



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

INVITATION TO BID
COVER PAGE

BID Number:	7469-23
BID Title:	Hygiene Road at Foothills Reservoir Inlet
Optional Pre-Bid Meeting:	May 19, 2023 at 9:30 a.m. 5460 Hygiene Road, Longmont, CO 80503
BID Questions Due:	May 23, 2023 – 2:00 p.m.
Submittal Due Date:	June 6, 2023 – 2:00 p.m.
Email Address:	purchasing@bouldercounty.org
Documents included in this package:	Bid Instructions Terms and Conditions Specifications Insurance and W-9 Requirements Submittal Checklist Bid Tab Section Signature Page Sample Contract Plans & Specifications



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INSTRUCTIONS

1. Purpose/Background

The project site is located between US36 and the Town of Hygiene. The proposed project plans for the widening of approximately 1,500 linear feet existing paved roadway to provide bikeable shoulders and a 16-foot by 6-foot pre-cast concrete box culvert (installation) to replace the existing structure at the Foothills Reservoir Inlet. The project also includes diversion, cast-in-place end sections, stormwater management and erosion control, traffic control, driveway paving, roadway paving, fencing, guardrail, striping, and signage.

The project timeline is determined by the eagle nesting period. Construction may only occur from August 1, 2023 until December 1, 2023.

The pre-cast 16 foot by 6-foot box culvert will be supplied by Boulder County Public Works and is currently being advertised for manufacturing in a separate bid.

2. Optional Pre-Bid Meeting

There will be an optional Pre-Bid meeting located at 5460 Hygiene Road, Longmont, CO 80503 on **May 19, 2023 at 9:30 a.m.**

3. Written Inquiries

All inquiries regarding this BID will be submitted via email to the Boulder County Purchasing Office at purchasing@bouldercounty.org on or before 2:00 p.m. **May 23, 2023**. A response from the county to all inquiries will be posted and sent via email no later than **May 30, 2023**.

Do not contact any other county department or personnel with questions or for information regarding this solicitation.

4. Submittal Instructions

BIDs are due at the email box only, listed below, for time and date recording on or before **2:00 p.m. Mountain Time on June 6, 2023**. A bid opening will be conducted at 3:00 p.m. via Microsoft Teams. Please click on the link below or use the call-in number. A copy of the bid tab will also be sent to all who have submitted a Bid. **Vendors must answer whether line-item pricing information submitted with a bid is confidential or closely held.**

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 272 726 138 616

Passcode: iSVmRE

[Download Teams](#) | [Join on the web](#)

Or call in (audio only)

[+1 720-400-7859,,553669557#](#) United States, Denver

Phone Conference ID: 553 669 557#

Please note that email responses to this solicitation are limited to a maximum of 50MB capacity.

NO ZIP FILES OR LINKS TO EXTERNAL SITES WILL BE ACCEPTED. THIS INCLUDES GOOGLE DOCS AND SIMILAR SITES. ALL SUBMITTALS MUST BE RECEIVED AS AN ATTACHMENT (E.G. PDF, WORD, EXCEL).

Electronic Submittals must be received in the email box listed below. Submittals sent to any other box will NOT be forwarded or accepted. This email box is only accessed on the due date of your questions or proposals. Please use the Delivery Receipt option to verify receipt of your email. It is the sole responsibility of the proposer to ensure their documents are received before the deadline specified above. Boulder County does not accept responsibility under any circumstance for delayed or failed email or mailed submittals.

Email purchasing@bouldercounty.org; identified as **BID # 7469-23** in the subject line.

All BIDs must be received and time and date recorded by authorized county staff by the above due date and time. Sole responsibility rests with the bidder to see that their BID response is received on time at the stated location(s). Any BIDs received after due date and time will be returned to the bidder.

The Board of County Commissioners reserves the right to reject any and all BIDs, to waive any informalities or irregularities therein, and to accept the proposal that, in the opinion of the Board, is in the best interest of the Board and of the County of Boulder, State of Colorado.

Contractors and their employees, subcontractors, and agents must comply with all federal, state, and local laws, regulations, ordinances, orders, and codes, as well as Boulder County policies, guidelines, and protocols.

Americans with Disabilities Act (ADA): If you need special services provided for under the Americans with Disabilities Act, contact the ADA Coordinator or the Human Resources office at (303) 441-3525 at least 48 hours before the scheduled event.



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TERMS AND CONDITIONS

1. Bidders are expected to examine the drawing, specifications, schedule of delivery, and all instructions. Failure to do so will be at the bidder's risk.
2. Each bidder will furnish the information required in the Invitation to Bid.
3. The Contract/Purchase Order will be awarded to that responsible bidder whose submittal, conforming to the Invitation to Bid, will be most advantageous to the County of Boulder, based on best value not only price.
4. The County of Boulder reserves the right to reject any or all bids and to waive informalities and minor irregularities in bids received, and to accept any portion of or all items proposed if deemed in the best interest of the County of Boulder to do so.
5. No submittal will be withdrawn for a period of thirty (30) days subsequent to the opening of bids without the consent of the County Purchasing Agent or delegated representative.
6. A signed purchase order or contract furnished to the successful bidder results in a binding contract without further action by either party.
7. Late or unsigned bids will not be accepted or considered. It is the responsibility of bidders to ensure that the bid arrives at the Purchasing email address prior to the time indicated in the "Invitation to Bid."
8. The proposed price will be exclusive of any Federal or State taxes from which the County of Boulder is exempt by law.
9. Any interpretation, correction or change of the bid documents will be made by Addendum. Interpretations, corrections and changes of the bid documents made in any other manner will not be binding, and bidder will not rely upon such interpretations, corrections and changes. The County's Representative will not be responsible for oral clarification.

10. Confidential/Proprietary Information: Bids submitted in response to this “Invitation to Bid” and any resulting contract are subject to the provisions of the Colorado Open Records Act, 24-72-201 et seq., C.R.S., as amended. Any restrictions on the use or inspection of material contained within the bid or resulting contract should be clearly stated in the bid and contract itself. Confidential/proprietary information should be readily identified, marked and/or separated from the rest of the bid. Co-mingling of confidential/proprietary and other information is NOT acceptable. Vendors must answer whether line-item pricing information submitted with a bid is confidential or closely held. Bids that do not identify confidential/proprietary information may be released in their entirety. Pricing totals contained in a bid are not considered confidential.

The Boulder County Attorney’s Office retains sole authority for determining whether the Colorado Open Records Act requires or permits Boulder County to disclose proposal or bid documents, or any information contained therein, pursuant to an open records request.

11. Boulder County promotes the purchase/leasing of energy efficient materials and products with low toxicity levels when availability, quality and budget constraints allow. Proposers are expected whenever possible to provide products that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency with power management features enabled. Proposers are encouraged to offer products and equipment with post-consumer recycled-content materials. Products should be packaged and delivered with a minimum amount of recycled packaging that adequately protects the product but is not excessive.
12. Bid Security: Boulder County may require, at its discretion, bid security for construction contracts when the price is expected to exceed \$50,000 and for any other contracts as determined by Boulder County to be in its best interest. Bid security provides assurance to Boulder County that the bidder will, upon award, fulfill its bonding and contracting obligations as required by the instructions to bidders. When bid security is required, as indicated in the instructions to bidders, the following terms apply:
 - Bid security must be for an amount equal to 10 percent of the amount bid, unless otherwise stipulated in the instructions to bidders.
 - Bid security must be in the form of a bond, issued by a surety company authorized to do business in Colorado, or a bank cashier’s check made payable to Boulder County.
 - Bidders should scan and submit a copy of the bid security instrument with their bid submittal AND mail to Boulder County the actual bid security instrument, postmarked no later than the date of the bid deadline.
 - Bidder noncompliance with bid security requirements requires that the bid be rejected as nonresponsive.
 - The bid security is submitted as a guarantee that the bid will be maintained in full force and effect for a period of thirty (30) days after the opening of the bids.

Accordingly, after bids are opened, they shall be irrevocable for a period of thirty (30) days.

- If a bidder is permitted to withdraw his bid before award, at Boulder County's sole discretion, no action shall be had against the bidder or the bid security.
- Following award, if a contractor fails to deliver the required performance and payment bonds or refuses to enter into a contract with Boulder County under the terms of its winning bid, the contractor's bid shall be rejected and its bid security will be enforced by Boulder County to the extent of actual damages.



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SPECIFICATIONS

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Plans and Specifications are attached at the endo of this document.



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INSURANCE AND W-9 REQUIREMENTS

PAYMENT & PERFORMANCE BONDS

Both a payment and a performance bond are required for this project and must each equal 100% of the proposed cost. Please include the cost of this bonding into the total proposed cost.

INSURANCE REQUIREMENTS

Commercial General Liability

Coverage should be provided on an Occurrence form, ISO CG0001 or equivalent. The policy shall be endorsed to include Additional Insured Owners, Lessees or Contractors endorsements CG 2038 (or equivalent), Designated Construction Project(s) General Aggregate Endorsement CG2503 (or equivalent) and Additional Insured Completed Operations for Owners, Lessees or Contractors CG 2037 (or equivalent). Minimum limits required of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products/Completed Operations Aggregate. The County requires the Products/Completed Operations coverage to be provided 3 years after completion of construction. An endorsement must be included with the certificate.

Automobile Liability

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of the Contract. Minimum limits \$1,000,000 Each Accident.

Workers' Compensation and Employer's Liability

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee.

Umbrella / Excess Insurance

Umbrella/Excess Liability insurance in the amount \$1,000,000.00, following form.

Pollution Liability

Coverage pay for those sums the Contractor becomes legally obligated to pay as damages because of Bodily Injury, Property Damage or environmental Damage arising out of a pollution incident caused by the Contractor's work including Completed Operations. Coverage shall include emergency response expenses, pollution liability during transportation (if applicable) and at Non-

Owned Waste Disposal Site (if applicable). The Minimum limits required are \$1,000,000 Per Occurrence/Loss and \$1,000,000 Policy Aggregate. If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed. County shall be named as an additional insured for ongoing operations and completed operations.

Boulder County as Additional Insured: Boulder County shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract. Additional insured shall be endorsed to the policy.

THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS: County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insureds.

In regards to General Liability, Umbrella/Excess Liability, and Pollution Liability: If any or all of these coverages are required above, additional insured status will be required at the time a contract is executed.

Note that the above insurance amounts are the minimum required for this project. Proof of current insurance must be provided with your proposal in the form of a sample certificate. You are NOT required to include additional insured status until the time a contract is executed.

If you require a waiver of insurance requirements you may request one in your response with an explanation.

W-9 REQUIREMENT

Provide a copy of your business's W-9 with your proposal.



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SUBMITTAL SECTION

The bidder’s attention is especially called to the items listed below, which must be submitted in full as part of the BID. Failure to submit any of the documents listed below as a part of your BID, or failure to acknowledge any addendum in writing with your BID, or submitting a bid on any condition, limitation or provision not officially invited in this Invitation to Bid (BID) may be cause for rejection of the BID.

THIS CHECKLIST MUST BE SUBMITTED AS PART OF YOUR BID PACKAGE: Bidder will check each box indicating compliance:

INCLUDED	ITEM
	Name and Address of the Partners and Subcontractors if applicable
	A detailed project schedule with an all-inclusive total cost
	Information on the relevant experience of key personnel
	State your compliance with the Terms and Conditions in the Sample Contract contained in this BID. Specifically list any deviations and provide justification for each deviation.
	Submit three references for similar projects your company has completed within the last three years and contact information. Boulder County will review all contractor evaluation forms from previous County projects.
	Insurance Certificate
	W-9
	Signature Page
	Addendum Acknowledgement(s) (If Applicable)

THIS QUESTION MUST BE ANSWERED AS PART OF YOUR BID PACKAGE: Bidder will answer Yes or No indicating compliance:

YES OR NO	ITEM
	Do you customarily keep line-item pricing information, such as the information being submitted with this proposal, confidential or closely-held?



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BID TAB

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL UNITS	UNIT COST	TOTAL COST
201-00000	CLEARING AND GRUBBING	LS	1	_____	_____
202-00010	REMOVAL OF TREE	EA	10	_____	_____
202-00020	REMOVAL OF BOX CULVERT	EA	1	_____	_____
202-00035	REMOVAL OF PIPE	LF	42	_____	_____
202-00220	REMOVAL OF ASPHALT MAT	SY	3,575	_____	_____
202-00810	REMOVAL OF GROUND SIGN	EA	9	_____	_____
202-01130	REMOVAL OF GUARDRAIL	LF	135	_____	_____
202-01000	REMOVAL OF FENCE	LF	90	_____	_____
202-01400	REMOVAL OF CATTLE GUARD	EA	1	_____	_____
203-01598	POTHOLING (SPECIAL)	EA	4	_____	_____
203-00060	EMBANKMENT (COMPLETE IN PLACE)	CY	855	_____	_____
206-00000	STRUCTURE EXCAVATION	CY	540	_____	_____
206-00100	STRUCTURE BACKFILL (CLASS 1)	CY	131	_____	_____
206-01750	SHORING (TEMPORARY)	LS	1	_____	_____
207-00210	STOCKPILE TOPSOIL	CY	369	_____	_____
207-00700	TOPSOIL (ONSITE)	CY	269	_____	_____

207-00702	TOPSOIL (OFFSITE)	CY	100		
207-00706	SEEDING MEDIA	CY	150		
208-00002	EROSION LOG TYPE 1 (12 INCH)	LF	500		
208-00020	SILT FENCE	LF	635		
208-00045	CONCRETE WASHOUT STRUCTURE	EA	1		
208-00075	PRE-FABRICATED (VEHICLE TRACKING PAD)	EA	2		
208-00301	TEMPORARY DIVERSION	LS	1		
210-00810	RESET GROUND SIGN	EA	8		
210-00815	RESET SIGN PANEL	EA	8		
210-01000	RESET FENCE	LF	388		
210-01011	RESET GATE	EA	1		
211-03005	DEWATERING	LS	1		
212-00700	ORGANIC FERTILIZER	LB	35		
216-00201	SOIL RETENTION BLANKET (STRAW-COCONUT) (BIODEGRADABLE CLASS 1)	SY	500		
218-00000	NOXIOUS WEED MANAGEMENT	HR	30		
240-00000	WILDLIFE BIOLOGIST	HR	8		
240-00010	REMOVAL OF NESTS	HR	8		
240-00020	NETTING	SY	50		
240-00100	PRAIRIE DOG MANAGEMENT	LS	1		
304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	1727		
403-33741	HOT MIX ASPHALT (GRADING S) (75) (PG 64-22)	TON	1231		
403-34742	HOT MIX ASPHALT (GRADING SX) (75) (PG 64-22)	TON	615		
506-00212	RIPRAP (12 INCH)	CY	75		
515-00120	WATERPROOFING (MEMBRANE)	SY	156		
601-03030	CONCRETE CLASS D (REBAR INCLUDED)	CY	35		
603-01155	15" RCP	LF	51		
603-71606	16X6 FOOT CONCRETE BOX CULVERT (PRECAST)(INSTALLATION)	LF	66		

606-02003	END ANCHORAGE (NONFLARED)	EA	1	_____	_____
606-01340	END ANCHORAGE TYPE 3D	EA	1	_____	_____
606-00302	GUARDRAIL TYPE 3 W-BEAM (7' POSTS)	LF	105	_____	_____
607-11530	FENCE	LF	101	_____	_____
611-00016	16 FOOT CATTLE GUARD	EA	1	_____	_____
614-00011	SIGN PANEL (CLASS 1)	SF	155	_____	_____
614-00220	STEEL SIGN POST (2.5X2.5X INCH TUBING)	LF	260	_____	_____
614-01564	STEEL SIGN POST (2.5 INCH SQUARE SOCKET)	EA	26	_____	_____
619-00005	WATER LINE (EXTENSION)	LS	1	_____	_____
619-00006	CONNECT TO EXISTING WATER LINE	EA	2	_____	_____
620-00020	SANITARY FACILITY	EA	1	_____	_____
625-00000	CONSTRUCTION SURVEYING	LS	1	_____	_____
626-00000	MOBILIZATION	LS	1	_____	_____
627-00008	MODIFIED EPOXY PAVEMENT MARKING	GAL	31	_____	_____
629-01005	SURVEY MONUMENT (TYPE 5)	EA	3	_____	_____
630-00000	FLAGGING	HR	1440	_____	_____
630-00007	TRAFFIC CONTROL INSPECTION	DAY	40	_____	_____
630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	80	_____	_____
	FORCE ACCOUNT				
700-70010	MINOR CONTRACT REVISIONS	F/A	1	_____	_____
	TOTAL			_____	_____

Enclosed herewith is the required bid bond in the amount of ten percent (10%) (\$_____) which the bidder agrees to be forfeited to and become the property of the County of Boulder as liquidated damage should this proposal be accepted and a Contract be awarded to him and he fails to enter into a Contract in the form prescribed and to furnish the required bonds and insurance within ten days upon his signing the contract and delivering the approved bonds. In submitting the bid it is understood that the right is reserved by the County of Boulder to reject any and all bids.



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SIGNATURE PAGE

Contact Information	Response
Company Name including DBA	
List Type of Organization (Corporation, Partnership, etc.)	
Name, Title, and Email Address of Person Authorized to Contract with Boulder County	
Company Address	
Company Phone Number	
Company Website	

By signing below I certify that:

- I am authorized to bid on my company's behalf.
- I am not currently an employee of Boulder County.
- None of my employees or agents is currently an employee of Boulder County.
- I am not related to any Boulder County employee or Elected Official.
- (Sole Proprietorships Only) I am not a Public Employees' Retirement Association (PERA) retiree.

**Signature of Person Authorized to Bid on
 Company's Behalf**

Date

Note: If you cannot certify the above statements, please explain in a statement of explanation.

BOULDER COUNTY SAMPLE CONTRACT

THIS CONTRACT ("Contract") is entered into by and between the Board of County Commissioners on behalf of the County of Boulder, State of Colorado, a body corporate and politic, for the benefit of the [Department] ("County") and [Supplier] ("Contractor"). County and Contractor are each a "Party," and collectively the "Parties."

In consideration of the mutual covenants contained in this Contract, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Incorporation into Contract: The **Details Summary** is incorporated into this Contract. The **Contract Documents** are incorporated into this Contract by reference, except to the extent that the Proposal, if any is incorporated, contains any obligations placed upon County and not otherwise contained in this Contract.

2. Work to be Performed: Contractor will provide all labor and equipment and do all tasks necessary and incidental to performing the work as described in the **Details Summary** and **Contract Documents** (the "Work"). Contractor will perform the Work (i) in a good and workmanlike manner, (ii) at its own cost and expense, (iii) in accordance with recognized industry standards of care, skill and diligence for the type of work being performed, and (iv) in strict accordance with the Contract. County and its representatives shall have access to the Work at all times.

a. Contractor shall supervise and direct the Work and shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

b. Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services necessary for the proper execution and completion of the Work. Contractor warrants that all materials incorporated into the Work will be new unless otherwise specified.

c. Contractor shall at all times enforce good order among its employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to such person. Contractor shall initiate, maintain, and supervise all safety precautions and programs in connection with the Work to ensure safe conditions on the premises at all times. Contractor shall comply with all laws, regulations, ordinances, rules, and orders of any public authority bearing on the safety of persons and property. In the event that County notifies Contractor of any unsafe conditions or practices, Contractor shall immediately take all actions required to remediate them at no expense to County. County reserves the right to immediately suspend the Work in the event of imminent hazard, as determined by County.

d. At all times, Contractor shall keep the premises free from accumulation of waste materials or rubbish caused by Contractor's operations. Upon completion of the Work, Contractor shall remove all of its waste materials and rubbish from the premises, as well as its tools, construction equipment, machinery and surplus materials.

e. Contractor shall confine operations on the premises to areas permitted by law, ordinances, permits, this Contract, and as directed by County, including storage of any materials or equipment.

f. Any claim for an increase in the **Contract Amount** shall be made and generally described by Contractor in writing and delivered to County promptly, in no event later than thirty (30) days after the occurrence of the event giving rise to the claim. Notice of the amount of the claim with supporting data shall be delivered to County within sixty (60) days after such occurrence and shall be accompanied by Contractor's written statement that the amount claimed covers all known amounts to which Contractor is entitled as a result of the occurrence of said event. All claims for increase in the **Contract Amount** shall be determined by County if the Parties are unable to otherwise reach agreement on the claim.

g. Before ordering any materials or doing any Work, Contractor shall verify all measurements for the Work and shall be responsible for the correctness of same.

3. Term of Contract: The **Contract Term** begins on the **Start Date** and expires on the **Expiration Date**, unless terminated sooner. All the Work must be performed during the **Contract Term**.
4. Payment for Work Performed: In consideration of the Work performed by Contractor, and subject to conditions contained in this Contract, County will pay an amount not to exceed the **Contract Amount** to Contractor in accordance with the **Contract Documents**.
5. Invoicing: Contractor will promptly provide a copy of its Form W-9 and invoice template to County upon request. Contractor must submit an invoice to the County by the fifteenth (15th) day of the month for completion of any Work performed in the prior calendar month. All invoices submitted require the following components: Contractor's name and address (submitted W-9 address must match remit address), detailed description of services, dates of services, itemization of labor and materials costs, "Bill to: Boulder County" language, payment remittance address, payer, name and address, date of invoice, unique invoice number, and total amount due. Contractor must send all completed invoices to the **Invoice Contact** in the **Details Summary**. County may require delivery of invoices by email. Failure to submit invoices in a timely manner and in accordance with the terms of this Contract may cause a delay in payment. County may recoup any damages incurred because of Contractor's failure to submit invoices pursuant to the terms of this paragraph. County's acceptance or payment of an invoice will not constitute acceptance of any Work performed under this Contract.
6. Extra Time to Complete the Work (Additional Time only): If Contractor cannot complete the Work by the **Expiration Date**, Contractor may request extra time to complete the Work. County, in its sole discretion, may grant Contractor additional time to complete the Work by sending a written notice of extension to Contractor. An extension of time to complete the Work will not entitle Contractor to additional compensation from County.
7. Extension of Contract Term (Additional Time and Work): Upon mutual agreement of the Parties, this Contract may be extended until the **Final End Date**. During any extended **Contract Term**, the terms of this Contract will remain in full force and effect, unless otherwise amended in writing by the Parties. Where the Contractor will provide additional services for additional compensation beyond the initial **Contract Amount**, the Parties must execute a written amendment before the then-current **Expiration Date**. If necessary, the written amendment will incorporate an updated Scope of Work and updated Fee Schedule as exhibits. Contractor must provide a current Certificate of Insurance to the County that complies with the **Insurance Requirements** of this Contract, if any, prior to any extended **Contract Term**.
8. Schedule of Work: County may designate the hours (on a daily or weekly basis) during which Contractor may perform the Work, strictly for the purposes of minimizing inconvenience to the County and interference with County operations. Contractor will otherwise set its own work schedule. Contractor shall promptly notify County of any aspect of the Work that will not be delivered or accomplished according to the initial schedule.
9. Indemnity: Contractor will be liable for any damages to persons or property caused by or arising out of the actions, obligations, or omissions of Contractor, its employees, agents, representatives or other persons acting under Contractor's direction or control in performing or failing to perform the Work under this Contract. Contractor will indemnify and hold harmless County, its elected officials and appointed department heads, and its employees, agents and representatives (the "indemnified parties"), from any and all liability, claims, demands, actions, damages, losses, judgments, costs or expenses, including attorneys' fees, which may be made or brought or which may result against any of the indemnified parties as a result or on account of the actions or omissions of Contractor, its employees, agents or representatives, or other persons acting under Contractor's direction or control. This indemnification obligation will extend to claims based on Contractor's unauthorized use or disclosure of confidential information and intellectual property infringement. County will not be obligated to indemnify or defend Contractor under any circumstances. Contractor's obligations under this provision shall survive expiration or termination of this Contract. Nothing contained in this Contract or the **Contract Documents** is intended to limit or restrict the indemnification rights or obligations of any Party under this provision, or damages available for breaches of the obligations herein.
10. Nondiscrimination: Contractor will comply with the Colorado Anti-Discrimination Act, C.R.S. § 24-34-401, et seq., as amended, and all applicable local, State and Federal laws concerning discrimination and unfair employment practices. County prohibits unlawful discrimination on the basis of race, color, religion, gender, gender identity, national origin, age 40 and over, disability, socio-economic status, sexual orientation, genetic information, or any other status protected by applicable Federal, State or local law. Contractor must require that its subcontractors, if any, similarly comply with all applicable laws concerning discrimination and unfair employment practices.

11. Information and Reports: Contractor will provide to authorized County, State, and Federal government representatives all information and reports that may be required for any purpose authorized by law. Contractor will permit access to such representatives to Contractor's facilities, books, records, accounts, and any other relevant sources of information. Where information required by a representative is in the exclusive possession of a person or entity other than Contractor, Contractor must so certify to the County and explain what efforts it has made to obtain the information.

12. Independent Contractor: Contractor is an independent contractor for all purposes in performing the Work. None of Contractor, its agents, personnel or subcontractors are employees of the County for any purpose, including the Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the Colorado Workers' Compensation Act, the Colorado Unemployment Insurance Act, and the Public Employees Retirement Association. Accordingly, County will not withhold or pay any income tax, payroll tax, or retirement contribution of any kind on behalf of Contractor or Contractor's employees. As an independent contractor, Contractor is responsible for employing and directing such personnel and agents as it requires to perform the Work. Contractor will exercise complete authority over its personnel and agents and will be fully responsible for their actions.

13. Termination

a. Breach: Either Party's failure to perform any of its material obligations under this Contract, in whole or in part or in a timely or satisfactory manner, will be a breach. The institution of proceedings under any bankruptcy, insolvency, reorganization or similar law, by or against Contractor, or the appointment of a receiver or similar officer for Contractor or any of its property, which is not vacated or fully stayed within thirty (30) days after the institution of such proceeding, will also constitute a breach. In the event of a breach, the non-breaching Party may provide written notice of the breach to the other Party. If the breaching Party does not cure the breach, at its sole expense, as reasonably determined by the non-breaching Party in its sole discretion, within thirty (30) days after delivery of notice, the non-breaching Party may exercise any of its remedies provided under this Contract or at law, including immediate termination of this Contract.

b. Non-Appropriation: The other provisions of this Contract notwithstanding, County is prohibited by law from making commitments beyond the current fiscal year. Payment to Contractor beyond the current fiscal year is contingent on the appropriation and continuing availability of funding in any subsequent year. County has reason to believe that sufficient funds will be available for the full **Contract Term**. Where, however, funds are not allocated for any fiscal period beyond the current fiscal year, County may terminate this Contract without penalty by providing seven (7) days' written notice to Contractor.

c. Convenience: In addition to any other right to terminate under this Section 13, County may terminate this Contract, in whole or in part, for any or no reason, upon seven (7) days' advance written notice to Contractor.

14. Contractor Obligations upon Termination or Expiration: By the **Expiration Date** or effective date of termination, if earlier, Contractor must (1) remove from County property all of its personnel, equipment, supplies, trash and any hazards created by Contractor, (2) protect any serviceable materials belonging to the County, and (3) take any other action necessary to leave a safe and healthful worksite. Any items remaining on County property after the Expiration Date or the effective date of termination, if earlier, will be deemed abandoned by Contractor.

15. Payable Costs in Event of Early Termination: If County terminates this Contract before the **Expiration Date**, Contractor's payments (and any damages associated with any lawsuit brought by Contractor) are limited to only (1) payment for Work satisfactorily executed and fully and finally completed, as determined by County in its sole discretion, prior to delivery of the notice to terminate, and (2) the reasonable and actual costs Contractor incurred in connection with performing the Work prior to delivery of the notice to terminate. Contractor explicitly waives all claims it may have against the County for any other compensation, such as anticipatory profits or any other consequential, special, incidental, punitive or indirect damages.

16. Remedies for Non-Performance: If Contractor fails to perform any of its obligations under this Contract, County may, at its sole discretion, exercise one or more of the following remedies (in addition to any other remedies provided by law or in this Contract), which shall survive expiration or termination of this Contract:

a. Suspend Performance: County may require that Contractor suspend performance of all or any portion of the Work pending necessary corrective action specified by the County and without entitling Contractor to an increase in compensation or extension of the performance schedule. Contractor must promptly stop performance and incurring costs upon delivery of a notice of suspension by the County.

b. Withhold Payment Pending Corrections: County may permit Contractor to correct any rejected Work at the County's discretion. Upon County's request, Contractor must correct rejected work at Contractor's sole expense within the time frame established by the County. Upon full and final completion of the corrections satisfactory to the County, County will remit payment to Contractor.

c. Deny Payment: County may deny payment for any Work that does not comply with the requirements of the Contract or that Contractor otherwise fails to provide or fully and finally complete, as determined by the County in its sole discretion. Upon County request, Contractor will promptly refund any amounts prepaid by the County with respect to such non-compliant Work.

d. Removal: Upon County's request, Contractor will remove any of its employees or agents from performance of the Work, if County, in its sole discretion, deems any such person to be incompetent, careless, unsuitable, or otherwise unacceptable.

17. Binding Arbitration Prohibited: County does not agree to binding arbitration by any extra-judicial body or person.

18. Conflicts of Interest: Contractor may not engage in any business or personal activities or practices or maintain any relationships that conflict in any way with the full performance of Contractor's obligations.

19. Notices: All notices provided under this Contract must be in writing and sent by Certified U.S. Mail (Return Receipt Requested), electronic mail, or hand-delivery to the other Party's **Contact** at the address specified in the **Details Summary**. For certified mailings, notice periods will begin to run on the day after the postmarked date of mailing. For electronic mail or hand-delivery, notice periods will begin to run on the date of delivery.

20. Statutory Requirements: This Contract is subject to all statutory requirements that are or may become applicable to counties or political subdivisions of the State of Colorado generally, including but not limited to: C.R.S. § 38-26-107, which requires withholding funds where the County receives a claim for payment from a supplier or subcontractor of Contractor upon notice of final settlement (required for public works contracts that exceed \$150,000); C.R.S. § 8-17-101 et seq.; C.R.S. § 18-8-301, et seq.; and C.R.S. § 18-8-401, et seq.

21. Legal Interpretation. Each Party recognizes that this Contract is legally binding and acknowledges that it has had the opportunity to consult with legal counsel of its choice about this Contract. The rule of construction providing that any ambiguities are resolved against the drafting Party will not apply in interpreting the terms of this Contract.

22. Entire Agreement/Binding Effect/Amendments: This Contract represents the complete agreement between the Parties and is fully binding upon them and their successors, heirs, and assigns, if any. This Contract terminates any prior agreements, whether written or oral in whole or in part, between the Parties relating to the Work. This Contract may be amended only by a written agreement signed by both Parties.

23. Assignment/Subcontractors: This Contract may not be assigned or subcontracted by Contractor without the prior written consent of the County. If Contractor subcontracts any of its obligations under this Contract, Contractor will remain liable to the County for those obligations and will also be responsible for subcontractor's performance under, and compliance with, this Contract. Contractor shall not contract with a person or entity to whom County has made a reasonable objection.

24. Governing Law/Venue: The laws of the State of Colorado govern the construction, interpretation, performance, and enforcement of this Contract. Any claim relating to this Contract or breach thereof may only be

brought exclusively in the Courts of the 20th Judicial District of the State of Colorado and the applicable Colorado Appellate Courts.

25. Breach: The failure of either Party to exercise any of its rights under this Contract will not be deemed to be a waiver of such rights or a waiver of any breach of the Contract. All remedies available to a Party in this Contract are cumulative and in addition to every other remedy provided by law.

26. Severability: If any provision of this Contract becomes inoperable for any reason but the fundamental terms and conditions continue to be legal and enforceable, then the remainder of the Contract will continue to be operative and binding on the Parties.

27. Third-Party Beneficiary: Enforcement of the terms and conditions and all rights and obligations of this Contract are reserved to the Parties. Any other person receiving services or benefits under this Contract is an incidental beneficiary only and has no rights under this Contract. Notwithstanding, where the beneficiary **Department** is led by an Elected Official, such Elected Official shall be considered a third-party beneficiary.

28. Colorado Open Records Act: County may disclose any records that are subject to public release under the Colorado Open Records Act, C.R.S. § 24-72-200.1, et seq.

29. Conflict of Provisions: If there is any conflict between the terms of the main body of this Contract and the terms of any of the **Contract Documents**, the terms of the main body of the Contract will control.

30. Governmental Immunity: Nothing in this Contract shall be construed in any way to be a waiver of the County's immunity protection under the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as amended.

31. Representations and Warranties: Contractor represents and warrants the following:

- a. Execution of this Contract and performance thereof is within Contractor's duly authorized powers;
- b. The individual executing this Contract is authorized to do so by Contractor;
- c. Contractor is authorized to do business in the State of Colorado and is properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over the Work and the Contractor; and
- d. Contractor and its subcontractors, if any, are financially solvent, able to pay all debts as they mature, and have sufficient working capital to complete the Work and perform all obligations under the Contract.

32. Legal Compliance: Contractor assumes full responsibility for obtaining and maintaining any permits and licenses required to perform the Work. Contractor is solely responsible for insuring that its performance under this Contract and the Work itself will comply with all Federal, State, and local laws, regulations, ordinances and codes. Contractor shall promptly notify County if any drawings or specifications are at variance with any laws, regulations, ordinances, or codes. If Contractor performs any Work contrary to such laws, regulations, ordinances, or codes, Contractor shall bear all costs arising therefrom. County approval of the Work or any aspect of Contractor's performance, such as drawings, specifications, plans, designs, or other Contractor-drafted documents, shall not be interpreted to mean that Contractor has satisfied its obligations under this Section.

33. Litigation Reporting: Contractor is not currently involved in any action before a court or other administrative decision-making body that could affect Contractor's ability to perform the Work. Contractor will promptly notify the County if Contractor is served with a pleading or other document in connection with any such action.

34. Tax Exemption: County is exempt from payment of Federal, State, and local government taxes. Contractor shall collect no tax from the County, and the County shall not be liable to pay any taxes imposed on Contractor. County shall provide its tax exemption status information to Contractor upon request.

35. Delegation of Authority: The Parties acknowledge that the Board of County Commissioners has delegated authority to the Department Head or Elected Official that leads the beneficiary **Department** and their designees to act on behalf of the County under the terms of this Contract, including but not limited to the authority to terminate this Contract.

36. Ownership of Work Product: All work product, property, data, documentation, information or materials conceived, discovered, developed or created by Contractor pursuant to this Contract (“Work Product”) will be owned exclusively by the County. To the extent possible, any Work Product will be deemed to be a work made for hire. Contractor unconditionally and irrevocably transfers and assigns to the County all right, title and interest in and to any Work Product.

37. Publicity Releases: Contractor will not refer to this Contract or the County in commercial advertising without prior written consent of the County. This provision shall survive expiration or termination of this Contract.

38. Execution by Counterparts; Electronic Signatures: This Contract may be executed in multiple counterparts, each of which will be deemed an original, but all of which will constitute one agreement. The Parties approve the use of electronic signatures, governed by the Uniform Electronic Transactions Act, C.R.S. §§ 24 71.3 101 to 121. The Parties will not deny the legal effect or enforceability of this Contract solely because it is in electronic form or because an electronic record was used in its creation. The Parties will not object to the admissibility of this Contract in the form of electronic record, or paper copy of an electronic document, or paper copy of a document bearing an electronic signature, because it is not in its original form or is not an original.

