



## City of Ketchum Planning & Building

### ADMINISTRATIVE FLOODPLAIN DEVELOPMENT PERMIT AND RIPARIAN ALTERATION PERMIT TEMPORARY CONSTRUCTION ACTIVITIES

<b>PROJECT:</b>	Carbon Hill Hot Springs Vault and Truss Repair and Reconstruction
<b>FILE NUMBER:</b>	P23-075
<b>OWNER:</b>	Carbon Hill Hot Springs Inc.
<b>REPRESENTATIVE:</b>	Bruce Smith, Alpine Enterprises
<b>REQUEST:</b>	Request to permit temporary construction related activities for vault repair and truss reconstruction within the riparian setback and the floodplain
<b>LOCATION:</b>	Tax Lot 6048 (RP1M0000000220)
<b>ZONING:</b>	Tourist-4000 (T-4000) and Agricultural and Forestry (AF)
<b>OVERLAYS:</b>	Floodplain Management Overlay with Waterways Design Review Subdistrict
<b>REVIEWERS:</b>	Morgan Landers, AICP – Director of Planning and Building
<b>NOTICING:</b>	None required

#### BACKGROUND

The City of Ketchum Planning and Building Department received an application for a Floodplain Development Permit and Temporary Riparian Alteration Permit for repair work associated with the vault and pipeline for the Carbon Hill Hot Springs, former location of the Guyer Hot Springs. The property shown in Figure 1 is at the far west end of the City of Ketchum municipal boundary south of Warm Springs Rd.

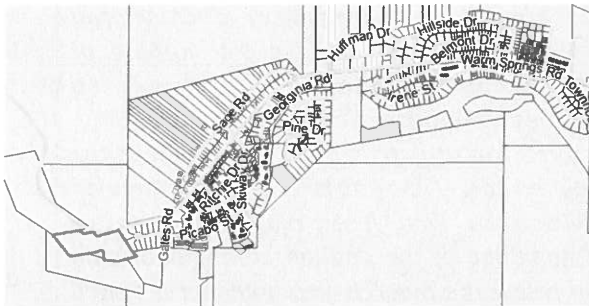


Figure 1: Subject Property Location

Most of the vacant property is between Warm Springs Rd and Warm Springs Creek, however, the west end of the property straddles Warm Springs Creek. The portion of the property south of Warm Springs Creek is the location of a pump station, vault, and pipeline that serves a number of private residences in the Warm Springs area. The property is situated below very steep slopes where avalanche activity in recent years has resulted in damage to the pipe, trusses supporting the pipe, and the vault.

The requested application is for the repair and reinforcement of the vault and repair/reconstruction of some of the trusses supporting the pipeline. As shown in Attachment A, the vault and the majority of the supporting trusses are not located within the floodway, floodplain, or riparian setback areas. However, many of the existing trusses were located in the riparian area, but recently damaged by an avalanche. The proposed location of new trusses is outside the riparian area with the exception of one on the southwest bank of the creek. Staff has determined that the placement of one new truss in the riparian area, with the removal of the seven existing trusses from the riparian area is not an increase in the nonconformity of the

infrastructure and can therefore be allowed. In contrast, the proposed plan decreases the nonconformity and allows for re-establishment of the riparian area.

The location of the vault and south bank trusses is not accessible by pedestrians or vehicles; therefore, temporary access is required to complete the repair work. The application requests temporary placement of a foot bridge and crane pad within the 25-foot riparian setback for access purposes during construction. Because the scope of work includes temporary structures within the riparian setback and floodplain, a floodplain development permit is required.

**FINDINGS OF CONFORMANCE WITH FLOODPLAIN REQUIREMENTS**

Floodplain Development Permit Requirements				
1. EVALUATION STANDARDS: 17.88.050(E)				
Compliant			Standards and Staff Comments	
Yes	No	N/A	Guideline	City Standards and <i>Staff Comments</i>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.88.050(E)1	<p><b>The proposal preserves or restores the inherent natural characteristics of the river, floodplain, and riparian zone, including riparian vegetation and wildlife habitat. Development does not alter river channel unless all stream alteration criteria for evaluation are also met.</b></p> <p><i>Staff Comments</i> No alteration of Warm Springs Creek is proposed. This permit is for the temporary placement of a crane and foot bridge within the 25 foot riparian area and Special Flood Hazard Area (SFHA) for a period of approximately three months during construction of work related to the repair of the hot springs vault and reconstruction of trusses that support the above ground pipe running from the vault to the residences served by the hot springs. The area disturbed by the work will be restored with riparian vegetation consistent with the approved Riparian Management Plan and Mitigation Plan included as Attachment B.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.88.050(E)2	<p><b>No temporary construction activities, encroachment or other disturbance into the 25-foot riparian zone, including encroachment of below grade structures, shall be permitted, with the exception of approved stream stabilization work and restoration work associated with a riparian zone that is degraded.</b></p> <p><i>Staff Comments</i> The application is for the temporary placement of a crane and footbridge within the 25-foot riparian setback for the purpose of accessing the south side of Warm Springs for repairs to the vault and trusses. No construction activities are proposed within the riparian area. Disturbance of the riparian area from the temporary placement of the crane and footbridge is required to be re-established per the Riparian Management Plan and Mitigation Plan (the "plan") included as Attachment B. The current condition of the riparian area is poor with significant sediment erosion below the mean high-water mark, limited deep rooted vegetation along the stream bank, and ground cover within the riparian area primarily consisting of noxious weeds and invasive plant species.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.88.050(E)3	<p><b>No permanent development shall occur within the 25-foot riparian zone, with the exception of approved stream stabilization work and restoration work associated with permit issued under this title, or exceptions as described below: a. Access to a property where no other primary access is available; b. Emergency access required by the fire department; c. A single defined pathways or staircases for the purpose</b></p>

Compliant			Standards and Staff Comments	
Yes	No	N/A	Guideline	City Standards and Staff Comments
				<p>of providing access to the river channel and in order to mitigate multiple undefined social paths; d. Development by the City of Ketchum.</p>
			<b>Staff Comments</b>	<p>As shown in Attachment A, the permanent vault is located outside the riparian area, however, many of the existing trusses are located within the riparian area. The project proposes to remove seven of the existing trusses in the riparian area, to be replaced by two more robust trusses. One of the new trusses would be within the riparian area on the south bank of Warm Springs Creek and the other would be outside of the riparian setback on the north bank of the creek. The existing trusses are considered nonconforming. Removal of the existing trusses and replacement of those trusses with one new truss is determined to not increase the degree of nonconformity and is necessary due to the location of the vault.</p> <p>Additionally, the vault and trusses on the south bank are located on a portion of the subject property that cannot be accessed directly from the northern portion of the property by public right-of-way, driveway, or pathway; therefore the crane and footbridge are necessary to provide access to the vault and truss locations for repair. The proposed location of the footbridge as shown in Attachment A is above the mean high-water mark, but within the 25-foot riparian area. Minimal disturbance is anticipated as the foot bridge will be placed on wood beams on top of the ground surface. Minimal excavation with hand tools will be necessary to create a flat platform for the foot bridge. Placement of the crane will create some disturbance of existing grasses and weeds. The crane is proposed to transport materials from the north side of the river to the construction location on the south side.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>17.88.050(E)4</b>	<p><b>New or replacement planting and vegetation in the riparian zone shall include plantings that are low growing and have dense root systems for the purpose of stabilizing stream banks and repairing damage previously done to riparian vegetation. Examples of such plantings most commonly include: red osier dogwood, common chokecherry, serviceberry, elderberry, river birch, skunk bush sumac, Beb's willow, Drummond's willow, little wild rose, gooseberry, and honeysuckle. However, in rare instances the distance from the top-of-bank to the mean high water mark is significant and the native vegetation appropriate for the riparian zone are low growing, drought resistant grasses and shrubs. Replacement planting and vegetation shall be appropriate for the specific site conditions. Proposal does not include vegetation within the 25-foot riparian zone that is degraded, not natural, or which does not promote bank stability.</b></p>
			<b>Staff Comments</b>	<p>Restoration of disturbance resulting from the placement of the foot bridge or crane must be completed per the requirements of the Riparian Management and Mitigation Plan included as Attachment B. Immediately following construction completion, disturbed and bare areas will be reseeded and irrigated for a period of 2 years. The plan proposes seeding the area with a variety of drought tolerant grasses native to the area. Grasses are an appropriate application in this location as the top of bank is above the mean high-water mark creating</p>

Compliant			Standards and Staff Comments	
Yes	No	N/A	Guideline	City Standards and <i>Staff Comments</i>
				<i>a banked topography. Condition #15 outlines that a survey of limits of disturbance shall be conducted upon construction completion to delineate the revegetation area. As shown on the project plans, willows or other substantial plantings will be included where the property transitions from low grasses to more substantive woody area near the wetlands.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<b>17.88.050(E)5</b>	<b>Landscaping and driveway plans to accommodate the function of the floodplain allow for sheet flooding. Surface drainage is controlled and shall not adversely impact adjacent properties including driveways drained away from paved roadways. Culvert(s) under driveways may be required. Landscaping berms shall be designed to not dam or otherwise obstruct floodwaters or divert same onto roads or other public pathways.</b>
			<i>Staff Comments</i>	<i>n/a - No permanent structures, landscaping, or driveways are proposed with the project</i>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>17.88.050(E)6</b>	<b>Flood water carrying capacity is not diminished by the proposal.</b>
			<i>Staff Comments</i>	<i>No permanent structures within the floodway or floodplain are proposed, therefore no changes to the carrying capacity are anticipated by the project.</i>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>17.88.050(E)7</b>	<b>Impacts of the development on aquatic life, recreation, or water quality upstream, downstream or across the stream are not adverse.</b>
			<i>Staff Comments</i>	<i>No work is proposed within the floodway or stream. The project proposes to place silt fencing along the 25-foot riparian area boundary to ensure that no erosion occurs that may result in sediment deposits in Warm Springs Creek. Additionally, the placement of the foot bridge and crane are outside of the mean high-water mark for the creek. No adverse impacts to aquatic life, recreation, or water quality are anticipated.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<b>17.88.050(E)8</b>	<b>Building setback in excess of the minimum required along waterways is encouraged. An additional ten-foot building setback beyond the required 25-foot riparian zone is encouraged to provide for yards, decks and patios outside the 25-foot riparian zone.</b>
			<i>Staff Comments</i>	<i>n/a – no new buildings are proposed with the project.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<b>17.88.050(E)9</b>	<b>The top of the lowest floor of a building located in, or partially within, the SFHA shall be at or above the flood protection elevation (FPE). A building is considered to be partially within the SFHA if any portion of the building or appendage of the building, such as footings, attached decks, posts for upper story decks, are located within the SFHA. See <u>section 17.88.060</u>, figures 1 and 2 of this chapter to reference construction details. See <u>chapter 17.08</u> of this title for definition of "lowest floor." a. In the SFHA where base flood elevations (BFEs) have been determined, the FPE shall be 24 inches above the BFE for the subject property; 24 inches or two feet is the required freeboard in Ketchum City Limits. b. In the SFHA where no BFE has been established, the FPE shall be at least two feet above the highest adjacent grade.</b>
			<i>Staff Comments</i>	<i>n/a – no buildings are proposed with the application. The vault and trusses are outside of the floodplain.</i>

Compliant			Standards and Staff Comments	
Yes	No	N/A	Guideline	City Standards and <i>Staff Comments</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)10	The backfill used around the foundation in the SFHA floodplain shall provide a reasonable transition to existing grade but shall not be used to fill the parcel to any greater extent. a. Compensatory storage shall be required for any fill placed within the floodplain. b. A CLOMR-F shall be obtained prior to placement of any additional fill in the floodplain.
			<i>Staff Comments</i>	<i>n/a - a new permanent building is not being constructed.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)11	All new buildings located partially or wholly within the SFHA shall be constructed on foundations that are designed by a licensed professional engineer.
			<i>Staff Comments</i>	<i>n/a – no new buildings are proposed with the application.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)12	Driveways shall comply with City of Ketchum street standards; access for emergency vehicles has been adequately provided for by limiting flood depths in all roadways to one foot or less during the one percent annual chance event.
			<i>Staff Comments</i>	<i>n/a - A new driveway is not being constructed.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)13	Landscaping or revegetation shall conceal cuts and fills required for driveways and other elements of the development.
			<i>Staff Comments</i>	<i>N/A – no driveways or other elements are proposed with the project. The revegetation of the project in the riparian area shall be conducted according to the Riparian Management Plan included in Attachment B.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)14	(Stream Alteration) The proposal is shown to be a permanent solution and creates a stable situation.
			<i>Staff Comments</i>	<i>n/a - Stream Alteration is not proposed.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)15	(Stream alteration.) No increase to the one percent annual chance flood elevation at any location in the community, based on hydrologic and hydraulic analysis performed in accordance with standard engineering practice and has been certified and submitted with supporting calculations and a No Rise Certificate, by a registered Idaho engineer.
			<i>Staff Comments</i>	<i>n/a - Stream Alteration is not proposed.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)16	(Stream alteration.) The project has demonstrated no adverse impact or has demonstrated all impacts will be mitigated.
			<i>Staff Comments</i>	<i>n/a - Stream Alteration is not proposed.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)17	(Stream alteration.) The recreational use of the stream including access along any and all public pedestrian/fisher's easements and the aesthetic beauty shall not be obstructed or interfered with by the proposed work.
			<i>Staff Comments</i>	<i>n/a - Stream Alteration is not proposed.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)18	(Stream alteration) Fish habitat is maintained or improved as a result of the work proposed.
			<i>Staff</i>	<i>n/a - Stream Alteration is not proposed.</i>

Compliant			Standards and Staff Comments	
Yes	No	N/A	Guideline	City Standards and <i>Staff Comments</i>
			<i>Comments</i>	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)19	(Stream alteration.) The proposed work shall not be in conflict with the local public interest, including, but not limited to, property values, fish and wildlife habitat, aquatic life, recreation and access to public lands and waters, aesthetic beauty of the stream and water quality.  <i>Staff Comments</i> <i>n/a - Stream Alteration is not proposed.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)20	(Stream alteration.) The work proposed is for the protection of the public health, safety and/or welfare such as public schools, sewage treatment plant, water and sewer distribution lines and bridges providing particularly limited or sole access to areas of habitation.  <i>Staff Comments</i> <i>n/a - Stream Alteration is not proposed.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	17.88.050(E)21	(Wetlands) Where development is proposed that impacts any wetland the first priority shall be to move development from the wetland area. Mitigation strategies shall be proposed at time of application that replace the impacted wetland area with an equal amount and quality of new wetland area or riparian habitat improvement.  <i>Staff Comments</i> <i>n/a – the construction work is not within any delineated wetland areas.</i>

#### CONCLUSIONS OF LAW

1. The City of Ketchum is a municipal corporation organized under Article XII of the Idaho Constitution and the laws of the State of Idaho, Title 50, Idaho Code;
2. Under Chapter 65, Title 67, of the Idaho Code the City has passed a zoning ordinance, Title 17;
3. The City of Ketchum Planning Department provided adequate notice of opportunity to comment on this application pursuant to Chapter 17.88.050 D of the zoning ordinance, Title 17;
4. The project **does** meet the standards of approval under Chapter 17.88 of Zoning Code Title 17.

#### DECISION

**THEREFORE**, the Administrative Floodplain Development Permit for the proposed project, Carbon Hill Hot Springs Vault and Truss Repair and reconstruction, is approved with the following conditions.

#### CONDITIONS OF APPROVAL

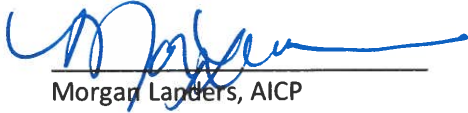
1. This approval is subject to the scope of work and requirements as described in the Site Plan, the Construction Activity Plan, and the Riparian Management and Mitigation Plan included as Attachments A and B unless otherwise noted in the conditions of approval.
2. Any modification to work proposed to occur within the Riparian Zone is subject to a written amendment to this permit approval.
3. No irrigation infrastructure is permitted within the Riparian Zone. All temporary irrigation necessary for revegetation efforts must be sprayed into the Riparian Zone. Water for temporary irrigation shall be from the on-site well and hydrant, water drawn from Warm Springs Creek is not permitted.

