitude	43.75° N
Longitude	114.35° W

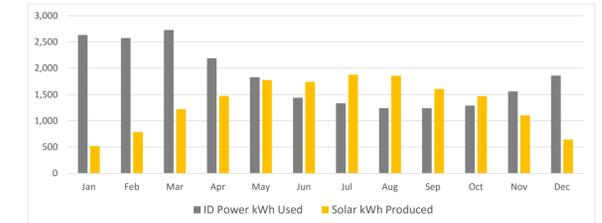
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Existing Electricity Demand & System Production

Based on the ID Power usage information you shared with us and our PVWatts system production estimate, we've calculated your current annual electricity demand and savings as follows.

Month	Days per Month	ID Power Usage History				PVWatts System Production		
		kWh per Day	kWh Used	Rate (\$/kWh)	Amount Billed	kWh Produced	Amount Saved	Solar Offset
January	31	85	2,635	\$0.10	\$264	521	\$52	20%
February	28	92	2,576	\$0.10	\$258	789	\$79	31%
March	31	88	2,728	\$0.10	\$273	1,222	\$122	45%
April	30	73	2,190	\$0.10	\$219	1,472	\$147	67%
May	31	59	1,829	\$0.10	\$183	1,776	\$178	97%
June	30	48	1,440	\$0.10	\$144	1,743	\$174	121%
July	31	43	1,333	\$0.10	\$133	1,878	\$188	141%
August	31	40	1,240	\$0.10	\$124	1,857	\$186	150%
September	30	43	1,290	\$0.10	\$129	1,606	\$161	129%
October	30	52	1,560	\$0.10	\$156	1,471	\$147	114%
November	30	52	1,560	\$0.10	\$156	1,104	\$110	71%
December	31	60	1,860	\$0.10	\$186	645	\$64	35%
Annual	365		21,921	\$0.10	\$2,192	16,084	\$1,608	73%



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REC PEAK ENERGY 72 SERIES

16.2% EFFICIENCY
10 YEAR PRODUCT WARRANTY
25 YEAR LINEAR POWER OUTPUT WARRANTY

TEMPERATURE RATINGS
Nominal operating cell temperature (NOCT): 46°C (115°F)
Temperature coefficient of P_{max}: -0.40%/°C
Temperature coefficient of I_{sc}: -0.27%/°C
Temperature coefficient of V_{oc}: -0.59%/°C

ELECTRICAL DATA @ STC	REC315P72	REC315P72	REC315P72	REC315P72	REC315P72
Number of Cells	216	216	216	216	216
Work Class Sorting (W)	0/45	0/45	0/45	0/45	0/45
Nominal Power Voltage - V _{mp} (V)	36.1	36.4	36.6	36.7	36.8
Nominal Power Current - I _{mp} (A)	8.23	8.23	8.42	8.53	8.62
Open Circuit Voltage - V _{oc} (V)	44.5	44.9	45.1	45.3	45.5
Short Circuit Current - I _{sc} (A)	8.80	8.86	8.95	9.02	9.09
Power Efficiency (%)	16.1	16.4	16.6	16.8	16.9

GENERAL DATA
Cell type: 21 mono-crystalline, 3 strings of 24 cells.
Glass: 4mm color glass with anti-reflection surface treatment.
Back sheet: Double layer highly resistant polyimide (Amorphous/Amorphous/Amorphous).
Frame: Anodized aluminum extrusion.
Junction box: IP67 rated, 3 bypass diodes.
Cable: 4 mm² solar cable, 1.2m ± 12mm.
Connectors: REC Connectors (standard).