39. Limitation on Public Statements and Lobbying Activity. During the term of this Contract, Contractor may receive from the County its confidential data, work product, or other privileged or confidential information that is protected by law. To maintain the fact and appearance of absolute objectivity, Contractor shall not, without the prior written consent of the County, which shall not be unreasonably withheld, do any of the following: (a) disclose information obtained because of this contractual relationship to any third party; (b) lobby any State or Federal agency on any pending matter while this Contract is effective; or (c) make any public statements or appear at any time to give testimony at any public meeting on the subject matters regarding which Contractor is or was retained by the County. County may set reasonable conditions on any disclosure authorized by the County under this provision. Notwithstanding, Contractor may make disclosures as required by law, and to law enforcement officials in connection with any criminal justice investigation.

40. Sustainability: All construction, deconstruction, remodel, and office move projects are required to follow construction waste procedure modeled off of Boulder County BuildSmart Code, International Green Construction Code (IGCC), International Energy Conservation Code (IECC), and Leadership in Energy and Environmental Design (LEED) certification, as an effort to achieve maximum jobsite waste diversion, energy efficiency, and water conservation. All ‘demolition projects’ are to follow deconstruction procedures. Instead of demolition project materials being crushed and primarily sent to the landfill, these projects should be systematically dismantled, typically in the opposite order they were constructed, in order to maximize the salvage of materials. Any hazardous materials encountered should follow state and federal standards, and contractor shall leverage the Boulder County Hazardous Materials Management facility for hazardous materials. The development of a project diversion plan is encouraged to include material types and volume/weight estimations as well as planned destinations. Projects must track all jobsite waste.

41. Limitation of Liability: COUNTY SHALL NOT BE LIABLE TO CONTRACTOR FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO THIS CONTRACT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. COUNTY’S AGGREGATE LIABILITY, IF ANY, ARISING FROM OR RELATED TO THIS CONTRACT, WHETHER IN CONTRACT, OR IN TORT, OR OTHERWISE, IS LIMITED TO, AND SHALL NOT EXCEED, THE AMOUNTS PAID OR PAYABLE HEREUNDER BY COUNTY TO CONTRACTOR. ANY CONTRACTUAL LANGUAGE LIMITING CONTRACTOR’S LIABILITY SHALL BE VOID.

42. County Opportunity to Review: Contractor shall provide County with the opportunity to review and approve or take other appropriate action upon the Contractor’s submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents.

43. Notice to Proceed: The Parties agree that time is of the essence and work will begin after a “Notice to Proceed” has been issued by the County and in accordance with the terms therein.

44. Retainage: County may retain partial payment pending completion and County acceptance of the Work as satisfactory and fully and finally complete. For contracts that exceed \$150,000, the retention rate shall not exceed five percent (5%). C.R.S. § 24-91-103. Contractor is responsible for submitting a final invoice for any retainage held by

County. If it becomes necessary for County to take over completion of the Work, all of the amounts owing to Contractor, including the withheld percentage, shall be applied: First, towards completion of the Work; second, towards performance of the withholding requirement set forth in C.R.S. § 38-26-107; third, to the surety furnishing bonds for the Work, to the extent such surety has incurred liability or expense in competing the Work or made payments pursuant to C.R.S. § 38-26-106; then, to Contractor. Such retained percentage as may be due to Contractor shall be due and payable as provided by C.R.S. § 38-26-107.

45. Bonds: Upon County's request, Contractor shall obtain and deliver to County payment and performance bonds each equal to 100% of the total Contract. Bonds shall be executed by a qualified corporate surety and must be acceptable to County. County reserves the right to accept other acceptable forms of surety in lieu of a bond, and to reduce the bond requirements set forth herein consistent with C.R.S. § 38-26-106.

46. Change Orders: If unforeseen modifications or changes are required, Contractor may submit a Change Order request to County, which must include a complete description, timeline, and fee schedule for the proposed work. Change Orders are not effective until approved by County in writing.

47. No Suspension or Debarment: Contractor certifies, and warrants for the duration of this Contract, that neither it nor its principals nor any of its subcontractors are debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this Contract by any Federal or State department or agency. Contractor shall comply, and shall require its subcontractors to comply, with subpart C of 2 C.F.R. § 180.

48. Permits/Licenses/Code Compliance: Prior to starting the Work, Contractor will identify and obtain, and maintain during this Contract, all permits and licenses necessary to perform the Work. Contractor shall comply with all State and local codes. Contractor is responsible for locating all public utilities, as necessary. Contractor shall require its subcontractors to comply with this provision. HVAC, roofing, and general contractors must be licensed through Boulder County Land Use. Electricians and plumbers must be licensed through the State and registered with Boulder County Land Use Building Safety and Inspection Division. Architects, Professional Engineers and Professional Land Surveyors must be fully-licensed through the State. All required permits and licenses must be provided to County prior to Contractor beginning the Work.

49. Stormwater Quality Protection Requirements: Contractor will take all measures necessary to prevent pollutants from entering storm drains and watercourses. To eliminate stormwater pollution, Contractor shall implement effective Best Management Practices (BMPs). BMPs include general good housekeeping practices, appropriate scheduling of activities, operational practices, maintenance procedures and other measures to prevent the discharge of pollutants directly or indirectly to the storm drain system. These BMPs shall be maintained for the duration of this Contract. Contractor shall also be responsible for proper disposal of all waste materials, including wastes generated by the implementation of BMPs. Contractor shall otherwise comply with the Federal Clean Water Act, Colorado Water Quality Control Act, and Boulder County's local Clean Water Act, Illegal Discharge Ordinance (No. 2012-4). For work performed in urbanized areas, Contractor must comply with the requirements of MS4 permit (COR090000), which is available through the Colorado Department of Public Health and Environment.

50. Guaranties and Warranties: Upon completion of the Work, Contractor will provide County with a written guaranty covering all labor, materials and workmanship incorporated into the Work for one (1) year, or within any such longer period of time as may be prescribed by law, the specifications, or any other applicable special warranty required by the **Contract Documents**. Final payment upon full and final completion of the Work will not relieve Contractor of responsibility for faulty material or workmanship, which County may require Contractor to fix at Contractor's sole expense, in addition to County's other remedies. This provision shall apply to Work completed by Contractor's employees and subcontractors.

51. Final Payment: A final inspection of the Work shall be conducted by County. If a list of deficiencies results from such final inspection, Contractor shall promptly rectify all items appearing thereon before final payment will be made. When County indicates acceptance of the Work, Contractor may request final payment from County, including any retained amounts. Final payment shall be subject to C.R.S. § 38-26-107.

52. Notice of Final Settlement: Prior to remitting final payment to Contractor, County shall publish a Notice of Final Settlement in accordance with C.R.S. § 38-26-107. Final payment will be rendered in accordance with the statute

and the other terms of this Contract. Final payment will not be rendered until County, in its sole discretion, determines full and final completion of the Work.

53. Geographic Information System (GIS) Data: Contractors agree that the following, specified data formats, shall be used and/or adhered to when submitting required data to the County:

a. All GIS data must be ArcGIS 10.x compatible. Shapefiles may be accepted with written, pre-approval, from the County.

b. All GIS data must have complete metadata, following Boulder County GIS Metadata Standards located at: <https://assets.bouldercounty.org/wpcontent/uploads/2018/03/metadata-standards-contractors.pdf>

c. All Computer Aided Design (CAD) files must have an assigned real world coordinate system to ensure compatible conversion into the County's GIS system, if necessary.

d. All spatial or georeferenced data will be provided to the county in the following coordinate system:

i. Name:

NAD 1983 HARN State Plane Colorado

North FIPS 0501 Feet

ii. Unit:

Foot US

iii. Projection:

Lambert Conformal Conic

iv. Horizontal Datum:

North American Datum 1983 HARN

v. Vertical Datum:

North American Vertical Datum 1988

vi. Spheroid:

GRS 1980

e. Contractors are responsible for capturing section corners or quarter corners for specific projects to be added into the Public Land Survey System (PLSS) project for updating the section corners, Contractors shall provide high-accuracy PLSS monument coordinates for each corner section or quarter corner section monument used as control points or that occur within the project area ("putting it on the cap") as is reasonable, depending on the difficulty to access the point. All positions to be collected shall be required to use (at a minimum) the Real-Time Kinematic (RTK) method.

54. State Specifications: The Standard Specifications for Road and Bridge Construction 2017, either in whole or as set forth in the Bid Documents, are expressly incorporated into this Contract by reference.

55. Determination of Unit Prices: County will determine the actual quantities and classifications of Unit Price Work performed by Contractor. The Parties will review the County's preliminary determinations before County renders a written decision thereon (by recommendation of an Application for Payment or otherwise), which shall be final and binding upon Contractor. The value of any Unit Price Work covered by a Change Order or claim for an increase or decrease in the Contract Amount shall be determined by applying the unit prices to the quantities of items.

a. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, the Parties agree that the Contract Amount includes the total cost of Unit Price Work, determined by multiplying the quantity of each item by its unit price. Initial quantity determinations are estimates, which must be adjusted to reflect actual quantities. Contractor shall make a claim in writing to County for any additional amounts owed where actual quantities exceed estimated quantities. Contractor shall provide such written claim within twenty (20) days of providing the items and shall be accompanied by supporting documentation. The written claim shall include a statement that the claimed amount covers all known amounts (direct, indirect and consequential) to which Contractor is owed. County shall only pay Contractor for actual quantities of items provided hereunder.

b. The Parties agree that each unit price adequately covers Contractor's overhead and profit for each item.

56. Records Retention/Access/Audits: Contractor shall maintain all records and documents pertaining to this Contract in accordance with the requirements prescribed by County. Such records shall be maintained for a period of five (5) calendar years after the date of Contractor's final payment from County under this Contract. Contractor agrees

that County or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Contract as necessary and upon request, throughout the term of this Contract, and for five (5) calendar years after the date of the final payment hereunder. Contractor agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. County and Contractor acknowledge that protected information is exempt from this requirement without proper client release.

57. **Insurance:** Prior to commencing the Work, Contractor will provide a Certificate of Insurance to the County demonstrating adequate insurance coverage as required by this paragraph. All policies evidencing coverage required by the Contract will be issued by insurance companies satisfactory to the County. Contractor will forward Certificates of Insurance directly to the **County Department** and **Contact** listed in the **Details Summary**.

a. **Boulder County as Additional Insured:** Boulder County shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract. Additional insured shall be endorsed to the policy.

THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS: *County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insured.*

b. **Notice of Cancellation:** Each insurance policy required by this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days' prior written notice has been given to the County except when cancellation is for non-payment of premium, then ten (10) days' prior notice may be given. If any insurance company refuses to provide the required notice, Contractor or its insurance broker shall notify the County any cancellation, suspension, or nonrenewal of any insurance policy within seven (7) days of receipt of insurers' notification to that effect.

c. **Insurance Obligations of County:** County is not required to maintain or procure any insurance coverage beyond the coverage maintained by the County in its standard course of business. Any insurance obligations placed on the County in any of the **Contract Documents** shall be null and void.

d. **Deductible:** Any and all deductibles contained in any insurance policy shall be assumed by and at the sole risk of Contractor.

e. **Primacy of Coverage:** Coverage required of Contractor and its subcontractors, if any, shall be primary over any insurance or self-insurance program carried by the County.

f. **Subrogation Waiver:** All insurance policies in any way related to this Contract secured or maintained by Contractor as required herein shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against County, its organizations, officers, agents, employees, and volunteers.

g. **Requirements.** For the entire duration of this Contract including any extended or renewed terms, and longer as may be required by this Contract, Contractor shall procure and maintain at its own expense, and without cost to the County, the following kinds and minimum amounts of insurance to insure the liability risks that Contractor has assumed under this Contract:

Commercial General Liability

Coverage should be provided on an Occurrence form, ISO CG0001 or equivalent. The policy shall be endorsed to include Additional Insured Owners, Lessees or Contractors endorsements CG 2038 (or equivalent), Designated Construction Project(s) General Aggregate Endorsement CG2503 (or equivalent) and Additional Insured Completed Operations for Owners, Lessees or Contractors CG 2037 (or equivalent). Minimum limits required of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products/Completed Operations Aggregate. The County requires the Products/Completed Operations

coverage to be provided 3 years after completion of construction. An endorsement must be included with the certificate.

Automobile Liability

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of the Contract. Minimum limits \$1,000,000 Each Accident.

Workers' Compensation and Employer's Liability

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee.

Umbrella / Excess Insurance

Umbrella/Excess Liability insurance in the amount \$1,000,000.00, following form.

Pollution Liability

Coverage pay for those sums the Contractor becomes legally obligated to pay as damages because of Bodily Injury, Property Damage or environmental Damage arising out of a pollution incident caused by the Contractor's work including Completed Operations. Coverage shall include emergency response expenses, pollution liability during transportation (if applicable) and at Non-Owned Waste Disposal Site (if applicable). The Minimum limits required are \$1,000,000 Per Occurrence/Loss and \$1,000,000 Policy Aggregate. If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed. County shall be named as an additional insured for ongoing operations and completed operations.

[Signature Page to Follow]

IN WITNESS WHEREOF, the Parties have executed and entered into this Contract as of the latter day and year indicated below.

SIGNED for and on behalf of Boulder County		SIGNED for and on behalf of Contractor	
Signature:		Signature:	
Name:		Name:	
Title:		Title:	
Date:		Date:	
<i>↓↓ For Board-signed documents only ↓↓</i>			
Attest:		<i>Initials</i>	
Attestor Name:			
Attestor Title:			

**BOULDER COUNTY PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION**



HYGIENE ROAD AT FOOTHILLS RESERVOIR INLET

BOULDER COUNTY PROJECT NUMBER: BC-001001-1.4

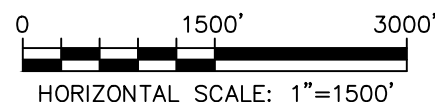
A PORTION OF THE NE 1/4 OF SEC 14, AND A PORTION OF THE SE 1/4 OF SEC 14, T2N, R70W, 6TH P.M.

TABULATION OF LENGTH & DESIGN DATA		
DESCRIPTION	FEET	
	ROADWAY	CULVERT
HYGIENE ROAD (PAVED COLLECTOR) STA 7+52.97 TO 23+27.73	1,575	68
TOTAL	1,575	16
SUMMARY OF PROJECT LENGTH	FEET	MILES
ROADWAY (NET LENGTH)	1,575	0.30
STRUCTURE	60	0.01
PROJECT GROSS LENGTH	1,575	0.30

DESIGN DATA	HYGIENE RD
DESIGN SPEED (STA 7+50.96 TO 12+83.20)	35 MPH
DESIGN SPEED (STA 12+83.20 TO 21+52.70)	30 MPH
DESIGN SPEED (STA 21+52.70 TO 23+93.25)	35 MPH
POSTED SPEED	25 MPH
AVERAGE DAILY TRAFFIC (ADT)	1000 VPD
MINIMUM RADIUS OF CURVE	265'
MAXIMUM PROFILE GRADE	5%
MINIMUM GRADE	0.67%
MINIMUM S.S.D. HORIZONTAL	180'
MINIMUM S.S.D. VERTICAL	250'
MINIMUM S.S.D. VERTICAL	250'



LOCATION MAP



INDEX OF SHEETS	
SHEET NO	DESCRIPTION
1	TITLE SHEET
2	STANDARD PLANS LIST
3-6	GENERAL NOTES
7-8	SUMMARY OF APPROXIMATE QUANTITIES
9-12	TABULATION OF APPROXIMATE QUANTITIES
13-14	SUB-SURFACE UTILITY
15-16	TOPOGRAPHIC SURVEY
17-18	TYPICAL SECTIONS
19-22	REMOVAL PLANS
23-26	ROADWAY PLAN AND PROFILES
27-30	SIGNING AND STRIPING PLANS
30-36	ROADWAY CROSS SECTIONS
37	DETOUR PLAN
38	CULVERT DIVERSION PLAN
39-43	STRUCTURES PLANS
44	CULVERT DETAILED GRADING PLAN
45-55	EROSION CONTROL (SWMP) PLANS

APPROVED FOR CONSTRUCTION:

_____, P.E. DATE: _____
COUNTY ENGINEER

C:\PW_WORK\ATKINS\ATKINS\GLOBAL\COM\DM551368\GNTS01.DWG LAST PLOTTED 5/8/2023 4:22 PM

NO.	DATE	REVISION DESCRIPTION:

C:\PW_WORK\ATKINS\GLOBAL\COM\DM551368\GNSP01.DWG LAST PLOTTED 5/8/2023 4:23 PM

PLAN NUMBER	M STANDARD TITLE	PAGE NUMBER
<input checked="" type="checkbox"/> M-100-1	STANDARD SYMBOLS (3 SHEETS)	1-3
<input checked="" type="checkbox"/> M-100-2	ACRONYMS AND ABBREVIATIONS (4 SHEETS)	4-7
<input type="checkbox"/> M-203-1	APPROACH ROADS	8
<input checked="" type="checkbox"/> M-203-2	DITCH TYPES	9
<input type="checkbox"/> M-203-11	SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS (3 SHEETS)	10-12
<input checked="" type="checkbox"/> M-203-12	SUPERELEVATION STREETS (2 SHEETS)	13-14
<input checked="" type="checkbox"/> M-206-1	EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS)	15-16
<input type="checkbox"/> M-206-2	EXCAVATION AND BACKFILL FOR BRIDGES (2 SHEETS)	17-18
<input checked="" type="checkbox"/> M-208-1	TEMPORARY EROSION CONTROL (11 SHEETS)	19-29
<input type="checkbox"/> M-210-1	MAILBOX SUPPORTS (2 SHEETS)	30-31
<input type="checkbox"/> M-214-1	NURSERY STOCK DETAILS	32
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COLORADO
 DEPARTMENT OF TRANSPORTATION
M&S STANDARDS PLANS LIST
 July 31, 2019
 Revised on February 17, 2023

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

THE M&S STANDARD PLANS USED TO DESIGN THIS PROJECT ARE INDICATED BY A MARKED BOX AND WILL BE ATTACHED TO THE PLANS. ALL OTHER M&S STANDARD PLANS ARE STILL ELIGIBLE FOR USE IN CONSTRUCTION IF APPROVED BY AN APPROPRIATE CDOT ENGINEER.

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GENERAL NOTES:

- G1. ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH IN THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2022 AND THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD PLANS M&S STANDARDS, BOULDER COUNTY MULTIMODAL TRANSPORTATION STANDARDS, APPLICABLE STATE AND FEDERAL REGULATIONS, PROJECT SPECIAL PROVISIONS AND PROJECT PLANS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS, SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE MOST RESTRICTIVE STANDARD SHALL APPLY. ALL REFERENCE TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.
- G2. LOCATION OF STAGING AREAS, EQUIPMENT AND MATERIAL STORAGE ARE THE CONTRACTOR'S RESPONSIBILITY, AND MUST BE COORDINATED WITH THE PROPERTY OWNER AND COUNTY.
- G3. ANY MONUMENTS DISTURBED BY THE CONSTRUCTION OPERATIONS SHALL BE RESET OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE, IN ACCORDANCE WITH THE PAY ITEMS IN THIS CONTRACT.
- G4. CONSTRUCTION SURVEYING INCLUDES ALL FIELD SURVEY STAKING AS REQUIRED FOR CONSTRUCTION OF THE PROJECT, INCLUDING LAYOUT FOR STRIPING AND PAVING MARKINGS.
- G5. CONTRACTOR SHALL PROTECT EXISTING VEGETATION NOT DESIGNATED FOR REMOVAL, INSIDE AND OUTSIDE THE PROJECT AREA. LOCATE, MARK, AND PROTECT VALVES AND CONTROL BOXES ADJACENT TO CONSTRUCTION ACTIVITIES. DAMAGED VEGETATION UNDESIGNATED FOR REMOVAL, SHALL BE REPLACED WITH SIMILAR ITEMS AT THE CONTRACTOR'S EXPENSE.
- G6. CONSTRUCTION INSPECTION WILL BE PROVIDED BY BOULDER COUNTY. QUALITY CONTROL MATERIAL TESTING WILL BE PROVIDED BY THE CONTRACTOR.
- G7. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE LIMITS OF DISTURBANCE. ANY DISTURBANCE BEYOND THOSE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE. CONSTRUCTION ACTIVITIES SHALL ALSO INCLUDE VEHICLE AND EQUIPMENT PARKING, DISPOSAL OF LITTER, AND ANY OTHER ACTIVITY THAT WOULD ALTER EXISTING CONDITIONS.
- G8. UNLESS OTHERWISE SPECIFIED, REMOVAL ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVALS SHALL BE DISPOSED OF OUTSIDE OF THE PROJECT'S LIMITS, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- G9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL AND SECURITY. REFER TO OSHA PUBLICATION 2226, EXCAVATING AND TRENCHING.
- G10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT ON THE CONSTRUCTION SITE, AND AVAILABLE TO THE BOULDER COUNTY INSPECTOR AT ALL TIMES. THESE UPDATES SHALL BE DONE AS WORK PROGRESSES. PREPARATION OF AS-BUILT PLANS WILL NOT BE PAID FOR SEPARATELY. FINAL PIPE INVERTS AND SIGN LOCATIONS SHALL BE PROVIDED IN CAD FORMAT AND SHALL BE INCLUDED IN THE WORK.
- G11. UPON COMPLETION OF CONSTRUCTION, THE SITE SHALL BE CLEANED AND RESTORED TO A CONDITION EQUAL TO OR BETTER THAN, THAT WHICH EXISTED BEFORE CONSTRUCTION, OR TO THE GRADES AND CONDITION REQUIRED IN THESE PLANS.
- G12. DISPOSAL OF EXCESS MATERIAL OFF-SITE OR THE IMPORTING OF MATERIALS ON-SITE, REGARDLESS OF PROPERTY OWNERSHIP, MUST BE DONE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS AND POLICIES.
- G13. ALL EXCESS MATERIAL GENERATED WITHIN THE PROJECT LIMITS SHALL BE

REMOVED FROM THE PROJECT SITE AT NO ADDITIONAL COST TO THE PROJECT UNLESS SPECIFIED IN THE PLANS.

- G14. A BOULDER COUNTY HAULER LICENSE IS REQUIRED FOR HAULING OF MATERIAL OFF SITE, REGARDLESS OF WHERE THE MATERIAL IS DEPOSITED. THIS APPLIES TO THE PRIME CONTRACTOR AS WELL AS ANY SUBCONTRACTORS THAT COLLECT, TRANSPORT OR DISPOSE OF DISCARDED MATERIALS (GARBAGE, RECYCLABLES, OR COMPOSTABLES), CONSTRUCTION AND DEMOLITION WASTE, OR LANDSCAPING MATERIALS) IN UNINCORPORATED BOULDER COUNTY. SEE LINK FOR ADDITIONAL INFORMATION [HTTPS://WWW.BOULDERCOUNTY.GOV/ENVIRONMENT/TRASH/HAULER-LICENSE/](https://www.bouldercounty.gov/environment/trash/hauler-license/).

EARTHWORK NOTES:

- E1. WATER SHALL BE USED AS A DUST PALLIATIVE, WHERE REQUIRED, AND APPROVED BY THE ENGINEER. LOCATIONS SHALL BE AS ORDERED AND WILL NOT BE PAID FOR SEPARATELY. DEPTH OF MOISTURE – DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:
 - FULL DEPTH OF EMBANKMENTS
 - BASES OF CUTS AND FILLS EIGHT (8) INCHES
- E2. EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.
- E3. THE TYPE OF COMPACTION FOR EARTHWORK ON THIS PROJECT SHALL BE AASHTO T99 (STANDARD PROCTOR). PROOFROLLING OF ALL SUBGRADE WILL BE REQUIRED PRIOR TO PAVING AND SHALL BE INCLUDED IN THE COST OF THE WORK.

SIGNING, STRIPING AND TRAFFIC CONTROL NOTES:

- S1. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING, INSTALLING, AND MAINTAINING THE REQUIRED CONSTRUCTION ZONE TRAFFIC CONTROL DEVICES AND PERSONNEL PER SPECIAL PROVISIONS, SECTION 630 OF THE STANDARD SPECIFICATIONS AND THE MUTCD. THE CONTRACTOR IS PROHIBITED FROM STARTING WORK AT ANY LOCATION IF A TRAFFIC CONTROL PLAN, INCLUDING BICYCLES AND PEDESTRIANS, HAS NOT BEEN SUBMITTED AND APPROVED BY THE BOULDER COUNTY ENGINEER OR TRAFFIC ENGINEER.
- S2. ALL TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE PAID FOR AS INDIVIDUAL ITEMS AS SPECIFIED IN THESE PLANS. THESE ITEMS SHALL INCLUDE ALL WORK REQUIRED TO SAFELY CONTROL TRAFFIC FOR THE PUBLIC AND WORKERS PER SECTION 630. THIS WORK INCLUDES, BUT IS NOT LIMITED TO: PREPARATION OF TRAFFIC CONTROL PLANS, TRAFFIC CONTROL INSPECTION/MANAGEMENT, UNIFORMED TRAFFIC CONTROL, FLAGGING, CONSTRUCTION TRAFFIC SIGNS, TEMPORARY STRIPING, DRUMS/CONES, BARRICADES, SEQUENCING ARROW PANELS AND PORTABLE MESSAGE SIGNS.
- S3. CONTRACTOR SHALL PROVIDE SAFE, LOCAL ACCESS FOR ALL ADJACENT PROPERTY OWNERS, EMERGENCY SERVICES, SCHOOL BUSES, DELIVERIES, ETC. AT ALL TIMES.
- S4. REMOVAL OF TEMPORARY PAVEMENT MARKINGS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.
- S5. THE CONTRACTOR SHALL ONLY CLOSE THE SECTION OF ROADWAY REQUIRED TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. LOCAL ACCESS TO PROPERTIES SHALL BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES. ALL TRAFFIC CONTROL SET UP SHALL BE COORDINATED WITH BOULDER COUNTY PRIOR TO CONSTRUCTION. ALL TIMES. ALL TRAFFIC CONTROL SET UP SHALL BE COORDINATED WITH BOULDER COUNTY PRIOR TO CONSTRUCTION.

- S7. THE CONTRACTOR SHALL NOT LEAVE A VERTICAL EDGE NEXT TO THE TRAVELED WAY DURING NON-WORKING HOURS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- S8. THERE SHALL BE NO SITE CONSTRUCTION ACTIVITIES ON SATURDAYS, SUNDAYS OR HOLIDAYS UNLESS THERE IS SPECIFIC WRITTEN APPROVAL BY BOULDER COUNTY.

POSTS:

SIGN POSTS SHALL BE 2" X 2" X 10' (14 GAUGE) GALVANIZED PERFORATED SQUARE STEEL TUBING.

SIGN POST BASES SHALL BE 2 ¼" X 2 ¼" (12 GAUGE, 3' IN LENGTH) GALVANIZED PERFORATED SQUARE STEEL TUBING.

BASES SHALL BE INCLUDED IN THE COST FOR SIGN POSTS. TOP OF BASES SHALL BE 3" ± ABOVE FINISHED GRADE. THE SIGN POST SHALL BE INSTALLED 4" TO THE BASE AND BOLTED BOTH WAYS.

SIGN POST LOCATIONS SHALL BE APPROVED BY THE ENGINEER AND ROAD MAINTENANCE SIGN SHOP REPRESENTATIVE PRIOR TO INSTALLATION.

SIGNS:

THICKNESS OF ALL SIGN PANELS SHALL BE .100"

PAVEMENT MARKINGS:

FINAL PAVEMENT STRIPING SHALL BE EPOXY PER CDOT STANDARD SPECIFICATIONS.

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EROSION AND STORMWATER NOTES:

- ER1. THE CONTRACTOR SHALL PROTECT ALL WORK AREAS AND FACILITIES FROM WATER AT ALL TIMES. AREA AND FACILITIES SUBJECTED TO FLOODING, REGARDLESS OF THE SOURCE OF WATER SHALL BE PROMPTLY DEWATERED AND RESTORED AT NO COST TO THE OWNER. THIS SHALL INCLUDE REMOVAL OF ANY DEBRIS CAUSED BY FLOODING.
- ER2. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AT THE LIMITS OF CONSTRUCTION AND AT AREAS WITH DISTURBED SOIL, ON OR OFF SITE, PRIOR TO ANY OTHER GROUND DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR, UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS ARE STABILIZED WITH HARD SURFACE OR LANDSCAPING. EROSION CONTROL MEASURES SHALL BE PLACED CONTINUALLY AS DRAINAGE FEATURES ARE BEING CONSTRUCTED.
- ER3. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN EXISTING CONTROL MEASURES AND ENSURE THEIR COMPLETE REMOVAL FROM THE PROJECT ONCE 70% OF THE PRE-EXISTING VEGETATION HAS BEEN RE-ESTABLISHED.
- ER4. TOPSOIL FOR THE FINAL SEEDING SHALL BE OBTAINED FROM WITHIN THE PROJECT SITE AND ALSO FROM EXTERNAL SOURCES. THE REMOVAL OF THE EXISTING TOPSOIL, TOPSOIL STOCKPILING AND PLACEMENT OF TOPSOIL SHALL ALL BE PAID FOR AS "TOPSOIL (ONSITE)" CUBIC YARD PAY ITEM. TOPSOIL THAT IS IMPORTED FROM EXTERNAL SOURCES SHALL BE PAID FOR AS "TOPSOIL (OFFSITE) CUBIC YARD PAY ITEM. TOPSOIL (ONSITE) FOR FINAL SEEDING SHALL NOT CONTAIN NOXIOUS WEEDS.
- ER5. SEE STORMWATER MANAGEMENT PLAN FOR EROSION CONTROL MEASURES.
- ER6. CONTRACTOR/PERMITTEE SHALL PERIODICALLY INSPECT ALL INSTALLED CONTROL MEASURES, PROVIDE MAINTENANCE, AND MAKE REPAIRS AS NECESSARY TO PREVENT THEIR FAILURE.
- ER7. VEHICLE TRACKING CONTROLS SHALL BE USED AT ALL VEHICLE AND EQUIPMENT ACCESS POINTS TO THE SITE TO PREVENT SEDIMENT EXITING THE PROJECT SITE ONTO PAVED PUBLIC ROADS. ACCESS SHALL BE PROVIDED ONLY AT LOCATIONS APPROVED BY THE ENGINEER. VEHICLE TRACKING CONTROL LOCATIONS SHALL BE RECORDED ON THE SWMP SITE MAP.
- ER8. ALL INLETS AND CULVERTS SHALL BE PROTECTED DURING ONSITE CONSTRUCTION ACTIVITIES. INLET PROTECTION LOCATIONS SHALL BE RECORDED ON THE SWMP SITE MAP.
- ER9. CONCRETE WASTED IN DESIGNATED DEWATERING AREAS SHALL BE COLLECTED, REMOVED FROM THE PROJECT SITE, AND DISPOSED OF PROPERLY. WASTED CONCRETE ALSO INCLUDES EXCESS CONCRETE REMOVED FROM FORMS, SPILLS, SLOP, AND ALL OTHER UNUSED CONCRETE THAT ENDS UP ON THE GROUND.
- ER10. THE CONTRACTOR/PERMITTEE MUST MAINTAIN A SPILL KIT ON SITE WHEN WORKING AROUND SURFACE WATERS. IF POLLUTANTS ARE SPILLED INTO ANY SURFACE WATERS DURING THE COURSE OF CONSTRUCTION ACTIVITIES, THE CONTRACTOR/PERMITTEE MUST NOTIFY THE OWNER'S REPRESENTATIVE OR ENGINEER IMMEDIATELY.
- ER11. ALL EXISTING MATURE TREES WITHIN THE DESIGNATED PROJECT AREA ARE TO BE FENCE PROTECTED IN PLACE AT DRIPLINE UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PRIOR TO THE INITIATION OF WORK, THE ENGINEER SHALL MARK ANY TREES AND/OR LARGE SHRUBS TO BE REMOVED AS PART OF CONSTRUCTION ACTIVITIES. AREAS OF TREE REMOVAL SHALL BE DETERMINED AND MARKED IN COLLABORATION BETWEEN THE CONTRACTOR/PERMITTEE AND THE ENGINEER.
- ER12. ALL EXCAVATION ACTIVITIES OCCURRING WITHIN 10 FEET OF THE DRIPLINE

SHALL BE PERFORMED BY HAND AND IF NECESSARY, ROOTS SHALL BE CLEANLY CUT NOT TORN OR RIPPED. IF EXPOSED, TREE ROOTS SHALL BE BACKFILLED AND WATERED ON THE SAME DAY OF CUTTING AND APPROVED ROOT STIMULATOR SHALL BE APPLIED. SOILS SHALL NOT BE COMPACTED WITHIN THE DRIPLINE OF MATURE TREES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

ER13. A BOULDER COUNTY STORMWATER QUALITY PERMIT (SWQP) IS REQUIRED FOR THIS PROJECT. BECAUSE IT DISTURBS ONE ACRE OR MORE THE BOULDER COUNTY STORMWATER QUALITY PERMIT CAN BE ACQUIRED VIA [HTTPS://WWW.BOULDERCOUNTY.ORG/TRANSPORTATION/PERMITS/STORMWATER-QUALITY-PERMIT/](https://www.bouldercounty.org/transportation/permits/stormwater-quality-permit/)

ER14. A STATE CONSTRUCTION DEWATERING WASTEWATER DISCHARGE PERMIT IS NOT REQUIRED ON THIS PROJECT SINCE WATER WILL NOT BE DISCHARGED INTO ANY WATERS OF THE UNITED STATES.

WASTE MANAGEMENT:

- WM1. THE CONTRACTOR/PERMITTEE SHALL NOT BURN, BURY, OR OTHERWISE DISCHARGE CONSTRUCTION OR DEMOLITION WASTE ON THE SITE UNLESS SPECIFIED OTHERWISE.
- WM2. THE CONTRACTOR/PERMITTEE SHALL PROVIDE A SANITARY FACILITY AND ASSOCIATED MAINTENANCE SCHEDULE FOR THE CONSTRUCTION AREA SUFFICIENT TO ACCOMMODATE THE CONSTRUCTION CREW AND ALL OTHER AUTHORIZED PERSONS TO BE ONSITE DURING CONSTRUCTION ACTIVITIES TO BE PAID FOR AS SANITARY FACILITY (EACH).

HAZARDOUS MATERIALS:

- HM1. THE CONTRACTOR/PERMITTEE SHALL TRANSPORT, USE, AND STORE HAZARDOUS MATERIALS IN ACCORDANCE WITH ALL REGULATORY REQUIREMENTS. SPILLED HAZARDOUS MATERIALS, INCLUDING HAZARDOUS LIQUID WASTES, SHALL BE REMOVED FROM THE SITE AND THE PROPERTY RESTORED TO ITS PRE-SPILL STATE IN ACCORDANCE WITH REGULATORY REQUIREMENTS.
- HM2. THE CONTRACTOR/PERMITTEE SHALL IMMEDIATELY REPORT SPILLS TO THE PROPER REGULATORY AUTHORITY AND SHALL IMMEDIATELY NOTIFY THE ENGINEER.
- HM3. HANDLING OF CONSTRUCTION FUELS AND LUBRICANTS:
 - A. THE CONTRACTOR/PERMITTEE SHALL EMPLOY PERSONS QUALIFIED TO HANDLE CONSTRUCTION EQUIPMENT FUELS AND LUBRICANTS.
 - B. THE CONTRACTOR/PERMITTEE SHALL REFUEL AND SERVICE EQUIPMENT AWAY FROM FLOODPLAINS OF RIVERS, STREAMS AND OTHER BODIES OF WATER. THE CONTRACTOR/PERMITTEE SHALL ENSURE EQUIPMENT THAT ENTERS THE WATER IS FREE FROM EXTERNAL GREASE, OIL, AND MUD.
 - C. THE CONTRACTOR/PERMITTEE SHALL PREVENT HANDLING AND FUELING OPERATIONS FROM CONTAMINATING THE GROUND, SURFACE WATER, AND GROUND WATER. THE CONTRACTOR/PERMITTEE SHALL USE CONTAINMENT BERMS AND AN IMPERMEABLE BASE COURSE OR OTHER SYSTEM TO CONTAIN SPILLED FUEL.