4. The applicant shall not mow, prune or cut vegetation in the riparian area to ensure that the riparian area is allowed to naturalize. City staff reserve the right to inspect annually the 25-foot riparian zone for preservation of riparian vegetation.
5. All riparian protection measures shown on the plans, including silt fencing, shall be installed prior to installation of the foot bridge and placement of the crane and shall remain in place until such time as the riparian zone plantings occur.
6. The owner's representative shall notify the Planning and Building Department via phone, 208-726-7801, 48 hours in advance of the day construction of the project is scheduled to begin to facilitate a site visit to ensure the straw waddle and fencing protecting the riparian zone has been installed per sheet A003.
7. No use of restricted use chemicals or soil sterilants will be allowed within one hundred feet (100') of the mean high-water mark on any property within the city limits at any time (KMC 17.88.040.C.3).
8. No use of pesticides, herbicides, or fertilizers will be allowed within twenty-five feet (25') of the mean high-water mark on any property within the City limits unless approved by the City Arborist (KMC 17.88.040.C.4).
9. All applications of herbicides and/or pesticides within one hundred feet (100') of the mean high water mark, but not within twenty five feet (25') of the mean high water mark, must be done by a licensed applicator and applied at the minimum application rates (KMC 17.88.040.C.4).
10. Application times for herbicides and/or pesticides will be limited to two (2) times a year; once in the spring and once in the fall unless otherwise approved by the City Arborist (KMC 17.88.040.C.5).
11. The application of dormant oil sprays and insecticidal soap within the Riparian Zone may be used throughout the growing season as needed (KMC 17.88.040.C.6).
12. Pursuant to KMC 17.88.040.C.8, it shall be unlawful to dump, deposit or otherwise cause any trash, landscape debris or other material to be placed in any stream, channel, ditch, pond or basin that regularly or periodically carries or stores water.
13. The foot bridge and crane must be removed prior to issuance of a certificate of completion for the project.
14. If flood conditions become imminent during construction while the foot bridge and crane are in place, the foot bridge and crane must be immediately removed and placed outside the floodplain as shown on the Construction Activity Plan.
15. Prior to certificate of completion for the project, a final inspection must be conducted by the Planning Department to ensure that all construction materials have been removed from the site and to survey the limits of disturbance from construction activities.
16. Seeding and revegetation of the disturbed areas shall be negotiated following construction completion and documented on the Limits of Disturbance Survey. All seeding and revegetation must be implemented according to the Limits of Disturbance Survey .
17. Follow up site visits to ensure compliance with the approved Riparian Management and Mitigation Plan, are required for the three (3) years following approval of the certificate of completeness for the building permit.
  - a. If, upon an annual inspection, 80% or fewer of the seeded area has survived, the property owner shall re-seed the area per the Riparian Management and Mitigation Plan.
18. The applicant shall provide annual reports to the City of Ketchum Planning and Building Department outlining the status of revegetation efforts and success criteria.

19. Floodplain Development Permit approval shall expire one (1) year from the date of signing of approved Findings of Fact per the terms of KMC, Section 17.88.050.G, Terms of Approval, if construction has not commenced.
20. No temporary work, placement of equipment, or other activities associated with this project shall occur within the Warm Springs Creek mean high water mark boundaries without approval by the City of Ketchum.

**Decision:** Approved, subject to conditions above.

DATED this 19<sup>th</sup> day of September 2023



Morgan Landers, AICP  
Planning and Building Director

**ATTACHMENTS:**

- A. Application Materials including project plans
- B. Riparian Management and Mitigation Plan



# ALPINE ENTERPRISES INC.

Surveying, Mapping, Civil Engineering, GPS, GIS, and Natural Hazards Consulting

DATE: August 11, 2023

TO: City of Ketchum Planning & Building Department

Re: Carbon Hill Hot Springs Infrastructure Repair  
Floodplain Development Permit Application - Project Narrative & Evaluation Criteria  
Climax Millsite M.S. 50, TL 3500 & Carbon Hill Millsite M.S. 74B, TL 6048  
West Warm Springs Road

Dear Planning & Building Department,

This Floodplain Development Permit Application has been prepared on behalf of Natural Resources Energy, LLC, owner of the Carbon Hill Hot Springs, located within Section 15, Township 4 North, Range 17 East, City of Ketchum, Blaine County, Idaho. The applicant requests approval to conduct maintenance, repairs, and improvement applications on the existing Carbon Hill Hot Springs geothermal infrastructure in order to restore and improve operations and to ensure water delivery. The current infrastructure operates under IDWR Water Right #37-1231 and has not functioned since the winter of 2021-2022. Recent and frequent avalanche activity has severely compromised the aging system to the point where it no longer functions as intended.

The scope of the proposed development will consist of repairs to the existing geothermal catchment vaults, a realignment of the existing pipeline aqueduct constructed with repurposed ski-lift towers, the removal of trees within the immediate construction area, the construction of temporary site access areas, and the implementation of erosion control and riparian protection best management practices.

#### *Floodplain Management Overlay Evaluation Standards:*

1. The proposed project incorporates erosion control and riparian protection best management practices (BMP's) in order to preserve the natural characteristics of the area. All disturbed areas within the floodplain and riparian zone will be replanted with native species and restored to their natural state. There will be no activity below the Mean High Water line and there will be no alterations to the stream channel.
2. Temporary construction activities within the 25' riparian zone will be necessary in order to complete the proposed repairs. A temporary foot bridge will be installed across Warm Springs Creek and an access road suitable for concrete trucks and cranes will be constructed adjacent to the northern stream bank. These areas will be contained with silt fencing during construction and will be removed and restored following project completion.
3. No new permanent development is proposed within the 25' riparian zone. The existing concrete structure on the southern stream bank will be enlarged to provide a footing for the pipeline support tower. The proposed tower support footings on the north side of the stream will be located outside of this zone. All of the existing concrete footings, trestles, and pipeline not scheduled to be reused will be removed from the floodplain and riparian zones and the areas restored.
4. A Riparian Wetland Management and Mitigation Plan has been prepared by Sawtooth Environmental Consulting for this project. The appropriate reclamation procedures have been specified.
5. No permanent landscaping, grading, or driveways are proposed in this submittal.
6. The area proposed above ground permanent structures associated with this development will be adequately offset by the removal of the existing infrastructure. This project will provide a no net loss in in floodwater carrying capacity.
7. Stormwater and erosion BMP's will be implemented during construction to protect water quality in the area.
8. No new permanent development is proposed within the 25' riparian zone.

# ALPINE ENTERPRISES INC.

Surveying, Mapping, Civil Engineering, GPS, GIS, and Natural Hazards Consulting

9. The proposal does not consist of habitable structures.
10. No fill is proposed to be placed within the floodplain.
11. The proposal does not consist of habitable structures. The tower support footings have been designed by Craig Maxwell, PE.
12. No driveways are proposed in this submittal and site access is outside of the floodplain overlay.
13. No driveways or the associated grading are proposed in this submittal.
- 14-20. The proposed repairs will not require a stream alteration permit.
21. A Riparian Wetland Management and Mitigation Plan has been prepared by Sawtooth Environmental Consulting for this project. The appropriate reclamation procedures have been specified.

Respectfully submitted,



Bruce Smith, PLS 7048



Alex Nelson, PLS 19275

Alpine Enterprises Inc.  
Ketchum, ID, 83340  
(208) 727-1988  
bsmith@alpineenterprisesinc.com

OFFICIAL USE ONLY	
File Number:	P23-075
Date Received:	8/18/23
By:	HLN
Fee Paid:	\$250
Approved Date:	
Denied Date:	
By:	

## Floodplain Development Permit Application

Submit completed application and documentation to [planningandzoning@ketchumidaho.org](mailto:planningandzoning@ketchumidaho.org) Or hand deliver to Ketchum City Hall, 191 5<sup>th</sup> St. W. Ketchum, ID If you have questions, please contact the Planning and Building Department at (208) 726-7801. To view the Development Standards, visit the City website at: [www.ketchumidaho.org](http://www.ketchumidaho.org) and click on Municipal Code. You will be contacted and invoiced once your application package is complete.

### When is a Floodplain Development Permit Application required?

The Floodplain Management Overlay Zoning District boundaries are represented on the official zoning map of the City.

All land within the external boundary of the special flood hazard area (SFHA) and all parcels with any portion thereof affected by said SFHA shall be considered to be within the Floodplain Management Overlay Zoning district.

All land areas within the external boundary of the SFHA shall be considered to be within the floodplain subdistrict of the Floodplain Management Overlay Zoning District. The City may make necessary interpretations of the boundary based upon the recommendation of the City Engineer or other expert.

All land areas within the external boundary of the regulatory floodway shall be considered to be within the floodway subdistrict of the Floodplain Management Overlay Zoning District. The City may make necessary interpretations of the boundary based upon the recommendation of the City Engineer or other expert.

NOTE: This permit is required for all properties containing 100 year floodplain area and Riparian Setbacks

PROPERTY OWNER INFORMATION	
Property Owner Name(s):	CARBON HILL HOTSPRINGS INC. - NATURAL ENERGY RESOURCES, LLC.
Property Owner's Mailing Address:	P.O. BOX 4500 HAILEY, ID 83333
Phone:	(787) 925-5116
Email:	dacimino@me.com
PROJECT INFORMATION	
Project Name:	CARBON HILL HOT SPRINGS
Project Representative's Name (main point of contact for project):	BRUCE SMITH, ALPINE ENTERPRISES INC.
Project Representative's Phone:	(208) 727-1988
Project Representative's Mailing Address:	P.O. BOX 2037 KETCHUM, ID 83340
Project Representative's Email:	bsmith@alpineenterprisesinc.com
Architect's name, phone number, e-mail:	craig@maxwellsds.com
Landscape Architect's name, phone number, e-mail:	NA
Environmental consultant's name, phone number, e-mail:	TRENT STUMPH (208) 727-9748 trent@sawtoothenvironmental.com
Engineer's name, phone number, e-mail:	CRAIG MAXWELL (208) 721-2171 craig@maxwellsds.com
Project Address:	W. WARM SPRINGS RD. - NO ADDRESS ASSIGNED
Legal Description of parcel:	CLIMAX MILLSITE M.S. 50, TL 3500 & CARBON HILL MILLSITE M.S. 74B, TL 6048
Lot Size:	374,100 Sq. Ft. - 8.59 Ac.
Zoning District:	Tourist-4000 District (T-4000) & Agricultural and Forestry District (AF)
Overlay Zones – indicate all that apply:	<input checked="" type="checkbox"/> Floodplain <input checked="" type="checkbox"/> Floodway <input checked="" type="checkbox"/> Riparian Zone <input type="checkbox"/> Avalanche <input type="checkbox"/> Mountain
Brief description of project scope:	Repair the existing hot water system and protect it from future avalanche damage. This will consist of: repair catchment vaults, reconstruct and realign the distribution aqueduct using re-purposed ski lift towers, remove the damaged infrastructure within the floodplain and riparian zones, install temporary construction facilities, repair site to original conditions.
Value of Project: \$	TBD - SEE BUILDING PERMIT APPLICATION
TYPE OF PROJECT – indicate all that apply:	

<input type="checkbox"/> New Building in Floodplain	<input type="checkbox"/> Building Addition in Floodplain	<input type="checkbox"/> Emergency Streambank Stabilization / Stream Alteration	<input checked="" type="checkbox"/> Other. Please describe: REPAIR EXISTING INFRASTRUCTURE
<input type="checkbox"/> Floodplain Development	<input type="checkbox"/> Streambank Stabilization / Stream Alteration		
<b>PROPOSED SETBACKS – if project is a new building or an addition to an existing building</b>			
Front: NA	Side: NA	Side: NA	Rear: NA
<b>ADDITIONAL INFORMATION</b>			
Will fill or excavation be required in floodplain, floodway or riparian zone?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If Yes, Amount in Cubic Yards: Fill: 0 CY		Excavation: 20 CY	
Will Existing Trees or Vegetation be Removed?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Will new trees or vegetation be planted?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Applicant agrees in the event of a dispute concerning the interpretation or enforcement of the Floodplain Management Overlay Application, in which the City of Ketchum is the prevailing party, to pay reasonable attorney fees, including attorney fees on appeal, and expenses of the City of Ketchum. I, the undersigned, certify that all information submitted with and upon this application form is true and accurate to the best of my knowledge and belief.



Signature of Representative  
BRUCE SMITH, PLS 7048, ALPINE ENTERPRISES INC.

AUGUST 9TH, 2023

Date

# FLOODPLAIN MANAGEMENT OVERLAY EVALUATION STANDARDS

Please provide a narrative to address each of the criteria below.

Criteria for Evaluation of Applications: The criteria of floodplain development permit applications shall be as follows:

1. The proposal preserves or restores the inherent natural characteristics of the river, floodplain, and Riparian Zone, including riparian vegetation and wildlife habitat. Development does not alter river channel unless all stream alteration criteria for evaluation are also met.
2. No temporary construction activities, encroachment, or other disturbance into the twenty-five foot (25') Riparian Zone, including encroachment of below grade structures, shall be permitted, except for approved stream stabilization work and restoration work associated with a riparian zone that is degraded.
3. No permanent development shall occur within the twenty-five foot (25') Riparian Zone, except for approved stream stabilization work and restoration work associated with permit issued under this title, or exceptions as described below:
  - a. Access to a property where no other primary access is available.
  - b. Emergency access required by the Fire Department.
  - c. A single defined pathways or staircases for the purpose of providing access to the river channel and in order to mitigate multiple undefined social paths.
  - d. Development by the City of Ketchum
4. New or replacement planting and vegetation in the Riparian Zone shall include plantings that are low growing and have dense root systems for the purpose of stabilizing stream banks and repairing damage previously done to riparian vegetation. Examples of such plantings most commonly include red osier dogwood, common chokecherry, serviceberry, elderberry, river birch, skunk bush sumac, Beb's willow, Drummond's willow, little wild rose, gooseberry, and honeysuckle. However, in rare instances the distance from the top-of-bank to the mean high-water mark is significant and the native vegetation appropriate for the Riparian Zone are low growing, drought resistant grasses and shrubs. Replacement planting and vegetation shall be appropriate for the specific site conditions. Proposal does not include vegetation within the twenty-five foot (25') Riparian Zone that is degraded, not natural, or which does not promote bank stability.
5. Landscaping and driveway plans to accommodate the function of the floodplain allow for sheet flooding. Surface drainage is controlled and shall not adversely impact adjacent properties including driveways drained away from paved roadways. Culvert(s) under driveways may be required. Landscaping berms shall be designed to not dam or otherwise obstruct floodwaters or divert same onto roads or other public pathways.
6. Floodwater carrying capacity is not diminished by the proposal.
7. Impacts of the development on aquatic life, recreation, or water quality upstream, downstream or across the stream are not negative.
8. Building setback in excess of the minimum required along waterways is encouraged. An additional ten-foot (10') building setback beyond the required twenty-five foot (25') Riparian Zone is encouraged to provide for yards, decks and patios outside the twenty five foot (25') Riparian Zone.
9. The top of the lowest floor of a building located in, or partially within, the SFHA shall be at or above the Flood Protection Elevation (FPE). A building is considered to be partially within the SFHA if any portion of the building or appendage of the building, such as footings, attached decks, posts for upper story decks, are located within the SFHA. See section 17.88.060, figures 1 and 2 of this chapter to reference construction details. See Chapter 17.08 of this title for definition of "lowest floor."
  - a. In the SFHA where Base Flood Elevations (BFEs) have been determined, the FPE shall be twenty-four inches (24") above the BFE for the subject property; twenty-four inches (24") or two (2) feet is the required freeboard in Ketchum city limits.
  - b. In the SFHA where no BFE has been established, the FPE shall be at least two (2) feet above the highest adjacent grade.
10. The backfill used around the foundation in the SFHA floodplain shall provide a reasonable transition to existing grade but shall not be used to fill the parcel to any greater extent.
  - a. Compensatory storage shall be required for any fill placed within the floodplain.
  - b. A CLOMR-F shall be obtained prior to placement of any additional fill in the floodplain.
11. All new buildings located partially or wholly within the SFHA shall be constructed on foundations that are designed by a licensed professional engineer.

