



## Town of Green Mountain Falls

### Board of Trustees Regular Meeting Agenda

10615 Green Mountain Falls Road

Green Mountain Falls, CO 80819

Tuesday, November 15, 2022, at 7:00pm

#### Public Work Session prior to meeting at 6:00pm

In-person\* or via Zoom\*\*:

<https://us02web.zoom.us/j/88958379306?pwd=bIB5cHJOdkxYMjQ4cUNHOW5QRGF2Zz09>

Meeting ID: 889 5837 9306; Passcode: 553438; Dial-in: 346-248-7799

#### REGULAR MEETING:

TIME:		ITEM	DESIRED OUTCOME
6:00pm		PUBLIC WORK SESSION	
7:00pm	1.	CALL TO ORDER / ROLL CALL / PLEDGE OF ALLEGIANCE	
	2.	ADDITIONS, DELETIONS, OR CORRECTION TO THE AGENDA	<b>BOT Action Desired</b>
	3.	PUBLIC COMMENT: 3 MINUTES PER SPEAKER	Public Comment
	4.	CONSENT AGENDA: a. Minutes from November 1, 2022, Board of Trustees Meeting	<b>BOT Action Desired</b>
	5.	Public Hearing: CSU Water Pump Station @ 10685 Hondo Ave.	<b>BOT Action Desired</b>
	6.	Application for Variances: CSU Water Pump Station @ 10685 Hondo Ave.	<b>BOT Action Desired</b>
	7.	Change Order: CDBG Lake Project	<b>BOT Action Desired</b>
	8.	Application and MOU: Downtown Colorado Inc. Americorps Vista Volunteer	<b>BOT Action Desired</b>
	9.	Zoom for Work Sessions	<b>BOT Action Desired</b>
	10.	PRT Advice Memo: CDBG Phase I – Lake Project – Concrete Tint	<b>BOT Action Desired</b>
	11.	REPORTS a. Trustees b. Committees c. Staff	Information Only
	12.	CORRESPONDENCE	Information Only
	13.	ADJOURN	

\*The Town shall provide reasonable accommodation for those with disabilities on a case-by-case basis. Please send accommodation requests to [clerk@gmfcu.us](mailto:clerk@gmfcu.us) by 4pm on the date of the meeting.

\*\*Zoom meeting will start when the regular meeting is called to order. Public Comment for Zoom participants is restricted to live comment during Item #3 only. Commenters should be prepared to use the “raise hand” function to be called upon. Chat comments will not be managed or responded to.



To: Planning Commission  
From: Nate Scott, Town Clerk/Treasurer/Planner

Date: November 1, 2022

Re: 20220707 – New pump station at 10685 Hondo Ave with the following applications:

20220707a: Variance for Sec. 16-306 (R-1 10,000 Single-Family Residential District) (b), permitted principal uses. This use will not be for a residential purpose, though could be considered a “public building” as it will be owned by a public utility and will serve the residents of Green Mountain Falls.

20220707b: Variance for Sec. 16-306 (R-1 10,000 Single-Family Residential District) (d) (4) a., 15-foot front setback. Due to the significant disruption to the hillside which would be necessary in order to move the structure further back, the design has a front setback of 12 feet from the street-facing (front) property line.

20220707c: Variance for Sec. 16-714 (Hillside Overlay Zone Requirements) c. (3) c., which states no building shall be closer than 25 feet from a major drainage way. This pump station will be approximately 15 feet from the drainage way in the right-of-way to the north of the structure.

20220707d: Variance for Sec. 16-714 (Hillside Overlay Zone Requirements) c. (3) b., which states no building shall be closer than 100 feet from a building on an adjoining lot. This pump station will be approximately 60 feet from the residence at 6985 Colorado St. and approximately 97 feet from the residence at 10675 Hondo Ave.

20220707e: Grading and Erosion Control Application

20220707f: Architectural and Zoning Review

### **Background**

The applicant Dewberry Engineers, along with developer Colorado Springs Utilities (CSU) is requesting the Planning Commission’s consideration for an application for a new pump station build along with the variances described above. The initial applications were received in June 2022 and paid for on August 23. The parties are also working through the process with all necessary permits through Pikes Peak Regional Building Department. Public notice for the variances was published in the Pikes Peak Courier and Town website on October 26, 2022 and posted at the project site and Town Hall on October 28, 2022. The applicant understands that all contractors must acquire a Town Business License.

### **Planning Commission Recommended Actions:**

- Review proposed variances for compliance with Green Mountain Falls Zoning and Land Use Code.
- Review proposed Architectural and Zoning Application for compliance with Green Mountain Falls Zoning and Land Use Code.
- Review proposed Grading and Erosion Control Plan for compliance with Green Mountain Falls Zoning and Land Use Code.

### **Project Summary**



The purpose of this Green Mountain Falls Pump Station project is to replace the existing below-grade pump station, which was constructed in 1986 and has reached the end of its useful life. The new pump station will be located at 10685 Hondo Ave. and will ensure reliable water service for residents and businesses in Green Mountain Falls. It will also provide a safer and more readily accessible working space for CSU, enabling more efficient maintenance and repair activities. CSU is currently finalizing an easement agreement with the property owner to allow the pump station to be built on the site.

Please refer to the included Land Suitability Analysis and other included documentation for more details.

## **Discussion**

### **1 - Architectural and Zoning Application:**

The electronic file maintained by Town Hall, *Official Town Zoning Map 2019*, shows the Zone District as R-1 for parcel 8308405014, and the lot area as 12,778 sq. feet. Therefore the setback requirements are:

- a. Front, fifteen (15) feet;
- b. Side, ten (10) feet;
- c. Rear, ten (10) feet.

Furthermore, the development conditions of minimum lot area (10,000 square feet) and minimum frontage (100 feet at the front setback line) are both met.

### **2 – Granting of Variances:**

#### **Sec. 16-709. Variances. (Staff comments in bold.)**

(a) No variance in the strict application of the provisions of this Land Use Code, including building requirements, signs, and fences, shall be recommended by the Planning Commission or approved by the Board of Trustees unless it finds that the following requirements and standards are satisfied. It is the intent of this Article that the variance be used only to overcome some exceptional physical condition of a parcel of land located within the neighborhood which poses practical difficulty to its development and prevents its owner from using the property as intended by this Land Use Code. Any variation granted shall be the minimum adjustment necessary for the reasonable use of the land.

(b) The applicant must prove that the variance will not be contrary to the public interest and that practical difficulty and unnecessary hardship will result if it is not granted. In particular, the applicant shall establish and substantiate that the appeal for the variance conforms to the requirements and standards listed below:

(1) The granting of the variance shall be in harmony with the general purpose and intent of the regulations imposed by this Land Use Code on the district in which it is located and shall not be injurious to the neighborhood or otherwise detrimental to the public. **This project is beneficial to public health, public safety, property value, and neighborhood aesthetics.**

(2) The granting of the variance will not permit the establishment of any use which is not permitted in the district. **The definition of the zoning district indicates that a “public building” could be considered as a special use. This application is for a use which will benefit and be “owned” essentially by the public as a utility.**

(3) There must be proof of unique circumstances. There must exist special circumstances or conditions, fully described in the findings, applicable to the land or buildings for which the variance is sought, which circumstances or conditions are peculiar to such land or buildings in the neighborhood and which circumstances, or conditions are such that the strict application of the provisions of this Land Use Code would deprive the applicant of the reasonable use of such land or building. **The unique circumstance in this case is that there is a very limited number of sites which would meet this utility’s need.**

(4) There must be proof of unnecessary hardship. It is not sufficient proof of hardship to show that greater profit would result if the variance were granted. Furthermore, the hardship complained of cannot be self-created; nor can it be established on this basis by one who purchases with or without knowledge of the restrictions; it must be suffered directly by the property in question; and evidence of variances granted

under similar circumstances shall not be considered. **The unique circumstance listed above dictates a limited area to build, creating a hardship for this project.**

(5) The granting of the variance is necessary for the reasonable use of the land or building and the variance as granted by the Board of Trustees is the minimum variance that will accomplish this purpose. The report of the Planning Commission shall fully set forth the circumstances by which this Land Use Code would deprive the applicant of any reasonable use of his or her land. Mere reasonable loss in value shall not justify a variation; there must be a deprivation of beneficial use of land. **This proposed use is reasonable for the R-1 zoning district based on precedent. The existing pump station, which this will replace, also has existed in an R-1 district.**

(6) The proposed variance will not impair an adequate supply of light and air to adjacent property, substantially increase the congestion in the public streets, increase the danger of fire, endanger the public safety, or substantially diminish or impair property values within the adjacent neighborhood. **Staff believes this requirement is met.**

(7) The granting of the variance requested will not confer on the applicant any special privilege that is denied by this Land Use Code to other lands, structures, or buildings in the same district. **One question staff had was regarding noise levels. Per Dewberry: *The generator noise level will be 75 decibels or less at 23 feet. The generator is tested once a month for 15 minutes, typically this is scheduled for a day in the middle of the week and begins at 10 am. The pump station noise level will be less than 60 decibels. For normal operations the pump station will run intermittently and is not expected to run for more than 4 hours total a day. There is also a condensing unit that sits in the generator enclosure and will run intermittently during the warmer months (same decibels as the pump station noise level).***

**Based on this response from Dewberry, staff has no concerns with the noise, as the generator noise is minimal (once a month, during the day) and the “less than 60 decibels” meets the commercial limit of noise during the day. At night, it may exceed commercial limits by 5 decibels only. ([Ref. article XII – Noise](#))**

(c) The Board of Trustees may prescribe any safeguard that it deems necessary to substantially secure the objectives of the regulations or provisions to which the variance applies.

(d) Upon application, the Planning Commission, after giving notice as required by law, shall schedule a public hearing of the proposed variance. The Planning Commission shall consider and decide all proposed variations, taking into account the standards enumerated above.

(e) Procedure. Procedures for variance hearings shall be the same as those for zoning and rezoning, with the exception of the publication requirement contained in Paragraph 16-711(f)(2) below, which shall not be required. (Ord. 97-01)

**Regarding the variance to the 15-foot front setback, the applicant has designed the site with the maximum possible setback for feasibility. Additionally, there is additional buffer to the street because of the drainage ditch between the property line and street.**

### **3 – Granting of Hillside Overlay Exemptions:**

Considering the limited site options in town, staff believes that Colorado Springs Utilities and Dewberry have done due diligence in order to minimize the scope of variances and exemptions needed for this development. The “distance to other buildings” exemption is only three feet short of meeting the 100-foot requirement. The only other building within the 100-foot requirement is the cabin used by the owners who are granting the easement for the project. The “distance to drainage” requirement is exemption is for about 10 feet, and the developer will be improving drainage from the site with a culvert which has larger capacity via length and diameter specifications than what exists now.

### **4 - Conclusion and Recommendation**

Staff recommends approval of all applications.



October 12, 2022

Town of Green Mountain Falls  
Attn: Nate Scott, Planner  
Town Hall  
10615 Green Mountain Falls Road  
Green Mountain Falls, CO 80819

RE: Land Suitability Analysis

Dear Mr. Scott,

Dewberry Engineers is pleased to submit a Land Suitability Analysis and documentation for the Green Mountain Falls Pump Station (GMFPS) on behalf of Colorado Springs Utilities for review and comment. A Development Plan and Grading and Erosion Control Plan have been submitted with the Architectural and Zoning Review and Grading and Erosion Control Submittals respectively.

The purpose of the GMFPS project is to replace the existing below grade pump station. The existing pump station was constructed in 1986 and has reached the end of its useful life. The new pump station will be located at 10685 Hondo Avenue and will ensure reliable water service for residents and businesses in Green Mountain Falls. It will also provide a safer and more readily accessible working space for Colorado Springs Utilities enabling more efficient maintenance and repair activities. Colorado Springs Utilities is currently negotiating the terms of an easement with the property owner to allow the pump station to be built on the site.

The majority of 10685 Hondo Avenue slopes from south to north at approximately 45%. The site flattens out at the bottom of this hill and slopes at approximately 10% from west to east as shown on the Composite Map in Attachment A. There is an existing retaining wall on the east side of the site which allows the area at the bottom of the hill to be relatively less steep.

The ecosystem at the site is defined as mixed conifer by the Colorado Forest Service. The surrounding area is residential and relatively densely developed. The addition of the proposed building is expected to have minimal impact to wildlife habitat and migration corridors due to the high level of development already in the area.

The proposed building exterior will be construction of concrete, stone veneer, metal siding, and a standing seam metal roof. The building is not expected to increase wildfire potential in the area. An emergency diesel generator will sit in the enclosure adjacent to the pump station building. The diesel fuel tank will be a double containment tank and is not expected to increase wildfire risk in the area.

A geotechnical investigation and soils analysis were completed for the site. The results and recommendations are provided in Attachment B.

There is an existing drainageway on the north portion of the site and a retaining wall on the east side of the site. The site is otherwise undeveloped.

The proposed new pump station will be an above grade building that sits back into the hillside on the property. The building walls are designed to support the hillside on its south, east, and west sides. Two concrete retaining walls will be construction on the east side of the site to replace the existing retaining wall that has partially failed and allow for grading of a parking area to the north of the building. The existing culvert will be replaced with a new, longer culvert to allow the parking area to be expanded. A concrete headwall will be used at the west end of the culvert to support the drainage channel. The

retaining walls will act at the headwalls on the east end. The concrete will be colored to blend with the building aesthetics. Drawing C-3 shows the items discussed above as well as proposed grading.

Excavation for the building will be accomplished using shoring and bracing to limit the extent of the excavation and its impacts on the surrounding area and to mitigate any concerns with the slope shifting during construction. The shoring and bracing system will be designed and stamped by a professional engineer registered in the State of Colorado. The shoring and bracing calculations will be provided during the construction phase of the project.

While the site presents difficulties for design and construction of the new pump station, the site and structure as designed should not create issues for the Green Mountain Falls community during construction or for the life of the building.

Please contact Sam Franzen at [sfranzen@dewberry.com](mailto:sfranzen@dewberry.com) or 303-951-0618 with any questions or concerns.

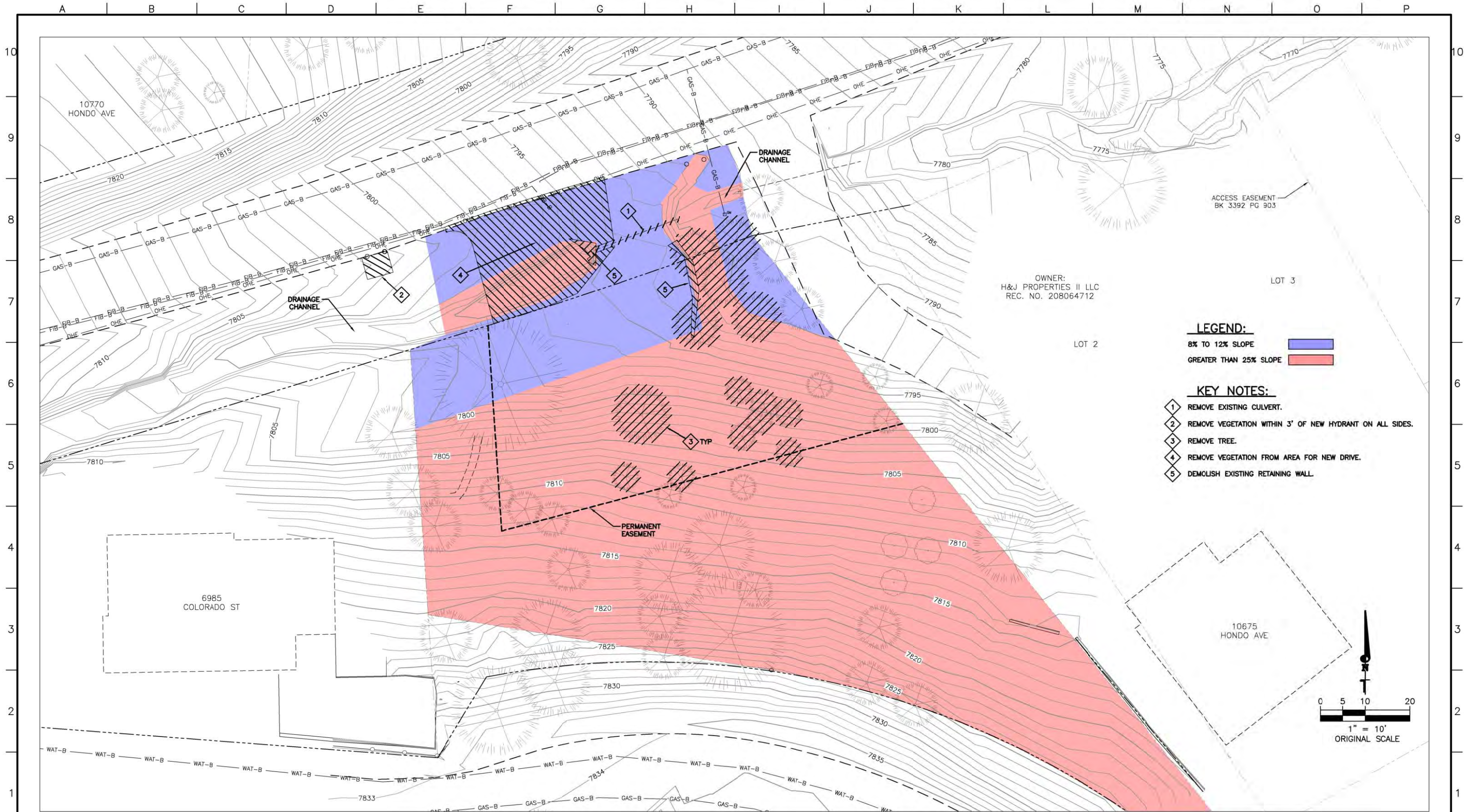
Sincerely,

A handwritten signature in black ink, appearing to read "Sam Franzen".

Sam Franzen  
Project Engineer

## Attachment A – Composite Plan





**Dewberry**  
Dewberry Engineers Inc.  
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)  
DRAWING CPL4404G-2  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

CIVIL

COMPOSITE MAP

DATE: 10/12/22  
PROJECT NUMBER: 50144404  
REVISION NO. A  
DRAWING NUMBER C-2



## Attachment B – Geotechnical Investigation Report



# Geotechnical Engineering Report

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**Green Mountain Falls Pump Station  
Green Mountain Falls, Colorado**

April 20, 2022

Terracon Project No. 23215048A

**Prepared for:**

Dewberry Engineers, Inc.  
Denver, Colorado

**Prepared by:**

Terracon Consultants, Inc.  
Colorado Springs, Colorado



April 20, 2022

Dewberry Engineers, Inc  
990 South Broadway, Suite 400  
Denver, Colorado 80209



Attn: Mr. Chad Weaver  
P: (303) 951-4275  
E: cweaver@dewberry.com

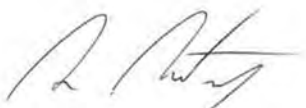
Re: Geotechnical Engineering Report  
Green Mountain Falls Pump Station  
Green Mountain Falls, Colorado  
Terracon Project No. 23215048A

Dear Mr. Weaver:

We have completed the Geotechnical Engineering services for the project referenced above. This study was performed in general accordance with Terracon Proposal No. P23215048 dated June 4, 2021. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,  
Terracon Consultants, Inc.

  
Nick M. Novotny, P.G., C.E.G.  
Project Geologist

  
Eric D. Bernhardt, P.E.  
Senior Associate

A circular blue ink seal for Eric D. Bernhardt, a Professional Engineer in the State of Colorado. The seal contains the text "COLORADO REGISTERED PROFESSIONAL ENGINEER", "ERIC D. BERNHARDT", and the number "38829". There is a handwritten signature across the seal.

## REPORT TOPICS

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**Note:** This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the **GeoReport** logo will bring you back to this page. For more interactive features, please view your project online at [client.terracon.com](http://client.terracon.com).

## **Geotechnical Engineering Report**

Green Mountain Falls Pump Station ■ Green Mountain Falls, Colorado

April 20, 2022 ■ Terracon Project No. 23215048A



## **FIGURES**

### **GEOMODEL**

## **ATTACHMENTS**

**EXPLORATION AND TESTING PROCEDURES**

**PHOTOGRAPHY LOG**

**SITE LOCATION AND EXPLORATION PLANS**

**EXPLORATION RESULTS**

**SUPPORTING INFORMATION**

**Note:** Refer to each individual Attachment for a listing of contents.

## REPORT SUMMARY

Topic <sup>1</sup>	Overview Statement <sup>2</sup>
<b>Project Description</b>	We understand the project consists of the construction of a new pump station structure and associated waterline.
<b>Geotechnical Characterization</b>	<p>The subsurface conditions at the site generally consisted of existing fill materials consisting of sand with varying amounts of clay and gravel to depths of about 1.5 to 3.5 feet underlain by native sand soils with varying amounts of clay, silt, and gravel to depths of about 6 to 9 feet. Native sand soils were not encountered in Boring No. B-3. Sand soils were underlain by weathered granitic rock to the maximum depth explored of 23.5 feet.</p> <p>During our field exploration, auger refusal was encountered in Boring Nos. B-1 and B-2 at depths of about 22 to 23.5 feet.</p> <p>Groundwater was not encountered during our field exploration to the maximum depth explored of about 23.5 feet.</p>
<b>Shallow Foundations</b>	The proposed pump station building may be supported on a shallow spread footing foundation bottomed on native sand soils, weathered granitic rock, or new engineered fill.
<b>Retaining Walls</b>	We understand the southern portion of the pump station will be constructed into the existing hill slope and is planned to have a below-grade retaining wall on the order of 12 to 16 feet in depth.
<b>General Comments</b>	This section contains important information about the limitations of this geotechnical engineering report.
<ol style="list-style-type: none"><li>1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.</li><li>2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.</li></ol>	



# Geotechnical Engineering Report

## Green Mountain Falls Pump Station

### Green Mountain Falls, Colorado

Terracon Project No. 23215048A  
April 20, 2022

## INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed above grade pump station to be located in Green Mountain Falls, Colorado. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil and rock conditions
- Groundwater conditions
- Site preparation and earthwork
- Excavation considerations
- Slab-on-grade design and construction
- Seismic site classification per IBC
- Utility trench construction
- Foundation design and construction

The geotechnical engineering Scope of Services for this project included the advancement of three test borings to depths ranging from approximately 15 to 23½ feet below existing site grades. During our field exploration, auger refusal was encountered in Boring Nos. B-1 and B-2 at depths of 22 to 23.5 feet.

Maps showing the site and boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The results of the laboratory testing performed on soil and rock samples obtained from the site during the field exploration are included on the boring logs and as separate graphs in the **Exploration Results** section.

## SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The site is located at 10472 Mountain Avenue in Green Mountain Falls, Colorado. Approximate Location: 38.9303° N 105.0140° W See <b>Site Location</b>

## Geotechnical Engineering Report

Green Mountain Falls Pump Station ■ Green Mountain Falls, Colorado

April 20, 2022 ■ Terracon Project No. 23215048A



Item	Description
Existing Improvements	The area of the proposed pump station currently consists of vacant land adjacent to an existing hill slope. An aggregate-surfaced road is located adjacent to the proposed pump station location.
Current Ground Cover	The current ground surface at the proposed pump station location consists of barren ground, moderately vegetated with native grasses and weeds. The current ground surface in the area of the proposed water line consists of an aggregate-surfaced roadway.
Existing Topography	<p>The existing topography in the area of the proposed pump station location slopes down to the north with about 15 feet of elevation difference across the site.</p> <p>The existing topography in the area of the proposed waterline slopes down to the east at an approximate 15% grade.</p>
Geology	<p>Surficial geologic conditions near the site, as mapped by the U.S. Geological Survey (USGS) (<sup>1</sup>Wobus and Scott, 1977), consist of the Pike Peak Granite of Precambrian Age. The Pike Peak Granite in this area has been reported to consist of coarse-grained biotite and hornblende granite which weathers to rounded outcrops and coarse grus.</p> <p>The geologic conditions presented in this section were obtained by locating the subject site on available large-scale geologic maps. Due to the scales involved, precise location of the site can be difficult to determine. In addition, the large-scale geologic maps describe only general trends. Local variations are possible and site specific geology may differ from those described above. A site-specific detailed geologic description is beyond the scope of this project; however, subsurface conditions encountered in our borings were generally consistent with mapped geologic conditions.</p>

## PROJECT DESCRIPTION

Our initial understanding of the project was provided in our proposal and was discussed during project planning, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	<p>Our understanding of the project comes from:</p> <ul style="list-style-type: none"><li>■ Email conversations between May 25, 2021 and present</li><li>■ "Exhibit A_Statement of Work_RFP-MR-159279" pdf file</li></ul>

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<sup>1</sup> Wobus, R.A. and Scott, G.R., 1977, **Reconnaissance geologic map of the Woodland Park quadrangle, Teller County, Colorado**, U.S. Geological Survey, Miscellaneous Field Studies Map MF-842, 1:24,000.

## Geotechnical Engineering Report

Green Mountain Falls Pump Station ■ Green Mountain Falls, Colorado

April 20, 2022 ■ Terracon Project No. 23215048A



Item	Description
<b>Project Description</b>	We understand the project consists of the construction of a new pump station structure and associated waterline.
<b>Excavation Depths</b>	We anticipate excavations of up to about 12 to 16 feet below existing site grades along the south side of the building with excavations on the order of about 3 feet for the north side of the building.
<b>Building Construction</b>	We understand the building will be of either pre-engineered metal or wood framing with cast-in-place concrete foundations.
<b>Finished Floor Elevation</b>	Unknown, anticipated to be with 2 feet of existing ground surface near the north side of the pump station structure.
<b>Maximum Loads (Assumed)</b>	<ul style="list-style-type: none"><li>■ Columns: 20 to 100 kips</li><li>■ Walls: 2 to 4 kips per linear foot (klf)</li><li>■ Slabs: Up to 250 pounds per square foot (psf)</li></ul>
<b>Grading/Slopes</b>	Up to 16-feet of cut may be required to develop final grade for the southern portion of the proposed pump station structure.
<b>Retaining Walls</b>	We understand the southern portion of the pump station will be constructed into the existing hill slope and is planned to have a below-grade retaining wall on the order of 12 to 16 feet in depth.
<b>Infrastructure</b>	We anticipate installation of underground utilities with about 5 to 8 feet of the finished site grades.

## GEOTECHNICAL CHARACTERIZATION

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of site preparation and foundation options. Conditions encountered at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** section and the GeoModel can be found in the **Figures** section of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	Fill Materials	Existing fill materials consisting of sand and clay soils with varying amounts of gravel; various densities
2	Sand	Native sand soils with varying amounts of clay, silt and gravel; medium dense to very dense

## Geotechnical Engineering Report

Green Mountain Falls Pump Station ■ Green Mountain Falls, Colorado

April 20, 2022 ■ Terracon Project No. 23215048A



Model Layer	Layer Name	General Description
3	Bedrock	Granitic rock; hard to very hard

As noted in the **General Comments**, the characterization is based upon widely spaced borings at the site, and variations are likely. Stratification boundaries on the boring logs represent the approximate location of changes in soil and material types; in situ, the transition between materials may be gradual.

### Groundwater Conditions

Groundwater was not encountered in the borings at the time of our field exploration. The borings were observed for the presence of groundwater during drilling and sampling. Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the boring was performed. Therefore, groundwater levels during construction or at other times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

Zones of perched and/or trapped groundwater may also occur at times in the subsurface soils overlying bedrock, on top of the bedrock surface or within permeable fractures in the bedrock materials. The location and amount of perched water is dependent upon several factors, including hydrologic conditions, type of site development, irrigation demands on or adjacent to the site, seasonal fluctuations, and weather conditions.

### Laboratory Testing

Laboratory test results indicate the sand soils tested exhibit low compression when subjected to an applied load of 500 pounds per square foot (psf) at in-situ water contents. Samples of the granitic rock tested exhibit low compression when subjected to an applied load of 500 pounds per square foot (psf) at in-situ water contents.

The results of laboratory testing completed for this project can be found in the **Exploration Results** section of this report.

## GEOTECHNICAL OVERVIEW

Based on the results of our field investigation, laboratory testing program and geotechnical analyses, development of the site is considered feasible from a geotechnical viewpoint provided that the conclusions and considerations provided herein are incorporated into the design and construction of the project.

We have identified the following geotechnical conditions that could impact design and construction of the proposed project.

### **Existing Fill Materials**

Between 1½ and 3½ feet of existing fill materials were encountered in Borings B-1 through B-3. The fill materials did not possess man-made debris to indicate fill but were characterized as possible fill due to their texture. The fill depths presented in the boring logs are approximate and the total depth, lateral extent, and composition of fill materials present on the site may not become evident until construction and should be expected to vary across the site.

We do not possess any information regarding whether the fill encountered was placed under the observation of a geotechnical engineer. There is an inherent risk for the owner that compressible fill or unsuitable material, within or buried by the fill, will not be discovered, resulting in movements that could cause distress to structures. Based on the results of our field exploration and laboratory testing, it is our opinion the fill materials should not be used to support foundations or floor slabs without complete removal and replacement with compacted structural fill. After removal, surfaces to receive structural fill should be prepared as recommended in the **Earthwork** section of this report.

We recommend existing fill soils be removed below planned utilities at this site and replaced as compacted, structural fill. Utilities should be designed with restrained joints and designed to accommodate potential differential movement should existing fill soils be left in place.

There exists the potential for construction debris and/or domestic trash to be encountered within the fill on some portions of the site. Because construction debris was not encountered in the borings drilled at this site, the potential risk for encountering construction debris and domestic trash is considered to be low. The fill materials should be observed for the presence of trash and debris during site grading and construction.

The existing fill materials can be reused as structural fill below foundations and floor slabs provided any deleterious materials are removed. Replacement can include overexcavating, moisture conditioning, and compacting the existing fill materials back in-place as structural fill. Further, some additional removal and replacement may be required if unsuitable or soft/loose materials are exposed during removal of the fill materials.

### **Shoring**

We anticipate excavations of up to about 12 to 16 feet below existing site grades along the south side of the building. If excavations cannot be sloped in accordance with Occupational Safety and Health Administration (OSHA) recommendations, shoring will likely be required. The depth of excavation and location of adjacent utilities, and structures will influence the type of shoring system that may be used. A qualified shoring contractor should be contacted to design and install

the shoring system. The individual contractor(s) should also be made aware of the possibility of shoring and plan for this during construction.

The earth pressure parameters provided in this report may be used for temporary shoring; however, the use of these parameters is at the discretion of the designer. It has been our experience that shoring designers have proprietary or various earth pressure diagrams to base the shoring design. It is up to the shoring designer to interpret the provided parameters.

## **EARTHWORK**

Earthwork is anticipated to include removal of existing developments, generated debris, existing fill materials, and fill placement. Localized clearing and grubbing may also be required. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria, as necessary, to render the site in the state considered in our geotechnical engineering evaluation for foundations and floor slabs.

### **Site Preparation**

Prior to placing fill, existing vegetation and root mat, if any, should be removed. Where encountered, complete stripping of the topsoil should be performed in the proposed new development areas. Stripped materials consisting of vegetation, unsuitable fills, and organic materials should be wasted from the site or used to revegetate landscaped areas after completion of grading operations. Any existing structures, underground utilities, and generated debris should be removed from below new developments.

All exposed surfaces should be free of mounds and depressions that could prevent uniform compaction. All below-grade structures that are removed from below new developments should be backfilled with compacted structural fill. Excavations to remove below grade structures should be benched to expose firm, approved materials prior to backfill placement or construction. Existing utilities to be abandoned (if any) should be removed within 10 feet of the proposed pump station building perimeter. Abandoned utilities to remain in place beyond the perimeter should be grouted and capped.

Although evidence of underground facilities such as grease pits and septic tanks were not observed during the site reconnaissance, such features could be encountered during construction. If unexpected fills or underground facilities are encountered, such features should be removed and the excavation thoroughly cleaned prior to backfill placement and/or construction.

Where practical, foundation and floor slab subgrades should be proof-rolled with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proof-rolling should be performed under the direction of the Geotechnical Engineer. Areas excessively deflecting under the proof-roll should be delineated and subsequently addressed by the Geotechnical Engineer.



The bottom of foundation over-excavations should also be probed with a metal T-probe to aid in locating loose, soft, or otherwise undesirable areas. Unacceptable areas delineated by the proof-roll or probing should be removed or mitigated in place prior to placing fill, foundation and slab concrete. Such areas should either be removed or modified by stabilizing with geotextile. Material that is determined to be excessively wet or dry should be removed, or moisture conditioned and re-compacted.

## Fill Slopes

We understand a reconstructed fill slope may be performed as part of the pump station construction. Based on the provided site topography and grading plan, reconstructed slopes with gradients of up to about 2:1 (horizontal:vertical) are planned during construction. Where fill is placed on existing or temporary slopes steeper than 5H:1V, benches should be cut into the existing slopes prior to fill placement. The benches should have a minimum vertical face height of 1 foot and a maximum vertical face height of 3 feet and should be cut wide enough to accommodate compaction equipment. This benching will help provide a positive bond between the fill/ natural soils and rock and reduce the possibility of failure along the fill/natural soil and rock interface. We also recommend similar construction methods be implemented within other cut/fill transitions areas at the site.

## Fill Material Types

Fill required to achieve design grades should be classified as structural fill and general fill. Structural fill is material used below or within 10 feet of structures. General fill is material used to achieve grade outside of these areas. Earthen materials used for structural and general fill should meet the following material property requirements:

Soil Type <sup>1</sup>	USCS Classification	Acceptable Locations for Placement
On-site sand soils	SC, SC-SM, SW	The on-site existing fill and native sand soils are considered acceptable for re-use as structural fill beneath foundations and floor slabs. The on-site sand soils may also be re-used as general fill outside of structural areas.
Granitic rock	N/A	The on-site granitic rock may be re-used as structural fill beneath foundations and floor slabs, and as general fill outside of structural areas provided it is processed to a soil like consistency with a maximum particle size of 3 inches.
Imported soils	Varies	Imported soils meeting the gradation parameters presented herein can be considered suitable for use as structural and/or general fill.

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Soil Type <sup>1</sup>	USCS Classification	Acceptable Locations for Placement
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1. Structural and general fill should consist of approved materials free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.

Imported soils for use as structural and/or general fill should conform to the following:

Gradation	Percent finer by weight (ASTM C136)
3"	100
No. 4 Sieve	30-100
No. 200 Sieve	<35

Soil Properties	Value
Liquid Limit	20 (max.)
Plastic Index	10 (max.)
Expansive Potential <sup>1</sup>	0.5 percent (max.)

1. Measured on a sample compacted to approximately 95 percent of the ASTM D698 maximum dry density at optimum water content. The sample is confined under a 150 psf surcharge and submerged.

## Fill Compaction Requirements

Structural and general fill should meet the following compaction requirements.

Item	Structural Fill
Maximum lift thickness	8 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack, plate compactor) is used
Minimum compaction requirements <sup>1, 2, 3</sup>	98% of the materials maximum dry density for foundations and floor slabs 100% of the materials maximum dry density for fills 6 feet in thickness or greater
Water content range <sup>2, 4</sup>	Within 3 percent of optimum water content (granular soils)

Item	Structural Fill
1.	We recommend engineered fill be tested for water content and compaction during placement. Should the results of the in-place density tests indicate the specified water or compaction limits have not been met, the area represented by the test should be reworked and retested as required until the specified water and compaction requirements are achieved.
2.	Maximum dry density and optimum water content as determined by the Standard Proctor test (D698).
3.	If the granular material is a coarse sand or gravel, or of a uniform size, or has a low fines content, compaction comparison to relative density may be more appropriate. In this case, granular materials should be compacted to at least 75% relative density (ASTM D4253 and D4254).
4.	Water contents should be maintained low enough to allow for satisfactory compaction to be achieved without the compacted fill material becoming unstable under the weight of construction equipment or during proof-rolling. Indications of unstable soil can include pumping or rutting.

## Grading and Drainage

All grades must provide effective drainage away from the pump station building during and after construction and should be maintained throughout the life of the structure. Water retained next to the building can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks. The roof should have gutters/drains with downspouts that discharge onto splash blocks at a distance of at least 10 feet from the building.

Exposed ground should be sloped and maintained at a minimum 5% away from the building for at least 10 feet beyond the perimeter of the building. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After building construction and landscaping have been completed, final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically inspected and adjusted, as necessary, as part of the structure's maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

## Earthwork Construction Considerations

Shallow excavations for the proposed structure are anticipated to be accomplished with conventional construction equipment. Deeper excavations that encounter granitic rock may become more difficult and necessitate the use of specialized equipment and/or techniques. Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of foundations and floor slabs. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompact prior to foundation or floor slab construction.

Depending on seasonal groundwater fluctuations, groundwater may be encountered during construction and if encountered will likely cause difficulties. Dewatering of excavations and utility trenches may be required during construction. Groundwater seeping into excavations at this site could most likely be controlled by the use of well points or shallow trenches leading to a sump pit where the water could be removed by pumping; however, the requirements for properly dewatering excavations are beyond the scope of services provided for this project.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local, and/or state regulations.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

## FOUNDATION RECOMMENDATIONS

If the site has been prepared in accordance with the requirements noted in **Earthwork**, the following design parameters are applicable for shallow foundations.

### Design Parameters – Compressive Loads

Item	Description
Foundation Subgrade Preparation	All existing fill must be removed, if encountered. Native sand soils should be scarified a minimum of 12 inches, moisture conditioned and compacted
Maximum Net Allowable Bearing pressure <sup>1, 2</sup>	3,000 psf
Required Bearing Stratum <sup>3,4</sup>	Recompacted native sand soils, new engineered fill, or granitic rock
Foundation Dimensions	Isolated footings: 24 inches Continuous footings: 18 inches
Ultimate Passive Resistance <sup>5</sup> (equivalent fluid pressures)	300 pcf
Ultimate Coefficient of Sliding Friction <sup>6</sup>	0.40
Minimum Embedment below Finished Grade	30 inches

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Item	Description
<b>Estimated Total Movement from Structural Loads <sup>7</sup></b>	Less than about 1 inch
<b>Estimated Differential Movement <sup>7,8</sup></b>	About ½ to ¾ of total movement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the foundation base elevation. An appropriate factor of safety has been applied. Values assume that exterior grades are no steeper than 20% within 10 feet of structures.
2. Value provided is based on our project understanding noted in the **Project Description**. The foundation movement will depend upon the variations within the subsurface soil profile, the structural loading conditions, the embedment depth of the foundations, the thickness of compacted fill, the quality of the earthwork operations, and maintaining uniform soil water content throughout the life of the structure. The estimated movements are based on maintaining uniform soil water content during the life of the structure. Additional foundation movements could occur if water from any source infiltrates the foundation soils; therefore, proper drainage and irrigation practices should be incorporated into the design and operation of the facility. Failure to maintain soil water content and positive drainage will nullify the movement estimates provided above.
3. Unsuitable or soft/loose soils should be over-excavated and replaced per the recommendations presented in the **Earthwork**.
4. There exists a slight risk of differential movement between foundations bottomed in densified native sand soils or new engineered fill and foundations bottomed in granitic rock. Where foundations are not bottomed in granitic rock, we recommend scarifying the native sand soils a minimum of 12 inches and compacting to 98% of the material's maximum dry density.
5. Use of passive earth pressures require the sides of the excavation for the foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the foundation forms be removed and compacted structural fill be placed against the vertical foundation face.
6. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Should be neglected for foundations subject to net uplift conditions.
7. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
8. Differential movements are as measured over a span of 50 feet.

## Foundation Construction Considerations

As noted in **Earthwork**, the foundation excavations should be evaluated under the direction of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the foundation excavations should be removed/reconditioned before foundation concrete is placed.

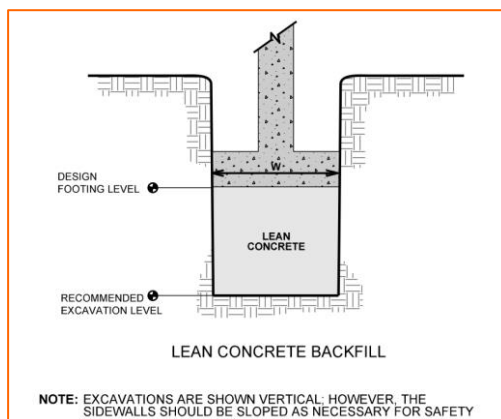
If unsuitable bearing soils are encountered at the base of the planned foundation excavation, the excavation should be extended deeper to suitable soils, and the foundations could bear directly

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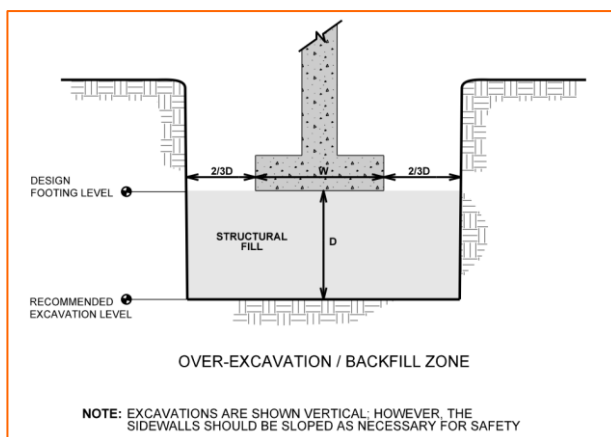
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on these soils at the lower level or on lean concrete backfill placed in the excavations. This is illustrated on the sketch below.



Over-excavation for structural fill placement below foundations should be conducted as shown below. The over-excavation should be backfilled up to the foundation base elevation with structural fill placed as recommended in the **Earthwork** section.



## UTILITY RECOMMENDATIONS

The following sections present design and construction recommendations for the proposed utilities.

### Utility Design Recommendations

Based on the geotechnical engineering analyses, subsurface exploration and laboratory test results, the proposed utilities may be constructed on and backfilled with native soils, processed



on-site bedrock, or imported soils, provided the owner is willing to risk some potential movement, estimated to be on the order of 1 inch. Estimated movements require that utilities be constructed as recommended in the **Earthwork** section of this report. The recommendations of this report should be considered a minimum and may be superseded by the governing municipal specifications.

Utilities constructed on existing fill materials may have a higher risk of movement on the order of several inches more than utilities constructed on native soils or imported fill. Existing fill materials were encountered in some of our borings. Based on the reported bottom of pipe elevations it appears most, if not all, of the existing fill materials will be removed from below the proposed utilities during construction. However, to reduce the risk of additional movement, we recommend existing fill materials be removed where encountered below utilities and replaced with compacted fill. If the owner is willing to accept the risk of additional movement, on the order of several inches, utilities could be constructed on existing fill materials.

## SEISMIC CONSIDERATIONS

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the soil/bedrock properties encountered at the site and as described on the exploration logs and results, it is our professional opinion that the **Seismic Site Classification is C**. Subsurface explorations at this site were extended to a maximum depth of 23½ feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth.

## FLOOR SLABS

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Specific attention should be given to positive drainage away from the pump station structure.

### Floor Slabs-On-Grade Design Parameters

Item	Description
Floor Slab Support <sup>1</sup>	All existing fill must be removed, if encountered. Native sand soils should be scarified a minimum of 12 inches, moisture conditioned and compacted

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Item	Description
<b>Estimated Modulus of Subgrade Reaction <sup>2</sup></b>	110 pounds per square inch per inch (psi/in) for point loads
<ol style="list-style-type: none"><li>1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.</li><li>2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in <b>Earthwork</b>, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.</li></ol>	

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual. Joints or cracks should be sealed with a water-proof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

### Floor Slab Construction Considerations

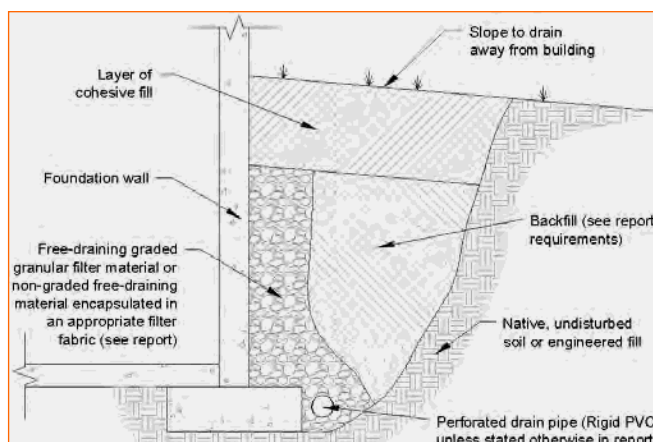
Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed and structural fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

## BELOW-GRADE RETAINING WALL

### Subsurface Drainage for Below-Grade Retaining Walls

We understand a below-grade retaining wall is planned for this project and will have a maximum depth of about 12 to 16 feet below existing grades. A perforated rigid plastic drain line installed behind the base of walls and extends below adjacent grade is recommended to prevent hydrostatic loading on the walls. The invert of a drain line around a below-grade building area or exterior retaining wall should be placed near foundation bearing level. The drain line should be sloped to provide positive gravity drainage to daylight or to a sump pit and pump. The drain line should be surrounded by clean, free-draining granular material having less than 5% passing the No. 200 sieve, such as No. 57 aggregate. The free-draining aggregate should be encapsulated in a filter fabric. The granular fill should extend to within 2 feet of final grade, where it should be capped with compacted cohesive fill to reduce infiltration of surface water into the drain system.



As an alternative to free-draining granular fill, a pre-fabricated drainage structure may be used. A pre-fabricated drainage structure is a plastic drainage core or mesh which is covered with filter fabric to prevent soil intrusion, and is fastened to the wall prior to placing backfill.

## LATERAL EARTH PRESSURES

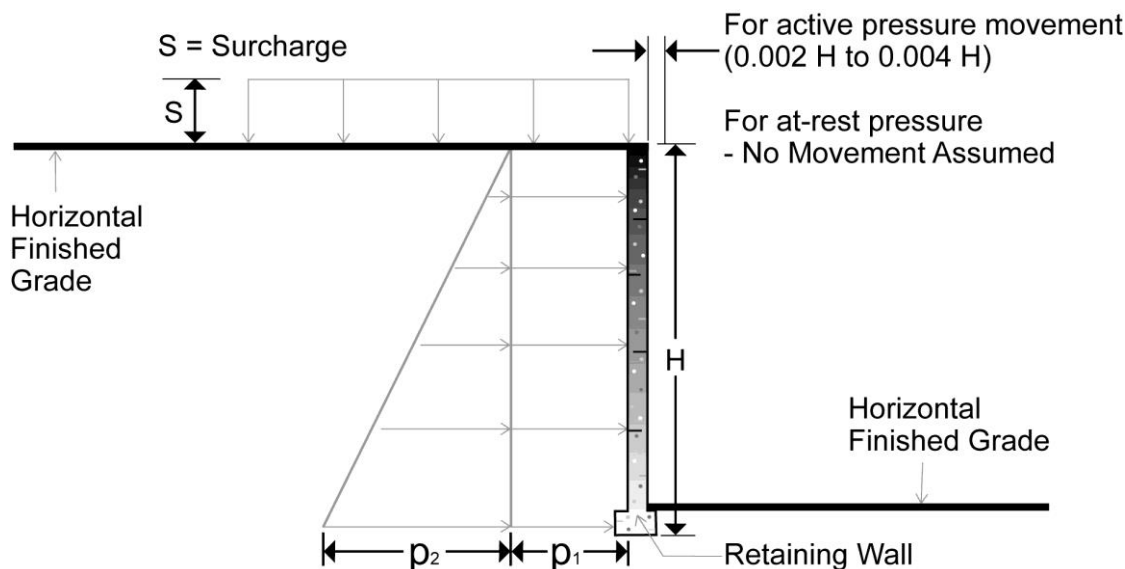
We understand a below-grade area is being considered for this project and that if constructed, it will have a maximum depth of 12 to 16 feet below existing grades. Reinforced concrete walls with unbalanced backfill levels on opposite sides should be designed for earth pressures at least equal to those indicated in the following table. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction and/or compaction and the strength of the materials being restrained. Two wall restraint conditions are shown. Active earth pressure is commonly used for design of free-standing cantilever retaining walls and assumes wall movement. The "at-rest" condition assumes no wall movement. The recommended design

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lateral earth pressures do not include a factor of safety and do not provide for possible hydrostatic pressure on the walls.



Lateral Earth Pressure Design Parameters			
Earth Pressure Condition <sup>1</sup>	Coefficient for Backfill Type <sup>2</sup>	Surcharge Pressure <sup>3, 4, 5</sup> $p_1$ (psf)	Equivalent Fluid Pressures (psf) <sup>2, 4, 5</sup>
Active ( $K_a$ )	0.44	$(0.44)S$	$(55)H$
At-Rest ( $K_o$ )	0.69	$(0.69)S$	$(85)H$
Passive ( $K_p$ )	2.77	---	$(300)H$

1. For active earth pressure, wall must rotate about base, with top lateral movements 0.002 H to 0.004 H, where H is wall height. For passive earth pressure, wall must move horizontally to mobilize resistance.
2. Uniform backfill behind the wall with a maximum slope of 22 degrees, compacted to at least 95% of the ASTM D 698 maximum dry density, rendering a maximum unit weight of 120 pcf.
3. Uniform surcharge, where S is surcharge pressure.
4. Loading from heavy compaction equipment is not included.
5. No safety factor is included in these values.
6. The above lateral earth pressures do not account for hydrostatic pressures. We recommend that a drain be installed behind the wall.

### Applicable conditions to the above include:

- For active earth pressure, wall must rotate about base, with top lateral movements of about 0.002 H to 0.004 H, where H is wall height
- For passive earth pressure to develop, wall must move horizontally to mobilize resistance.