GENERAL CARE OF WATER

- WC1. NO CONSTRUCTION EQUIPMENT SHALL BE OPERATED BELOW THE EXISTING WATER SURFACE UNLESS SPECIFICALLY AUTHORIZED BY THE STORMWATER QUALITY PERMIT ISSUED BY BOULDER COUNTY, AND ANY OTHER APPLICABLE LOCAL, STATE OR FEDERAL LICENSE OR PERMIT.
- WC2. CARE OF WATER SHALL INCLUDE PROVISIONS FOR HANDLING GROUNDWATER, RAINSTORM RUNOFF, SNOW, SNOWMELT, AND ICE THAT MAY ENTER THE WORK AREA.
- WC3. THE CONTRACTOR/PERMITTEE SHALL PROVIDE AND MAINTAIN SEDIMENT PONDS OR OTHER MEANS, REMOVE SEDIMENT FROM WATERS COLLECTED WITHIN ACTIVE CONSTRUCTION AREAS PRIOR TO ALLOWING IT TO ENTER OR RETURN INTO THE WATERCOURSE. CONTRACTOR/PERMITTEE SHALL DISPOSE OF SEDIMENTS IN A SUITABLE OFF- SITE WASTE DISPOSAL FACILITY.
- WC4. IN THE EVENT OF UNSCHEDULED CONSTRUCTION ACTIVITY THAT RESULTS IN A VISUALLY CONSPICUOUS PLUME OF SEDIMENT, CONTRACTOR/PERMITTEE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND UNDERTAKE MITIGATION ACTIONS NECESSARY TO COMPLY WITH THE SPECIFIED CLEAN WATER CRITERIA.



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UTILITY NOTES:

- U1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/ OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE.
- U2. THE CONTRACTOR SHALL CALL FOR UTILITY LOCATIONS A MINIMUM OF THREE (3) WORKING DAYS (PREFERRED SEVEN (7) WORKING DAYS) PRIOR TO ANY EXCAVATION AT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 OR 811. ALSO, NOTIFY INDIVIDUAL UTILITIES 48-HOURS PRIOR TO ANY EXCAVATION.
- U3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING UTILITIES, INCLUDING ALL ACTIVE IRRIGATION FACILITIES DURING CONSTRUCTION AND SHALL HOLD THE COUNTY HARMLESS FOR DAMAGE ARISING FROM FAILURE TO ADEQUATELY PROTECT UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS REQUIRED TO PROTECT EXISTING UTILITIES AND/OR TO WORK AROUND SUCH UTILITIES. THIS INCLUDES, BUT IT NOT LIMITED TO, SUPPORTING AND SHORING OF EXISTING UTILITIES.
- U4. ALL UNDERGROUND UTILITY CONSTRUCTION SHALL BE COMPLETED AND ACCEPTED PRIOR TO PLACING PAVEMENT.
- U5. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH BOULDER COUNTY AND ALL UTILITY COMPANIES INVOLVED, WITH REGARD TO RELOCATIONS, EXTENSIONS AND REARRANGEMENTS OF EXISTING UTILITIES DURING CONSTRUCTION AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PARTIES, IN ADVANCE, AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE AS WELL AS THE UTILITY COMPANIES.
- U6. IF A CONFLICT EXISTS BETWEEN UTILITIES AND PROPOSED IMPROVEMENTS AND/OR A DESIGN MODIFICATION IS REQUIRED, THE CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO MODIFY THE DESIGN. DESIGN MODIFICATION(S) MUST BE APPROVED BY BOULDER COUNTY PRIOR TO BEGINNING CONSTRUCTION.
- U7. FOUR (4) POTHOLES ARE ANTICIPATED AND WILL BE PAID AS POTHOLING (SPECIAL) (EACH).
- U8. THE FOLLOWING IS A LIST OF KNOWN UTILITIES WITH SERVICE WITHIN THE PROJECT AREA AND THE CONTACT INDIVIDUALS:

AGENCY	UTILITY	CONTACT	PHONE
XCEL	GAS	MARISSA MATTHEWS	720-532-5828
CENTURY LINK	TELEPHONE	GARY CRISPE	303-260-4929
VARIOUS MEMBER UTILITIES	UNCC		811 OR 1-800-922-1987
POUDRE VALLEY	ELECTRIC	ERIC MCGHEE	970-282-6409

ENVIRONMENTAL NOTES:

- EN1. THE MIGRATORY BIRD TREATY ACT (MBTA) PROTECTS MIGRATORY BIRDS AND THEIR NESTS AND EGGS. FOR PROJECTS THAT COULD POTENTIALLY HAVE AN IMPACT, THE FOLLOWING CONDITIONS APPLY.
 - A. TREE TRIMMING/REMOVAL: TREE TRIMMING AND/OR REMOVAL ACTIVITIES SHALL BE COMPLETED BEFORE BIRDS BEGIN TO NEST OR AFTER THE YOUNG HAVE FLEDGED. IN COLORADO, MOST NESTING AND REARING ACTIVITIES OCCUR BETWEEN APRIL 1 AND AUGUST 31. HOWEVER, SINCE SOME BIRDS NEST AS EARLY AS FEBRUARY, A NESTING BIRD SURVEY SHALL BE CONDUCTED BY A BIOLOGIST BEFORE ANY TREE REMOVAL OR TRIMMING ACTIVITIES BEGIN.

- B. CLEARING/GRUBBING ACTIVITIES: CLEARING AND GRUBBING OF VEGETATION THAT MAY DISTURB GROUND NESTING BIRDS SHALL BE COMPLETED BEFORE BIRDS BEGIN TO NEST OR AFTER THE YOUNG HAVE FLEDGED. IN COLORADO, MOST NESTING AND REARING ACTIVITIES OCCUR BETWEEN APRIL 1 AND AUGUST 31. VEGETATION SHALL BE REMOVED AND/OR TRIMMED TO A HEIGHT OF SIX (6) INCHES OR LESS PRIOR TO APRIL 1. ONCE VEGETATION HAS BEEN REMOVED AND/OR TRIMMED, APPROPRIATE MEASURES, I.E. REPEATED MOWING/TRIMMING, SHALL BE IMPLEMENTED TO ASSURE VEGETATION DOES NOT GROW MORE THAN SIX (6) INCHES. FAILURE TO MAINTAIN VEGETATION HEIGHT OF SIX (6) INCHES OR LESS MAY POSTPONE PROJECT CONSTRUCTION.
- C. BIRDS OF PREY: IF CONSTRUCTION OCCURS BETWEEN FEBRUARY 15 AND AUGUST 31, A PRE-CONSTRUCTION SURVEY FOR NESTING RAPTORS MUST BE COMPLETED WITHIN A HALF-MILE BUFFER OF THE PROJECT LIMITS. IF ANY NESTING RAPTORS OCCUR WITHIN THIS BUFFER AREA, FOLLOW THE COLORADO PARKS AND WILDLIFE'S "RECOMMENDED BUFFER ZONES AND SEASONAL RESTRICTIONS FOR COLORADO RAPTORS" GUIDELINES
([HTTPS://CPW.STATE.CO.US/DOCUMENTS/WILDLIFESPECIES/LIVINGWITHWILDLIFE/RAPTORBUFFERGUIDELINES2008.PDF](https://cpw.state.co.us/documents/wildlifespecies/livingwithwildlife/raptorbufferguidelines2008.pdf)).

CONTRACTOR TO SURVEY AND/OR MONITOR THE EAGLES NEST 0.15 MILE NORTH OF THE EAST END OF THE PROJECT AREA. IF AND PROJECT ACTIVITY TAKES PLACE DURING NESTING SEASON (SEPTEMBER THROUGH JUNE 30)

CONTRACTOR TO REMOVE NESTING HABITAT PRIOR TO NESTING.

CONTRACTOR TO SURVEY FOR NESTING MIGRATORY BIRDS ONE WEEK PRIOR TO CLEARING/GRUBBING OR OTHER GROUND-DISTURBING ACTIVITIES

- EN2. NOXIOUS WEEDS: NOXIOUS WEEDS MAY PERSIST ON OR ADJACENT TO THE PROJECT LOCATION. NOXIOUS WEEDS ON THE STATE A & B WEEDS LIST MUST BE CONTROLLED IN ACCORDANCE WITH STATE REQUIREMENTS. THE STATE WEED LIST IS AVAILABLE HERE: ([HTTPS://WWW.COLORADO.GOV/PACIFIC/AGCONSERVATION/NOXIOUS-WEED-SPECIES](https://www.colorado.gov/pacific/agconservation/noxious-weed-species)). WEED CONTROL SHALL BE INCLUDED IN THE COST OF THE WORK.
- EN3. ANY GROUND-DISTURBANCE ACTIVITY DURING CONSTRUCTION COULD INCREASE THE POTENTIAL FOR THE ESTABLISHMENT AND SPREAD OF NOXIOUS WEEDS POST CONSTRUCTION. A NOXIOUS WEED PLAN IS RECOMMENDED FOR THIS PROJECT, AND THE FOLLOWING MITIGATION MEASURES SHOULD BE INCORPORATED AS PART OF THE NOXIOUS WEED MANAGEMENT PLAN TO MINIMIZE NOXIOUS WEED IMPACTS:
WASH ALL EQUIPMENT PRIOR TO ENTERING OR BEFORE LEAVING THE PROJECT AREA
- EN4. WASTE MATERIALS: THERE SHALL BE NO STOCKPILING OR SIDE CASTING OF WASTE MATERIALS, INCLUDING BUT NOT LIMITED TO, PAINT CHIPS, ASPHALT OR CONCRETE ADJACENT TO WETLANDS OR RIPARIAN AREAS.
- EN5. MATERIALS STOCKPILES: ALL STOCKPILED PROJECT MATERIALS SHALL BE LOCATED AWAY FROM SENSITIVE AREAS AND CONFINED SO THAT NO MATERIAL(S) OR THEIR RUNOFF ENTERS WETLANDS OR RIPARIAN AREAS, WHETHER FLOWING OR DRY.
- EN6. ONCE REVEGETATION HAS BEEN COMPLETED, THE ENGINEER AND THE CONTRACTOR WILL CONDUCT A WALKTHROUGH OF THE PROJECT SITE. THE PURPOSE OF THE WALKTHROUGH IS TO IDENTIFY ANY AREAS WHERE

- CONTROL MEASURES NEED TO BE REMOVED OR MAINTAINED AND IDENTIFICATION OF RESPONSIBLE PARTY UNTIL CDPS PERMIT IS CLOSED.
- EN7. THE TEMPORARY SILT FENCE AND EROSION LOGS WILL ACT AS A VISUAL BARRIER TO KEEP PRAIRIE DOGS OUT OF THE PROJECT CONSTRUCTION LIMITS. CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING THE SILT FENCE THROUGHOUT THE CONSTRUCTION PERIOD.
- EN8. USE OF HERBICIDES AND ASSOCIATED CHEMICAL COMPOUNDS THAT INCLUDE A GLYPHOSATE, OR OTHER HERBICIDE WILL BE COORDINATED AND NEED APPROVAL FROM BOULDER COUNTY
- EN9. MUSK THISTLE REMOVAL OUTSIDE OF THE PROJECT BOUNDARY WILL BE INCIDENTAL AND PART OF THE WORK

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PAVEMENT NOTES:

- P1. PLAN QUANTITIES OF SURFACING MATERIALS ARE BASED ON THE FOLLOWING UNIT WEIGHTS AND APPLICATION RATES:
- HOT MIX ASPHALT @ 147 LBS/C.F.
 - TACK COAT DILUTED EMULSIFIED ASPHALT (SLOW SETTING @ 0.10 GAL/S.Y. (DILUTED 1:1 WITH WATER)
 - AGGREGATE BASE COURSE @ 133 LBS./C.F.
- THE ENGINEER SHALL RESERVE THE RIGHT TO ADJUST RATES OF APPLICATION IN THE FIELD AS CONDITIONS WARRANT.
- P2. TACK COAT WILL NOT BE REQUIRED FOR NEW PAVEMENT PLACED ON AN AGGREGATE BASE COURSE.
- P3. SWEEP DIRT AND GRAVEL FROM THE EXISTING ASPHALT SURFACE PRIOR TO PLACING HOT MIX ASPHALT. THIS WORK WILL NOT BE MEASURED OR PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE WORK.
- P4. ANY LAYER OF HOT MIX ASPHALT PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.
- P5. EMULSIFIED ASPHALT (SLOW SETTING) SHALL CONSIST OF 1 PART WATER AND 1 PART EMULSIFIED ASPHALT. EMULSIFIED ASPHALT (SLOW SETTING) WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE WORK.
- P6. A TACK COAT OF EMULSIFIED ASPHALT (SLOW SETTING) IS TO BE APPLIED TO IMPROVE BOND AT THE FOLLOWING LOCATIONS:
- BEFORE PLACING NEW PAVEMENT OVER EXISTING PAVEMENT
 - ALONG THE FACE OF ALL CURBS, GUTTERS, MANHOLES, ADJACENT EXISTING PAVEMENT, AND OTHER SURFACES AGAINST WHICH ASPHALT WILL BE PLACED BETWEEN PAVEMENT COURSES
- P7. DUE TO THE NATURE OF THE PROJECT INCENTIVES WILL NOT BE USED FOR ASPHALT PAVEMENT SMOOTHNESS. PROVIDE A BITUMINOUS PAVER AND DEVICES IN ACCORDANCE WITH SUBSECTION 401.10 OF THE SPECIFICATIONS.

DRAINAGE NOTES

- D1. THE CONTRACTOR IS REQUIRED TO KEEP ALL DRAINAGE FACILITIES FUNCTIONAL AND MAINTAIN DRAINAGE TO THOSE FACILITIES AT ALL TIMES DURING CONSTRUCTION.
- D2. THE HIGHLAND DITCH COMPANY MAY REQUIRE A DIVERSION FOR DITCH FLOWS THROUGH OCTOBER 31ST. THE WORK IS INCLUDED IN THE CONTRACT BID ITEM "208-00301 TEMPORARY DIVERSION LS" AND INCLUDES ALL ITEMS OF WORK REQUIRED TO COMPLETE AND REMOVE THE DIVERSION. THE DIVERSION REQUIRES COORDINATION BETWEEN THE COUNTY, CONTRACTOR AND THE DITCH COMPANY FOR MEANS AND METHODS OF CONSTRUCTION ACTIVITIES AND TIMING.



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CALL UTILITY NOTIFICATION CENTER OF COLORADO

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:



**BOULDER COUNTY PUBLIC WORKS
ENGINEERING DIVISION**

DESIGNED: TM	CAD/G3D: CH	CHECKED: SS	DATE: 4/28/2023
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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
GENERAL NOTES	
PROJECT NO: BC-001001-1.4	SHEET NO: 6

SUMMARY OF APPROXIMATE QUANTITIES

BID ITEM	CONTRACT NO.	ITEM CONTRACT ITEM	UNIT	ROADWAY		BOX CULVERT				PROJECT TOTALS		
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
1	201-00000	CLEARING AND GRUBBING	LS	1							1	
2	202-00010	REMOVAL OF TREE	EA	10							10	
3	202-00020	REMOVAL OF BOX CULVERT (INCLUDES HEADWALLS AND WINGWALLS)	EA			1					1	
4	202-00035	REMOVAL OF PIPE	LF	42							42	
5	202-00220	REMOVAL OF ASPHALT MAT	SY	3575							3,575	
6	202-00810	REMOVAL OF GROUND SIGN	EA	9							9	
7	202-01130	REMOVAL OF GUARDRAIL	LF	135							135	
8	202-01000	REMOVAL OF FENCE	LF	90							90	
9	202-01400	REMOVAL OF CATTLE GUARD	EA	1							1	
10	203-01598	POTHOLING (SPECIAL)	EA	4							4	
11	203-00060	EMBANKMENT (COMPLETE IN PLACE)	CY	855							855	
12	206-00000	STRUCTURE EXCAVATION	CY			540					540	
13	206-00100	STRUCTURE BACKFILL (CLASS 1)	CY			131					131	
14	206-01750	SHORING (TEMPORARY)	LS			1					1	
15	207-00210	STOCKPILE TOPSOIL	CY	369							369	
16	207-00700	TOPSOIL (ONSITE)	CY	269							269	
17	207-00702	TOPSOIL (OFFSITE)	CY	100							100	
18	207-00706	SEEDING MEDIA	CY	150							150	
19	208-00002	EROSION LOG TYPE 1 (12 INCH)	LF	500							500	
20	208-00020	SILT FENCE	LF	635							635	
21	208-00045	CONCRETE WASHOUT STRUCTURE	EA	1							1	
22	208-00075	PRE-FABRICATED (VEHICLE TRACKING PAD)	EA	2							2	
23	208-00301	TEMPORARY DIVERSION (54" CORRUGATED STEEL PIPE, COFFERDAM)	LS	1							1	
24	210-00810	RESET GROUND SIGN	EA	8							8	
26	210-01000	RESET FENCE	LF	388							388	
27	210-01011	RESET GATE	EA	1							1	
28	211-03005	DEWATERING	LS	1							1	
29	212-00700	ORGANIC FERTILIZER	LB	35							35	
30	216-00201	SOIL RETENTION BLANKET (STRAW-COCONUT) (BIODEGRADABLE CLASS 1)	SY	500							500	
31	218-00000	NOXIOS WEED MANAGEMENT	HR	30							30	
32	240-00000	WILDLIFE BIOLOGIST	HR	8							8	

SUMMARY OF APPROXIMATE QUANTITIES (CONTINUED ON SHEET 8)

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**BOULDER COUNTY PUBLIC WORKS
ENGINEERING DIVISION**

DESIGNED: TM CAD/C3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR

SUMMARY OF APPROXIMATE QUANTITIES

PROJECT NO: BC-001001-1.4 SHEET NO: 7

SUMMARY OF APPROXIMATE QUANTITIES (CONTINUED FROM SHEET 7)

BID ITEM	CONTRACT NO.	ITEM CONTRACT ITEM	UNIT	ROADWAY		BOX CULVERT				PROJECT TOTALS		
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.	
33	240-00010	REMOVAL OF NESTS	HR	8							8	
34	240-00020	NETTING	SY	50							50	
35	240-00100	PRAIRIE DOG MANAGEMENT	LS	1							1	
36	304-06000	AGGREGATE BASE COURSE (CLASS 6)	TON	1727							1,727	
37	403-33741	HOT MIX ASPHALT (GRADING S) (75) (PG 64-22)	TON	1231							1,231	
38	403-34742	HOT MIX ASPHALT (GRADING SX) (75) (PG 64-22)	TON	615							615	
39	506-00212	RIPRAP (12 INCH)	CY	75							75	
40	515-00120	WATERPROOFING (MEMBRANE)	SY			156					156	
41	601-03030	CONCRETE CLASS D (BOX CULVERT) (INCLUDES REBAR)	CY			35					35	
42	603-01155	15" RCP (CIP) (CLASS 2)	LF	51							51	
43	603-71606	16X6 FOOT CONCRETE BOX CULVERT (PRECAST) (INSTALLATION)	LF			66					66	
44	606-02003	END ANCHORAGE (NONFLARED)	EA	1							1	
45	606-01340	END ANCHORAGE TYPE 3D	EA	1							1	
46	606-00302	GUARDRAIL TYPE 3 W-BEAM (7' POSTS)	LF	105							105	
47	607-11530	FENCE	LF	101							101	
48	611-00016	16 FOOT CATTLE GUARD	EA	1							1	
49	614-00011	SIGN PANEL (CLASS 1)	SF	155							155	
50	614-00220	STEEL SIGN POST (2.5X2.5X INCH TUBING)	LF	260							260	
51	614-01564	STEEL SIGN POST (2.5 INCH SQUARE SOCKET)	EA	26							26	
52	619-00005	WATER LINE (EXTENSION)	LS	1							1	
53	619-00006	CONNECT TO EXISTING WATER LINE	EA	2							2	
54	620-00020	SANITARY FACILITY	EA	1							1	
55	625-00000	CONSTRUCTION SURVEYING	LS	1							1	
56	626-00000	MOBILIZATION	LS	1							1	
57	627-00008	MODIFIED EPOXY PAVEMENT MARKING	GAL	31							31	
58	629-01005	SURVEY MONUMENT (TYPE 5)	EA	3							3	
59	630-00000	FLAGGING	HR	1440							1,440	
60	630-00007	TRAFFIC CONTROL INSPECTION	DAY	40							40	
61	630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	80							80	
62	700-70010	F/A MINOR CONTRACT REVISIONS	LS	1							1	

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TABULATION OF REMOVALS AND RESETS

STATION TO STATION	SIDE	201-00000	202-00020	202-00010	202-00035	202-00220	202-01130	202-01400	202-01000	210-01000	210-01011
		CLEARING AND GRUBBING	REMOVAL OF BOX CULVERT	REMOVAL OF TREE	REMOVAL OF PIPE	REMOVAL OF ASPHALT MAT	REMOVAL OF GUARDRAIL	REMOVAL OF CATTLE GUARD	REMOVAL OF FENCE	RESET FENCE	RESET GATE
		LS	EACH	EACH	LF	SY	LF	EA	LF	LF	EACH
7+52.97 TO 23+27.73	LT/RT	1									
7+52.97 TO 23+27.73	LT/RT					3575					
8+09	LT										
8+45	RT										
10+90	RT										
13+58 TO 14+24	RT								74		
14+03	LT/RT				42						
14+23 TO 15+55	RT						135				
14+07	RT										
14+48	RT										
14+88	RT										
15+18	RT										
15+18	RT										
15+20	RT			1							
15+31	RT			1							
15+32 TO 15+43	LT							1	16		
15+41	RT			1							
15+50	LT/RT		1								
15+55	LT			1							
15+56 TO 15+65	RT									49	
15+57	RT			1							
15+87	RT										1
15+90	LT			1							
16+01	LT			1							
17+91 TO 18+41	RT									50	
18+44 TO 21+25	LT									289	
19+38	LT			1							
19+51	LT										
19+59	LT			1							
19+89	LT			1							
20+86	LT										
N/A	RT										
N/A	LT										
N/A	LT										
N/A	LT										
TOTALS		1	1	10	42	3575	135	1	90	388	1

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TABULATION OF GUARDRAIL

STATION	TO	STATION	SIDE	606-00302	606-02003	606-01340
				GUARDRAIL TYPE	END ANCHORAGE	END ANCHORAGE
				3 W-BEAM (7' POST)	(NON-FLARED)	TYPE 3D
				LF	EACH	EACH
15+64	TO		RIGHT			1
14+59	TO	15+64	RIGHT	105		
14+23	TO	14+59	RIGHT		1	
TOTALS				105	1	1

TABULATION OF SURVEY MONUMENTS

STATION	OFFSET		629-01005
13+76.94	13.70 R	1	INCLUDES MONUMENT, MONUMENT BOX, AND ITEMS TO RE-ESTABLISH THE SURVEY CONTROL TO STATE STANDARDS
15+71.20	9.26 R	1	
16+40.61	13.51 L	1	

TABULATION OF TEMPORARY DIVERSION (LS)

SIDE	208-00301*		
	54" CORRUGATED STEEL PIPE **	COFFERDAM **	REMOVE 54" CORRUGATED STEEL PIPE **
	LF	LF	LF
RIGHT			
RIGHT & LEFT	108		108
LEFT		36	
TOTALS	108	36	108

* Temporary Diversion is included as a Lump Sum item in the Estimate

** Items shown are for information only and are not separate pay items

TABULATION OF PAVEMENT MARKINGS

STATION	TO	STATION	MARKING TYPE	627-00008		
				EPOXY PAVEMENT MARKING		
				MODIFIED EPOXY PAVEMENT MARKING PAINT	DBL YELLOW SOLID 4 IN	WHITE SOLID 6 IN
				GAL	SF	
7+52.97	TO	15+00	EDGE	9		747
7+52.97	TO	15+00	CENTER	6	498	
15+00	TO	23+27.73	EDGE	10		828
15+00	TO	23+27.73	CENTER	6	552	
TOTALS				31	1050	1575



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**BOULDER COUNTY PUBLIC WORKS
ENGINEERING DIVISION**

DESIGNED: TM CAD/G3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR

TABULATION OF APPROXIMATE QUANTITIES

PROJECT NO: BC-001001-1.4 SHEET NO: 10

TABULATION OF SIGNING

SIGN NO.	SIGN CODE	LOCATION				SIGN PANEL SIZE			COLOR	LEGEND	202-00810	210-00810	210-00815	614-00011	614-00218	614-01564	REMARKS
		STREET	STA.	PANEL DIRECTION	POSITION	W'	x	H"			REMOVAL OF GROUND SIGN	RESET GROUND SIGN	RESET SIGN PANEL	SIGN PANEL (CLASS I)	STEEL SIGN POST (2.5x2.5 INCH TUBING)	STEEL SIGN SUPPORT (2.25 INCH SQUARE) (SOCKET)	
											EACH	EACH	EACH	SF	LF	EACH	
1	R2-1	HYGIENE RD.	8+09.2	EAST		36	x	42	WHITE	45 MPH		1	1				
2	W11-7	HYGIENE RD.	8+45.6	WEST		36	x	36	YELLOW	HORSE CROSSING		1	1				
3	W8-25	HYGIENE RD.	9+04.8	EAST		36	x	36	YELLOW	SHOULDER ENDS				9	10	1	
4	R4-50_CO	HYGIENE RD.	9+65.7	WEST		30	x	42	WHITE	STATE LAW MOTORISTS MUST GIVE BICYCLES 3FT CLEARANCE				9	10	1	
5	R1-2 (25)	HYGIENE RD.	9+90	WEST		36	x	24	WHITE	25 MPH				11	10	1	
6	W1-4L	HYGIENE RD.	10+90.4	WEST		36	x	36	YELLOW	REVERSE TURN	1						
7	W13-1P	HYGIENE RD.	10+90.4	WEST		18	x	18	YELLOW	30 MPH	1						
8	W1-3L	HYGIENE RD.	10+90.4	WEST		36	x	36	YELLOW	REVERSE TURN				9		1	RESET SIGN 6
9	W13-1P	HYGIENE RD.	10+90.4	WEST		18	x	18	WHITE	25 MPH				2	10	1	REPLACE SIGN 7
10	W1-8L	HYGIENE RD.	14+07.2	WEST		18	x	24	YELLOW	CHEVRON (LEFT)		1	1				
11	W1-8L	HYGIENE RD.	14+48.4	WEST		18	x	24	YELLOW	CHEVRON (LEFT)		1	1				
12	W1-8L	HYGIENE RD.	14+88.4	WEST		18	x	24	YELLOW	CHEVRON (LEFT)		1	1				
13	W1-8L	HYGIENE RD.	15+18.4	WEST		18	x	24	YELLOW	CHEVRON (LEFT)		1	1				
14	OMBR	HYGIENE RD.	15+18.4	WEST		12	x	36	YELLOW	OBJECT RIGHT		1	1				
15	W1-8L	HYGIENE RD.	18+18.6	EAST		18	x	24	YELLOW	CHEVRON (LEFT)				3	10	1	
16	W1-8L	HYGIENE RD.	18+49.9	EAST		18	x	24	YELLOW	CHEVRON (LEFT)				3	10	1	
17	W1-8L	HYGIENE RD.	18+88.4	EAST		18	x	24	YELLOW	CHEVRON (LEFT)				3	10	1	
18	W11-7	HYGIENE RD.	19+50.3	EAST		36	x	36	YELLOW	HORSE CROSSING		1	1				
19	W1-4L	HYGIENE RD.	20+86	EAST		36	x	36	YELLOW	REVERSE TURN	1						
20	W13-1P	HYGIENE RD.	20+86	EAST		18	x	18	YELLOW	30 MPH	1						
21	W1-4L	HYGIENE RD.	20+86	EAST		36	x	36	YELLOW	REVERSE TURN				9			RESET SIGN 18
22	W13-1P	HYGIENE RD.	20+86	EAST		18	x	18	WHITE	25 MPH				2	10		REPLACE SIGN 19
23	R1-2	HYGIENE RD.	21+25.2	WEST		36	x	42	WHITE	35 MPH				11	10	1	
24	R1-2	HYGIENE RD.	21+58.8	EAST		36	x	42	WHITE	25 MPH				11	10	1	
25	W8-25	HYGIENE RD.	21+78.8	WEST		36	x	36	YELLOW	SHOULDER ENDS				9	10	1	
26	R4-50_CO	HYGIENE RD.	22+99	EAST		30	x	42	WHITE	STATE LAW MOTORISTS MUST GIVE BICYCLES 3FT CLEARANCE				9	10	1	
27	N/A	HYGIENE RD.	N/A	WEST		N/A	x	N/A	YELLOW	WHEN SAFE: MAY CROSS SOLID YELLOW TO PASS BIKES	1						APPROX. 510' WEST OF BEGINNING OF PROJECT
28	N/A	HYGIENE RD.	N/A	EAST		N/A	x	N/A	YELLOW	WHEN SAFE: MAY CROSS SOLID YELLOW TO PASS BIKES	1						APPROX. 155' EAST OF N 59TH ST.
29	W1-8R	HYGIENE RD.	N/A	WEST		18	x	24	YELLOW	CHEVRON (RIGHT)				3	10	1	APPROX. 710' FROMEND OF PROJECT
30	W1-8R	HYGIENE RD.	N/A	WEST		18	x	24	YELLOW	CHEVRON (RIGHT)				3	10	1	APPROX. 710' FROMEND OF PROJECT
31	W1-8R	HYGIENE RD.	N/A	WEST		19	x	25	YELLOW	CHEVRON (RIGHT)				3	10	1	APPROX. 710' FROMEND OF PROJECT
32	W1-8R	HYGIENE RD.	N/A	WEST		18	x	24	YELLOW	CHEVRON (RIGHT)				3	10	1	APPROX. 710' FROMEND OF PROJECT
33	R1-2	HYGIENE RD.	N/A	EAST		36	x	24	WHITE	45 MPH	1						APPROX. 230' WEST OF N. 61ST ST.
34	R1-2	HYGIENE RD.	N/A	EAST		36	x	24	WHITE	45 MPH	1						APPROX. 240' WEST OF N 59TH ST.
35	R2-5A	HYGIENE RD.	N/A	EAST		24	x	30	WHITE	REDUCE SPEED AHEAD							REPLACE SIGNS 19 & 20
36	W1-8	HYGIENE RD.	N/A	WEST		18	x	24	YELLOW	CHEVRON (2 LEFT & 2 RIGHT)				12	40	4	APPROX 1500' EAST OF BOX CULVERT (COORDINATE WITH BOULDER COUNTY)
37	W1-8	HYGIENE RD.	N/A	EAST		18	x	24	YELLOW	CHEVRON (2 LEFT & 2 RIGHT)				12	40	4	APPROX 2700' EAST OF BOX CULVERT (COORDINATE WITH BOULDER COUNTY)
38	R2-1	HYGIENE RD.	N/A	WEST		36	x	42	WHITE	35 MPH				11	10	1	APPROX 2900' EAST OF BOX CULVERT (COORDINATE WITH BOULDER COUNTY)
39	W3-5-35	HYGIENE RD.	N/A	WEST		36	x	36	WHITE	35 MPH (WITH AHEAD ARROW)				9	10	1	APPROX 260' EAST OF 59TH STREET ON NORTH SIDE OF ROAD
40	R2-1	HYGIENE RD.	N/A	WEST		36	x	42	WHITE	45 MPH	1						APPROX 1350' EAST OF 59TH STREET ON NORTH SIDE OF ROAD
PROJECT TOTALS											9	8	8	155	260	26	

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NO.	DATE	REVISION DESCRIPTION:



TABULATION OF DRAINAGE STRUCTURES

STRUCTURE NUMBER	STATION-OFFSET	601-03030	603-71606	INVERT ELEVATIONS		GRADE (%)	603-01155	202-00035	202-00020	206-00000	206-00100	206-01750	515-00120	506-00212
		CONCRETE BOX CULVERT (CLASS D)	16'x6' CONCRETE BOX CULVERT (PRECAST)				REINFORCED CONCRETE PIPE (COMPLETE IN PLACE) **	REMOVAL OF PIPE	REMOVAL OF BOX CULVERT	*STRUCTURE EXCAVATION	*STRUCTURE BACKFILL (CLASS 1)	SHORING	WATERPROOFING (MEMBRANE)	RIPRAP (12 INCH)
		CY	LF				15" LF	LF	EA	CY	CY	LS	SY	CY
	14+03			5204.17	5204.04	0.25	51	42						
	15+50	35	66	5197.67	5197.18	0.74			1	540	131	1	156	60
TOTALS		35	66				51	42	1	540	131	1	156	60

* QUANTITY PROVIDED FOR INFORMATION ONLY
 ** REINFORCED CONCRETE PIPE SHALL BE CLASS 2

TABULATION OF SURFACING QUANTITIES

STATION TO STATION	403-34741	403-34741	304-06000
	HOT MIX ASPHALT (GRADING S) (75) (PG 64-22)	HOT MIX ASPHALT (GRADING SX) (75) (PG 64-22)	AGGREGATE BASE COURSE (CLASS 6)
	TON	TON	TON
7+52.97 TO 15+00	602	301	844
15+00 TO 23+27.73	629	314	882
TOTALS	1231	615	1727

SUMMARY OF EARTHWORK QUANTITIES

EMBANKMENT (COMPLETE IN PLACE)	CUBIC YARDS
ROADWAY	855
STRUCTURE EXCAVATION	
CULVERT	540
STRUCTURE BACKFILL	
CULVERT	131
FOR INFORMATION ONLY	
UNCLASSIFIED EXCAVATION *	CUBIC YARDS
ROADWAY	744

* Unclassified excavation includes material that may not be suitable for use as embankment such as existing aggregate base course, and soil that includes noxious weeds

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NO.	DATE	REVISION DESCRIPTION:

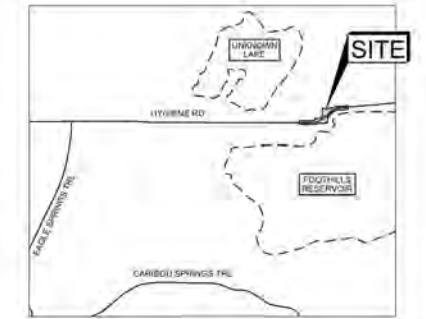
SUB-SURFACE UTILITY ENGINEERING (S.U.E.)