12. Driveways shall comply with City of Ketchum street standards; access for emergency vehicles has been adequately provided for by limiting flood depths in all roadways to one foot (1-ft) or less during the 1% annual chance event.
13. Landscaping or revegetation shall conceal cuts and fills required for driveways and other elements of the development.
14. (Stream alteration.) The proposal is shown to be a permanent solution and creates a stable situation.
15. (Stream alteration.) No increase to the one percent (1%) annual chance flood elevation at any location in the community, based on hydrologic and hydraulic analysis performed in accordance with standard engineering practice and has been certified and submitted with supporting calculations and a No Rise Certificate, by a registered Idaho engineer.
16. (Stream alteration.) The project has demonstrated No Adverse Impact or has demonstrated all impacts will be mitigated.
17. (Stream alteration.) The recreational use of the stream including access along any and all public pedestrian/fisher's easements and the aesthetic beauty shall not be obstructed or interfered with by the proposed work.
18. (Stream alteration.) Fish habitat shall be maintained or improved as a result of the work proposed.
19. (Stream alteration.) The proposed work shall not be in conflict with the local public interest, including, but not limited to, property values, fish and wildlife habitat, aquatic life, recreation and access to public lands and waters, aesthetic beauty of the stream and water quality.
20. (Stream alteration.) The work proposed is for the protection of the public health, safety and/or welfare such as public schools, sewage treatment plant, water and sewer distribution lines and bridges providing particularly limited or sole access to areas of habitation.
21. (Wetlands) Where development is proposed that impacts any wetland the first priority shall be to move development from the wetland area. Mitigation strategies shall be proposed at time of application that replace the impacted wetland area with an equal amount and quality of new wetland area or riparian habitat improvement.

# APPLICATION CHECKLIST

**Please utilize and submit the checklist on the following pages to ensure a complete application.**

Floodplain management overlay application certification of completeness is based on submittal of all applicable items on this checklist.

**Project name:** CARBON HILL HOT SPRINGS

**Reviewed by:** BRUCE SMITH

## DOCUMENTS

- One (1) digital copy of all application materials
- Application form
- Evaluation criteria narrative
- Description of proposed development
- Specifications for building construction and materials, flood proofing, filling, grading, dredging, channel improvement/changes and utilities
- Elevation and/or flood proofing certification prepared by a professional engineer for existing and proposed residential and nonresidential structures located partially or wholly in the regulatory floodplain. Said floodproofing methods shall meet the criteria in subsection 17.88.060.B of the Ketchum Municipal Code.
- Copy of letter of map amendment based on fill (LOMA-F) application for any proposed fill in the floodplain. LOMA-F approval shall be obtained from FEMA prior to issuance of a floodplain development permit.
- Signed, notarized, original copy of the Acknowledgement of Floodplain Management Overlay District and Waterways Design Review District Affidavit.

## **SITE SURVEY OF EXISTING CONDITIONS (prepared and stamped by a licensed engineer or surveyor) – REQUIRED FOR NEW BUILDINGS OR ADDITIONS TO BUILDINGS IN THE FLOODPLAIN AND ANY WORK WITHIN THE FLOODWAY**

- Exterior boundary lines of the property together with dimensions
- Topographic survey of the real property at a minimum of one (1) foot contour intervals, significant hillsides may be a minimum of ten (10) foot contour intervals
- Location of any existing dwelling units, other structures, fill, storage of materials, drainage facilities and all improved areas (pavement) with dimensions thereof showing the setback of each structure from the nearest property line
- Location of existing channels and ditches and other significant natural features, boundaries of floodway and floodplain, including Base Flood Elevation (BFE) and other site specific information from the studies referred to in Ketchum Municipal Code, subsection 17.88.040.A.3
- Location and elevations of adjacent streets, water supply and sewer lines, including private wells and/or septic systems
- Elevation of the lowest floor (including basement) of all structures existing and proposed partially or wholly located in the one percent (1%) annual chance floodplain, including elevation to which any structure has been or will be floodproofed
- Identification of the riparian zone and the "mean high water mark," as defined in Ketchum Municipal Code
- Location of previous stream alterations upstream, downstream and along both banks from subject lot
- Location of drainage ways, intermittent and year-round, including potential overflow channels or channel movement
- Location and dimensions of easements, private and public, within and adjacent to the proposed project together with the purpose thereof
- Location of all existing trees to be preserved and significant trees to be removed
- Indication of any zoning district overlay which affects the property (floodplain, mountain overlay or avalanche)
- Location of existing structures on adjacent properties

**SITE PLAN – REQUIRED FOR ALL PROJECTS.**

- Vicinity map
- Proposed excavation or land fill including resulting slope grades for the building pad(s), driveways and any other element of the proposed development where excavation or fill will take place
- Drainage plan including offsite improvements such as borrow ditches and culverts and including a plan for on- and off-site improvements to provide for unobstructed conveyance of floodwaters
- Location of on-site parking spaces and access thereto, including the dimensions of the spaces and the width and length of access and curb cuts
- Location and dimensions of snow storage areas
- Location of dumpster and/or garbage and recycling can storage areas, including the dimensions and proposed fencing or other screening
- Location and type of any electrical power transformers, switches and/or sectors
- Location and type of all heating, ventilation, air conditioning and other mechanical units
- Drip line of all buildings
- Percentage of the lot coverage by proposed building and parking areas together with the total square footage of the parcel of property
- Location of all proposed structures (buildings) and all improved areas (pavement, sidewalk) with dimensions thereof showing the setback of each structure from the nearest property line
- Designation of the zoning district in which the project is located
- Location of any zoning district boundary line within the proposed project or the immediate vicinity thereof
- For any building in the floodplain with an area below the lowest floor that is below the base flood elevation and has a ceiling height of five feet (5') or greater, the building owner shall sign a non-conversion agreement, that shall run with the property, promising not to improve, finish or otherwise convert the area below the lowest floor to living area and granting the city the right to inspect the enclosed area at its discretion. Such agreement shall be recorded at Blaine County's recorder's office

**ARCHITECTURAL PLANS – REQUIRED FOR NEW BUILDINGS OR ADDITIONS TO EXISTING BUILDINGS**

- Floor plans of all floors at not less than one-eighth (1/8) scale
- All exterior elevations
- Roof plan including direction of snow sliding and snow clips if applicable. Location and type of all mechanical equipment and rooftop appurtenances
- Cross-section(s) of the property and proposed building adequately establishing the natural grade, finished grade, slope of land, slope of proposed accesses and grades to all public rights-of-way
- Location and type (cut sheets) of all exterior lighting
- Model or computer simulation renderings, if required at pre-application design review meeting

**LANDSCAPE PLAN – REQUIRED FOR ANY PROJECT PROPOSING TO ALTER VEGETATION IN THE RIPARIAN ZONE OR SPECIAL FLOOD HAZARD AREA**

- All existing vegetation over 2 inches in caliper, including size and species
- Proposed landscaping of the project including types, quantities and sizes of trees, shrubs, ground cover and other vegetation
- Proposed landscaping or other improvements within any public rights-of-way
- Location, type (materials and colors) and height of walls or fences
- Location of parking areas
- Location of vehicular and pedestrian circulation patterns, easements and proposed improvements with regard thereto
- Irrigation system for landscaping
- Drainage plan including off-site improvements

**STREAM ALTERATIONS / STREAMBANK STABILIZATION**

- Copies of the Joint Application for Permits submitted to the U.S. army corps of engineers (USACE) and Idaho department of water resources (IDWR). Please note, USACE and IDWR approvals shall be obtained prior to issuance of a stream alteration permit.
- Copy of the USACE permit approval.
- Copy of the IDWR permit approval.
- Cross section of proposed work



- Length of stream to be worked, type of work to be done, type of equipment to be used and starting and completion dates of work
- A valley cross section showing stream channel, floodway limits, elevations of adjacent land areas, Special Flood Hazard Area boundary, floodway boundary, existing Mean High Water mark, proposed Mean High Water mark, Riparian Zone regulated by the City of Ketchum, proposed excavation, proposed fill. A profile showing the slope of the bottom of the channel or flow line of the stream may be required upon review of all other material submitted.
- For any work proposed to occur in the regulatory floodway: A no net rise certificate, including supporting calculations, prepared and stamped by an Idaho registered professional hydraulic engineer
- For any work proposed to occur in the floodway: HEC-RAS model

**NO ADVERSE IMPACT STATEMENT – WHERE APPLICABLE**

- No Adverse Impact Statement
  - See definition of “No Adverse Impact” in section 17.08.020 of Ketchum Municipal Code.



## **Acknowledgement of Floodplain Affidavit**

Pursuant to Ketchum Municipal Code §17.88.040 D1, prior to the issuance of any floodplain development permit for development within the Floodplain Management Overlay District and the Waterways Review District as defined under to Ketchum Municipal Code §17.08, the property owner shall submit to the Planning and Building Department a written affidavit on a form provided by the City, signed by the property owner under seal of a notary public, of the property owner's actual knowledge that the property is located within the Floodplain Management Overlay District or the Waterways Review District. The property owner will also acknowledge that he or she is aware of the flood hazard potential for the property and is aware of the regulations the Floodplain Management Overlay Zoning District and Waterways Review District no work shall occur in these areas without city permits and approvals

### **Instructions**

1. Property owner shall complete the attached affidavit.
2. Property Owner shall sign before a notary public and have the affidavit notarized.
3. Property Owner shall return original notarized affidavit to the City of Ketchum Planning & Building Department.
4. The Planning & Building Department shall have the notarized affidavit recorded in the records of Blaine County for the property.
5. A copy of the recorded document will be delivered to the Property Owner and filed in the City records with the building permit documents.

<b>RECORDING REQUESTED BY AND WHEN RECORDED RETURN TO:</b>  City Clerk, City of Ketchum PO Box 2315 Ketchum Idaho, 83340	
--	--

(Space Above Line For Recorder's Use)

**Acknowledgement of Floodplain Management Overlay District and Waterways Design Review District Affidavit**

Property Owner: CARBON HILL HOTSPRINGS INC. - NATURAL ENERGY RESOURCES, LLC.
Building Permit Number or Land Use Permit Number:
Property Address: W. WARM SPRINGS RD. - NO ADDRESS ASSIGNED
Legal Description: CLIMAX MILLSITE M.S. 50, TL 3500 & CARBON HILL MILLSITE M.S. 74B, TL 6048
Parcel Number: RPK RP1M0000000220
Scope of Work: REPAIRS TO DAMAGED EXISTING INFRASTRUCTURE

Please initial and fill below:

DK I acknowledge that this development and the parcel of land, or portion thereof, on which the development will be situated are within the Floodplain Management Overlay District.

DK I acknowledge this property is within the Waterways Review District.

DK I have thoroughly read and fully understand Ketchum Municipal Code Title 17, Chapter 17.88 "Floodplain Management Overlay District", to include regulations for the Waterways Design Review District including regulations on activities within 100 feet of the mean high-water mark.

DK I fully understand and agree to comply with Ketchum Municipal Code Title 17, Chapter 17.88.040C.

DK I, on behalf of myself, my personal representatives and my heirs, successors, and assignees, acknowledge by this written affidavit that said property is located within the one percent annual chance floodplain (SFHA) as defined herein, and/or said property is within the Waterways Design Review District and that a violation of the terms of Ketchum Municipal Code 17.88 shall cause the City to seek legal remedies.

DK I acknowledge that the City of Ketchum Planning & Building Department shall have the notarized affidavit recorded in the records of Blaine County for the property.

[Signature]  
 \_\_\_\_\_  
 Property Owner Signature

8/11/23  
 \_\_\_\_\_  
 Date

STATE OF ID, County of BLAINE

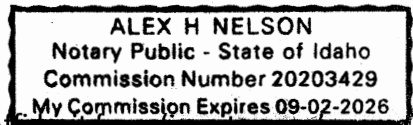
On this 11<sup>th</sup> day of AUGUST, 2023, before me, the undersigned, a Notary Public in and for said State, personally appeared DAVID CIMINO, known or identified to me to be the person whose name is subscribed to the within instrument.

WITNESS my hand and seal the day and year in this certificate first above written.

[Signature] Residing at: KETCHUM, ID

Notary Public for IDAYO  
 (State)

Commission Expires: 09.02.2026

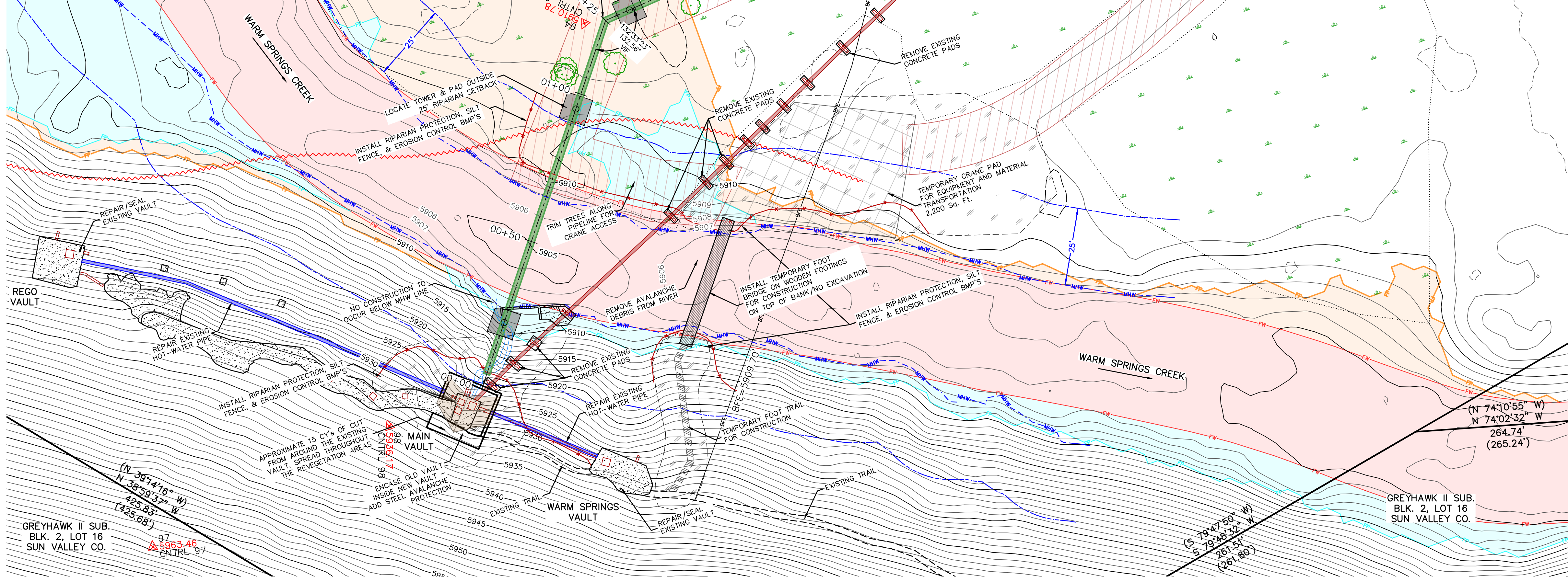


City of Ketchum accepts this Affidavit from (insert owner's name).