- Uniform surcharge, where S is surcharge pressure
- In-situ soil backfill weight a maximum of 120 pcf
- Horizontal backfill, compacted to at least 95 percent of standard Proctor maximum dry density
- Loading from heavy compaction equipment not included
- No hydrostatic pressures acting on wall
- No dynamic loading
- No safety factor included in soil parameters

We recommend that a drain be installed behind retaining walls as recommended in the **Subsurface Drainage for Below-Grade Walls** section of this report. The above pressures do not include the influence of surcharge, equipment, or floor loading, which should be added. Heavy equipment should not operate within a distance closer than the exposed height of retaining walls to prevent lateral pressures more than those provided.

## CORROSIVITY

The table below lists the results of laboratory soluble sulfate, soluble chloride, electrical resistivity, and pH testing. The values may be used to estimate potential corrosive characteristics of the on-site soils with respect to contact with the various underground materials which will be used for project construction.

Corrosivity Test Results Summary						
Boring	Sample Depth (feet)	Soil Description	Soluble Sulfate (mg/kg)	Soluble Chloride (mg/kg)	Electrical Resistivity <sup>1</sup> (Ω-cm)	pH
B-1	1-5	SC	79	50	3,589	7.72

1. Laboratory electrical resistivity testing was performed on a saturated sample

We recommend a certified corrosion engineer be employed to determine the need for corrosion protection and to design appropriate protective measures. Results of water-soluble sulfate testing indicate samples of the on-site soils have an exposure class of S0 when classified in accordance with Table 19.3.1.1 of the American Concrete Institute (ACI) Design Manual. The results of the testing indicate ASTM Type I Portland Cement is suitable for project concrete in contact with on-site soils. However, if there is no (or minimal) cost differential, use of ASTM Type II Portland Cement is recommended for additional sulfate resistance of construction concrete. Concrete should be designed in accordance with the provisions of the ACI Design Manual, Section 318, Chapter 19.

## **GENERAL COMMENTS**

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client, and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

## FIGURES

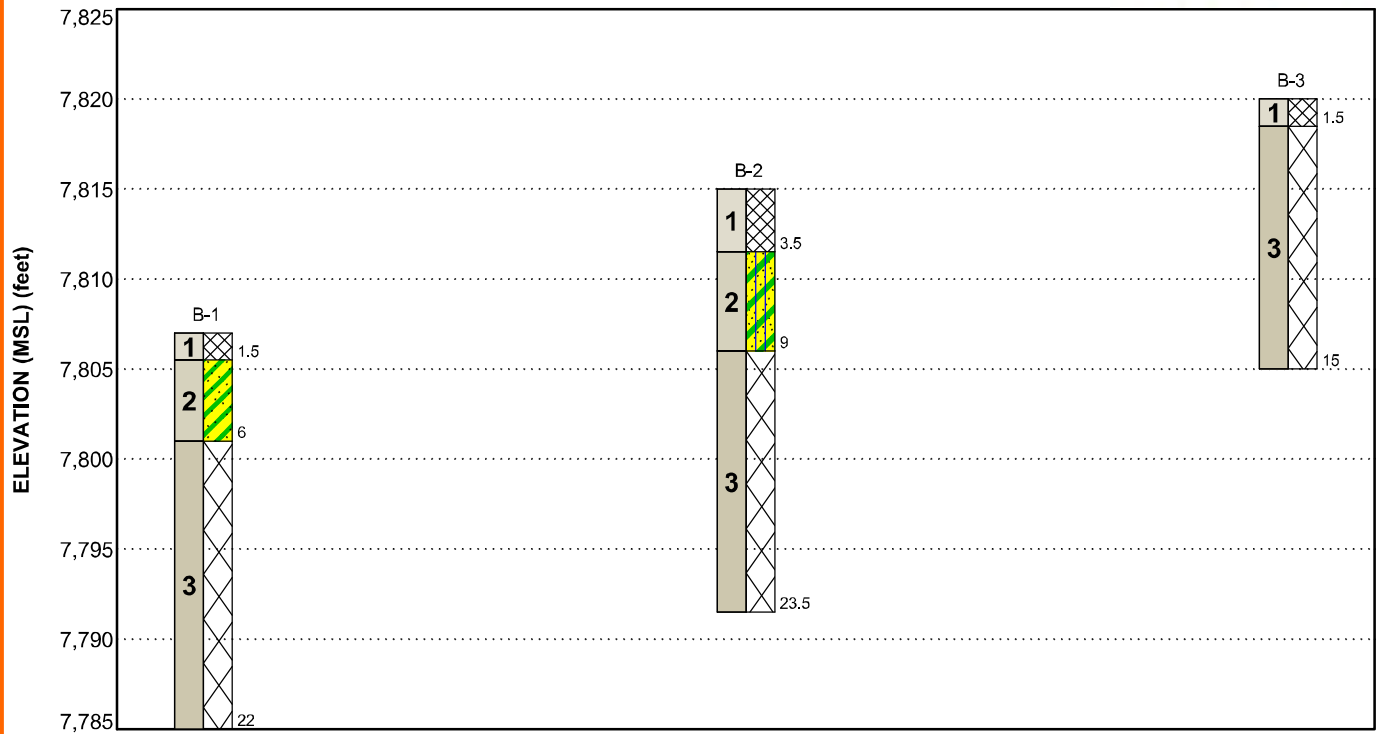
### Contents:

GeoModel



## GEOMODEL

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This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Fill	Existing fill materials consisting of sand with varying amounts of clay and gravel; various stiffnesses and densities
2	Native Sand	Native sand soils with varying amounts of clay, silt, and gravel; loose to very dense
3	Weathered Bedrock	Granitic bedrock; weathered to very hard

### LEGEND



### NOTES:

Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

## ATTACHMENTS

## EXPLORATION AND TESTING PROCEDURES

### Field Exploration

Boring Nos.	Boring Depth (feet)	Location
B-1 and B-2	22 to 23½ <sup>1</sup>	Proposed pump station area
B-3	15	Proposed utility area

1. Auger refusal was encountered in Boring Nos. B-1 and B-2 on granitic rock

**Boring Layout and Elevations:** We used handheld GPS equipment to locate borings with an estimated horizontal accuracy of ±20 feet. Ground Surface elevations were estimated using Google Earth at each of the boring locations.

**Subsurface Exploration Procedures:** We advanced the soil borings with a truck-mounted drill rig using continuous-flight augers. Four to five samples were obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration was recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. A 3-inch outer diameter, split-barrel sampling spoon with 2.5-inch inner diameter, ring-lined sampler was used for sampling in the upper 14 feet. Ring-lined, split-barrel sampling procedures were similar to standard split-spoon sampling procedure; however, blow counts were recorded for 6-inch intervals for a total of 12 inches of penetration. Bulk samples of auger cuttings were also obtained in the upper 5 feet of each boring. The samples were placed in appropriate containers, taken to our soil laboratory for testing, and classified by a geotechnical engineer. Groundwater was not encountered within the borings at the time of drilling and sampling.

Our exploration team prepared field boring logs as part of standard drilling operations which included the sampling depths, penetration distances, and other relevant sampling information. Field logs include visual classifications of materials encountered during drilling, and our interpretation of subsurface conditions between samples. Final boring logs, prepared from field logs, represent the geotechnical engineer's interpretation, and include modifications based on observations and laboratory tests.

### Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests to understand the engineering properties of the various soil strata, as necessary, for this project. Procedural

## Geotechnical Engineering Report

Green Mountain Falls Pump Station ■ Green Mountain Falls, Colorado

April 20, 2022 ■ Terracon Project No. 23215048A



standards noted in this report are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment. The following testing was performed:

- Water content
- Dry unit weight
- Atterberg limits
- Grain size analyses
- Consolidation/expansion
- Chemical analyses – pH, sulfates, chloride ion, and electrical resistivity

The laboratory testing program included examination of the soil samples by an engineer. Based on the material's texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System.

## **SITE LOCATION AND EXPLORATION PLANS**

### **Contents:**

Site Location Plan

Exploration Plan with Aerial Overlay

Note: All attachments are one page unless noted above.

EXPLORATION PLAN

Green Mountain Falls Pump Station ■ Green Mountain Falls, Colorado  
April 20, 2022 ■ Terracon Project No. 23215048A

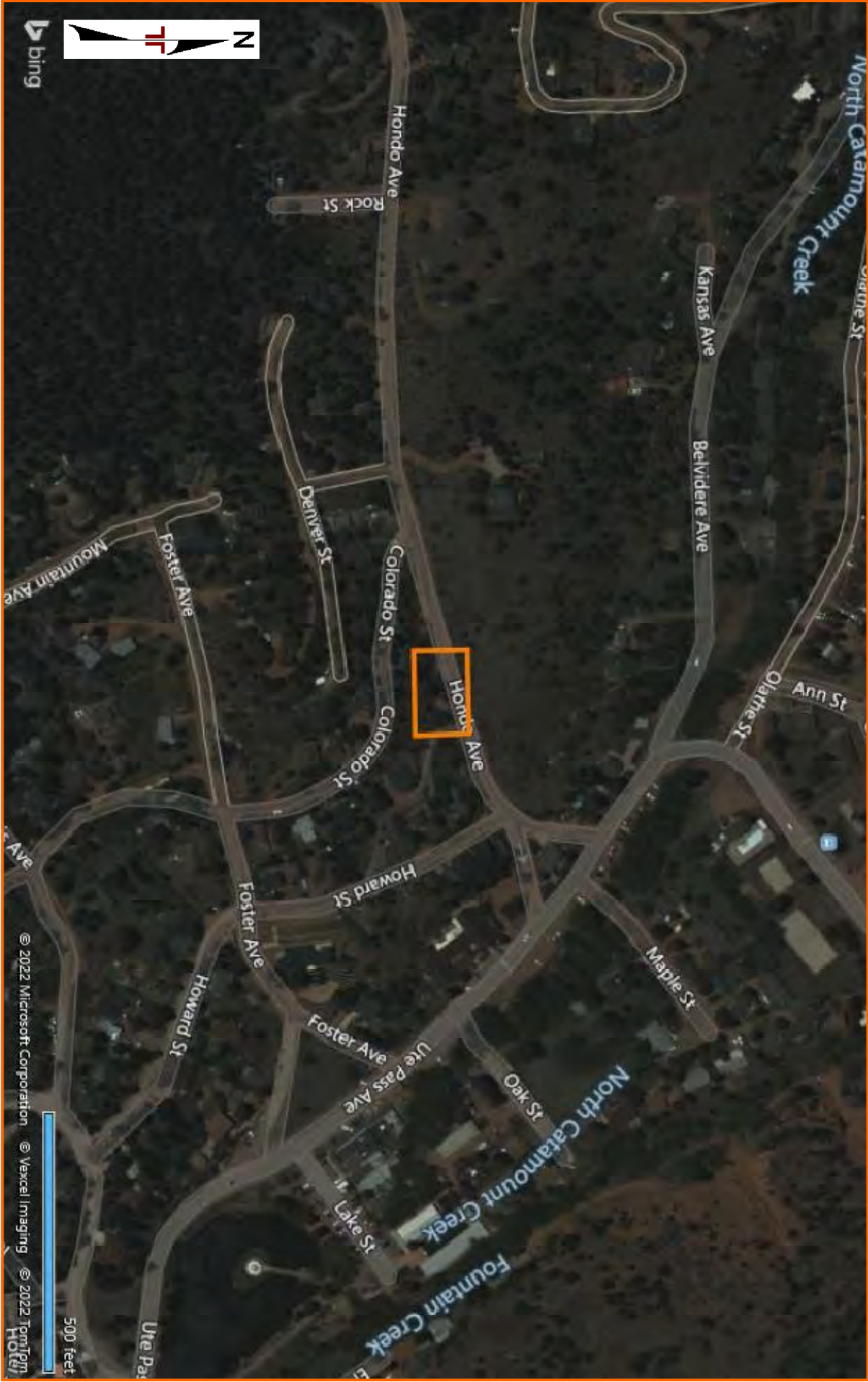


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT  
INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY  
MICROSOFT BING MAPS



EXPLORATION PLAN WITH PROJECT OVERLAY

Green Mountain Falls Pump Station ■ Green Mountain Falls, Colorado  
April 20, 2022 ■ Terracon Project No. 23215048A

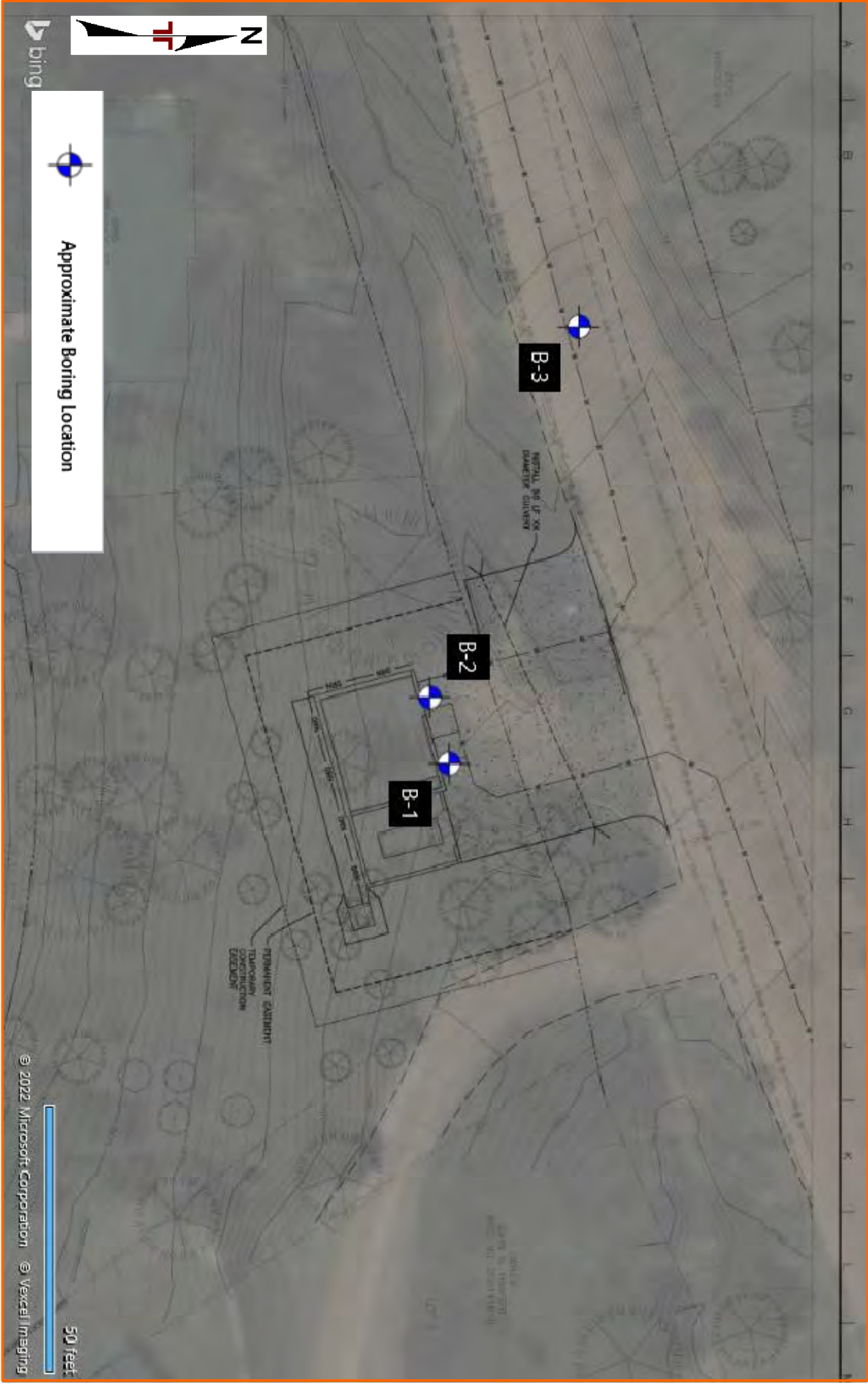


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT  
INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY  
MICROSOFT BING MAPS

## **EXPLORATION RESULTS**

### **Contents:**

Boring Logs (B-1 through B-3)  
Atterberg Limits  
Grain Size Distribution  
Consolidation/Swell (2 pages)  
Corrosivity  
Laboratory Test Summary

Note: All attachments are one page unless noted above.




# BORING LOG NO. B-1

Page 1 of 1

**PROJECT:** Green Mountain Falls Pump Station

**CLIENT:** Dewberry Engineers, Inc.

**SITE:** 10472 Mountain Avenue  
Green Mountain Falls, Colorado

MODEL LAYER	GRAPHIC LOG	LOCATION See <a href="#">Exploration Plan</a> Latitude: 38.9346° Longitude: -105.0180° Approximate Surface Elev.: 7807 (Ft.) +/- DEPTH ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SWELL (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		<b>FILL - CLAYEY SAND (SC)</b> , with gravel, reddish brown 1.5 7805.5+/-				7-9		3.2			
2		<b>CLAYEY SAND (SC)</b> , trace silt and gravel, fine to coarse grained, reddish brown, medium dense 6.0 7801+/-	5			10-20 10-14		4.6 4.3	108 103	28-19-9	16
3		<b>WEATHERED GRANITIC ROCK</b> , coarse grained, reddish brown to pink, soft to very hard 22.0 7785+/-	10 15 20			10-50/5" 50/6" 50/3" 11-6 50/0"	-0.5 @ 500 psf	3.3 4.3 4.8 6.0	114 115 117 128		
		<b>Auger Refusal On Granitic Rock at 22 Feet</b>									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:  
4-inch diameter, solid-stem, continuous-flight power auger

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).

Notes:

Abandonment Method:  
Boring backfilled with auger cuttings upon completion.

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevation obtained by Google Earth.

## WATER LEVEL OBSERVATIONS

Groundwater not encountered

**Terracon**

4172 Center Park Dr  
Colorado Springs, CO

Boring Started: 02-23-2022

Boring Completed: 02-23-2022

Drill Rig: CME-550

Driller: Terracon

Project No.: 23215048A

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. 23215048 GREEN MOUNTAIN FALLS.GPJ TERRACON\_DATATEMPLATE.GDT 4/19/22

# BORING LOG NO. B-2

Page 1 of 1

PROJECT: Green Mountain Falls Pump Station

CLIENT: Dewberry Engineers, Inc.

SITE: 10472 Mountain Avenue  
Green Mountain Falls, Colorado

MODEL LAYER	GRAPHIC LOG	LOCATION See <a href="#">Exploration Plan</a> Latitude: 38.9346° Longitude: -105.0180° Approximate Surface Elev.: 7815 (Ft.) +/- DEPTH ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SWELL (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		<b>FILL - CLAYEY SAND (SC)</b> , with gravel, dark brown 3.5 7811.5+/-	4-5					6.6	83		
			5-6					4.5	97		
2		<b>SILTY CLAYEY SAND (SC-SM)</b> , trace gravel, fine to coarse grained, reddish brown, medium dense 9.0 7806+/-	9-20					4.5	114	26-19-7	35
			14-21					5.6	126		
			15-39				-0.1 @ 500 psf	5.1	119		
			50/2"					6.0	115		
			34-50/1"					7.7	125		
3		<b>WEATHERED GRANITIC ROCK</b> , coarse grained, reddish brown to pink, very hard 23.5 7791.5+/-	50/0"								
		<b>Auger Refusal On Granitic Rock at 23.5 Feet</b>									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:  
4-inch diameter, solid-stem, continuous-flight power auger

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).

Notes:

Abandonment Method:  
Boring backfilled with auger cuttings upon completion.

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevation obtained by Google Earth.

## WATER LEVEL OBSERVATIONS

Groundwater not encountered

**Terracon**

4172 Center Park Dr  
Colorado Springs, CO

Boring Started: 02-24-2022

Boring Completed: 02-24-2022

Drill Rig: CME-550

Driller: Terracon

Project No.: 23215048A

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL - 23215048 GREEN MOUNTAIN FALLS.GPJ TERRACON\_DATATEMPLATE.GDT 4/19/22

# BORING LOG NO. B-3

Page 1 of 1

PROJECT: Green Mountain Falls Pump Station

CLIENT: Dewberry Engineers, Inc.

SITE: 10472 Mountain Avenue  
Green Mountain Falls, Colorado

MODEL LAYER	GRAPHIC LOG	LOCATION See <a href="#">Exploration Plan</a> Latitude: 38.9347° Longitude: -105.0183° Approximate Surface Elev.: 7820 (Ft.) +/- DEPTH ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	SWELL (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		1.5 <b>FILL - CLAYEY SAND (SC)</b> , with gravel, fine to coarse grained, reddish brown	7818.5+/-								
3		<b>WEATHERED GRANITIC ROCK</b> , coarse grained, reddish brown to pink, weathered to very hard				19-50/2"		2.8			
						30-50/3"		3.9	104		
			5			6-5		2.1			
			10			12-50/4"		4.2	113	23-16-7	3
			15			8-13		4.0	115		
		15.0 <b>Boring Terminated at 15 Feet</b>	7805+/-								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:  
4-inch diameter, solid-stem, continuous-flight power auger

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).

Notes:

Abandonment Method:  
Boring backfilled with auger cuttings upon completion.

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevation obtained by Google Earth.

## WATER LEVEL OBSERVATIONS

Groundwater not encountered

**Terracon**  
4172 Center Park Dr  
Colorado Springs, CO

Boring Started: 02-23-2022

Boring Completed: 02-23-2022

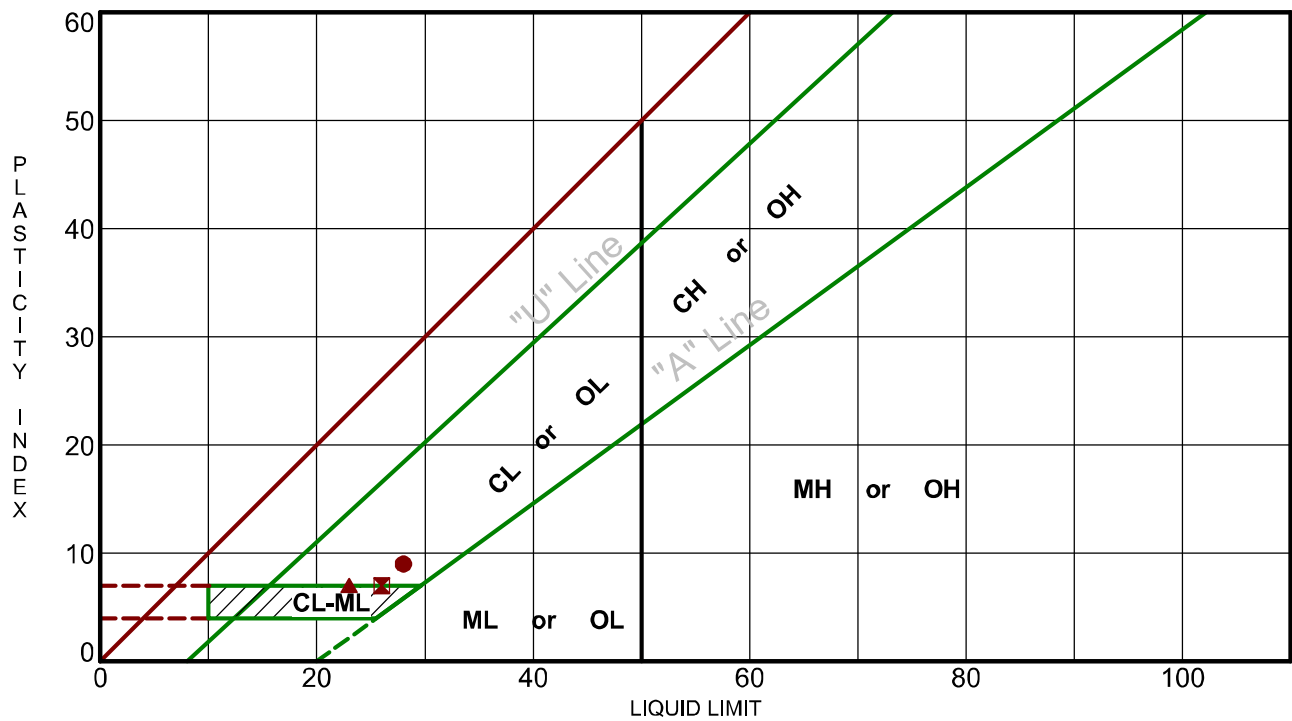
Drill Rig: CME-550

Driller: Terracon

Project No.: 23215048A

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL - 23215048 GREEN MOUNTAIN FALLS.GPJ TERRACON\_DATATEMPLATE.GDT 4/19/22

ASTM D4318

[illegible]

PROJECT: Green Mountain Falls Pump Station

SITE: 10472 Mountain Avenue  
Green Mountain Falls, Colorado

**Terracon**  
4172 Center Park Dr  
Colorado Springs, CO

PROJECT NUMBER: 23215048A

CLIENT: Dewberry Engineers, Inc.

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. ATTERBERG LIMITS 23215048 GREEN MOUNTAIN FALLS.GPJ TERRACON\_DATATEMPLATE.GDT 4/19/22



## ASTM D422 / ASTM C136

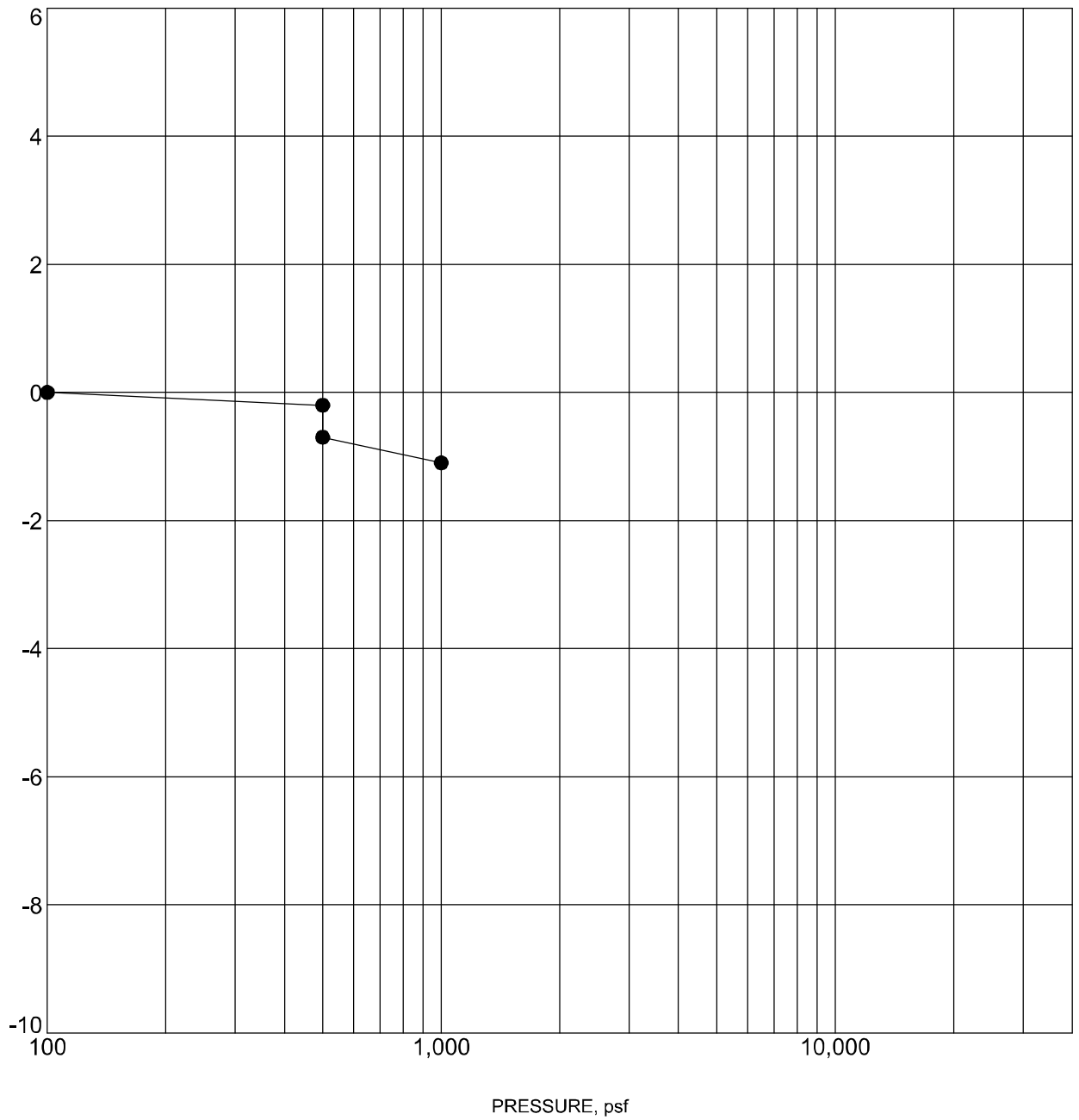
[illegible]

CLIENT: Dewberry Engineers, Inc.

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS-2 23215048 GREEN MOUNTAIN FALLS.GPJ TERRACON DATATEMPLATE.GDT 4/19/22

# SWELL CONSOLIDATION TEST

AXIAL STRAIN, %



Specimen Identification			Classification	$\gamma_d$ , pcf	WC, %
○	B-1	7 - 8 ft	WEATHERED GRANITIC ROCK	119	3.1

NOTES: Sample exhibited 0.5 percent compression when inundated at an applied pressure of 500 psf.

PROJECT: Green Mountain Falls Pump Station

SITE: 10472 Mountain Avenue  
Green Mountain Falls, Colorado

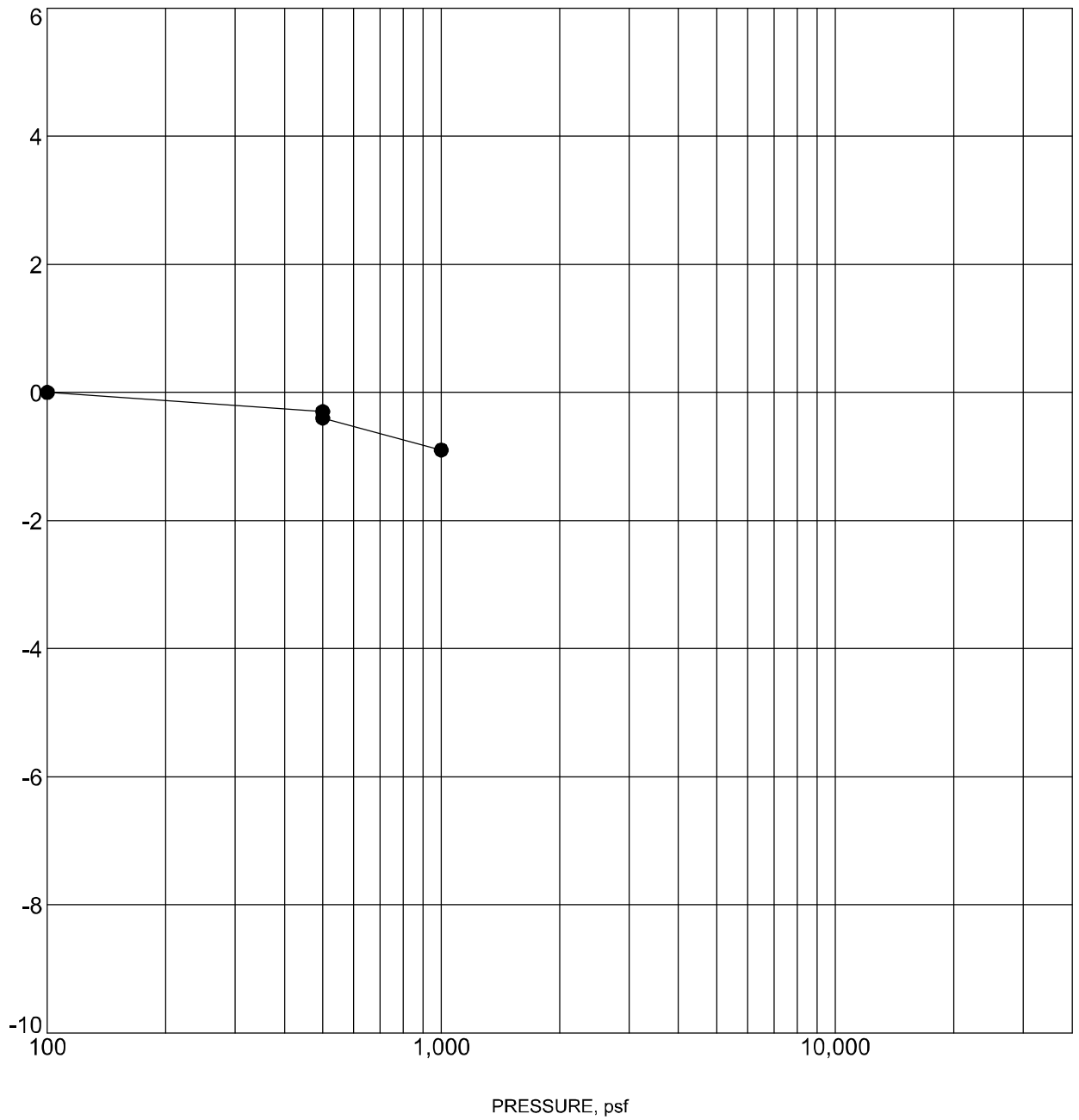
**Terracon**  
4172 Center Park Dr  
Colorado Springs, CO

PROJECT NUMBER: 23215048A

CLIENT: Dewberry Engineers, Inc.

# SWELL CONSOLIDATION TEST

AXIAL STRAIN, %



Specimen Identification			Classification	$\gamma_d$ , pcf	WC, %
○	B-2	9 - 10 ft	WEATHERED GRANITIC ROCK	126	5.1

NOTES: Sample exhibited 0.1 percent compression when inundated at an applied pressure of 500 psf.

PROJECT: Green Mountain Falls Pump Station

SITE: 10472 Mountain Avenue  
Green Mountain Falls, Colorado

**Terracon**  
4172 Center Park Dr  
Colorado Springs, CO

PROJECT NUMBER: 23215048A

CLIENT: Dewberry Engineers, Inc.

750 Pilot Road, Suite F  
Las Vegas, Nevada 89119  
(702) 597-9393



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**Client**

Dewberry Engineers Inc  
Denver, Colorado

**Project**

Green Mountain Falls Pump Station (23215048A)

**Sample Submitted By:** Terracon (23)

**Date Received:** 3/4/2022

**Lab No.:** 22-0199

---

**Results of Corrosion Analysis**

---

<b>Sample Number</b>	2
<b>Sample Location</b>	B-1
<b>Sample Depth (ft.)</b>	1.0-5.0
pH Analysis, ASTM D4972	7.72
Water Soluble Sulfate (SO <sub>4</sub> ), ASTM D516	79
Chlorides, ASTM D 512, (ppm)	50
Resistivity (Saturated), ASTM G 57, (ohm-cm)	3589

---

**Analyzed By:**

A handwritten signature in black ink, appearing to read "N. Campo".

Nathan Campo  
Engineering Technician II

The tests were performed in general accordance with applicable ASTM and AWWA test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

**SUMMARY OF LABORATORY TEST RESULTS**  
Green Mountain Falls Pump Station - Green Mountain Falls, Colorado  
Terracon Project No. 23215048A

[illegible]

**Notes:**  
Initial Dry Density and Initial Water Content are in-situ values unless otherwise noted.  
\* = Partially disturbed sample  
- = Compression/settlement  
NV = no value  
NP = non-plastic

- 1 **Remarks:**
- 2 Remolded Compacted density (about 95% of ASTM D698 maximum density near optimum moisture content)
- 3 Remolded Compacted density (about 95% of ASTM D1557 maximum density near optimum moisture content)
- 4 Water added to sample
- 5 Dry density and/or moisture content determined from one ring of a multi-ring sample
- 6 Minus #200 Only
- 7 Moisture-Density Relationship Test Method ASTM D698/AASHTO T99
- 8 Moisture-Density Relationship Test Method ASTM D1557/AASHTO T180

## **SUPPORTING INFORMATION**

### **Contents:**

General Notes

Unified Soil Classification System








Note: All attachments are one page unless noted above.



# GENERAL NOTES

## DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

Green Mountain Falls Pump Station ■ Green Mountain Falls, Colorado  
Terracon Project No. 23215048A

SAMPLING	WATER LEVEL	FIELD TESTS
 Auger Cuttings  Modified Dames & Moore Ring Sampler  Standard Penetration Test	 Water Initially Encountered  Water Level After a Specified Period of Time  Water Level After a Specified Period of Time  Cave In Encountered <p>Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.</p>	<b>N</b> Standard Penetration Test Resistance (Blows/Ft.) <b>(HP)</b> Hand Penetrometer <b>(T)</b> Torvane <b>(DCP)</b> Dynamic Cone Penetrometer <b>UC</b> Unconfined Compressive Strength <b>(PID)</b> Photo-Ionization Detector <b>(OVA)</b> Organic Vapor Analyzer

## DESCRIPTIVE SOIL CLASSIFICATION

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

## LOCATION AND ELEVATION NOTES

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See [Exploration and Testing Procedures](#) in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

## STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance			CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance				BEDROCK		
Descriptive Term (Density)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.	Descriptive Term (Consistency)	Unconfined Compressive Strength Qu, (tsf)	Standard Penetration or N-Value Blows/Ft.	Ring Sampler Blows/Ft.	Ring Sampler Blows/Ft.	Standard Penetration or N-Value Blows/Ft.	Descriptive Term (Consistency)
Very Loose	0 - 3	0 - 6	Very Soft	less than 0.25	0 - 1	< 3	< 30	< 20	Weathered
Loose	4 - 9	7 - 18	Soft	0.25 to 0.50	2 - 4	3 - 4	30 - 49	20 - 29	Firm
Medium Dense	10 - 29	19 - 58	Medium Stiff	0.50 to 1.00	4 - 8	5 - 9	50 - 89	30 - 49	Medium Hard
Dense	30 - 50	59 - 98	Stiff	1.00 to 2.00	8 - 15	10 - 18	90 - 119	50 - 79	Hard
Very Dense	> 50	≥ 99	Very Stiff	2.00 to 4.00	15 - 30	19 - 42	> 119	>79	Very Hard
			Hard	> 4.00	> 30	> 42			

## RELEVANCE OF SOIL BORING LOG

The soil boring logs contained within this document are intended for application to the project as described in this document. Use of these soil boring logs for any other purpose may not be appropriate.

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests <sup>A</sup>					Soil Classification	
					Group Symbol	Group Name <sup>B</sup>
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines <sup>C</sup>	$Cu \geq 4$ and $1 \leq Cc \leq 3$ <sup>E</sup>	GW	Well-graded gravel <sup>F</sup>	
			$Cu < 4$ and/or $[Cc < 1 \text{ or } Cc > 3.0]$ <sup>E</sup>	GP	Poorly graded gravel <sup>F</sup>	
		Gravels with Fines: More than 12% fines <sup>C</sup>	Fines classify as ML or MH	GM	Silty gravel <sup>F, G, H</sup>	
			Fines classify as CL or CH	GC	Clayey gravel <sup>F, G, H</sup>	
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines <sup>D</sup>	$Cu \geq 6$ and $1 \leq Cc \leq 3$ <sup>E</sup>	SW	Well-graded sand <sup>I</sup>	
			$Cu < 6$ and/or $[Cc < 1 \text{ or } Cc > 3.0]$ <sup>E</sup>	SP	Poorly graded sand <sup>I</sup>	
		Sands with Fines: More than 12% fines <sup>D</sup>	Fines classify as ML or MH	SM	Silty sand <sup>G, H, I</sup>	
			Fines classify as CL or CH	SC	Clayey sand <sup>G, H, I</sup>	
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	$PI > 7$ and plots on or above “A”	CL	Lean clay <sup>K, L, M</sup>	
			$PI < 4$ or plots below “A” line <sup>J</sup>	ML	Silt <sup>K, L, M</sup>	
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay <sup>K, L, M, N</sup>
			Liquid limit - not dried			Organic silt <sup>K, L, M, O</sup>
	Silts and Clays: Liquid limit 50 or more	Inorganic:	$PI$ plots on or above “A” line	CH	Fat clay <sup>K, L, M</sup>	
			$PI$ plots below “A” line	MH	Elastic Silt <sup>K, L, M</sup>	
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay <sup>K, L, M, P</sup>
			Liquid limit - not dried			Organic silt <sup>K, L, M, Q</sup>
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat	

<sup>A</sup> Based on the material passing the 3-inch (75-mm) sieve.

<sup>B</sup> If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

<sup>C</sup> Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

<sup>D</sup> Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

$$E \quad Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

<sup>F</sup> If soil contains  $\geq 15\%$  sand, add "with sand" to group name.

<sup>G</sup> If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

<sup>H</sup> If fines are organic, add "with organic fines" to group name.

<sup>I</sup> If soil contains  $\geq 15\%$  gravel, add "with gravel" to group name.

<sup>J</sup> If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

<sup>K</sup> If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

<sup>L</sup> If soil contains  $\geq 30\%$  plus No. 200 predominantly sand, add "sandy" to group name.

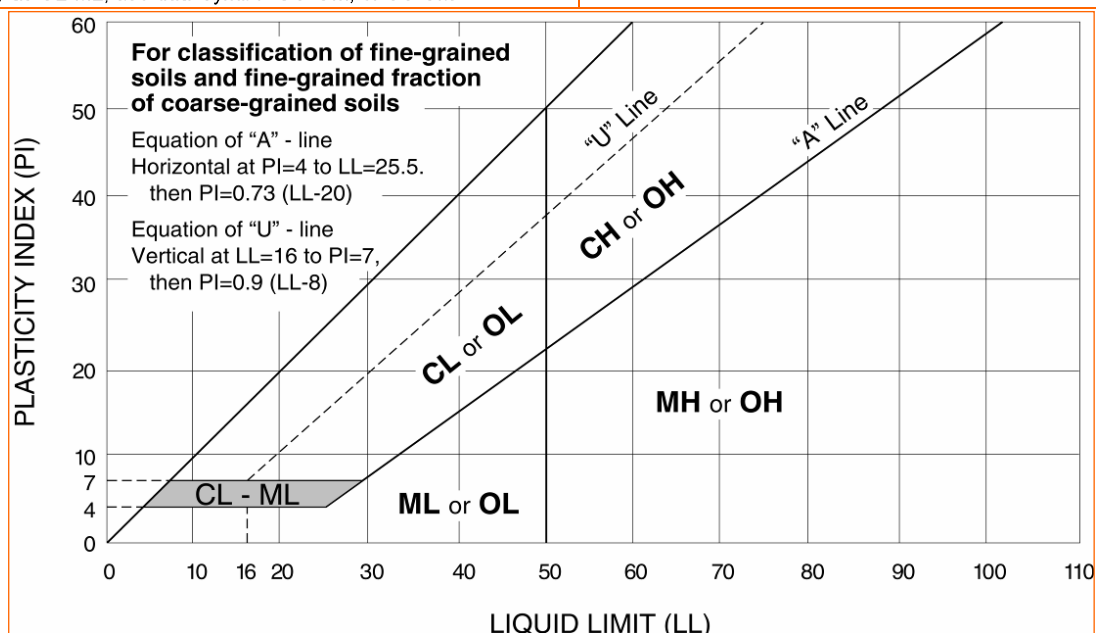
<sup>M</sup> If soil contains  $\geq 30\%$  plus No. 200, predominantly gravel, add "gravelly" to group name.

<sup>N</sup>  $PI \geq 4$  and plots on or above "A" line.

<sup>O</sup>  $PI < 4$  or plots below "A" line.

<sup>P</sup>  $PI$  plots on or above "A" line.

<sup>Q</sup>  $PI$  plots below "A" line.





## Town of Green Mountain Falls Land Use Approval Application Zoning Variance

### General Information

- A zoning variance is a request to deviate from the requirements in the Green Mountain Falls Land Use and Zoning Code, as established in §16-709.
- This checklist is a guide to submitting a complete application and is not a substitute for all provisions in [GMF Municipal Code](#). Applicants are responsible for reviewing and understanding the Code.
- Complete applications are subject to **four weeks (28 days)** GMF Staff review before appearing on Planning Commission and Board of Trustees agendas.

### Applicant

Applicant:	Dewberry Engineers, Inc. - Sam Franzen
Address:	990 S Broadway, Denver, CO 80209
E-Mail:	sfranzen@dewberry.com
Phone:	303-951-0618
Owner:	Colorado Springs Utilities - Larysa Voronova
Address:	121 S Tejon St, Suite 200, Colorado Springs, CO 80947
E-mail:	lvoronova@csu.org
Phone:	719-668-3851

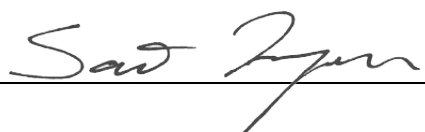
### Property

Address: 10685 Hondo Ave, Green Mountain Falls, CO 80819	
Zoning Designation: R-1 10,000	Lot Size: 12,778 sqft
Hillside Overlay zone? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Land Survey Included: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

### Certification & Signature

APPLICANT'S STATEMENT: I understand the procedures that apply to my request and acknowledge an incomplete application will not be processed or scheduled for public hearing until such time it is complete. GMF Town Staff's acceptance of the application, the payment of fees, and submittal of accompanying materials does not constitute completeness. I further agree to reimburse the city for technical and professional consulting expenses that may be incurred during the review of my request. Failure to reimburse the Town for invoiced expenses constitutes an incomplete application.

Certification: The undersigned applicant certifies under oath and under penalties of perjury that the information found in the application is true and accurate to the best of their knowledge.

Applicant Signature  Date 10/12/2022

Owner Signature \_\_\_\_\_ Date \_\_\_\_\_

Owner Signature \_\_\_\_\_ Date \_\_\_\_\_

This document can be signed electronically using [Adobe Reader DC for free](#).

## Variance Checklist

The following checklist is a guideline for submitting a complete Variance Land Use Approval Application. Failure to provide information that address the standards and requirements in GMF Zoning Code could result in staff review delays. GMF Staff may require additional information in accordance with Town Code and Town Attorney's recommendation.

### 1. Variance Application & Petition

- a. Application, signed and dated by the applicant and property owner(s)
- b. [Application fee](#)
- c. Letter of explanation
  - i. Describe the proposed project in detail, referring to site plans and drawings as necessary
  - i. Describe the reason for pursuing a variance; include benefits to yourself, the neighborhood, and the Town.
  - ii. Explain how the variance would not be contrary to the public interest.
  - iii. Provide proof of unique circumstances or conditions and how the strict application of the provisions of GMF Zoning and Land Use Code would deprive the applicant of the reasonable use of such land or building as described in the [Zoning Code §16-709](#)
  - iv. Provide proof of unnecessary hardship as described in the [Zoning Code §16-709](#)

### 2. Development Plan

- a. Vicinity Map
- b. Total development plan area in acres or square feet
- c. Zoning setbacks
- a. North arrow
- b. Property boundaries and dimensions
- c. Existing and proposed lots and tract lines, with dimensions
- d. Existing and proposed topography (contour lines or slope)
- e. Show and label all access points to the property from adjacent streets and alleys
- f. Proposed grading plan and separate GECP application

### 3. Procedure:

- a. Consultation meeting with GMF Staff and draft plans
- b. Submit completed application and checklist materials electronically: [planner@gmfco.us](mailto:planner@gmfco.us)
- c. Submit appropriate fees to Town Clerk for receipt
- d. Work with GMF Staff to schedule public hearings

GMF Town Staff:

- ☐ Application
- ☐ Variance Petition
- ☐ Development Plan
- ☐ Application fee  
Date\_\_\_\_\_ Amount\_\_\_\_\_ ☐ Check #\_\_\_\_\_ ☐ Credit Card



October 12, 2022

Town of Green Mountain Falls  
Attn: Nate Scott, Planner  
Town Hall  
10615 Green Mountain Falls Road  
Green Mountain Falls, CO 80819

RE: Letter of Explanation for the Green Mountain Falls Pump Station

Dear Mr. Scott,

Dewberry Engineers is pleased to submit a Variance Application and documentation for non-residential use of a residentially zoned property for the Green Mountain Falls Pump Station (GMFPS) on behalf of Colorado Springs Utilities. The Variance Application and supporting documentation are provided for review and comment. A digital copy has also been emailed.

The site selected for the new GMFPS is 10685 Hondo Avenue. The property is owned by the same entity that owns the property at 6985 Colorado St directly to the west. Colorado Springs Utilities is currently negotiating the terms of an easement with the property owner to allow the pump station to be built on the site. The agreement and required Owner Signature will be submitted once the agreement is finalized.

This variance is being proposed because the selected site for the GMFPS is zone R-1 10,000 and this building is non-residential in nature.

A Study/Alternative Analysis (SAA) evaluated twelve sites within Green Mountain Falls as options for the new pump station. Identifying viable locations for the GMFPS was difficult due to the steep nature of the terrain, the majority of the land in GMF being privately owned residential property, and the necessity of selecting a site near the intersection of the pumped and gravity zones in Colorado Springs Utilities water system. The SAA concluded the most suitable site for GMFPS is 10685 Hondo Avenue west of Ute Pass Avenue which can be seen on the location and vicinity maps on the Development Plan cover sheet and drawing C-1, attached. Colorado Springs Utilities is currently negotiating an easement on the property for the pump station with the property owner.

The purpose of the GMFPS project is to replace the existing below grade pump station. The existing pump station was constructed in 1986 and has reached the end of its useful life. The new pump station will ensure reliable water service for residents and businesses in Green Mountain Falls. It will also provide a safer and more readily accessible working space for Colorado Springs Utilities enabling more efficient maintenance and repair activities.

The new pump station site also allows for parking for maintenance vehicles whereas at the existing site vehicles park on the road impeding traffic. The existing pump station is a below grade structure located at the intersection of Mountain Avenue and Spruce Avenue in existing easements on private properties and is directly adjacent to two residences. Space at the existing site is restricted and construction of a new pump station at the existing site is not feasible. The existing pump station will be demolished and abandoned once the new pump station is constructed and operating.

The new pump station will be an above grade building that sits back into the hillside on the property, see drawing C-3, attached. The building will be a single room that is 22'-8" by 18'-10". A 13'-8" by 17'-8" open topped enclosure for a backup emergency generator will be attached to the east side of the building. The building location on the site and arrangement can be seen on drawing C-3 and A-2, attached.