HYGIENE ROAD

A PORTION OF LAND LOCATED IN SECTIONS 27, 28, 33, 34,
TOWNSHIP 3 NORTH, RANGE 70 WEST OF THE 6TH P.M.,
COUNTY OF BOULDER, STATE OF COLORADO

GENERAL NOTES

1. THE SUBSURFACE UTILITIES SHOWN HAVE BEEN INVESTIGATED AND DEPICTED IN ACCORDANCE WITH ASCE 38-02 AND THE SCOPE OF WORK BETWEEN HCL AND THE CLIENT. HCL RECOMMENDS THAT THE CONTRACTOR AND ANY OTHER USERS OF THIS INFORMATION REVIEW AND UNDERSTANDS THE SCOPE OF WORK AND LIMITS OF THE UTILITY INVESTIGATION LEADING TO THESE UTILITY DEPICTIONS.
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 - b. QUALITY LEVEL B (QL B) - INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES, ALSO CALLED DESIGNATING, AND THEN USING PROFESSIONAL JUDGEMENT TO CORRELATE THIS WITH AVAILABLE QL A, QL C AND QL D INFORMATION. THE DESIGNATED POSITION IS SURVEYED TO APPLICABLE TOLERANCE DEFINED BY THE PROJECT.
 - c. QUALITY LEVEL C (QL C) - INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION AND ANY OBTAINED QL B OR QL A INFORMATION. PROFESSIONAL JUDGEMENT IS USED TO DETERMINE THE LIKELY POSITION OF A UTILITY LINE SEGMENT IN RELATION TO ABOVE-GROUND UTILITY FEATURES. VARIOUS ELEMENTS SUCH AS FREQUENCY AND TYPE OF ABOVE-GROUND UTILITY FEATURES, TOPOGRAPHY, QUALITY OF RECORDS, TYPE, SIZE, AND MATERIAL OF THE UTILITY, AND OTHER FACTORS DETERMINED WHETHER INDICATING A DEPICTION TO BE QL C OR QL D WAS APPROPRIATE.
 - d. QUALITY LEVEL D (QL D) - INFORMATION DERIVED FROM A REVIEW AND COMPILATION OF EXISTING RECORDS, ORAL RECOLLECTIONS, ONE-CALL MARKINGS, MANAGED DATA REPOSITORIES, CONTEXT WITH OTHER ACHIEVED QUALITY LEVELS, AND/OR OTHER AVAILABLE EVIDENCE OF EXISTENCE AND LOCATION.
5. RELIANCE UPON THESE DATA FOR RISK MANAGEMENT PURPOSES DURING BIDDING DOES NOT RELIEVE THE EXCAVATOR OR UTILITY OWNER FROM FOLLOWING ALL APPLICABLE UTILITY DAMAGE PREVENTION STATUTES, POLICIES, AND/OR PROCEDURES DURING EXCAVATION. IT IS IMPORTANT THAT THE CONTRACTOR INVESTIGATE AND UNDERSTAND THE SCOPE OF WORK BETWEEN THE PROJECT OWNER AND THEIR ENGINEER REGARDING THE SCOPE AND LIMITS OF THE UTILITY INVESTIGATION LEADING TO THESE UTILITY DEPICTIONS.
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VICINITY MAP
NOT TO SCALE

LEGEND

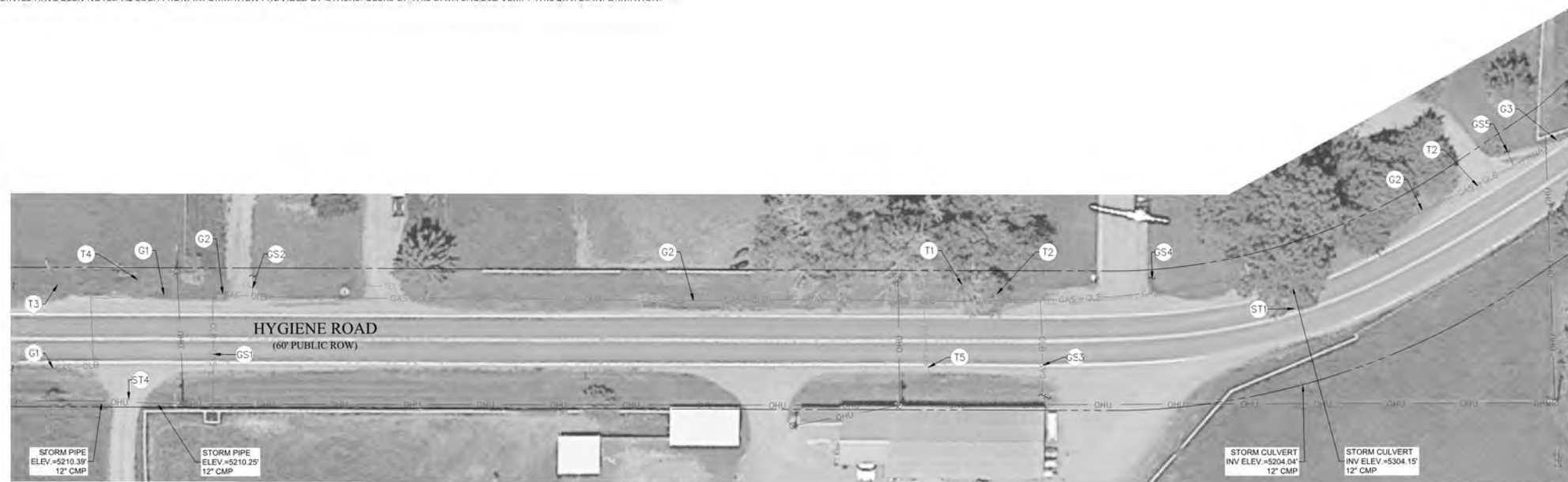
- ELECTRIC METER
- GAS METER
- TELEPHONE PEDESTAL
- CORRUGATED METAL PIPE
- UTILITY DESCRIPTION NUMBER. SEE UTILITY DESCRIPTION TABLE.
- END OF UTILITY DESIGNATION
- END OF UTILITY
- OVERHEAD UTILITY LINE
- RIGHT OF WAY

LEGEND / QUALITY LEVEL B

- BURIED GAS LINE
- BURIED TELEPHONE LINE

LEGEND / QUALITY LEVEL C

- BURIED STORM LINE



MATCHLINE - SHEET 2



UTILITY ID	TYPE	SIZE (INCHES)	MATERIAL	OWNER	CONTACT INFORMATION
G1	GAS	2"	POLYETHYLENE	XCEL	720-533-5428
G2	GAS	1.25"	POLYETHYLENE	XCEL	720-532-5828
G3	GAS	1.25"	STEEL	XCEL	720-532-5828
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G52	GAS SERVICE	.75"	POLYETHYLENE	XCEL	720-532-5828
G53	GAS SERVICE	.675"	POLYETHYLENE	XCEL	720-532-5828
G54	GAS SERVICE	.75"	POLYETHYLENE	XCEL	720-532-5828
G55	GAS SERVICE	.75"	POLYETHYLENE	XCEL	720-532-5828
T1	TELEPHONE	.50"	COPPER PAIR	CENTURYLINK	303-260-4929
T2	TELEPHONE	.50"	COPPER PAIR	CENTURYLINK	303-260-4929
T3	TELEPHONE	.50"	COPPER PAIR	CENTURYLINK	303-260-4929
T4	TELEPHONE	UNKNOWN	COPPER PAIR	CENTURYLINK	303-260-4929
T5	TELEPHONE	.50"	COPPER PAIR	CENTURYLINK	303-260-4929
ST1	STORM SEWER	12"	CMP	UNKNOWN	UNKNOWN
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(or 1-800-922-1987)
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www.uncc.org

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5600 S. QUEBEC ST. STE. 205B
GREENWOOD VILLAGE, CO. 80111
PHONE: 303.773.1605
FAX: 303.773.3297
WWW.HCLENGINEERING.COM

SUB-SURFACE UTILITY
ENGINEERING (S.U.E.)
HYGIENE ROAD

JOB NUMBER: 200450 | DRAWN BY: DKL
DATE: 09/10/2022 | CHECKED BY: ABW
SHEET NUMBER: 8

2022-10-03 09:41 AM By: kphillips
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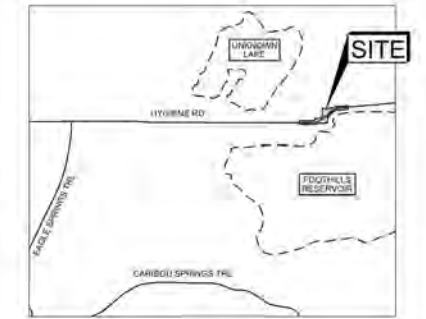
SUB-SURFACE UTILITY ENGINEERING (S.U.E.)

HYGIENE ROAD

A PORTION OF LAND LOCATED IN SECTIONS 27, 28, 33, 34,
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COUNTY OF BOULDER, STATE OF COLORADO

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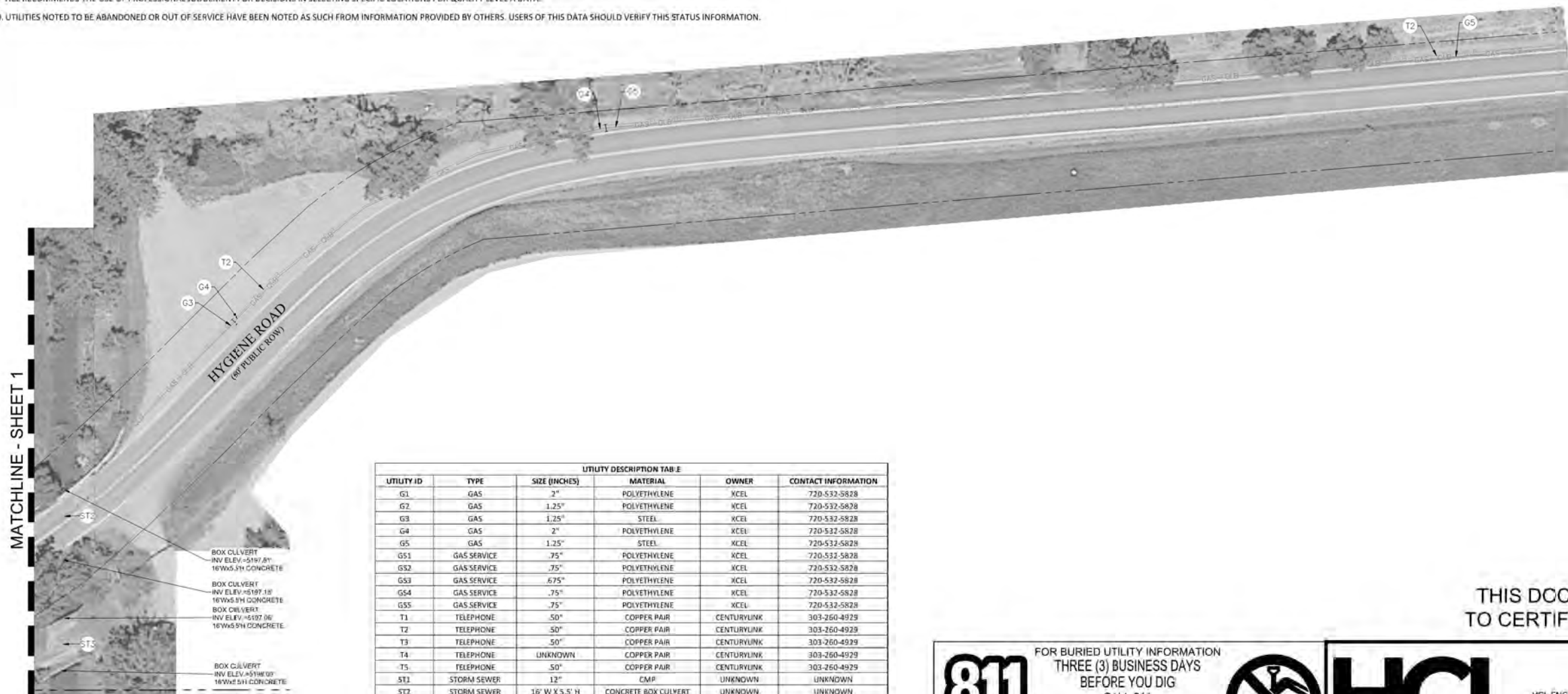
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- END OF UTILITY DESIGNATION
- END OF UTILITY
- OVERHEAD UTILITY LINE
- RIGHT OF WAY

LEGEND / QUALITY LEVEL B

- BURIED GAS LINE
- BURIED TELEPHONE LINE

LEGEND / QUALITY LEVEL C

- BURIED STORM LINE



UTILITY DESCRIPTION TABLE					
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BOX CULVERT
INV. ELEV. +5197.21'
18" W X 5.5" H CONCRETE

BOX CULVERT
INV. ELEV. +5197.18'
18" W X 5.5" H CONCRETE

BOX CULVERT
INV. ELEV. +5197.06'
18" W X 5.5" H CONCRETE

BOX CULVERT
INV. ELEV. +5196.07'
18" W X 5.5" H CONCRETE

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SUB-SURFACE UTILITY
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HYGIENE ROAD

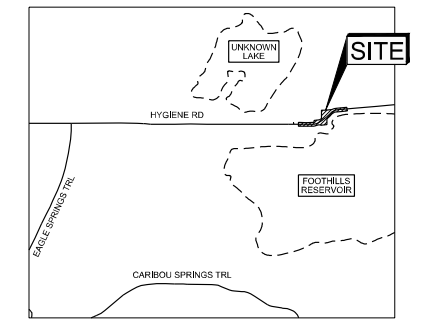
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DATE: 09/02/22 | CHECKED BY: ABW
SHEET NUMBER: 9

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TOPOGRAPHIC SURVEY

HYGIENE ROAD

A PORTION OF LAND LOCATED IN SECTIONS 27, 28, 33, 34,
TOWNSHIP 3 NORTH, RANGE 70 WEST OF THE 6TH P.M.,
COUNTY OF BOULDER, STATE OF COLORADO.



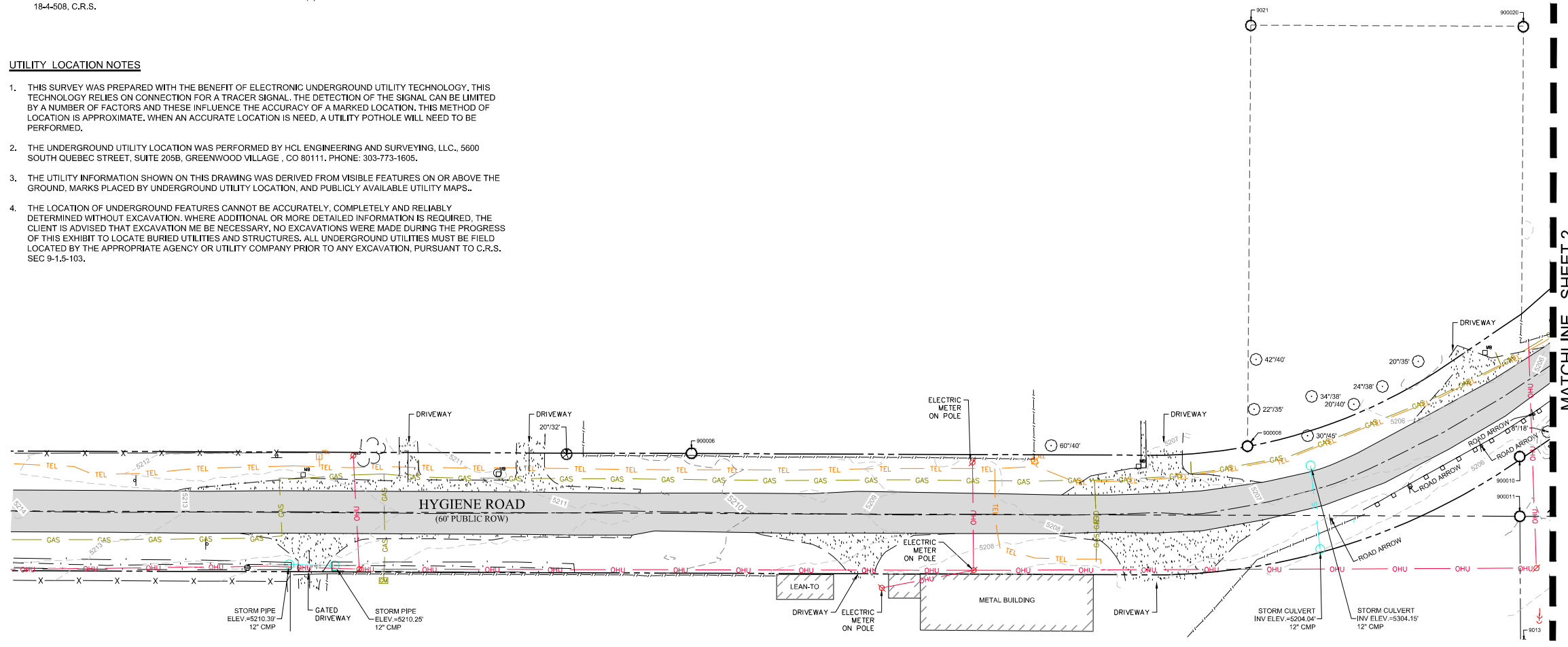
VICINITY MAP
NOT TO SCALE

GENERAL NOTES

1. CONTOURS AS SHOWN HEREON ARE PER BOULDER COUNTY PUBLIC LIDAR DATA AND HAVE NOT BEEN VERIFIED BY HCL ENGINEERING. LIDAR DATA IS PURPORTED TO BE NAVD88, GEOID 12A.
2. THE LINEAR UNITS OF MEASURE USED IN THIS SURVEY ARE U.S. SURVEY FEET. THE UNITED STATES SURVEY FOOT IS DEFINED AS EXACTLY 1200 / 3937 METERS
3. THIS TOPOGRAPHIC SURVEY DRAWING DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND IS ONLY INTENDED TO DEPICT SITE CONTROL AS IT EXISTED ON THE DATE SURVEYED
4. HORIZONTAL COORDINATES ARE BASED ON THE COLORADO STATE PLANE GRID COORDINATES, NORTH ZONE (0501), NORTH AMERICAN DATUM (NAD 83/2011)
5. DATE OF FIELD SURVEY: 04/06/2021 - 05/19/2021
6. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.

UTILITY LOCATION NOTES

1. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF ELECTRONIC UNDERGROUND UTILITY TECHNOLOGY. THIS TECHNOLOGY RELIES ON CONNECTION FOR A TRACER SIGNAL. THE DETECTION OF THE SIGNAL CAN BE LIMITED BY A NUMBER OF FACTORS AND THESE INFLUENCE THE ACCURACY OF A MARKED LOCATION. THIS METHOD OF LOCATION IS APPROXIMATE. WHEN AN ACCURATE LOCATION IS NEEDED, A UTILITY POTHOLE WILL NEED TO BE PERFORMED.
2. THE UNDERGROUND UTILITY LOCATION WAS PERFORMED BY HCL ENGINEERING AND SURVEYING, LLC., 5600 SOUTH QUEBEC STREET, SUITE 205B, GREENWOOD VILLAGE, CO 80111. PHONE: 303-773-1605.
3. THE UTILITY INFORMATION SHOWN ON THIS DRAWING WAS DERIVED FROM VISIBLE FEATURES ON OR ABOVE THE GROUND, MARKS PLACED BY UNDERGROUND UTILITY LOCATION, AND PUBLICLY AVAILABLE UTILITY MAPS..
4. THE LOCATION OF UNDERGROUND FEATURES CANNOT BE ACCURATELY, COMPLETELY AND RELIABLY DETERMINED WITHOUT EXCAVATION. WHERE ADDITIONAL OR MORE DETAILED INFORMATION IS REQUIRED, THE CLIENT IS ADVISED THAT EXCAVATION ME BE NECESSARY. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS EXHIBIT TO LOCATE BURIED UTILITIES AND STRUCTURES. ALL UNDERGROUND UTILITIES MUST BE FIELD LOCATED BY THE APPROPRIATE AGENCY OR UTILITY COMPANY PRIOR TO ANY EXCAVATION, PURSUANT TO C.R.S. SEC 9-1.5-103.



LEGEND

	SIGN
	MAIL BOX
	ELECTRIC METER
	GUY WIRE
	GUY POLE
	STORM PIPE OUTLET
	GAS METER
	TELEPHONE PEDESTAL
	DECIDUOUS TREE (TRUNK DIAMETER/D RIP LINE RADIUS)
	CONIFEROUS TREE (TRUNK DIAMETER/D RIP LINE RADIUS)
	LANDSCAPE BUSH
	MONUMENT FOUND
	SEE SURVEY PROJECT CONTROL TABLE
	CMP
	CORRUGATED METAL PIPE
	MAJOR CONTOUR
	MINOR CONTOUR
	BURIED TELEPHONE LINE
	BURIED GAS LINE
	OVERHEAD UTILITY LINE
	BURIED STORM LINE
	BARBED WIRE FENCE
	SPLIT RAIL FENCE
	ADJACENT LOT LINE
	RIGHT OF WAY
	SECTION LINE
	ROAD GUARDRAIL
	ROAD CENTERLINE
	EDGE OF GRAVEL ROAD
	EDGE OF ASPHALT ROAD
	BUSHLINE
	ASPHALT
	GRAVEL
	CONCRETE
	BUILDING

MATCHLINE - SHEET 2



SCALE: 1" = 30'

HCL
ENGINEERS • SURVEYORS • ARCHITECTS

HCL ENGINEERING & SURVEYING, L.L.C.
5600 S. QUEBEC ST., STE. 205B
GREENWOOD VILLAGE, CO. 80111
PHONE: 303.773.1605
FAX: 303.773.3297
WWW.HCLENGINEERING.COM

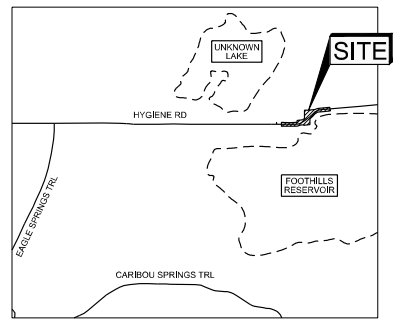
TOPOGRAPHIC SURVEY	
HYGIENE ROAD	
JOB NUMBER: 200059	DRAWN BY: DKD
DATE: 09/20/2022	CHECKED BY: AGW
SHEET NUMBER: 1	OF 2

2022-09-20 1:20pm By: jharrell
H:\2022_09\20220919 - Hygiene rd\Survey\CAD\BASE DRAWING\000009_HYGIENE_ROAD.dwg

TOPOGRAPHIC SURVEY

HYGIENE ROAD

A PORTION OF LAND LOCATED IN SECTIONS 27, 28, 33, 34,
TOWNSHIP 3 NORTH, RANGE 70 WEST OF THE 6TH P.M.,
COUNTY OF BOULDER, STATE OF COLORADO.



VICINITY MAP
NOT TO SCALE

GENERAL NOTES

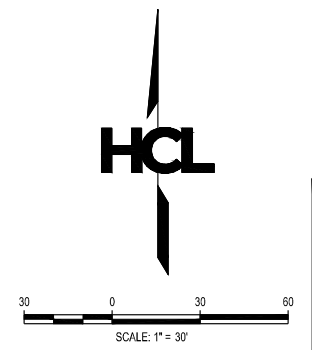
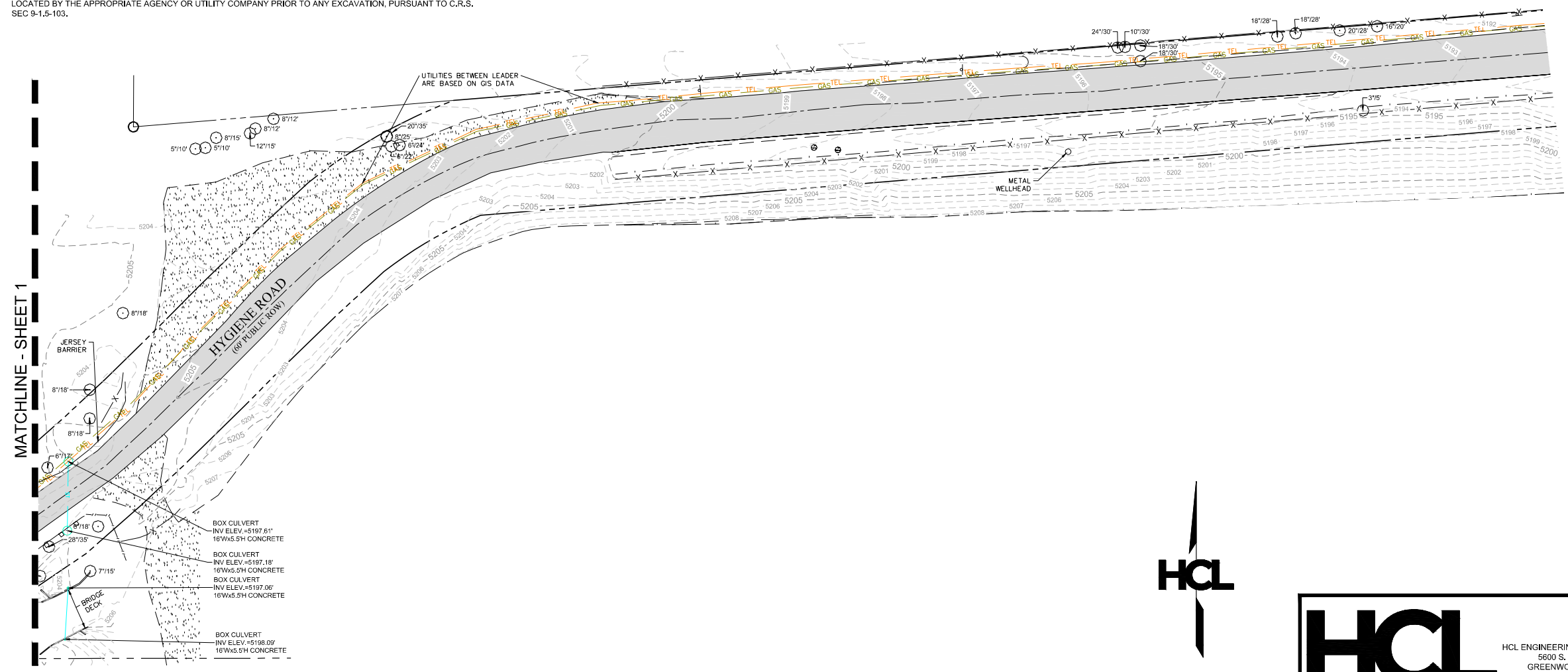
1. CONTOURS AS SHOWN HEREON ARE PER BOULDER COUNTY PUBLIC LIDAR DATA AND HAVE NOT BEEN VERIFIED BY HCL ENGINEERING. LIDAR DATA IS PURPORTED TO BE NAVD88, GEOID 12A.
2. THE LINEAR UNITS OF MEASURE USED IN THIS SURVEY ARE U.S. SURVEY FEET. THE UNITED STATES SURVEY FOOT IS DEFINED AS EXACTLY 1200 / 3937 METERS
3. THIS TOPOGRAPHIC SURVEY DRAWING DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND IS ONLY INTENDED TO DEPICT SITE CONTROL AS IT EXISTED ON THE DATE SURVEYED
4. HORIZONTAL COORDINATES ARE BASED ON THE COLORADO STATE PLANE GRID COORDINATES, NORTH ZONE (0501), NORTH AMERICAN DATUM (NAD 83/2011)
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3. THE UTILITY INFORMATION SHOWN ON THIS DRAWING WAS DERIVED FROM VISIBLE FEATURES ON OR ABOVE THE GROUND, MARKS PLACED BY UNDERGROUND UTILITY LOCATION, AND PUBLICLY AVAILABLE UTILITY MAPS..
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LEGEND

- SIGN
- MAIL BOX
- ELECTRIC METER
- GUY WIRE
- GUY POLE
- STORM PIPE OUTLET
- GAS METER
- TELEPHONE PEDESTAL
- DECIDUOUS TREE (TRUNK DIAMETER/D RIP LINE RADIUS)
- CONIFEROUS TREE (TRUNK DIAMETER/D RIP LINE RADIUS)
- LANDSCAPE BUSH
- MONUMENT FOUND
- SEE SURVEY PROJECT CONTROL TABLE
- CMP CORRUGATED METAL PIPE
- MAJOR CONTOUR
- MINOR CONTOUR
- TEL BURIED TELEPHONE LINE
- GAS BURIED GAS LINE
- OHU OVERHEAD UTILITY LINE
- ST BURIED STORM LINE
- BARBED WIRE FENCE
- SPLIT RAIL FENCE
- ADJACENT LOT LINE
- RIGHT OF WAY
- SECTION LINE
- ROAD GUARDRAIL
- ROAD CENTERLINE
- EDGE OF GRAVEL ROAD
- EDGE OF ASPHALT ROAD
- BUSHLINE
- ASPHALT
- GRAVEL
- CONCRETE
- BUILDING



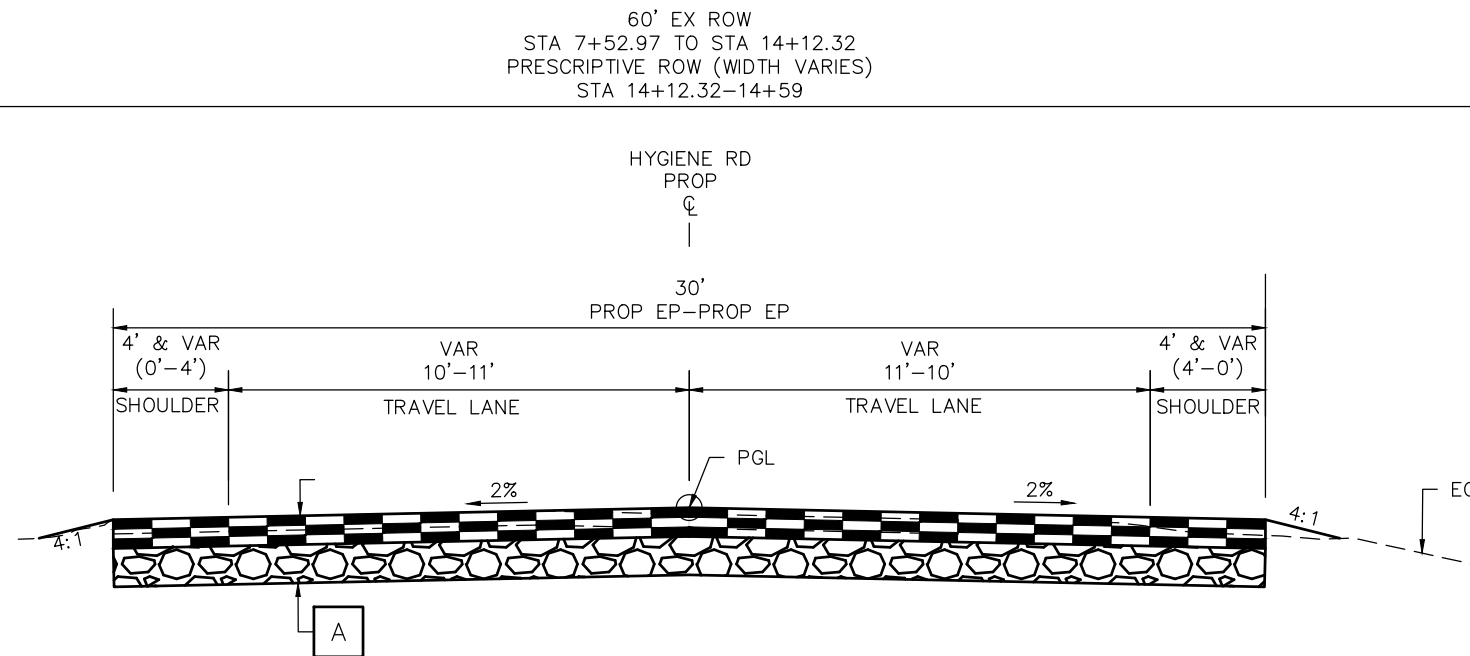
HCL ENGINEERING & SURVEYING, L.L.C.
5600 S. QUEBEC ST., STE. 205B
GREENWOOD VILLAGE, CO 80111
PHONE: 303.773.1606
FAX: 303.773.3297
WWW.HCLENGINEERING.COM

TOPOGRAPHIC SURVEY
HYGIENE ROAD

JOB NUMBER: 200059 | DRAWN BY: DKD
DATE: 09/20/2022 | CHECKED BY: AGW
SHEET NUMBER: 2 OF 2

2022-09-20 1:24pm By: jharrell
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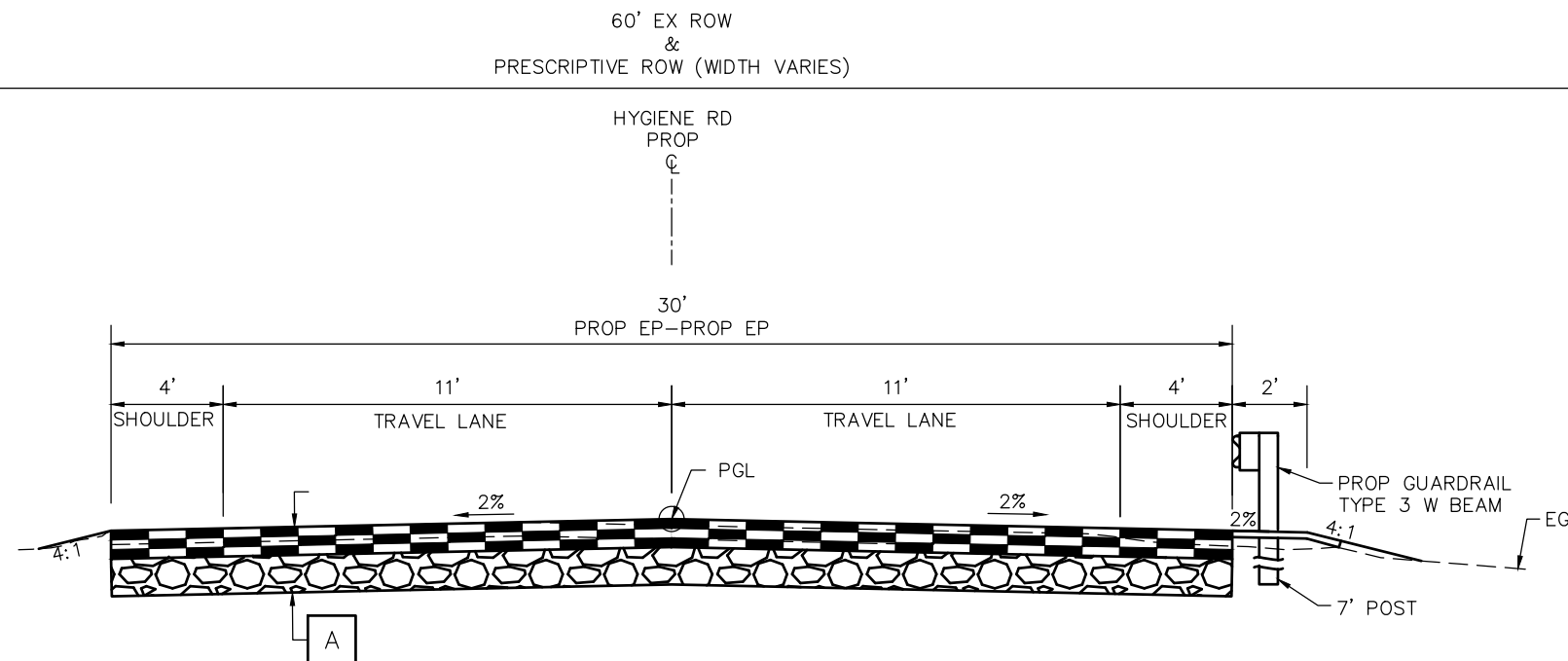
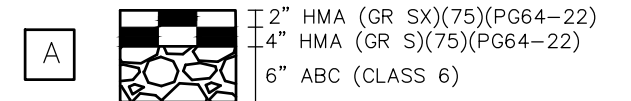
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TYPICAL SECTION

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STA 7+52.97 TO STA 14+59
NTS