\_\_\_\_\_  
 ATTEST, CITY CLEK

- LEGEND**
- Subject Boundary
  - Eliminated Boundary
  - Adjoiners Boundary
  - 10' Major Contour (2017 Blaine County LIDAR)
  - 2' Minor Contour (2017 Blaine County LIDAR)
  - 5' Major Contour (2021 Survey & Aerial Photogrammetry)
  - 1' Minor Contour (2021 Survey & Aerial Photogrammetry)
  - Red Avalanche Hazard Zone (Alpine 2021)
  - Blue Avalanche Hazard Zone (Alpine 2021)
  - Existing Site Access Road
  - Existing Edge of Concrete Hot-Water Vault/Path
  - Proposed Concrete Hot-Water Vault
  - Proposed Steel Avalanche Protection Structure
  - Existing Hot-Water Pipe
  - Proposed Lift-Tower Hot-Water Pipe
  - Proposed Lift-Tower Hot-Water Pipe Footing
  - Proposed Hot-Water Pipe
  - Existing Trail
  - MHW = Mean High Water
  - 25' Riparian Setback
  - 150' MHW Setback
  - BFE = Base Flood Elevation (FEMA-Draft)
  - Floodway (FEMA-Draft)
  - 100-Yr Floodplain (FEMA-Draft)
  - 500-Yr Floodplain (FEMA-Draft)
  - Proposed Temporary Foot Bridge
  - Proposed Temporary Foot Path
  - Existing Wetlands (SEC 14JUL23)
  - Proposed Erosion Control & Revegetation Area
  - Proposed Construction/Silt Fence
  - FND ALU = Found Aluminum Cap
  - FND IP = Found Iron Pipe
  - FND BC = Found Brass Cap
  - FND 5/8" = Found 5/8" Rebar
  - FND 1/2" = Found 1/2" Rebar
  - Existing Tree (To Be Removed)
  - NC = No Cap
  - DIST = Disturbed
  - VIF = Verify in Field
  - ( ) = Record Bearing & Distance (Inst. No. 282914)
  - [ ] = Record Bearing & Distance (Inst. No. 534941)

- NOTES**
- 1) Basis of Bearings is Idaho State Plane Coordinate System, Central Zone, NAD83, (1992), at Grid in US Survey Feet. Vertical Datum is NAVD1988.
  - 2) Boundary Information is from the following Records of Survey: R.O.S. for Cozy Land Co. In Sec. 14 & 15, T.4N., R.18E., Aug. 1980, Instrument Number 207484; Alta Survey for Dr. Leroy Pesch, Located Within Climax Millsite, Carbon Hill Millsite, Dec. 1986, Instrument Number 282914; R.O.S. National Forest Boundaries, Sec. 14 & 15, T.4N., R.17E., A Portion of M.S. 1090 and H.E.S. 292, Apr. 2006, Instrument Number 629955; Records of Blaine County, Idaho.
  - 3) Current Zoning appears to be City of Ketchum, General Residential Low Density (GRL) and Tourist District 4000 (T-4000).
  - 4) Effective Flood Information, as of September 2nd, 2021, is from the November 26th, 2010 FEMA Study; NFIP FIRM Panel No. 0441, Map No. 16013C0441E, City of Ketchum Community No. 160023.
  - 5) Draft Flood Information, if shown, as of September 13th, 2022, is from the Blaine County Draft Flood Maps.
  - 6) Avalanche Zoning is from a 2021 AVAL-1D Study conducted by Alpine Enterprises Inc. This study is site specific; it should not be applied to adjacent lands.



- CONSTRUCTION NOTES**
- 1) All construction shall be in accordance with the most current edition of the Idaho Standards for Public Works Construction, ISPMC, and the City of Ketchum, Idaho, Codes and Standards. The contractor shall be responsible for obtaining and keeping a copy of the ISPMC and the City of Ketchum Codes and Standards on site during construction.
  - 2) Project applications will incorporate all applicable regulatory standards and guidelines and be in compliance with Federal, state and local laws and processes (e.g., Idaho Department of Water Resources Stream Protection Program).
  - 3) Cut & Fill Totals = 15 Cubic Yards of Cut, to be evenly redistributed throughout all disturbed areas of the building site and revegetated.
  - 4) The contractor shall clean up the site after construction so that it is in a condition equal to or better than that existed prior to construction.
  - 5) All equipment will access the project site from existing private travel paths and roadways. All work applications requiring heavy equipment will be conducted from existing roadway surfaces and work pads. No work will be conducted below the mean high-water elevation associated with Warm Springs Creek. No crossing or fording of the Warm Springs Creek stream channel with heavy equipment is being proposed.
  - 6) All clearing and grubbing shall conform to ISPMC Section 201 and City of Ketchum standards of excavation and backfill.
  - 7) No contractor parking shall be permitted within City of Ketchum Right-of-Way. All parking shall be contained within the construction area.
  - 8) All staging, parking and refueling areas shall be located outside of sensitive areas (i.e. floodplain, riparian and wetland areas) in weed free sites adjacent to existing roadways. Located at a distance greater than 150 feet from all surface waters and near surface ground water areas, in an area where a spill would easily be contained and not reach surface waters.
  - 9) All Riparian and Hillside areas shall be protected from disturbances during construction. Silt Fences shall be installed downslope of all construction areas and maintained for the duration of construction. SWPPP approved Best Management Practices shall be used to mitigate erosion and stabilize disturbed areas.
  - 10) All area disturbed throughout construction shall be stabilized and reseeded with native vegetation, irrigated, and monitored until new growth has been reestablished. Wherever possible, a native vegetation buffer shall be protected and preserved. Erosion control methods shall include straw wattles, straw and wood mulching, geotextile matting, and/or hydroseeding.
  - 11) The natural existing site conditions shall be restored immediately following construction or before the spring runoff period, whichever comes first. Proper Winter Stabilization BMP's shall be used and maintained. Dormant Seeding shall occur once ground temperatures at a depth of 1" do not exceed 40°F. The Tower Pad at Sta 1+00 shall be revegetated with Willows or other hardy native vegetation to further mitigate noxious weeds and provide extra protection during high water events.
  - 12) See the "Carbon Hill - Guyer Hot Springs: Riparian Management and Mitigation Plan" from Sawtooth Environmental Consulting for the complete Management Plan.

GREYHAWK II SUB.  
BLK. 2, LOT 16  
SUN VALLEY CO.

GREYHAWK II SUB.  
BLK. 2, LOT 16  
SUN VALLEY CO.

PROJECT PATH AND PRINT DATE: U:\LandProjects\2004\1844\_CarbonHill-Climax.dwg 09/09/2023 16:32:14 PM MDT

**ALPINE ENTERPRISES INC.**  
Surveying, Mapping, Civil Engineering,  
and Natural Hazards Consulting  
660 Bell Dr., Unit 1 83340 USA  
(208) 727-1988  
email: bamt@alpineenterprisesinc.com

**PROFESSIONAL LAND SURVEYOR**  
IDaho 7048  
09SEP23

**PROFESSIONAL ENGINEER**  
IDaho 13775  
09SEP23

NO	DATE	BY
1	09AUG23	AHN
2	09SEP23	BWS

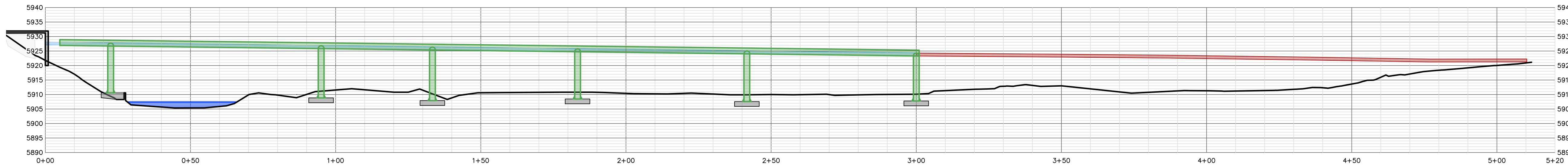
REVISIONS BUILDING PERMIT SUBMITTAL  
REVISE NOTES

SHEET 1 OF 2

A SITE & CONSTRUCTION ACTIVITY PLAN SHOWING  
HOT SPRINGS LODGE, CLIMAX & CARBON HILL MILLSITES  
WITHIN S15, T.4N., R.17E., B.M., CITY OF KETCHUM, BLAINE COUNTY, IDAHO  
PREPARED FOR CARBON HILL HOT SPRINGS INC.

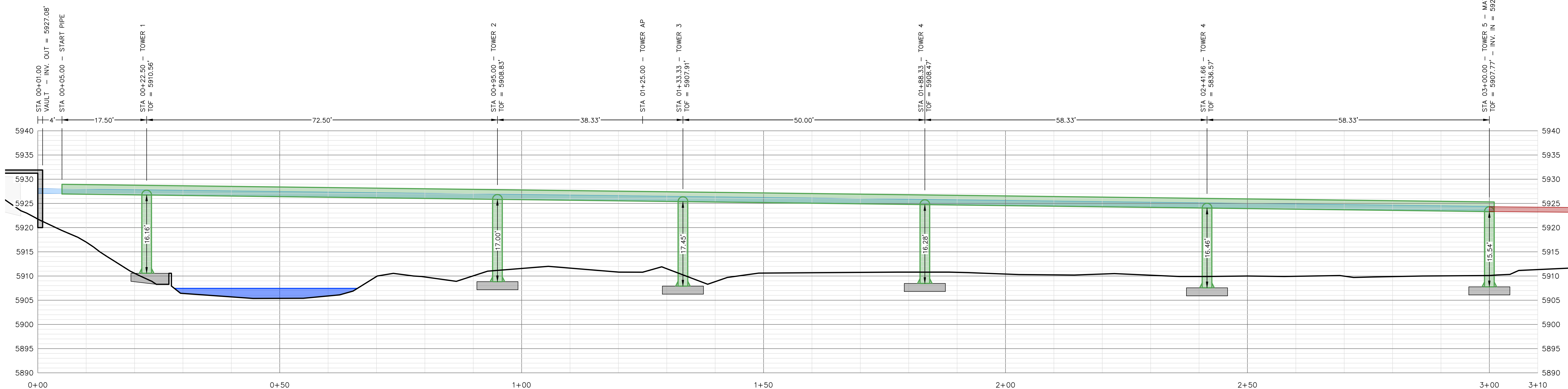
**LEGEND**

- Existing Ground Surface
- Existing Concrete Hot-Water Vault
- Proposed Concrete Hot-Water Vault
- Proposed Lift-Tower Hot-Water Pipe
- Proposed Lift-Tower Hot-Water Pipe Footing
- Existing Hot-Water Pipe
- Proposed Hot-Water Pipe
- TOF Top of Footing Elevation
- INV. OUT Pipe Outlet Invert Elevation
- INV. IN Pipe Inlet Invert Elevation
- AP Angle Point
- VIF Verify in Field



**PROPOSED PIPELINE GRADE PROFILE**

SCALE  
1"=20' HORIZ.  
1"=20' VERT.

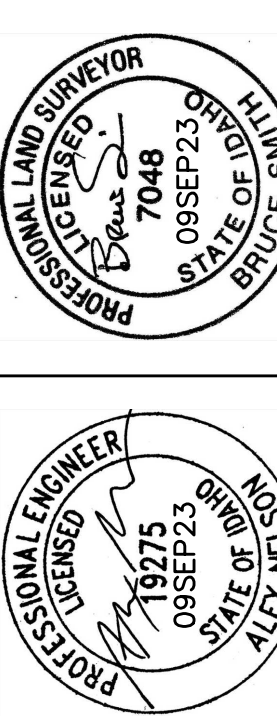


**PROPOSED PIPELINE GRADE PROFILE**

SCALE  
1"=10' HORIZ.  
1"=10' VERT.

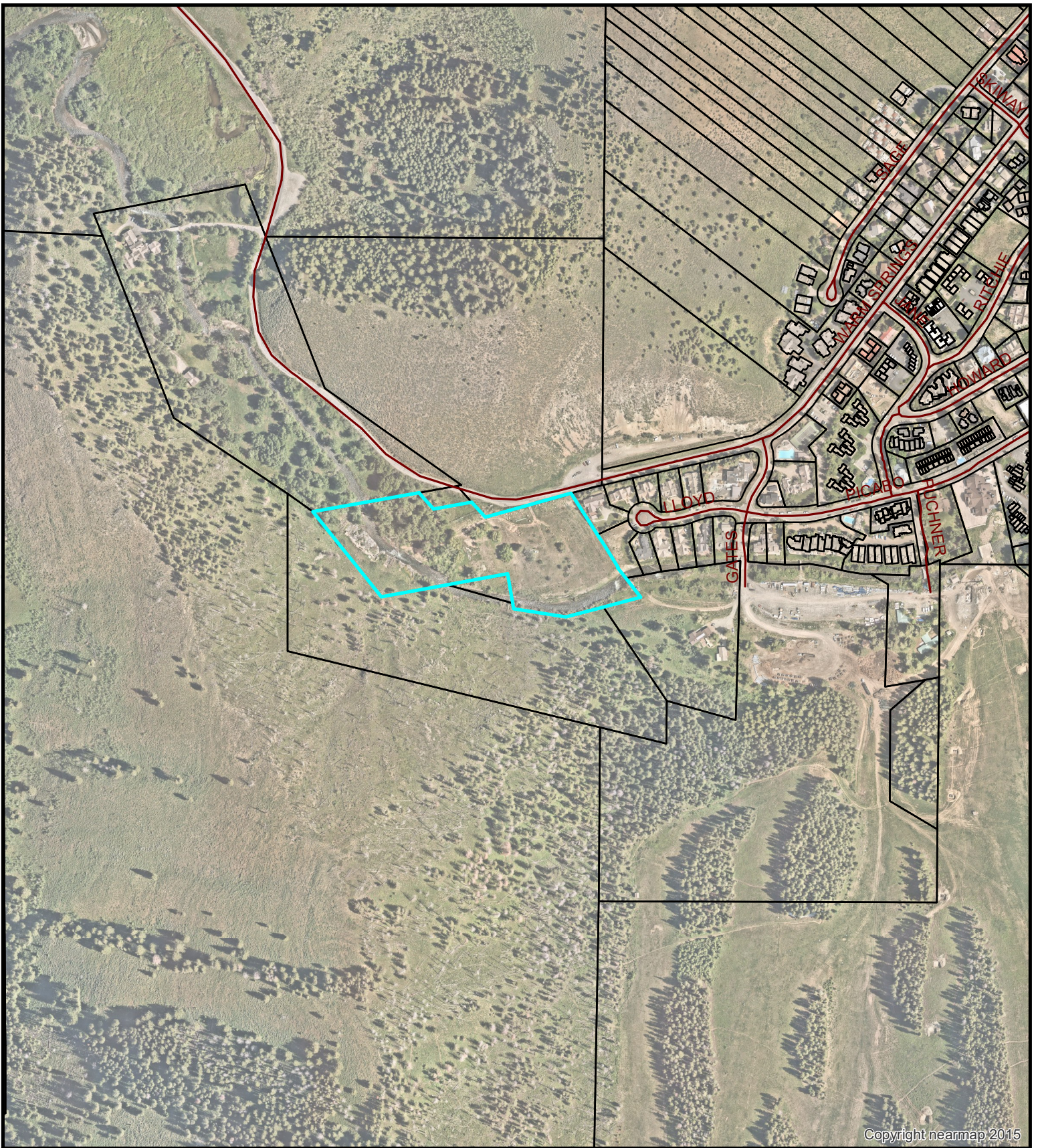
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REVISIONS	NO	DATE	BY
BUILDING PERMIT SUBMITTAL	1	09AUG23	AHN

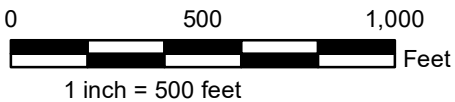


Alpine Enterprises Inc.  
Surveying, Mapping, Civil Engineering,  
and Natural Hazards Consulting  
P.O. Box 2037, Ketchum, ID 83340 USA  
(208) 727-1806  
emil: baird@alpineenterprisesinc.com

A SITE & CONSTRUCTION ACTIVITY PLAN SHOWING  
HOT SPRINGS LODGE, CLIMAX & CARBON HILL MILLSITES  
WITHIN S15, T.4N., R.17E., B.M., CITY OF KETCHUM, BLAINE COUNTY, IDAHO  
PREPARED FOR CARBON HILL HOT SPRINGS INC.



Copyright nearmap 2015



A Vicinity Map Showing  
Carbon Hill Hot Springs Infrastructure Repairs  
City of Ketchum  
Blaine County, Idaho

**ALPINE ENTERPRISES INC.**

PO Box 2037  
660 Bell Drive, Unit 1  
Ketchum, Idaho  
208-727-1988

August 2023

# STRUCTURAL SPECIFICATION

## GENERAL NOTES

The General Contractor shall verify all existing site conditions and coordinate dimensions among all drawings prior to proceeding with any work or off site fabrication.

Any discrepancies found among the drawings, specifications and notes shall be reported to the Engineer Of Record for clarification.

Contractor to submit a request to Engineer for any substitution of materials or products specified in the contract drawings or specifications.

Contractor to provide shop drawings to the Engineer for review prior to the fabrication and erection of the following items: Structurally Insulated Panels (SIP's), Structural Steel and Miscellaneous Metals, Manufactured Wood Joists and Trusses.

Holes, notching or other penetrations through structural members shall not be permitted without prior Engineer approval.

It is the responsibility of the General Contractor for safety and protection within and adjacent to the job site.

## CONCRETE & REINFORCEMENT

**CONCRETE**  
Structural concrete shall be of normal weight concrete (145pcf) with a maximum aggregate size of 3/4" conforming to ASTM C 33, and shall meet the following criteria:

LOCATION	MINIMUM 28day COMPRESSIVE STRENGTH, psi	MAXIMUM WATER-CEMENT RATIO (b)	MAXIMUM SLUMP, inches (a)	AIR-ENTRAIMENT PERCENT ± 1.5%	CEMENT TYPE
RETAINING WALLS & FOOTINGS AND PAV-DECK SLAB	5000	.45	4	6	II

a) Maximum slump based on maximum water-cementitious ratio. Mid and high range water reducing agents can be used to increase slump beyond these maximums with Approval of Engineer.  
b) Water shall not be added at the job site such that the water-cementitious ratio is exceeded.