Generally, proposed site grading is designed to match existing drainage patterns as shown on drawing C-4, attached. The most significant grading changes occur where the pump station building is built into the hillside and in front of the building where a portion of the drainage channel is replaced with a culvert to allow the parking area to be expanded.

The building walls will be concrete covered with a veneer composed of natural stone facing on the bottom and pre-finished metal narrow batten siding above. The stone veneer will slope to match the grade around the building. The generator enclosure walls will be concrete covered with a natural stone veneer to match the building and capped with colored concrete wall caps. The building roof will be pre-finished metal standing seam that is the same color as the wall siding. The roof slants only to the east to minimize the view impacts from the neighboring properties. Stone and metal wall and roof finish colors will be primarily earth tones, browns, and grays selected to blend with the surrounding environment. A double man door will be installed on the north face of the building for access and to allow for equipment removal for maintenance. The generator enclosure will have a fabricated steel gate for access. The door and gate will be finished to blend with the building aesthetic. Building elevations can be seen on drawings A-3 and A-4, attached.

A parking area composed of Class 6 road base will be provided on the north side of the building and will be large enough to accommodate two Colorado Springs Utilities maintenance vehicles. Two concrete retaining walls will be construction on the east side of the site to replace the existing retaining wall that has partially failed and to allow for grading of the parking area. The concrete will be colored to blend with the building aesthetics and surrounding environment. Drawing C-3, attached, shows the items discussed above as well as the proposed grading.

The pump station will provide an integral service to Green Mountain Falls and its residents. Design of the building and site have focused on blending the structure with the aesthetics of the buildings in the area to minimize the impact of the structure on the surrounding environment.

Please contact Sam Franzen at [sfranzen@dewberry.com](mailto:sfranzen@dewberry.com) or 303-951-0618 with any questions or concerns.

Sincerely,



Sam Franzen  
Project Engineer





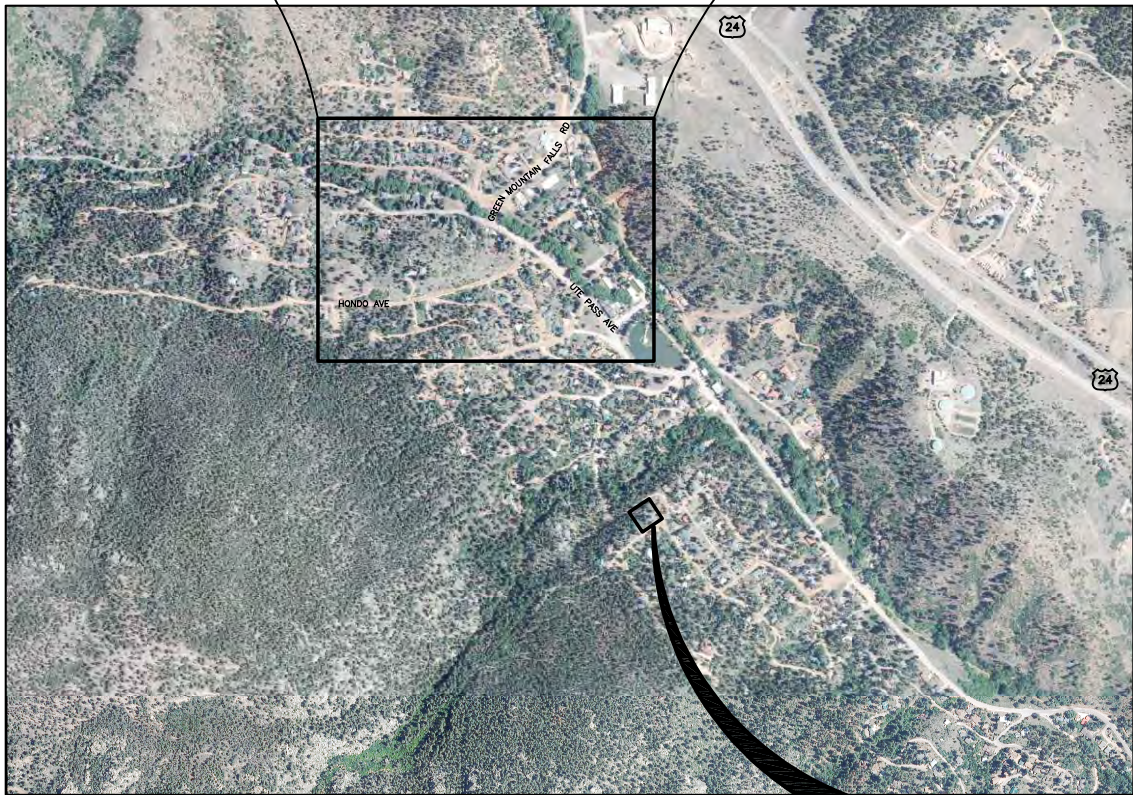
Colorado Springs Utilities  
*It's how we're all connected*

# GREEN MOUNTAIN FALLS PUMP STATION



GREEN MOUNTAIN FALLS  
PUMP STATION PROJECT  
LOCATION

**LOCATION MAP**  
NO SCALE



**VICINITY MAP**  
NO SCALE

EXISTING GREEN MOUNTAIN  
FALLS PUMP STATION TO BE  
DEMOLISHED

## DRAWING INDEX

DWG NO	TITLE
<u>GENERAL</u>	
--	COVER AND INDEX
<u>CIVIL</u>	
C-1	VICINITY MAP
C-2	DEMOLITION PLAN
C-3	DEVELOPMENT PLAN
C-4	ENLARGED GRADING PLAN
EC-1	EROSION CONTROL PLAN
<u>ARCHITECTURAL</u>	
A-2	FLOOR PLAN & ROOF PLAN
A-3	BUILDING ELEVATIONS
A-4	BUILDING ELEVATIONS INTERIOR ELEVATIONS

GMFPS Site Summary	
Site Area	12,778 sqft
Setback Summary	
Front	
Required	15 feet
Provided	12 feet*
East Side	
Required	10 feet
Provided	19
West Side	
Required	10 feet
Provided	17
Back	
Required	10 feet
Provided	50 feet
*Front setback variance application submitted	



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Dewberry Engineers Inc.

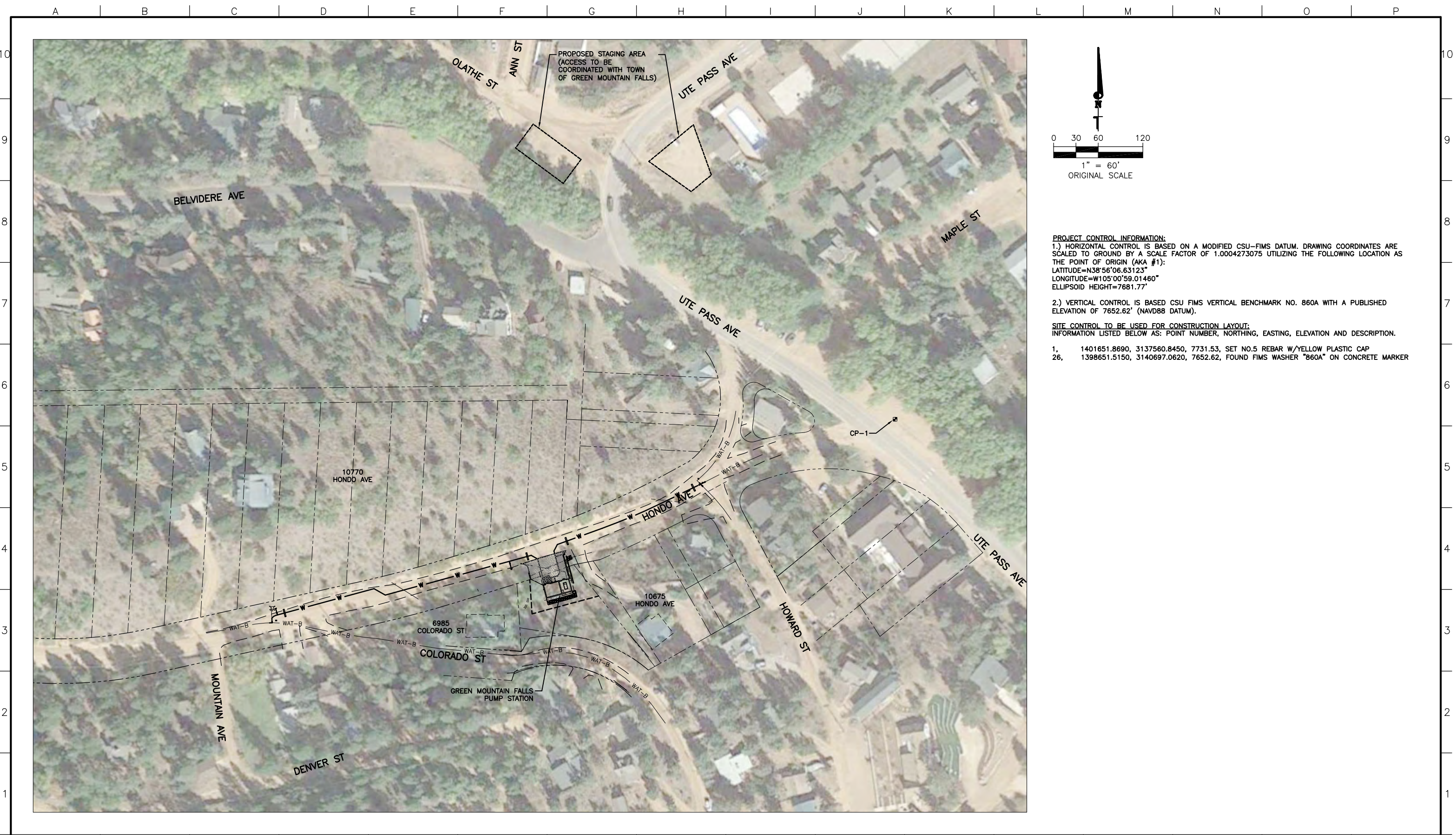
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

**DEVELOPMENT PLAN**  
**OCTOBER 2022**




Know what's below.  
Call before you dig.





**PROJECT CONTROL INFORMATION:**  
1.) HORIZONTAL CONTROL IS BASED ON A MODIFIED CSU-FIMS DATUM. DRAWING COORDINATES ARE SCALED TO GROUND BY A SCALE FACTOR OF 1.0004273075 UTILIZING THE FOLLOWING LOCATION AS THE POINT OF ORIGIN (AKA #1):  
LATITUDE=N38°56'06.63123"  
LONGITUDE=W105°00'59.01460"  
ELLIPSOID HEIGHT=7681.77'  
2.) VERTICAL CONTROL IS BASED CSU FIMS VERTICAL BENCHMARK NO. 860A WITH A PUBLISHED ELEVATION OF 7652.62' (NAVD88 DATUM).  
**SITE CONTROL TO BE USED FOR CONSTRUCTION LAYOUT:**  
INFORMATION LISTED BELOW AS: POINT NUMBER, NORTHING, EASTING, ELEVATION AND DESCRIPTION.  
1, 1401651.8690, 3137560.8450, 7731.53, SET NO.5 REBAR W/YELLOW PLASTIC CAP  
26, 1398651.5150, 3140697.0620, 7652.62, FOUND FIMS WASHER "860A" ON CONCRETE MARKER



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LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING CPL4404G-1  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	TWL	01/28/22	SEF
B	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	SEF
C	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

CIVIL

VICINITY MAP

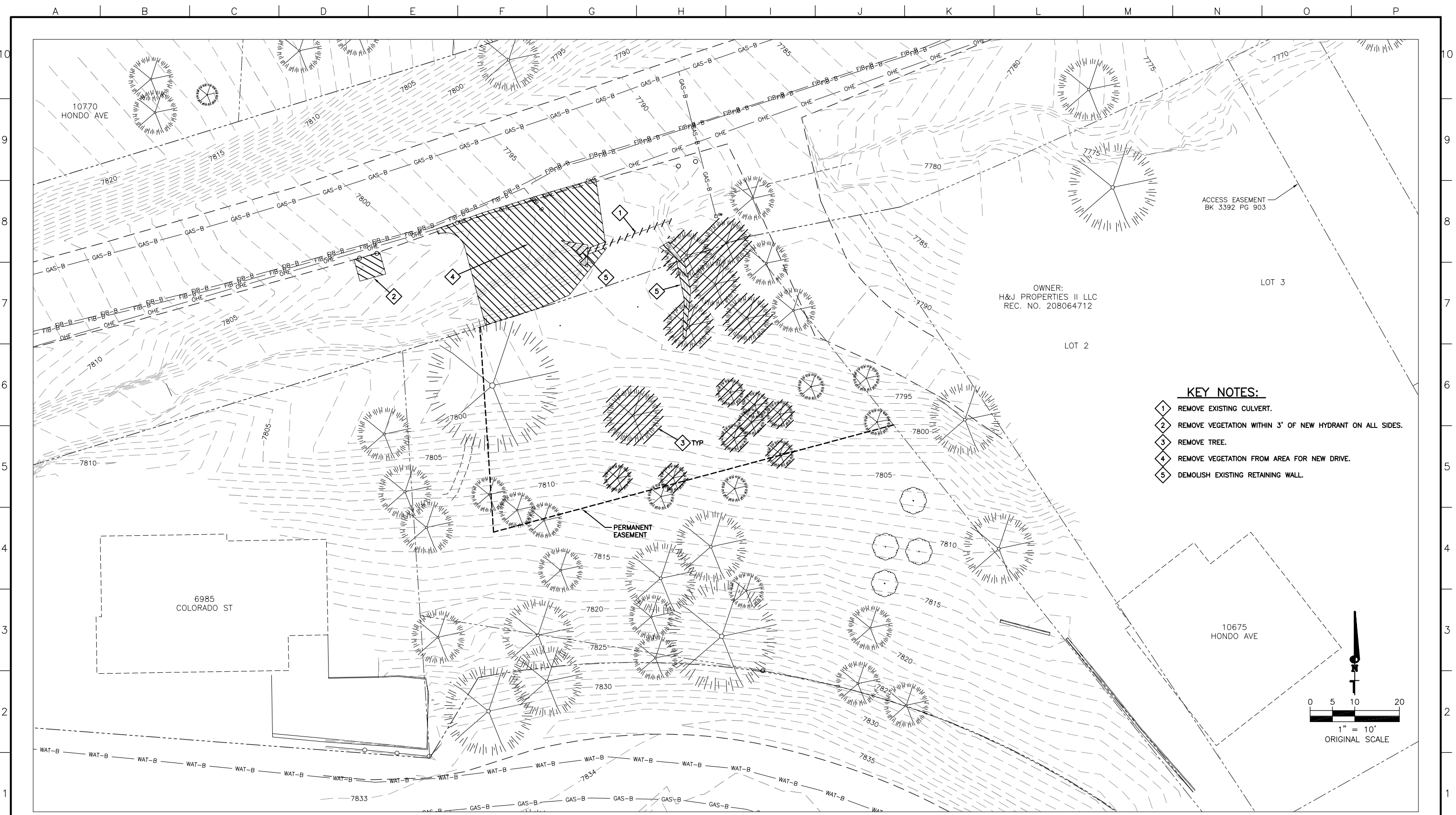
DATE: 12/10/21

PROJECT NUMBER: 50144404

REVISION NO. C

DRAWING NUMBER C-1





**KEY NOTES:**

- 1 REMOVE EXISTING CULVERT.
- 2 REMOVE VEGETATION WITHIN 3' OF NEW HYDRANT ON ALL SIDES.
- 3 REMOVE TREE.
- 4 REMOVE VEGETATION FROM AREA FOR NEW DRIVE.
- 5 DEMOLISH EXISTING RETAINING WALL.

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DRAWING **CPL4404G-2**  
DRAWN **TWL**  
DESIGNED **SEF**  
CHECKED **CTW**

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
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B	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

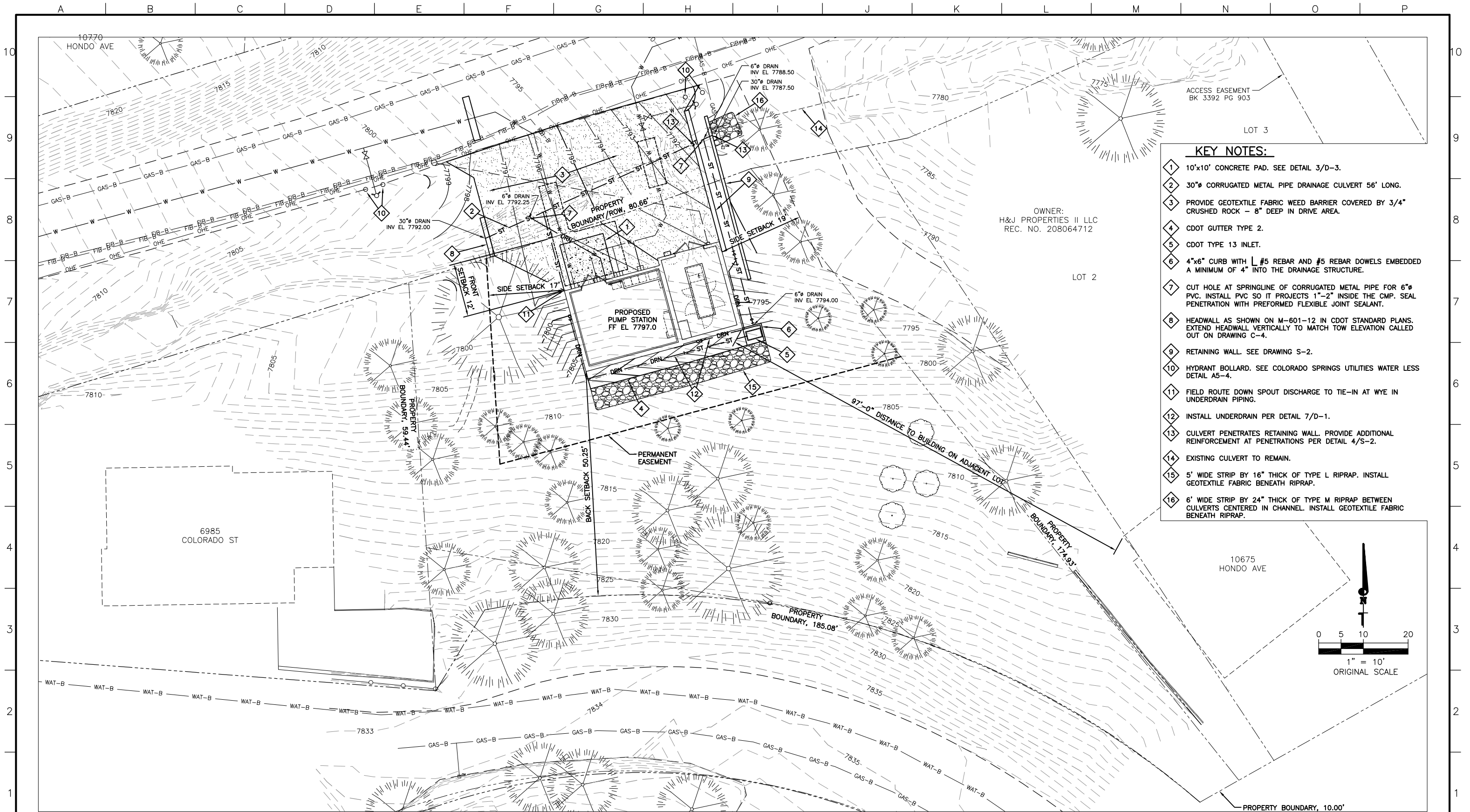
**COLORADO SPRINGS UTILITIES**  
**COLORADO SPRINGS, COLORADO**

**GREEN MOUNTAIN FALLS**  
**PUMP STATION**

CIVIL

**DEMOLITION PLAN**

DATE: **02/17/22**  
PROJECT NUMBER: **50144404**  
REVISION NO. **B**  
DRAWING NUMBER  
**C-2**



**KEY NOTES:**

- 10'x10' CONCRETE PAD. SEE DETAIL 3/D-3.
- 30" CORRUGATED METAL PIPE DRAINAGE CULVERT 56' LONG.
- PROVIDE GEOTEXTILE FABRIC WEED BARRIER COVERED BY 3/4" CRUSHED ROCK - 8" DEEP IN DRIVE AREA.
- CDOT GUTTER TYPE 2.
- CDOT TYPE 13 INLET.
- 4"x6" CURB WITH #5 REBAR AND #5 REBAR DOWELS EMBEDDED A MINIMUM OF 4" INTO THE DRAINAGE STRUCTURE.
- CUT HOLE AT SPRINGLINE OF CORRUGATED METAL PIPE FOR 6" PVC. INSTALL PVC SO IT PROJECTS 1"-2" INSIDE THE CMP. SEAL PENETRATION WITH PREFORMED FLEXIBLE JOINT SEALANT.
- HEADWALL AS SHOWN ON M-601-12 IN CDOT STANDARD PLANS. EXTEND HEADWALL VERTICALLY TO MATCH TOW ELEVATION CALLED OUT ON DRAWING C-4.
- RETAINING WALL. SEE DRAWING S-2.
- HYDRANT BOLLARD. SEE COLORADO SPRINGS UTILITIES WATER LESS DETAIL A5-4.
- FIELD ROUTE DOWN SPOUT DISCHARGE TO TIE-IN AT WYE IN UNDERDRAIN PIPING.
- INSTALL UNDERDRAIN PER DETAIL 7/D-1.
- CULVERT PENETRATES RETAINING WALL. PROVIDE ADDITIONAL REINFORCEMENT AT PENETRATIONS PER DETAIL 4/S-2.
- EXISTING CULVERT TO REMAIN.
- 5' WIDE STRIP BY 16" THICK OF TYPE L RIPRAP. INSTALL GEOTEXTILE FABRIC BENEATH RIPRAP.
- 6' WIDE STRIP BY 24" THICK OF TYPE M RIPRAP BETWEEN CULVERTS CENTERED IN CHANNEL. INSTALL GEOTEXTILE FABRIC BENEATH RIPRAP.

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DRAWING CPL4404G-3  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	TWL	01/28/22	SEF
B	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	SEF
C	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

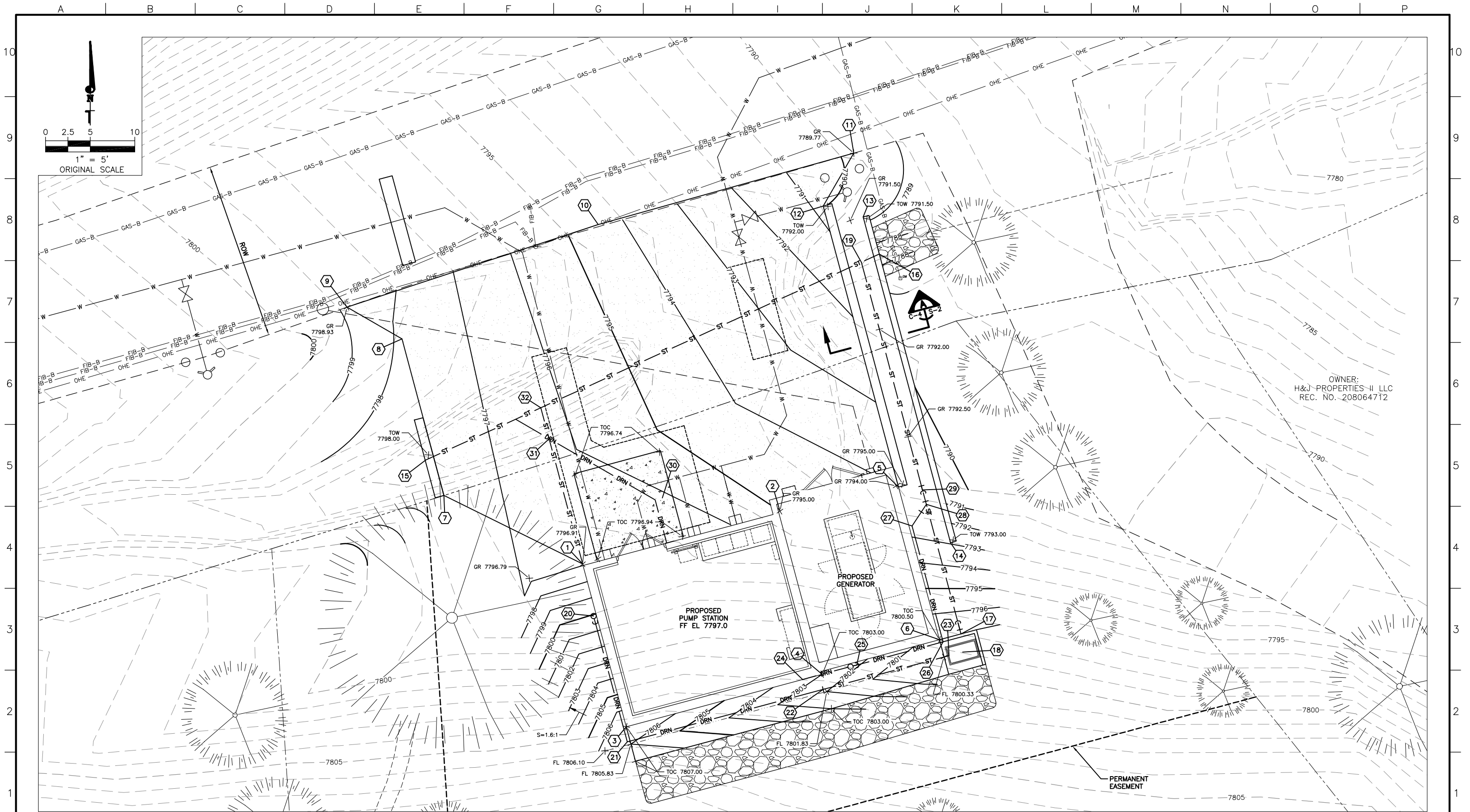
COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

CIVIL

DEVELOPMENT PLAN

DATE: 12/10/21  
PROJECT NUMBER: 50144404  
REVISION NO. C  
DRAWING NUMBER  
**C-3**



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DRAWING CPL4404G-4  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

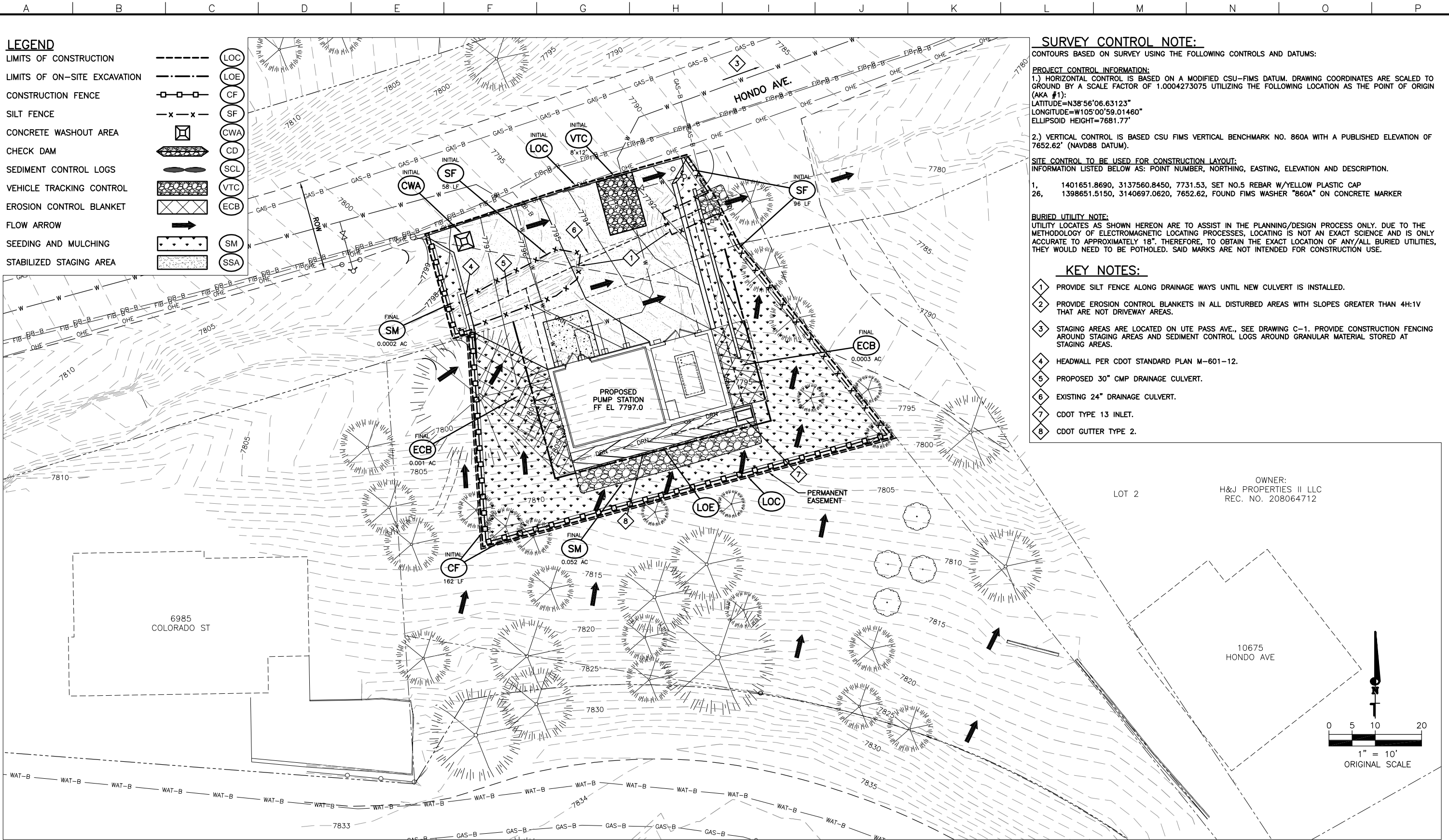
COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

CIVIL

ENLARGED GRADING PLAN

DATE: 04/04/22  
PROJECT NUMBER: 50144404  
REVISION NO. A  
DRAWING NUMBER C-4



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DRAWING CEC4404G-1  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	CTW
B	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	CTW

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

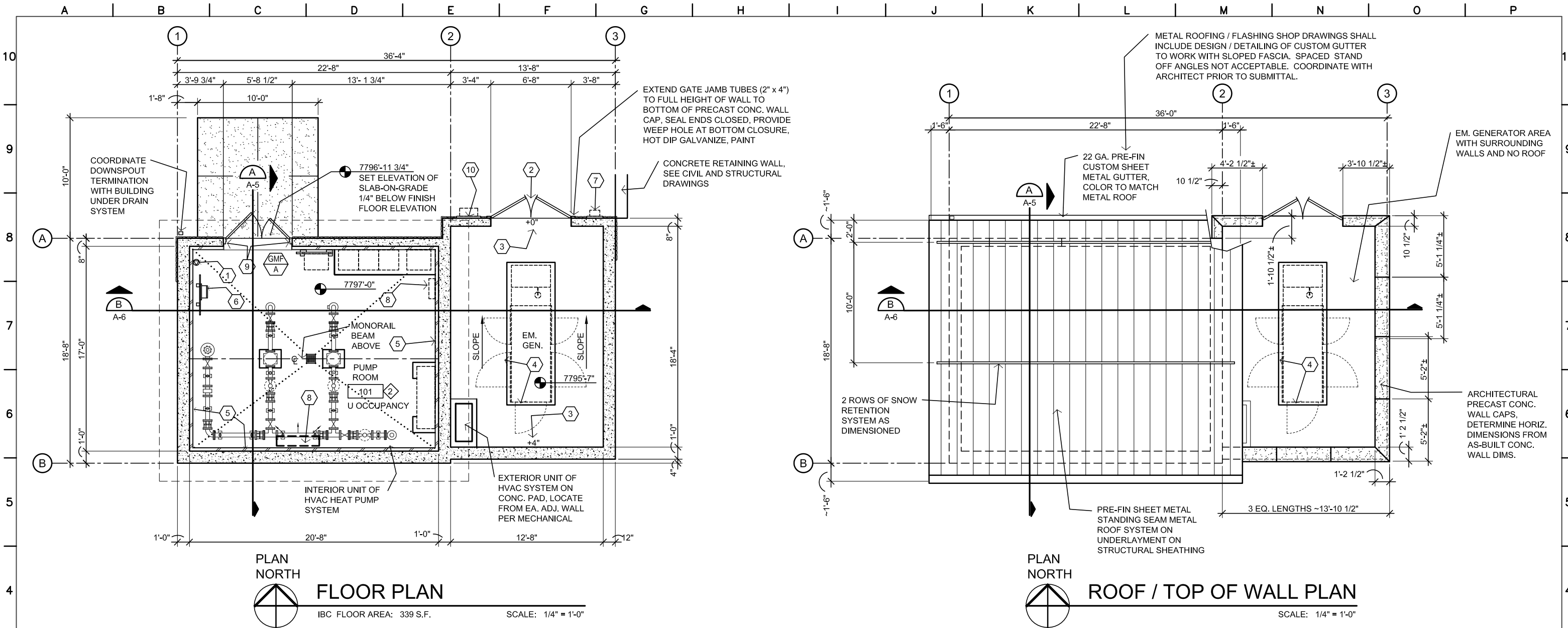
GREEN MOUNTAIN FALLS  
PUMP STATION

CIVIL

EROSION CONTROL PLAN

DATE: 03/04/22  
PROJECT NUMBER: 50144404  
REVISION NO. B  
DRAWING NUMBER EC-1





GENERAL NOTES:

1. SEAL ALL PIPE AND CONDUIT PENETRATIONS OF INTERIOR AND EXTERIOR CMU WALLS. PROVIDE SEALED CONDITION BOTH SIDES OF WALL.
2. PROVIDE FRAMING BETWEEN TRUSSES AS REQUIRED TO COMPLETELY SUPPORT ALL GYPSUM BOARD CEILING PANEL EDGES, TYPICAL.

FINISH NOTES:

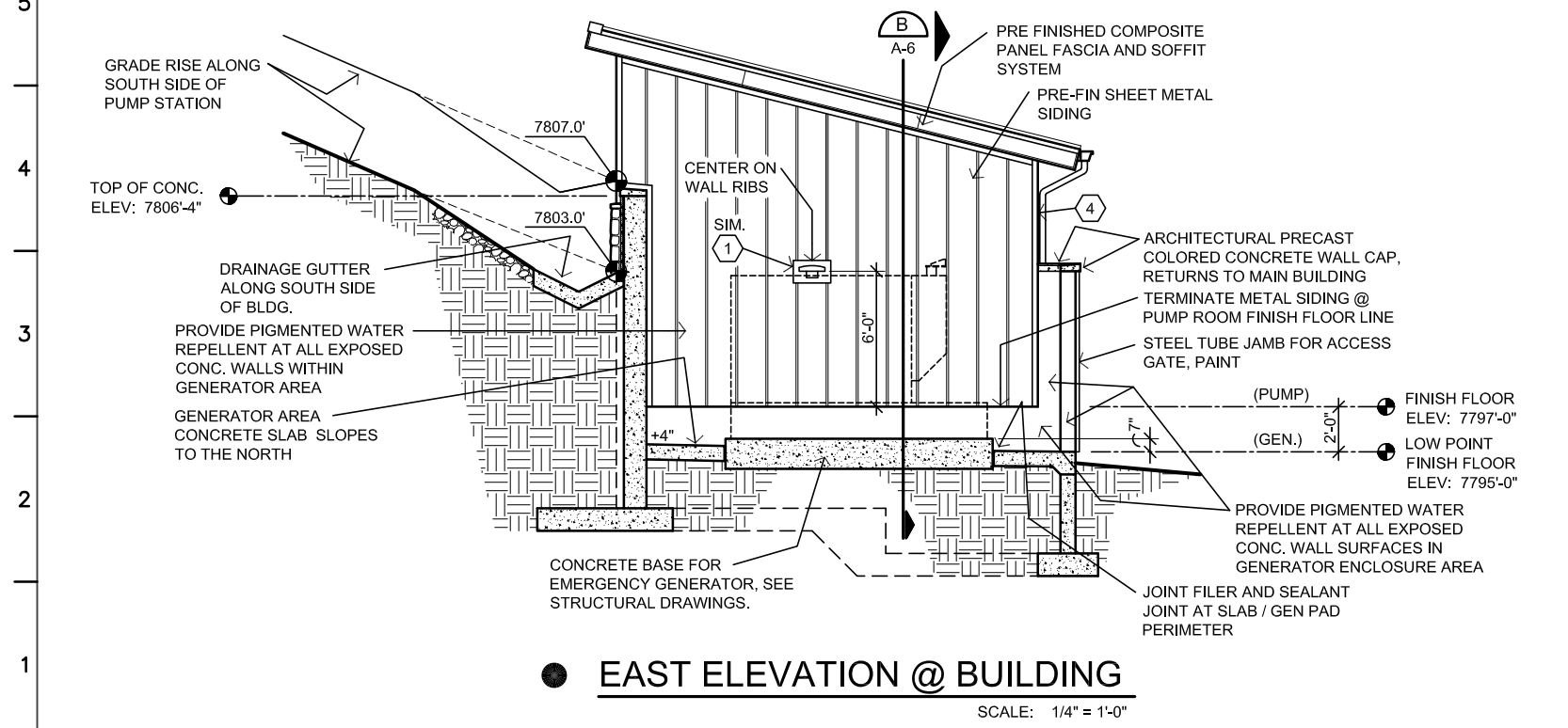
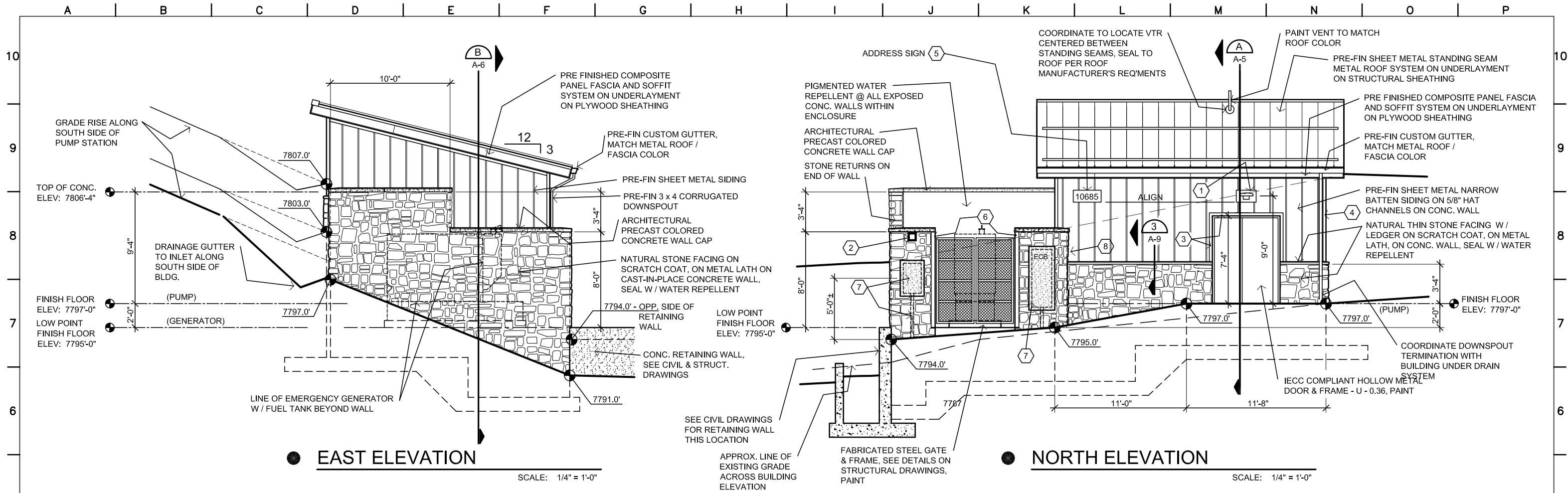
1. PAINT ALL EXPOSED INTERIOR CONCRETE AND CMU WALLS, GYPSUM BOARD CEILING, AND WOOD PERIMETER TRIM UNLESS NOTED OTHERWISE.
2. PROVIDE CONCRETE FLOOR SEALER (FLR. SLR.) AS SPECIFIED IN SECTION 03 30 00: CAST-IN-PLACE CONCRETE AT ALL CONCRETE FLOORS INCLUDING THE ENCLOSED GENERATOR AREA.

FLOOR PLAN KEY NOTES:

1. FIRE EXTINGUISHER: TYPE 1 WITH MOUNTING BRACKET AS SPECIFIED IN SECTION 10 44 00: FIRE PROTECTION SPECIALTIES. PROVIDE SIGNAGE PER SECTION 10 14 00: SIGNAGE.
2. FABRICATED STEEL GATE AND FRAME, SEE STRUCTURAL (S) DRAWINGS. PAINT.
3. GENERATOR AREA CONCRETE SLAB SLOPES TO THE NORTH 4" VERTICAL TOTAL, ~ 1/4" PER FOOT.
4. ISOLATED 20" TH. CONC. PAD FOR EMERGENCY GENERATOR, TOP OF PAD ELEVATION 7797'-7", SEE STRUCTURAL FOR REINFORCEMENT. PROVIDE 1/2" EXPANSION MATERIAL FULL PERIMETER WITH BACKER ROD AND SEALANT JOINT.
5. INTERIOR WALL SYSTEM: 2 1/2" 20 / 18 MIL. METAL STUDS AT 16" O.C. WITH TOP AND BOTTOM TRACKS. HOLD STUD LEG OFF INTERIOR STRUCTURE FACE 1/2" TO AVOID THERMAL TRANSFER FROM EXTERIOR TO INTERIOR. INSTALL 2" (R-14) OF SPRAY APPLIED POLYURETHANE INSULATION TO INTERIOR FACE OF EXTERIOR WALL. ASSURE COMPLETE FILL AND SEAL AROUND AND BEHIND METAL STUD TO PROVIDE CONTINUOUS INSULATION. FINISH LOWER 4 FT OF STUD WALL WITH 1/2" TH. CEMENTITIOUS BACKER BOARD AND REMAINDER OF WALL HEIGHT WITH 1/2' GYPSUM BOARD. FINISH GYPSUM AND CEMENTITIOUS BOARD PER SPECIFICATION 09 25 00: GYPSUM BOARD.
6. PROVIDE SIGNAGE AT UTILITY STATION PER SPECIFICATION SECTION 10 14 00: SIGNAGE. COORDINATE WITH MECHANICAL (M) DRAWINGS.
7. ARCHITECTURAL PRECAST CONCRETE PANEL FOR MOUNTING OF ELECTRICAL METER. SEE BUILDING ELEVATION AND DETAIL ON 2 / A-8.

8. PROVIDE PLYWOOD BLOCKING BETWEEN STUDS IN WALL BY SIZE REQUIRED TO MOUNT / SUPPORT WALL MOUNTED ELECTRICAL & HVAC EQUIPMENT.
9. SEAL BOTTOM OF HOLLOW METAL FRAME TO FLOOR SLAB TO PROVIDE COMPLETE CLOSURE FROM MOISTURE. SEE DOOR SILL DETAIL.
10. ARCHITECTURAL PRECAST CONCRETE PANEL FOR MOUNTING OF ECB PANEL. SEE BUILDING ELEVATION AND DETAIL ON 2 / A-8.

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	BRL	01/28/22	BRL
B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL
C	90% DESIGN REVIEW SUBMITTAL	BRL	06/08/22	BRL
D	PPRBD SUBMITTAL	BRL	06/28/22	BRL



- KEY NOTES:**
- PANEL (WALL) MOUNTED LIGHT FIXTURE. CENTER LIGHT FIXTURE ON 12" HIGH x 20" WIDE PREFINISHED PANEL CENTERED ON DOOR FRAME OR GENERATOR WALL SPACE. MOUNTING HEIGHT AS SHOWN ON ELEVATIONS. SEE DETAIL 5 / A-9 FOR MOUNTING PANEL REQUIREMENTS.
  - RECESSED KNOX BOX, CENTER ON WALL FACE AND MOUNT JUST BELOW PRECAST WALL CAP, MOUNT FACE TRIM OUT WITH STONE SCRATCH COAT, GROUT INTO CONCRETE POCKET FOR SECURE INSTALLATION.
  - DESIGN INTENT IS TO PROVIDE A 3" FACE TRIM @ JAMBS AND HEAD OF DOOR OPENING. PROVIDE CLOSED TRIM TO RESEMBLE SOLID CONDITION. COORDINATE DETAILS DURING SHOP DRAWING PROCESS, COLOR TO MATCH WALL PANEL COLOR.
  - PREFINISHED METAL WALL PANEL SYSTEM OUTSIDE CORNER POST. 4" FACE. TYPICAL ALL CORNERS. COLOR TO MATCH WALL PANEL COLOR.
  - BUILDING ADDRESS SIGN: PROVIDE 12" H. x 28" W. x 16 GAUGE GALV. PLATE W / HEMMED EDGES ALL 4 SIDES. POWDER COAT PLATE CUSTOM COLOR TO MATCH PRE-FIN WALL PANEL COLOR. MOUNT ADDRESS NUMBERS TO PLATE "10685" WITH VHB TAPE. MOUNT SIGN CENTERED ON AND TO TWO METAL BUILDING RIBS WITH VHB TAPE OR COLOR MATCHED GASKETED FASTENERS. SEE SPECIFICATION 10 14 00 FOR ADDRESS NUMBER REQUIREMENTS.
  - EXTEND GATE JAMB TUBES (2" x 4") TO FULL HEIGHT OF WALL TO BOTTOM OF PRECAST CONC. WALL CAP, SEAL ENDS CLOSED, PROVIDE WEEP HOLE AT BOTTOM CLOSURE, HOT DIP GALVANIZE, PAINT
  - ARCHITECTURAL PRECAST CONCRETE PANEL MOUNTED ON CONCRETE WALL FOR MOUNTING OF ELECTRIC METER / BOX AND ECB PANEL. CENTER PRECAST PANEL SIDE TO SIDE ON WIDTH OF STONE FACING. SEE DETAIL 2 / A-8 FOR REQUIREMENTS. DETERMINE SIZE OF METER / BOX / EQUIPMENT AND SIZE PANEL FOR 2" CLEARANCE AROUND ELECTRICAL EQUIPMENT. PROCURE INFORMATION IN TIMELY FASHION TO INCLUDE PANEL SIZE IN ARCHITECTURAL PRECAST CONCRETE SHOP DRAWING SUBMITTAL. MOUNT PANEL SO THAT EQUIPMENT CENTERLINE IS ~60" VERTICALLY FROM GRADE. PAINT EXPOSED CONDUIT AND METER / EQUIPMENT ENCLOSURES IN COLOR SELECTED BY ENGINEER.
  - STONE AT GENERATOR ENCLOSURE WALL RETURNS TO MAIN BUILDING WALL. COORDINATE TERMINATION OF STONE WITH METAL WALL PANEL SUBCONTRACTOR FOR NEAT / PROPER TERMINATION / FINISH.