PAVEMENT SECTION

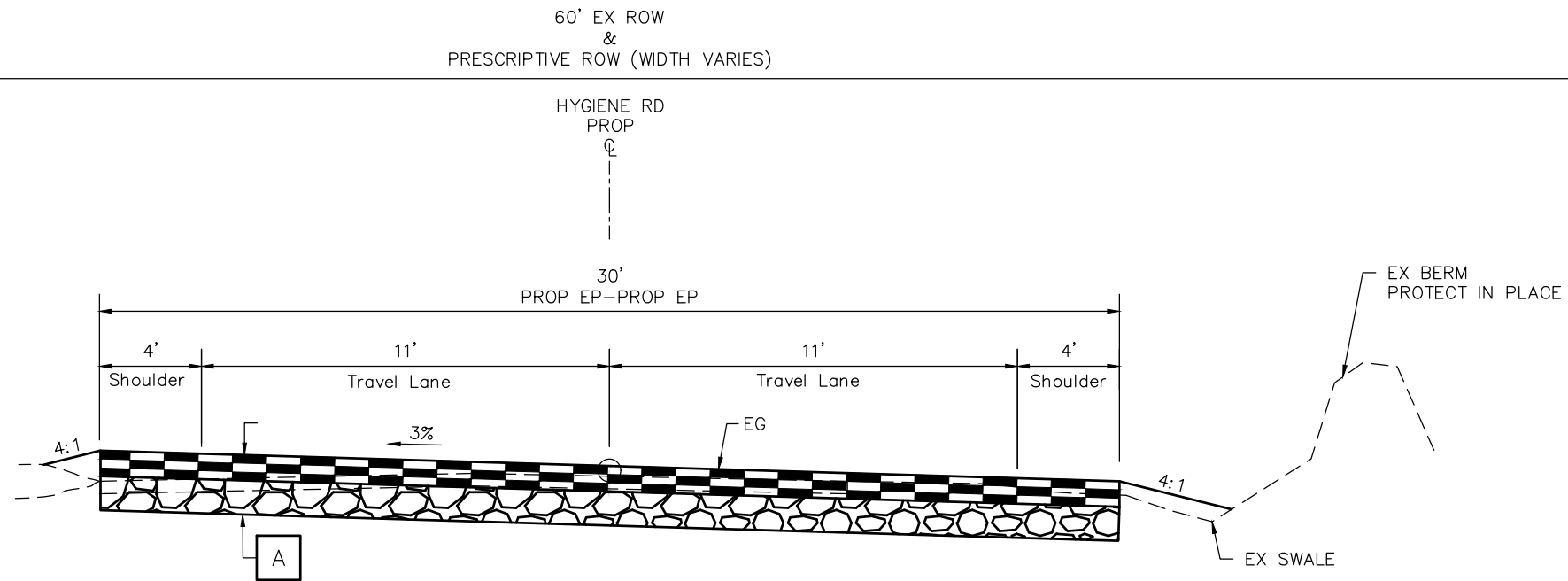


TYPICAL SECTION

HYGIENE ROAD
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NTS

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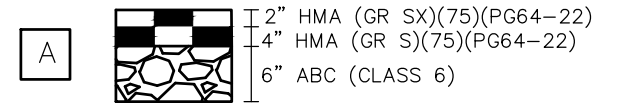
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TYPICAL SECTION

HYGIENE ROAD
STA 15+64 TO STA 23+27.73
NTS

PAVEMENT SECTION



4600 S Ulster Street, Suite #1100
Denver, CO 80237
Phone: 303/221-7275, Fax: 303/221-7276

100%



CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

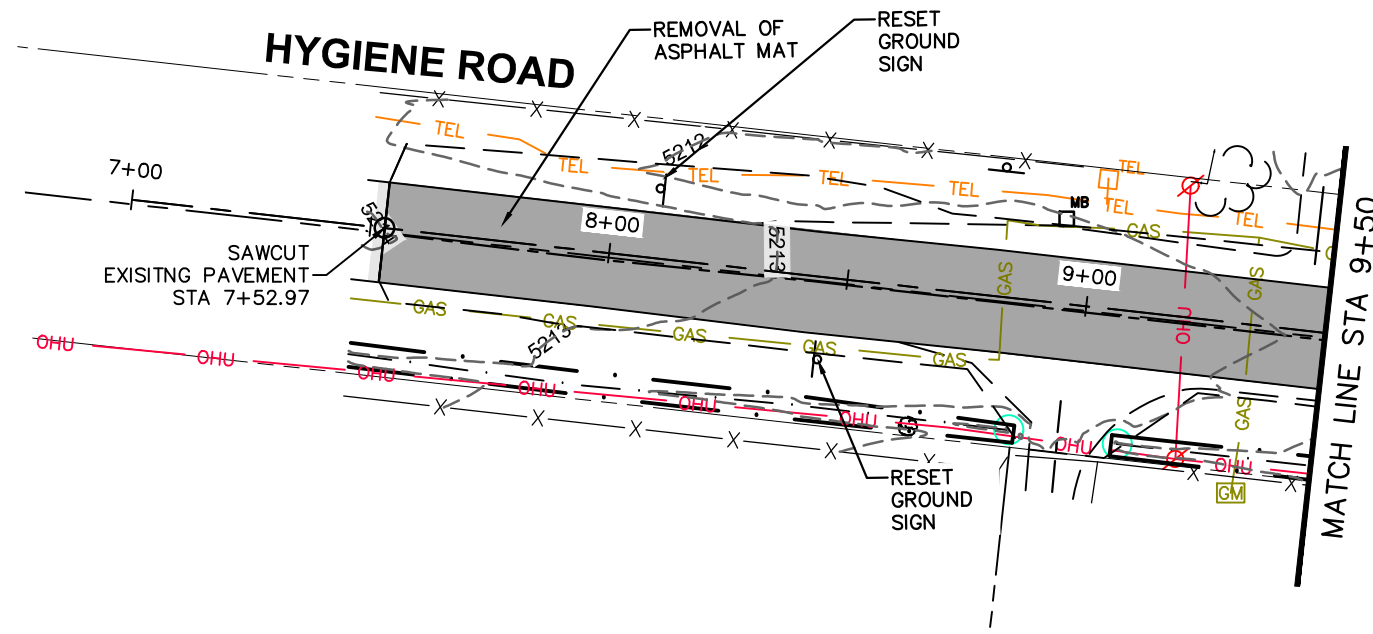
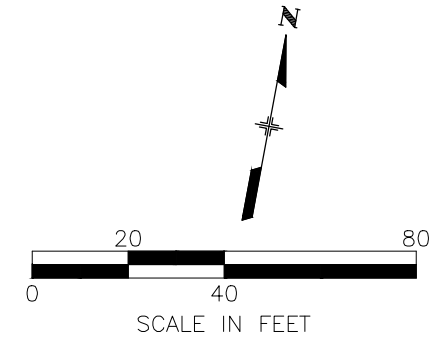
NO.	DATE	REVISION DESCRIPTION:



BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION			
DESIGNED: TM	CAD/C3D: CH	CHECKED: SS	DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR	
TYPICAL SECTIONS	
PROJECT NO: BC-001001-1.4	SHEET NO: 18

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LEGEND
 PAVEMENT REMOVAL

NOTES

- 1) LOGS FROM TREE REMOVALS TO BE LEFT ONSITE WITHIN PROJECT LIMITS. COORDINATE WITH PROPERTY OWNERS.
- 2) CONTRACTOR TO PROTECT TREES NOTED TO BE PROTECTED WITH SILT FENCE. SEE EROSION CONTROL PLANS .
- 3) ASPHALT THICKNESS TO BE REMOVED IS UNKNOWN BUT ASSUMED TO BE 6" OF ABC AND 6" OF HMA.

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 4600 S Ulster Street, Suite #1100
 Denver, CO 80237
 Phone: 303/221-7275, Fax: 303/221-7276

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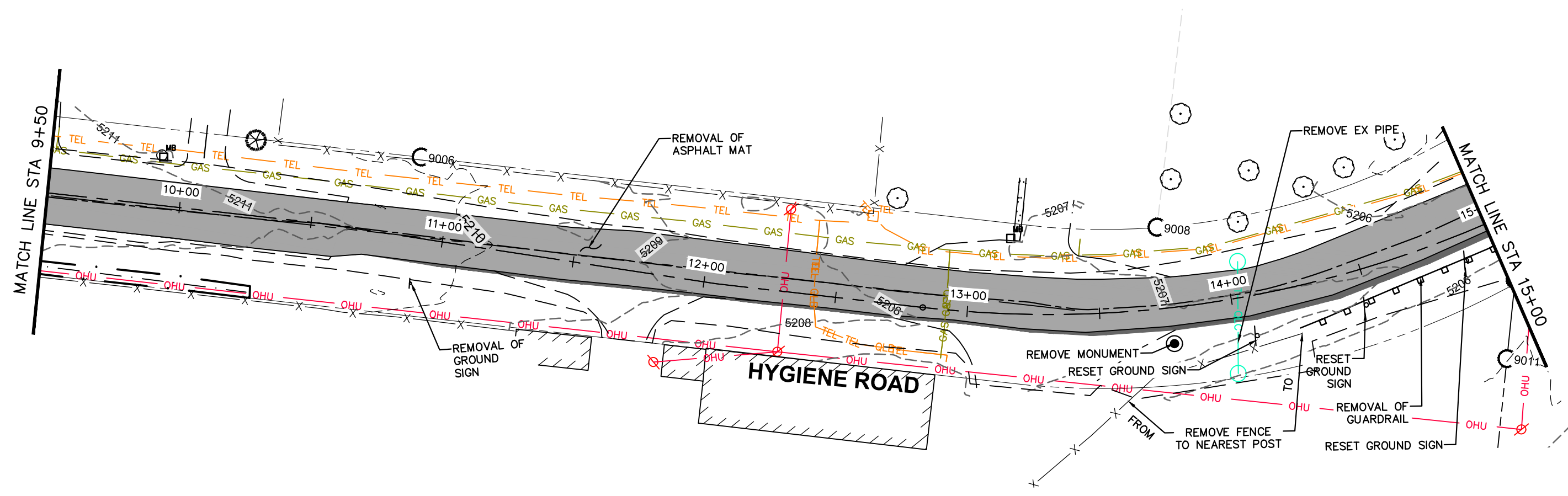
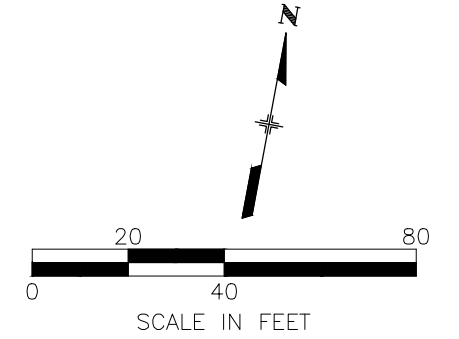
CALL UTILITY NOTIFICATION CENTER OF COLORADO
 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:



**BOULDER COUNTY PUBLIC WORKS
 ENGINEERING DIVISION**
 DESIGNED: TM CAD/C3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR
 REMOVAL PLANS
 PROJECT NO: BC-001001-1.4 SHEET NO: 19



LEGEND
 PAVEMENT REMOVAL

- NOTES
- 1) LOGS FROM TREE REMOVALS TO BE LEFT ONSITE WITHIN PROJECT LIMITS. COORDINATE WITH PROPERTY OWNERS.
 - 2) CONTRACTOR TO PROTECT TREES NOTED TO BE PROTECTED WITH SILT FENCE. SEE EROSION CONTROL PLANS
 - 3) ASPHALT THICKNESS TO BE REMOVED IS UNKNOWN BUT ASSUMED TO BE 6" OF ABC AND 6" OF HMA.

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CALL UTILITY NOTIFICATION CENTER OF COLORADO

 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

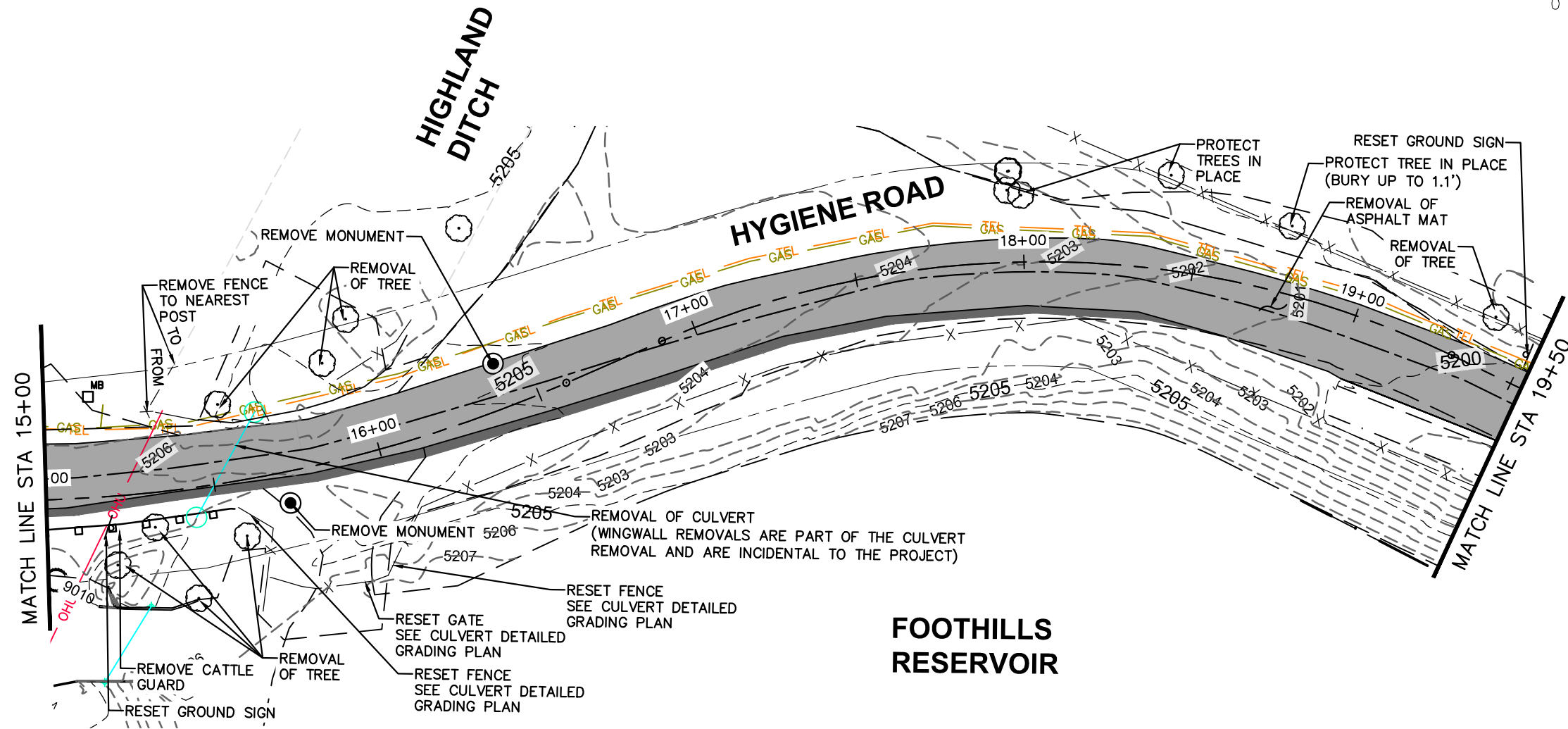
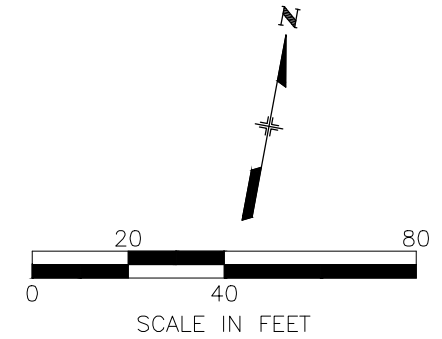
NO.	DATE	REVISION DESCRIPTION:

**BOULDER COUNTY PUBLIC WORKS
 ENGINEERING DIVISION**

DESIGNED: TM	CAD/C3D: CH	CHECKED: SS	DATE: 4/28/2023
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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
REMOVAL PLANS	
PROJECT NO: BC-001001-1.4	SHEET NO: 20

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LEGEND

PAVEMENT REMOVAL

NOTES

- 1) LOGS FROM TREE REMOVALS TO BE LEFT ONSITE WITHIN PROJECT LIMITS. COORDINATE WITH PROPERTY OWNERS.
- 2) CONTRACTOR TO PROTECT TREES NOTED TO BE PROTECTED WITH SILT FENCE. SEE EROSION CONTROL PLANS
- 3) ASPHALT THICKNESS TO BE REMOVED IS UNKNOWN BUT ASSUMED TO BE 6" OF ABC AND 6" OF HMA.

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 Denver, CO 80237
 Phone: 303/221-7275, Fax: 303/221-7276

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NO.	DATE	REVISION DESCRIPTION:

BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION

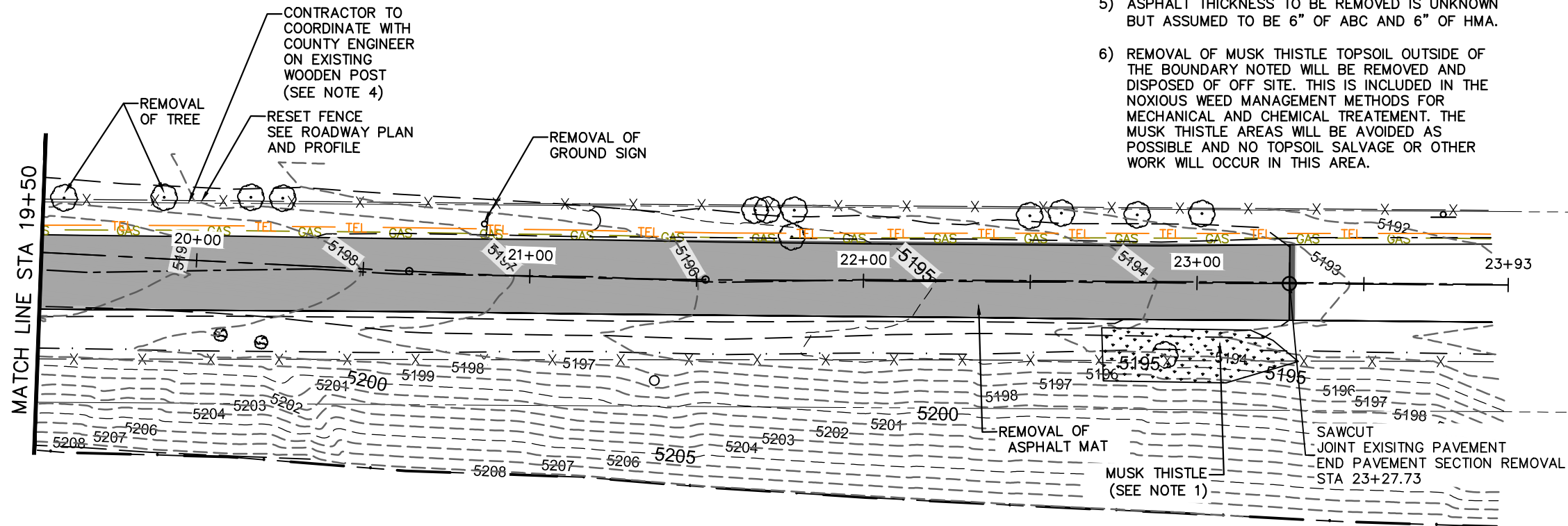
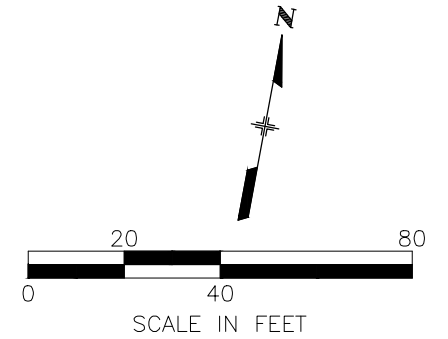
DESIGNED: TM CAD/G3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR	
REMOVAL PLANS	
PROJECT NO: BC-001001-1.4	SHEET NO: 21

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NOTES

- 1) AVOID REUSE OF TOPSOIL WHERE NOXIOUS WEEDS ARE FOUND TO AVOID SEED BANK REDISTRIBUTION. REMOVAL OF ADDITIONAL MILK THISTLE OUTSIDE OF THE HATCHED BOUNDARY WILL BE INCLUDED IN THE NOXIOUS WEEDS MANAGEMENT LUMP SUM BID ITEM.
- 2) LOGS FROM TREE REMOVALS TO BE LEFT ONSITE WITHIN PROJECT LIMITS. COORDINATE WITH PROPERTY OWNERS.
- 3) CONTRACTOR TO PROTECT TREES NOTED TO BE PROTECTED WITH SILT FENCE. SEE EROSION CONTROL PLANS
- 4) COST TO COORDINATE WITH THE COUNTY REGARDING THE WOODEN POST SHALL BE INCIDENTAL TO THE RESET FENCE PAY ITEM IN THESE PLANS.
- 5) ASPHALT THICKNESS TO BE REMOVED IS UNKNOWN BUT ASSUMED TO BE 6" OF ABC AND 6" OF HMA.
- 6) REMOVAL OF MUSK THISTLE TOPSOIL OUTSIDE OF THE BOUNDARY NOTED WILL BE REMOVED AND DISPOSED OF OFF SITE. THIS IS INCLUDED IN THE NOXIOUS WEED MANAGEMENT METHODS FOR MECHANICAL AND CHEMICAL TREATMENT. THE MUSK THISTLE AREAS WILL BE AVOIDED AS POSSIBLE AND NO TOPSOIL SALVAGE OR OTHER WORK WILL OCCUR IN THIS AREA.



LEGEND

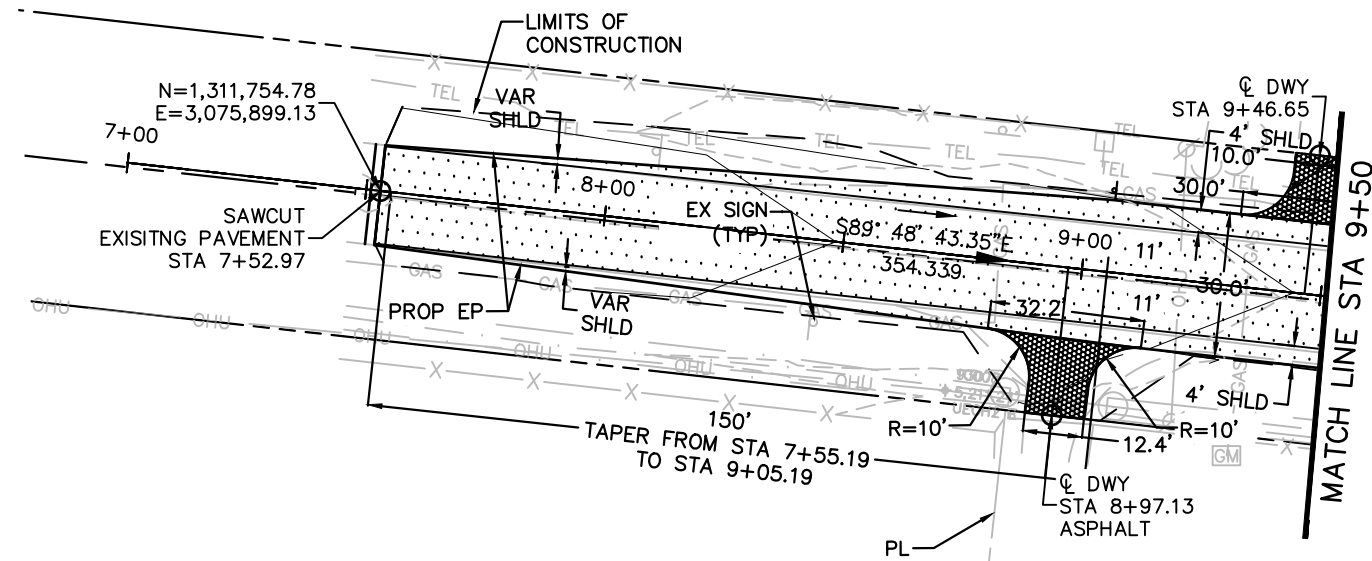
PAVEMENT REMOVAL

NO.	DATE	REVISION DESCRIPTION:

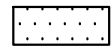

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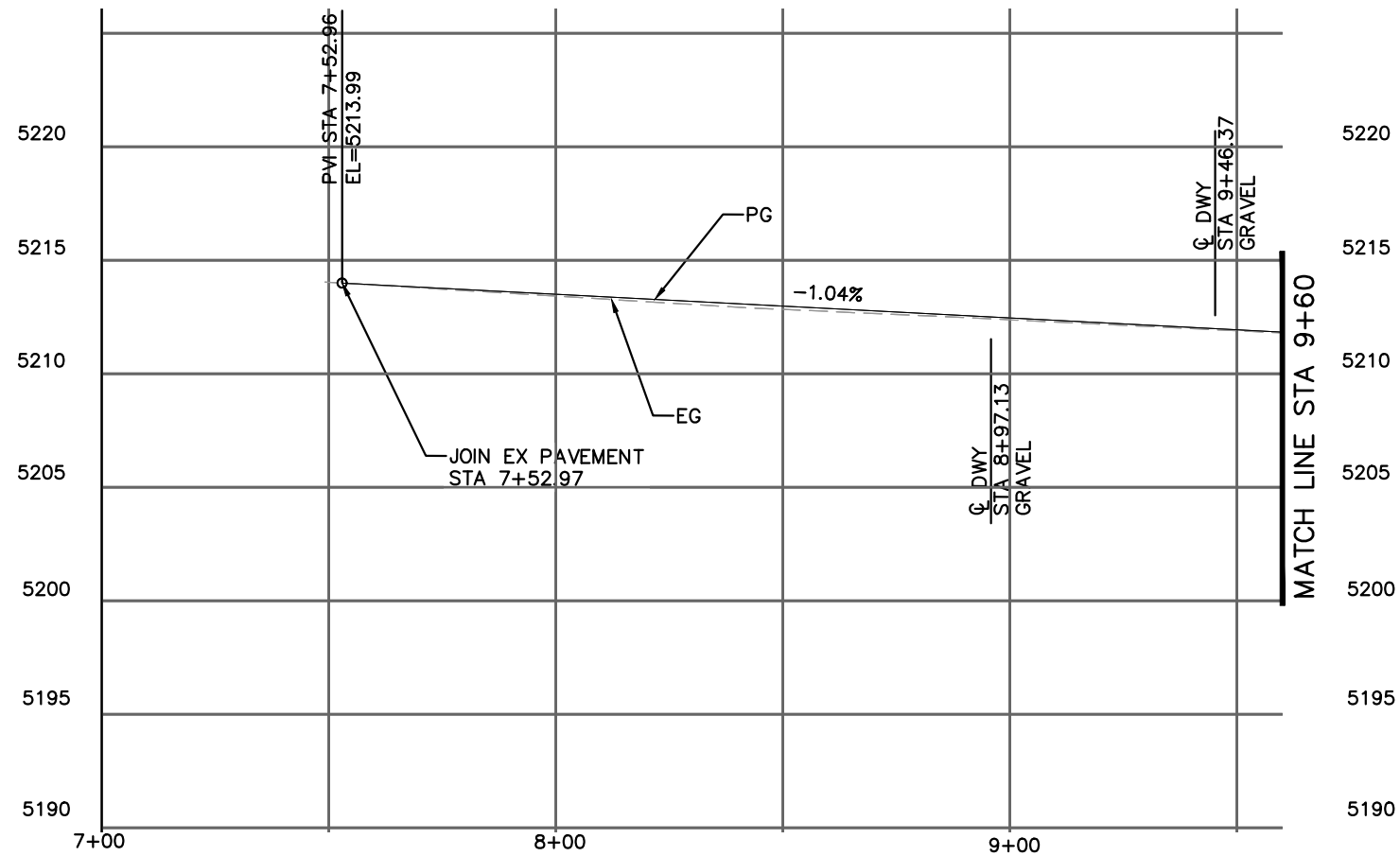
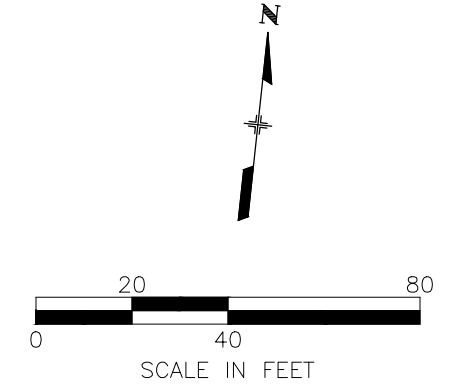
- CONTRACTOR TO FIELD VERIFY DEPTH AND LOCATION OF UTILITIES PRIOR TO CONSTRUCTION.

BASHOR WADE & WARREN
 APN: 120333000001
 5640 HYGIENE RD
 UNINCORPORATED BOULDER COUNTY



LEGEND

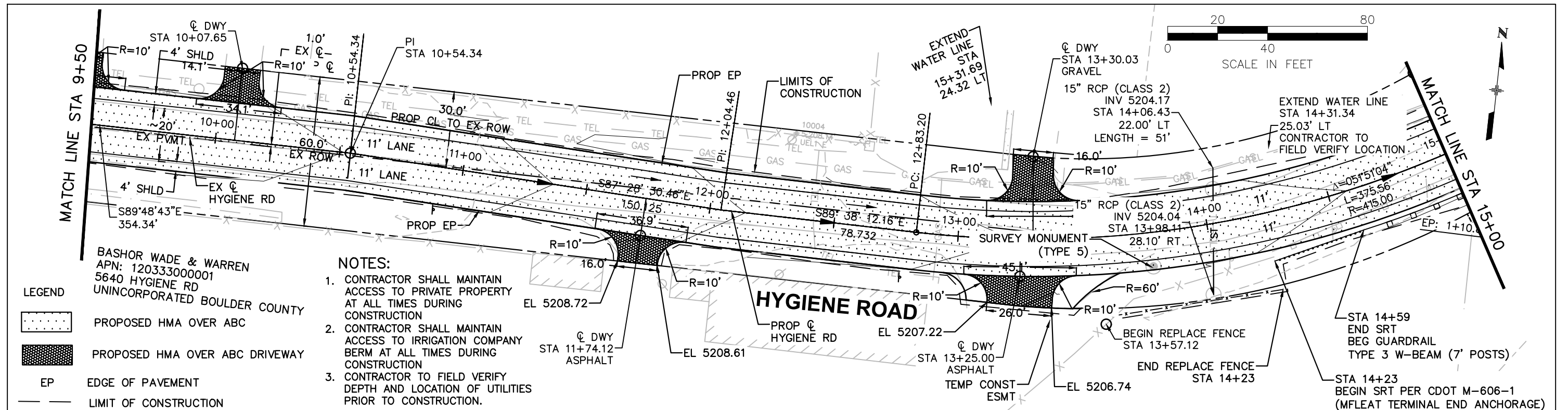
-  PROPOSED HMA OVER ABC
-  PROPOSED HMA OVER ABC DRIVEWAY
- EP EDGE OF PAVEMENT
- EX EXISTING
- R RADIUS
- ROW RIGHT OF WAY
- SHLD SHOULDER
- LIMIT OF CONSTRUCTION



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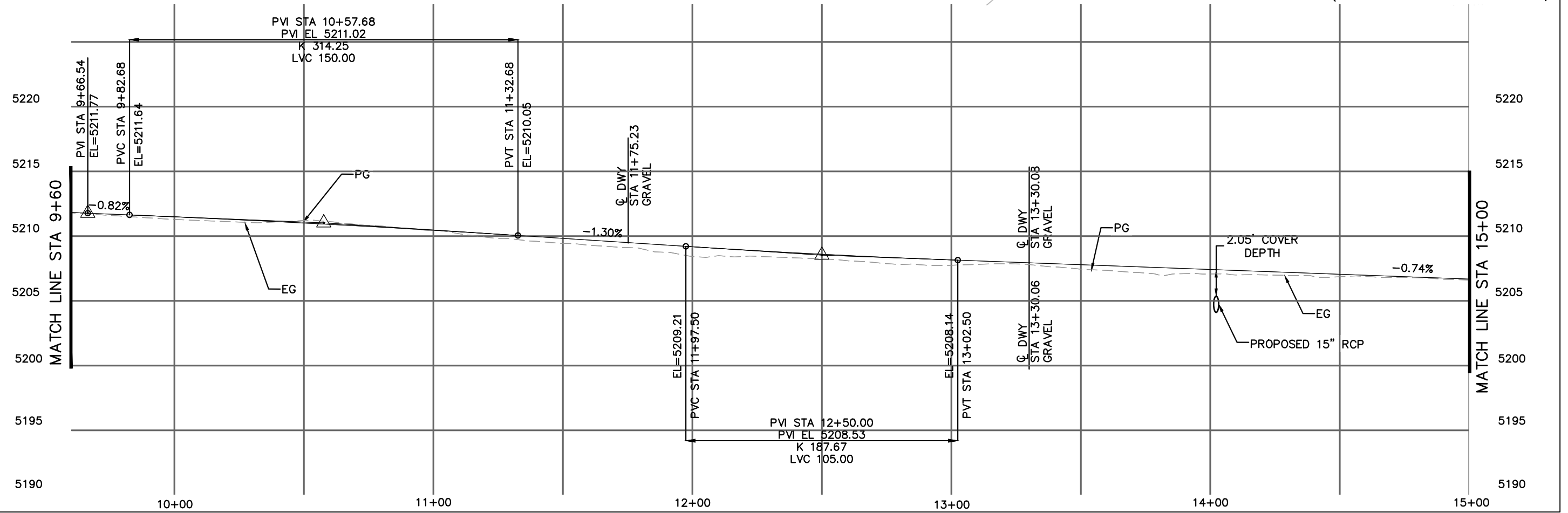
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- LEGEND**
- PROPOSED HMA OVER ABC
 - PROPOSED HMA OVER ABC DRIVEWAY
 - EP** EDGE OF PAVEMENT
 - LIMIT OF CONSTRUCTION

- NOTES:**
1. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES DURING CONSTRUCTION
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO IRRIGATION COMPANY BERM AT ALL TIMES DURING CONSTRUCTION
 3. CONTRACTOR TO FIELD VERIFY DEPTH AND LOCATION OF UTILITIES PRIOR TO CONSTRUCTION.