### CONCRETE BATCHING, MIXING, TRANSPORTATION, PLACEMENT, CONSOLIDATION, HOT & COLD WEATHER PROTECTION

Concrete batching, mixing, and transportation shall conform to ACI 308R.  
Cement to conform to ASTM C 150.  
Aggregates to conform to ASTM C 33.  
Water shall conform to ACI 318-34.  
Placing of concrete shall conform to ACI 304R and ACI 318-5.10.  
Pumping of concrete shall conform to ACI 304.2R.  
No more than 90 minutes shall elapse between batching and placement of concrete.  
Form work shall conform to ACI 347R and ACI 318-6.1.  
Reinforcing steel and Embedded items shall be clean and free of foreign debris and be tied securely in place and care taken not to displace during concrete placement.  
Conduits and Pipes shall not be embedded in concrete without Engineers written approval.  
Consolidation of concrete shall conform to ACI 308R. The unconfined fall of concrete shall not exceed 5'-0".  
Hot weather concreting shall conform to ACI 308R.  
Cold weather concreting shall conform to ACI 308R.  
Concrete shall not be placed on disturbed soil, frozen soil, or placed in water.  
Forms shall not be stripped from walls and footings until concrete strength reaches a minimum of 1000psi. Forms supporting suspended slabs shall not be stripped until full 28day specified compressive strength is achieved.

### CONCRETE WALLS

Footings dowels from footing to wall to match vertical reinforcement size, spacing and location with embed hooks minimum 12 bar diameters in length, U.O.N.

Provide corner bars with 2'-0" long legs to match horizontal reinforcement size, spacing and location unless otherwise noted in drawings. Lap splice horizontal steel full length with corner bars.

Reinforcing steel shall be continuous through all cold joints.  
Stem walls shall not be back filled until main floor is framed and sheathed, and concrete has cured a minimum 7 days.

Provide adequate drainage behind walls as required to prevent standing water behind walls.  
Anchor bolts shall be ASTM F1554 Grade 36 and of the size and spacing as indicated on the drawings and have a 7" minimum embedment depth. Anchor bolts to be within 1"-0" of sill plate ends, with a minimum of two per wall, and closer than 6" from concrete wall corners.

### REINFORCING STEEL

Reinforcing steel shall conform to ASTM A615, grade 60. Welded Wire Fabric shall conform to ASTM A185. Reinforcing steel to be detailed, fabricated, and placed in accordance with ACI 315 and ACI 318.

All reinforcement in direct contact with dirt, bedrock or hotspings water shall be epoxy coated. Epoxy coated rebar shall conform to ASTM A615, grade 60. See manufacturers specifications for epoxy coated rebar storage, handling and bending.

Reinforcement and deformed bar anchors to be welded shall be A706 weldable or prior approved equal. Welding of rebar to be approved by Engineer. Welding shall conform to AWS D1.4 standards.

### LAP SPLICES

Unless otherwise noted, lap splices shall be minimum 48 x bar diameter.  
Clear spacing between bars to be greater than 2 bar diameters. Clear cover greater than 1 bar diameter.

Reinforcement concrete cover requirements, unless otherwise noted in drawings, as follows:

- |  |  |
|--|--|
| (1) Cast against earth                             | 3"                                     |
| (2) Cast against form, Exposed to earth or weather | 2"                                     |
| (3) Walls, slabs, joists                           | Not exposed to earth or weather 3/4"   |
| (4) Beams, columns                                 | Not exposed to earth or weather 1-1/2" |

## DESIGN CRITERIA

**BUILDING CODE**  
Design, construction, and inspection shall conform to the International Building Code, (IBC), 2018 Edition and International Residential Code, 2018 Edition and all Local Codes that may be applicable.

Material test standards referenced shall be the edition referenced in the 2018 IBC.

**RISK CATEGORY OF BUILDING: II**

**DESIGN LOAD CRITERIA**  
At all times, the General Contractor and Owner shall keep the loads on the structure within the limits of the design load criteria.

The General Contractor is responsible to provide all bracing and shoring as required to support the loads that may be imposed on the structure during construction until all structural elements are complete.

**DESIGN ROOF LOADS**  
Live Load (Snow) 100 PSF (Balanced Snow Load)  
Dead Load 75 PSF  
Importance Factor Snow (Is) 1.0  
Drift and Un-Balanced Loads per ASCE/SEI 7-16  
Ground Snow Load 120 PSF  
Exposure Factor (Ce) 1.0  
Temperature Factor (Ct) 1.1

**WIND LOAD DATA**  
Wind Speed (3 sec. gust) 103 MPH  
Importance Factor (Iw) 1.0  
Building Category I  
Exposure Category B  
Internal Pressure Coefficient +/- 0.18

**SEISMIC LOAD DATA**  
Project Coordinates (43.68, -114.41)  
Importance Factor (Is) 1.0  
Ss 0.629  
SI 0.194  
Sds 0.544  
Sd1 0.286  
Site Class D  
Seismic Design Category D  
Basic Seismic Force Resisting System - Ordinary Reinforced Concrete Shear Walls  
Response Modification Coefficient (R) = 4.0  
Equivalent Force Analysis Procedure  
F = 1.0  
Vbase (unmodified) .136\*M  
Seismic Weights (W) Dead Loads + 35% Balanced Snow Load

**AVAILANCE LOAD DATA**  
For avalanche forces, see documents from Alpine Enterprises.

## STRUCTURAL STEEL

**STRUCTURAL STEEL AND MISCELLANEOUS METALS**  
All structural steel, fabrication, painting, and erection shall comply with AISC Manual of Steel Construction including the Code of Standard Practice and the IBC 2018 edition.

All wide flange sections shall conform to ASTM A992 yield stress = 50 ksi.  
All plates, angles, and channels to conform to ASTM A36 yield stress = 36 ksi.

All structural steel tubing to conform to ASTM A500 grade B yield stress = 46 ksi.  
All structural steel pipe shall conform to ASTM A501 grade B yield stress = 36 ksi.

Use ASTM A325 bolts where specified in documents for all steel to steel connections with a minimum diameter of 5/8".

Threaded rod to be welded shall conform to ASTM A307 S1 or ASTM F1554 Grade 36. Alternate weldable steel materials may be used with Engineer prior approval.

All bolts shall be tightened to the minimum bolt tension in accordance with AISC Specifications For Structural Joints Using ASTM A325 or A490 bolts. Direct tension indicators or twist-off-type tension-control bolt assemblies may be used. Provide carbonized washers between turned element and steel. Connections indicated as slip critical (SC), shall have a minimum of a Class A contact surface preparation and bolts tightened to the specified minimum bolt tension utilizing direct tension indicators.

Holes in structural steel may be made only with Engineer prior approval.

All welding shall be performed in accordance with a Welding Procedure Specification (WPS) as required in AWS D1.1 Structural Welding Code and the IBC 2018 code.

Weld Filler to comply with E70XX low hydrogen electrodes with a Charpy-V-Notch (CVN) of 20 foot-pounds at -20 degrees F. The WPS shall be within the parameters established by the filler metal manufacturer.

Welder shall be certified by AWS standards within the past 12 months. Upon request, written certification shall be submitted to the Architect/Engineer or special inspectors for review.  
Welder shall avoid welding directly in the K-area of structural steel.

Shop drawings shall be approved by Engineer prior to fabrication or erection. Shop drawing submittal shall include, but not be limited to, all welding, bolting, dimensions, member size and grade.

## SOIL & FILL

**FOUNDATION/SOILS**  
Design soil bearing pressure = 2000 psf

All foundations shall bear on firm, undisturbed, drained, granular soil free of organic material. If soil is disturbed, compact soil in maximum 8" deep lifts to 95% maximum dry density per ASTM D698.

Contractor to notify Engineer if soil conditions are contrary to the assumed design conditions which may require over excavation and placement of structural fill or a lower assumed soil bearing pressure such as clays, silts or organics.

Exterior footings shall bear a minimum of 2'-6" below finished grade unless otherwise noted in the drawings.

**STRUCTURAL FILL**  
Structural Fill to be GW, GP, SW, or Sp soil under the unified classification system.

Structural Fill shall consist of 4" minus select, clean, granular soil with no more than 12% passing the #200 sieve.

Fill shall be placed in lifts of no more than 8", moisture conditioned, and compacted to 95% of modified proctor density ASTM D1557.

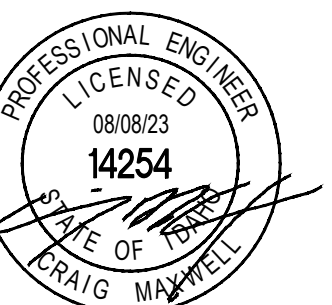
Structural Fill placed below footings must extend laterally outside the perimeter of the footing for a distance equal to the thickness of the fill measured from the bottom of the footing to the underlying undisturbed soil.

Back fill behind stem walls and retaining walls to be the same as prescribed above, except the maximum aggregate size should be 2". Compaction of back fill behind walls shall be done by hand compactors.

ISSUE DATE

PERMIT SET: AUGUST 08, 2023

CARBON HILL REPAIR  
S15, T.4N, R.17E, BM  
KETCHUM, ID



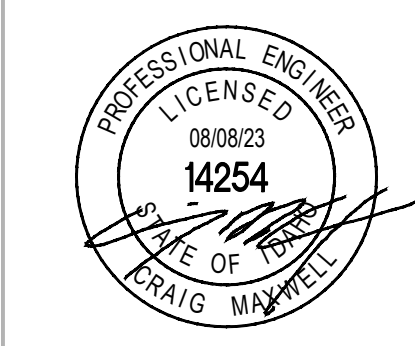
**MAXWELL**  
STRUCTURAL DESIGN STUDIO  
CRAIG MAXWELL, P.E.  
105 Lewis Street, Unit 205 • Ketchum, Idaho 83340  
P.O. Box 1911 • Sun Valley, Idaho 83353  
Craig@maxwellsds.com • 208.721.2171  
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S1.0