**LINTJER + HAYWOOD ARCHITECTS**  
1323 S. CORONA STREET  
DENVER, CO. 80210  
303.408.5939 PHONE

**Dewberry**  
Dewberry Engineers Inc.  
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
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LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING **A-3.DWG**  
DRAWN **BRL**  
DESIGNED **BRL**  
CHECKED **BRL**

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	BRL	01/28/22	BRL
B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL
C	90% DESIGN REVIEW SUBMITTAL	BRL	06/08/22	BRL
D	PPRBD SUBMITTAL	BRL	06/28/22	BRL

**COLORADO SPRINGS UTILITIES**  
**COLORADO SPRINGS, COLORADO**

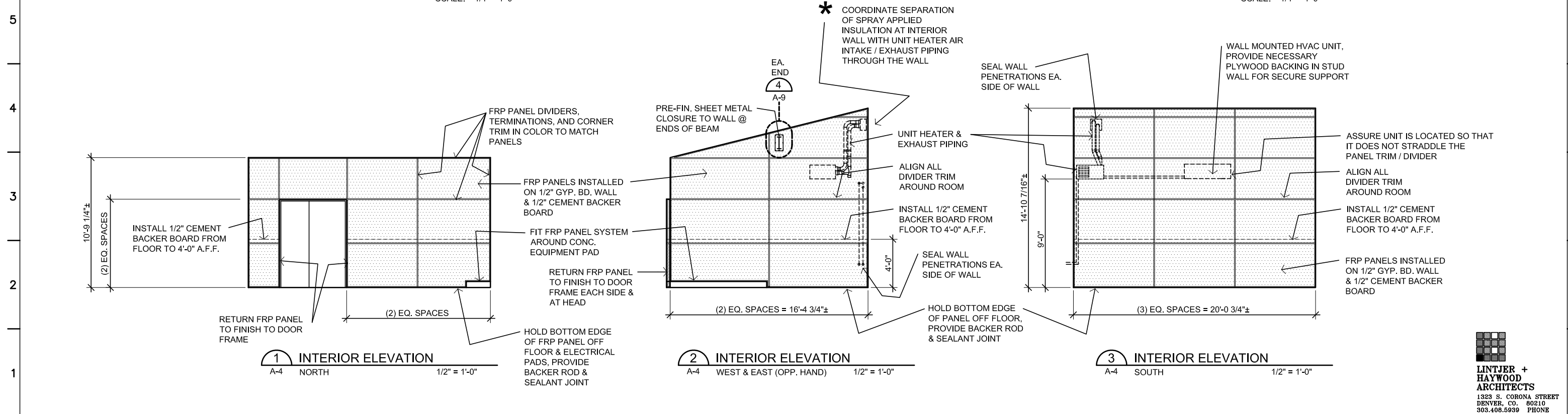
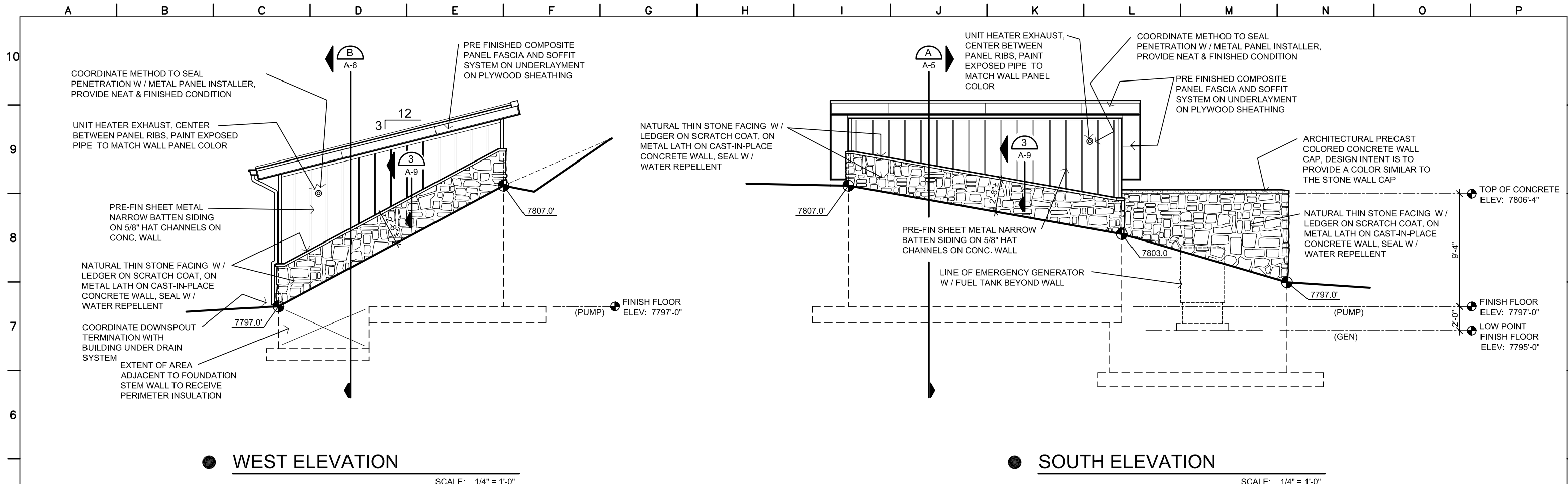
**GREEN MOUNTAIN FALLS**  
**PUMP STATION**

**ARCHITECTURAL**

**BUILDING ELEVATIONS**

DATE: 07/18/22  
PROJECT NUMBER: 50144404  
REVISION NO. D  
DRAWING NUMBER **A-3**  
SHEET NUMBER





**LINTJER + HAYWOOD ARCHITECTS**  
1323 S. CORONA STREET  
DENVER, CO. 80210  
303.408.5939 PHONE

<p><b>Dewberry</b> Dewberry Engineers Inc. 990 S. BROADWAY, SUITE 400 Denver, Colorado 80209 (303) 825-1802</p>	<p>LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)</p> <p>DRAWING A-4.DWG DRAWN BRL DESIGNED BRL CHECKED BRL</p>		<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>REV.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> <th>APP.</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>30% DESIGN REVIEW SUBMITTAL</td> <td>BRL</td> <td>01/28/22</td> <td>BRL</td> </tr> <tr> <td>B</td> <td>60% DESIGN REVIEW SUBMITTAL</td> <td>BRL</td> <td>03/23/22</td> <td>BRL</td> </tr> <tr> <td>C</td> <td>90% DESIGN REVIEW SUBMITTAL</td> <td>BRL</td> <td>06/08/22</td> <td>BRL</td> </tr> <tr> <td>D</td> <td>PPRBD SUBMITTAL</td> <td>BRL</td> <td>06/28/22</td> <td>BRL</td> </tr> </tbody> </table>					REV.	DESCRIPTION	BY	DATE	APP.	A	30% DESIGN REVIEW SUBMITTAL	BRL	01/28/22	BRL	B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL	C	90% DESIGN REVIEW SUBMITTAL	BRL	06/08/22	BRL	D	PPRBD SUBMITTAL	BRL	06/28/22	BRL	<p>COLORADO SPRINGS UTILITIES COLORADO SPRINGS, COLORADO</p>		<p>ARCHITECTURAL</p>	<p>DATE: 07/18/22 PROJECT NUMBER: 50144404 REVISION NO. D DRAWING NUMBER A-4 SHEET NUMBER</p>
			REV.	DESCRIPTION	BY	DATE	APP.																													
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<p>GREEN MOUNTAIN FALLS PUMP STATION</p>					<p>BUILDING ELEVATIONS INTERIOR ELEVATIONS</p>																															



## Town of Green Mountain Falls Land Use Approval Application Zoning Variance

### General Information

- A zoning variance is a request to deviate from the requirements in the Green Mountain Falls Land Use and Zoning Code, as established in §16-709.
- This checklist is a guide to submitting a complete application and is not a substitute for all provisions in [GMF Municipal Code](#). Applicants are responsible for reviewing and understanding the Code.
- Complete applications are subject to **four weeks (28 days)** GMF Staff review before appearing on Planning Commission and Board of Trustees agendas.

### Applicant

Applicant:	Dewberry Engineers, Inc. - Sam Franzen
Address:	990 S Broadway, Denver, CO 80209
E-Mail:	sfranzen@dewberry.com
Phone:	303-951-0618
Owner:	Colorado Springs Utilities - Larysa Voronova
Address:	121 S Tejon St, Suite 200, Colorado Springs, CO 80947
E-mail:	lvoronova@csu.org
Phone:	719-668-3851

### Property

Address: 10685 Hondo Ave, Green Mountain Falls, CO 80819	
Zoning Designation: R-1 10,000	Lot Size: 12,778 sqft
Hillside Overlay zone? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Land Survey Included: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

### Certification & Signature

APPLICANT'S STATEMENT: I understand the procedures that apply to my request and acknowledge an incomplete application will not be processed or scheduled for public hearing until such time it is complete. GMF Town Staff's acceptance of the application, the payment of fees, and submittal of accompanying materials does not constitute completeness. I further agree to reimburse the city for technical and professional consulting expenses that may be incurred during the review of my request. Failure to reimburse the Town for invoiced expenses constitutes an incomplete application.

Certification: The undersigned applicant certifies under oath and under penalties of perjury that the information found in the application is true and accurate to the best of their knowledge.

Applicant Signature Sam Franzen Date 10/12/2022  
Owner Signature \_\_\_\_\_ Date \_\_\_\_\_  
Owner Signature \_\_\_\_\_ Date \_\_\_\_\_

This document can be signed electronically using [Adobe Reader DC for free](#).

## Variance Checklist

The following checklist is a guideline for submitting a complete Variance Land Use Approval Application. Failure to provide information that address the standards and requirements in GMF Zoning Code could result in staff review delays. GMF Staff may require additional information in accordance with Town Code and Town Attorney's recommendation.

### 1. Variance Application & Petition

- a. Application, signed and dated by the applicant and property owner(s)
- b. [Application fee](#)
- c. Letter of explanation
  - i. Describe the proposed project in detail, referring to site plans and drawings as necessary
  - i. Describe the reason for pursuing a variance; include benefits to yourself, the neighborhood, and the Town.
  - ii. Explain how the variance would not be contrary to the public interest.
  - iii. Provide proof of unique circumstances or conditions and how the strict application of the provisions of GMF Zoning and Land Use Code would deprive the applicant of the reasonable use of such land or building as described in the [Zoning Code §16-709](#)
  - iv. Provide proof of unnecessary hardship as described in the [Zoning Code §16-709](#)

### 2. Development Plan

- a. Vicinity Map
- b. Total development plan area in acres or square feet
- c. Zoning setbacks
- a. North arrow
- b. Property boundaries and dimensions
- c. Existing and proposed lots and tract lines, with dimensions
- d. Existing and proposed topography (contour lines or slope)
- e. Show and label all access points to the property from adjacent streets and alleys
- f. Proposed grading plan and separate GECP application

### 3. Procedure:

- a. Consultation meeting with GMF Staff and draft plans
- b. Submit completed application and checklist materials electronically: [planner@gmfco.us](mailto:planner@gmfco.us)
- c. Submit appropriate fees to Town Clerk for receipt
- d. Work with GMF Staff to schedule public hearings

GMF Town Staff:

- ☐ Application
  - ☐ Variance Petition
  - ☐ Development Plan
  - ☐ Application fee
- Date\_\_\_\_\_ Amount\_\_\_\_\_ ☐ Check #\_\_\_\_\_ ☐ Credit Card

October 12, 2022

Town of Green Mountain Falls  
Attn: Nate Scott, Planner  
Town Hall  
10615 Green Mountain Falls Road  
Green Mountain Falls, CO 80819

RE: Letter of Explanation for the Green Mountain Falls Pump Station

Dear Mr. Scott,

Dewberry Engineers is pleased to submit a Variance Application and documentation for the front setback requirements for the Green Mountain Falls Pump Station (GMFPS) on behalf of Colorado Springs Utilities. The Variance Application and supporting documentation are provided for review and comment.

The site selected for the new GMFPS is 10685 Hondo Avenue. The property is owned by the same entity that owns the property at 6985 Colorado St directly to the west. Colorado Springs Utilities is currently negotiating the terms of an easement with the property owner to allow the pump station to be built on the site. The agreement and required Owner Signature will be submitted once the agreement is finalized.

This variance is being proposed because the steepness of the hillside on the site limits where the building can be located specifically in relation to the front property and right of way line paralleling Hondo Ave as shown on drawing C-3 in the Development Plan, attached. The GMF Municipal Code requires a 15 foot setback for properties zoned R-1 10,000. The proposed building has been pushed back into the hillside on the site to limit its visibility to surrounding residences and provide as much setback from the front property as possible. However, only a 12 foot setback at the closest point from the front property line is able to be provided. Locating the building further into the hillside will require more disturbance of the hillside to accomplish construction and achieve the final grading required to route flow around the building. This will lead to the removal of additional vegetation and trees.

There is approximately 23 feet between the property/right of way line and edge of the existing road, so the proposed building will be setback 35 feet from the edge of road. The right of way is this wide to encompass the drainageway running parallel with Hondo Ave. Having the building 35 feet from the edge of the road limits its exposure to the public and surrounding properties.

The purpose of the GMFPS project is to replace the existing below grade pump station. The existing pump station was constructed in 1986 and has reached the end of its useful life. The new pump station will ensure reliable water service for residents and businesses in Green Mountain Falls. It will also provide a safer and more readily accessible working space for Colorado Springs Utilities enabling more efficient maintenance and repair activities.

The new pump station will be an above grade building that sits back into the hillside on the property, see drawing C-3, attached. The building will be a single room that is 22'-8" by 18'-10". A 13'-8" by 17'-8" open topped enclosure for a backup emergency generator will be attached to the east side of the building. The building location on the site and arrangement can be seen on drawing C-3 and A-2, attached.

Generally, proposed site grading is designed to match existing drainage patterns as shown on drawing C-4, attached. The most significant grading changes occur where the pump station building is built into the hillside and in front of the building where a portion of the drainage channel is replaced with a culvert to allow the parking area to be expanded.

The building walls will be concrete covered with a veneer composed of natural stone facing on the bottom and pre-finished metal narrow batten siding above. The stone veneer will slope to match the grade around the building. The generator enclosure walls will be concrete covered with a natural stone veneer to match the building and capped with colored concrete wall caps. The building roof will be pre-finished metal standing seam that is the same color as the wall siding. The roof slants only to the east to minimize the view impacts from the neighboring properties. Stone and metal wall and roof finish colors will be primarily earth tones, browns, and grays selected to blend with the surrounding environment. A double man door will be installed on the north face of the building for access and to allow for equipment removal for maintenance. The generator enclosure will have a fabricated steel gate for access. The door and gate will be finished to blend with the building aesthetic. Building elevations can be seen on drawings A-3 and A-4, attached.

A parking area composed of Class 6 road base will be provided on the north side of the building and will be large enough to accommodate two Colorado Springs Utilities maintenance vehicles. Two concrete retaining walls will be construction on the east side of the site to replace the existing retaining wall that has partially failed and to allow for grading of the parking area. The concrete will be colored to blend with the building aesthetics and surrounding environment. Drawing C-3, attached, shows the items discussed above as well as the proposed grading.

The pump station will provide an integral service to Green Mountain Falls and its residents. While the building is within the required front setback the large right of way space needed to accommodate the drainage channel to the north of the building means the building is setback 35 feet from the edge of the road.

Please contact Sam Franzen at [sfranzen@dewberry.com](mailto:sfranzen@dewberry.com) or 303-951-0618 with any questions or concerns.

Sincerely,



Sam Franzen  
Project Engineer





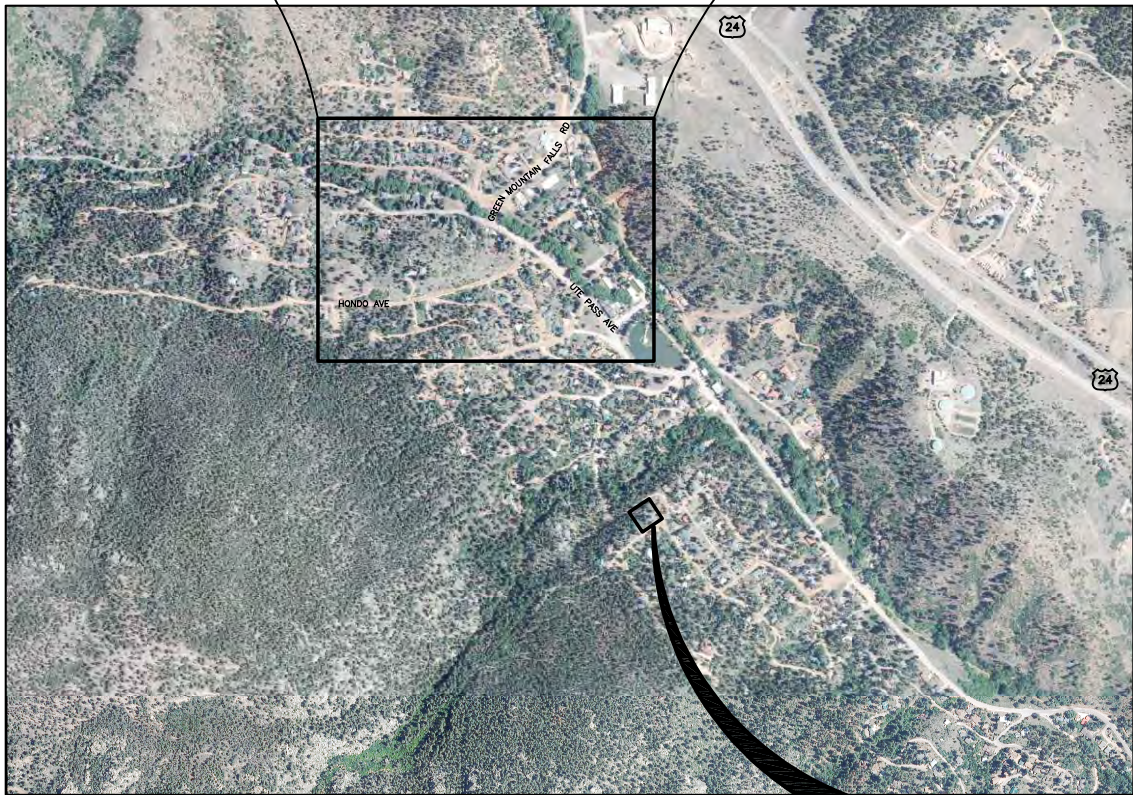
Colorado Springs Utilities  
*It's how we're all connected*

# GREEN MOUNTAIN FALLS PUMP STATION



GREEN MOUNTAIN FALLS  
PUMP STATION PROJECT  
LOCATION

**LOCATION MAP**  
NO SCALE



**VICINITY MAP**  
NO SCALE

EXISTING GREEN MOUNTAIN  
FALLS PUMP STATION TO BE  
DEMOLISHED

## DRAWING INDEX

DWG NO	TITLE
<u>GENERAL</u>	
--	COVER AND INDEX
<u>CIVIL</u>	
C-1	VICINITY MAP
C-2	DEMOLITION PLAN
C-3	DEVELOPMENT PLAN
C-4	ENLARGED GRADING PLAN
EC-1	EROSION CONTROL PLAN
<u>ARCHITECTURAL</u>	
A-2	FLOOR PLAN & ROOF PLAN
A-3	BUILDING ELEVATIONS
A-4	BUILDING ELEVATIONS INTERIOR ELEVATIONS

GMFPS Site Summary	
Site Area	12,778 sqft
Setback Summary	
Front	
Required	15 feet
Provided	12 feet*
East Side	
Required	10 feet
Provided	19
West Side	
Required	10 feet
Provided	17
Back	
Required	10 feet
Provided	50 feet
*Front setback variance application submitted	



**Dewberry**<sup>®</sup>  
Dewberry Engineers Inc.

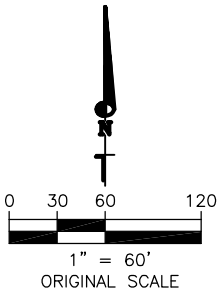
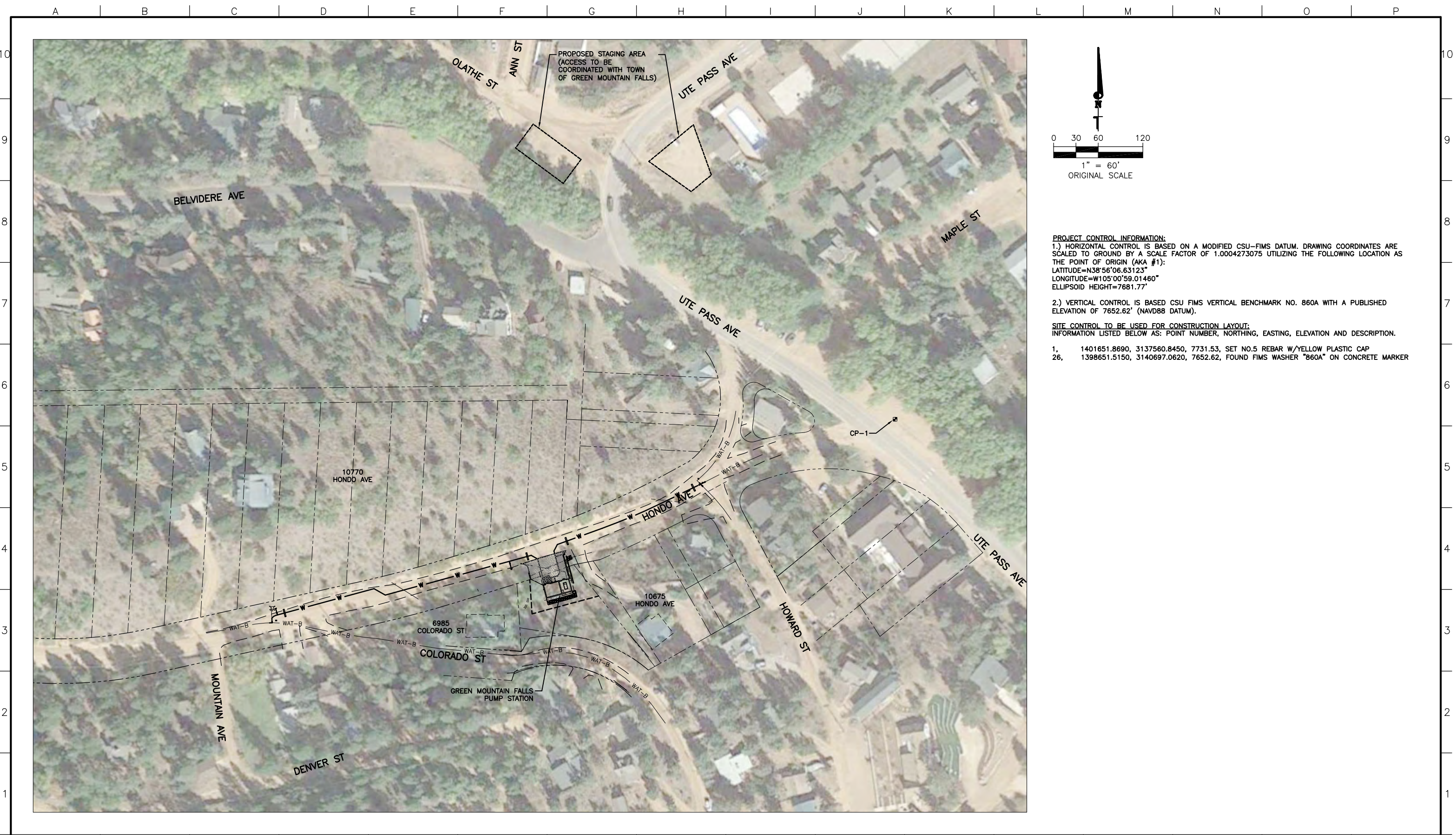
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

**DEVELOPMENT PLAN**  
**OCTOBER 2022**



Know what's below.  
Call before you dig.






**PROJECT CONTROL INFORMATION:**  
1.) HORIZONTAL CONTROL IS BASED ON A MODIFIED CSU-FIMS DATUM. DRAWING COORDINATES ARE SCALED TO GROUND BY A SCALE FACTOR OF 1.0004273075 UTILIZING THE FOLLOWING LOCATION AS THE POINT OF ORIGIN (AKA #1):  
LATITUDE=N38°56'06.63123"  
LONGITUDE=W105°00'59.01460"  
ELLIPSOID HEIGHT=7681.77'

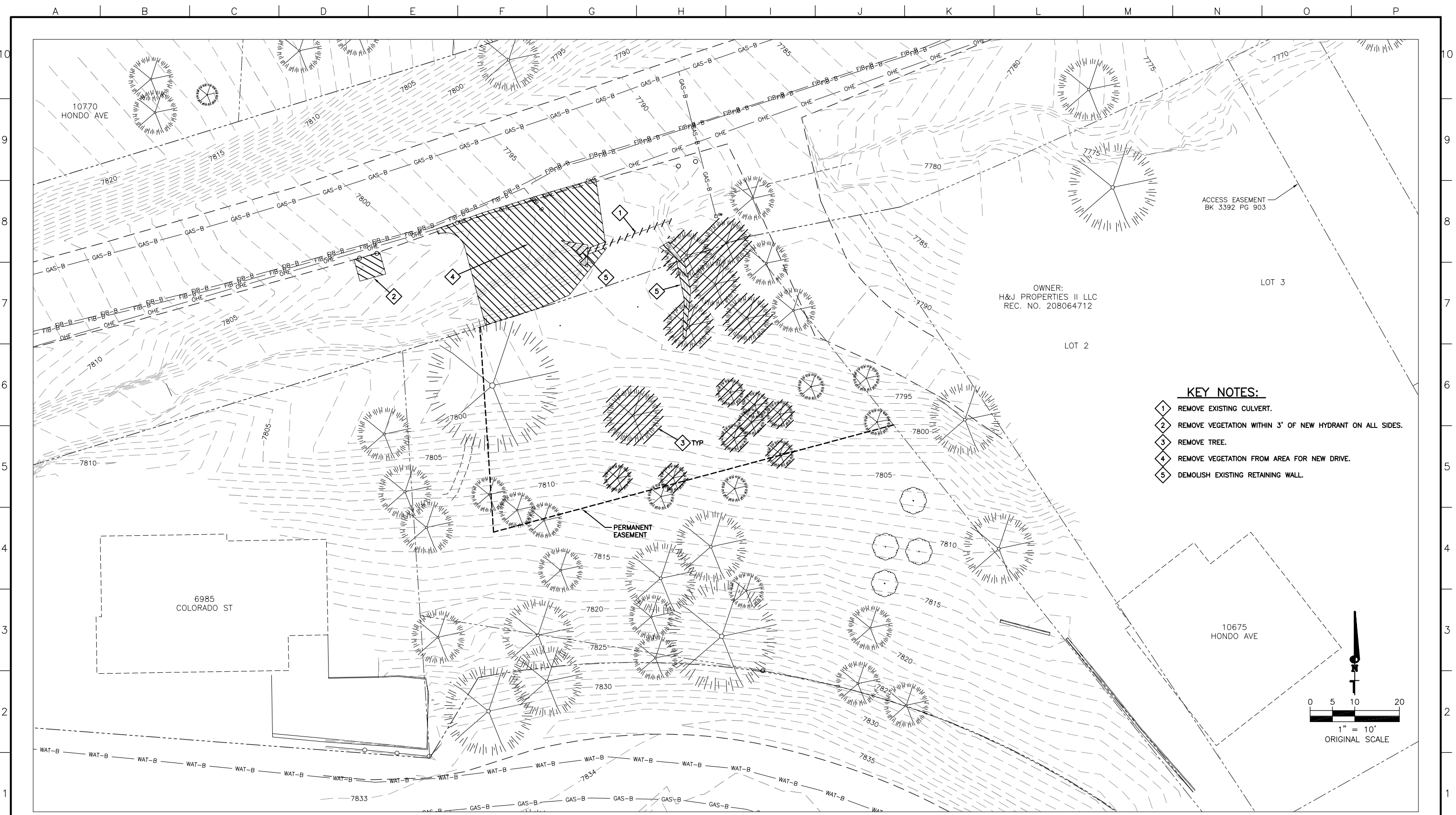
2.) VERTICAL CONTROL IS BASED CSU FIMS VERTICAL BENCHMARK NO. 860A WITH A PUBLISHED ELEVATION OF 7652.62' (NAVD88 DATUM).

**SITE CONTROL TO BE USED FOR CONSTRUCTION LAYOUT:**  
INFORMATION LISTED BELOW AS: POINT NUMBER, NORTING, EASTING, ELEVATION AND DESCRIPTION.

1,	1401651.8690,	3137560.8450,	7731.53,	SET NO.5 REBAR W/YELLOW PLASTIC CAP
26,	1398651.5150,	3140697.0620,	7652.62,	FOUND FIMS WASHER "860A" ON CONCRETE MARKER


 <b>Dewberry</b> <sup>®</sup> <b>Dewberry Engineers Inc.</b> 990 S. BROADWAY, SUITE 400 Denver, Colorado 80209 (303) 825-1802	LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	DRAWING <u>CPL4404G-1</u> DRAWN <u>TWL</u> DESIGNED <u>SEF</u> CHECKED <u>CTW</u>	REVISIONS					COLORADO SPRINGS UTILITIES COLORADO SPRINGS, COLORADO		CIVIL	DATE: 12/10/21 PROJECT NUMBER: 50144404 REVISION NO. <b>C</b> DRAWING NUMBER <b>C-1</b>
			REV.	DESCRIPTION	BY	DATE	APP.				
			A	30% DESIGN REVIEW SUBMITTAL	TWL	01/28/22	SEF	GREEN MOUNTAIN FALLS PUMP STATION			
			B	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	SEF				
			C	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF				





**KEY NOTES:**

- 1 REMOVE EXISTING CULVERT.
- 2 REMOVE VEGETATION WITHIN 3' OF NEW HYDRANT ON ALL SIDES.
- 3 REMOVE TREE.
- 4 REMOVE VEGETATION FROM AREA FOR NEW DRIVE.
- 5 DEMOLISH EXISTING RETAINING WALL.

**Dewberry**  
Dewberry Engineers Inc.  
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

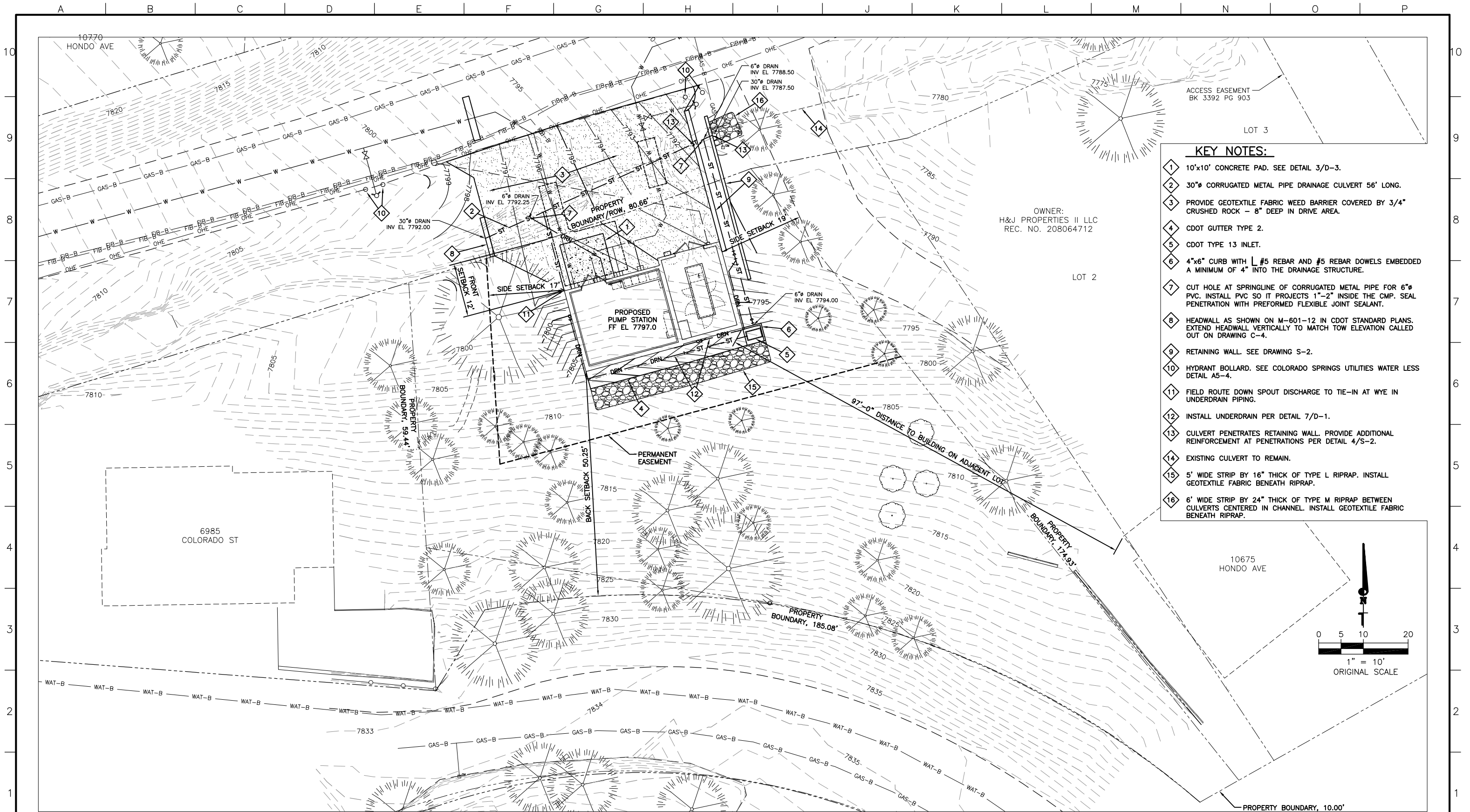
LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)  
DRAWING CPL4404G-2  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	SEF
B	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO  
  
GREEN MOUNTAIN FALLS  
PUMP STATION

CIVIL  
  
DEMOLITION PLAN

DATE: 02/17/22  
PROJECT NUMBER: 50144404  
REVISION NO. B  
DRAWING NUMBER C-2



KEY NOTES:

- 10'x10' CONCRETE PAD. SEE DETAIL 3/D-3.
- 30" CORRUGATED METAL PIPE DRAINAGE CULVERT 56' LONG.
- PROVIDE GEOTEXTILE FABRIC WEED BARRIER COVERED BY 3/4" CRUSHED ROCK - 8" DEEP IN DRIVE AREA.
- CDOT GUTTER TYPE 2.
- CDOT TYPE 13 INLET.
- 4"x6" CURB WITH #5 REBAR AND #5 REBAR DOWELS EMBEDDED A MINIMUM OF 4" INTO THE DRAINAGE STRUCTURE.
- CUT HOLE AT SPRINGLINE OF CORRUGATED METAL PIPE FOR 6" PVC. INSTALL PVC SO IT PROJECTS 1"-2" INSIDE THE CMP. SEAL PENETRATION WITH PREFORMED FLEXIBLE JOINT SEALANT.
- HEADWALL AS SHOWN ON M-601-12 IN CDOT STANDARD PLANS. EXTEND HEADWALL VERTICALLY TO MATCH TOW ELEVATION CALLED OUT ON DRAWING C-4.
- RETAINING WALL. SEE DRAWING S-2.
- HYDRANT BOLLARD. SEE COLORADO SPRINGS UTILITIES WATER LESS DETAIL A5-4.
- FIELD ROUTE DOWN SPOUT DISCHARGE TO TIE-IN AT WYE IN UNDERDRAIN PIPING.
- INSTALL UNDERDRAIN PER DETAIL 7/D-1.
- CULVERT PENETRATES RETAINING WALL. PROVIDE ADDITIONAL REINFORCEMENT AT PENETRATIONS PER DETAIL 4/S-2.
- EXISTING CULVERT TO REMAIN.
- 5' WIDE STRIP BY 16" THICK OF TYPE L RIPRAP. INSTALL GEOTEXTILE FABRIC BENEATH RIPRAP.
- 6' WIDE STRIP BY 24" THICK OF TYPE M RIPRAP BETWEEN CULVERTS CENTERED IN CHANNEL. INSTALL GEOTEXTILE FABRIC BENEATH RIPRAP.

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Denver, Colorado 80209  
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LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING CPL4404G-3  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	TWL	01/28/22	SEF
B	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	SEF
C	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

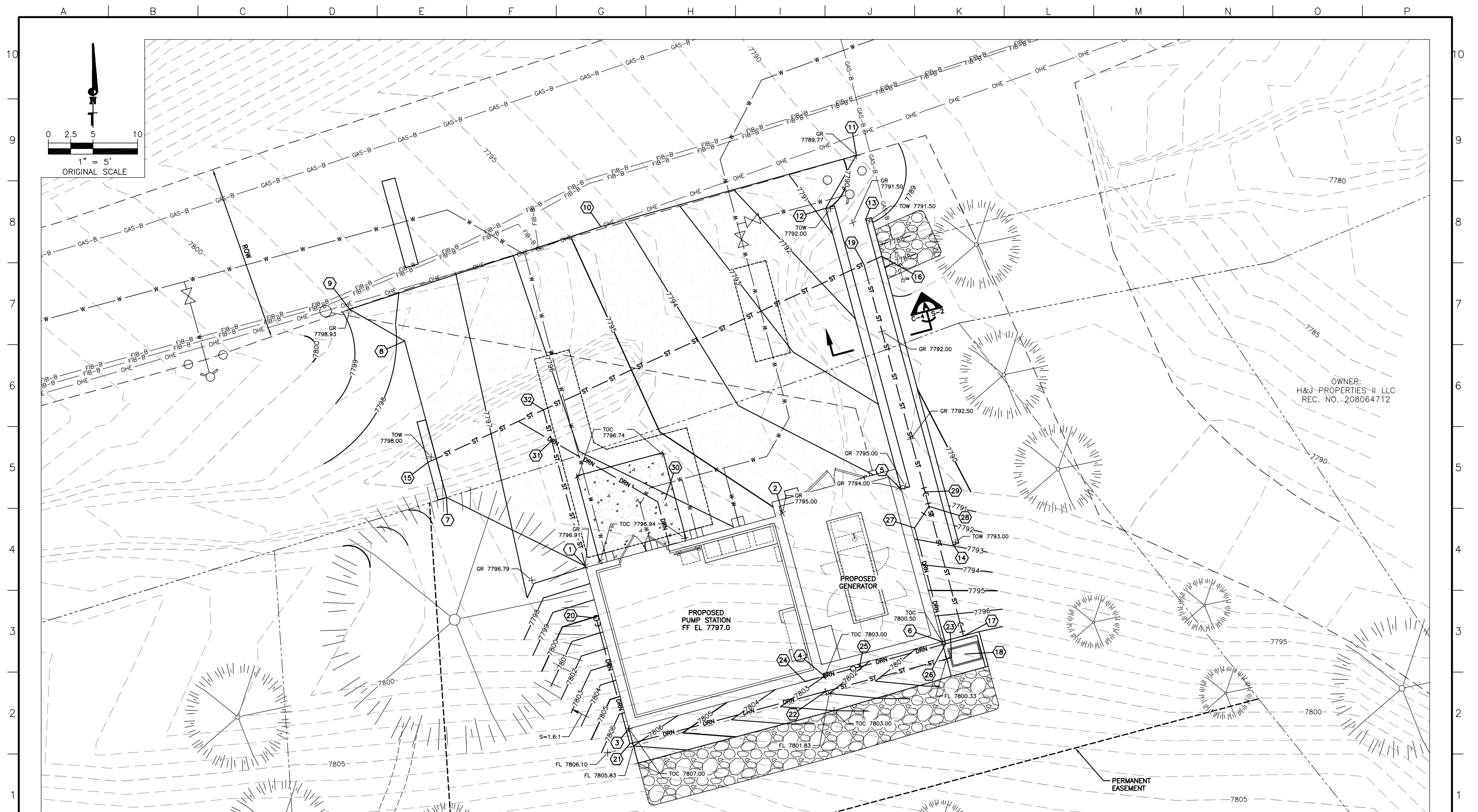
COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION


CIVIL

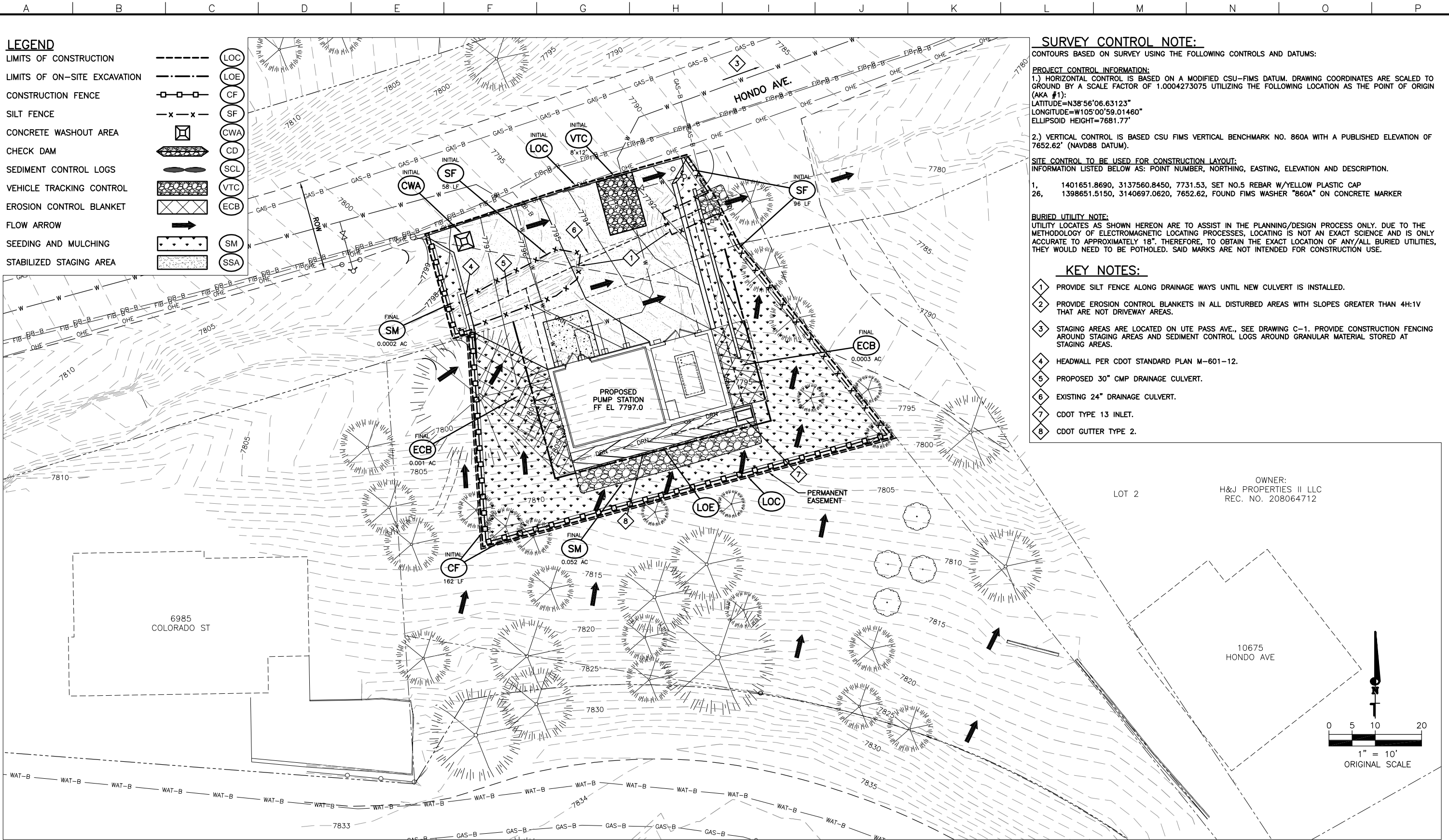
DEVELOPMENT PLAN

DATE: 12/10/21  
PROJECT NUMBER: 50144404  
REVISION NO. C  
DRAWING NUMBER  
**C-3**

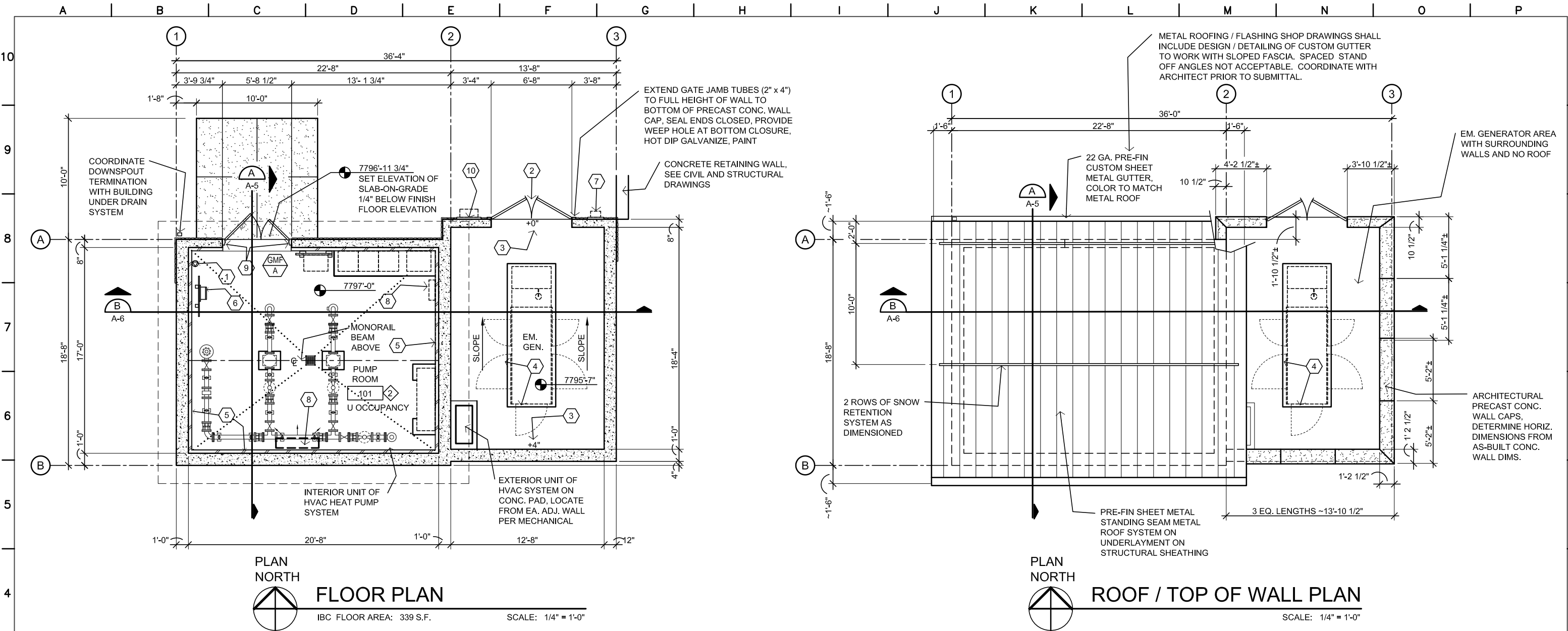


OWNER:  
H&J PROPERTIES II LLC  
REC. NO. 208064712

A		B		C		D		E		F		G		H		I		J		K		L		M		N		O		P	
 <b>Dewberry</b> <sup>®</sup> <b>Dewberry Engineers Inc.</b> 990 S. BROADWAY, SUITE 400 Denver, Colorado 80209 (303) 825-1802		<div style="border: 1px solid black; padding: 2px;"> <div style="text-align: center; font-weight: bold; font-size: 0.8em;">LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)</div> <div style="border-top: 1px solid black; padding-top: 2px;">DRAWING <u>CPL4404G-4</u></div> <div style="border-top: 1px solid black; padding-top: 2px;">DRAWN <u>TWL</u></div> <div style="border-top: 1px solid black; padding-top: 2px;">DESIGNED <u>SEF</u></div> <div style="border-top: 1px solid black; padding-top: 2px;">CHECKED <u>CTW</u></div> </div>																<div style="text-align: center; font-weight: bold;">           COLORADO SPRINGS UTILITIES            COLORADO SPRINGS, COLORADO         </div> <div style="text-align: center; font-weight: bold; margin-top: 20px;">           GREEN MOUNTAIN FALLS            PUMP STATION         </div>		<div style="text-align: center; font-weight: bold;">           CIVIL             ENLARGED GRADING PLAN         </div>		<div style="border: 1px solid black; padding: 2px;"> <div style="font-size: 0.8em;">DATE: 04/04/22</div> <div style="font-size: 0.8em;">PROJECT NUMBER: 50144404</div> <div style="font-size: 0.8em;">REVISION NO. <b>A</b></div> <div style="font-size: 1.2em; font-weight: bold;">DRAWING NUMBER <b>C-4</b></div> </div>									
																								REVISIONS							
																								REV.	DESCRIPTION	BY	DATE	APP.			
																								A	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF			







GENERAL NOTES:

1. SEAL ALL PIPE AND CONDUIT PENETRATIONS OF INTERIOR AND EXTERIOR CMU WALLS. PROVIDE SEALED CONDITION BOTH SIDES OF WALL.
2. PROVIDE FRAMING BETWEEN TRUSSES AS REQUIRED TO COMPLETELY SUPPORT ALL GYPSUM BOARD CEILING PANEL EDGES, TYPICAL.

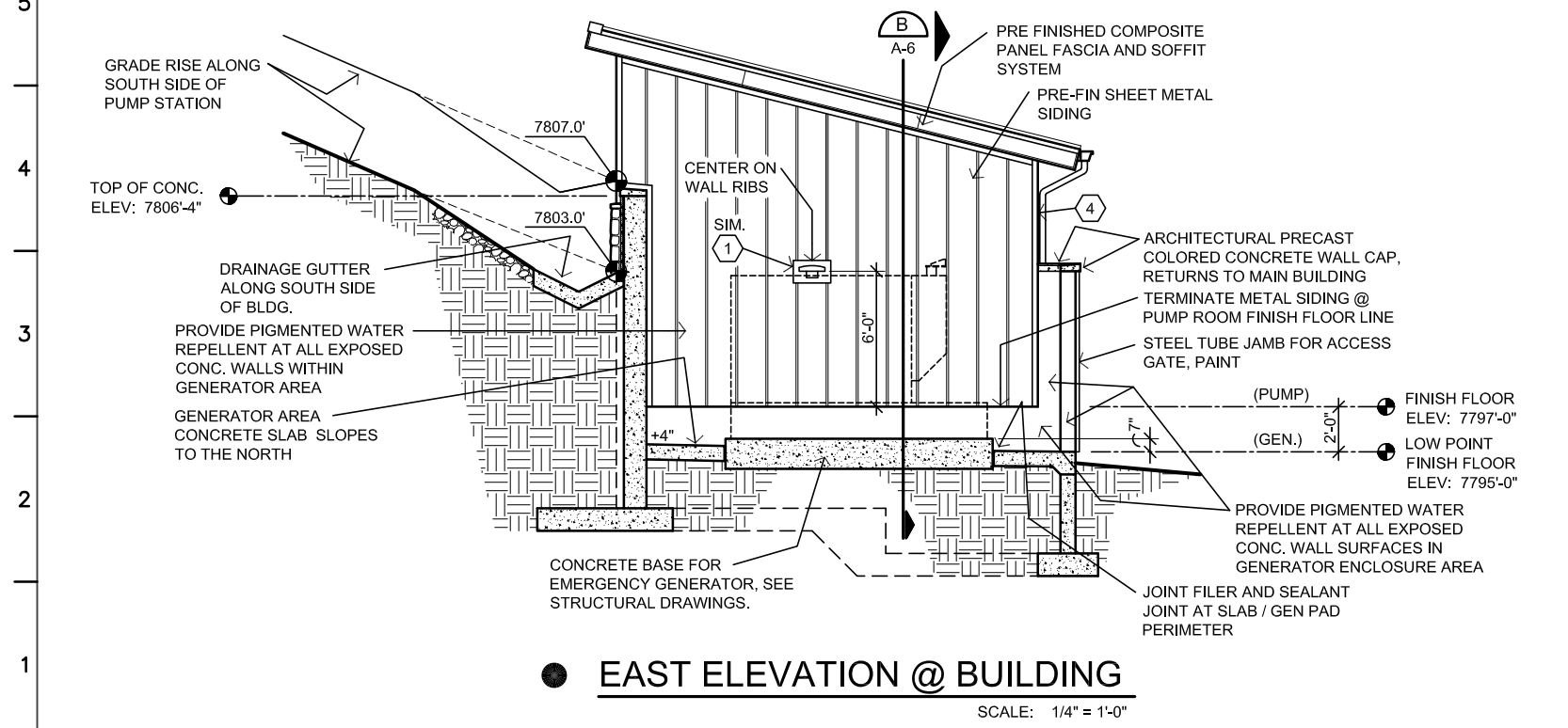
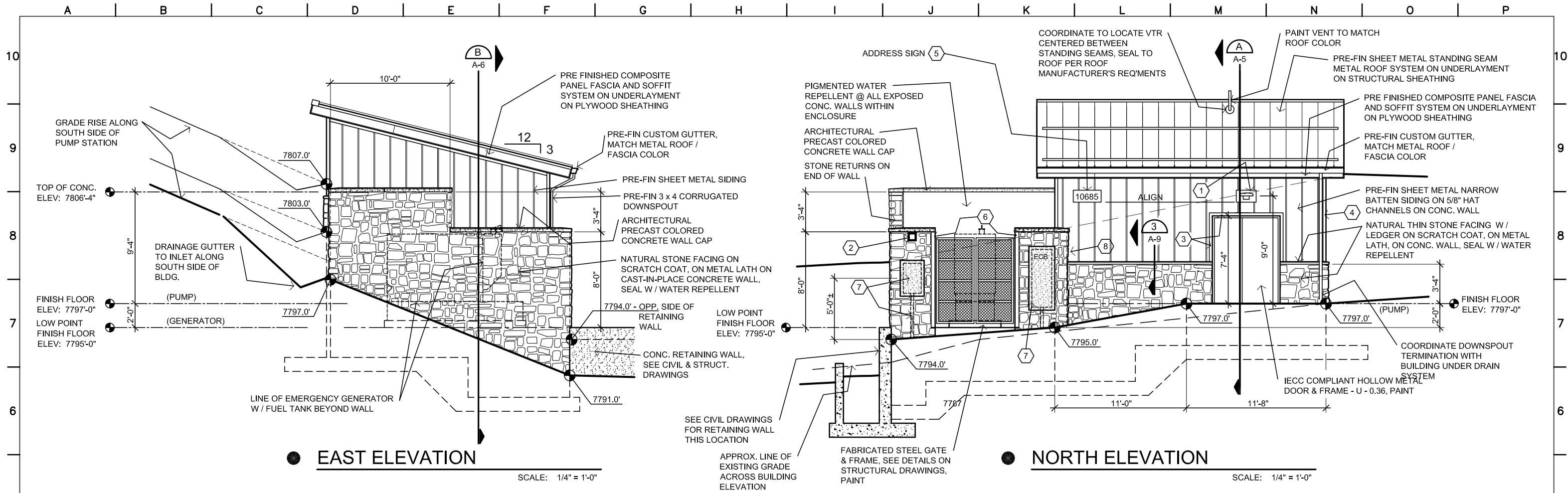
FINISH NOTES:

1. PAINT ALL EXPOSED INTERIOR CONCRETE AND CMU WALLS, GYPSUM BOARD CEILING, AND WOOD PERIMETER TRIM UNLESS NOTED OTHERWISE.
2. PROVIDE CONCRETE FLOOR SEALER (FLR. SLR.) AS SPECIFIED IN SECTION 03 30 00: CAST-IN-PLACE CONCRETE AT ALL CONCRETE FLOORS INCLUDING THE ENCLOSED GENERATOR AREA.