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 Denver, CO 80237
 Phone: 303/221-7275, Fax: 303/221-7276

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CALL UTILITY NOTIFICATION CENTER OF COLORADO

 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:

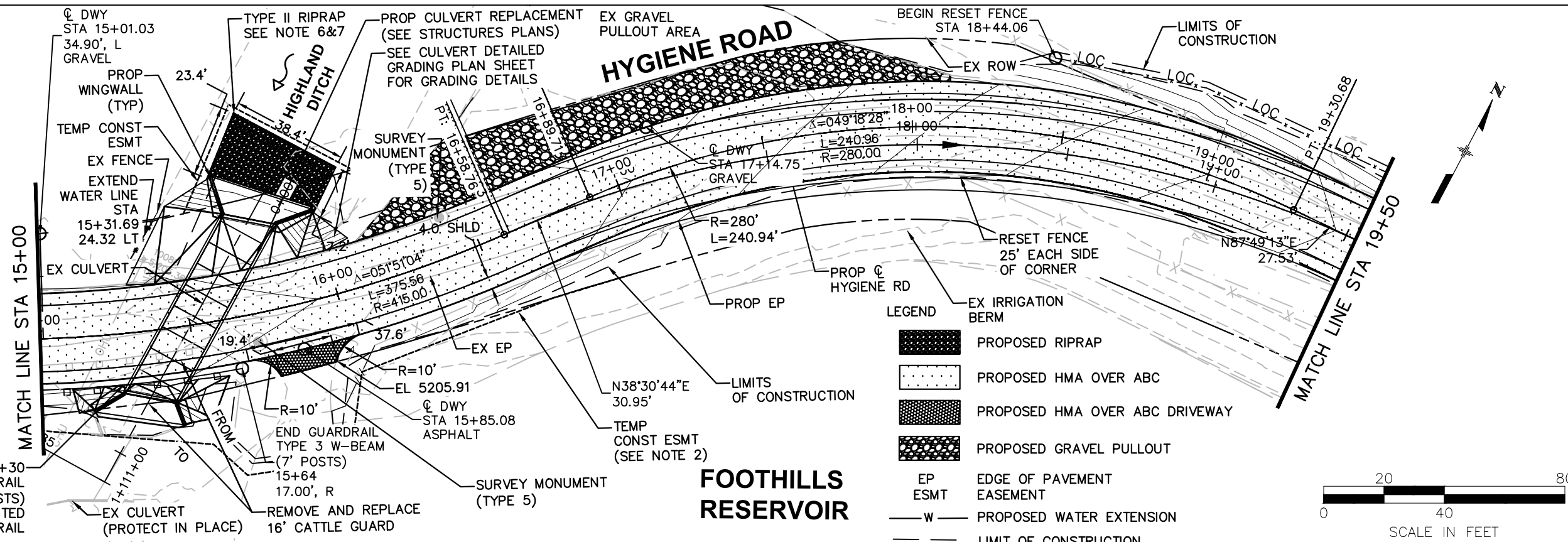
BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION
 DESIGNED: TM CAD/G3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR
 ROADWAY PLAN AND PROFILES
 PROJECT NO: BC-001001-1.4 SHEET NO: 24

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NOTES:

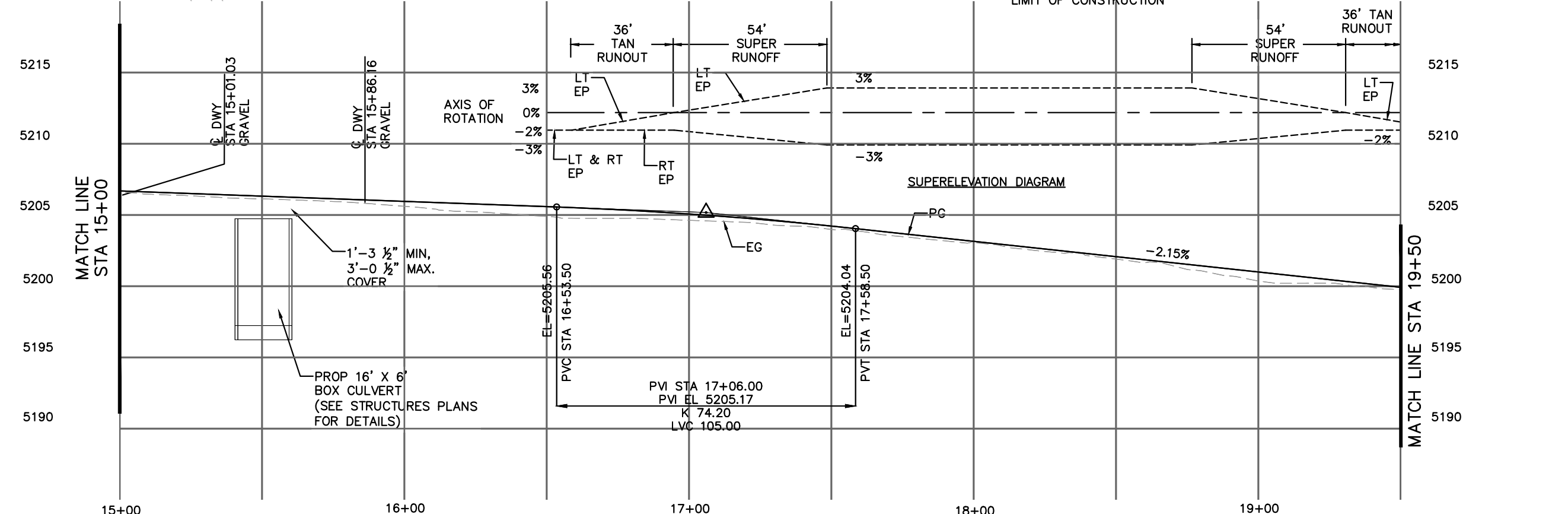
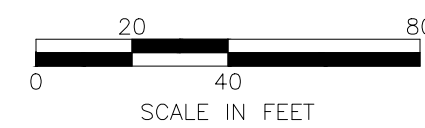
1. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES DURING CONSTRUCTION
2. CONTRACTOR SHALL MAINTAIN ACCESS TO IRRIGATION COMPANY BERM AT ALL TIMES DURING CONSTRUCTION
3. CONTRACTOR SHALL LEAVE REMOVED TREES ONSITE AND COORDINATE LOCATION WITH THE PROPERTY OWNER
4. CONTRACTOR SHALL REPLACE FENCING TO ACCOMMODATE CULVERT EXTENSION
5. CONTRACTOR TO FIELD VERIFY DEPTH AND LOCATION OF UTILITIES PRIOR TO CONSTRUCTION.
6. RIPRAP FOR THE BOX CULVERT TO EXTEND TO ELEVATION 5206.00
7. TYPE II RIPRAP $D_{50}=12"$ END GUARDRAIL TYPE 3 (7' POSTS) BEG CBC-MOUNTED GUARDRAIL



FOOTHILLS RESERVOIR

LEGEND

- PROPOSED RIPRAP
- PROPOSED HMA OVER ABC
- PROPOSED HMA OVER ABC DRIVEWAY
- PROPOSED GRAVEL PULLOUT
- EP EDGE OF PAVEMENT EASEMENT
- ESMT EASEMENT
- W PROPOSED WATER EXTENSION
- LIMIT OF CONSTRUCTION

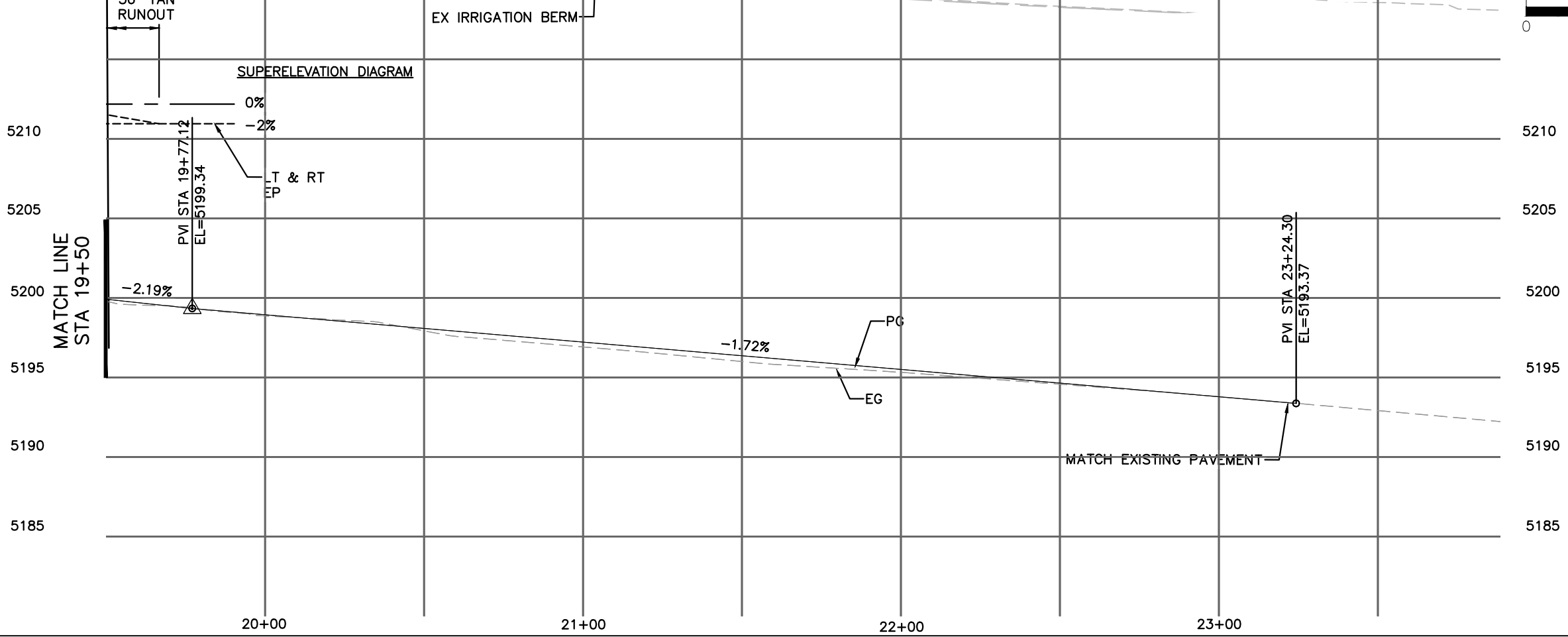
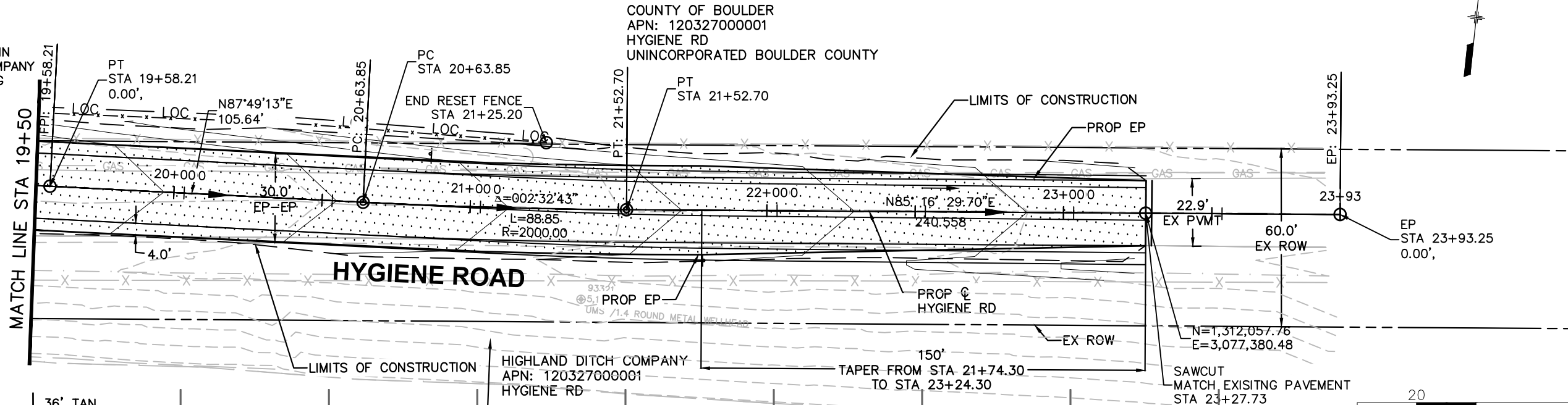


NO.	DATE	REVISION DESCRIPTION:

NOTES:

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2. CONTRACTOR SHALL MAINTAIN ACCESS TO IRRIGATION COMPANY BERM AT ALL TIMES DURING CONSTRUCTION
3. CONTRACTOR TO FIELD VERIFY DEPTH AND LOCATION OF UTILITIES PRIOR TO CONSTRUCTION.

- LEGEND**
- PROPOSED HMA OVER ABC
 - LIMIT OF CONSTRUCTION



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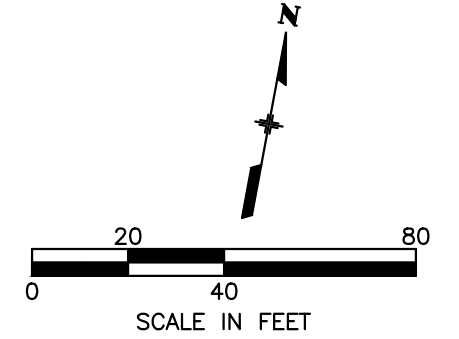
CALL UTILITY NOTIFICATION CENTER OF COLORADO

 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:

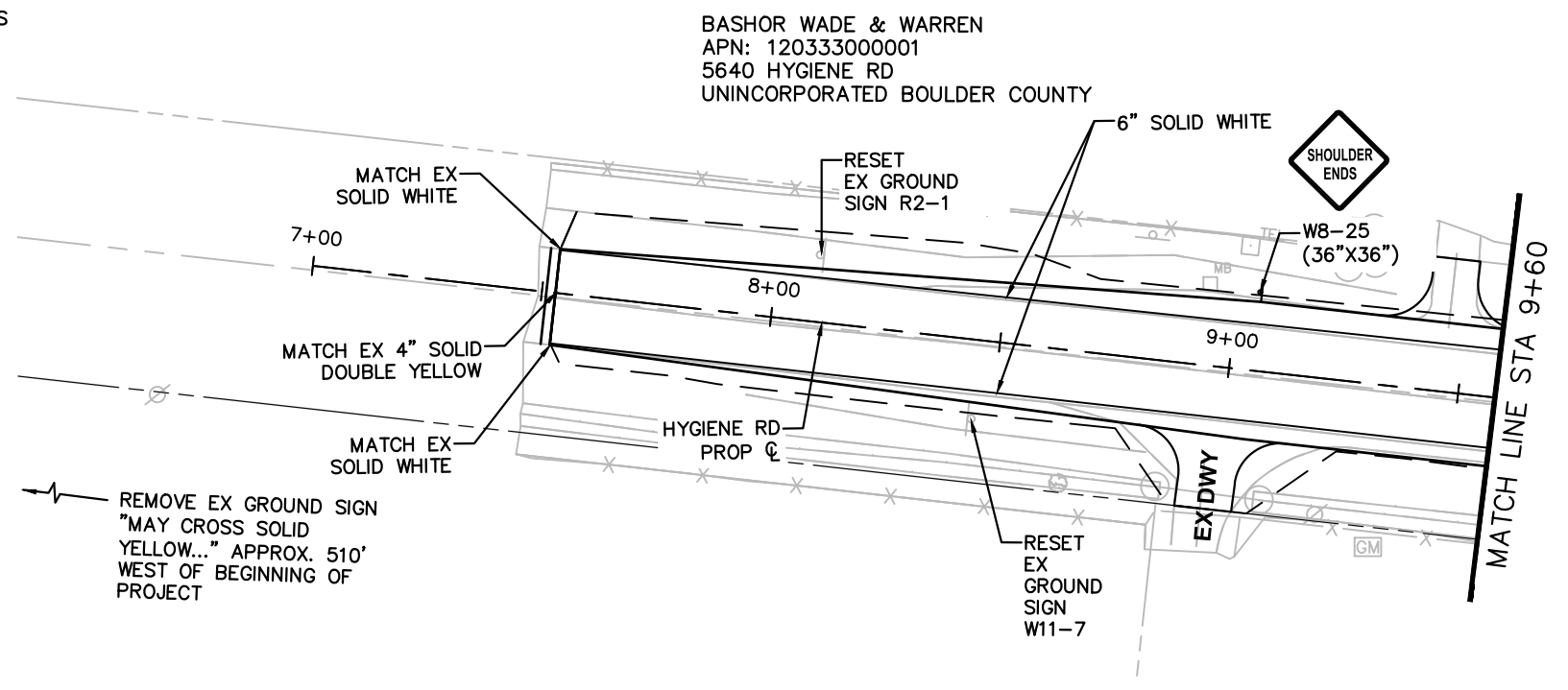
BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION
 DESIGNED: TM CAD/C3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR
 ROADWAY PLAN AND PROFILES
 PROJECT NO: BC-001001-1.4 SHEET NO: 26



NOTES:

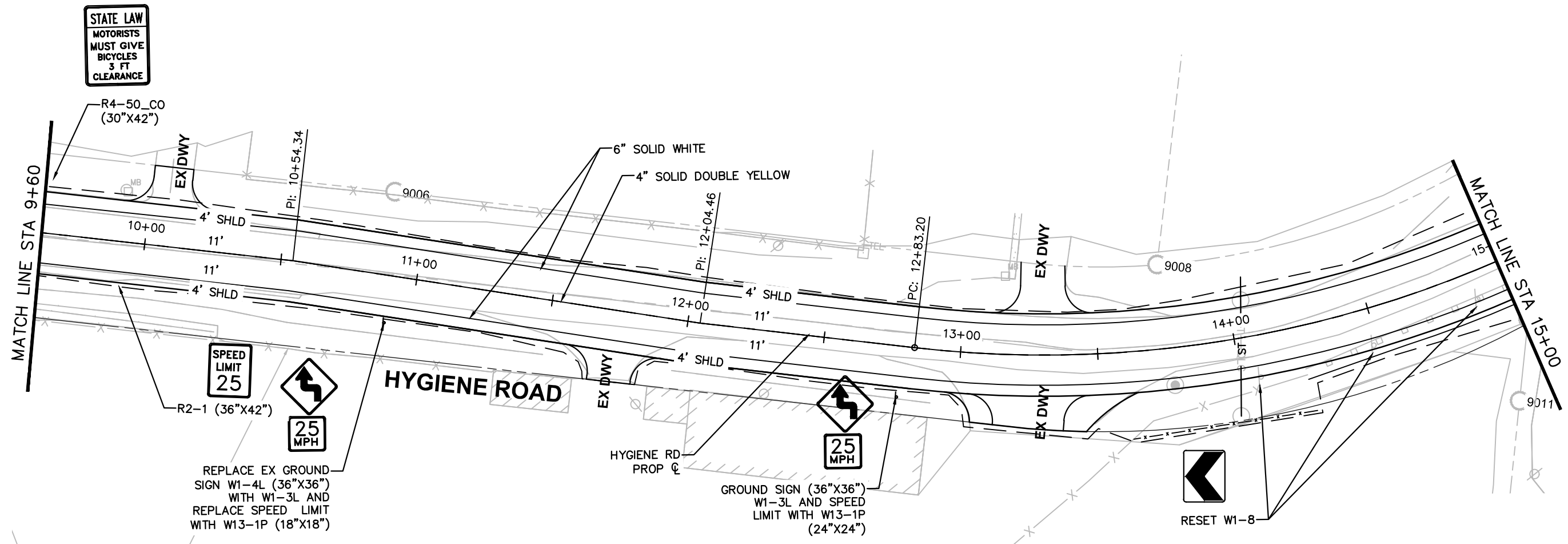
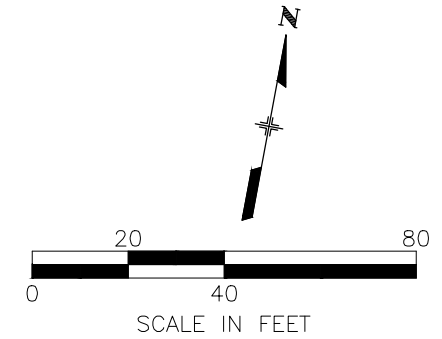
1. EXACT SIGN LOCATIONS TO BE COORDINATED WITH THE COUNTY PM.
2. SEE TABULATIONS SHEET FOR SIGNAGE NOT SHOWN ON PLAN AND OUTSIDE OF PROJECT LIMITS



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STATE LAW
MOTORISTS
MUST GIVE
BICYCLES
3 FT
CLEARANCE

R4-50_CO
(30"X42")

MATCH LINE STA 9+60

MATCH LINE STA 15+00

SPEED
LIMIT
25



25
MPH

R2-1 (36"X42")

REPLACE EX GROUND
SIGN W1-4L (36"X36")
WITH W1-3L AND
REPLACE SPEED LIMIT
WITH W13-1P (18"X18")

HYGIENE ROAD

HYGIENE RD
PROP CL

25
MPH

GROUND SIGN (36"X36")
W1-3L AND SPEED
LIMIT WITH W13-1P
(24"X24")



RESET W1-8

NOTES:

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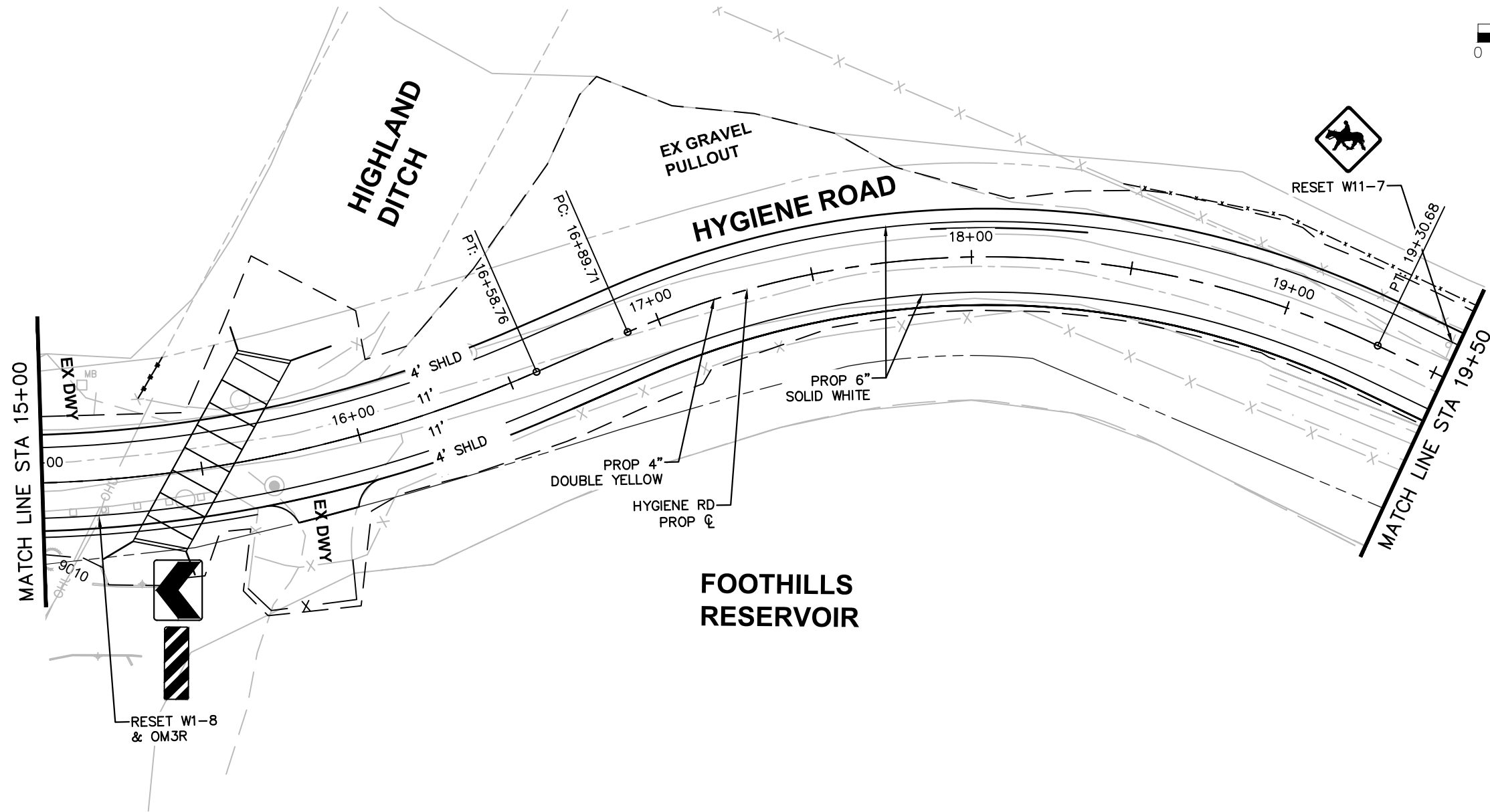
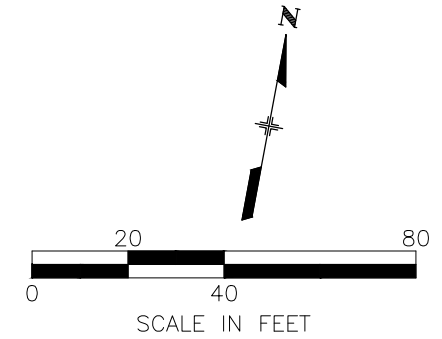
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HYGIENE ROAD AT FOOTHILLS RESERVOIR

SIGNAGE AND STRIPING PLANS

PROJECT NO: BC-001001-1.4 SHEET NO: 28

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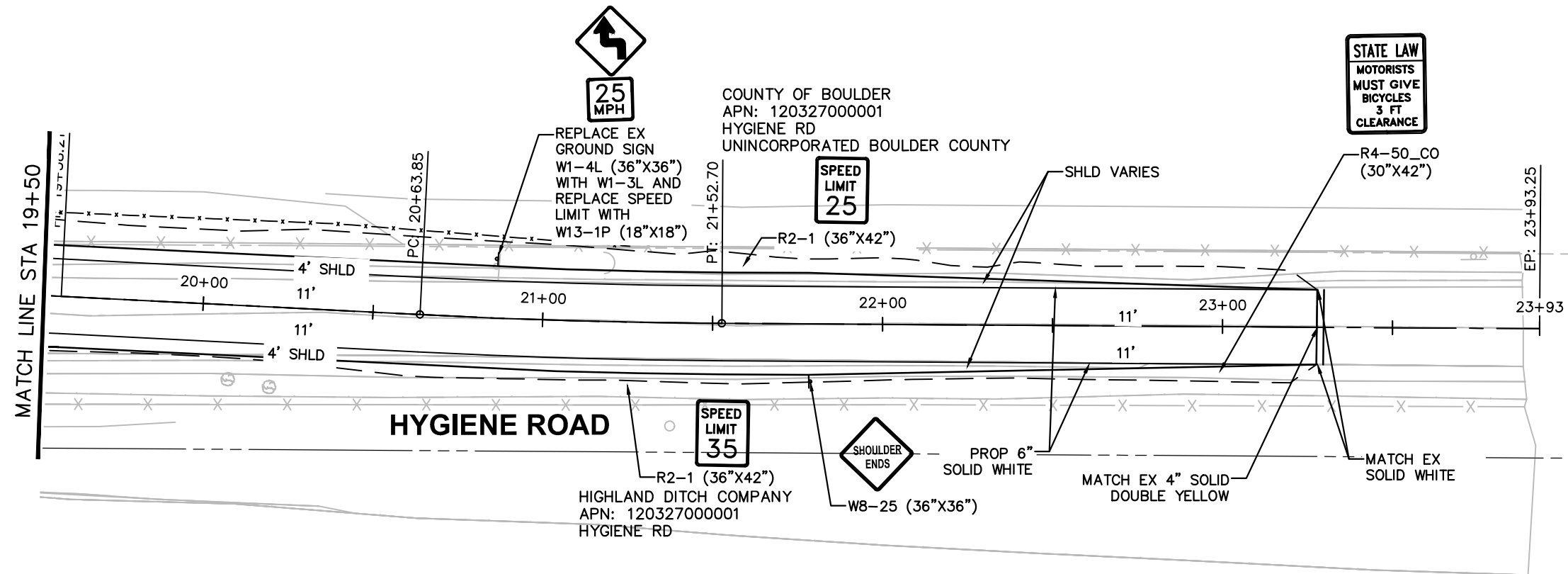
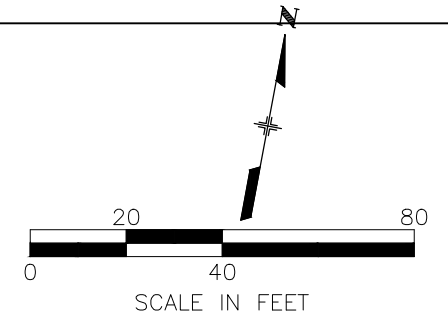
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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
SIGNAGE AND STRIPING PLANS	
PROJECT NO: BC-001001-1.4	SHEET NO: 29

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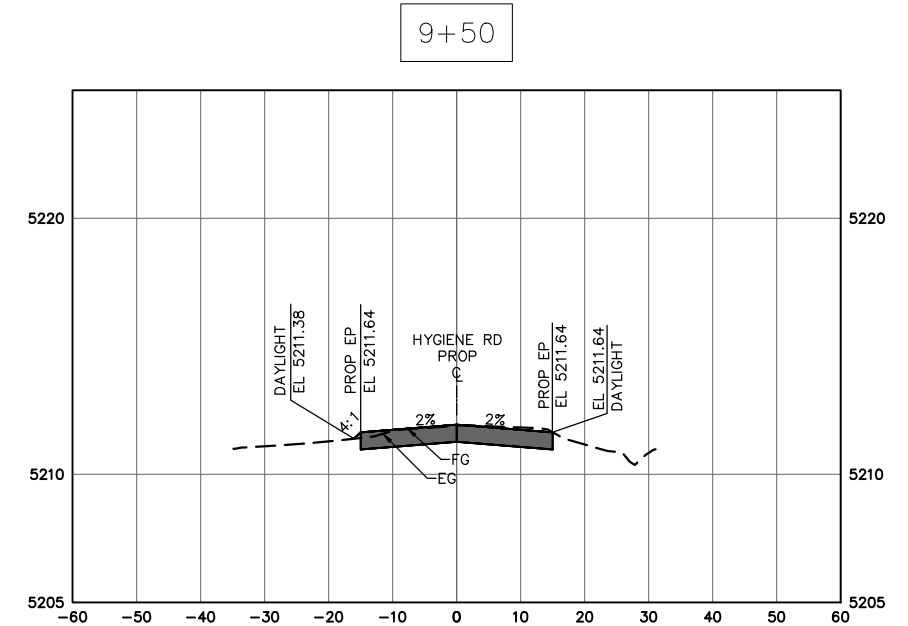
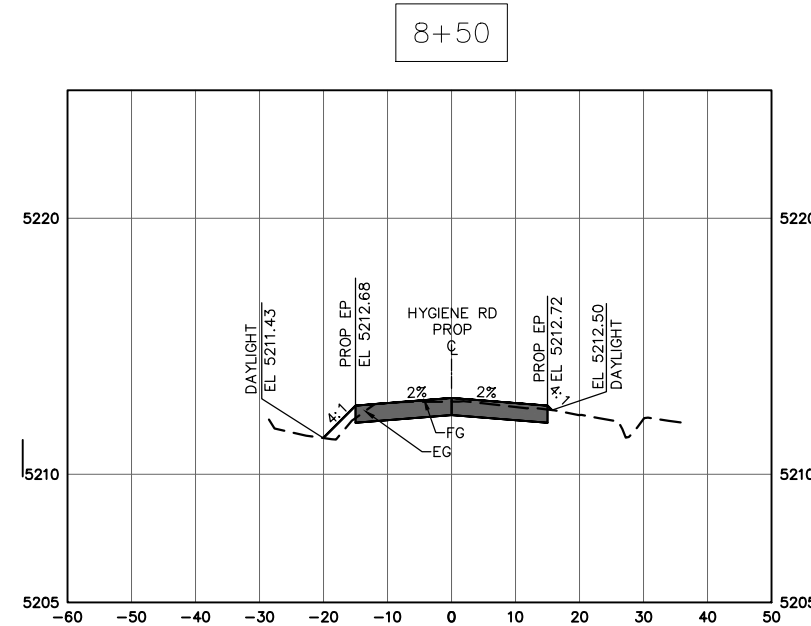
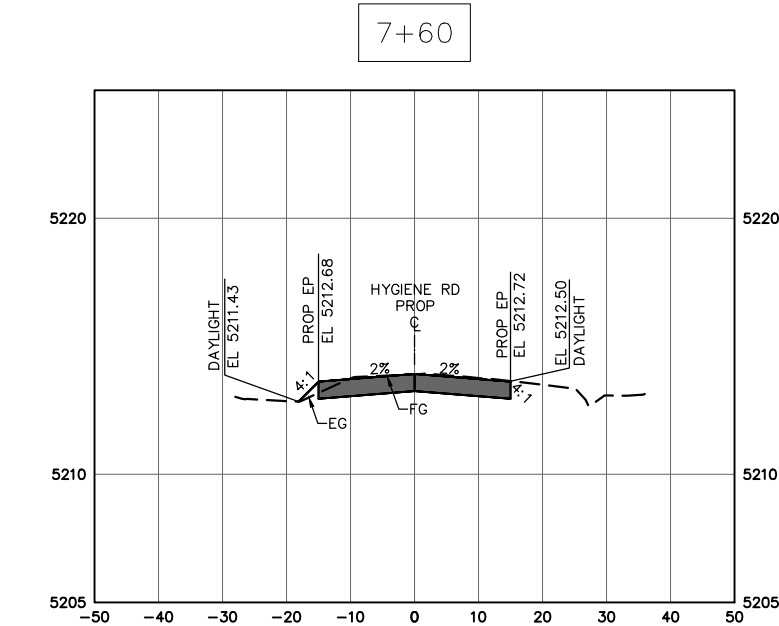
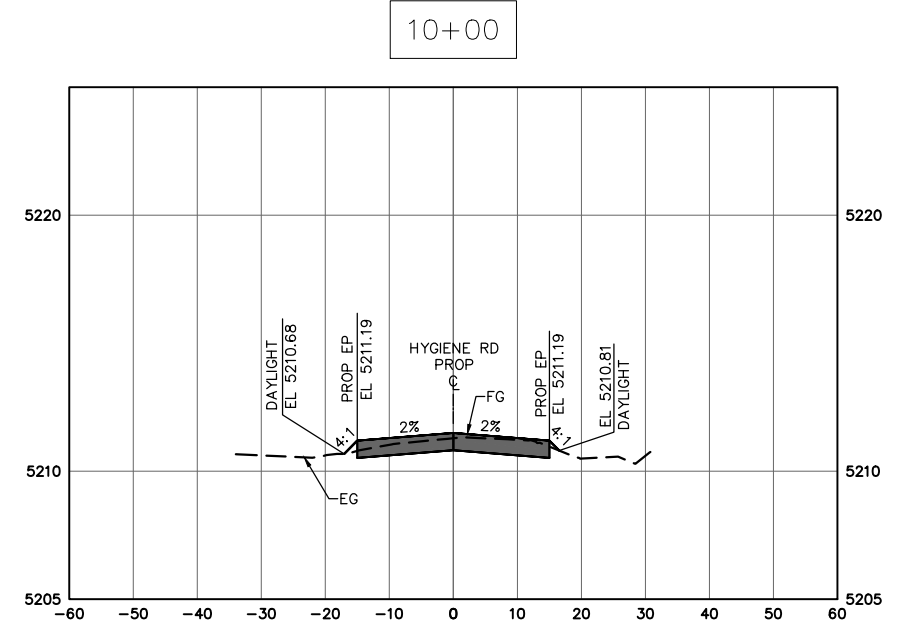
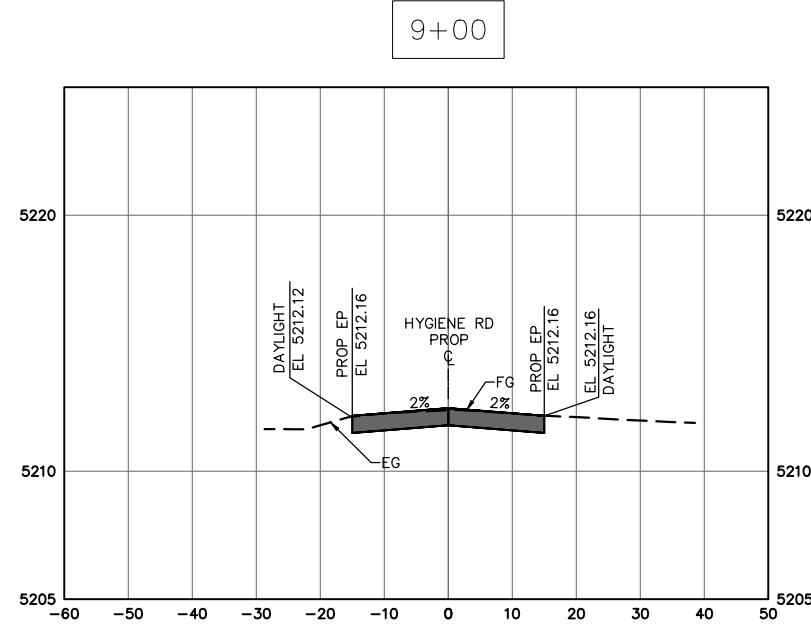
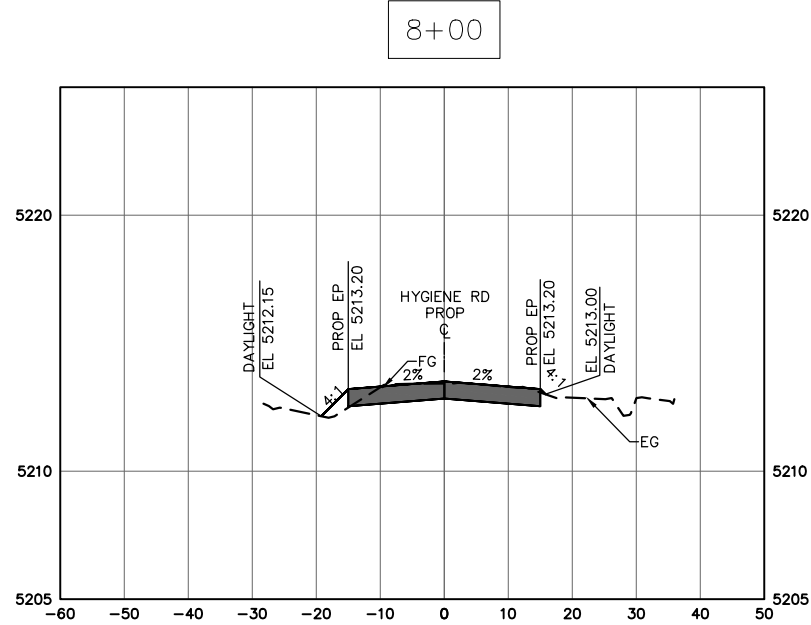
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HYGIENE ROAD AT FOOTHILLS RESERVOIR
 SIGNAGE AND STRIPING PLANS
 PROJECT NO: BC-001001-1.4 SHEET NO: 30