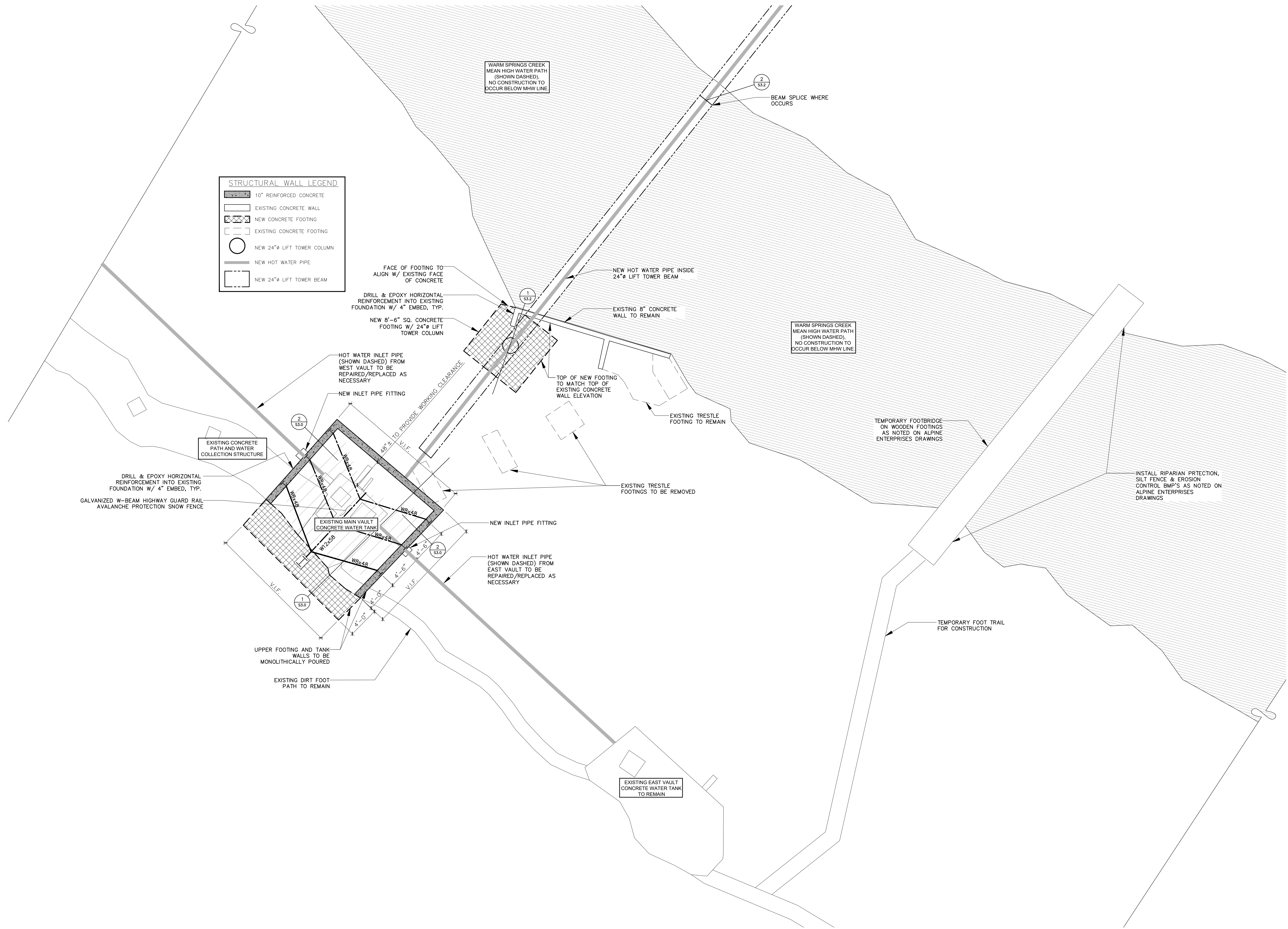




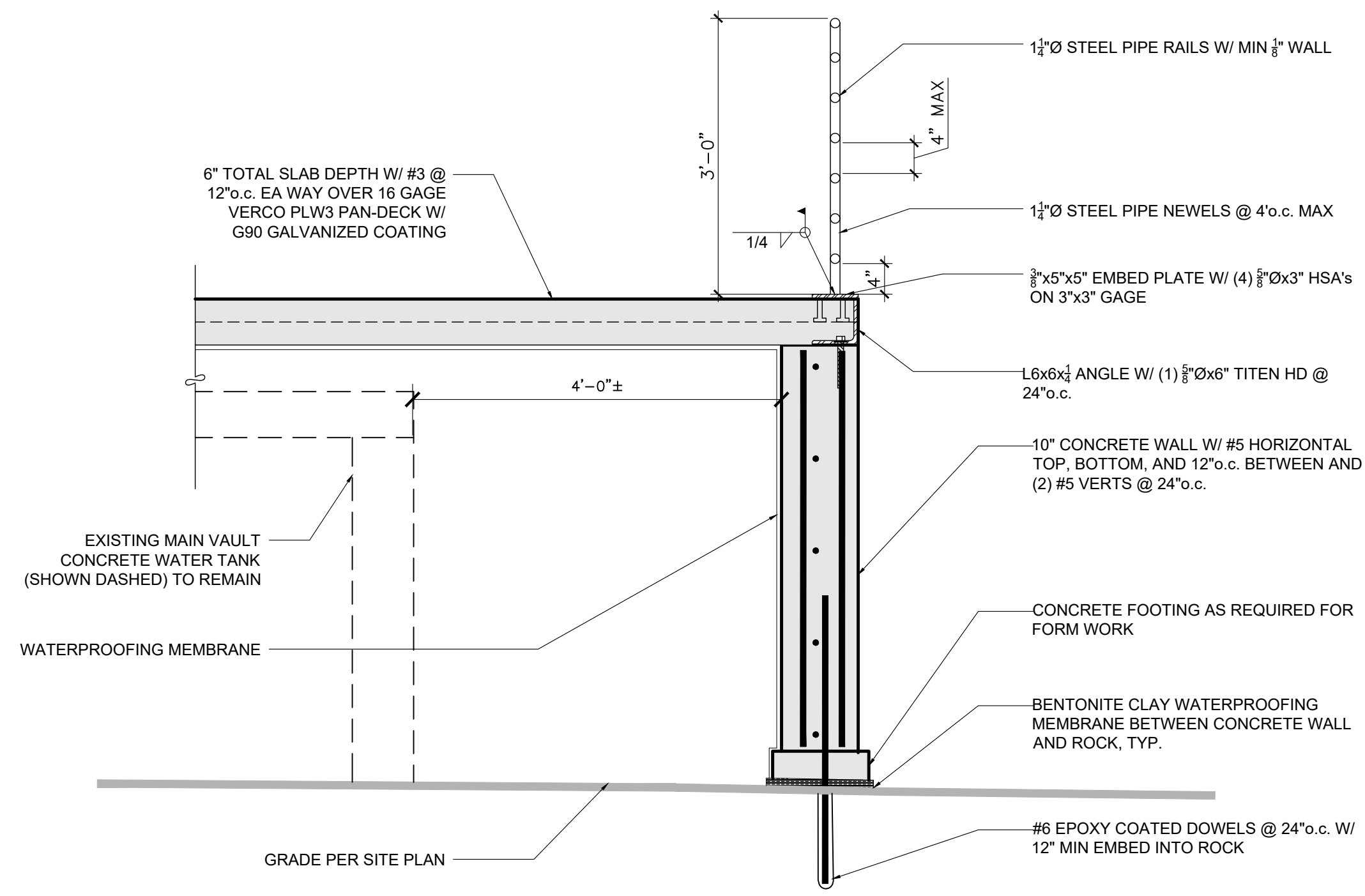


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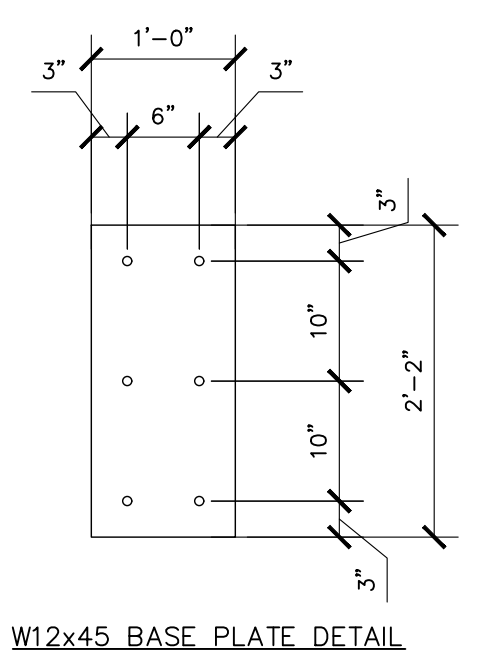
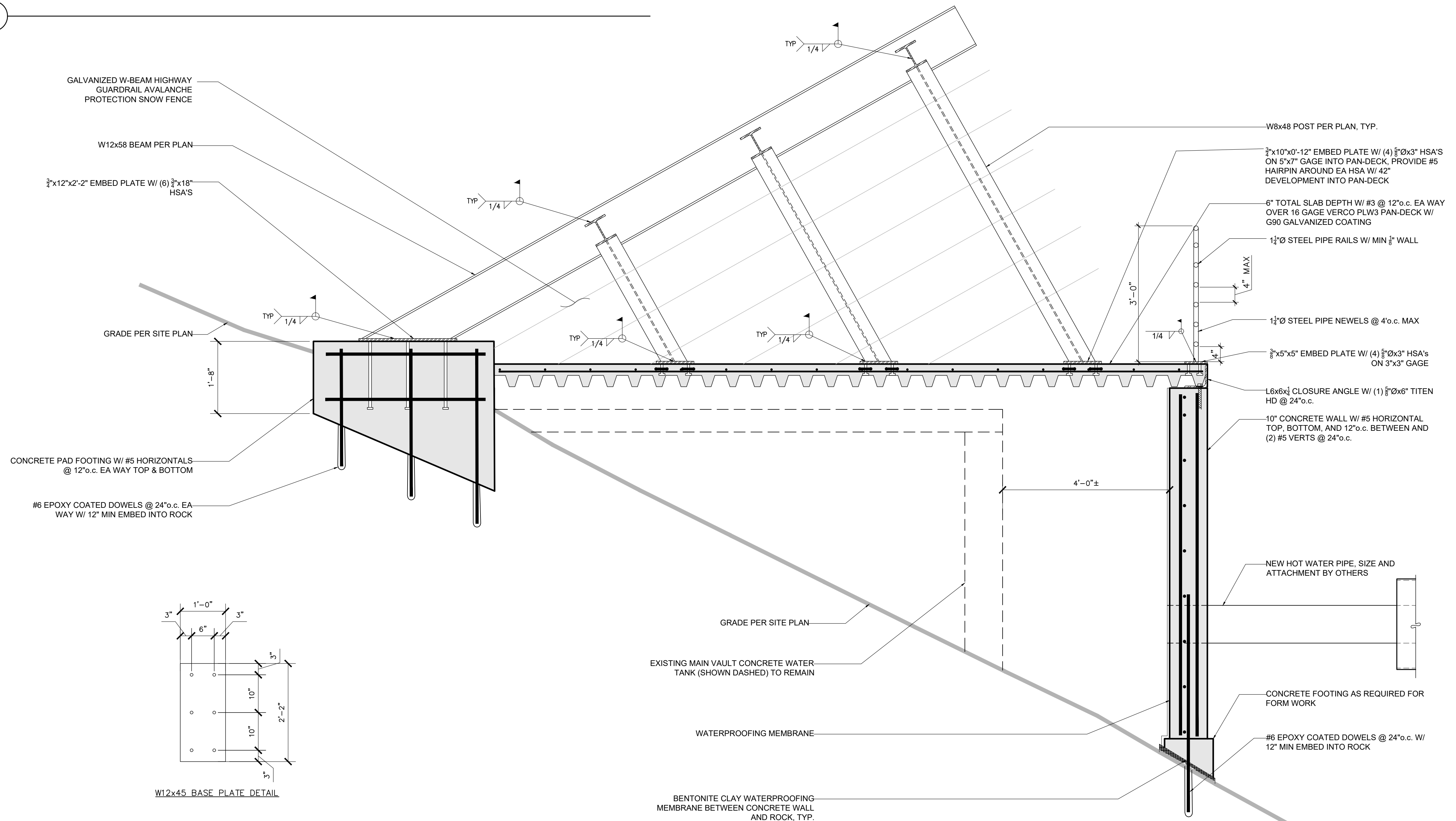
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**MAIN VAULT REPAIR & AVALANCHE PROTECTION PLAN**



2

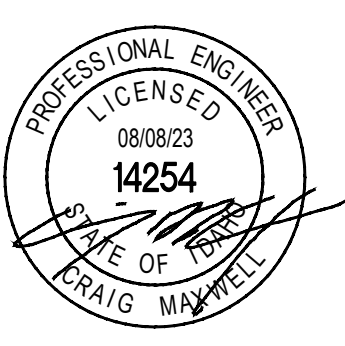


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ISSUE DATE
PERMIT SET: AUGUST 08, 2023

# CARBON HILL REPAIR

S15, T.4N, R.17E, BM KETCHUM, ID

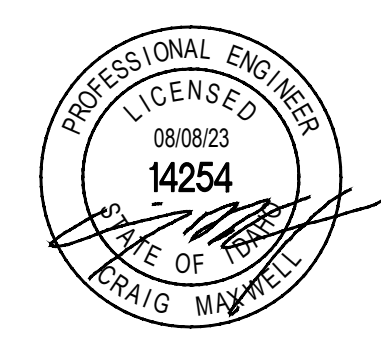


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**S3.0**

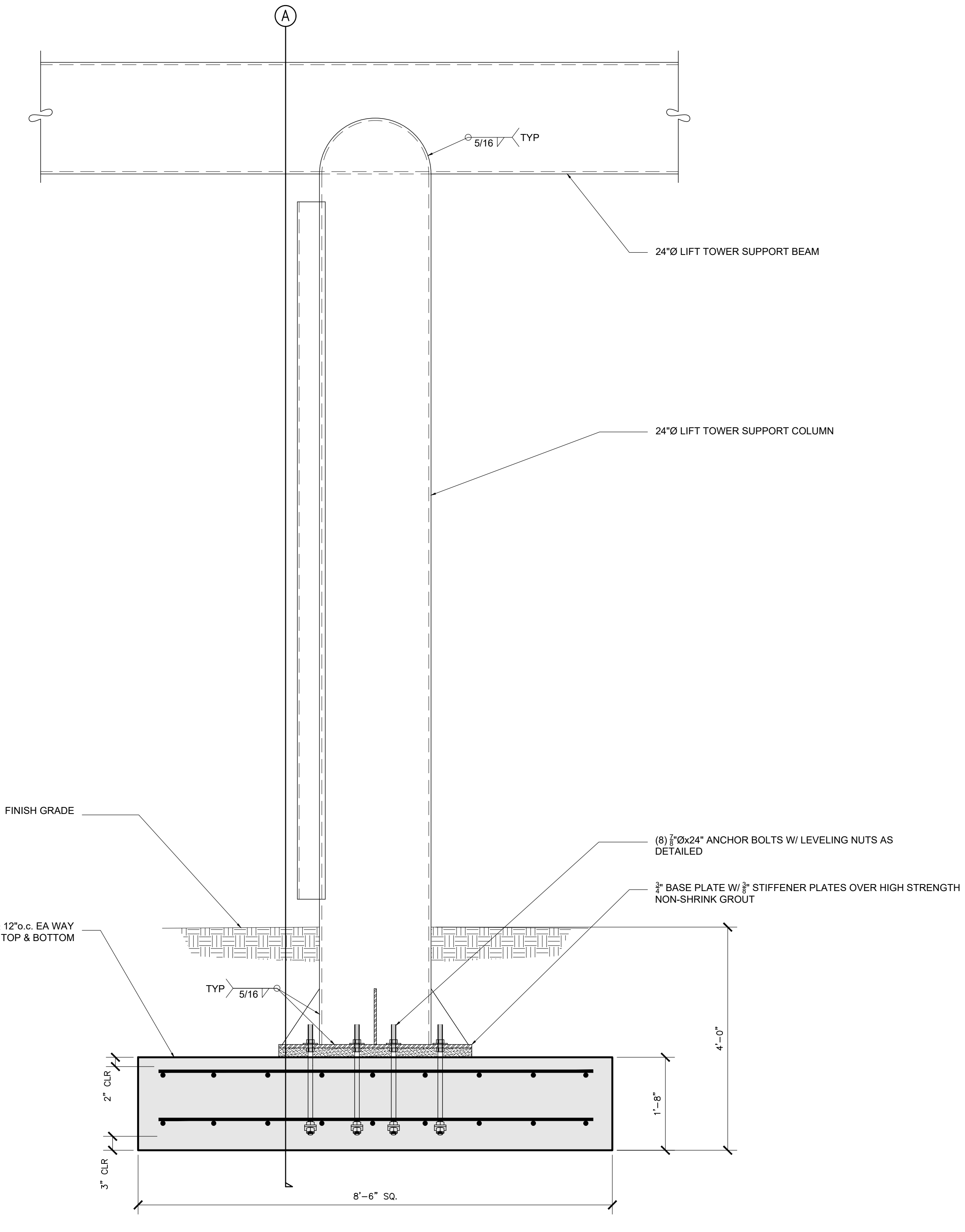
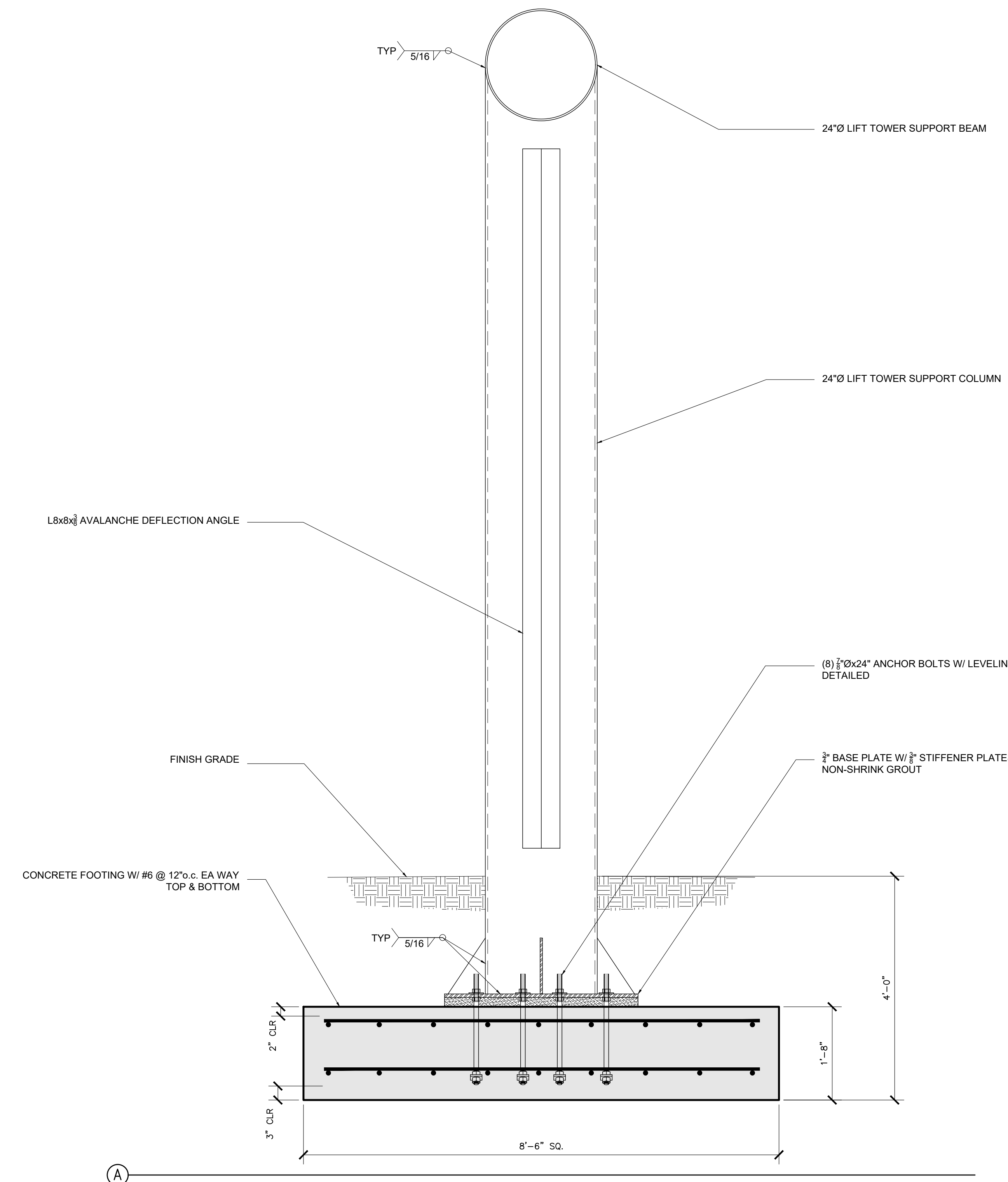
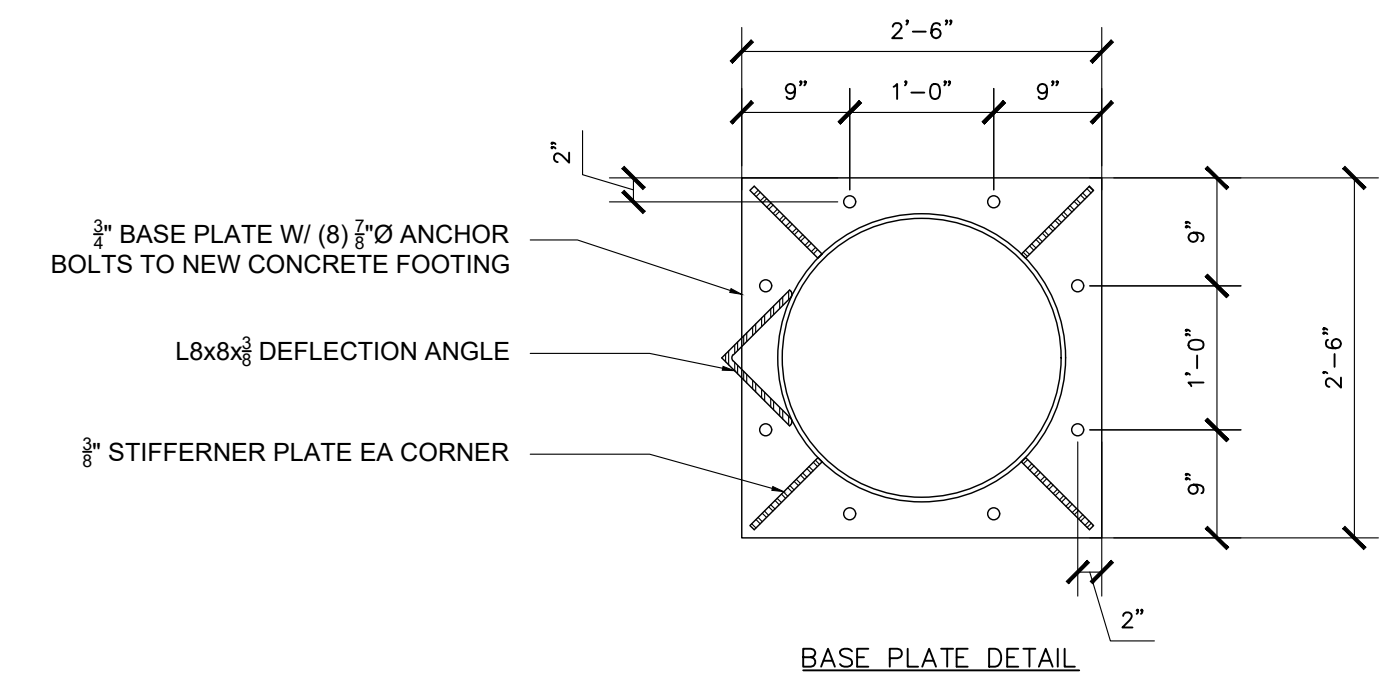
**CARBON HILL REPAIR**  
 S15, T.4N, R.17E, BM KETCHUM, ID