ELECTRICAL DATA @ MPP	REC315P72	REC315P72	REC315P72	REC315P72	REC315P72
Nominal Power - P _{max} (W)	214	217	221	225	229
Nominal Power Voltage - V _{mp} (V)	29.7	29.9	30.1	30.4	30.6
Nominal Power Current - I _{mp} (A)	7.21	7.27	7.34	7.41	7.48
Open Circuit Voltage - V _{oc} (V)	36.7	36.9	37.2	37.4	37.6
Short Circuit Current - I _{sc} (A)	7.81	7.87	7.92	7.97	7.83

MECHANICAL DATA
Dimensions: 960 ± 0.15 x 645 ± 0.15 mm
Area: 195 m²
Weight: 27.1 kg

REC is the largest European brand of solar panels, with more than 15 million high-quality panels produced at the end of 2014. With integrated manufacturing from polycrystalline to wafers, cells, panels and turnkey solar solutions, REC strives to help meet the world's growing energy needs. Together with a sales channel of distributors, installers, and EPCs, REC panels are increasingly globally founded. In 1996, REC is a Bluestar Elexon company with headquarters in Norway and operational headquarters in Singapore. REC's 1800 employees worldwide generate revenues of USD 680 million in 2014.

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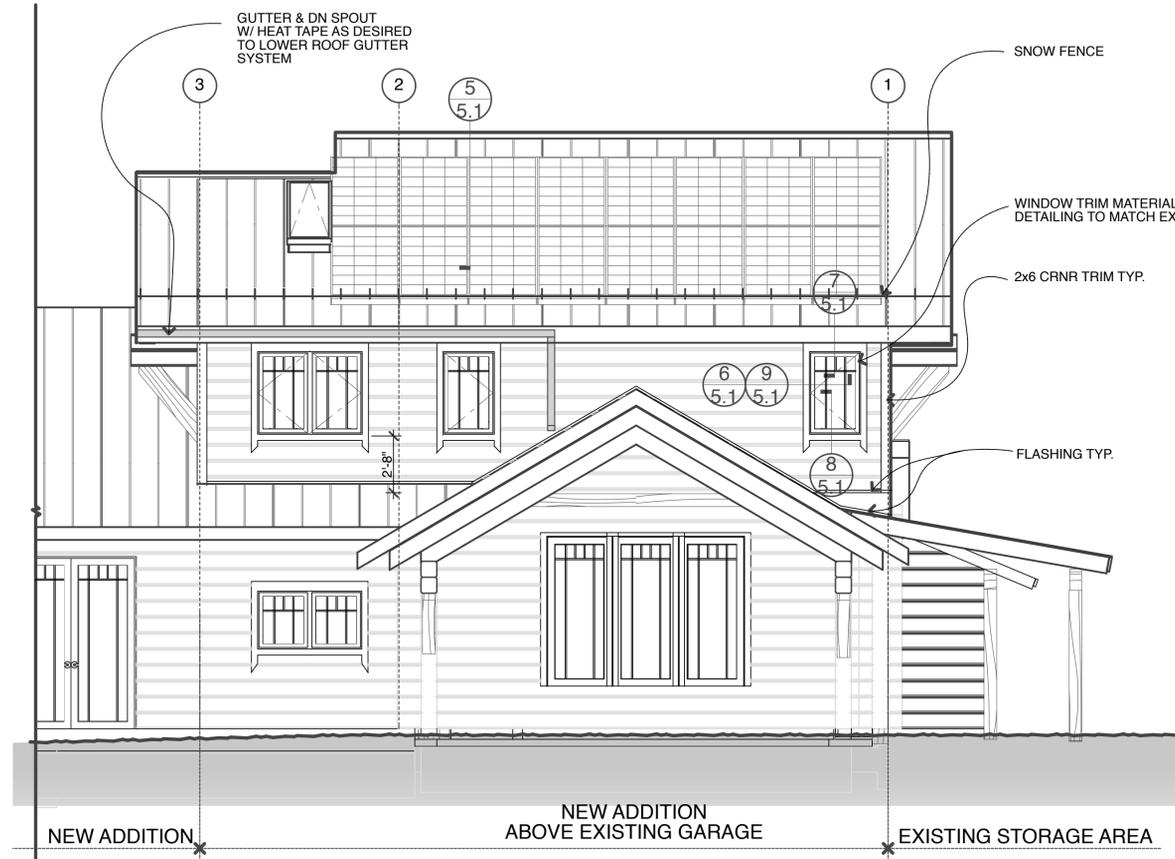
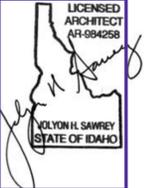
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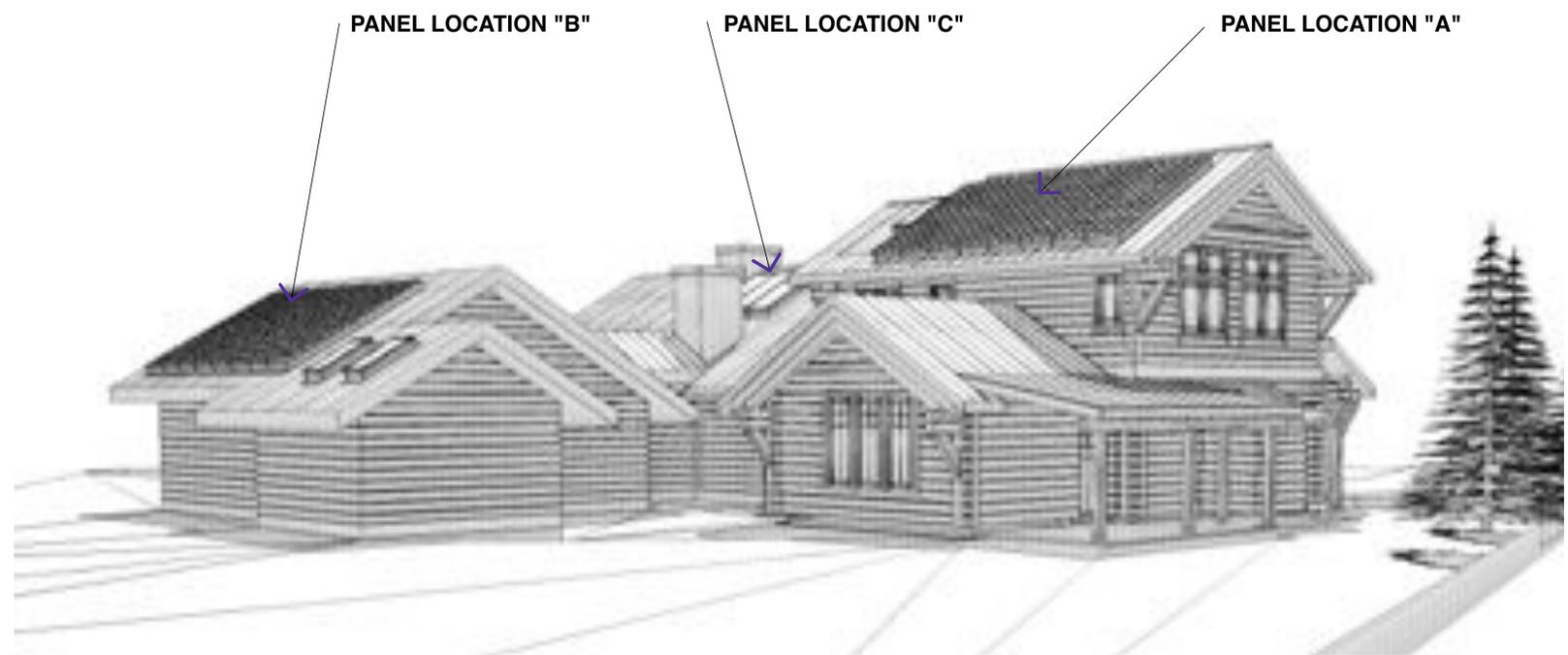
DESIGN REVIEW SET



SOUTH ELEVATION
1/4" = 1'-0" 1



SOUTH PERSPECTIVE
EXISTING HOME SHOWN FOR MASSING REFERENCE(WITHOUT DETAIL) 2



SOUTHEAST PERSPECTIVE
EXISTING HOME SHOWN FOR MASSING REFERENCE(WITHOUT DETAIL) 4



SOUTH PERSPECTIVE
EXISTING HOME SHOWN FOR MASSING REFERENCE(WITHOUT DETAIL) 3

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