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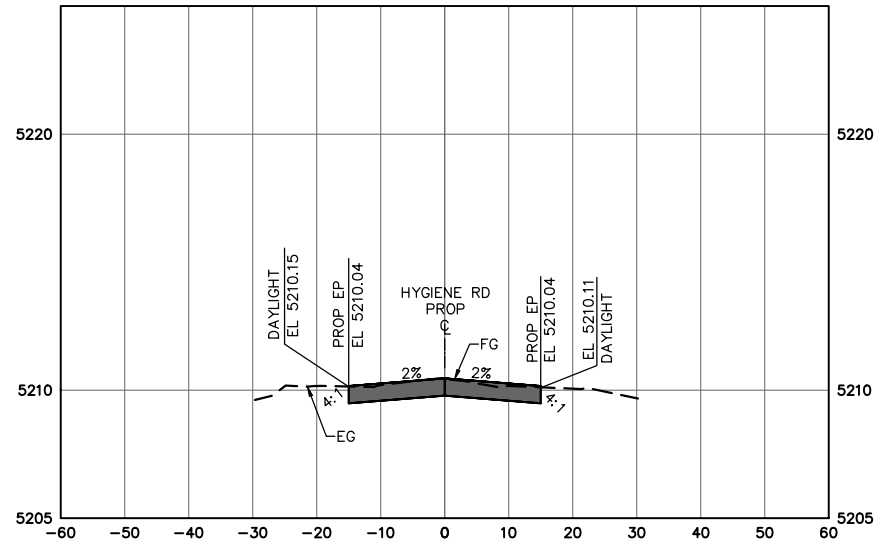


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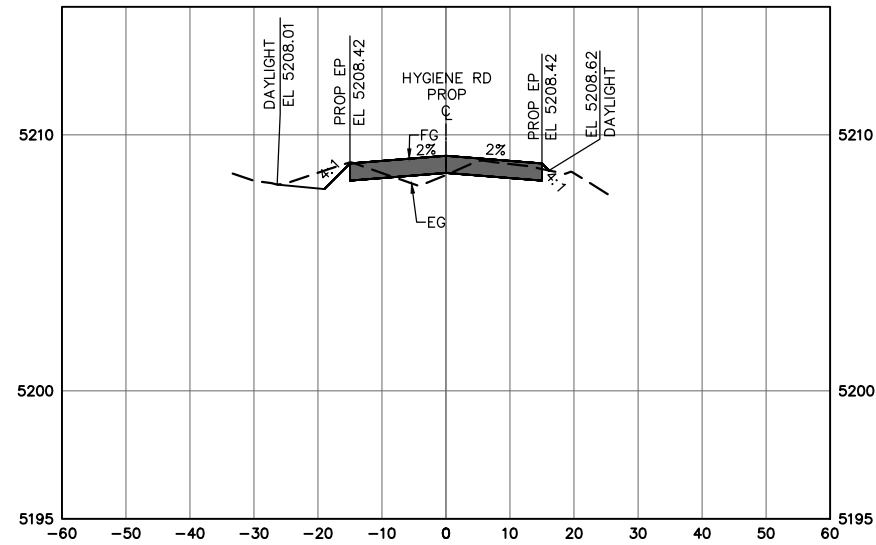


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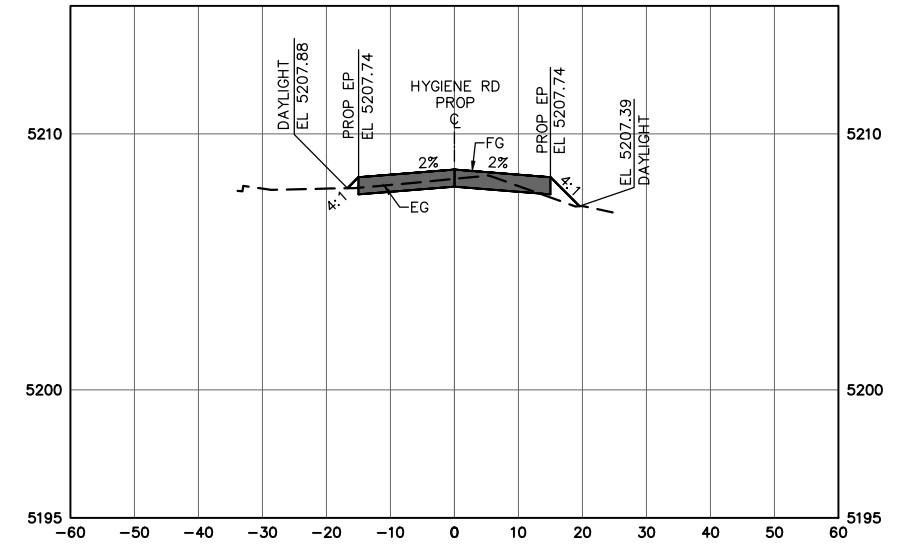
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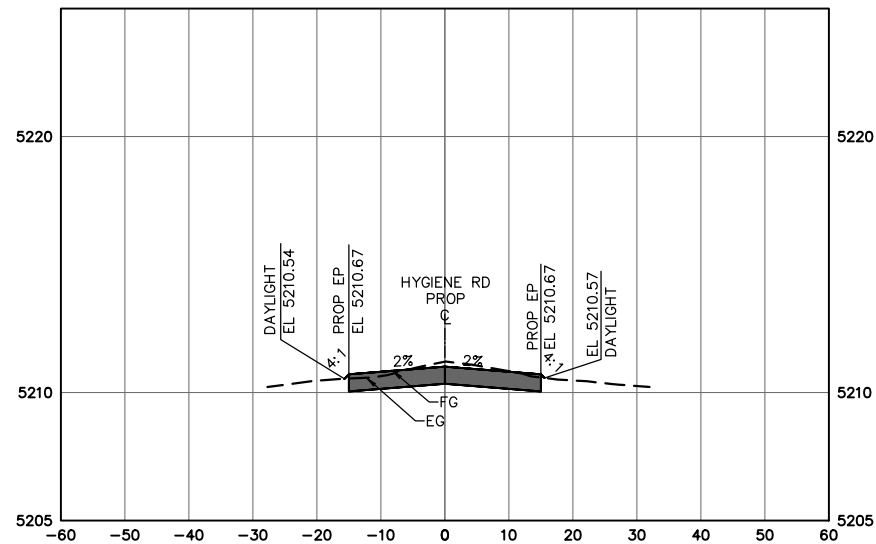
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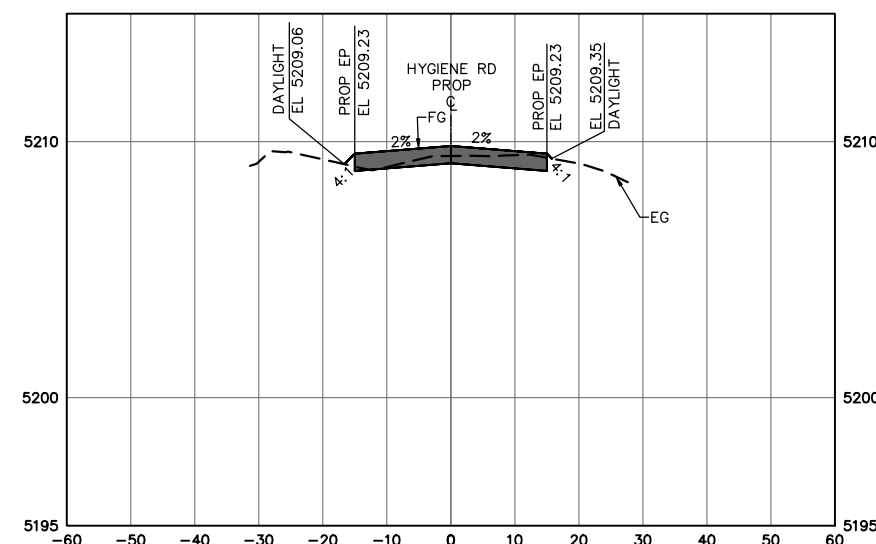
12+50



10+50



11+50



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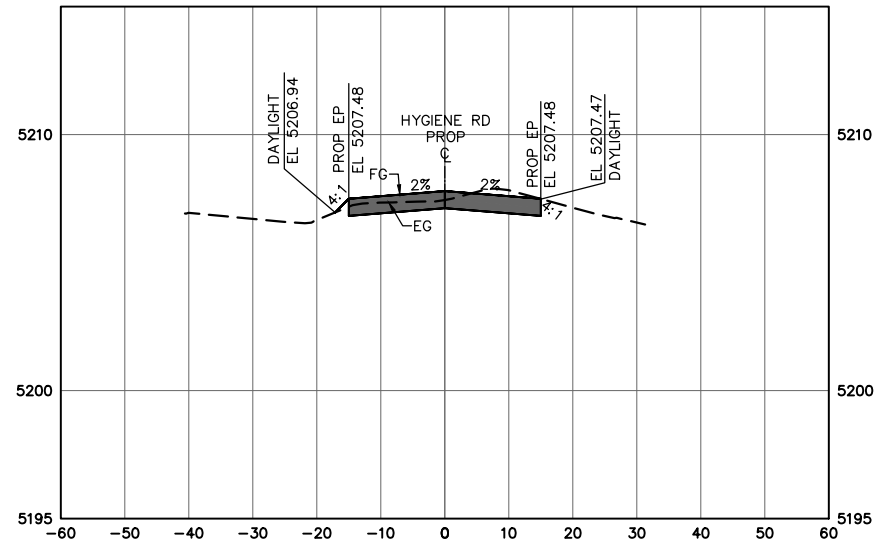
HYGIENE ROAD AT FOOTHILLS RESERVOIR

ROADWAY CROSS SECTIONS

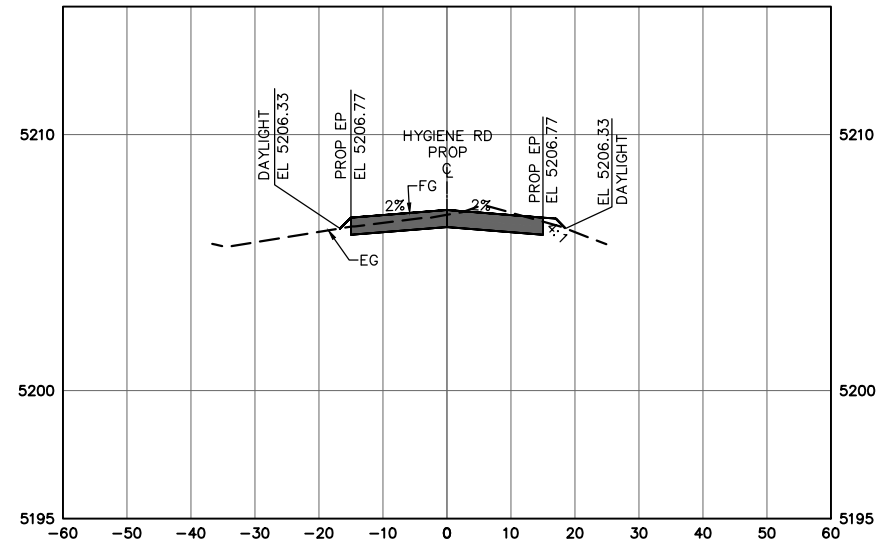
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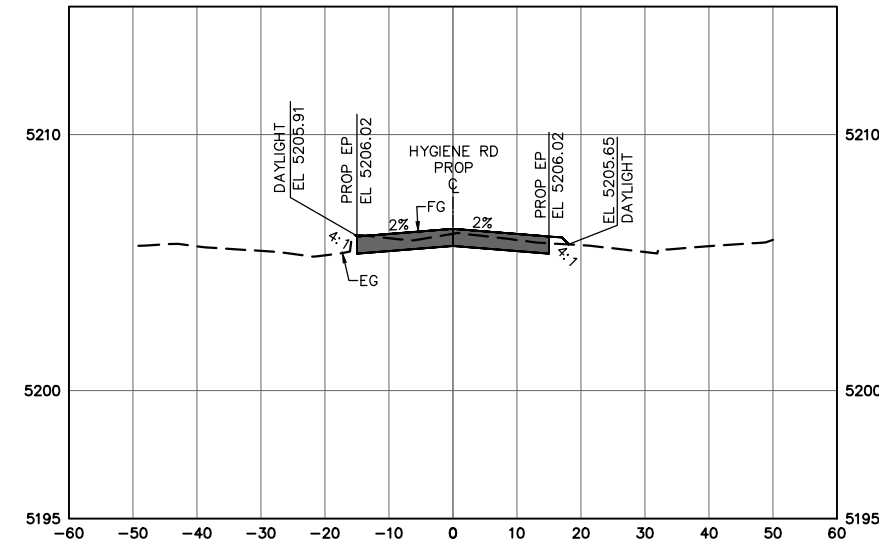
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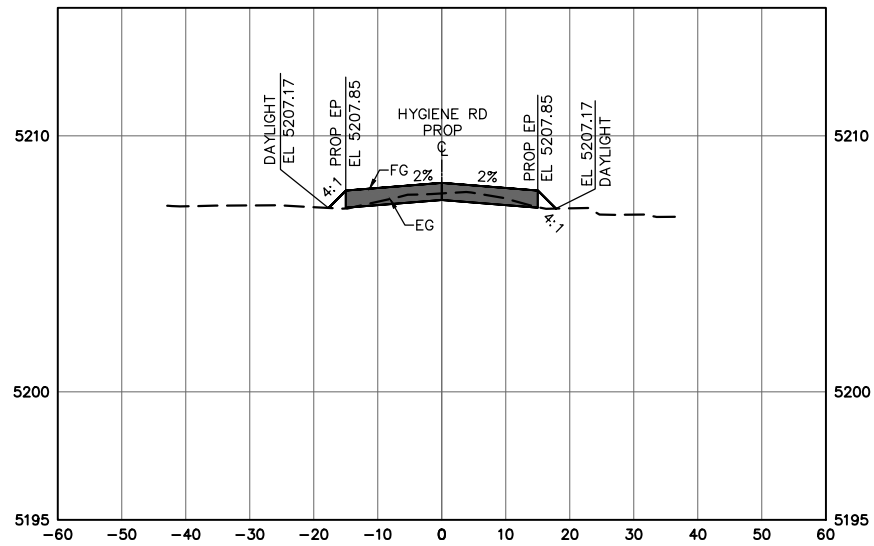
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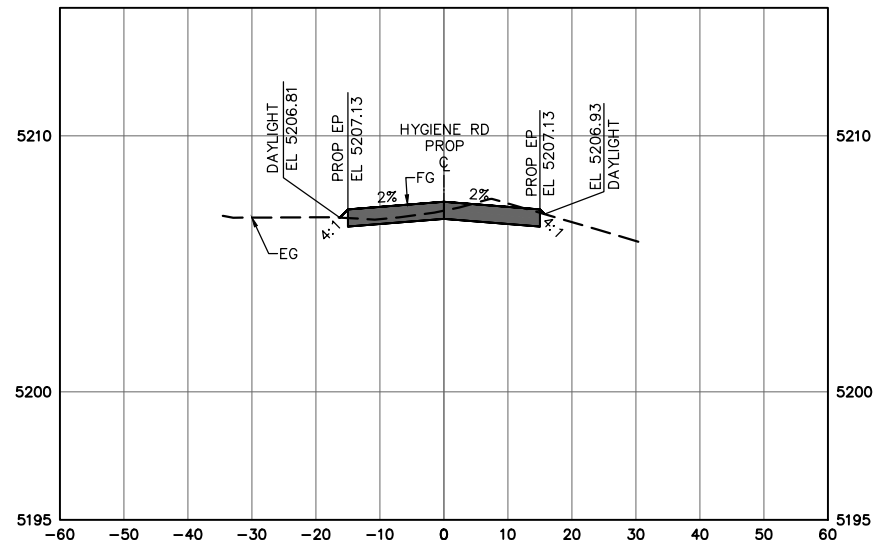
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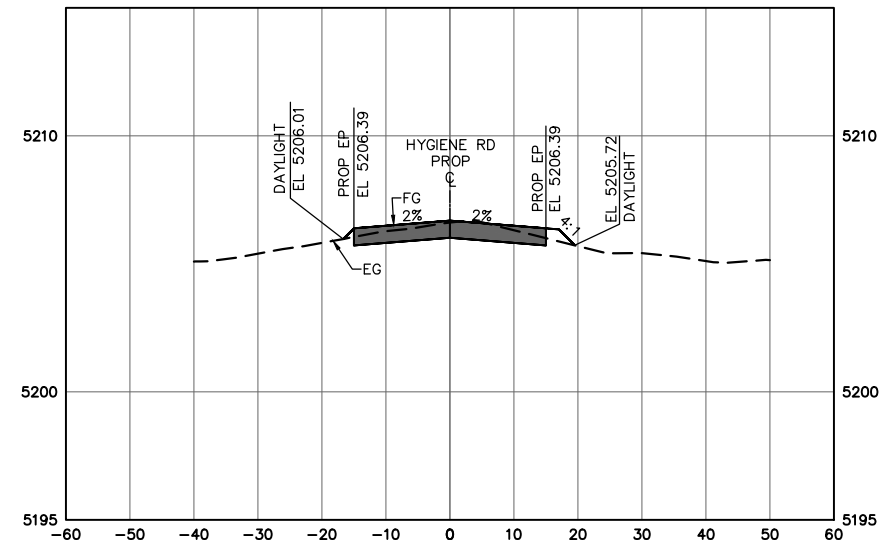
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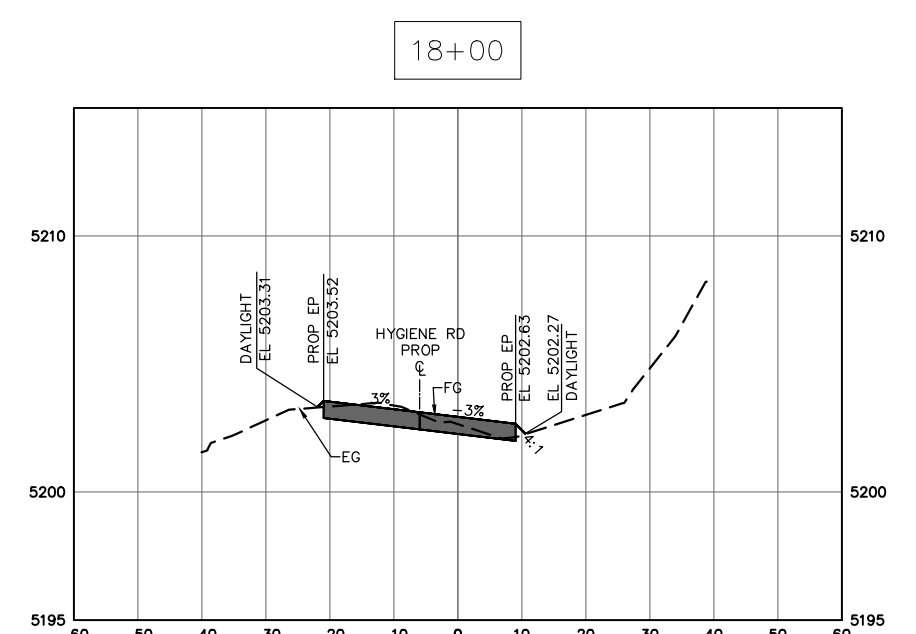
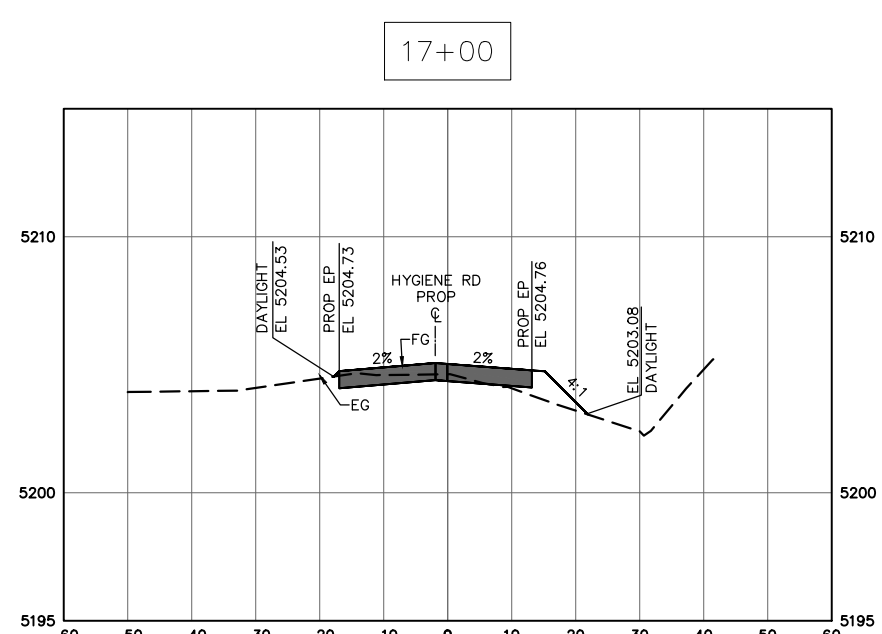
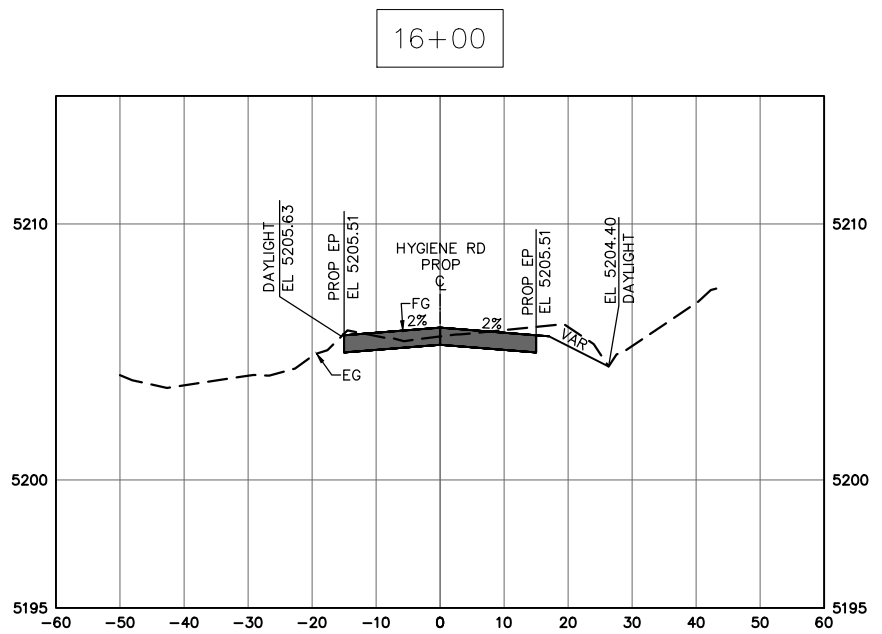
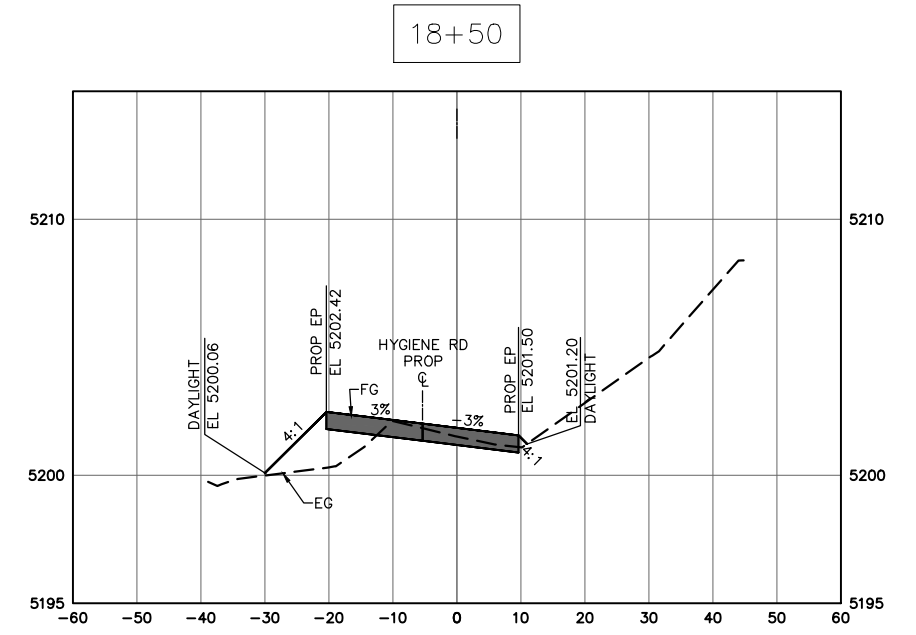
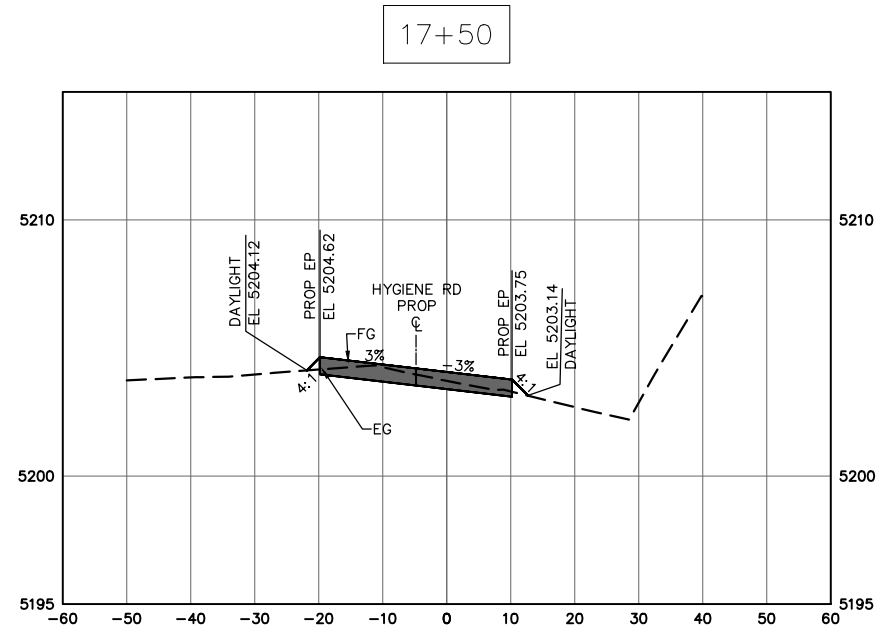
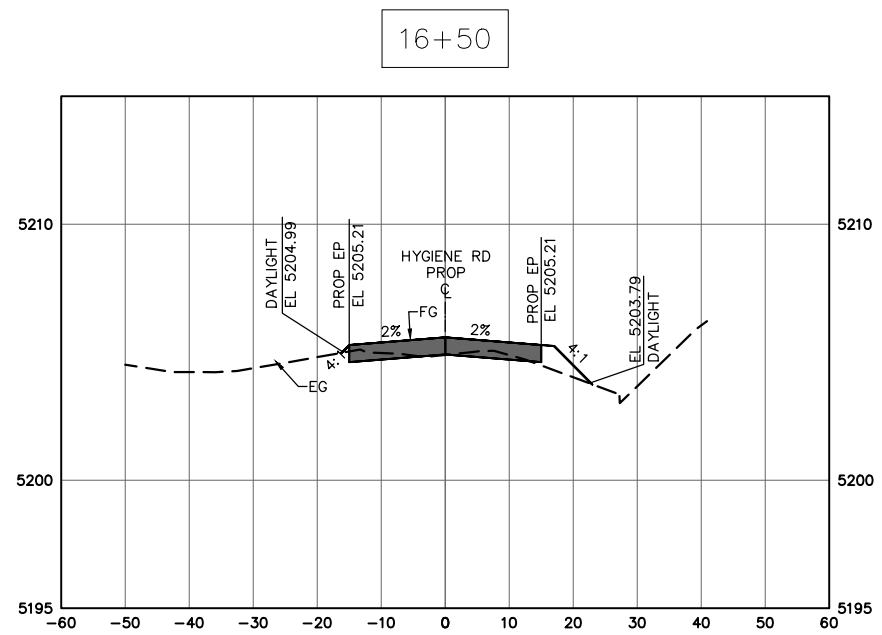
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HYGIENE ROAD AT FOOTHILLS RESERVOIR

ROADWAY CROSS SECTIONS

PROJECT NO: BC-001001-1.4 SHEET NO: 33

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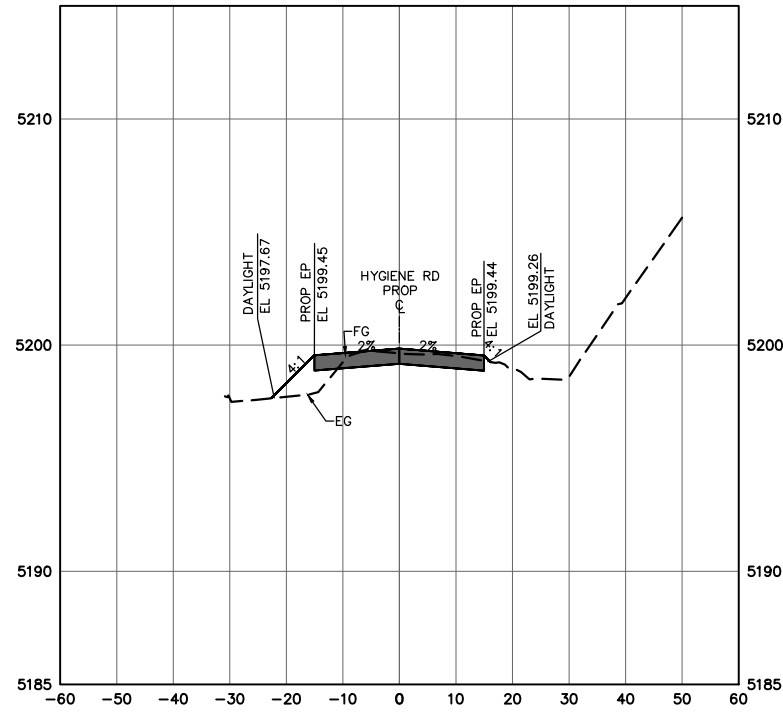


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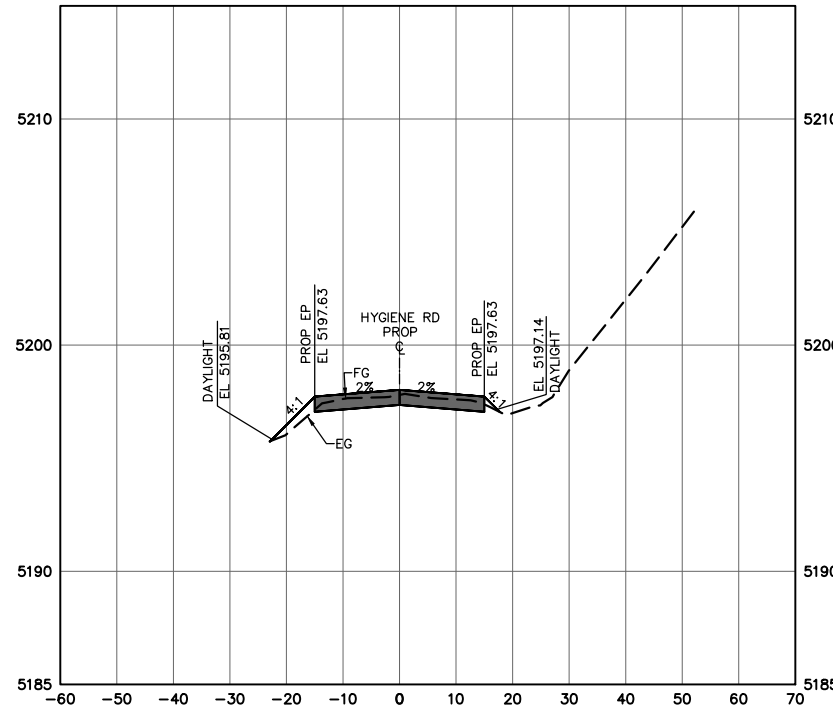