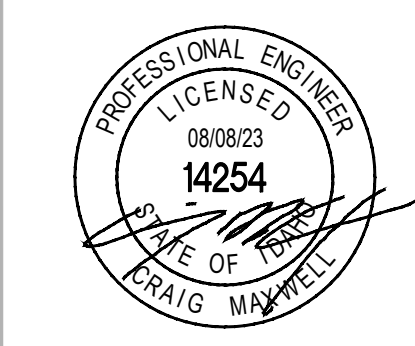
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**S3.1**



**CARBON HILL REPAIR**  
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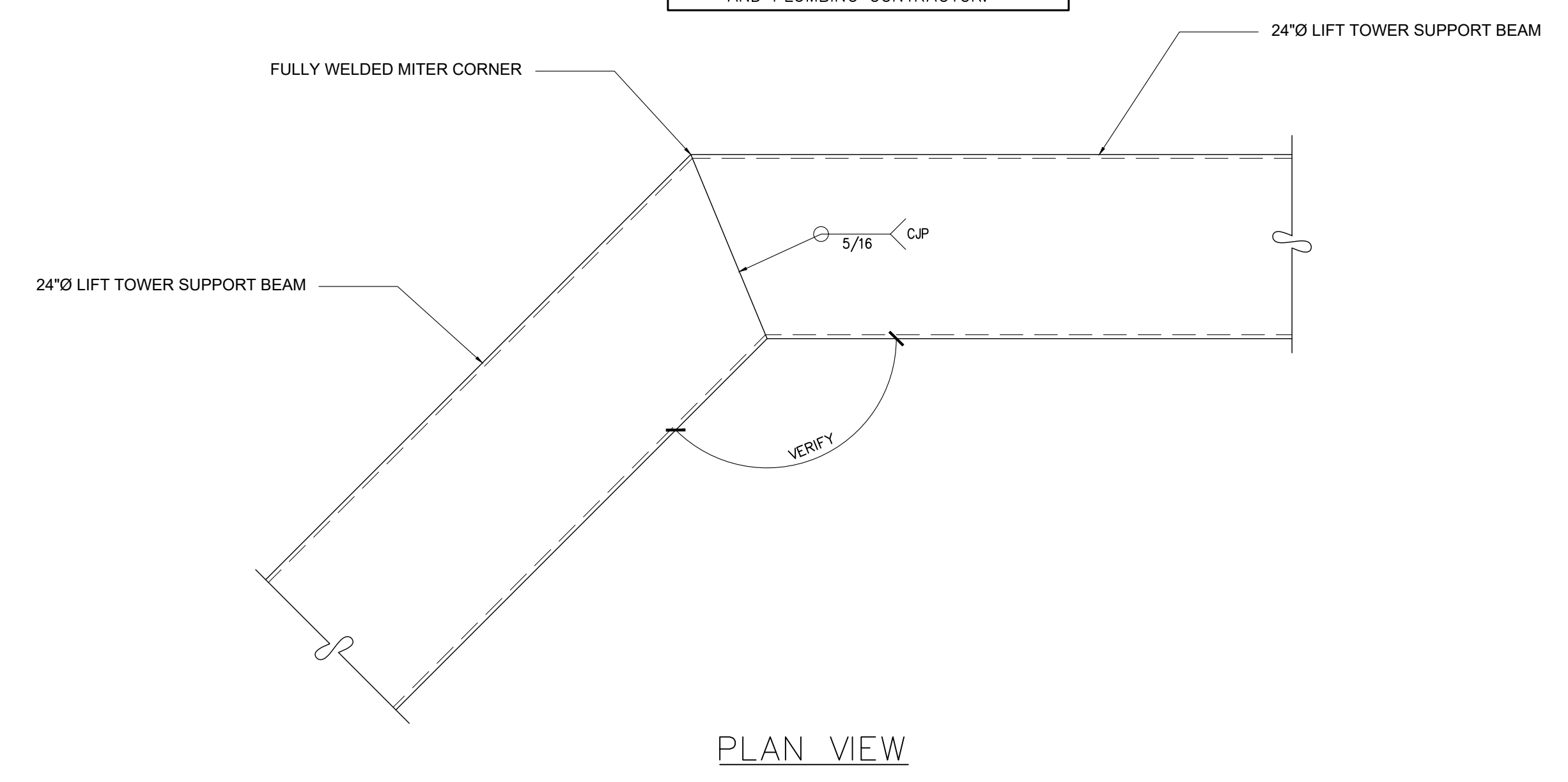
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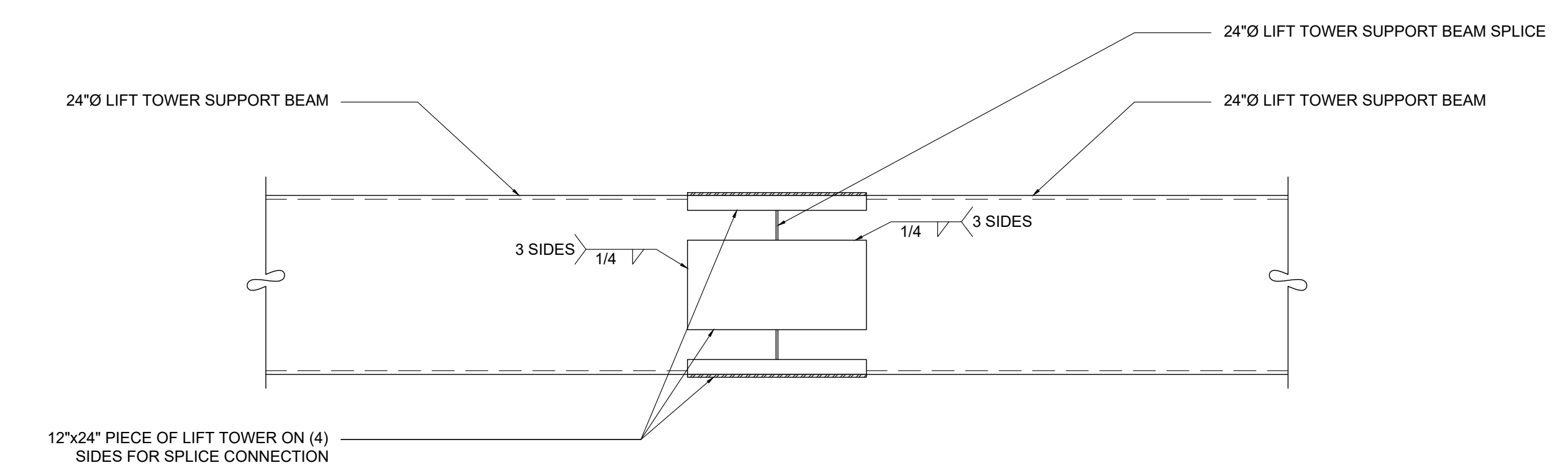
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**S3.2**

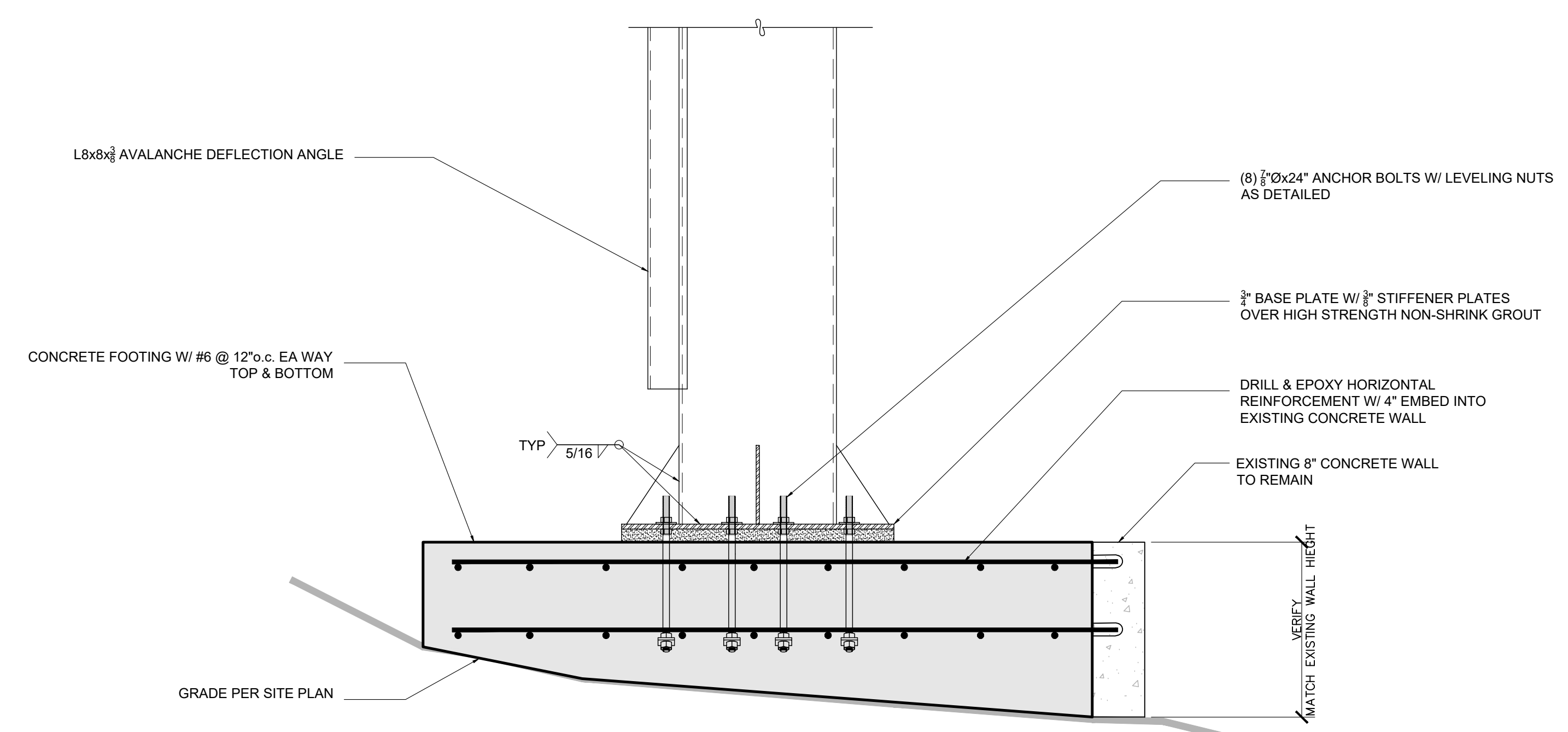
NOTE: PROVIDE KEYED ACCESS HATCH EACH SIDE OF CORNER FOR PIPE CLEANOUT AND MAINTENANCE. VERIFY ACCESS HATCH CONSTRUCTION WITH STEEL ERECTOR AND PLUMBING CONTRACTOR.



3



2

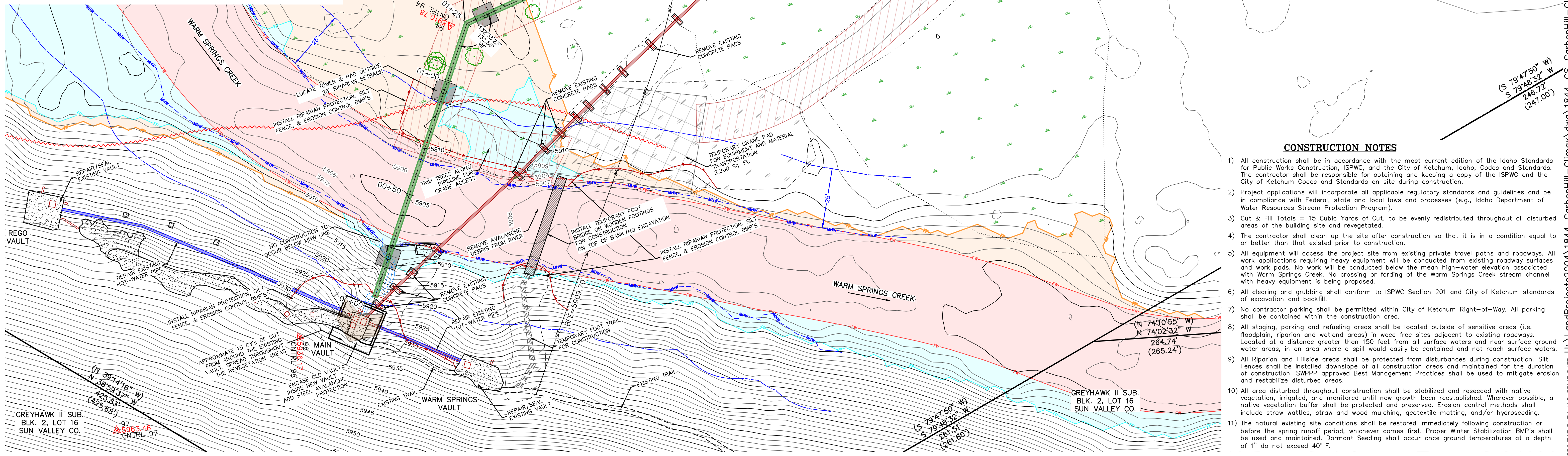


1

SCALE: 3/4" = 1'-0" U.N.O.