FLOOR PLAN KEY NOTES:

1. FIRE EXTINGUISHER: TYPE 1 WITH MOUNTING BRACKET AS SPECIFIED IN SECTION 10 44 00: FIRE PROTECTION SPECIALTIES. PROVIDE SIGNAGE PER SECTION 10 14 00: SIGNAGE.
2. FABRICATED STEEL GATE AND FRAME, SEE STRUCTURAL (S) DRAWINGS. PAINT.
3. GENERATOR AREA CONCRETE SLAB SLOPES TO THE NORTH 4" VERTICAL TOTAL, ~ 1/4" PER FOOT.
4. ISOLATED 20" TH. CONC. PAD FOR EMERGENCY GENERATOR, TOP OF PAD ELEVATION 7797'-7", SEE STRUCTURAL FOR REINFORCEMENT. PROVIDE 1/2" EXPANSION MATERIAL FULL PERIMETER WITH BACKER ROD AND SEALANT JOINT.
5. INTERIOR WALL SYSTEM: 2 1/2" 20 / 18 MIL. METAL STUDS AT 16" O.C. WITH TOP AND BOTTOM TRACKS. HOLD STUD LEG OFF INTERIOR STRUCTURE FACE 1/2" TO AVOID THERMAL TRANSFER FROM EXTERIOR TO INTERIOR. INSTALL 2" (R-14) OF SPRAY APPLIED POLYURETHANE INSULATION TO INTERIOR FACE OF EXTERIOR WALL. ASSURE COMPLETE FILL AND SEAL AROUND AND BEHIND METAL STUD TO PROVIDE CONTINUOUS INSULATION. FINISH LOWER 4 FT OF STUD WALL WITH 1/2" TH. CEMENTITIOUS BACKER BOARD AND REMAINDER OF WALL HEIGHT WITH 1/2' GYPSUM BOARD. FINISH GYPSUM AND CEMENTITIOUS BOARD PER SPECIFICATION 09 25 00: GYPSUM BOARD.
6. PROVIDE SIGNAGE AT UTILITY STATION PER SPECIFICATION SECTION 10 14 00: SIGNAGE. COORDINATE WITH MECHANICAL (M) DRAWINGS.
7. ARCHITECTURAL PRECAST CONCRETE PANEL FOR MOUNTING OF ELECTRICAL METER. SEE BUILDING ELEVATION AND DETAIL ON 2 / A-8.

8. PROVIDE PLYWOOD BLOCKING BETWEEN STUDS IN WALL BY SIZE REQUIRED TO MOUNT / SUPPORT WALL MOUNTED ELECTRICAL & HVAC EQUIPMENT.
9. SEAL BOTTOM OF HOLLOW METAL FRAME TO FLOOR SLAB TO PROVIDE COMPLETE CLOSURE FROM MOISTURE. SEE DOOR SILL DETAIL.
10. ARCHITECTURAL PRECAST CONCRETE PANEL FOR MOUNTING OF ECB PANEL. SEE BUILDING ELEVATION AND DETAIL ON 2 / A-8.



- KEY NOTES:**
- PANEL (WALL) MOUNTED LIGHT FIXTURE. CENTER LIGHT FIXTURE ON 12" HIGH x 20" WIDE PREFINISHED PANEL CENTERED ON DOOR FRAME OR GENERATOR WALL SPACE. MOUNTING HEIGHT AS SHOWN ON ELEVATIONS. SEE DETAIL 5 / A-9 FOR MOUNTING PANEL REQUIREMENTS.
  - RECESSED KNOX BOX, CENTER ON WALL FACE AND MOUNT JUST BELOW PRECAST WALL CAP, MOUNT FACE TRIM OUT WITH STONE SCRATCH COAT, GROUT INTO CONCRETE POCKET FOR SECURE INSTALLATION.
  - DESIGN INTENT IS TO PROVIDE A 3" FACE TRIM @ JAMBS AND HEAD OF DOOR OPENING. PROVIDE CLOSED TRIM TO RESEMBLE SOLID CONDITION. COORDINATE DETAILS DURING SHOP DRAWING PROCESS, COLOR TO MATCH WALL PANEL COLOR.
  - PREFINISHED METAL WALL PANEL SYSTEM OUTSIDE CORNER POST. 4" FACE. TYPICAL ALL CORNERS. COLOR TO MATCH WALL PANEL COLOR.
  - BUILDING ADDRESS SIGN: PROVIDE 12" H. x 28" W. x 16 GAUGE GALV. PLATE W / HEMMED EDGES ALL 4 SIDES. POWDER COAT PLATE CUSTOM COLOR TO MATCH PRE-FIN WALL PANEL COLOR. MOUNT ADDRESS NUMBERS TO PLATE "10685" WITH VHB TAPE. MOUNT SIGN CENTERED ON AND TO TWO METAL BUILDING RIBS WITH VHB TAPE OR COLOR MATCHED GASKETED FASTENERS. SEE SPECIFICATION 10 14 00 FOR ADDRESS NUMBER REQUIREMENTS.
  - EXTEND GATE JAMB TUBES (2" x 4") TO FULL HEIGHT OF WALL TO BOTTOM OF PRECAST CONC. WALL CAP, SEAL ENDS CLOSED, PROVIDE WEEP HOLE AT BOTTOM CLOSURE, HOT DIP GALVANIZE, PAINT
  - ARCHITECTURAL PRECAST CONCRETE PANEL MOUNTED ON CONCRETE WALL FOR MOUNTING OF ELECTRIC METER / BOX AND ECB PANEL. CENTER PRECAST PANEL SIDE TO SIDE ON WIDTH OF STONE FACING. SEE DETAIL 2 / A-8 FOR REQUIREMENTS. DETERMINE SIZE OF METER / BOX / EQUIPMENT AND SIZE PANEL FOR 2" CLEARANCE AROUND ELECTRICAL EQUIPMENT. PROCURE INFORMATION IN TIMELY FASHION TO INCLUDE PANEL SIZE IN ARCHITECTURAL PRECAST CONCRETE SHOP DRAWING SUBMITTAL. MOUNT PANEL SO THAT EQUIPMENT CENTERLINE IS ~60" VERTICALLY FROM GRADE. PAINT EXPOSED CONDUIT AND METER / EQUIPMENT ENCLOSURES IN COLOR SELECTED BY ENGINEER.
  - STONE AT GENERATOR ENCLOSURE WALL RETURNS TO MAIN BUILDING WALL. COORDINATE TERMINATION OF STONE WITH METAL WALL PANEL SUBCONTRACTOR FOR NEAT / PROPER TERMINATION / FINISH.

**LINTJER + HAYWOOD ARCHITECTS**  
1323 S. CORONA STREET  
DENVER, CO. 80210  
303.408.5939 PHONE

**Dewberry**  
Dewberry Engineers Inc.  
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING **A-3.DWG**  
DRAWN **BRL**  
DESIGNED **BRL**  
CHECKED **BRL**

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	BRL	01/28/22	BRL
B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL
C	90% DESIGN REVIEW SUBMITTAL	BRL	06/08/22	BRL
D	PPRBD SUBMITTAL	BRL	06/28/22	BRL

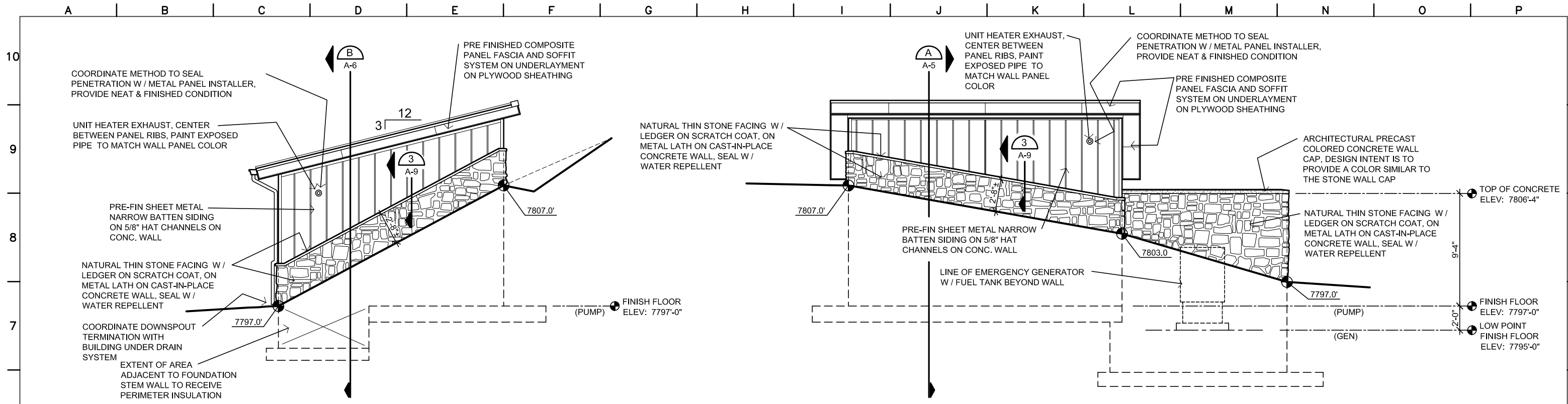
**COLORADO SPRINGS UTILITIES**  
**COLORADO SPRINGS, COLORADO**

**GREEN MOUNTAIN FALLS**  
**PUMP STATION**

**ARCHITECTURAL**

**BUILDING ELEVATIONS**

DATE: 07/18/22  
PROJECT NUMBER: 50144404  
REVISION NO. D  
DRAWING NUMBER **A-3**  
SHEET NUMBER

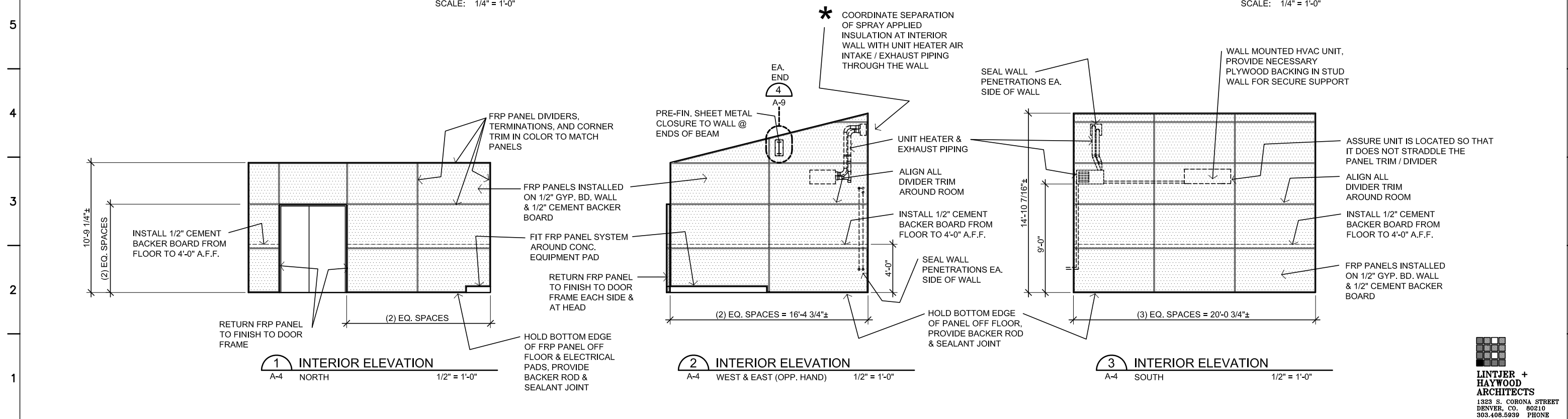


● WEST ELEVATION

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

● SOUTH ELEVATION

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



1 INTERIOR ELEVATION

A-4 NORTH

1/2" = 1'-0"

2 INTERIOR ELEVATION

A-4 WEST & EAST (OPP. HAND)

1/2" = 1'-0"

3 INTERIOR ELEVATION

A-4 SOUTH

1/2" = 1'-0"

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Denver, Colorado 80209  
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LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING A-4.DWG  
DRAWN BRL  
DESIGNED BRL  
CHECKED BRL



REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
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B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL
C	90% DESIGN REVIEW SUBMITTAL	BRL	06/08/22	BRL
D	PPRBD SUBMITTAL	BRL	06/28/22	BRL

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

ARCHITECTURAL

BUILDING ELEVATIONS  
INTERIOR ELEVATIONS

**LINTJER + HAYWOOD ARCHITECTS**  
1323 S. CORONA STREET  
DENVER, CO. 80210  
303.408.5939 PHONE

DATE:	07/18/22
PROJECT NUMBER:	50144404
REVISION NO.	D
DRAWING NUMBER	A-4
SHEET NUMBER	





## Town of Green Mountain Falls Land Use Approval Application Zoning Variance

### General Information

- A zoning variance is a request to deviate from the requirements in the Green Mountain Falls Land Use and Zoning Code, as established in §16-709.
- This checklist is a guide to submitting a complete application and is not a substitute for all provisions in [GMF Municipal Code](#). Applicants are responsible for reviewing and understanding the Code.
- Complete applications are subject to **four weeks (28 days)** GMF Staff review before appearing on Planning Commission and Board of Trustees agendas.

### Applicant

Applicant:	Dewberry Engineers, Inc. - Sam Franzen
Address:	990 S Broadway, Denver, CO 80209
E-Mail:	sfranzen@dewberry.com
Phone:	303-951-0618
Owner:	Colorado Springs Utilities - Larysa Voronova
Address:	121 S Tejon St, Suite 200, Colorado Springs, CO 80947
E-mail:	lvoronova@csu.org
Phone:	719-668-3851

### Property

Address: 10685 Hondo Ave, Green Mountain Falls, CO 80819	
Zoning Designation: R-1 10,000	Lot Size: 12,778 sqft
Hillside Overlay zone? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Land Survey Included: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

### Certification & Signature

APPLICANT'S STATEMENT: I understand the procedures that apply to my request and acknowledge an incomplete application will not be processed or scheduled for public hearing until such time it is complete. GMF Town Staff's acceptance of the application, the payment of fees, and submittal of accompanying materials does not constitute completeness. I further agree to reimburse the city for technical and professional consulting expenses that may be incurred during the review of my request. Failure to reimburse the Town for invoiced expenses constitutes an incomplete application.

Certification: The undersigned applicant certifies under oath and under penalties of perjury that the information found in the application is true and accurate to the best of their knowledge.

Applicant Signature Sam Franzen Date 10/12/2022  
Owner Signature \_\_\_\_\_ Date \_\_\_\_\_  
Owner Signature \_\_\_\_\_ Date \_\_\_\_\_

This document can be signed electronically using [Adobe Reader DC for free](#).

## Variance Checklist

The following checklist is a guideline for submitting a complete Variance Land Use Approval Application. Failure to provide information that address the standards and requirements in GMF Zoning Code could result in staff review delays. GMF Staff may require additional information in accordance with Town Code and Town Attorney's recommendation.

### 1. Variance Application & Petition

- a. Application, signed and dated by the applicant and property owner(s)
- b. [Application fee](#)
- c. Letter of explanation
  - i. Describe the proposed project in detail, referring to site plans and drawings as necessary
  - i. Describe the reason for pursuing a variance; include benefits to yourself, the neighborhood, and the Town.
  - ii. Explain how the variance would not be contrary to the public interest.
  - iii. Provide proof of unique circumstances or conditions and how the strict application of the provisions of GMF Zoning and Land Use Code would deprive the applicant of the reasonable use of such land or building as described in the [Zoning Code §16-709](#)
  - iv. Provide proof of unnecessary hardship as described in the [Zoning Code §16-709](#)

### 2. Development Plan

- a. Vicinity Map
- b. Total development plan area in acres or square feet
- c. Zoning setbacks
  - a. North arrow
  - b. Property boundaries and dimensions
  - c. Existing and proposed lots and tract lines, with dimensions
  - d. Existing and proposed topography (contour lines or slope)
  - e. Show and label all access points to the property from adjacent streets and alleys
  - f. Proposed grading plan and separate GECP application

### 3. Procedure:

- a. Consultation meeting with GMF Staff and draft plans
- b. Submit completed application and checklist materials electronically: [planner@gmfco.us](mailto:planner@gmfco.us)
- c. Submit appropriate fees to Town Clerk for receipt
- d. Work with GMF Staff to schedule public hearings

GMF Town Staff:

- ☐ Application
- ☐ Variance Petition
- ☐ Development Plan
- ☐ Application fee  
Date\_\_\_\_\_ Amount\_\_\_\_\_ ☐ Check #\_\_\_\_\_ ☐ Credit Card

October 12, 2022

Town of Green Mountain Falls  
Attn: Nate Scott, Planner  
Town Hall  
10615 Green Mountain Falls Road  
Green Mountain Falls, CO 80819

RE: Letter of Explanation – Hillside Overlay Waiver for the Green Mountain Falls Pump Station

Dear Mr. Scott,

Dewberry Engineers is pleased to submit a Waiver Application and documentation for two items in the Hillside Overlay requirements for the Green Mountain Falls Pump Station (GMFPS) on behalf of Colorado Springs Utilities. The first is Sec. 16-714.c.3.b which states no building shall be closer than 100 feet from a building on an adjoining lot. The second is 16-714.c.3.c which states no building shall be closer than 25 feet from a major drainage way. The Waiver Application and supporting documentation are provided for review and comment.

The site selected for the new GMFPS is 10685 Hondo Avenue. The property is owned by the same entity that owns the property at 6985 Colorado St directly to the west. Colorado Springs Utilities is currently negotiating the terms of an easement with the property owner to allow the pump station to be built on the site. The agreement and required Owner Signature will be submitted once the agreement is finalized.

This waiver for the first item is being proposed because the new pump station structure is approximately 60 feet from the residence at 6985 Colorado St and 97 feet from the residence at 10675 Hondo Ave. The hillside overlay area in Green Mountain Falls is relatively densely populated and many of the existing residential structures are within 100 feet of structures on adjoining lots. The new pump station structure has been designed to be unobtrusive to the surrounding residences as much as possible by setting it into the hillside and selecting architectural finishes and colors so that it blends with the surrounding environment and structures. The new pump station building also sits below the residences on the adjoining lots and should not be in their view path across the valley. Additionally, the specified construction methods include shoring and bracing the excavation to limit its extent. The excavation for the pump station building will not affect neighboring properties.

The waiver on the second item is being proposed because the new pump station structure is approximately 15 feet, at its closest, to the drainage way located to the north of the building. Due to the steepness of the hillside on the lot it is not feasible to construct the building further into the hill than it is currently shown. The existing 24-inch diameter culvert is also being replaced with a 30-inch diameter culvert which will increase its overall capacity. The culvert length will also be increased, and it will run the entire length of the pump station. New headwalls will be installed at either end of the new culvert replacing the existing headwalls and stabilizing the channel in these areas.

The purpose of the GMFPS project is to replace the existing below grade pump station. The existing pump station was constructed in 1986 and has reached the end of its useful life. The new pump station will ensure reliable water service for residents and businesses in Green Mountain Falls. It will also provide a safer and more readily accessible working space for Colorado Springs Utilities enabling more efficient maintenance and repair activities.

The new pump station will be an above grade building that sits back into the hillside on the property, see drawing C-3, attached. The building will be a single room that is 22'-8" by 18'-10". A 13'-8" by 17'-8" open

topped enclosure for a backup emergency generator will be attached to the east side of the building. The building location on the site and arrangement can be seen on drawing C-3 and A-2, attached.

The building walls will be concrete covered with a veneer composed of natural stone facing on the bottom and pre-finished metal narrow batten siding above. The stone veneer will slope to match the grade around the building. The generator enclosure walls will be concrete covered with a natural stone veneer to match the building and capped with colored concrete wall caps. The building roof will be pre-finished metal standing seam that is the same color as the wall siding. The roof slants only to the east to minimize the view impacts from the neighboring properties. Stone and metal wall and roof finish colors will be primarily earth tones, browns, and grays selected to blend with the surrounding environment. A double man door will be installed on the north face of the building for access and to allow for equipment removal for maintenance. The generator enclosure will have a fabricated steel gate for access. The door and gate will be finished to blend with the building aesthetic. Building elevations can be seen on drawings A-3 and A-4, attached.

The pump station will provide an integral service to Green Mountain Falls and its residents. While the building is within the required setback distances stipulated in the Hillside Overlay it has been designed to fit in with the surroundings and should not negatively affect adjacent residences or the Town.

Please contact Sam Franzen at [sfranzen@dewberry.com](mailto:sfranzen@dewberry.com) or 303-951-0618 with any questions or concerns.

Sincerely,



Sam Franzen  
Project Engineer





Colorado Springs Utilities

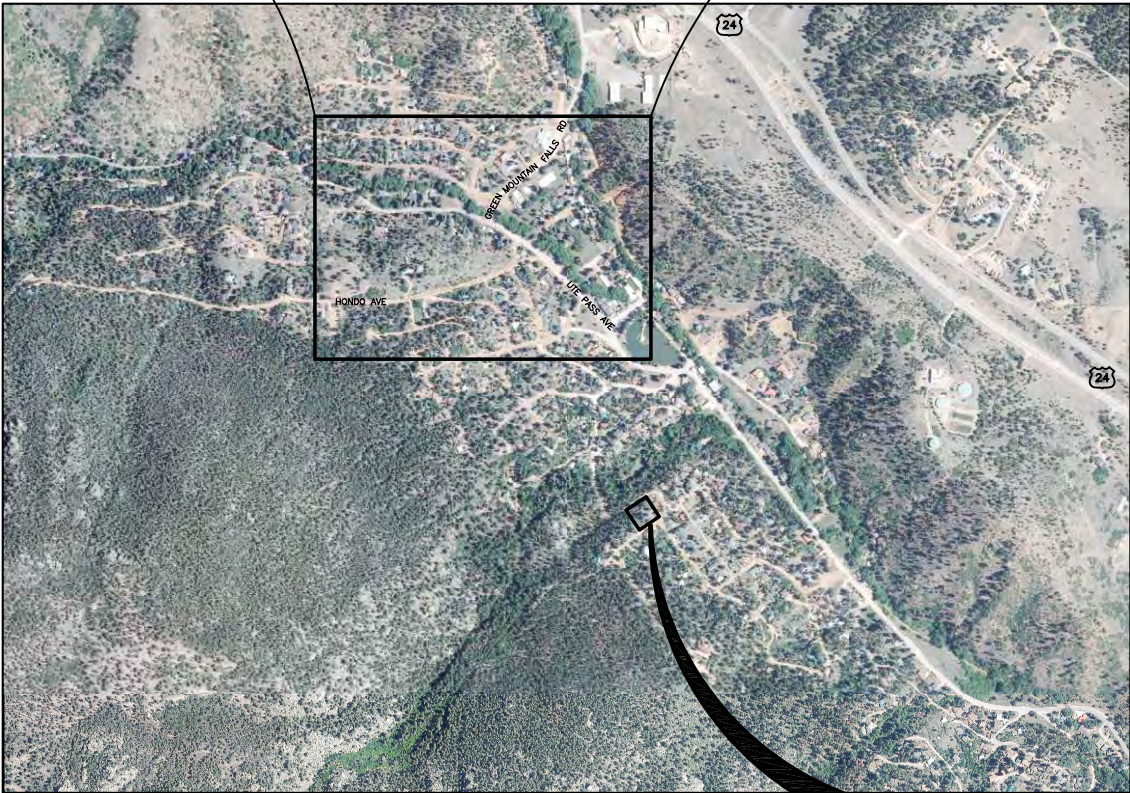
*It's how we're all connected*

# GREEN MOUNTAIN FALLS PUMP STATION



GREEN MOUNTAIN FALLS  
PUMP STATION PROJECT  
LOCATION

**LOCATION MAP**  
NO SCALE



**VICINITY MAP**  
NO SCALE

EXISTING GREEN MOUNTAIN  
FALLS PUMP STATION TO BE  
DEMOLISHED

## DRAWING INDEX

DWG NO	TITLE
<u>GENERAL</u>	
--	COVER AND INDEX
<u>CIVIL</u>	
C-1	VICINITY MAP
C-2	DEMOLITION PLAN
C-3	DEVELOPMENT PLAN
C-4	ENLARGED GRADING PLAN
EC-1	EROSION CONTROL PLAN
<u>ARCHITECTURAL</u>	
A-2	FLOOR PLAN & ROOF PLAN
A-3	BUILDING ELEVATIONS
A-4	BUILDING ELEVATIONS INTERIOR ELEVATIONS

GMFPS Site Summary	
Site Area	12,778 sqft
Setback Summary	
Front	
Required	15 feet
Provided	12 feet*
East Side	
Required	10 feet
Provided	19
West Side	
Required	10 feet
Provided	17
Back	
Required	10 feet
Provided	50 feet
*Front setback variance application submitted	



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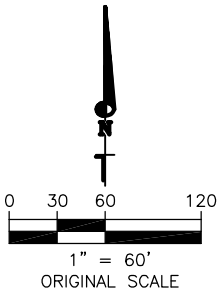
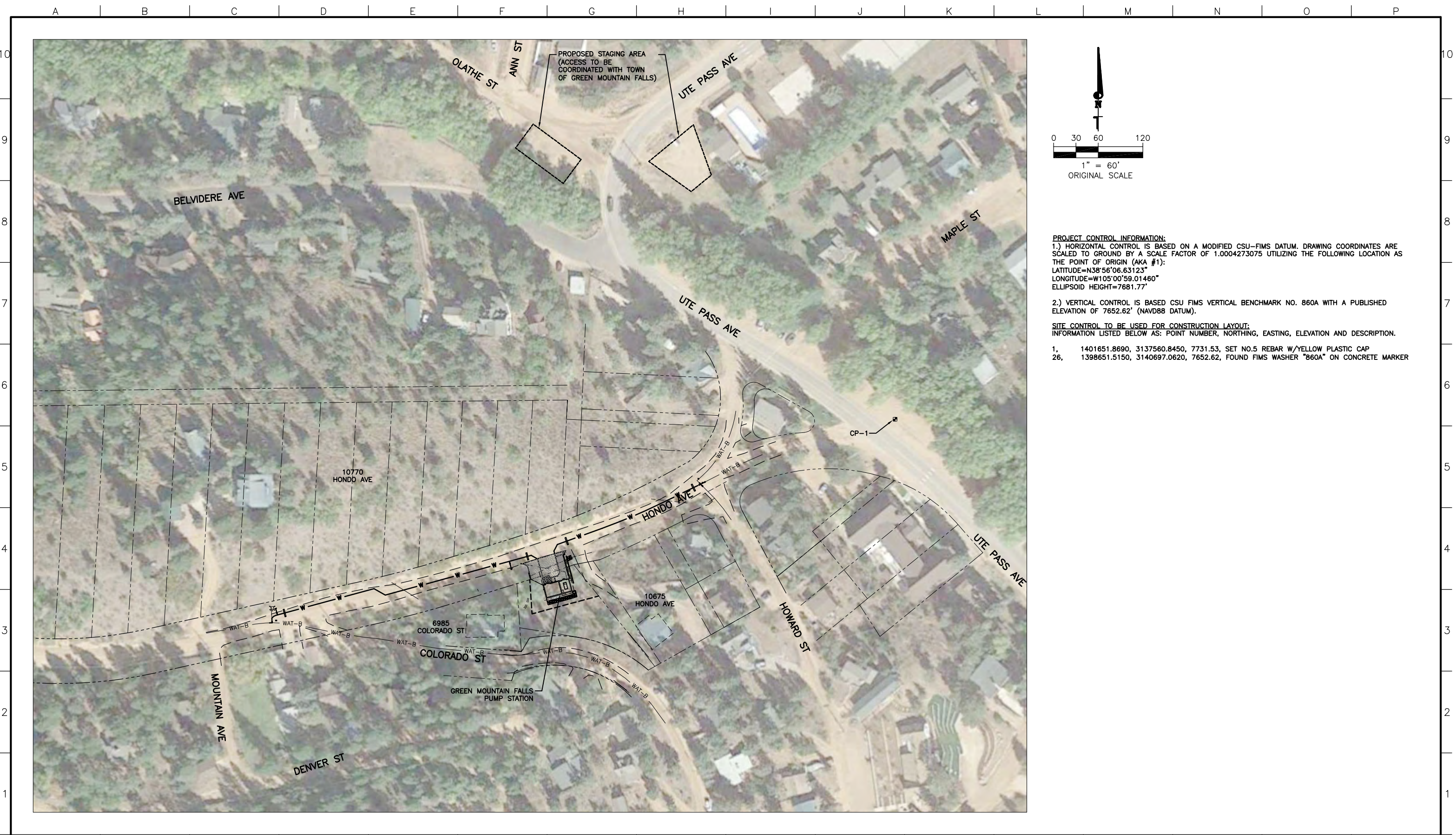
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

**DEVELOPMENT PLAN**  
**OCTOBER 2022**




Know what's below.  
Call before you dig.

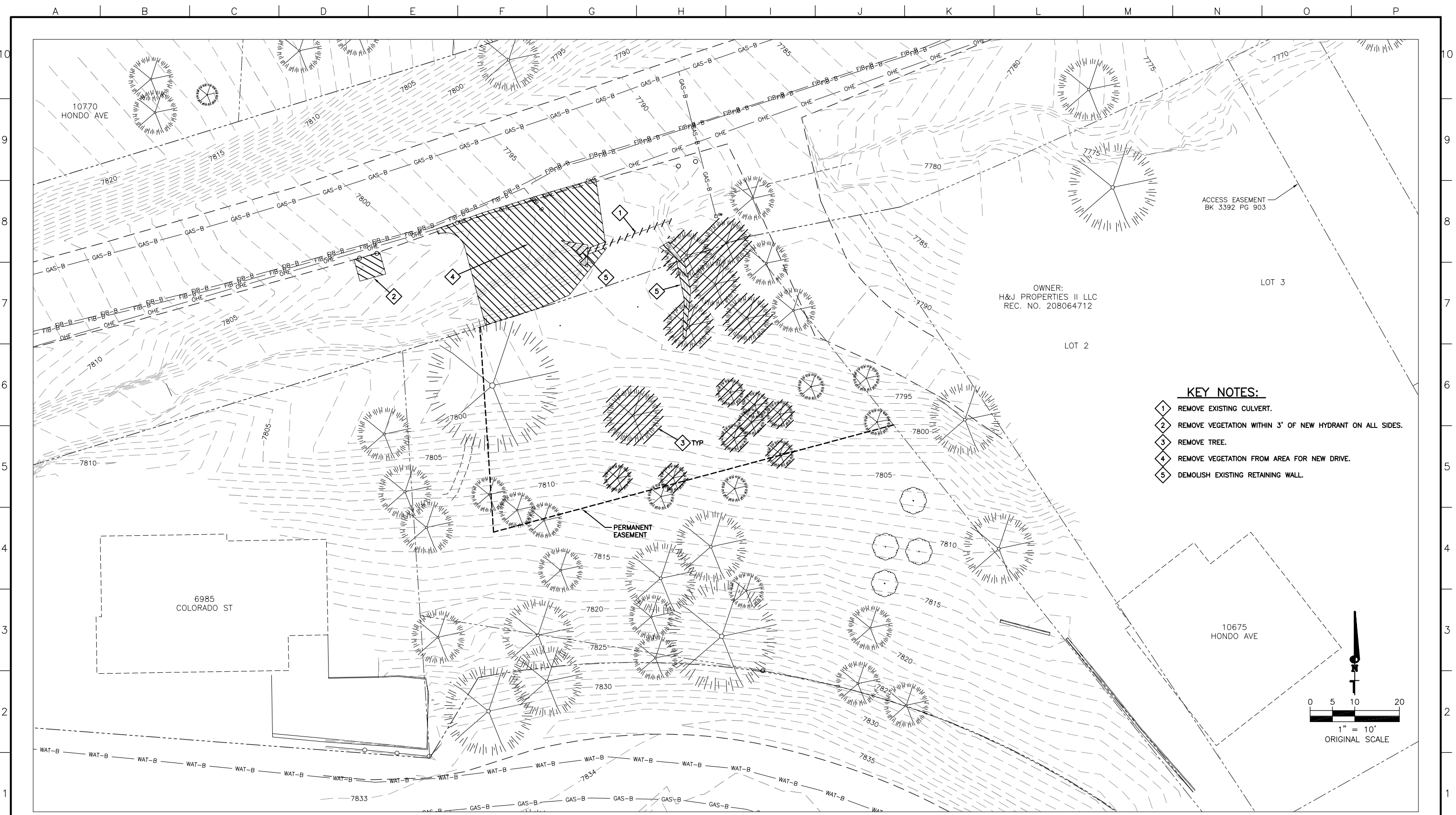




**PROJECT CONTROL INFORMATION:**  
1.) HORIZONTAL CONTROL IS BASED ON A MODIFIED CSU-FIMS DATUM. DRAWING COORDINATES ARE SCALED TO GROUND BY A SCALE FACTOR OF 1.0004273075 UTILIZING THE FOLLOWING LOCATION AS THE POINT OF ORIGIN (AKA #1):  
LATITUDE=N38°56'06.63123"  
LONGITUDE=W105°00'59.01460"  
ELLIPSOID HEIGHT=7681.77'  
2.) VERTICAL CONTROL IS BASED CSU FIMS VERTICAL BENCHMARK NO. 860A WITH A PUBLISHED ELEVATION OF 7652.62' (NAVD88 DATUM).  
**SITE CONTROL TO BE USED FOR CONSTRUCTION LAYOUT:**  
INFORMATION LISTED BELOW AS: POINT NUMBER, NORTHING, EASTING, ELEVATION AND DESCRIPTION.  
1, 1401651.8690, 3137560.8450, 7731.53, SET NO.5 REBAR W/YELLOW PLASTIC CAP  
26, 1398651.5150, 3140697.0620, 7652.62, FOUND FIMS WASHER "860A" ON CONCRETE MARKER


 <b>Dewberry®</b> <b>Dewberry Engineers Inc.</b> 990 S. BROADWAY, SUITE 400 Denver, Colorado 80209 (303) 825-1802	LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)	DRAWING <u>CPL4404G-1</u> DRAWN <u>TWL</u> DESIGNED <u>SEF</u> CHECKED <u>CTW</u>	REVISIONS					COLORADO SPRINGS UTILITIES COLORADO SPRINGS, COLORADO  GREEN MOUNTAIN FALLS PUMP STATION	CIVIL  VICINITY MAP	DATE: 12/10/21
			REV.	DESCRIPTION	BY	DATE	APP.			PROJECT NUMBER: 50144404
			A	30% DESIGN REVIEW SUBMITTAL	TWL	01/28/22	SEF			REVISION NO. C
			B	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	SEF			DRAWING NUMBER
			C	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF			<b>C-1</b>





**KEY NOTES:**

- 1 REMOVE EXISTING CULVERT.
- 2 REMOVE VEGETATION WITHIN 3' OF NEW HYDRANT ON ALL SIDES.
- 3 REMOVE TREE.
- 4 REMOVE VEGETATION FROM AREA FOR NEW DRIVE.
- 5 DEMOLISH EXISTING RETAINING WALL.

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LINE IS 2 INCHES  
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(IF NOT 2"=SCALE ACCORDINGLY)  
DRAWING CPL4404G-2  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
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B	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

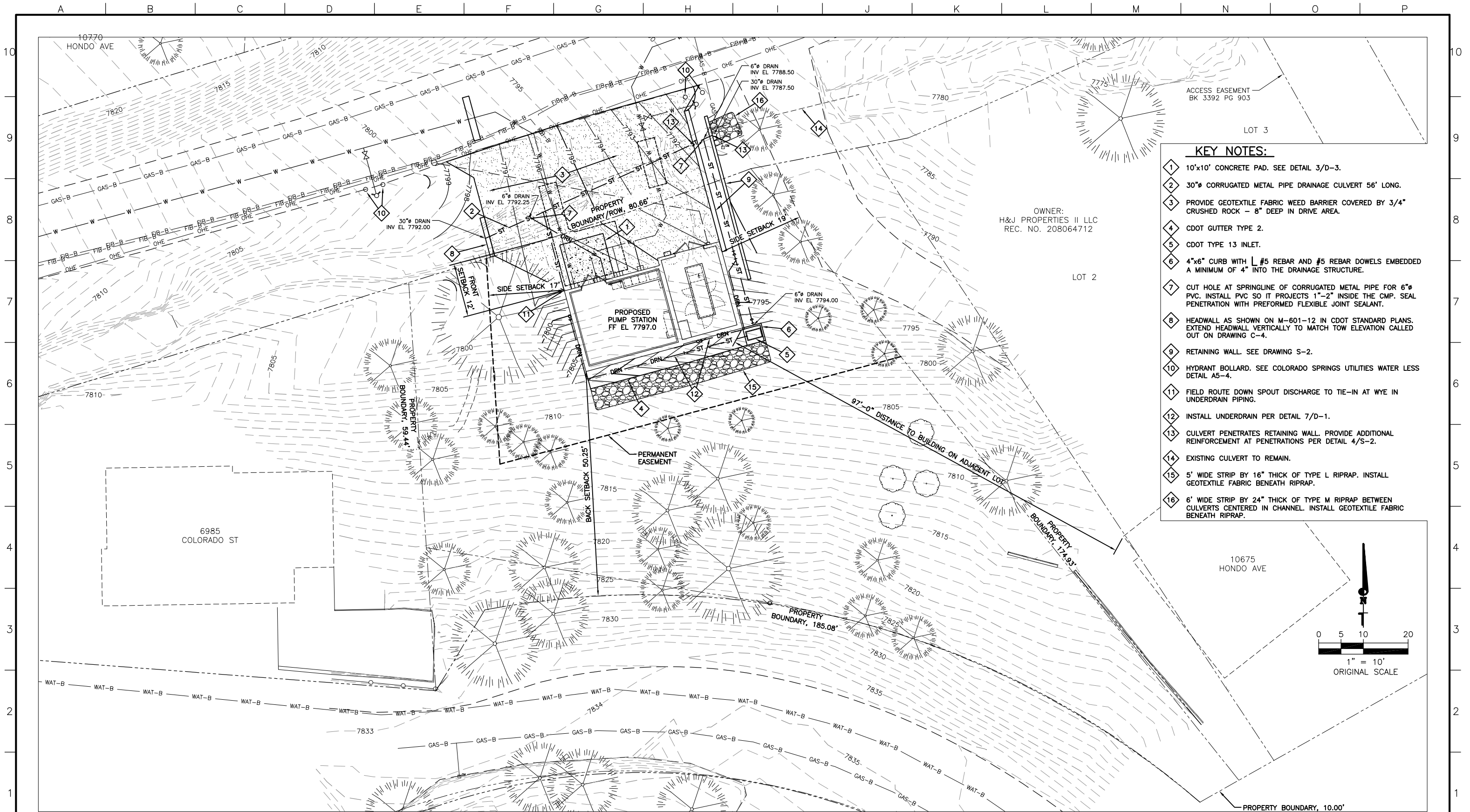
COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

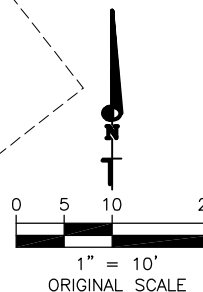
CIVIL

DEMOLITION PLAN

DATE: 02/17/22  
PROJECT NUMBER: 50144404  
REVISION NO. B  
DRAWING NUMBER C-2



- KEY NOTES:**
- 10'x10' CONCRETE PAD. SEE DETAIL 3/D-3.
  - 30"Ø CORRUGATED METAL PIPE DRAINAGE CULVERT 56' LONG.
  - PROVIDE GEOTEXTILE FABRIC WEED BARRIER COVERED BY 3/4" CRUSHED ROCK - 8" DEEP IN DRIVE AREA.
  - CDOT GUTTER TYPE 2.
  - CDOT TYPE 13 INLET.
  - 4"x6" CURB WITH L #5 REBAR AND #5 REBAR DOWELS EMBEDDED A MINIMUM OF 4" INTO THE DRAINAGE STRUCTURE.
  - CUT HOLE AT SPRINGLINE OF CORRUGATED METAL PIPE FOR 6"Ø PVC. INSTALL PVC SO IT PROJECTS 1"-2" INSIDE THE CMP. SEAL PENETRATION WITH PREFORMED FLEXIBLE JOINT SEALANT.
  - HEADWALL AS SHOWN ON M-601-12 IN CDOT STANDARD PLANS. EXTEND HEADWALL VERTICALLY TO MATCH TOW ELEVATION CALLED OUT ON DRAWING C-4.
  - RETAINING WALL. SEE DRAWING S-2.
  - HYDRANT BOLLARD. SEE COLORADO SPRINGS UTILITIES WATER LESS DETAIL A5-4.
  - FIELD ROUTE DOWN SPOUT DISCHARGE TO TIE-IN AT WYE IN UNDERDRAIN PIPING.
  - INSTALL UNDERDRAIN PER DETAIL 7/D-1.
  - CULVERT PENETRATES RETAINING WALL. PROVIDE ADDITIONAL REINFORCEMENT AT PENETRATIONS PER DETAIL 4/S-2.
  - EXISTING CULVERT TO REMAIN.
  - 5' WIDE STRIP BY 16" THICK OF TYPE L RIPRAP. INSTALL GEOTEXTILE FABRIC BENEATH RIPRAP.
  - 6' WIDE STRIP BY 24" THICK OF TYPE M RIPRAP BETWEEN CULVERTS CENTERED IN CHANNEL. INSTALL GEOTEXTILE FABRIC BENEATH RIPRAP.