- LEGEND**
- Subject Boundary
  - Eliminated Boundary
  - Adjoiners Boundary
  - 10' Major Contour (2017 Blaine County LIDAR)
  - 2' Minor Contour (2017 Blaine County LIDAR)
  - 5' Major Contour (2021 Survey & Aerial Photogrammetry)
  - 1' Minor Contour (2021 Survey & Aerial Photogrammetry)
  - Red Avalanche Hazard Zone (Alpine 2021)
  - Blue Avalanche Hazard Zone (Alpine 2021)
  - Existing Site Access Road
  - Existing Edge of Concrete Hot-Water Vault/Path
  - Proposed Concrete Hot-Water Vault
  - Proposed Steel Avalanche Protection Structure
  - Existing Hot-Water Pipe
  - Proposed Lift-Tower Hot-Water Pipe
  - Proposed Lift-Tower Hot-Water Pipe Footing
  - Proposed Hot-Water Pipe
  - Existing Trail
  - MHW = Mean High Water
  - 25' Riparian Setback
  - 150' MHW Setback
  - BFE (Base Flood Elevation) (FEMA-Draft)
  - Floodway (FEMA-Draft)
  - 100-Yr Floodplain (FEMA-Draft)
  - 500-Yr Floodplain (FEMA-Draft)
  - Proposed Temporary Foot Bridge
  - Proposed Temporary Foot Path
  - Existing Wetlands (SEC 14JUL23)
  - Proposed Erosion Control & Revegetation Area
  - Proposed Construction/Silt Fence
  - FND ALU = Found Aluminum Cap
  - FND IP = Found Iron Pipe
  - FND BC = Found Brass Cap
  - FND 5/8" = Found 5/8" Rebar
  - FND 1/2" = Found 1/2" Rebar
  - Existing Tree (To Be Removed)
  - NC No Cap
  - DIST Disturbed
  - VIF Verify in Field
  - ( ) Record Bearing & Distance (Inst. No. 282914)
  - [ ] Record Bearing & Distance (Inst. No. 534941)

- NOTES**
- 1) Basis of Bearings is Idaho State Plane Coordinate System, Central Zone, NAD83, (1992), at Grid in US Survey Feet. Vertical Datum is NAVD1988.
  - 2) Boundary Information is from the following Records of Survey: R.O.S. for Cozy Land Co. In Sec. 14 & 15, T.4N., R.18E., Aug. 1980, Instrument Number 207484; Alta Survey for Dr. Leroy Pesch, Located Within Climax Millsite, Carbon Hill Millsite, Dec. 1986, Instrument Number 282914; R.O.S. National Forest Boundaries, Sec. 14 & 15, T.4N., R.17E., A Portion of M.S. 1090 and H.E.S. 292, Apr. 2006, Instrument Number 629955; Records of Blaine County, Idaho.
  - 3) Current Zoning appears to be City of Ketchum, General Residential Low Density (GRL) and Tourist District 4000 (T-4000).
  - 4) Effective Flood Information, as of September 2nd, 2021, is from the November 26th, 2010 FEMA Study, NFIP FIRM Panel No. 0441, Map No. 16013C0441E, City of Ketchum Community No. 160023.
  - 5) Draft Flood Information, if shown, as of September 13th, 2022, is from the Blaine County Draft Flood Maps.
  - 6) Avalanche Zoning is from a 2021 AVAL-1D Study conducted by Alpine Enterprises Inc. This study is site specific; it should not be applied to adjacent lands.



- CONSTRUCTION NOTES**
- 1) All construction shall be in accordance with the most current edition of the Idaho Standards for Public Works Construction, ISPWC, and the City of Ketchum, Idaho, Codes and Standards. The contractor shall be responsible for obtaining and keeping a copy of the ISPWC and the City of Ketchum Codes and Standards on site during construction.
  - 2) Project applications will incorporate all applicable regulatory standards and guidelines and be in compliance with Federal, state and local laws and processes (e.g., Idaho Department of Water Resources Stream Protection Program).
  - 3) Cut & Fill Totals = 15 Cubic Yards of Cut, to be evenly redistributed throughout all disturbed areas of the building site and revegetated.
  - 4) The contractor shall clean up the site after construction so that it is in a condition equal to or better than that existed prior to construction.
  - 5) All equipment will access the project site from existing private travel paths and roadways. All work applications requiring heavy equipment will be conducted from existing roadway surfaces and work pads. No work will be conducted below the mean high-water elevation associated with Warm Springs Creek. No crossing or fording of the Warm Springs Creek stream channel with heavy equipment is being proposed.
  - 6) All clearing and grubbing shall conform to ISPWC Section 201 and City of Ketchum standards of excavation and backfill.
  - 7) No contractor parking shall be permitted within City of Ketchum Right-of-Way. All parking shall be contained within the construction area.
  - 8) All staging, parking and refueling areas shall be located outside of sensitive areas (i.e. floodplain, riparian and wetland areas) in weed free sites adjacent to existing roadways. Located at a distance greater than 150 feet from all surface waters and near surface ground water areas, in an area where a spill would easily be contained and not reach surface waters.
  - 9) All Riparian and Hillside areas shall be protected from disturbances during construction. Silt Fences shall be installed downslope of all construction areas and maintained for the duration of construction. SWPPP approved Best Management Practices shall be used to mitigate erosion and restabilize disturbed areas.
  - 10) All area disturbed throughout construction shall be stabilized and reseeded with native vegetation, irrigated, and monitored until new growth been reestablished. Wherever possible, a native vegetation buffer shall be protected and preserved. Erosion control methods shall include straw wattles, straw and wood mulching, geotextile matting, and/or hydroseeding.
  - 11) The natural existing site conditions shall be restored immediately following construction or before the spring runoff period, whichever comes first. Proper Winter Stabilization BMP's shall be used and maintained. Dormant Seeding shall occur once ground temperatures at a depth of 1" do not exceed 40° F.

GREYHAWK II SUB.  
BLK. 2, LOT 16  
SUN VALLEY CO.

PROJECT PATH AND PRINT DATE: U:\LandProjects\2004\1844\_CarbonHill-Climax.dwg 08/09/2023 12:32:14 PM MDT

**ALPINE ENTERPRISES INC.**  
Surveying, Mapping, Civil Engineering,  
and Natural Hazards Consulting  
P.O. Box 2037, Ketchum, ID 83340 USA  
(208) 727-1808  
email: bamt@alpineenterprisesinc.com


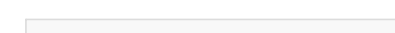





**PROFESSIONAL LAND SURVEYOR**  
ID 7048  
09AUG23  
STATE OF IDAHO  
BRUCE

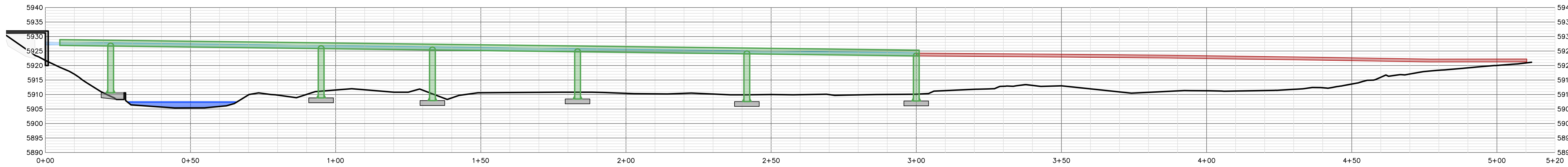
**PROFESSIONAL ENGINEER**  
ID 19275  
09AUG23  
STATE OF IDAHO  
ALEX

REVISIONS	NO	DATE	BY
BUILDING PERMIT SUBMITTAL	1	09AUG23	AHN

SHEET 1 OF 2

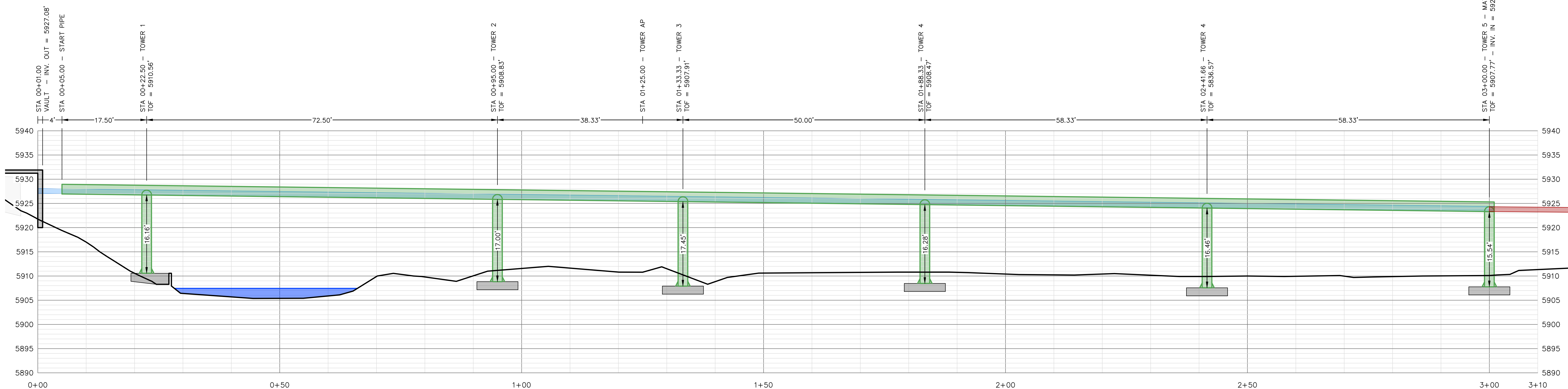
**LEGEND**

-  Existing Ground Surface
-  Existing Concrete Hot-Water Vault
-  Proposed Concrete Hot-Water Vault
-  Proposed Lift-Tower Hot-Water Pipe
-  Proposed Lift-Tower Hot-Water Pipe Footing
-  Existing Hot-Water Pipe
-  Proposed Hot-Water Pipe
- TOF Top of Footing Elevation
- INV. OUT Pipe Outlet Invert Elevation
- INV. IN Pipe Inlet Invert Elevation
- AP Angle Point
- VIF Verify in Field



**PROPOSED PIPELINE GRADE PROFILE**

SCALE  
1"=20' HORIZ.  
1"=20' VERT.

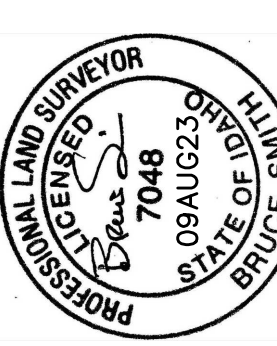
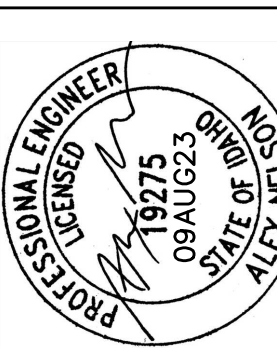


**PROPOSED PIPELINE GRADE PROFILE**

SCALE  
1"=10' HORIZ.  
1"=10' VERT.

PROJECT PATH AND PRINT DATE U:\LandProjects2004\1844\_CarbonHill-Climax\dwg\1844\_CS\_CarbonHill-Climax\_Site2023.dwg 08/09/2023 12:32:14 PM MDT

REVISIONS	NO	DATE	BY
BUILDING PERMIT SUBMITTAL	1	09AUG23	AHN



Alpine Enterprises Inc.  
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and Natural Hazards Consulting  
660 Bell Dr., Unit 1  
P.O. Box 2037, Ketchum, ID 83340 USA  
(208) 727-1888  
emsh: bairnath@alpineinc.com

A SITE & CONSTRUCTION ACTIVITY PLAN SHOWING  
HOT SPRINGS LODGE, CLIMAX & CARBON HILL MILLSITES  
WITHIN S15, T.4N., R.17E., B.M., CITY OF KETCHUM, BLAINE COUNTY, IDAHO  
PREPARED FOR CARBON HILL HOT SPRINGS INC.

## **Carbon Hill Hot Springs Riparian Wetland Management and Mitigation Best Management Practices**

**Landowner:** Carbon Hill Hot Springs Incorporated

**Location:** Climax Mill SUR 50 TL 3500 FR Carbon Hill Mill SUR 74B TL 6048 SEC Section 15, Township 4N, Range 17E, City of Ketchum, Blaine County Idaho.

**Project:** Carbon Hill Hot Springs Maintenance, Repair and Improvement Riparian Management and Mitigation Best Management Practices

The applicant, Carbon Hill Hot Springs Incorporated will conduct maintenance, repair and Improvement applications on the existing Carbon Hill Hot Springs geothermal infrastructure to improve operations and ensure water delivery (IDWR: Water Right #37-1232, 06/29/1880). Due to aging infrastructure and recent avalanche activity collection vaults and associated conveyance systems are not able to deliver allocated waters to designated points of use. Project applications located on parcel: RP1M000000220 within Section 15, Township 4N, Range 17E, City of Ketchum, Blaine County Idaho.

In order to protect natural resource values, critical riparian habitat elements and to ensure compliance with local, state and federal water quality standards. Applied development applications will incorporate all applicable Best Management Practices (BMP's) during construction phases.

### **Best Management Practices include:**

- 1) Project applications will incorporate all applicable regulatory standards and guidelines and be in compliance with Federal, state and local laws and processes (e.g., Idaho Department of Water Resources Stream Protection Program).
- 2) Limit the area of disturbance associated with project applications within the designated project and staging areas in terms of both extent and duration by the use of practical construction sequencing and applied Best Management Practices. Prior to construction, sensitive resource areas and construction action areas will be clearly identified, proposed BMPs implemented, and required maintenance procedures reviewed with contractor.
- 3) All equipment will access the project site from existing private travel paths and roadways. All work applications requiring heavy equipment will be conducted from existing roadway surfaces and work pads. No work will be conducted

below the mean high-water elevation associated with Warm Springs Creek. No crossing or fording of the Warm Springs Creek stream channel with heavy equipment is being proposed.

- 4) Where construction occurs, standard sediment control, pollution prevention and retention applications will be utilized. The contractor shall erect sediment barriers such as silt fences, straw wattles or matting as necessary. Such structures shall be placed where they will best intercept any flows that might transport sediment from the work site, be visually checked and maintained on an as needed basis.
- 5) Vegetation removal to accommodate for construction access will be minimized to the extent practicable. Existing riparian vegetation adjacent to the identified project sites and within access right of way will be cut back before construction implementation and allowed to regenerate after construction is completed.
- 6) Reclaim and re-vegetate all disturbed areas immediately following construction applications. Plant disturbed areas with established grass species inventoried from the site, establish vegetation through seeding and allow for natural regeneration.
- 7) Locate all staging, parking and refueling areas outside of sensitive areas (i.e. floodplain, riparian and wetland areas) in weed free sites adjacent to existing roadways. Located at a distance greater than 150 feet from all surface waters and near surface ground water areas, in an area where a spill would easily be contained and not reach surface waters.
- 8) All equipment and supplies will be checked for leaks (fuel, motor oil, hydraulic fluids, etc.) and be monitored and controlled daily to prevent site and water contamination. Emergency spill kit shall be kept on-site for the duration of construction activities.
- 9) Monitoring of the project will be conducted to determine how well the proposed project activities and design criteria were implemented. Monitoring will follow regulatory agency guidelines and will work to provide feedback on the effectiveness of these practices in reducing or minimizing the potential effects to aquatic and riparian habitats.

Portions of the subject project area and identified staging area have been altered by past land-use applications associated with the Carbon Hill Hot Springs facility. Large woody plant materials (trees and shrubs) have been previously removed from a majority of the identified staging area in order to provide access to the existing geothermal infrastructure.

The existing plant community within the identified staging area includes predominant non-native plant species. Associated vegetation primarily consists of Smooth brome



(*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), Western wheatgrass (*Pascopyrum smithii*) and Spotted knapweed (*Centaurea maculosa*).

A buffer of existing vegetation will be maintained between Warm Springs Creek and the identified staging area throughout all phases of the proposed project. No established woody vegetation will be removed within the streamside vegetation buffer zone adjacent to the staging area.

Upon completion of the proposed project applications and associated construction activities all disturbed areas within the project's *Area of Impact (AOI)* will be reclaimed to pre-disturbed grades, seeded with an appropriate native seed mix, and weed control treatments implemented to reduce existing weed populations and to mitigate further noxious weed establishment.

### **Proposed Reclamation Management Applications:**

- Maintain buffer of existing vegetation between Warm Springs Creek and the identified AOI throughout all phases of the proposed project. No established woody vegetation will be removed within the streamside vegetation buffer zone adjacent to the AOI.
- Seed all disturbed areas and bare ground with native riparian grass and forbs species.
- Allow natural recruitment and colonization of desired native riparian plant species within the designated reclamation area.
- Seeded areas will be irrigated for a minimum of two (2) years by means of temporary irrigation system to promote plant establishment and root development.
- Control noxious weeds and invasive plant species throughout the complete parcel on an as need basis. The preferred method of hand pulling will be applied for weeds that are isolated and not widespread, while spot herbicide applications will be utilized to control widespread infestations.

### **Preliminary Species List**

#### **Grasses**

Canada bluegrass	<i>Poa compressa</i>
Great Basin wildrye	<i>Leymus cinereus</i>
Idaho fescue	<i>Festuca idahoensis</i>
Thickspike wheatgrass	<i>Elymus lanceolatus</i> ssp.

## Success Criteria

Reclamation within the AOI will be considered functional and determined to be successful if at the end of three years:

- Natural recruitment of desirable native riparian vegetation (trees and shrubs) has colonized portions of the designated reclamation area.
- Herbaceous plant communities (grasses and forbs) are established and reproducing with acceptable ground coverage.
- Noxious weeds and invasive plant species within the AOI are not continuing to spread and are being addressed with appropriate weed control treatments.
- The designated reclamation site, AOI meets general criteria consistent with stable post construction site parameters and no associated adverse impacts have been identified.
- No unpermitted site alterations have occurred within the designated reclamation site, AOI.