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LINE IS 2 INCHES  
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DRAWING CPL4404G-3  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
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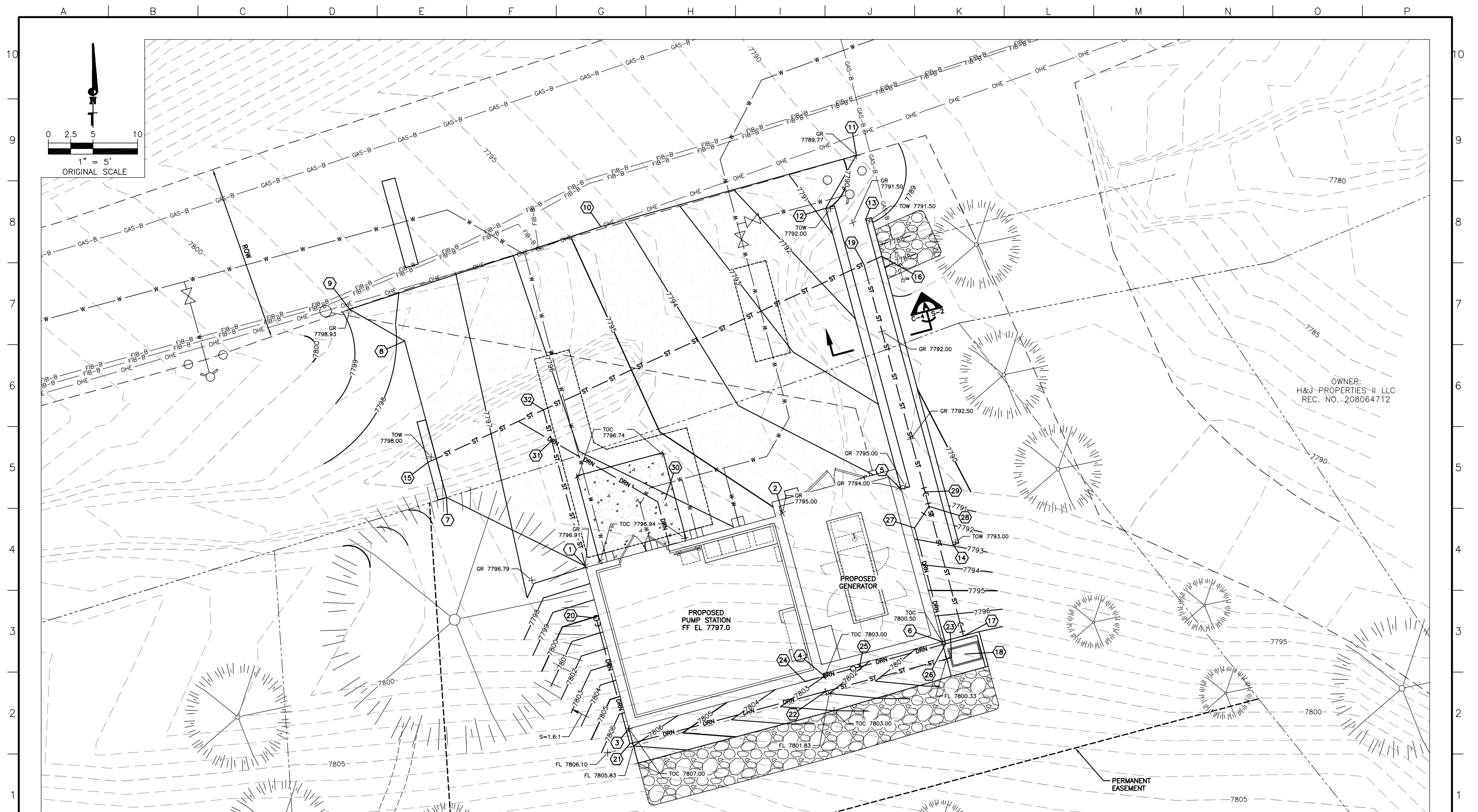
**COLORADO SPRINGS UTILITIES**  
**COLORADO SPRINGS, COLORADO**

**GREEN MOUNTAIN FALLS**  
**PUMP STATION**


CIVIL

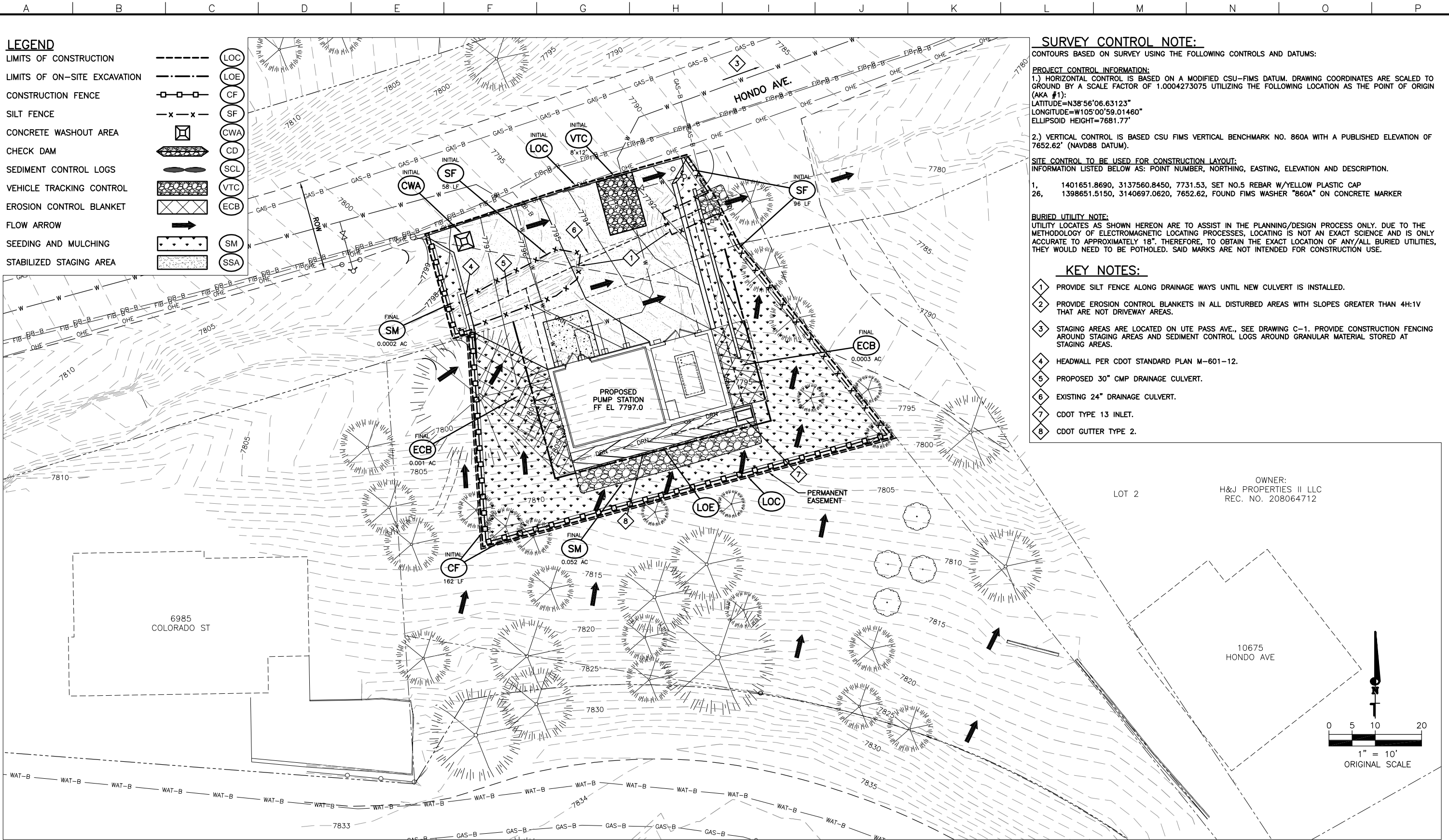
**DEVELOPMENT PLAN**

DATE: 12/10/21  
PROJECT NUMBER: 50144404  
REVISION NO. C  
DRAWING NUMBER **C-3**



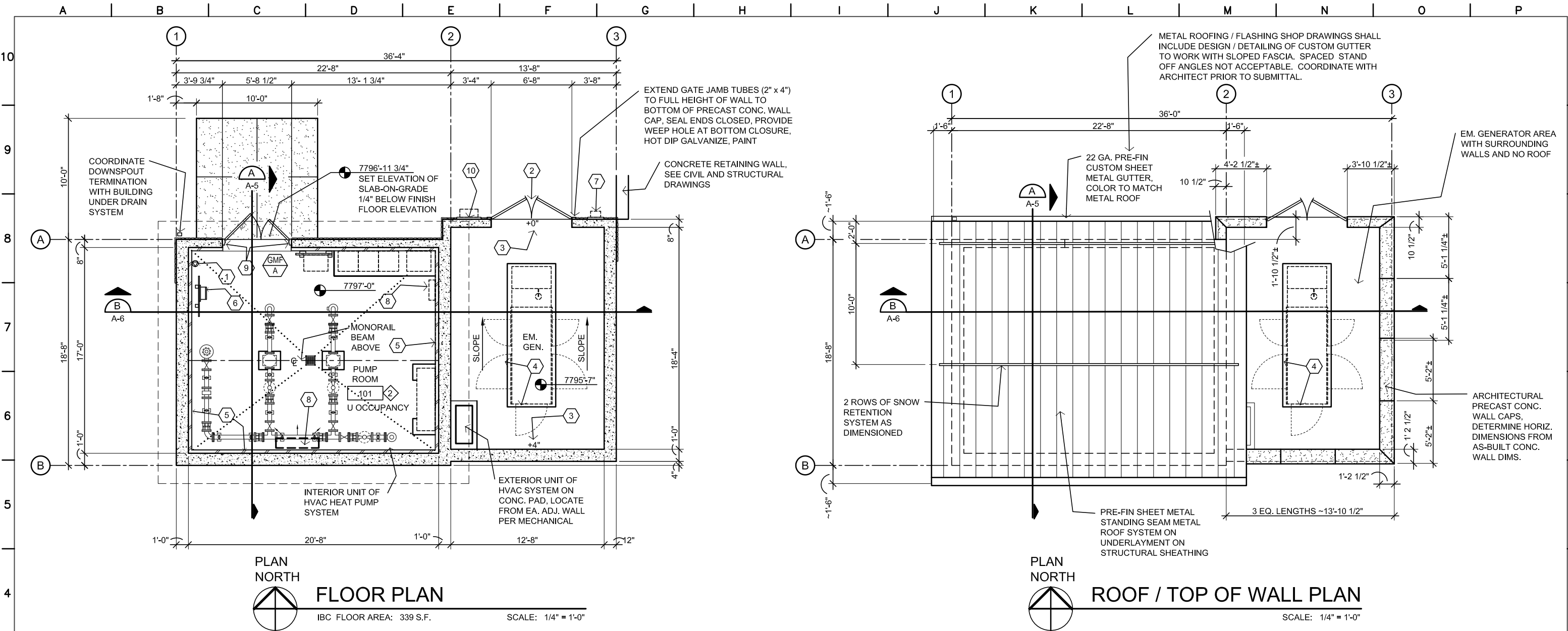
OWNER:  
H&J PROPERTIES II LLC  
REC. NO. 208064712

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
 <b>Dewberry</b> <sup>®</sup> <b>Dewberry Engineers Inc.</b> 990 S. BROADWAY, SUITE 400 Denver, Colorado 80209 (303) 825-1802		LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)		REVISIONS					COLORADO SPRINGS UTILITIES COLORADO SPRINGS, COLORADO			CIVIL			DATE: 04/04/22	
		DRAWING <u>CPL4404G-4</u> DRAWN <u>TWL</u> DESIGNED <u>SEF</u> CHECKED <u>CTW</u>		REV.		DESCRIPTION		BY							DATE	APP.
				A		90% DESIGN REVIEW SUBMITTAL		TWL	06/08/22	SEF			REVISION NO. A			
													DRAWING NUMBER			
													<b>C-4</b>			
												GREEN MOUNTAIN FALLS PUMP STATION			ENLARGED GRADING PLAN	



REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	CTW
B	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	CTW





GENERAL NOTES:

- 1. SEAL ALL PIPE AND CONDUIT PENETRATIONS OF INTERIOR AND EXTERIOR CMU WALLS. PROVIDE SEALED CONDITION BOTH SIDES OF WALL.
- 2. PROVIDE FRAMING BETWEEN TRUSSES AS REQUIRED TO COMPLETELY SUPPORT ALL GYPSUM BOARD CEILING PANEL EDGES, TYPICAL.

FINISH NOTES:

- 1. PAINT ALL EXPOSED INTERIOR CONCRETE AND CMU WALLS, GYPSUM BOARD CEILING, AND WOOD PERIMETER TRIM UNLESS NOTED OTHERWISE.
- 2. PROVIDE CONCRETE FLOOR SEALER (FLR. SLR.) AS SPECIFIED IN SECTION 03 30 00: CAST-IN-PLACE CONCRETE AT ALL CONCRETE FLOORS INCLUDING THE ENCLOSED GENERATOR AREA.

FLOOR PLAN KEY NOTES:

- 1. FIRE EXTINGUISHER: TYPE 1 WITH MOUNTING BRACKET AS SPECIFIED IN SECTION 10 44 00: FIRE PROTECTION SPECIALTIES. PROVIDE SIGNAGE PER SECTION 10 14 00: SIGNAGE.
- 2. FABRICATED STEEL GATE AND FRAME, SEE STRUCTURAL (S) DRAWINGS. PAINT.
- 3. GENERATOR AREA CONCRETE SLAB SLOPES TO THE NORTH 4" VERTICAL TOTAL, ~ 1/4" PER FOOT.
- 4. ISOLATED 20" TH. CONC. PAD FOR EMERGENCY GENERATOR, TOP OF PAD ELEVATION 7797'-7", SEE STRUCTURAL FOR REINFORCEMENT. PROVIDE 1/2" EXPANSION MATERIAL FULL PERIMETER WITH BACKER ROD AND SEALANT JOINT.
- 5. INTERIOR WALL SYSTEM: 2 1/2" 20 / 18 MIL. METAL STUDS AT 16" O.C. WITH TOP AND BOTTOM TRACKS. HOLD STUD LEG OFF INTERIOR STRUCTURE FACE 1/2" TO AVOID THERMAL TRANSFER FROM EXTERIOR TO INTERIOR. INSTALL 2" (R-14) OF SPRAY APPLIED POLYURETHANE INSULATION TO INTERIOR FACE OF EXTERIOR WALL. ASSURE COMPLETE FILL AND SEAL AROUND AND BEHIND METAL STUD TO PROVIDE CONTINUOUS INSULATION. FINISH LOWER 4 FT OF STUD WALL WITH 1/2" TH. CEMENTITIOUS BACKER BOARD AND REMAINDER OF WALL HEIGHT WITH 1/2' GYPSUM BOARD. FINISH GYPSUM AND CEMENTITIOUS BOARD PER SPECIFICATION 09 25 00: GYPSUM BOARD.
- 6. PROVIDE SIGNAGE AT UTILITY STATION PER SPECIFICATION SECTION 10 14 00: SIGNAGE. COORDINATE WITH MECHANICAL (M) DRAWINGS.
- 7. ARCHITECTURAL PRECAST CONCRETE PANEL FOR MOUNTING OF ELECTRICAL METER. SEE BUILDING ELEVATION AND DETAIL ON 2 / A-8.

- 8. PROVIDE PLYWOOD BLOCKING BETWEEN STUDS IN WALL BY SIZE REQUIRED TO MOUNT / SUPPORT WALL MOUNTED ELECTRICAL & HVAC EQUIPMENT.
- 9. SEAL BOTTOM OF HOLLOW METAL FRAME TO FLOOR SLAB TO PROVIDE COMPLETE CLOSURE FROM MOISTURE. SEE DOOR SILL DETAIL.
- 10. ARCHITECTURAL PRECAST CONCRETE PANEL FOR MOUNTING OF ECB PANEL. SEE BUILDING ELEVATION AND DETAIL ON 2 / A-8.

**Dewberry**  
Dewberry Engineers Inc.  
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING **A-2.DWG**  
DRAWN **BRL**  
DESIGNED **BRL**  
CHECKED **BRL**

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	BRL	01/28/22	BRL
B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL
C	90% DESIGN REVIEW SUBMITTAL	BRL	06/08/22	BRL
D	PPRBD SUBMITTAL	BRL	06/28/22	BRL

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

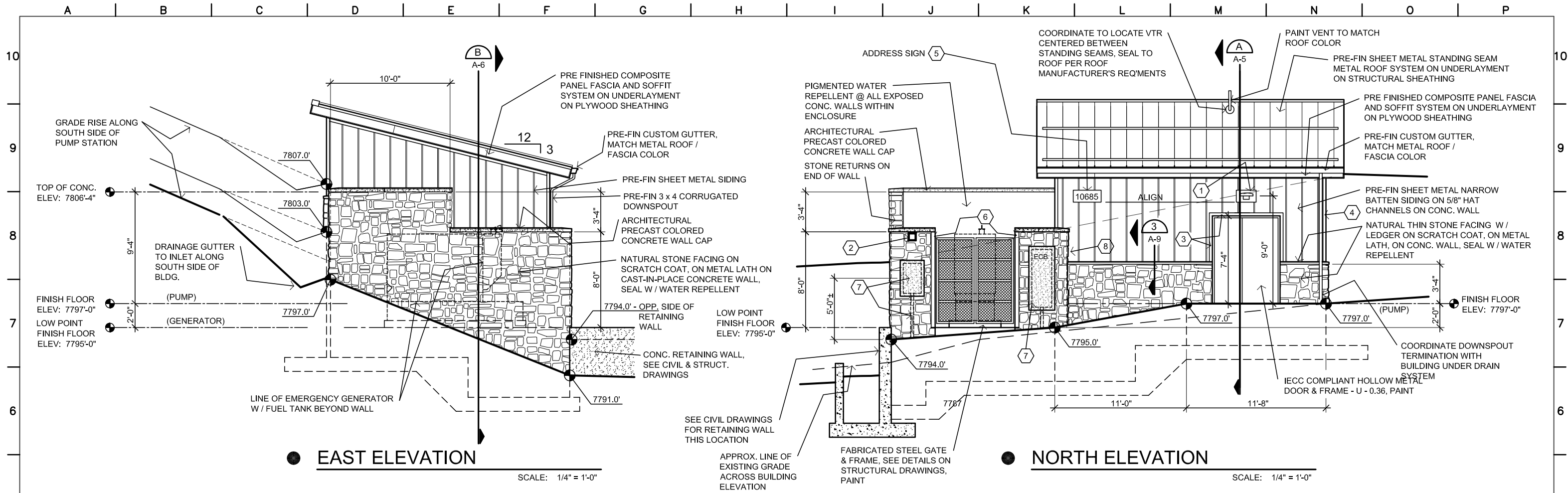
GREEN MOUNTAIN FALLS  
PUMP STATION

ARCHITECTURAL

FLOOR PLAN  
& ROOF PLAN

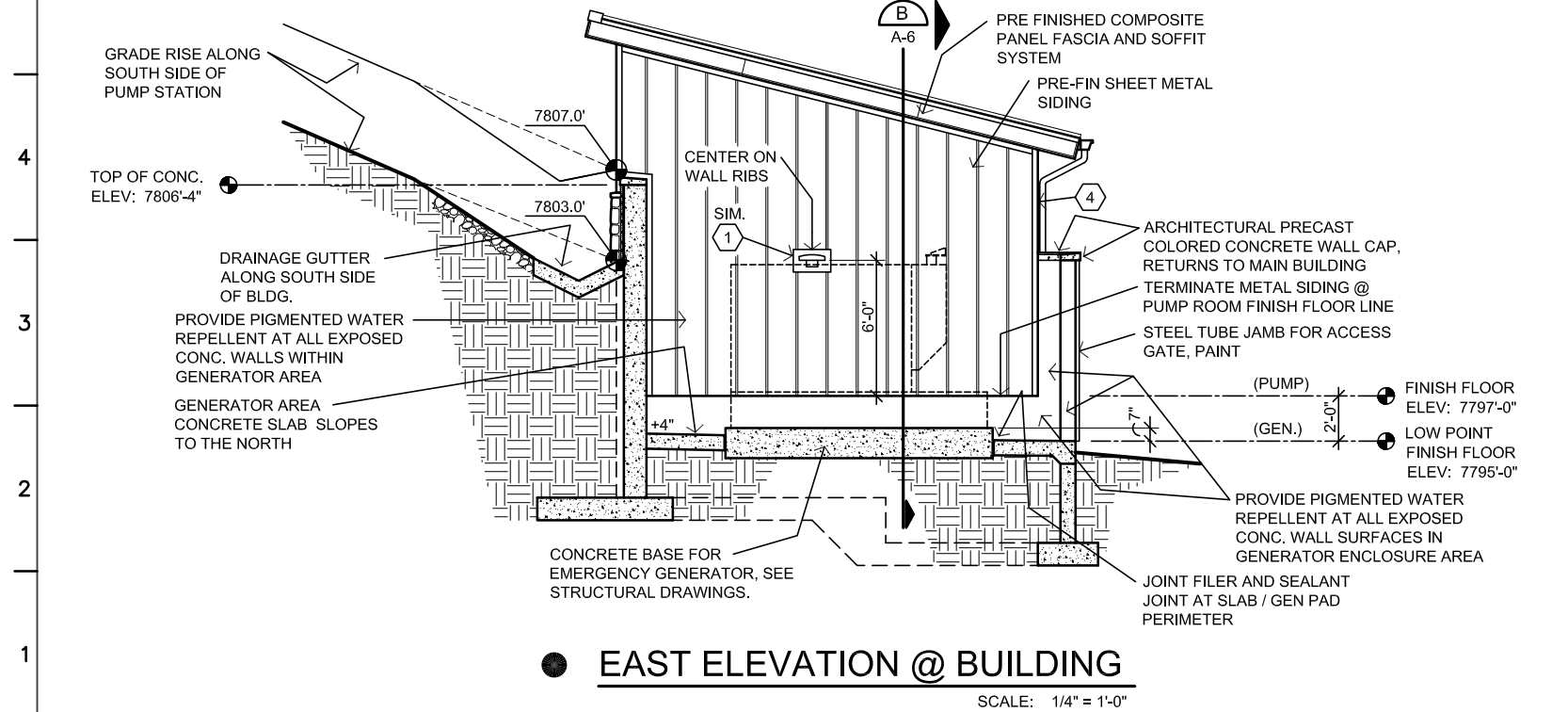
DATE: 07/18/22  
PROJECT NUMBER: 50144404  
REVISION NO. D  
DRAWING NUMBER **A-2**  
SHEET NUMBER





- KEY NOTES:**
- PANEL (WALL) MOUNTED LIGHT FIXTURE. CENTER LIGHT FIXTURE ON 12" HIGH x 20" WIDE PREFINISHED PANEL CENTERED ON DOOR FRAME OR GENERATOR WALL SPACE. MOUNTING HEIGHT AS SHOWN ON ELEVATIONS. SEE DETAIL 5 / A-9 FOR MOUNTING PANEL REQUIREMENTS.
  - RECESSED KNOX BOX, CENTER ON WALL FACE AND MOUNT JUST BELOW PRECAST WALL CAP, MOUNT FACE TRIM OUT WITH STONE SCRATCH COAT, GROUT INTO CONCRETE POCKET FOR SECURE INSTALLATION.
  - DESIGN INTENT IS TO PROVIDE A 3" FACE TRIM @ JAMBS AND HEAD OF DOOR OPENING. PROVIDE CLOSED TRIM TO RESEMBLE SOLID CONDITION. COORDINATE DETAILS DURING SHOP DRAWING PROCESS, COLOR TO MATCH WALL PANEL COLOR.
  - PREFINISHED METAL WALL PANEL SYSTEM OUTSIDE CORNER POST. 4" FACE. TYPICAL ALL CORNERS. COLOR TO MATCH WALL PANEL COLOR.
  - BUILDING ADDRESS SIGN: PROVIDE 12" H. x 28" W. x 16 GAUGE GALV. PLATE W / HEMMED EDGES ALL 4 SIDES. POWDER COAT PLATE CUSTOM COLOR TO MATCH PRE-FIN WALL PANEL COLOR. MOUNT ADDRESS NUMBERS TO PLATE "10685" WITH VHB TAPE. MOUNT SIGN CENTERED ON AND TO TWO METAL BUILDING RIBS WITH VHB TAPE OR COLOR MATCHED GASKETED FASTENERS. SEE SPECIFICATION 10 14 00 FOR ADDRESS NUMBER REQUIREMENTS.
  - EXTEND GATE JAMB TUBES (2" x 4") TO FULL HEIGHT OF WALL TO BOTTOM OF PRECAST CONC. WALL CAP, SEAL ENDS CLOSED, PROVIDE WEEP HOLE AT BOTTOM CLOSURE, HOT DIP GALVANIZE, PAINT
  - ARCHITECTURAL PRECAST CONCRETE PANEL MOUNTED ON CONCRETE WALL FOR MOUNTING OF ELECTRIC METER / BOX AND ECB PANEL. CENTER PRECAST PANEL SIDE TO SIDE ON WIDTH OF STONE FACING. SEE DETAIL 2 / A-8 FOR REQUIREMENTS. DETERMINE SIZE OF METER / BOX / EQUIPMENT AND SIZE PANEL FOR 2" CLEARANCE AROUND ELECTRICAL EQUIPMENT. PROCURE INFORMATION IN TIMELY FASHION TO INCLUDE PANEL SIZE IN ARCHITECTURAL PRECAST CONCRETE SHOP DRAWING SUBMITTAL. MOUNT PANEL SO THAT EQUIPMENT CENTERLINE IS ~60" VERTICALLY FROM GRADE. PAINT EXPOSED CONDUIT AND METER / EQUIPMENT ENCLOSURES IN COLOR SELECTED BY ENGINEER.
  - STONE AT GENERATOR ENCLOSURE WALL RETURNS TO MAIN BUILDING WALL. COORDINATE TERMINATION OF STONE WITH METAL WALL PANEL SUBCONTRACTOR FOR NEAT / PROPER TERMINATION / FINISH.

**LINTJER + HAYWOOD ARCHITECTS**  
1323 S. CORONA STREET  
DENVER, CO. 80210  
303.408.5939 PHONE



**Dewberry**  
Dewberry Engineers Inc.  
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING **A-3.DWG**  
DRAWN **BRL**  
DESIGNED **BRL**  
CHECKED **BRL**

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	BRL	01/28/22	BRL
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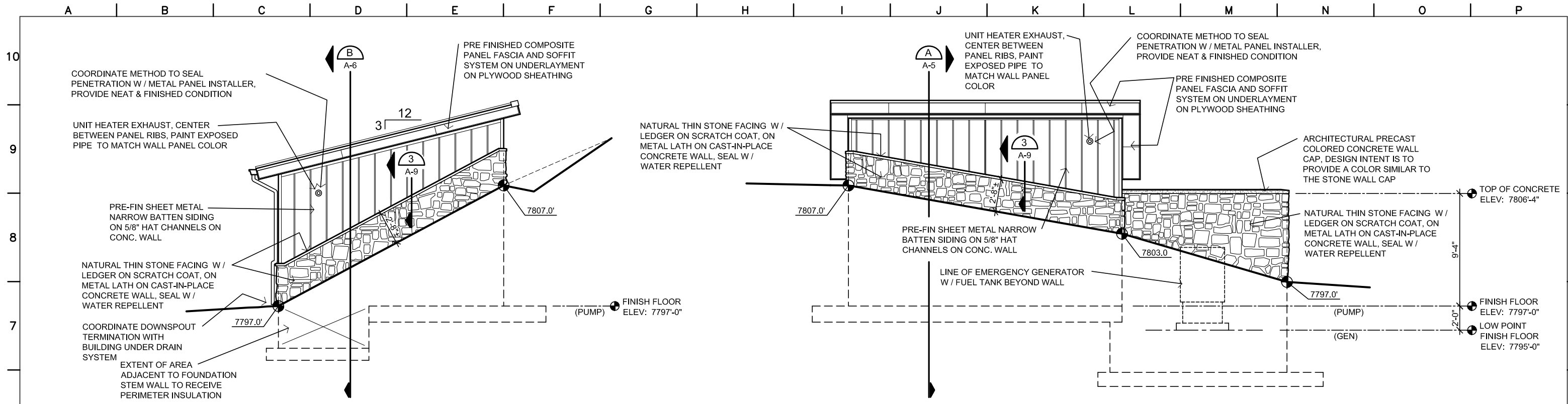
**COLORADO SPRINGS UTILITIES**  
**COLORADO SPRINGS, COLORADO**

**GREEN MOUNTAIN FALLS**  
**PUMP STATION**

ARCHITECTURAL

**BUILDING ELEVATIONS**

DATE: 07/18/22  
PROJECT NUMBER: 50144404  
REVISION NO. D  
DRAWING NUMBER **A-3**  
SHEET NUMBER

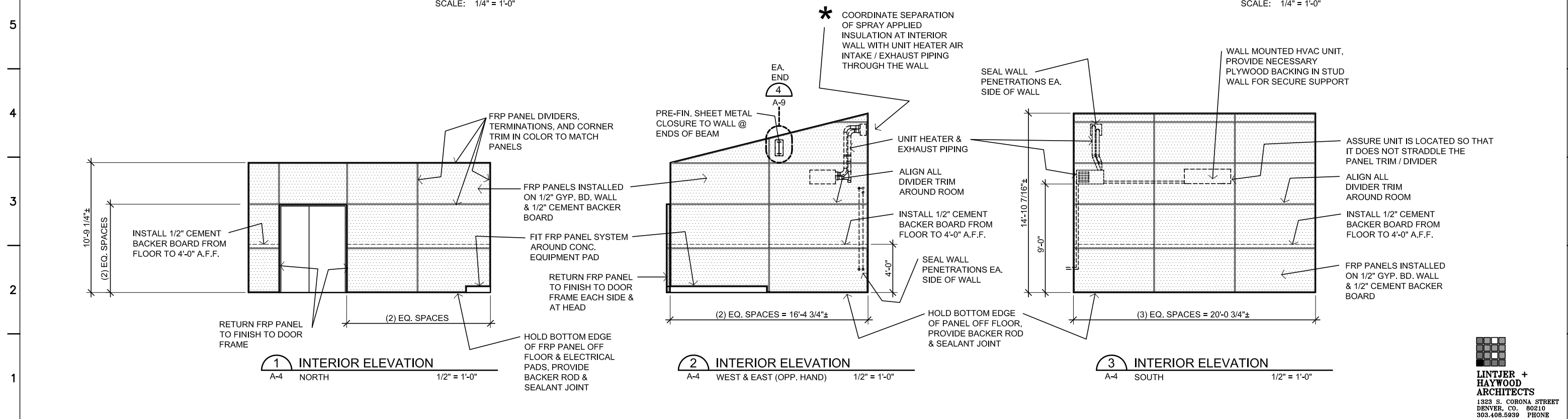


● WEST ELEVATION

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

● SOUTH ELEVATION

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



1 INTERIOR ELEVATION

A-4 NORTH

1/2" = 1'-0"

2 INTERIOR ELEVATION

A-4 WEST & EAST (OPP. HAND)

1/2" = 1'-0"

3 INTERIOR ELEVATION

A-4 SOUTH

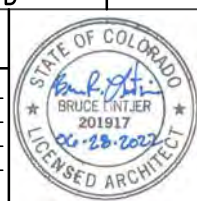
1/2" = 1'-0"

**LINTJER + HAYWOOD ARCHITECTS**  
1323 S. CORONA STREET  
DENVER, CO. 80210  
303.408.5939 PHONE

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Denver, Colorado 80209  
(303) 825-1802

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AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING A-4.DWG  
DRAWN BRL  
DESIGNED BRL  
CHECKED BRL



REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	BRL	01/28/22	BRL
B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL
C	90% DESIGN REVIEW SUBMITTAL	BRL	06/08/22	BRL
D	PPRBD SUBMITTAL	BRL	06/28/22	BRL

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

ARCHITECTURAL

BUILDING ELEVATIONS  
INTERIOR ELEVATIONS

DATE: 07/18/22  
PROJECT NUMBER: 50144404  
REVISION NO. D  
DRAWING NUMBER A-4  
SHEET NUMBER



## Town of Green Mountain Falls Land Use Approval Application Grading/ECP

### General Information

- All applications for a Grading Permit/Erosion Control Plan will be reviewed for compliance with [Chapter 17 - Subdivision](#).
- The checklist is a guide and is not a substitute for all provisions in GMF Zoning Code. Applicants are responsible for understanding requirements and the procedure.
- Complete applications will receive a minimum staff review of two weeks (14 days) and may be subject to Town Engineer review, which can take an additional 2-3 weeks (14 -21 days).

### Applicant Information

Applicant:	Dewberry Engineers, Inc. - Sam Franzen
Address:	990 S Broadway, Suite 400, Denver, CO 80209
E-Mail:	sfranzen@dewberry.com
Phone:	303-951-0618
Owner:	Colorado Springs Utilities - Larysa Voronova
Address:	121 S Tejon St, Suite 200, Colorado Springs, CO 80947
E-mail:	lvoronova@csu.org
Phone:	719-668-3851

### Property Information

Physical Address: 10685 Hondo Ave, Green Mountain Falls, CO 80819	
Amount of earth disturbance: ~3,700 sqft	Zoning Designation: R-1, 10,000_Single-Family
Hillside Overlay zone? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Lot Size: 12,778 sqft
FEMA FIRM Designation:	ILC or Survey Included: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

### Certification & Signature

APPLICANT'S STATEMENT: I understand the procedures and requirements (pages 1 and 2 of this application) that apply to my request and acknowledge an incomplete application will not be scheduled for public hearing. GMF Staff's acceptance of the application, payment of fees, and submittal of accompanying materials does not constitute completeness. I further agree to reimburse the city for technical and professional consulting expenses that may be incurred during the review of my request. Failure to reimburse the Town for invoiced expenses constitutes an incomplete application.

Certification: The undersigned applicant certifies under oath and under penalties of perjury that the information found in the application is true and accurate to the best of their knowledge.

☒ By checking this box, I agree to the certification statement and am typing my full name as an electronic signature.

Applicant Signature Sam Franzen  Date 10/10/2022

Owner Signature \_\_\_\_\_ Date \_\_\_\_\_

Owner Signature \_\_\_\_\_ Date \_\_\_\_\_

This document can be signed electronically using [Adobe Reader DC for free](#).

## Grading/ECP Checklist

The following checklist is a guideline for submitting a Land Use Approval Application for Grading and Erosion Control. GMF Staff may request additional information in accordance with Town Code, or by Town Engineer and Town Attorney's recommendation.

### 1. Application

- a. Application form, signed and dated by the applicant and/or owners
- b. [Application fee](#)
- c. Letter of explanation
  - i. Describe the proposed project in detail. Explain the purpose, referring to site plans and drawings, as necessary
  - ii. Statement of the estimated starting and completion dates for the grading work proposed, and for any landscape work that may be required

### 2. Development Plans – GECP will be reviewed for compliance with §17-81 – 17-96

- a. Vicinity Map
- b. Existing and proposed buildings or structures
- c. Zoning setback distances and lot lines
- d. Details of all items and features pertaining to site preservation and improvements
- e. All access points to the property; location of all existing and proposed streets, roadways, driveways, easements, and rights-of-way
- f. The present contours of the site in dashed lines and the proposed contours in solid lines. Contour intervals shall not be less than two (2) feet. The source of topographical information shall be indicated
- g. Equipment staging and vehicle access routes
- h. The location of all drainage to, from and across the site, the location of intermittent and permanent springs, culverts and other drainage structure
- i. Details of any proposed drainage structures, cribbing, terraces and/or surface protection, not including vegetative cover required as a result of grading and required for the support of adjoining property

### 3. Procedure

- a. Electronic submittal of signed application and checklist materials: [planner@gmfco.us](mailto:planner@gmfco.us)
- b. Payment of fees to Town Clerk for receipt
- c. Upon determining an application is complete, staff will schedule for PC and/or BoT public hearing
- e. Engineering review of GECP may be required for final approval. GMF on-call engineering review can take several weeks. A failure to plan will not result in expedited review.

GMF Town Staff:

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Application

Letter of Explanation

Site Development Plan

Application fee

Date\_\_\_\_\_ Amount\_\_\_\_\_ || Check #\_\_\_\_\_ || Credit Card

Application fee





Dewberry Engineers Inc. | 303.825.1802  
990 South Broadway, Suite 400 | 303.825.2322 fax  
Denver, CO 80209-4275 | www.dewberry.com

October 12, 2022

Town of Green Mountain Falls  
Attn: Nate Scott, Planner  
Town Hall  
10615 Green Mountain Falls Road  
Green Mountain Falls, CO 80819

RE: Grading and Erosion Control and Landscaping Plans

Dear Mr. Scott,

Dewberry Engineers is pleased to submit the Grading and Erosion Control and Landscaping Plans and documentation for the Green Mountain Falls Pump Station (GMFPS) on behalf of Colorado Springs Utilities for review and comment.

The runoff patterns from the site are not significantly modified by proposed grading. Runoff will still travel from southwest to northeast across the site until it is collected in the drainageway in the right of way north of the site. Runoff that will run into the proposed building is intercepted by a gutter that discharges to an inlet that discharges to the drainage culvert beneath the drive area.

Additionally, an underdrain system collects water that has infiltrated into the soil and travelled down to the building foundation. The underdrain system discharges to the culvert under the parking area. Discharge from the underdrain system is expected to be intermittent as groundwater was not encountered in either of the boreholes on the site as shown in the geotechnical report.

The existing 24-inch culvert will be replaced with a new 30-inch culvert and extended to expand the parking area. The new culvert will have a greater capacity than the existing culvert.

Existing trees that will remain and seeding that will occur after the construction is complete are shown on drawing EC-1. Per the easement agreement between Colorado Springs Utilities and the property owner, the property owner will be compensated for trees that will be removed by the project. The property owner may use those funds to install and maintain landscaping as they deem necessary.

The Grading and Erosion Control Plans drawings are provided in Attachment A. Calculations for the runoff, gutter, inlet, culvert, and pipeline between the inlet and culvert are provided in Attachment B.

Sincerely,

A handwritten signature in black ink, appearing to read "Sam Franzen", written in a cursive style.

Sam Franzen  
Project Engineer



## Attachment A – Grading and Erosion Control Plans



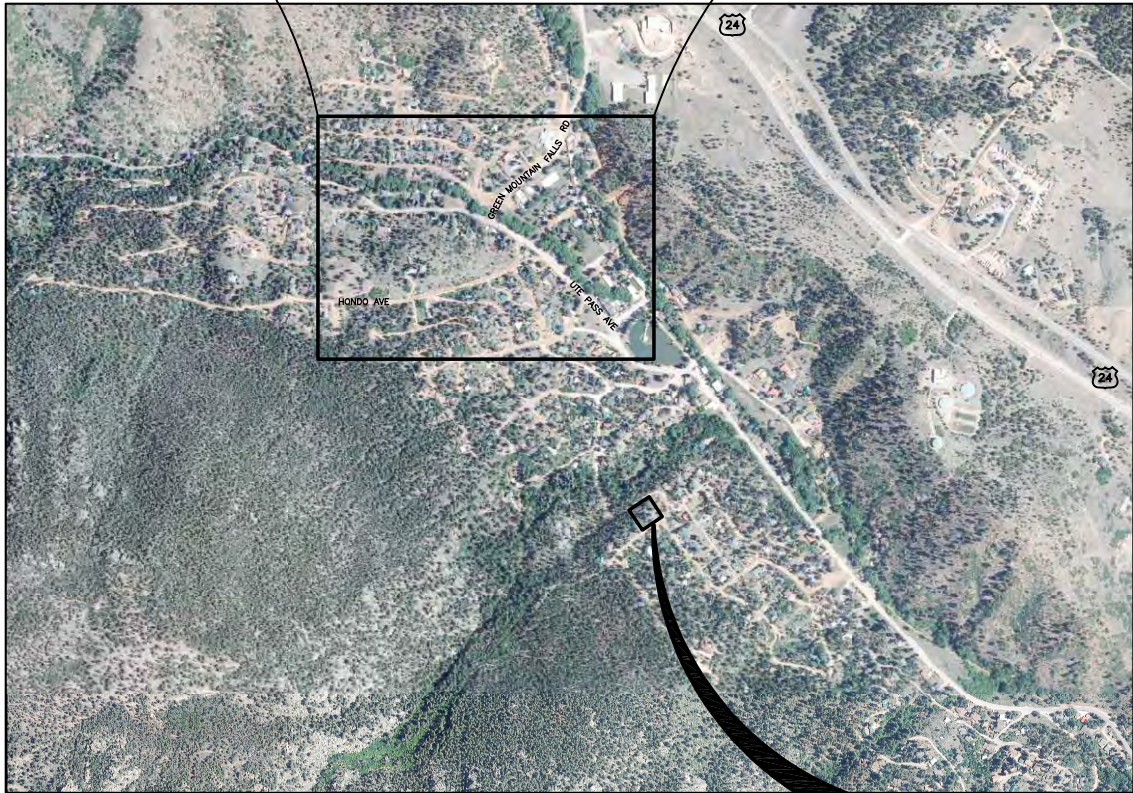
Colorado Springs Utilities  
*It's how we're all connected*

# GREEN MOUNTAIN FALLS PUMP STATION



GREEN MOUNTAIN FALLS  
PUMP STATION PROJECT  
LOCATION

**LOCATION MAP**  
NO SCALE



**VICINITY MAP**  
NO SCALE

EXISTING GREEN MOUNTAIN  
FALLS PUMP STATION TO BE  
DEMOLISHED

## DRAWING INDEX

DWG NO	TITLE
<u>GENERAL</u>	
--	COVER AND INDEX
<u>CIVIL</u>	
C-4	ENLARGED GRADING PLAN
EC-1	EROSION CONTROL PLAN
EC-2	EROSION CONTROL DETAILS

ESTIMATED GRADING START DATE IS  
NOVEMBER 2022, ESTIMATED  
COMPLETION DATE IS JUNE 2023.



**Dewberry**<sup>®</sup>  
Dewberry Engineers Inc.

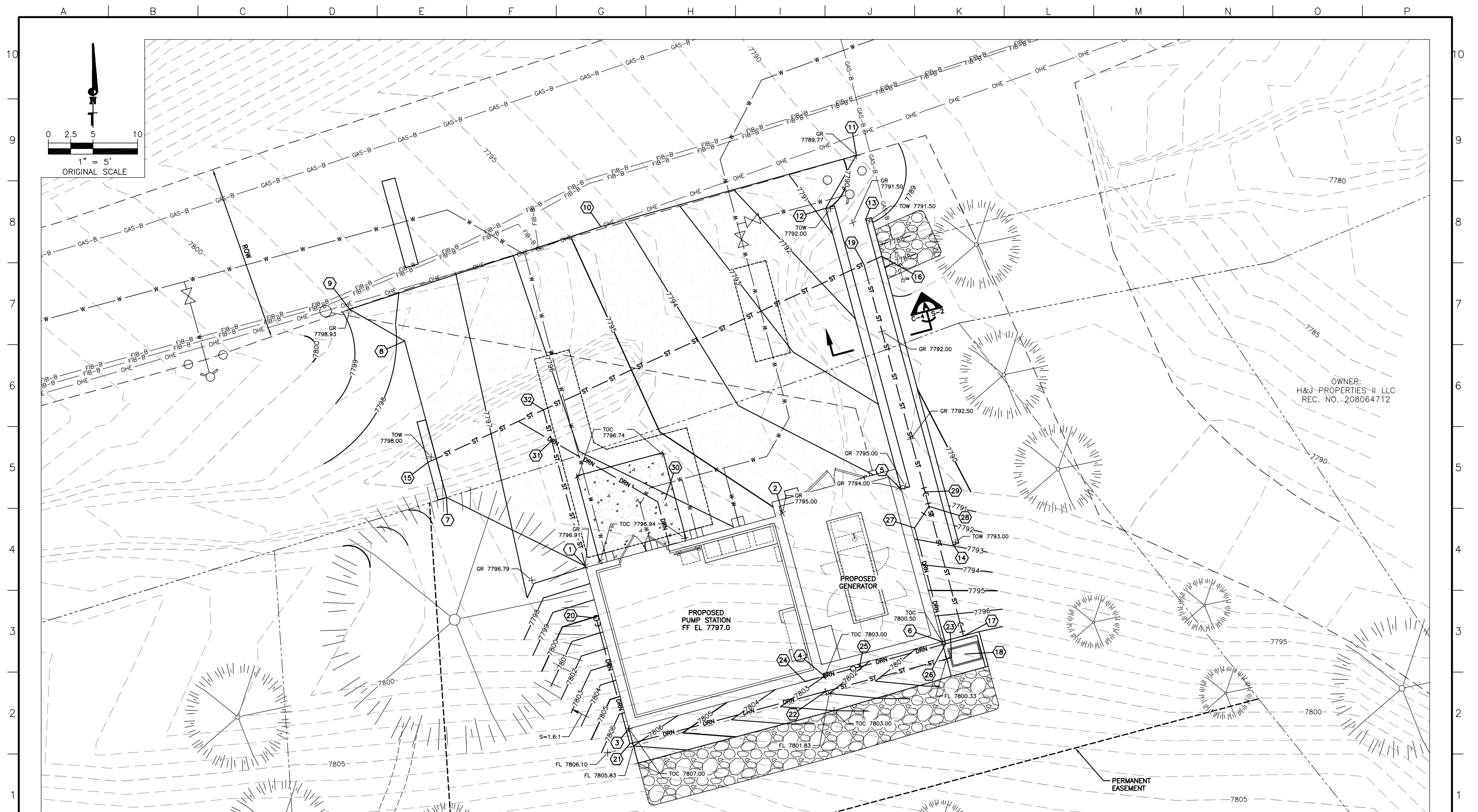
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

## GRADING AND EROSION CONTROL PLANS


### OCTOBER 2022



Know what's below.  
Call before you dig.



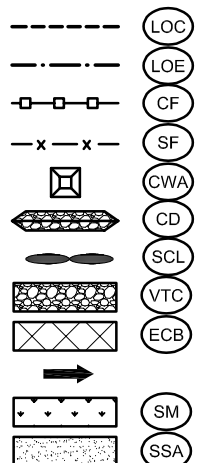
OWNER:  
H&J PROPERTIES II LLC  
REC. NO. 208064712

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		
 <b>Dewberry</b> <sup>®</sup> <b>Dewberry Engineers Inc.</b> 990 S. BROADWAY, SUITE 400 Denver, Colorado 80209 (303) 825-1802		LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)		REVISIONS					COLORADO SPRINGS UTILITIES COLORADO SPRINGS, COLORADO			CIVIL			DATE: 04/04/22		
		DRAWING <u>CPL4404G-4</u> DRAWN <u>TWL</u> DESIGNED <u>SEF</u> CHECKED <u>CTW</u>		REV.		DESCRIPTION		BY							DATE	APP.	PROJECT NUMBER: 50144404
				A		90% DESIGN REVIEW SUBMITTAL		TWL	06/08/22	SEF			REVISION NO. A				
													DRAWING NUMBER				
													<b>C-4</b>				
										GREEN MOUNTAIN FALLS PUMP STATION			ENLARGED GRADING PLAN				



A B C D E F G H I J K L M N O P

- LEGEND**
- LIMITS OF CONSTRUCTION
- - - - - LIMITS OF ON-SITE EXCAVATION
- x--- CONSTRUCTION FENCE
- x-x- SILT FENCE
- CONCRETE WASHOUT AREA
- CHECK DAM
- SEDIMENT CONTROL LOGS
- VEHICLE TRACKING CONTROL
- EROSION CONTROL BLANKET
- FLOW ARROW
- SEEDING AND MULCHING
- STABILIZED STAGING AREA



**SURVEY CONTROL NOTE:**

CONTOURS BASED ON SURVEY USING THE FOLLOWING CONTROLS AND DATUMS:

**PROJECT CONTROL INFORMATION:**

1.) HORIZONTAL CONTROL IS BASED ON A MODIFIED CSU-FIMS DATUM. DRAWING COORDINATES ARE SCALED TO GROUND BY A SCALE FACTOR OF 1.0004273075 UTILIZING THE FOLLOWING LOCATION AS THE POINT OF ORIGIN (AKA #1):  
LATITUDE=N38°56'06.63123"  
LONGITUDE=W105°00'59.01460"  
ELLIPSOID HEIGHT=7681.77'

2.) VERTICAL CONTROL IS BASED CSU FIMS VERTICAL BENCHMARK NO. 860A WITH A PUBLISHED ELEVATION OF 7652.62' (NAVD88 DATUM).

**SITE CONTROL TO BE USED FOR CONSTRUCTION LAYOUT:**

INFORMATION LISTED BELOW AS: POINT NUMBER, NORTHING, EASTING, ELEVATION AND DESCRIPTION.

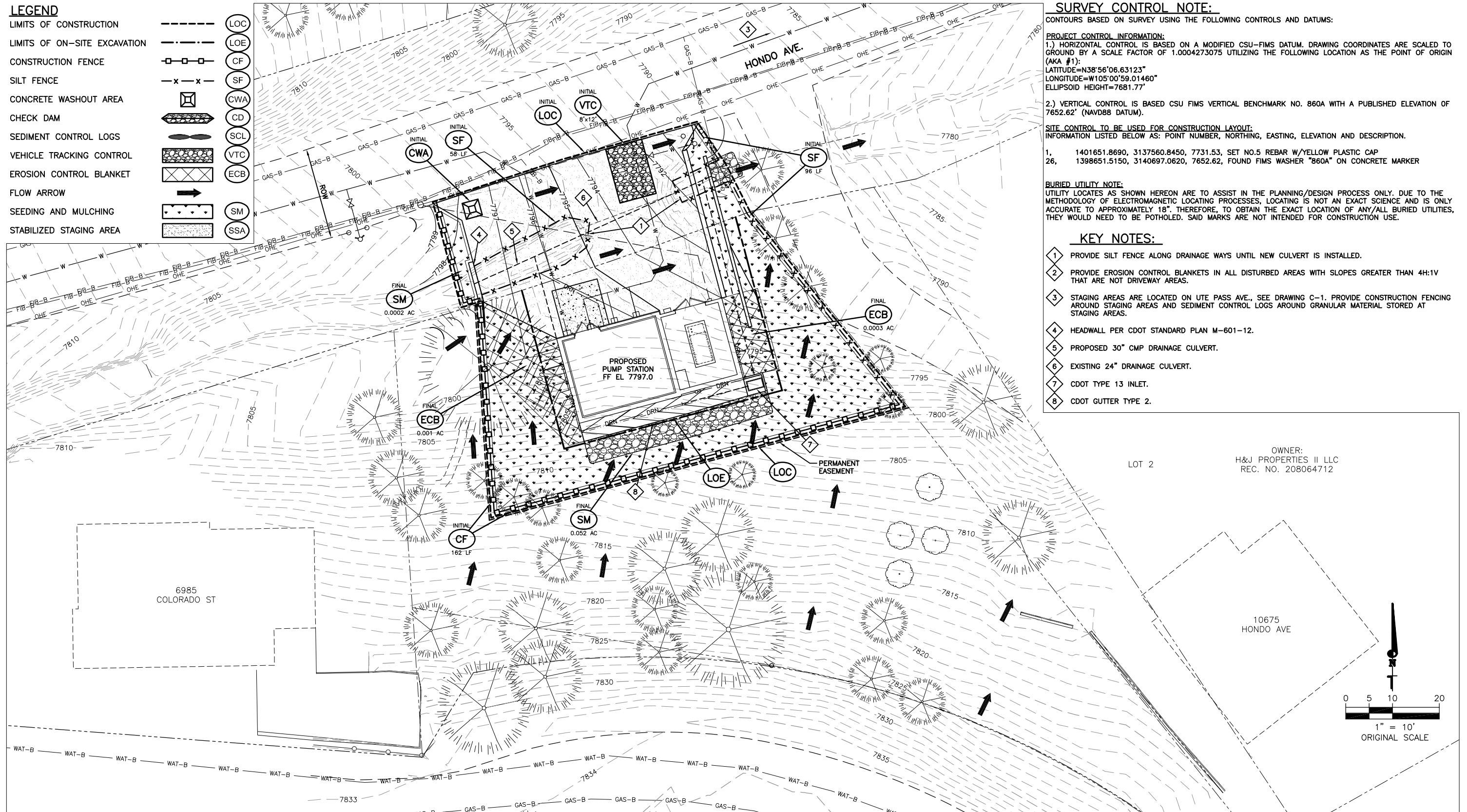
- 1, 1401651.8690, 3137560.8450, 7731.53, SET NO.5 REBAR W/YELLOW PLASTIC CAP  
26, 1398651.5150, 3140697.0620, 7652.62, FOUND FIMS WASHER "860A" ON CONCRETE MARKER

**BURIED UTILITY NOTE:**

UTILITY LOCATES AS SHOWN HEREON ARE TO ASSIST IN THE PLANNING/DESIGN PROCESS ONLY. DUE TO THE METHODOLOGY OF ELECTROMAGNETIC LOCATING PROCESSES, LOCATING IS NOT AN EXACT SCIENCE AND IS ONLY ACCURATE TO APPROXIMATELY 18". THEREFORE, TO OBTAIN THE EXACT LOCATION OF ANY/ALL BURIED UTILITIES, THEY WOULD NEED TO BE POTHOLED. SAID MARKS ARE NOT INTENDED FOR CONSTRUCTION USE.

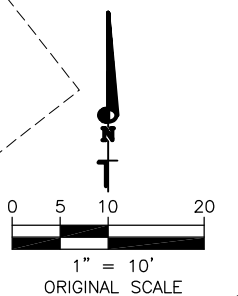
**KEY NOTES:**

- 1 PROVIDE SILT FENCE ALONG DRAINAGE WAYS UNTIL NEW CULVERT IS INSTALLED.
- 2 PROVIDE EROSION CONTROL BLANKETS IN ALL DISTURBED AREAS WITH SLOPES GREATER THAN 4H:1V THAT ARE NOT DRIVEWAY AREAS.
- 3 STAGING AREAS ARE LOCATED ON UTE PASS AVE., SEE DRAWING C-1. PROVIDE CONSTRUCTION FENCING AROUND STAGING AREAS AND SEDIMENT CONTROL LOGS AROUND GRANULAR MATERIAL STORED AT STAGING AREAS.
- 4 HEADWALL PER CDOT STANDARD PLAN M-601-12.
- 5 PROPOSED 30" CMP DRAINAGE CULVERT.
- 6 EXISTING 24" DRAINAGE CULVERT.
- 7 CDOT TYPE 13 INLET.
- 8 CDOT GUTTER TYPE 2.



OWNER:  
H&J PROPERTIES II LLC  
REC. NO. 208064712

10675  
HONDO AVE



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990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING CEC4404G-1  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	CTW
B	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	CTW

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

CIVIL

EROSION CONTROL PLAN

DATE: 03/04/22  
PROJECT NUMBER: 50144404  
REVISION NO. B  
DRAWING NUMBER EC-1



STANDARD GRADING & EROSION CONTROL NOTES

1. ANY LAND DISTURBANCE BY ANY OWNER, DEVELOPER, BUILDER, CONTRACTOR, OR OTHER PERSON SHALL COMPLY WITH THE BASIC GRADING, EROSION AND STORMWATER QUALITY CONTROL REQUIREMENTS AND GENERAL PROHIBITIONS NOTED IN THE DRAINAGE CRITERIA MANUAL VOLUME 2.
2. NO CLEARING, GRADING, EXCAVATION, FILING OR OTHER LAND DISTURBING ACTIVITIES SHALL BE PERMITTED UNTIL SIGNOFF AND ACCEPTANCE OF THE GRADING PLAN AND EROSION AND STORMWATER QUALITY CONTROL PLAN IS RECEIVED FROM CITY ENGINEERING.
3. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMPs SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE. CALL CITY STORMWATER INSPECTIONS, 385-5980, 48 HOURS PRIOR TO CONSTRUCTION.
4. SEDIMENT (MUD AND DIRT) TRANSPORTED ONTO A PUBLIC ROAD, REGARDLESS OF THE SIZE OF THE SITE, SHALL BE CLEANED AT THE END OF EACH DAY.
5. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEMS OR FACILITIES.
6. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING OR FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPs SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
7. THE GRADING AND EROSION CONTROL PLAN WILL BE SUBJECT TO RE-REVIEW AND RE-ACCEPTANCE BY THE CITY OF COLORADO SPRINGS ENGINEERING SHOULD ANY OF THE FOLLOWING OCCUR: GRADING DOES NOT COMMENCE WITHIN 12 MONTHS OF THE CITY ENGINEER'S ACCEPTANCE OF THE PLAN, A CHANGE IN PROPERTY OWNERSHIP, PROPOSED DEVELOPMENT CHANGES, OR PROPOSED GRADING REVISIONS.
8. THE PLAN SHALL NOT SUBSTANTIALLY CHANGE THE DEPTH OF COVER, OR ACCESS TO UTILITY FACILITIES. ADDITIONALLY, THE PLAN SHALL NOT INCREASE OR DIVERT WATER TOWARDS UTILITY FACILITIES. ANY CHANGES TO UTILITY FACILITIES TO ACCOMMODATE THE PLAN, MUST BE DISCUSSED AND AGREED TO BY THE AFFECTED UTILITY PRIOR TO IMPLEMENTING THE PLAN. THE RESULTING COST TO RELOCATE OR PROTECT UTILITIES, OR PROVIDE INTERIM ACCESS IS AT THE EXPENSE OF THE PLAN APPLICANT.

-TIMING

-ANTICIPATED STARTING AND COMPLETION TIME PERIOD OF SITE GRADING: FEBRUARY TO MAY 2019  
EXPECTED DATE ON WHICH THE FINAL STABILIZATION WILL BE COMPLETED: JUNE 2019

-AREAS

TOTAL AREA OF THE SITE TO BE CLEARED, EXCAVATED OR GRADED: 0.8 ACRES

-RECEIVING WATERS

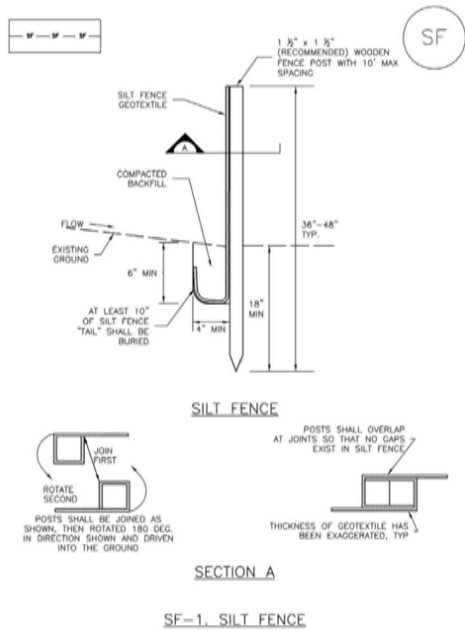
NAME OF RECEIVING WATERS: COTTONWOOD CREEK

9. REQUIRED RESEEDING SEED MIX PER THE DRAINAGE CRITERIA MANUAL VOLUME 1:

Recommended Seed Mix for all other Soils in Upland Areas						
Common Name (Variety)	Scientific Name	Growth Season	Growth Form	Seeds/Lb	Lbs PLS/Acre Drilled	Lbs PLS/Acre Broadcast or Hydroseeded
Sheep fescue	Festuca ovina	Cool	Bunch	680,000	0.6	1.2
Canby bluegrass	Poa canbyi	Cool	Bunch	926,000	0.5	1.0
Thickspike wheatgrass (Critana)	Elymus lanceolatus	Cool	Bunch	154,000	5.7	11.4
Western wheatgrass (Arriba)	Pascopyrum smithii	Cool	Sod	110,000	7.9	15.8
Blue grama (Hachita)	Chondrosum gracile	Warm	Sod	825,000	1.1	2.2
Switchgrass (Pathfinder)	Panicum virgatum	Warm	Sod/ Brush	389,000	1.0	2.0
Side-oats grama (Butte)	Boutelou curtipendula	Warm	Sod	191,000	2.0	4.0
Annual rye	Lolium multiflorum	Cool	Cover crop	227,000	10.0	20.0
				TOTAL	28.8	57.6
Wildflowers						
Blanket flower	Faillardia aristata	----	----	132,000	0.25	0.50
Prairie coneflower	Ratibida columnaris	----	----	1,230,000	0.20	0.40
Purple prairie clover	Petalostemum purpurea	----	----	210,000	0.20	0.40
Gayfeather	Liatris punctata	----	----	138,000	0.06	0.12
Flax	Linum lewisii	----	----	293,000	0.20	0.40
Penstemon	Penstemon strictus	----	----	592,000	0.20	0.40
Yarrow	Achillea millefolium	----	----	2,770,000	0.03	0.06
				TOTAL	1.14	2.28

Silt Fence (SF)

SC-1



November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 SF-3

SC-1

Silt Fence (SF)

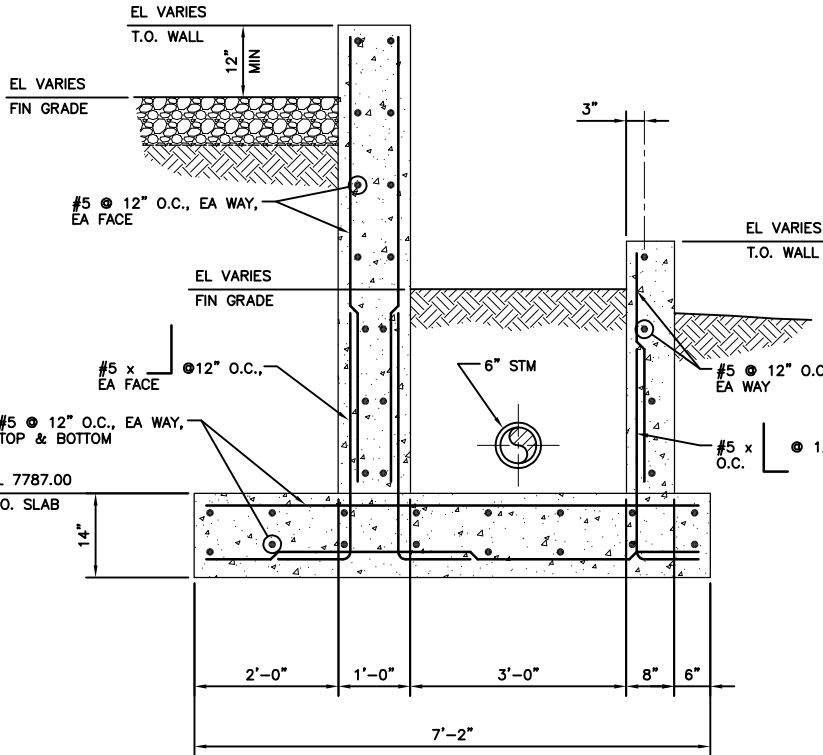
SILT FENCE INSTALLATION NOTES

- SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND SEDIMENTATION.
- A UNIFORM 6" x 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
- COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTOR SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
- SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
- SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
- AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
- SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
  - FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
  - WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
  - SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
  - REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
  - SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
  - WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION. (DETAIL ADAPTED FROM CITY OF DENVER, COLORADO, NOT AVAILABLE IN AUTOCAD)
- NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USED STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

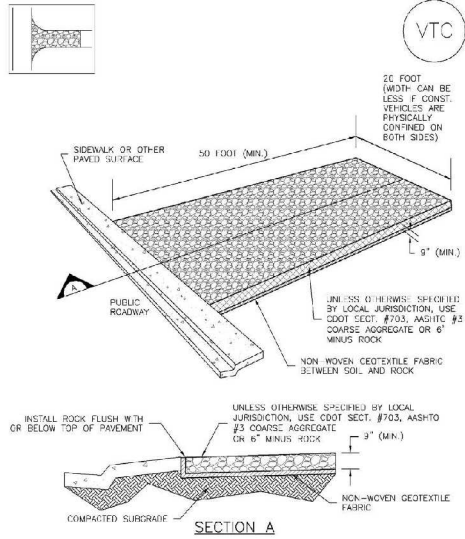
SF-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010



1 DETAIL RETAINING WALL SCALE: 3/4"=1'-0"

Vehicle Tracking Control (VTC)

SM-4



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

November 2010 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 VTC-3

SM-4

Vehicle Tracking Control (VTC)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

- SEE PLAN VIEW FOR:
  - LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S)
  - TYPE OF CONSTRUCTION ENTRANCE(S)/EXIT(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM)
- CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
- A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAY.
- STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
- UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT #703, AASHTO #3 COARSE AGGREGATE OR 6" MINUS ROCK.


STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

- INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.
- ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
- SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY IF SIGNIFICANT (A SEDIMENT DEPOSITION MAY NOT BE WASHED DOWN STORM SEWER DRAINS).

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM USED STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF DENVER, COLORADO, NOT AVAILABLE IN AUTOCAD)

VTC-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 November 2010

**Dewberry**  
Dewberry Engineers Inc.  
990 S. BROADWAY, SUITE 400  
Denver, Colorado 80209  
(303) 825-1802

DRAWING CEC4404G-2  
DRAWN STD  
DESIGNED STD  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	CTW

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

CIVIL

EROSION CONTROL DETAILS

DATE: 05/16/22  
PROJECT NUMBER: 50144404  
REVISION NO. A  
DRAWING NUMBER EC-2

## Attachment B – Calculations

Designer Sam Franzen Date 5/30/22 Checker \_\_\_\_\_ Date \_\_\_\_\_  
Title GMF Drainage Cals Job No. \_\_\_\_\_  
Subject \_\_\_\_\_ Sheet No. 1 of 4

GMF CulvertExist

US Inv = 7790.60

DS Inv = 7788.17

Diameter = 24"

Length = 21.5'

Slope = 0.11 ft/ft

Capacity = 41.19 cfs (Full Flow from FlowMaster)

New

Length = 56'

Diameter = 30"

DS Inv = 7787.5

US INV = 7792.00

Slope = 0.080 ft/ft

Capacity = 62.8 cfs (Full Flow from Flow Master)

Outlet Pipe from Inlet

US INV = 7792.00

DS INV = 7788.50

Length = 45' 0"

Slope = 0.078 ft/ft

Diameter = 6"

## Existing Culvert Calculations

Project Description	
Friction Method	Manning Formula
Solve For	Full Flow Capacity
Input Data	
Roughness Coefficient	0.024
Channel Slope	0.113 ft/ft
Normal Depth	24.0 in
Diameter	24.0 in
Discharge	41.19 cfs
Results	
Discharge	41.19 cfs
Normal Depth	24.0 in
Flow Area	3.1 ft <sup>2</sup>
Wetted Perimeter	6.3 ft
Hydraulic Radius	6.0 in
Top Width	0.00 ft
Critical Depth	23.5 in
Percent Full	100.0 %
Critical Slope	0.101 ft/ft
Velocity	13.11 ft/s
Velocity Head	2.67 ft
Specific Energy	4.67 ft
Froude Number	(N/A)
Maximum Discharge	44.31 cfs
Discharge Full	41.19 cfs
Slope Full	0.113 ft/ft
Flow Type	Supercritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	24.0 in
Critical Depth	23.5 in
Channel Slope	0.113 ft/ft
Critical Slope	0.101 ft/ft



## New Culvert Calculations

Project Description	
Friction Method	Manning Formula
Solve For	Full Flow Capacity
Input Data	
Roughness Coefficient	0.024
Channel Slope	0.080 ft/ft
Normal Depth	30.0 in
Diameter	30.0 in
Discharge	62.84 cfs
Results	
Discharge	62.84 cfs
Normal Depth	30.0 in
Flow Area	4.9 ft <sup>2</sup>
Wetted Perimeter	7.9 ft
Hydraulic Radius	7.5 in
Top Width	0.00 ft
Critical Depth	28.9 in
Percent Full	100.0 %
Critical Slope	0.070 ft/ft
Velocity	12.80 ft/s
Velocity Head	2.55 ft
Specific Energy	5.05 ft
Froude Number	(N/A)
Maximum Discharge	67.59 cfs
Discharge Full	62.84 cfs
Slope Full	0.080 ft/ft
Flow Type	Undefined
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	30.0 in
Critical Depth	28.9 in
Channel Slope	0.080 ft/ft
Critical Slope	0.070 ft/ft

## Outlet Pipe from Inlet Calculations

Project Description	
Friction Method	Manning Formula
Solve For	Full Flow Capacity
Input Data	
Roughness Coefficient	0.010
Channel Slope	0.078 ft/ft
Normal Depth	6.0 in
Diameter	6.0 in
Discharge	2.04 cfs
Results	
Discharge	2.04 cfs
Normal Depth	6.0 in
Flow Area	0.2 ft <sup>2</sup>
Wetted Perimeter	1.6 ft
Hydraulic Radius	1.5 in
Top Width	0.00 ft
Critical Depth	6.0 in
Percent Full	100.0 %
Critical Slope	0.074 ft/ft
Velocity	10.37 ft/s
Velocity Head	1.67 ft
Specific Energy	2.17 ft
Froude Number	(N/A)
Maximum Discharge	2.19 cfs
Discharge Full	2.04 cfs
Slope Full	0.078 ft/ft
Flow Type	Critical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	100.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	6.0 in
Critical Depth	6.0 in
Channel Slope	0.078 ft/ft
Critical Slope	0.074 ft/ft

Designer \_\_\_\_\_ Date \_\_\_\_\_ Checker \_\_\_\_\_ Date \_\_\_\_\_  
 Title \_\_\_\_\_ Job No. \_\_\_\_\_  
 Subject \_\_\_\_\_ Sheet No. 2 of 4

$Q = CIA$   
 $C =$  Runoff Coefficient  
 $I =$  Rainfall Intensity ( $\text{in/hr}$ )  
 $A =$  Area (acres)  
 $Q =$  Flow (cfs)

(1) Value from El Paso County  
 Drainage Criteria Manual on  
 Municode Version Oct 31, 2018.

$C_{100}^{(1)} = 0.70$  ( $\frac{1}{4}$  acre residential lot with type C+D soils  
 for 100 year storm event)  
 $C_{10}^{(1)} = 0.60$  (for 10 yr storm event)

Overland Flow

$$T_c = 1.87(1.1 - C_{10}) L^{0.5} S^{-0.33}$$

$$C_{10}^{(1)} = 0.60$$

$L = 80$  feet (measured from drawing)

$$S = \frac{7835 \text{ ft} - 7806 \text{ ft}}{80 \text{ ft}} = 0.36 \text{ ft/ft} \quad (\text{elevations from project survey})$$

$$I_{10}^{(1)} = 4.3 \text{ in/hr} \quad I_{100}^{(1)} = 6.5 \text{ in/hr}$$

$$A = 3,500 \text{ ft}^2 \text{ (measured on drawing)} \\ = 0.08 \text{ acres}$$

$$T_c = 11.7 \text{ minutes}$$

Channel Flow

$$V = \frac{1.49}{n} R^{2/3} \sqrt{S}$$

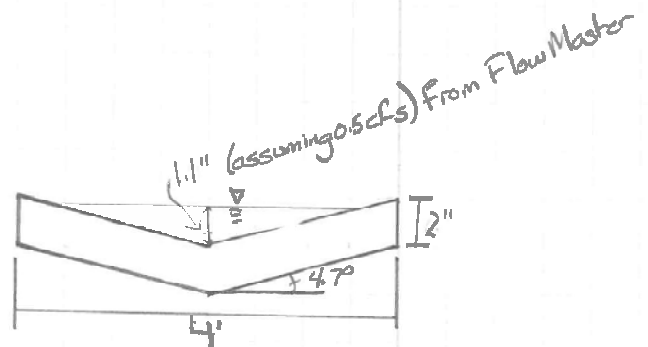
$n = 0.016$  for gutters

$$R = A/p = \frac{2 \cos \theta}{2} = \frac{1.1'' \cos(47^\circ)}{2} = 0.55 \text{ in} = 0.05 \text{ ft}$$

$$S = \frac{7806 \text{ ft} - 7799 \text{ ft}}{34.33 \text{ ft}} = 0.20 \text{ ft/ft}$$

$$V = \frac{1.49}{0.016} (0.05)^{2/3} \sqrt{0.20} = 5.32 \text{ ft/s}$$

$$T_c = \frac{34.33 \text{ ft}}{5.32 \text{ ft/s}} = 6.45 \text{ sec}$$



$$T_{c \text{ Total}} = 11.7 \text{ min} + \frac{6.45 \text{ s}}{60 \text{ s/min}} = 11.8 \text{ min}$$

Designer \_\_\_\_\_ Date \_\_\_\_\_ Checker \_\_\_\_\_ Date \_\_\_\_\_  
Title \_\_\_\_\_ Job No. \_\_\_\_\_  
Subject \_\_\_\_\_ Sheet No. 3 of 4

$$Q_i = CIA$$

$$Q_b = 0.60 (4.3 \text{ in/hr}) (0.08 \text{ acres}) = 0.21 \text{ cfs}$$

$$Q_{\text{soil}} = 0.70 (6.5 \text{ in/hr}) (0.08 \text{ acres}) = 0.36 \text{ cfs}$$

↳ This is less than the 0.5 cfs assumed to calculate flow depth and hydraulic radius for the channel. The assumption is conservative.

Based on the above calculation a design flow of 0.5 cfs has been selected.



## Triangular Channel Calculations

Project Description	
Friction Method	Manning
Solve For	Formula Normal Depth
Input Data	
Roughness Coefficient	0.016
Channel Slope	0.200 ft/ft
Left Side Slope	12.000 H:V
Right Side Slope	12.000 H:V
Discharge	0.50 cfs
Results	
Normal Depth	1.1 in
Flow Area	0.1 ft <sup>2</sup>
Wetted Perimeter	2.2 ft
Hydraulic Radius	0.5 in
Top Width	2.15 ft
Critical Depth	1.9 in
Critical Slope	0.009 ft/ft
Velocity	5.21 ft/s
Velocity Head	0.42 ft
Specific Energy	0.51 ft
Froude Number	4.346
Flow Type	Supercritical
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	1.1 in
Critical Depth	1.9 in
Channel Slope	0.200 ft/ft
Critical Slope	0.009 ft/ft

Designer \_\_\_\_\_ Date \_\_\_\_\_ Checker \_\_\_\_\_ Date \_\_\_\_\_  
Title \_\_\_\_\_ Job No. \_\_\_\_\_  
Subject \_\_\_\_\_ Sheet No. 4 of 4

Inlet Capacity Check

$$Q_i = 3.0 P d^{1.5} / F$$

$Q_i$  = inlet flow assumed to be 1.0 cfs worst case

$P$  = perimeter of grate opening

$$= 2 \times 22.5 \text{ in} + 2 \times 39.25 \text{ in} \leftarrow \text{CDOT Type 13 Inlet}$$

$$= 123.5 \text{ in} = 10.3 \text{ ft}$$

$d$  = depth

$F$  = Clogging Factor = 2.0 for grate inlet area in sump

Table 7.1 El Paso County Drainage Criteria Manual

$$d = \left( \frac{Q_i \cdot F}{3.0 P} \right)^{2/3} = \left( \frac{0.5 \text{ cfs} \cdot 2.0}{3.0 \cdot 10.3 \text{ ft}} \right)^{2/3}$$

$$d = 0.10 \text{ ft} = 1.2 \text{ in}$$

↳ depth required to push 0.5 cfs through inlet grate



## Town of Green Mountain Falls Land Use Approval Application Architectural Plan Review

### General Information

- This checklist serves as a guideline for submitting a Zoning & Architectural Plan Review Land Use Approval application and is not a substitute for the provisions in GMF Municipal Code or any other rules that may apply.
- Applicants are responsible for reviewing and understanding the Code.
- Complete applications are subject to staff review time of **two weeks (14 days)**.

### Applicant

Applicant:	Dewberry Engineers, Inc. - Sam Franzen
Address:	990 S Broadway, Denver, CO 80209
E-Mail:	sfranzen@dewberry.com
Phone:	303-951-0618
Owner:	Colorado Springs Utilities - Larysa Voronova
Address:	121 S Tejon St, Suite 200, Colorado Springs, CO 80947
E-mail:	lvoronova@csu.org
Phone:	719-668-3851

### Property

Physical Property Address: 10685 Hondo Ave, Green Mountain Falls, CO 80819	
Type of Plan Review: Architectural and Zoning	Lot Size/Zoning: 12,778 sqft
Hillside Overlay zone? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Land Survey/ILC Included: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

### Certification & Signature

APPLICANT'S STATEMENT: I understand the procedures and requirements (pages 1 and 2 of this application) that apply to my request and acknowledge an incomplete application will not be scheduled for public hearing. GMF Staff's acceptance of the application, payment of fees, and submittal of accompanying materials does not constitute completeness. I further agree to reimburse the city for technical and professional consulting expenses that may be incurred during the review of my request. Failure to reimburse the Town for invoiced expenses constitutes an incomplete application.

Certification: The undersigned applicant certifies under oath and under penalties of perjury that the information found in the application is true and accurate to the best of their knowledge.

By checking this box, I agree to the certification statement and am typing my full name as an electronic signature.

Applicant Signature Sam Franzen Date 10/12/2022  
Owner Signature \_\_\_\_\_ Date \_\_\_\_\_  
Owner Signature \_\_\_\_\_ Date \_\_\_\_\_

This document can be signed electronically using [Adobe Reader DC for free](#).

## Plan Review Checklist

This checklist serves as a guideline for submitting a Zoning & Architectural Plan Review (APR) Land Use Approval application and is not a substitute for the provisions in Green Mountain Falls Municipal Code or any other rules that may apply. Applicants are expected to review, at a minimum [§16, Zoning](#), [§17, Subdivision](#), [§18, Building Regulations](#).

APR is a general term for the review by the Planning Commission/Board of Trustees for zoning compliance and the evaluation of architectural compatibility, as outlined in §16-705.

### 1. Application & Petition

- a. Application, signed and dated by the applicant and property owner(s)
- b. [Application fee](#)
- c. Letter of explanation
  - i. Describe the purpose of the project (e.g., deck, SFH addition, exterior renovation, etc.) and describe project details, referring to site plans and drawings as necessary

### 2. Development Plan

- a. Vicinity Map with streets and access points to the property
- b. Existing and proposed structures with zoning setbacks, property boundaries and dimensions
- c. The location of all drainage to, from and across the site, the location of intermittent and permanent springs, culverts and other drainage structure

### 3. Procedure:

- a. Electronic submittal of signed application and checklist materials: [planner@gmfco.us](mailto:planner@gmfco.us)
- b. Payment of fees to Town Clerk for receipt
- c. Upon determining an application is complete, staff will schedule for PC and/or BoT public hearing

#### GMF Town Staff:

- ☐ Application
- ☐ Letter of Explanation
- ☐ Development Plan
- ☐ Application fee (Town Clerk)  
Date\_\_\_\_\_ Amount\_\_\_\_\_ ☐ Check #\_\_\_\_\_ ☐ Credit Card



October 12, 2022

Town of Green Mountain Falls  
Attn: Nate Scott, Planner  
Town Hall  
10615 Green Mountain Falls Road  
Green Mountain Falls, CO 80819

RE: Letter of Explanation for the Green Mountain Falls Pump Station

Dear Mr. Scott,

Dewberry Engineers is pleased to submit this letter of explanation and documentation for the Zoning & Architectural Plan Review Land Use Approval for the Green Mountain Falls Pump Station (GMFPS) on behalf of Colorado Springs Utilities for review and comment.

Separate variance requests have been submitted for non-residential use of a residentially zoned property, not meeting the required front setback, and for requirements in the Hillside Ordinance pertaining to distance to buildings on adjoining lots and distance to a major drainage way.

The purpose of the GMFPS project is to replace the existing below grade pump station. The existing pump station was constructed in 1986 and has reached the end of its useful life. The new pump station will ensure reliable water service for residents in Green Mountain Falls as well as the Town itself. It will also provide a safer and more readily accessible working space for Colorado Springs Utilities enabling more efficient maintenance and repair activities.

The site selected for the new GMFPS is 10685 Hondo Avenue. The property is owned by the same entity that owns the property at 6985 Colorado St directly to the west. Colorado Springs Utilities is currently negotiating the terms of an easement with the property owner to allow the pump station to be built on the site. The agreement and required Owner Signature will be submitted once the agreement is finalized. The site is zoned R-1 10,000. As mentioned above a variance has been submitted to allow non-residential use of a residentially zoned parcel.

The new pump station will be an above grade building that sits back into the hillside on the property, see drawing C-3 in the attached Development Plan. The building will be a single room that is 22'-8" by 18'-10". A 13'-8" by 17'-8" open topped enclosure for a backup emergency generator will be attached to the east side of the building. A gravel parking drive/area will be installed between Hondo Ave and the building. The parking will be used by Colorado Springs Utilities Operations and Maintenance personnel and as overflow parking for the 6985 Colorado St residence. The majority of the parking/drive area is in the right of way for Hondo Ave. The right of way area encompassed by the parking/drive area is currently either an existing parking/drive area or a drainage channel. The parking/drive area will be expanded by replacing the existing culvert with a longer culvert with greater capacity than the existing culvert. Expanding the parking/drive area does not reduce the useable right of way area. The building location on the site and arrangement can be seen on drawing C-3.

The exterior of the building has been designed to blend with the surrounding residential properties with similar features to many of the surrounding homes. The building walls will be concrete covered with a veneer composed of natural stone facing on the bottom and pre-finished metal narrow batten siding above. The stone veneer will slope to match the grade around the building. The generator enclosure walls will be concrete covered with a natural stone veneer to match the building and capped with colored concrete wall caps. The building roof will be pre-finished metal standing seam. The roof slants only to the

east to minimize the view impacts from the neighboring properties. The pre-finished metal siding and roof come with a 20 year warranty. Stone and metal wall and roof finish colors will be primarily earth tones, browns, and grays selected to blend with the surrounding environment. A double man door will be installed on the north face of the building for access and to allow for equipment removal. The generator enclosure will have a fabricated steel gate for access. The door and gate will be finished to blend with the building aesthetic. A plan view of the structure as well as building elevations can be seen on drawings A-2, A-3, and A-4 in the attached Development Plan.

Exterior lighting is provided above the man door and on the walls within the generator enclosure as shown on drawing E-11 in Attachment A. All fixtures will be down facing full cutoff fixtures and will be switched. The fixtures will only be left on when operations and maintenance staff are at the facility.

A gutter along the south wall of the building and an inlet at the southeast corner of the building will be installed to capture drainage coming down the hillside. Two concrete retaining walls will be constructed on the east side of the site to replace the existing retaining wall that has partially failed and allow for appropriate grading of the parking area. A concrete headwall will be constructed on the west end of the culvert to support the drainage channel. The concrete will be colored to blend with the building aesthetics. Drawing C-3 shows the items discussed above as well as proposed grading.

The pump station will provide an integral service to Green Mountain Falls and its residents. Design of the building and site have focused blending the structure with the aesthetics of the buildings in the area to minimize the impact of the structure on the surrounding environment.

Please contact Sam Franzen at [sfranzen@dewberry.com](mailto:sfranzen@dewberry.com) or 303-951-0618 with any questions or concerns.

Sincerely,



Sam Franzen  
Project Engineer





Colorado Springs Utilities

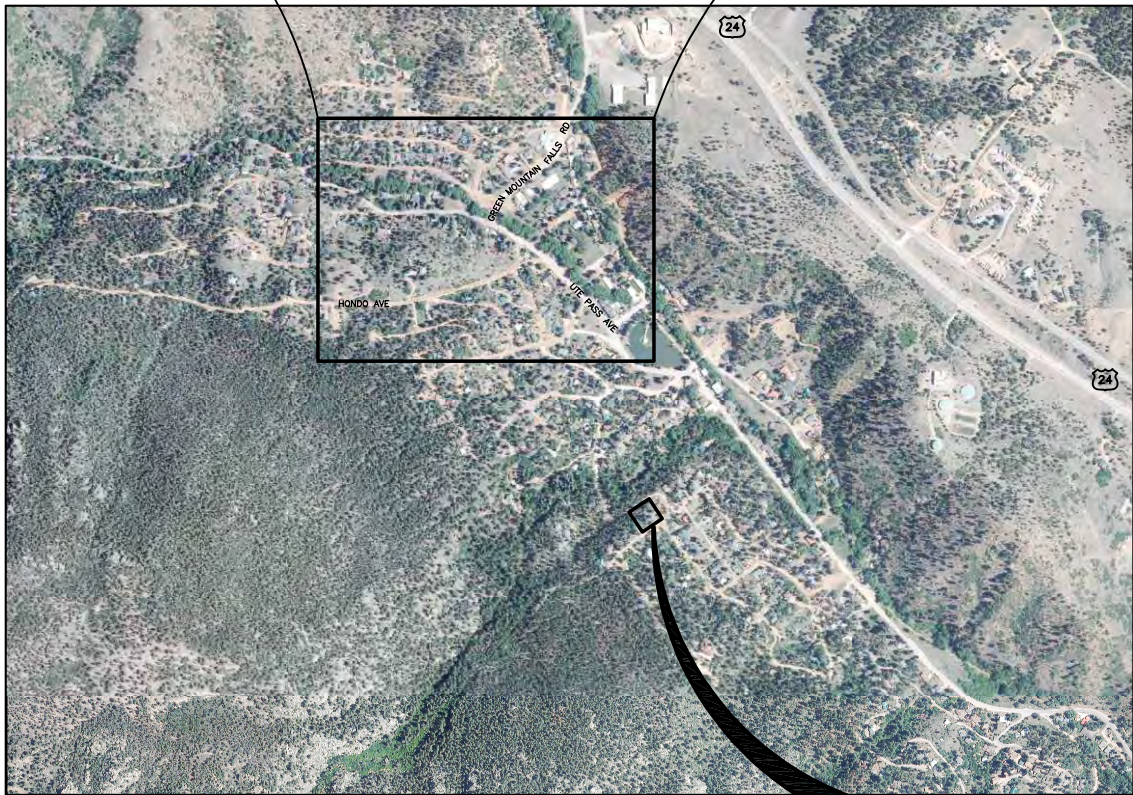
*It's how we're all connected*

# GREEN MOUNTAIN FALLS PUMP STATION



GREEN MOUNTAIN FALLS  
PUMP STATION PROJECT  
LOCATION

**LOCATION MAP**  
NO SCALE



**VICINITY MAP**  
NO SCALE

EXISTING GREEN MOUNTAIN  
FALLS PUMP STATION TO BE  
DEMOLISHED

## DRAWING INDEX

DWG NO	TITLE
<u>GENERAL</u>	
--	COVER AND INDEX
<u>CIVIL</u>	
C-1	VICINITY MAP
C-2	DEMOLITION PLAN
C-3	DEVELOPMENT PLAN
C-4	ENLARGED GRADING PLAN
EC-1	EROSION CONTROL PLAN
<u>ARCHITECTURAL</u>	
A-2	FLOOR PLAN & ROOF PLAN
A-3	BUILDING ELEVATIONS
A-4	BUILDING ELEVATIONS INTERIOR ELEVATIONS

GMFPS Site Summary	
Site Area	12,778 sqft
Setback Summary	
Front	
Required	15 feet
Provided	12 feet*
East Side	
Required	10 feet
Provided	19
West Side	
Required	10 feet
Provided	17
Back	
Required	10 feet
Provided	50 feet
*Front setback variance application submitted	



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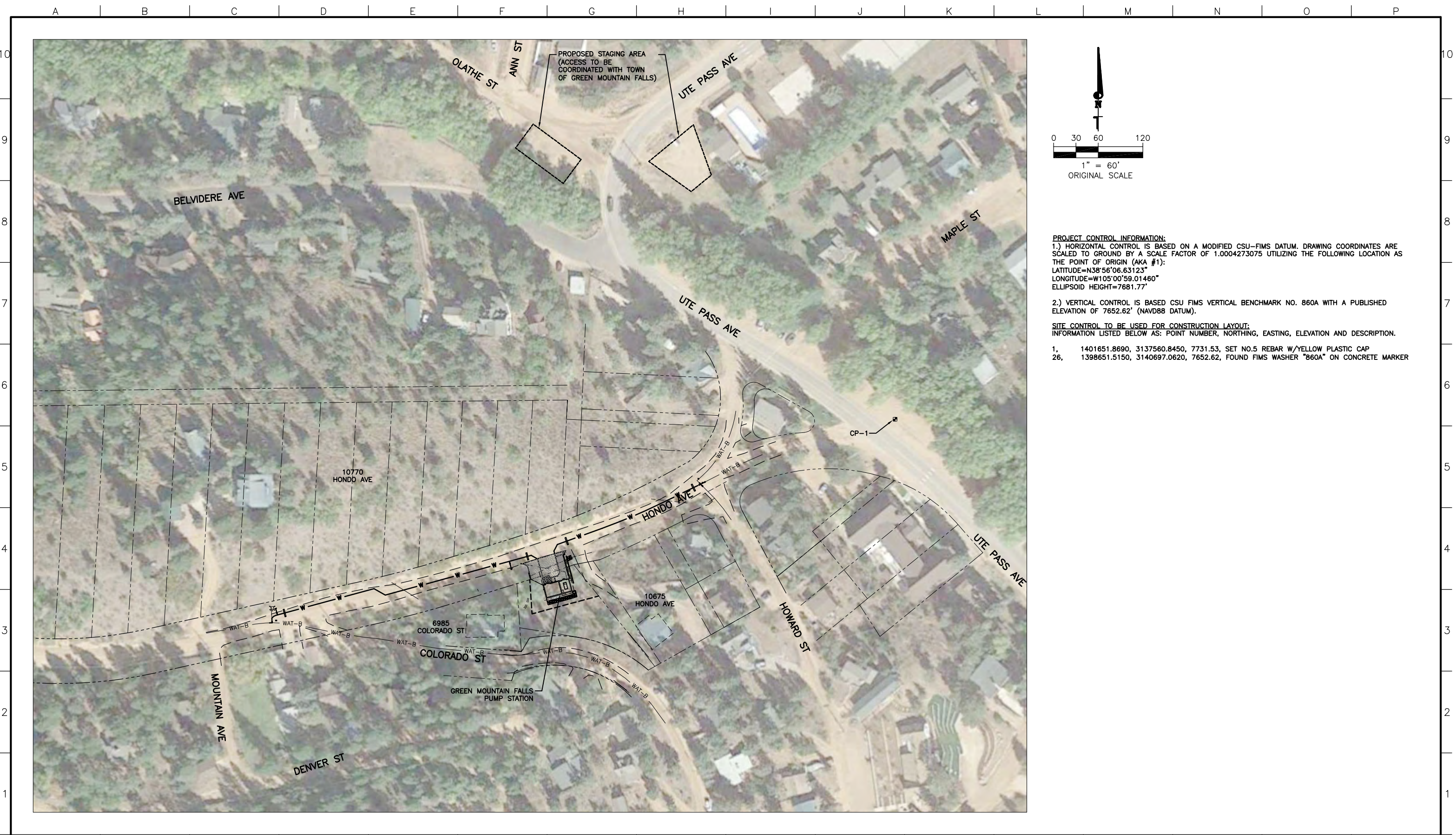
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Denver, Colorado 80209  
(303) 825-1802

**DEVELOPMENT PLAN**  
**OCTOBER 2022**




Know what's below.  
Call before you dig.





**PROJECT CONTROL INFORMATION:**  
1.) HORIZONTAL CONTROL IS BASED ON A MODIFIED CSU-FIMS DATUM. DRAWING COORDINATES ARE SCALED TO GROUND BY A SCALE FACTOR OF 1.0004273075 UTILIZING THE FOLLOWING LOCATION AS THE POINT OF ORIGIN (AKA #1):  
LATITUDE=N38°56'06.63123"  
LONGITUDE=W105°00'59.01460"  
ELLIPSOID HEIGHT=7681.77'  
2.) VERTICAL CONTROL IS BASED CSU FIMS VERTICAL BENCHMARK NO. 860A WITH A PUBLISHED ELEVATION OF 7652.62' (NAVD88 DATUM).  
**SITE CONTROL TO BE USED FOR CONSTRUCTION LAYOUT:**  
INFORMATION LISTED BELOW AS: POINT NUMBER, NORTHING, EASTING, ELEVATION AND DESCRIPTION.  
1, 1401651.8690, 3137560.8450, 7731.53, SET NO.5 REBAR W/YELLOW PLASTIC CAP  
26, 1398651.5150, 3140697.0620, 7652.62, FOUND FIMS WASHER "860A" ON CONCRETE MARKER



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LINE IS 2 INCHES  
AT FULL SIZE  
(IF NOT 2"=SCALE ACCORDINGLY)

DRAWING CPL4404G-1  
DRAWN TWL  
DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	TWL	01/28/22	SEF
B	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	SEF
C	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION

CIVIL

VICINITY MAP

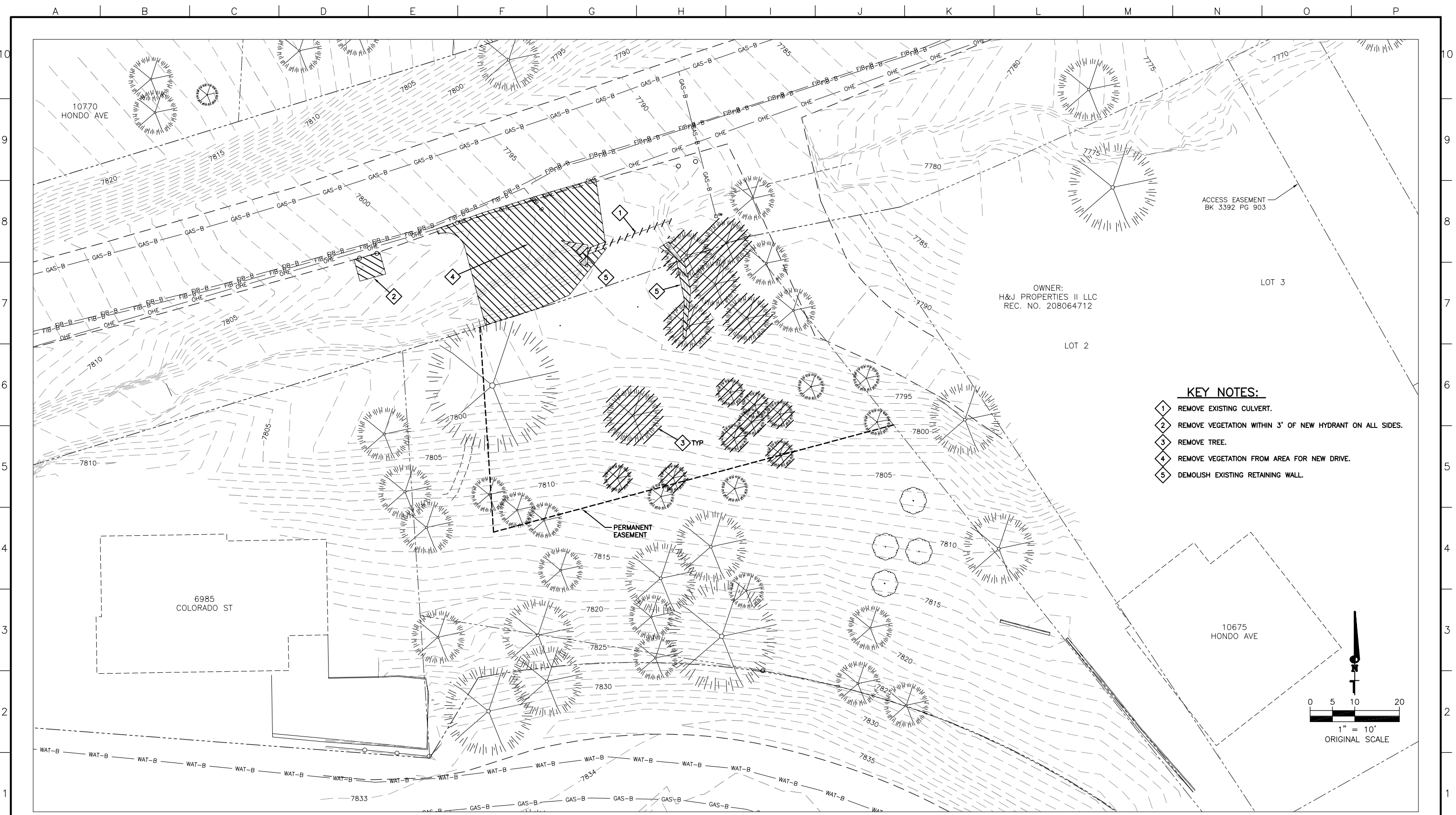
DATE: 12/10/21

PROJECT NUMBER: 50144404

REVISION NO. C

DRAWING NUMBER C-1





**KEY NOTES:**

- 1 REMOVE EXISTING CULVERT.
- 2 REMOVE VEGETATION WITHIN 3' OF NEW HYDRANT ON ALL SIDES.
- 3 REMOVE TREE.
- 4 REMOVE VEGETATION FROM AREA FOR NEW DRIVE.
- 5 DEMOLISH EXISTING RETAINING WALL.

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DRAWING **CPL4404G-2**  
DRAWN **TWL**  
DESIGNED **SEF**  
CHECKED **CTW**

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	SEF
B	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

**COLORADO SPRINGS UTILITIES**  
**COLORADO SPRINGS, COLORADO**

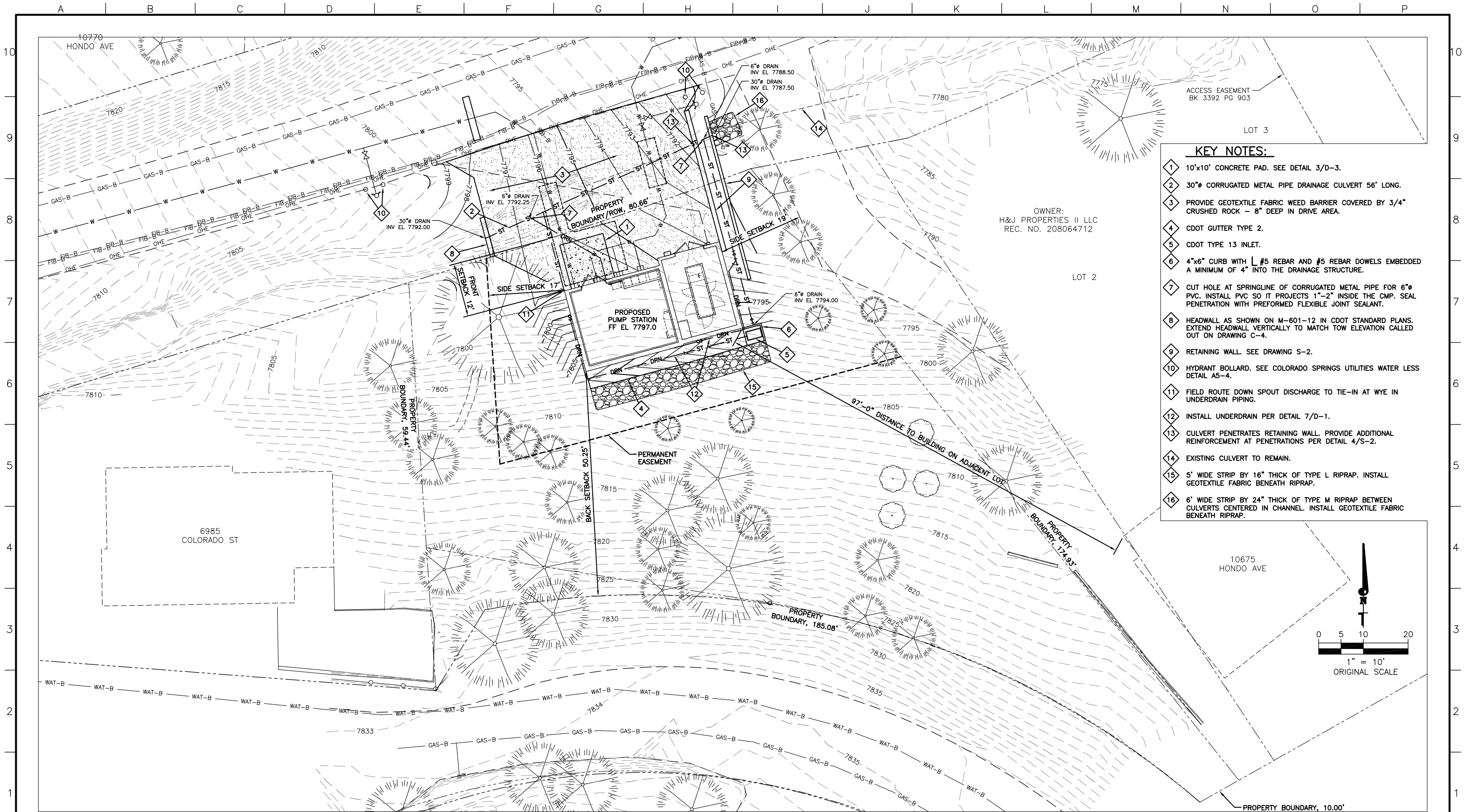
**GREEN MOUNTAIN FALLS**  
**PUMP STATION**

CIVIL

**DEMOLITION PLAN**

DATE: **02/17/22**  
PROJECT NUMBER: **50144404**  
REVISION NO. **B**  
DRAWING NUMBER  
**C-2**





**KEY NOTES:**

- 10'x10' CONCRETE PAD. SEE DETAIL 3/D-3.
- 30" CORRUGATED METAL PIPE DRAINAGE CULVERT 56' LONG.
- PROVIDE GEOTEXTILE FABRIC WEED BARRIER COVERED BY 3/4" CRUSHED ROCK - 8" DEEP IN DRIVE AREA.
- CDOT GUTTER TYPE 2.
- CDOT TYPE 13 INLET.
- 4"x6" CURB WITH #5 REBAR AND #5 REBAR DOWELS EMBEDDED A MINIMUM OF 4" INTO THE DRAINAGE STRUCTURE.
- CUT HOLE AT SPRINGLINE OF CORRUGATED METAL PIPE FOR 6" PVC. INSTALL PVC SO IT PROJECTS 1"-2" INSIDE THE CMP. SEAL PENETRATION WITH PREFORMED FLEXIBLE JOINT SEALANT.
- HEADWALL AS SHOWN ON M-601-12 IN CDOT STANDARD PLANS. EXTEND HEADWALL VERTICALLY TO MATCH TOW ELEVATION CALLED OUT ON DRAWING C-4.
- RETAINING WALL. SEE DRAWING S-2.
- HYDRANT BOLLARD. SEE COLORADO SPRINGS UTILITIES WATER LESS DETAIL A5-4.
- FIELD ROUTE DOWN SPOUT DISCHARGE TO TIE-IN AT WYE IN UNDERDRAIN PIPING.
- INSTALL UNDERDRAIN PER DETAIL 7/D-1.
- CULVERT PENETRATES RETAINING WALL. PROVIDE ADDITIONAL REINFORCEMENT AT PENETRATIONS PER DETAIL 4/S-2.
- EXISTING CULVERT TO REMAIN.
- 5' WIDE STRIP BY 16" THICK OF TYPE L RIPRAP. INSTALL GEOTEXTILE FABRIC BENEATH RIPRAP.
- 6' WIDE STRIP BY 24" THICK OF TYPE M RIPRAP BETWEEN CULVERTS CENTERED IN CHANNEL. INSTALL GEOTEXTILE FABRIC BENEATH RIPRAP.

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DESIGNED SEF  
CHECKED CTW

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	TWL	01/28/22	SEF
B	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	SEF
C	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	SEF

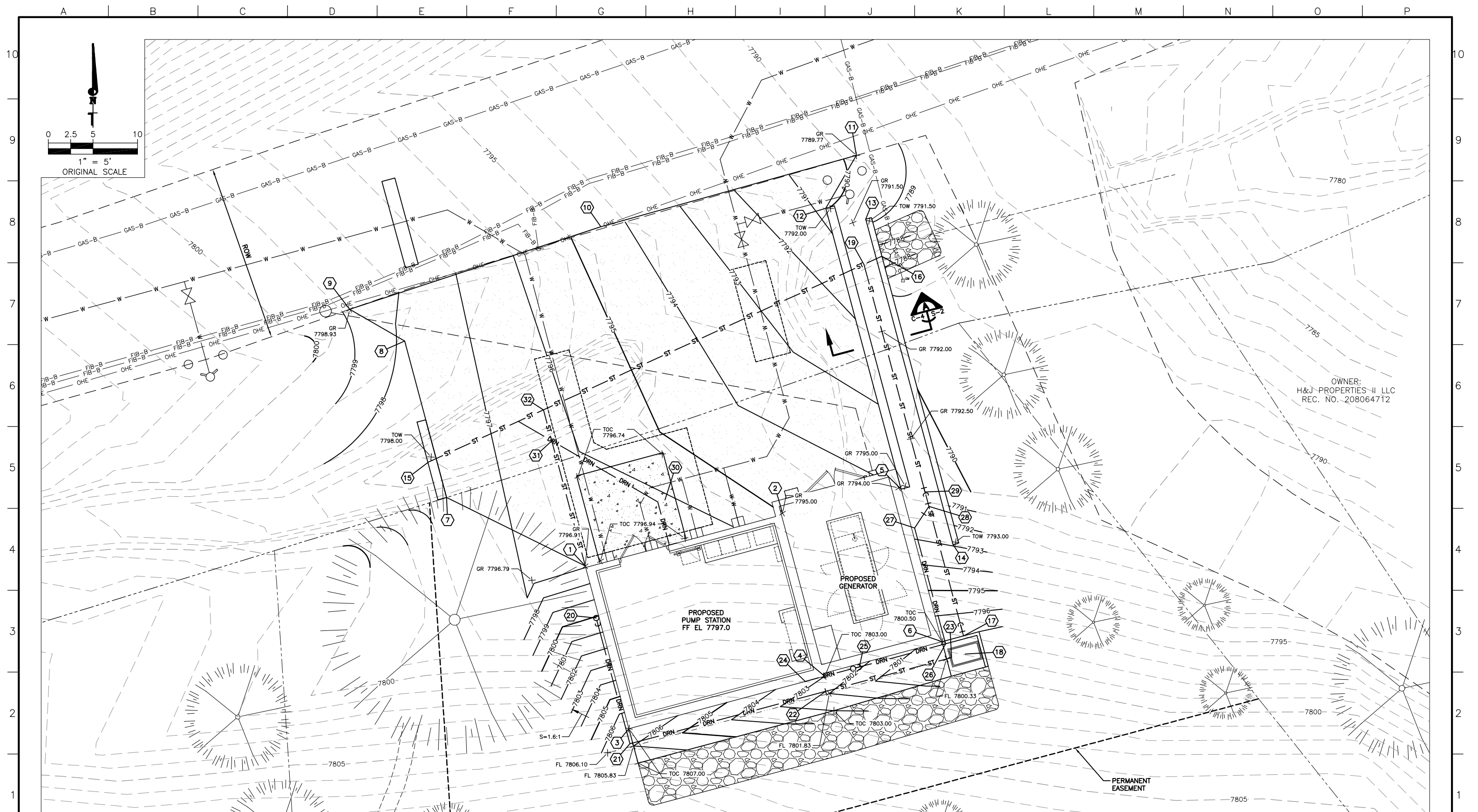
COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO

GREEN MOUNTAIN FALLS  
PUMP STATION


CIVIL

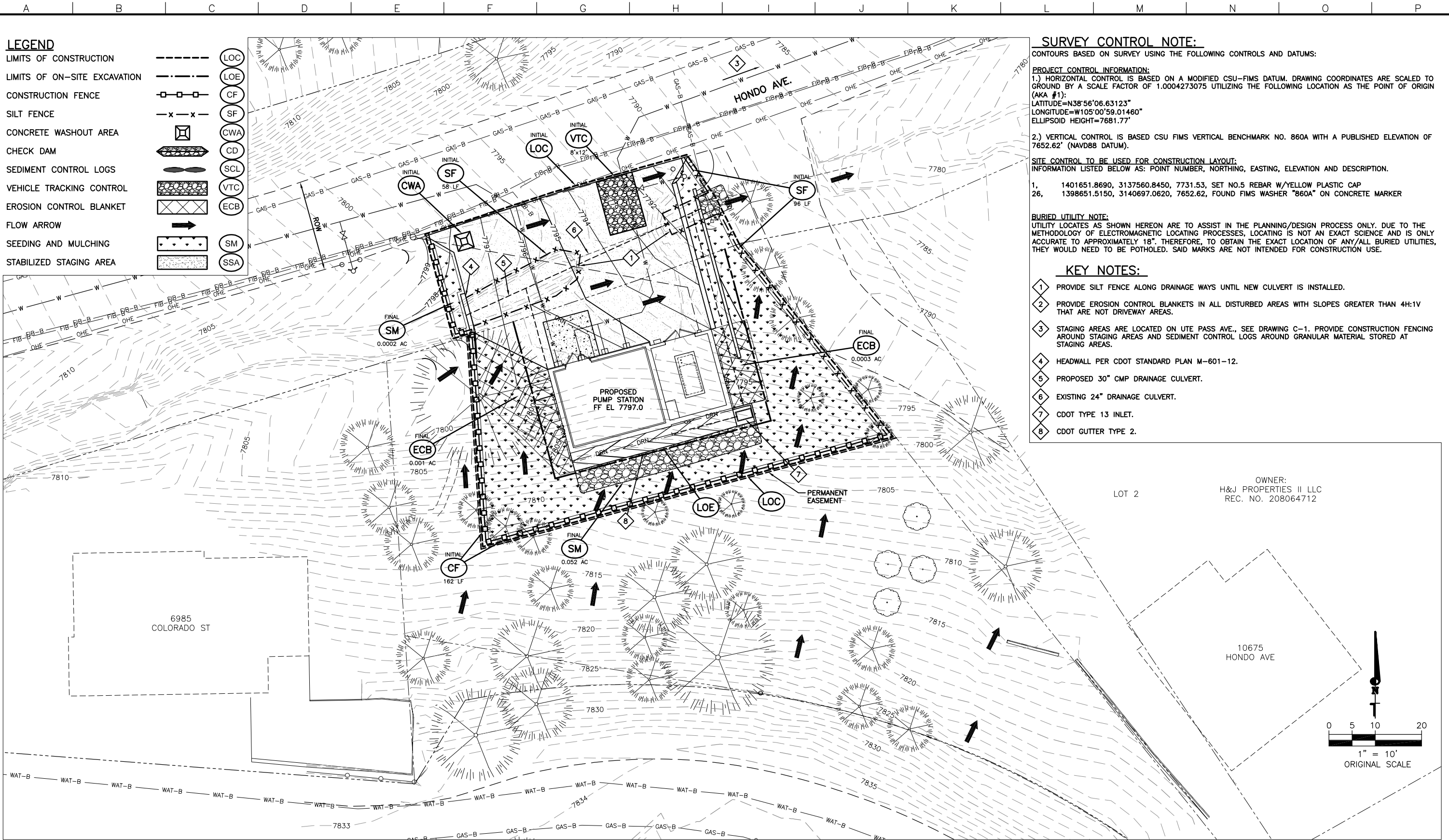
DEVELOPMENT PLAN

DATE: 12/10/21  
PROJECT NUMBER: 50144404  
REVISION NO. C  
DRAWING NUMBER  
**C-3**

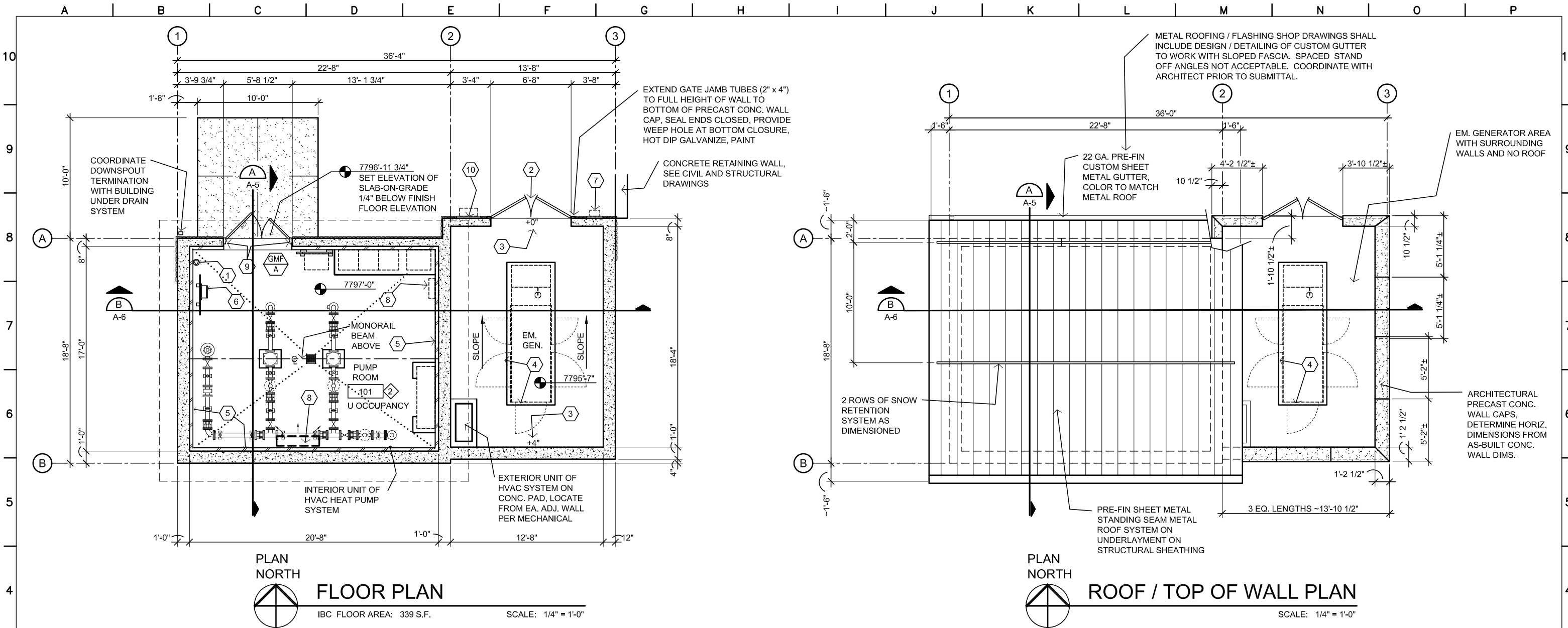


OWNER:  
H&J PROPERTIES II LLC  
REC. NO. 208064712

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
 <b>Dewberry</b> <sup>®</sup> <b>Dewberry Engineers Inc.</b> 990 S. BROADWAY, SUITE 400 Denver, Colorado 80209 (303) 825-1802		LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"=SCALE ACCORDINGLY)		REVISIONS					COLORADO SPRINGS UTILITIES COLORADO SPRINGS, COLORADO			CIVIL			DATE: 04/04/22	
		DRAWING <u>CPL4404G-4</u> DRAWN <u>TWL</u> DESIGNED <u>SEF</u> CHECKED <u>CTW</u>		REV.		DESCRIPTION		BY							DATE	APP.
				A		90% DESIGN REVIEW SUBMITTAL		TWL	06/08/22	SEF	REVISION NO. A					
											DRAWING NUMBER					
											<b>C-4</b>					
										GREEN MOUNTAIN FALLS PUMP STATION			ENLARGED GRADING PLAN			



REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	60% DESIGN REVIEW SUBMITTAL	TWL	03/23/22	CTW
B	90% DESIGN REVIEW SUBMITTAL	TWL	06/08/22	CTW



GENERAL NOTES:

1. SEAL ALL PIPE AND CONDUIT PENETRATIONS OF INTERIOR AND EXTERIOR CMU WALLS. PROVIDE SEALED CONDITION BOTH SIDES OF WALL.
2. PROVIDE FRAMING BETWEEN TRUSSES AS REQUIRED TO COMPLETELY SUPPORT ALL GYPSUM BOARD CEILING PANEL EDGES, TYPICAL.

FINISH NOTES:

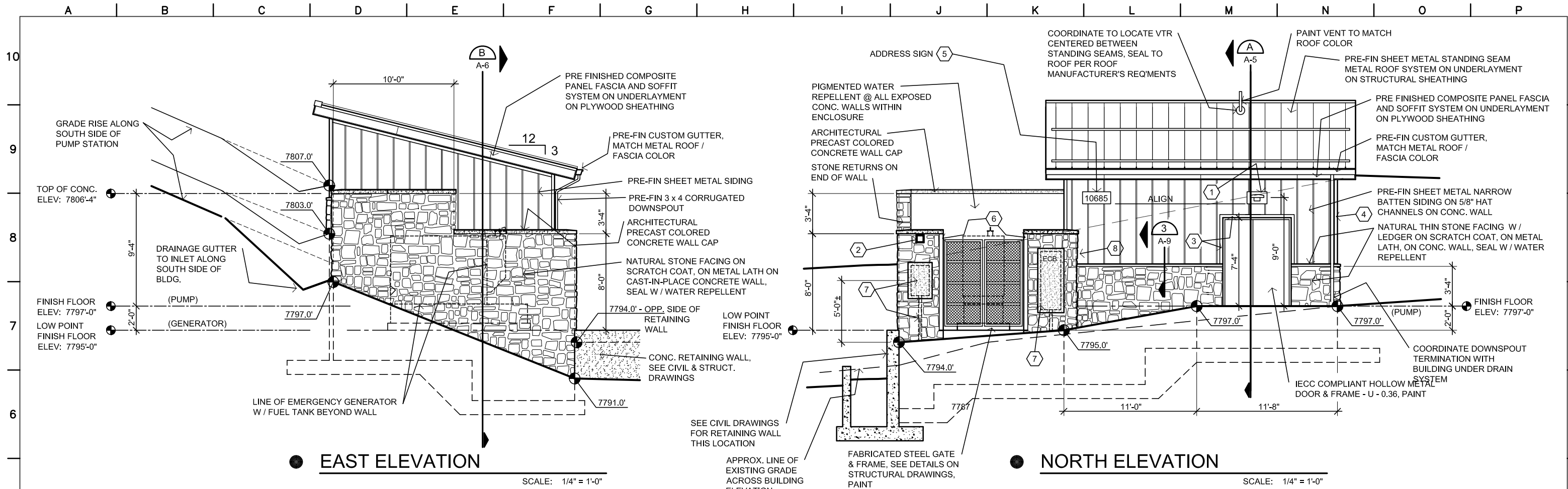
1. PAINT ALL EXPOSED INTERIOR CONCRETE AND CMU WALLS, GYPSUM BOARD CEILING, AND WOOD PERIMETER TRIM UNLESS NOTED OTHERWISE.
2. PROVIDE CONCRETE FLOOR SEALER (FLR. SLR.) AS SPECIFIED IN SECTION 03 30 00: CAST-IN-PLACE CONCRETE AT ALL CONCRETE FLOORS INCLUDING THE ENCLOSED GENERATOR AREA.

FLOOR PLAN KEY NOTES:

1. FIRE EXTINGUISHER: TYPE 1 WITH MOUNTING BRACKET AS SPECIFIED IN SECTION 10 44 00: FIRE PROTECTION SPECIALTIES. PROVIDE SIGNAGE PER SECTION 10 14 00: SIGNAGE.
2. FABRICATED STEEL GATE AND FRAME, SEE STRUCTURAL (S) DRAWINGS. PAINT.
3. GENERATOR AREA CONCRETE SLAB SLOPES TO THE NORTH 4" VERTICAL TOTAL, ~ 1/4" PER FOOT.
4. ISOLATED 20" TH. CONC. PAD FOR EMERGENCY GENERATOR, TOP OF PAD ELEVATION 7797'-7", SEE STRUCTURAL FOR REINFORCEMENT. PROVIDE 1/2" EXPANSION MATERIAL FULL PERIMETER WITH BACKER ROD AND SEALANT JOINT.
5. INTERIOR WALL SYSTEM: 2 1/2" 20 / 18 MIL. METAL STUDS AT 16" O.C. WITH TOP AND BOTTOM TRACKS. HOLD STUD LEG OFF INTERIOR STRUCTURE FACE 1/2" TO AVOID THERMAL TRANSFER FROM EXTERIOR TO INTERIOR. INSTALL 2" (R-14) OF SPRAY APPLIED POLYURETHANE INSULATION TO INTERIOR FACE OF EXTERIOR WALL. ASSURE COMPLETE FILL AND SEAL AROUND AND BEHIND METAL STUD TO PROVIDE CONTINUOUS INSULATION. FINISH LOWER 4 FT OF STUD WALL WITH 1/2" TH. CEMENTITIOUS BACKER BOARD AND REMAINDER OF WALL HEIGHT WITH 1/2" GYPSUM BOARD. FINISH GYPSUM AND CEMENTITIOUS BOARD PER SPECIFICATION 09 25 00: GYPSUM BOARD.
6. PROVIDE SIGNAGE AT UTILITY STATION PER SPECIFICATION SECTION 10 14 00: SIGNAGE. COORDINATE WITH MECHANICAL (M) DRAWINGS.
7. ARCHITECTURAL PRECAST CONCRETE PANEL FOR MOUNTING OF ELECTRICAL METER. SEE BUILDING ELEVATION AND DETAIL ON 2 / A-8.
8. PROVIDE PLYWOOD BLOCKING BETWEEN STUDS IN WALL BY SIZE REQUIRED TO MOUNT / SUPPORT WALL MOUNTED ELECTRICAL & HVAC EQUIPMENT.
9. SEAL BOTTOM OF HOLLOW METAL FRAME TO FLOOR SLAB TO PROVIDE COMPLETE CLOSURE FROM MOISTURE. SEE DOOR SILL DETAIL.
10. ARCHITECTURAL PRECAST CONCRETE PANEL FOR MOUNTING OF ECB PANEL. SEE BUILDING ELEVATION AND DETAIL ON 2 / A-8.

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	BRL	01/28/22	BRL
B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL
C	90% DESIGN REVIEW SUBMITTAL	BRL	06/08/22	BRL
D	PPRBD SUBMITTAL	BRL	06/28/22	BRL





● EAST ELEVATION

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

● NORTH ELEVATION

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

KEY NOTES:

1. PANEL (WALL) MOUNTED LIGHT FIXTURE. CENTER LIGHT FIXTURE ON 12" HIGH x 20" WIDE PREFINISHED PANEL CENTERED ON DOOR FRAME OR GENERATOR WALL SPACE. MOUNTING HEIGHT AS SHOWN ON ELEVATIONS. SEE DETAIL 5 / A-9 FOR MOUNTING PANEL REQUIREMENTS.
2. RECESSED KNOX BOX, CENTER ON WALL FACE AND MOUNT JUST BELOW PRECAST WALL CAP, MOUNT FACE TRIM OUT WITH STONE SCRATCH COAT, GROUT INTO CONCRETE POCKET FOR SECURE INSTALLATION.
3. DESIGN INTENT IS TO PROVIDE A 3" FACE TRIM @ JAMBS AND HEAD OF DOOR OPENING. PROVIDE CLOSED TRIM TO RESEMBLE SOLID CONDITION. COORDINATE DETAILS DURING SHOP DRAWING PROCESS, COLOR TO MATCH WALL PANEL COLOR.
4. PREFINISHED METAL WALL PANEL SYSTEM OUTSIDE CORNER POST. 4" FACE. TYPICAL ALL CORNERS. COLOR TO MATCH WALL PANEL COLOR.
5. BUILDING ADDRESS SIGN: PROVIDE 12" H. x 28" W. x 16 GAUGE GALV. PLATE W / HEMMED EDGES ALL 4 SIDES. POWDER COAT PLATE CUSTOM COLOR TO MATCH PRE-FIN WALL PANEL COLOR. MOUNT ADDRESS NUMBERS TO PLATE "10685" WITH VHB TAPE. MOUNT SIGN CENTERED ON AND TO TWO METAL BUILDING RIBS WITH VHB TAPE OR COLOR MATCHED GASKETED FASTENERS. SEE SPECIFICATION 10 14 00 FOR ADDRESS NUMBER REQUIREMENTS.
6. EXTEND GATE JAMB TUBES (2" x 4") TO FULL HEIGHT OF WALL TO BOTTOM OF PRECAST CONC. WALL CAP, SEAL ENDS CLOSED, PROVIDE WEEP HOLE AT BOTTOM CLOSURE, HOT DIP GALVANIZE, PAINT
7. ARCHITECTURAL PRECAST CONCRETE PANEL MOUNTED ON CONCRETE WALL FOR MOUNTING OF ELECTRIC METER / BOX AND ECB PANEL. CENTER PRECAST PANEL SIDE TO SIDE ON WIDTH OF STONE FACING. SEE DETAIL 2 / A-8 FOR REQUIREMENTS. DETERMINE SIZE OF METER / BOX / EQUIPMENT AND SIZE PANEL FOR 2" CLEARANCE AROUND ELECTRICAL EQUIPMENT. PROCURE INFORMATION IN TIMELY FASHION TO INCLUDE PANEL SIZE IN ARCHITECTURAL PRECAST CONCRETE SHOP DRAWING SUBMITTAL. MOUNT PANEL SO THAT EQUIPMENT CENTERLINE IS ~60" VERTICALLY FROM GRADE. PAINT EXPOSED CONDUIT AND METER / EQUIPMENT ENCLOSURES IN COLOR SELECTED BY ENGINEER.
8. STONE AT GENERATOR ENCLOSURE WALL RETURNS TO MAIN BUILDING WALL. COORDINATE TERMINATION OF STONE WITH METAL WALL PANEL SUBCONTRACTOR FOR NEAT / PROPER TERMINATION / FINISH.

● EAST ELEVATION @ BUILDING

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

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DENVER, CO. 80210  
303.408.5939 PHONE

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DRAWN **BRL**  
DESIGNED **BRL**  
CHECKED **BRL**

REVISIONS				
REV.	DESCRIPTION	BY	DATE	APP.
A	30% DESIGN REVIEW SUBMITTAL	BRL	01/28/22	BRL
B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL
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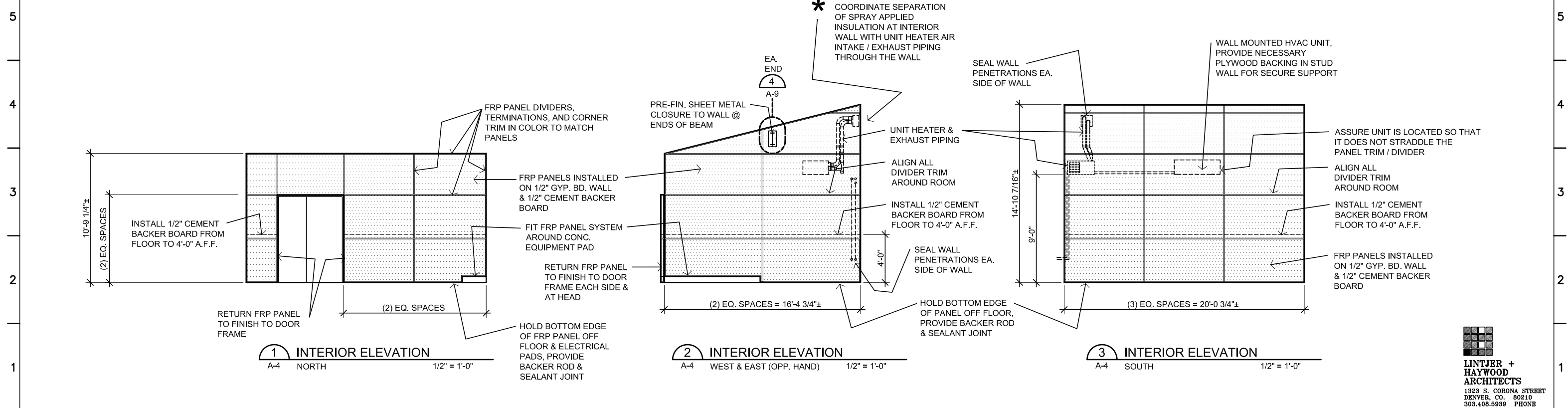
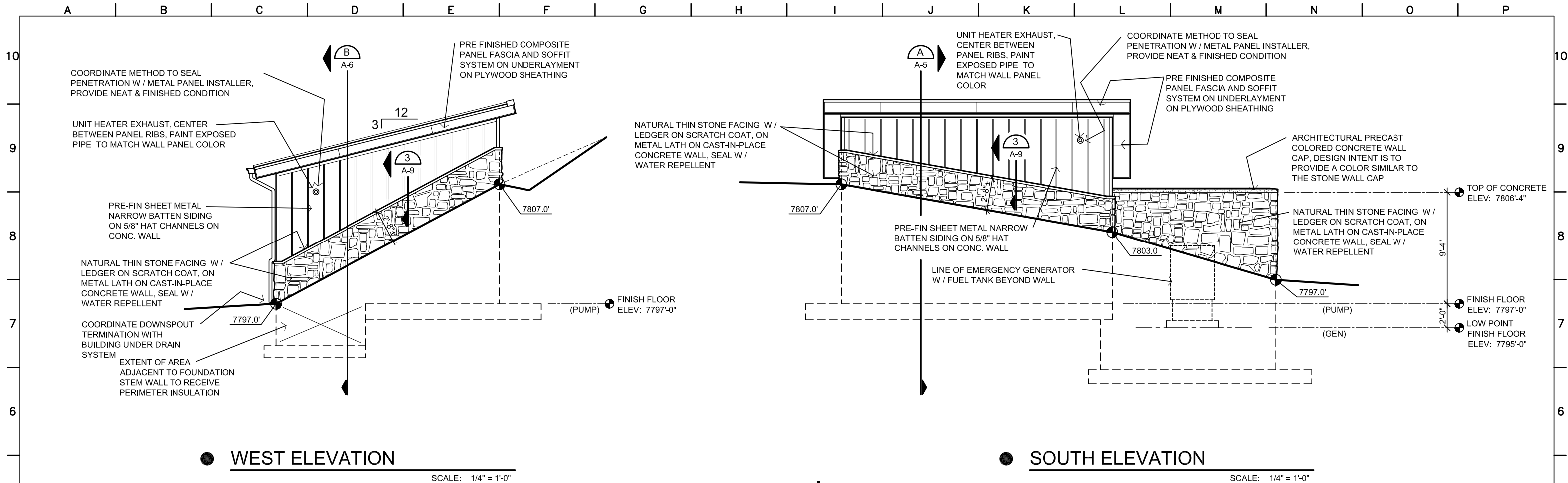
COLORADO SPRINGS UTILITIES  
COLORADO SPRINGS, COLORADO


GREEN MOUNTAIN FALLS  
PUMP STATION

ARCHITECTURAL

BUILDING ELEVATIONS

DATE: 07/18/22  
PROJECT NUMBER: 50144404  
REVISION NO. D  
DRAWING NUMBER **A-3**  
SHEET NUMBER





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DRAWING **A-4.DWG**  
DRAWN **BRL**  
DESIGNED **BRL**  
CHECKED **BRL**

REV.	DESCRIPTION	BY	DATE	APP.
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B	60% DESIGN REVIEW SUBMITTAL	BRL	03/23/22	BRL
C	90% DESIGN REVIEW SUBMITTAL	BRL	06/08/22	BRL
D	PPRBD SUBMITTAL	BRL	06/28/22	BRL

**COLORADO SPRINGS UTILITIES**  
**COLORADO SPRINGS, COLORADO**

**GREEN MOUNTAIN FALLS**  
**PUMP STATION**

ARCHITECTURAL

**BUILDING ELEVATIONS**  
**INTERIOR ELEVATIONS**

DATE: 07/18/22  
PROJECT NUMBER: 50144404  
REVISION NO. D  
DRAWING NUMBER **A-4**  
SHEET NUMBER



**BOARD OF TRUSTEES AGENDA MEMO**

<b>DATE: 11/15/2022</b>	<b>AGENDA NO 7</b>	<b>SUBJECT:</b>
<b>Presented by:</b> Becky Frank, Town Manager		CDBG ADA Gazebo Lake Project Change Order

**Discussion:** While working on the installation of the outlet the contractor exposed an underground void that had been created as a result the outlet culvert's deterioration allowing water to wear away at the earth. The change order before you allows the contractor to replace the culvert with 80 feet of pipe that will have a much longer shelf life and rebuilds the drainage infrastructure at the lake. Costs for the change order are broke out here:

**Total Cost \$15,400**

**CDBG remaining funds (contingency) \$11,450**

**Town Portion (from general fund-ARPA) \$3950**

**Add Option (tinted concrete)**

**Total Cost \$17,740**

**CDBG remaining funds (contingency) \$11,450**

**Cost of tinted Concrete \$2340**

**Town Portion (from general fund-ARPA) \$6,290**

**Recommended Action:**

Approve change order with base cost or tinted concrete option.

Respectfully,

Becky Frank



Reference #3495.1

## CHANGE ORDER

For: Town of Green Mountain Falls	Rep: Tom Hughes/Jason Grutter
Attn: Becky Frank, Nate Scott	Phone: 877-MARRS-56
	Email: Tom@WaterOnMarrs.com
manager@gmfco.us	
	Terms good 60 days from date of proposal.
November 7, 2022	Proposal #: 3495.1
	Bidnet Ref #: 0000281818

### **Gazebo Lake Park Improvements – Phase 1**

#### Change Order #1

The Gazebo Lake Park Improvements project, previously approved by the Town of Green Mountain Falls, under our Project # 3495 is well underway. As you are aware, new circumstances were discovered last week necessitating additional work and repairs that must be completed prior to the principle project being completed. Following is the proposal for work under Chang Order #1:

<ul style="list-style-type: none"><li>Excavate, remove, and replace approximately 80 feet of damaged culvert pipe between lake and creek. Price includes labor and materials.</li></ul>	\$15,400

Assuming prompt approval, we will commence this change order immediately upon authorization and anticipate completing both the change order and the principle project by the end of the one-month extension granted last week.





Reference #3495.1

Water on MARRS is a fully licensed, insured, and bonded general contractor (Lic. #940440) in the state of California. We carry Workers Compensation insurance.

A \$25 Late Payment Processing Fee is assessed on any invoices past 30 days due. Additionally, interest of 1.5% per month will be added to any account past due.

Title remains in name of seller until paid in full. Purchaser agrees to pay in full all costs of collection, reasonable attorney's fees, and costs incurred by the seller to enforce payment of this notice. This notice serves as a 90-day preliminary notice to payor. Under the Mechanics Lien Law (Section 7018, California Business and Professional Code): Any contractor, subcontractor, laborer, supplier or other persons who help to improve your property but is not paid for his work or supplies, has the right to enforce a claim against your property. This means that after a court hearing, your property could be sold by a court officer, and the proceeds of the sale will be used to satisfy the indebtedness. This can happen even if you have paid your own contractor in full while the subcontractor and laborers or suppliers remain unpaid.

#### Liability Release/Waiver

Additionally, while Water on MARRS Inc. and its employees and affiliated companies (hereinafter referred to collectively as "The Company") will make every reasonable effort to ensure the safety of the water feature and additional elements as outlined above, The Customer as signed and printed below (referred to as the Customer) understands that an inherent danger exists with any water feature. This danger includes but is not limited to slippery surfaces and drowning hazards. The Customer releases The Company and its affiliates of any and all liability for any accidents or occurrences involving the water feature and/or other elements installed and/or serviced by The Company and resulting in injury, death, and/or damage to person, animal, or property, and assumes full responsibility for maintaining the safe operation and maintenance of said water feature and/or other elements.

By signing here, customer agrees to the terms and/or schedule set forward in this proposal, except as modified above and initialed by both parties. Customer's signature in effect converts this proposal into a contract, return of which along with the deposit designated above will serve to certify customer's intent in going forward with the proposed project and will confirm customer's position on Water on MARRS Inc.'s construction schedule.

Customer's acknowledgment:	Water on MARRS Representative:
Sign: _____ Date: _____	Sign: _____ Date: _____
Print: _____	Print: _____

#### **Water on MARRS Inc.**

PO Box 6776, Burbank, CA 91510 • Lic #940440

phone & fax: 1.877.MARRS-56 • email: DesignGroup@WATERonMARRS.com

www.WATERonMARRS.com



Reference #3495.1-A

## CHANGE ORDER

For: Town of Green Mountain Falls	Rep: Tom Hughes/Jason Grutter
Attn: Becky Frank, Nate Scott	Phone: 877-MARRS-56
	Email: Tom@WaterOnMarrs.com
manager@gmfco.us	
	Terms good 60 days from date of proposal.
November 8, 2022	Proposal #: 3495.1-A
	Bidnet Ref #: 0000281818

### **Gazebo Lake Park Improvements – Phase 1**

#### Change Order #1 - Revision A

The Gazebo Lake Park Improvements project, previously approved by the Town of Green Mountain Falls, under our Project # 3495 is well underway. As you are aware, new circumstances were discovered last week necessitating additional work and repairs that must be completed prior to the principle project being completed.

In addition, we have received a new request to use colored concrete for the ADA platform and walkway.

Following is the proposal for work under Chang Order #1:

• Excavate, remove, and replace approximately 80 feet of damaged culvert pipe between lake and creek. Price includes labor and materials.	\$15,400
• Add coloring to concrete on the ADA fishing pier and walkway	\$2,340
TOTAL	\$17,740

Assuming prompt approval, we will commence this change order immediately upon authorization and anticipate completing both the change order and the principle project by the end of the one-month extension granted last week.



Reference #3495.1-A

Water on MARRS is a fully licensed, insured, and bonded general contractor (Lic. #940440) in the state of California. We carry Workers Compensation insurance.

A \$25 Late Payment Processing Fee is assessed on any invoices past 30 days due. Additionally, interest of 1.5% per month will be added to any account past due.

Title remains in name of seller until paid in full. Purchaser agrees to pay in full all costs of collection, reasonable attorney's fees, and costs incurred by the seller to enforce payment of this notice. This notice serves as a 90-day preliminary notice to payor. Under the Mechanics Lien Law (Section 7018, California Business and Professional Code): Any contractor, subcontractor, laborer, supplier or other persons who help to improve your property but is not paid for his work or supplies, has the right to enforce a claim against your property. This means that after a court hearing, your property could be sold by a court officer, and the proceeds of the sale will be used to satisfy the indebtedness. This can happen even if you have paid your own contractor in full while the subcontractor and laborers or suppliers remain unpaid.

#### Liability Release/Waiver

Additionally, while Water on MARRS Inc. and its employees and affiliated companies (hereinafter referred to collectively as "The Company") will make every reasonable effort to ensure the safety of the water feature and additional elements as outlined above, The Customer as signed and printed below (referred to as the Customer) understands that an inherent danger exists with any water feature. This danger includes but is not limited to slippery surfaces and drowning hazards. The Customer releases The Company and its affiliates of any and all liability for any accidents or occurrences involving the water feature and/or other elements installed and/or serviced by The Company and resulting in injury, death, and/or damage to person, animal, or property, and assumes full responsibility for maintaining the safe operation and maintenance of said water feature and/or other elements.

By signing here, customer agrees to the terms and/or schedule set forward in this proposal, except as modified above and initialed by both parties. Customer's signature in effect converts this proposal into a contract, return of which along with the deposit designated above will serve to certify customer's intent in going forward with the proposed project and will confirm customer's position on Water on MARRS Inc.'s construction schedule.

Customer's acknowledgment:	Water on MARRS Representative:
Sign: _____ Date: _____	Sign: _____ Date: _____
Print: _____	Print: _____

#### **Water on MARRS Inc.**

PO Box 6776, Burbank, CA 91510 • Lic #940440

phone & fax: 1.877.MARRS-56 • email: DesignGroup@WATERonMARRS.com

www.WATERonMARRS.com



**Green Mountain Falls**

COLORADO  
OFFICE OF THE TOWN MANAGER

10516 Green Mountain Falls Road  
PO Box 524  
Green Mountain Falls, CO 80819  
www.gmfco.us

**BOARD OF TRUSTEES AGENDA MEMO**

<b>DATE: 11/15/2022</b>	<b>AGENDA NO</b>	<b>SUBJECT:</b>
<b>Presented by:</b> Becky Frank, Town Manager		MOU with DCI/Corporation for National Community Service

**Discussion:** This MOU allows Downtown Colorado Inc. to proceed with the submission of the VISTA assignment description draft and begin the recruitment process. The VISTA member would assist the Town in the implementation and support of the Land Use Code as well as supporting day-to-day planning functions. Additionally, the VISTA member will be assisting in the development of training opportunities and capacity building activities for the committees. Once the VISTA member has been recruited, there will be an opportunity to amend the assignment description to benefit from any specific skillset that the VISTA may bring to the table.

This process has been recently amended to reduce the Town's financial risk in the event that recruitment becomes challenging during the national labor shortage.

**Recommended Action:**

Approve the MOU with DCI/CNCS

Respectfully,

Becky Frank



# VISTA Assignment Description (VAD) Template

<b>Title:</b> Green Mountain Falls Community Development Fellow
<b>Sponsoring Organization:</b> Downtown Colorado, Inc. <b>Project Name:</b> <b>Project Number:</b> <b>Project Period:</b>
<b>Site Name (if applicable):</b>
<b>Focus Area(s)</b> <b>Primary:</b> Capacity Building <b>Secondary:</b>
<b>Note:</b> <i>If your VAD is not accepted, the State Office will note the reason(s) why here.</i>

## VISTA Assignment Objectives and Member Activities

**Goal of the Project:** Green Mountain Falls (GMF) is a small town of 667 in between Manitou Springs and Woodland Park, CO. GMF has an average poverty rate of 15.5%, above the national average of 15.2%, and has been struggling to build enough capacity for a municipal planning department to provide basic services for the community. The goal of this VISTA project is to review existing community resources and staffing and develop a strategy with a timeline for establishing a municipal community development department.

### **Objective of the Assignment (*start date – end date*)**

Goal of the Objective: Develop implementation strategies for the Town of Green Mountain Falls Land Use Code rewrite.

#### **Member Activities:**

1. Assist in implementing the new Land Use Code and procedures.
2. Serve as a liaison between staff members, property owners, and consultants around development and permitting requests.
3. Support and recommend procedural improvements for Land Use Code and the short-term rental policy in GMF.
4. Identify and apply for grants to support municipal planning functions and staff.
5. Assist the community in exploring additional community development projects/programs.

### **Objective of the Assignment (*start date – end date*)**

Goal of the Objective: Work with town staff to execute action items and strategies found in the GMF comprehensive plan.

#### **Member Activities:**

1. Work with Town committees to develop organizational capacity and procedural/professional development.

2. Assist the committees in identifying projects and developing annual work plans.
3. Research funding opportunities to support committee work and assist staff/committee members in completion of grant applications and grant administration.

**Objective of the Assignment (*start date – end date*)**

Goal of the Objective: Identify opportunities to create sustainability within the Town staff and develop communications plans and opportunities for civic engagement.

**Member Activities:**

1. Research innovative solutions to meet small town staffing needs.
2. Assist the Town and Committees in developing additional public outreach campaigns.
3. Facilitate stakeholder engagement events and opportunities for civic engagement.
4. Support and implement strategies aimed to improve the overall customer service of the Town.

**Objective of the Assignment (*start date – end date*)**

Reporting and Training

**Member Activities:**

1. Attend a monthly conference call with the Downtown Colorado, Inc. (DCI) AmeriCorps VISTA team and VISTA Leader.
2. Fill out monthly reporting to the VISTA Leader via google forms
3. Fill out a Community Assessment Form at the beginning and end of term of service
4. Attend quarterly DCI AmeriCorps VISTA trainings and DCI Annual Spring Conference (expenses and lodging paid by DCI). This will provide the VISTA member with relevant information and connections that work towards accomplish member activities. May be required to attend relevant meetings, forums, or conferences that relates and assists in the VISTA member accomplishing their VISTA activities outlined in this VAD.



**Memorandum of Understanding (MOU) Between Colorado Community Revitalization Association, dba Downtown Colorado, Inc.**

**&**

**The Town of Green Mountain Falls**

This Memorandum of Understanding (MOU) establishes a collaborative partnership between the above entities from November 2022 through May 2023.

This document defines the responsibilities of Downtown Colorado, Inc. (DCI) as the Project Sponsor and the **Town of Green Mountain Falls** as the Project Host Site with respect to the assignment of a AmeriCorps VISTA member to perform services outlined in the VISTA Assignment Description. The obligations of the parties hereto are subject to and governed by the terms and conditions of the Memorandum of Agreement between the Corporation for National & Community Service (CNCS) and Downtown Colorado, Inc., CNCS Project Number 16VSWCO001, which is incorporated herein by reference, and federal laws and regulations and CNCS policies applicable to the project, or which may become applicable to it subsequent to the execution of this Memorandum of Understanding (MOU).

1. As the Project Sponsor, Downtown Colorado, Inc. will:
  - a. Serve as the Fiscal Agent and overall administrator for the grant and provide overall supervision of the grant, provide assistance to the Project Host Sites and VISTA members in support of grant implementation, and be the liaison between Project Host Sites, VISTA members and AmeriCorps.
  - b. Comply with the provisions of the Memorandum of Agreement between the AmeriCorps and Downtown Colorado, Inc.
  - c. Monitor VISTA placements to the Project Host Site for the duration of this Memorandum of Understanding subject to the availability of funding and recruitment/training deadlines for VISTA Virtual Member Orientation (VMO) set forth by the AmeriCorps.
  - d. Assist the Project Host Site with the development of VISTA member work plans and assignment descriptions. Provide final approval of all VISTA work plans and assignment descriptions prior to VISTA candidates attending virtual member orientation and beginning their term of VISTA service.
  - e. Assist with the recruitment, screening, interviewing, and selection of VISTA candidates when requested by the Project Host Site.

- f. Coordinate and communicate quarterly trainings and professional development opportunities to the VISTA.
2. The Project Host Site will:
- a. Provide a Site Supervisor to provide day-to-day supervision of the activities of the VISTA member(s).
  - b. Notify DCI immediately of unexplained VISTA absence, lack of communication or problems.
  - c. Final approval for all VISTA candidates to attend VMO is subject to review and selection by the Colorado State AmeriCorps office.
  - d. Submit a VISTA Assignment Description (VAD) and Position Description to Project Sponsor for approval and complete all edits requested by Project Sponsor.
  - e. Provide the VISTA member(s) individualized On-Site Orientation and Training at the beginning of their term of service.
  - f. Use the approved VISTA Assignment Description (VAD) as the source of tasks and responsibilities for the VISTA member to empower the capacity building activities of the member.
  - g. Ensure that VISTA members dedicate 40 hours per week to their approved VISTA Assignment Description to address the community needs identified by the Project Host Community.
  - h. Ensure that VISTAs track their hours, sick days and leave days following the Project Host Site's existing procedures and tracking mechanisms.
  - i. Submit the VISTA member's timesheet on the 26<sup>th</sup> of each month. Inform the VISTA Supervisor and Director of Downtown Colorado, Inc. of any changes in status of the VISTA and other concerns related to the VISTA Project by completing a brief form on the 12<sup>th</sup> and 26<sup>th</sup> of each month.
  - j. Ensure that VISTA completes a brief monthly project report to DCI.
  - k. Schedule regular meetings (preferably weekly) with the VISTA member(s) to discuss the project and other concerns.
  - l. Provide adequate working space, materials, supplies, and access to a phone and computer to permit the VISTA member to perform his/her assigned duties.
  - m. Ensure that the VISTA member is reimbursed for all local travel associated with the project. Mileage reimbursement should be done in accordance with the Project Host Site's existing policies and procedures.
  - n. Allow the VISTA member to participate in scheduled professional development and training opportunities, site visits, and conference calls. The VISTA member will be required to attend four trainings hosted by Downtown Colorado, Inc. All costs associated with these trainings, including reimbursement for travel, will be covered by DCI.
  - o. Allow the VISTA member to participate in disaster relief/emergency response efforts as directed by CNCS.



- p. Allow the VISTA member to participate in Days of Service (e.g., MLK Day of Service, National Volunteer Week, Make A Difference Day) should activities be organized by the Downtown Colorado, Inc. or in a community where the VISTA member is serving.

### 3. Payment Terms and Dates

- a. The Project Host Site agrees to pay Downtown Colorado, Inc. a total of \$14,000 for the services of the VISTA volunteer; \$1,500 for administrative fees due upon signing this MOU and the remaining \$12,500 due upon the physical arrival of the VISTA volunteer at the Host Site.
- b. If the VISTA volunteer exits the project before completion of service, DCI will give the Project Host Site a pro-rated refund for the remaining VISTA Stipend minus \$1,500 for DCI administrative time. The pro-rated refund will thus equal \$9,000 (the amount eligible to be refunded) divided by 12, or times the months remaining for the year of service at the time of departure. Only complete remaining months will be refunded.
- c. In addition, the host site is encouraged to provide \$4,000 over the course of the year directly to the VISTA's landlord to assist with housing expenses (\$333 monthly). Alternative arrangements for housing assistance are possible, if the Project Host Site can locate housing for the VISTA, subject to approval by Downtown Colorado, Inc. and the Colorado State CNCS office.
- d. VISTA volunteers cannot be released from their position under the same procedures as regular employees as only the Corporation for National and Community Service (CNCS) can officially suspend or terminate a VISTA volunteer. Host Site organizations not in compliance with all program expectations may not be eligible for a partial refund of the VISTA Stipend. In the event of a termination of the VISTA Volunteer, the \$500 travel and training fee will not be refunded and housing assistance may be terminated at the Host Site communities' discretion.

### 4. Joint Responsibilities

Both parties to the Memorandum of Understanding shall:

- a. Make every reasonable effort to ensure that the health and safety of the VISTA members are protected during the performance of their assigned duties. Neither the Project Sponsor nor the Project Host Site shall assign or require VISTA members to perform duties which would jeopardize their safety or cause them to sustain injuries.
- b. Ensure that persons selected as VISTA members are not related by blood or marriage to Project Host Site staff, Project Sponsor staff, officers or members of the Project Host Site's or the Project Sponsor Site's boards of directors, or responsible program staff at CNCS.
- c. Neither the Project Sponsor nor the Project Host Site has the discretion or authority to dismiss or separate a VISTA member from service; CNCS is the sole authority that can terminate a VISTA member's term of service. The Project Site should document any performance or behavior issues and immediately report them to Downtown Colorado, Inc. The Project Sponsor Supervisor or Director of Downtown Colorado, Inc. will report such incidences to the state CNCS office and resolve them in

accordance with rules governing the grant. This is necessary to provide VISTA members due process.

#### 5. Non-Discrimination & Sexual Harassment

- a. No person with responsibilities in the operation of the project shall discriminate against any VISTA member, member of the staff, or beneficiary of the project with respect to any aspect of the project on the basis of race, religion, color, national origin, sex, sexual orientation, age, disability, political affiliation, marital or parental status, or military service.
- b. Sexual harassment is a form of discrimination based on sex, which is prohibited as addressed directly above. As a recipient of federal financial assistance from CNCS, the Project Sponsor and Project Host Site are responsible for violations of the prohibition against sexual harassment and for taking corrective action and/or disciplinary action if violations occur. Such sexual harassment violations include:
  - i. Acts of "quid pro quo," sexual harassment where a supervisor demands sexual favors for service benefits, regardless of whether the Project Sponsor or Project Host Site, their agents, or supervisory employees should have known of the acts.
  - ii. Unwelcome sexual advances, request for sexual favors and other verbal or physical conduct of a sexual nature which have the purpose or effect of creating an intimidating, hostile, or offensive service environment.
  - iii. Acts of sexual harassment toward fellow AmeriCorps VISTA members or non-employees, where the Project Sponsor or Project Host Site, their agents, or supervisory employees knew or should have known of the conduct, unless they took immediate and appropriate corrective action.

#### 6. Legal Restrictions

VISTA members should work to emphasize the mobilization of local human, financial, and material resources, the transference of skills to community residents, and the expansion of the capacity of the low-income community to solve its own problems. VISTA members should NOT perform administrative duties except for those related to the goals and objectives identified in their work plan.

The Project Host Site agrees that no VISTA member assigned under this MOU shall participate in:

- a. Partisan and non-partisan political activities, including voter registration.
- b. Direct or indirect attempts to influence passage or defeat of legislation or proposals by initiative petition.
- c. Labor or anti-labor organization or related activities.
- d. Religious instruction, worship services, proselytization, or any other religious activity as an official part of their duties.

The Project Host Site further agrees not to:

- e. Carry out projects (related to VISTA) resulting in the identification of such projects with partisan or non-partisan political activities, including voter registration activities or providing voters transportation to the polls.
- f. Assign VISTA members to activities that would result in the hiring or displacement of employed workers, filling-in for absent employees or supervisors, or impairing existing contracts for services.
- g. Approve the involvement of any VISTA member assigned to it in planning, initiating, participating in, or otherwise siding or assisting in any demonstrations whatsoever.
- h. Accept, or permit the acceptance of, compensation from the VISTA members or from beneficiaries for the service of the VISTA members.

7. Modifications

This Memorandum of Understanding may be amended at any time by an agreement in writing executed by authorized representatives of the Project Sponsor and Project Host Site.

8. Termination

- a. Downtown Colorado, Inc. will use the above provisions to determine continued eligibility of the **Town of Green Mountain Falls** to be a Project Host Site. Failure to comply with any of the roles and responsibilities as outlined in this MOU will result in responsive and corrective action to include removal of the VISTA member placed at your site. In this case, the Downtown Colorado Capacity Buildings Initiative will provide 14 days' notice of termination of and/or VISTA removal/transfer from the project.
- b. Any termination of the Memorandum of Understanding between Downtown Colorado, Inc. as the Project Sponsor and the Corporation for National & Community Service will result in the termination of all provisions of this Memorandum of Understanding.

Signatures for MEMORANDUM OF UNDERSTANDING between Downtown Colorado, Inc. and the **Town of Green Mountain Falls**.

Signature\_\_\_\_\_

**Kylie Brown**

Date\_\_\_\_\_

**VISTA Program Supervisor**

**Downtown Colorado, Inc.**

Signature\_\_\_\_\_

**Becky Frank**

Date\_\_\_\_\_

**Town Manager**

## Green Mountain Falls



**Parks, Recreation, and Trails Advisory Committee  
Agenda Memorandum**

<b>DATE: 11.15.2022</b>	<b>AGENDA NO 10</b>	<b>SUBJECT:</b> CDBG Phase I Concrete Tint
<b>Presented by:</b> PRT - Jesse Stroope, PRT Chair		
<b>Attachments:</b> None		

**Background**

At the 11.10.2022 meeting, the Parks, Recreation and Trails (PRT) Advisory Committee voted unanimously to recommend to the Board to add an integral stain of terra cotta color to the concrete for the CDBG Phase I project. It was also recommended to add a broom finish for safety

**Discussion**

To make the concrete used for the CDBG Phase I project integrate with the natural colors of Gazebo Park, the PRT is recommending a terra cotta, integral stain be added. This will include all the concrete work for this phase: the path to the ADA pier from the handicap parking, the pier, and the walkway through the park.

For safety concerns during snow and ice, a broom finish is recommended. Don Walker will discuss with the contractor what broom finish is appropriate.

The estimated cost to tint the concrete is \$2,300.

**Recommended Motion**

I move to approve the Change Order to add an integral stain of terra cotta color and suggested broom finish to the CDBG Phase I project.

**Alternative Options**