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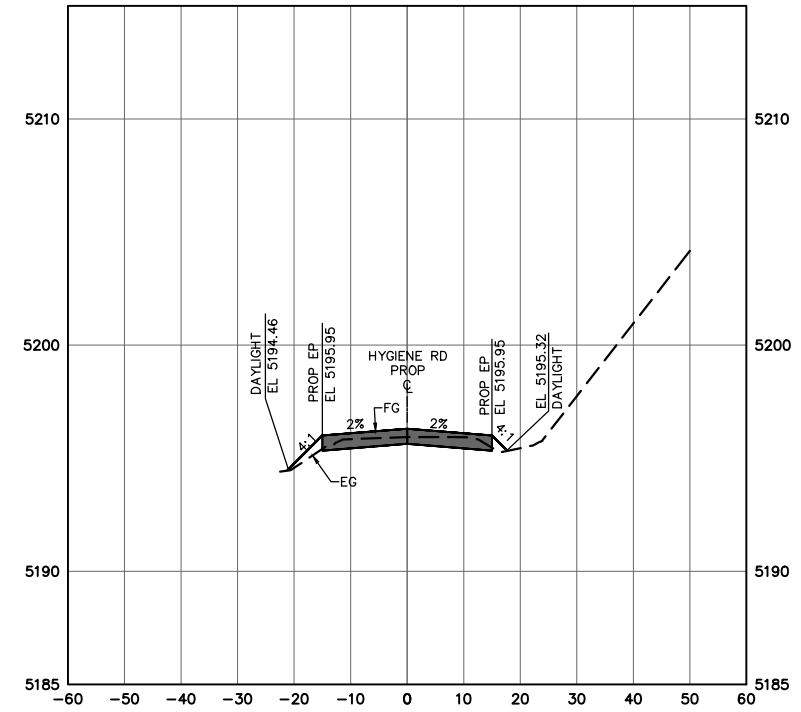
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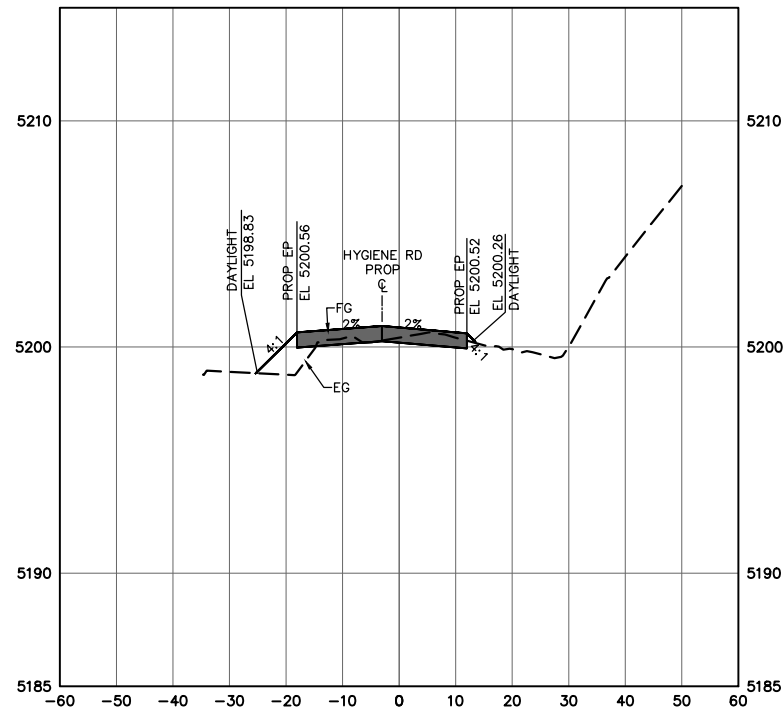
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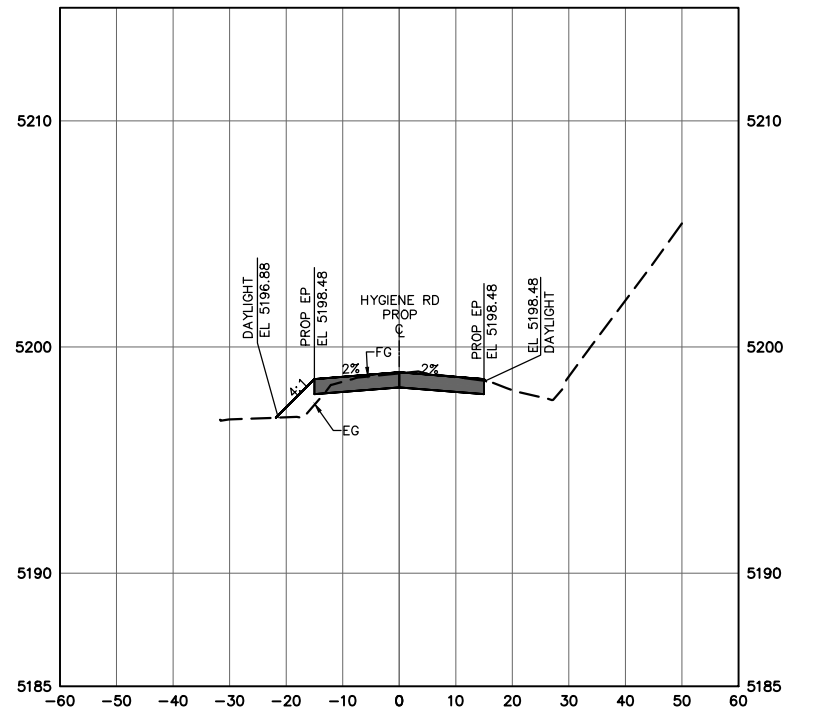
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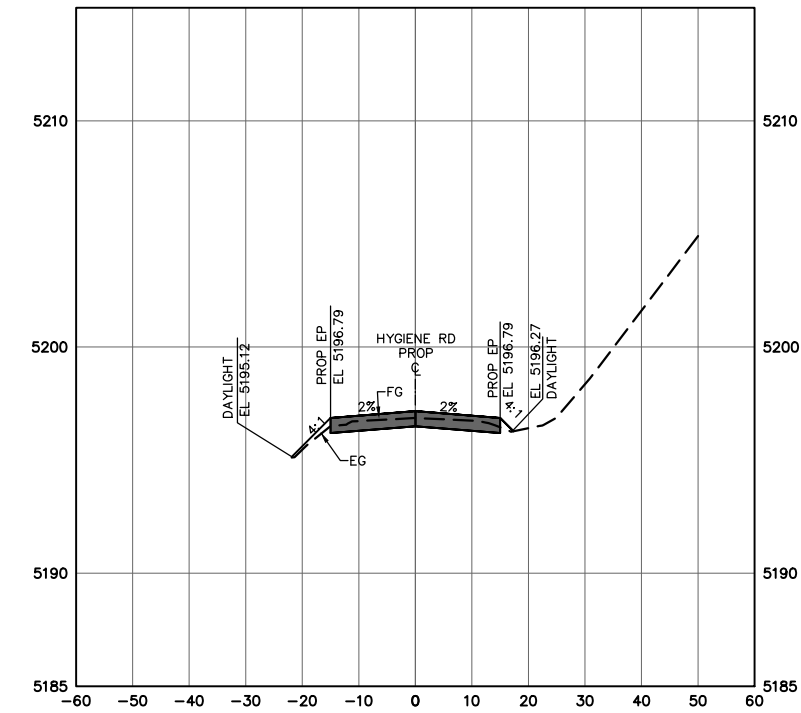
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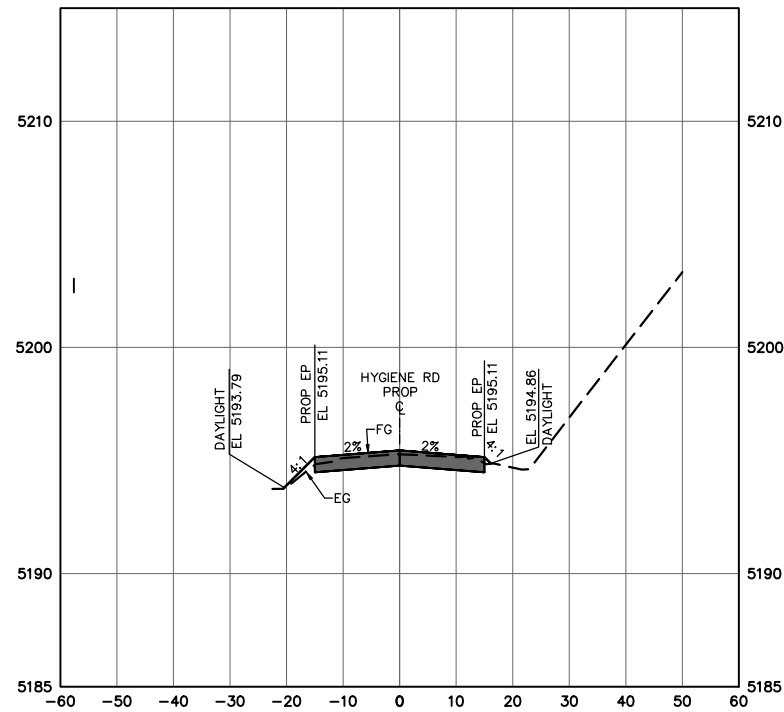
HYGIENE ROAD AT FOOTHILLS RESERVOIR

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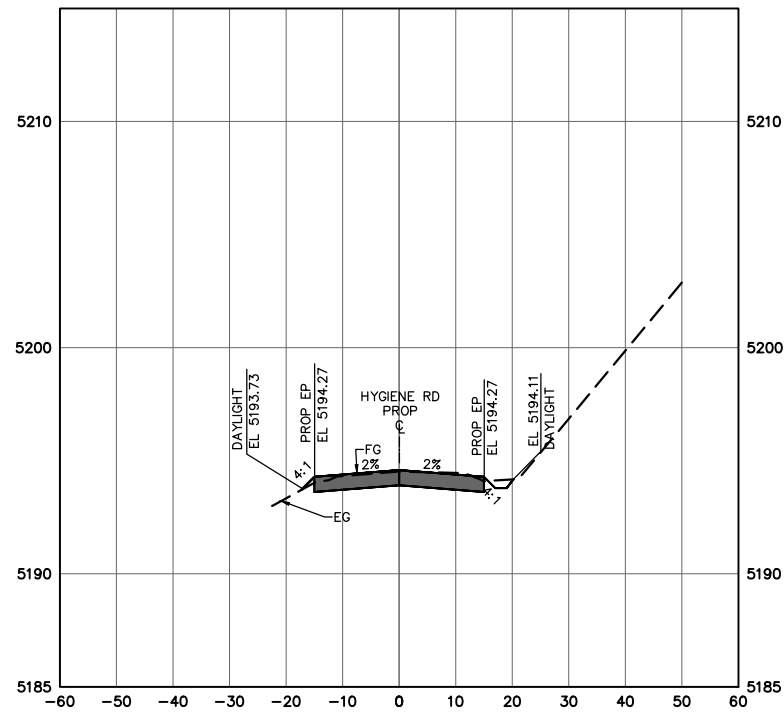
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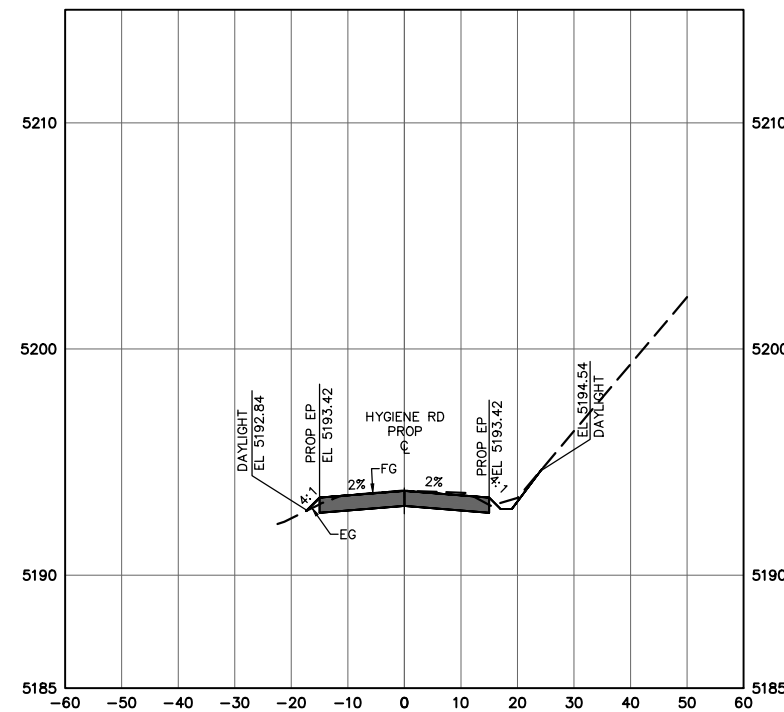
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22+50



23+00



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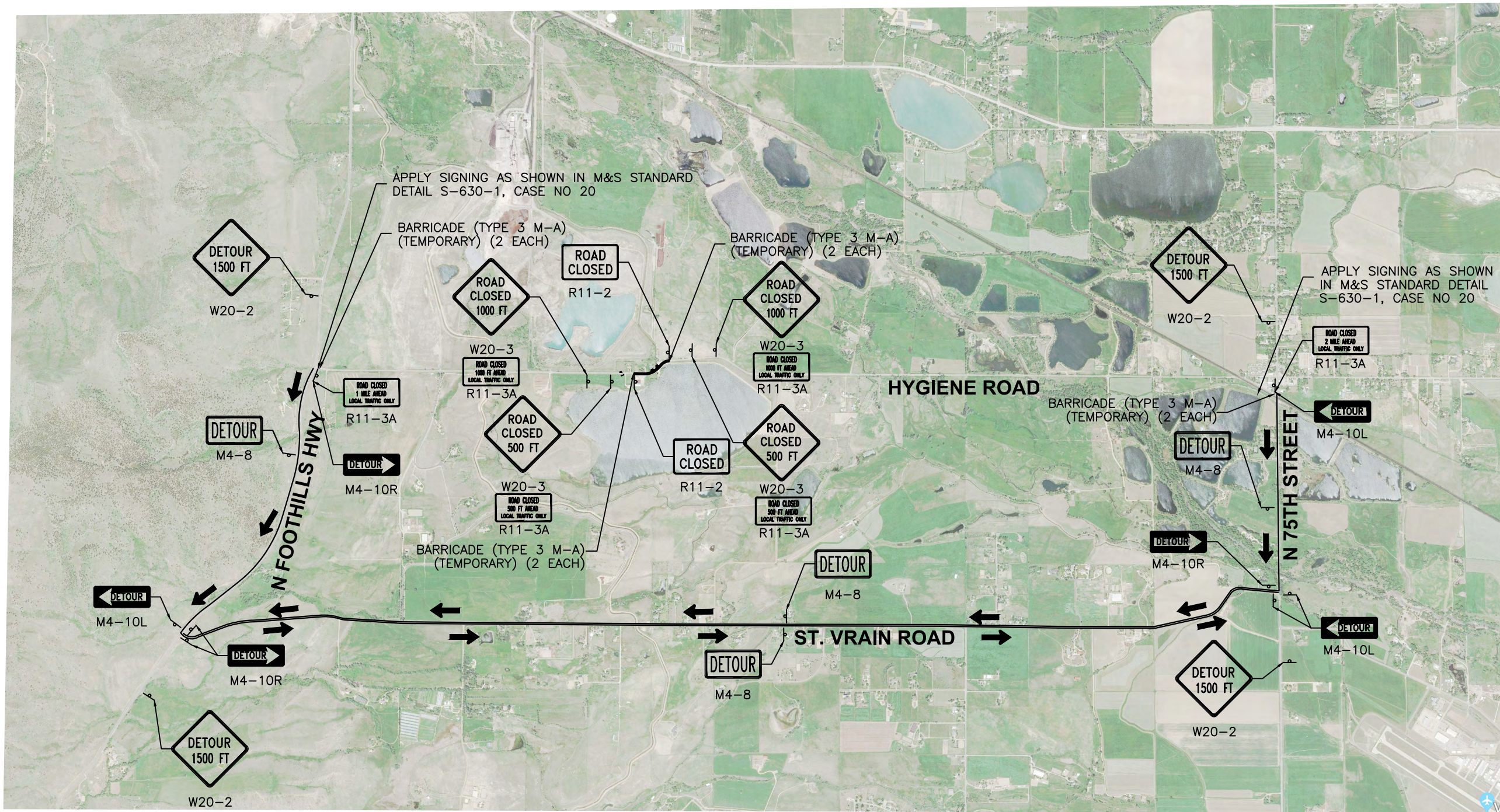
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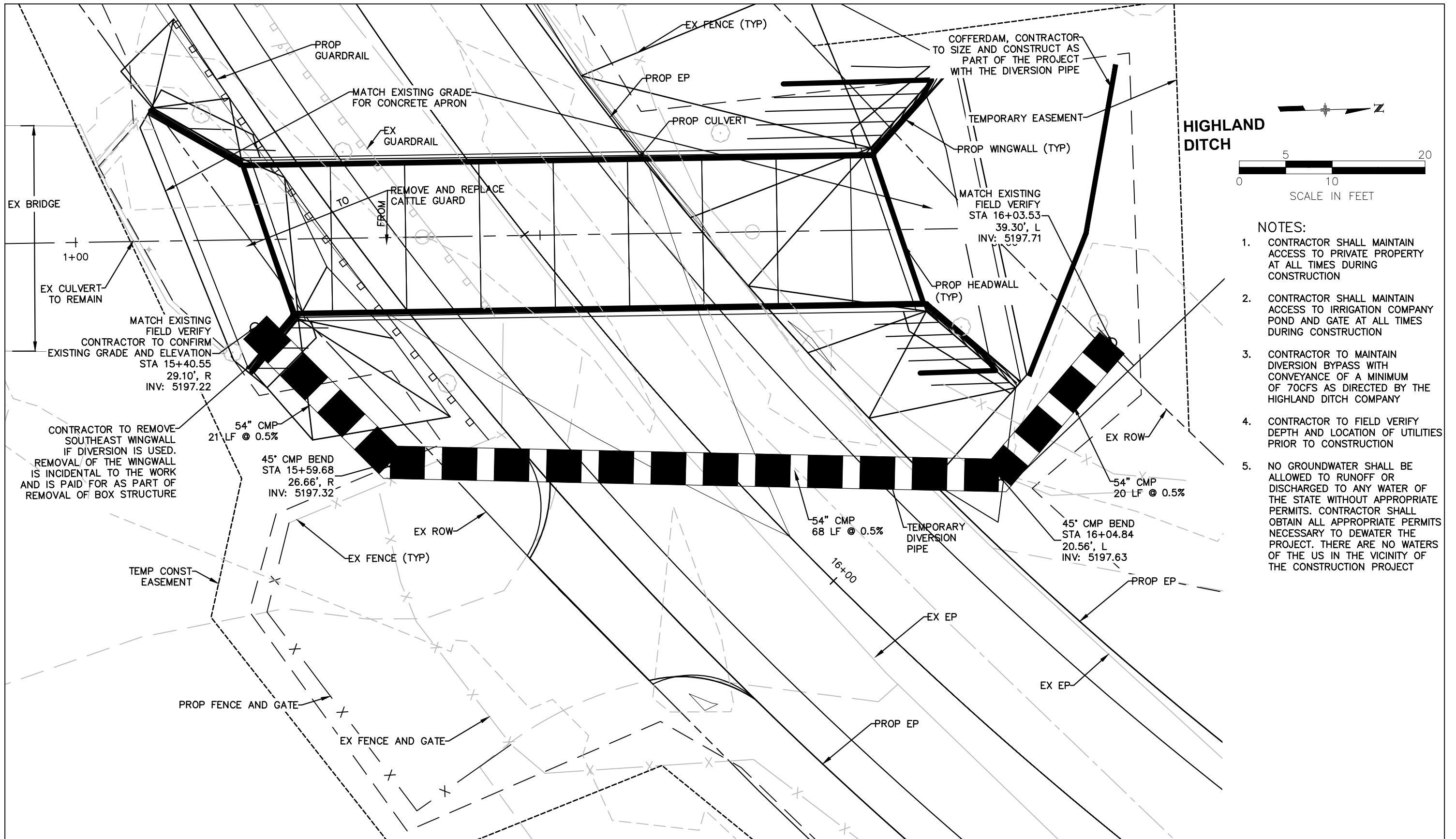
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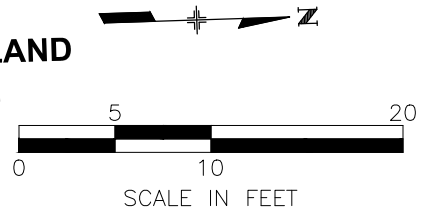


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HIGHLAND DITCH

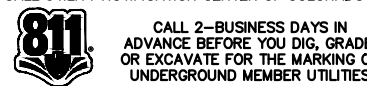


NOTES:

1. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES DURING CONSTRUCTION
2. CONTRACTOR SHALL MAINTAIN ACCESS TO IRRIGATION COMPANY POND AND GATE AT ALL TIMES DURING CONSTRUCTION
3. CONTRACTOR TO MAINTAIN DIVERSION BYPASS WITH CONVEYANCE OF A MINIMUM OF 70CFS AS DIRECTED BY THE HIGHLAND DITCH COMPANY
4. CONTRACTOR TO FIELD VERIFY DEPTH AND LOCATION OF UTILITIES PRIOR TO CONSTRUCTION
5. NO GROUNDWATER SHALL BE ALLOWED TO RUNOFF OR DISCHARGED TO ANY WATER OF THE STATE WITHOUT APPROPRIATE PERMITS. CONTRACTOR SHALL OBTAIN ALL APPROPRIATE PERMITS NECESSARY TO DEWATER THE PROJECT. THERE ARE NO WATERS OF THE US IN THE VICINITY OF THE CONSTRUCTION PROJECT

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HYGIENE ROAD AT FOOTHILLS RESERVOIR
CULVERT DIVERSION PLAN

PROJECT NO: BC-001001-1.4 SHEET NO: 38

GENERAL NOTES:

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2022 STANDARD SPECIFICATIONS OF THE DIVISION OF HIGHWAYS, STATE OF COLORADO, APPLICABLE TO THE PROJECT.

STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH STANDARD M-603-3.

EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M213.

THE FINAL FINISH FOR THE SURFACE OF THE CURBS SHALL BE CLASS 4. ALL OTHER EXPOSED CONCRETE SURFACES SHALL RECEIVE A CLASS 1 FINAL FINISH TO ONE FOOT BELOW THE GROUND LINE.

GRADE 60 REINFORCING STEEL IS REQUIRED AND SHALL BE PAID FOR UNDER CONCRETE CLASS D (BOX CULVERT).

ALL REINFORCING STEEL SHOWN IN THESE PLANS SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED.

Ⓝ DENOTES NON COATED REINFORCING STEEL

REBAR IN TOP SLAB OF BOX CULVERT SHALL BE EPOXY COATED PER M-601-1 SHEET 2 NOTE 5.

PROVIDE 2" CONCRETE COVER TO REINFORCING STEEL SHOWN IN THESE PLANS EXCEPT WHERE OTHERWISE NOTED.

CAST-IN-PLACE CONCRETE SHALL BE CLASS D.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

STATION, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

ALL CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE APPROVED BY THE ENGINEER.

ALL WORK SHALL CONFORM TO RECOMMENDATIONS, AS APPLICABLE, DISCUSSED IN THE GEOTECHNICAL REPORT. FOR MORE INFORMATION, INCLUDING SUBGRADE PREPARATION, SEE REPORT PREPARED BY MARTINEZ ASSOCIATES INC, NAMED GEOTECHNICAL ENGINEERING INVESTIGATION FOR CULVERT REPLACEMENT UNDER HYGIENE ROAD, DATED 02/27/23.

PRECAST CONCRETE BOX CULVERT. SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C1577.

GUARDRAIL TYPE 3 SHALL BE IN ACCORDANCE WITH STANDARD M-606-1.

WINGWALL DETAILS SHALL BE IN ACCORDANCE WITH STANDARD M-601-20.

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO VOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST THREE DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

DESIGN DATA:

AASHTO, NINTH EDITION LRFD 2020 (PRECAST BOX AND HEADWALLS)

DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN

LIVE LOAD: HL-93 (DESIGN TRUCK OR TANDEM, AND DESIGN LOAD)

EARTH DL = 125 PCF
 EQUIVALENT ACTIVE FLUID PRESSURE = 35 PCF (IMPORTED CLASS 1 STRUCTURE BACKFILLS)
 EQUIVALENT AT-REST FLUID PRESSURE = 55 PCF (IMPORTED CLASS 1 STRUCTURE BACKFILL)
 ULTIMATE (UNFACTORED) LRFD SOIL BEARING CAPACITY = 5,500 PSF

MATERIAL STRENGTH:
 CLASS D CONCRETE: $f'_c = 4,500$ psi
 REINFORCING STEEL: $f_y = 60,000$ psi
 PRECAST CONCRETE: $f'_c =$ Per Manufacturer

ABBREVIATION:

ABC = AGGREGATE BASE COURSE
 BF = BACK FACE
 BOT = BOTTOM
 CBC = CONCRETE BOX CULVERT
 CLR. = CLEAR
 CONST. = CONSTRUCTION
 CONT. = CONTINUOUS
 DWG. = DRAWING
 EF = EACH FACE
 EQ = EQUAL
 EXP. = EXPANSION

FF = FRONT FACE
 GALV. = GALVANIZED
 HBP = HOT BITUMINOUS PAVEMENT
 HCL = HORIZONTAL CONTROL LINE
 JT. = JOINT
 N.F. = NEAR FACE
 NTS = NOT TO SCALE
 NO. = NUMBER
 PGL = PROFILE GRADE LINE
 ROW = RIGHT-OF-WAY
 TYP. = TYPICAL

INDEX OF DRAWINGS:

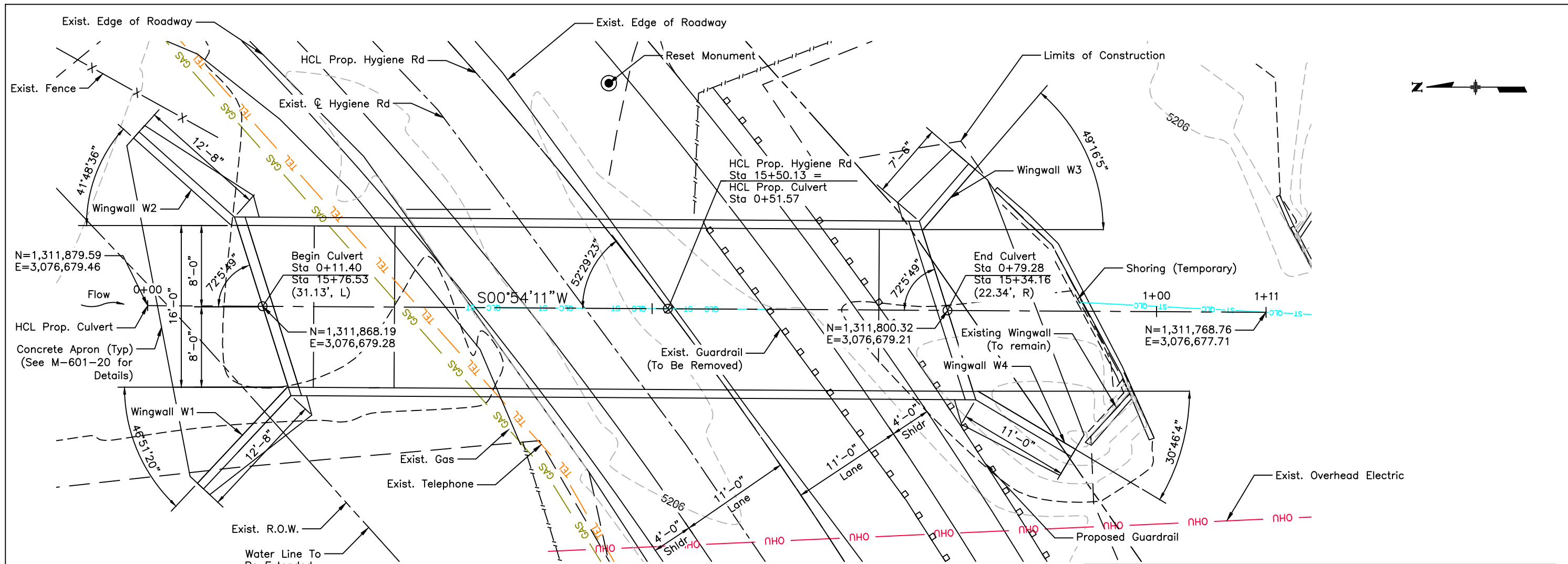
- 39 BOX CULVERT GENERAL INFORMATION
- 40 BOX CULVERT GENERAL LAYOUT
- 41 BOX CULVERT TYPICAL SECTION
- 42 BOX CULVERT DETAILS
- 43 WINGWALL DETAILS

SUMMARY OF QUANTITIES:

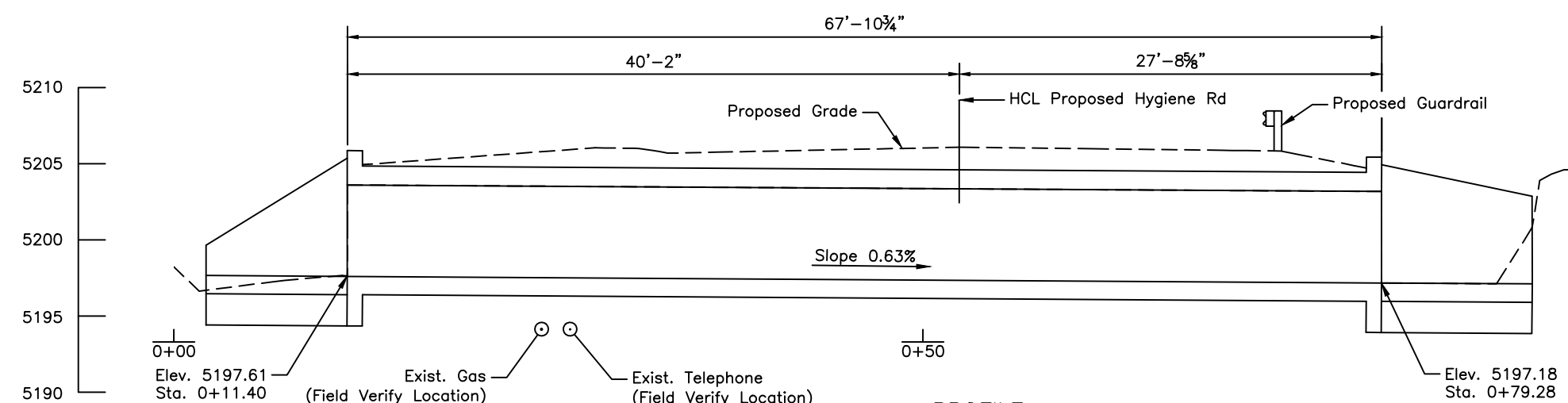
ITEM No.	DESCRIPTION	Unit	Total Qty
202-00020	Removal of Concrete Box Culvert	EACH	1
206-00000	Structure Excavation	CY	540
206-00100	Structural Backfill (Class 1)	CY	131
206-01750	Shoring (Temporary)	LS	1
515-00120	Waterproofing (Membrane)	SY	156
601-03030	Concrete Class D (Box Culvert) (Includes Rebar)	CY	35
603-71606	16x6 Foot Concrete Box Culvert (Precast)	LF	66

NO.	DATE	REVISION DESCRIPTION:





PLAN



PROFILE

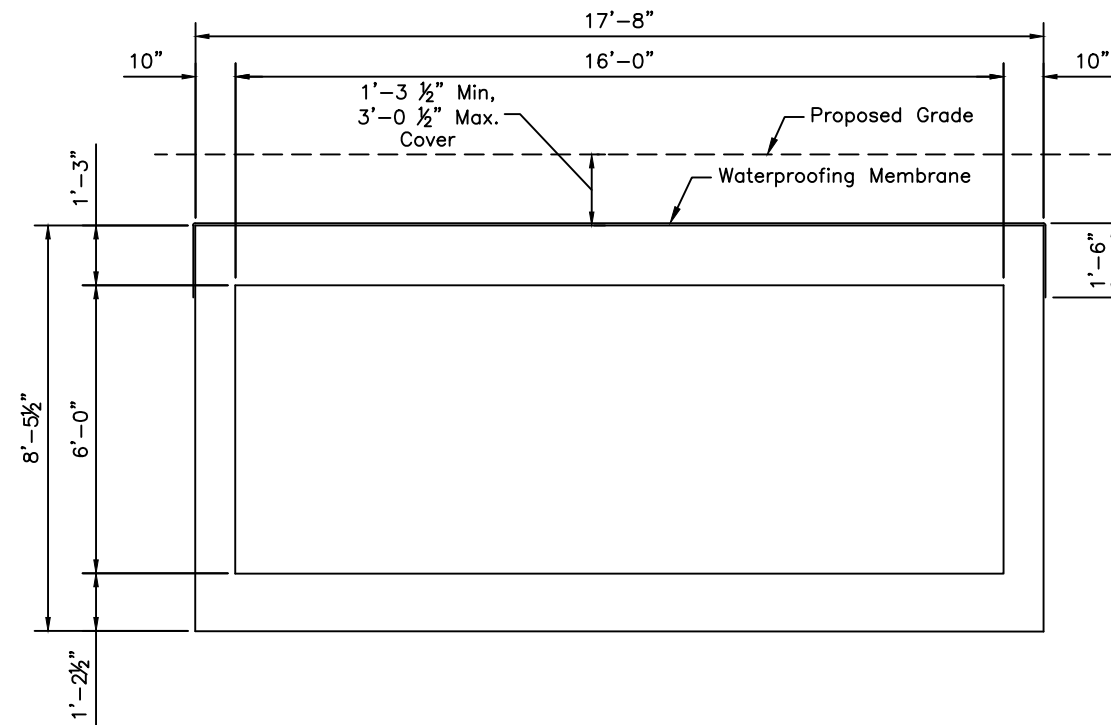
Taken Along HCL Proposed Culvert

HYDRAULIC INFORMATION	
DECREED FLOW - CDNR - CASE NO. 87CW0253	
DRAINAGE AREA = N/A	Q (DECREED) = 171.2 CFS
MAXIMUM BACKWATER (100-YR) = 4.84	DESIGN WATER HEIGHT = 5201.87
STREAMBED ELEVATION = 5197.18	V (DESIGN) = 2.16 FPS

- NOTES:
- FOR RIPRAP DIMENSIONS, SEE CULVERT DETAILED GRADING PLAN.
 - EXISTING WATER EXTENSION 6" BEYOND ROW.
 - FIELD VERIFY THE LOCATION OF EXISTING UTILITIES.
 - STRUCTURE NUMBER: BC-001001-1.4



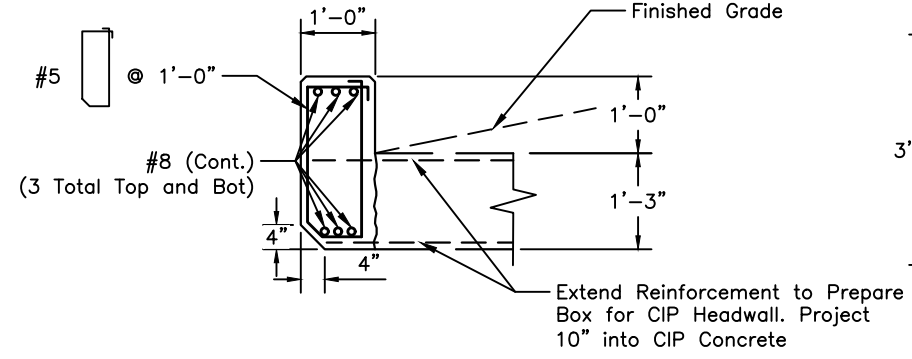
NO.	DATE	REVISION DESCRIPTION:



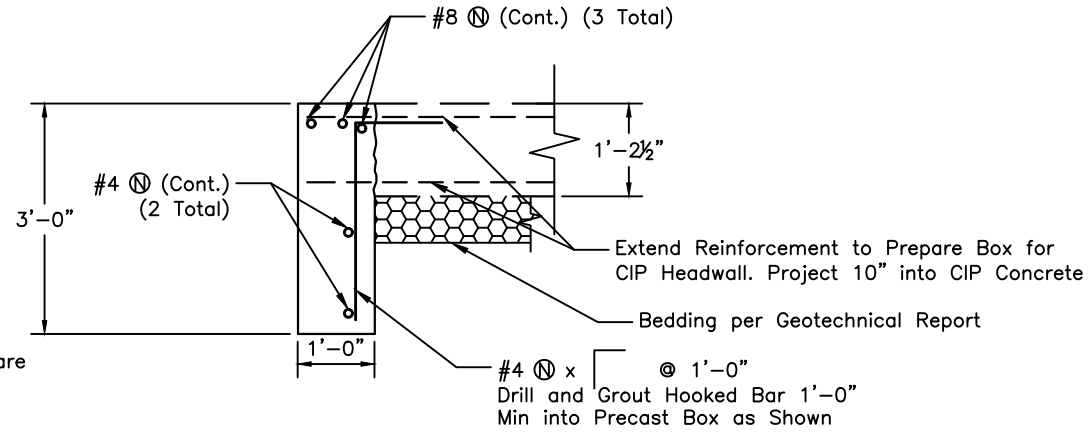
TYPICAL SECTION
Scale: 1/4" = 1'-0"

REVISIONS:	NO.	DATE	REVISION DESCRIPTION:

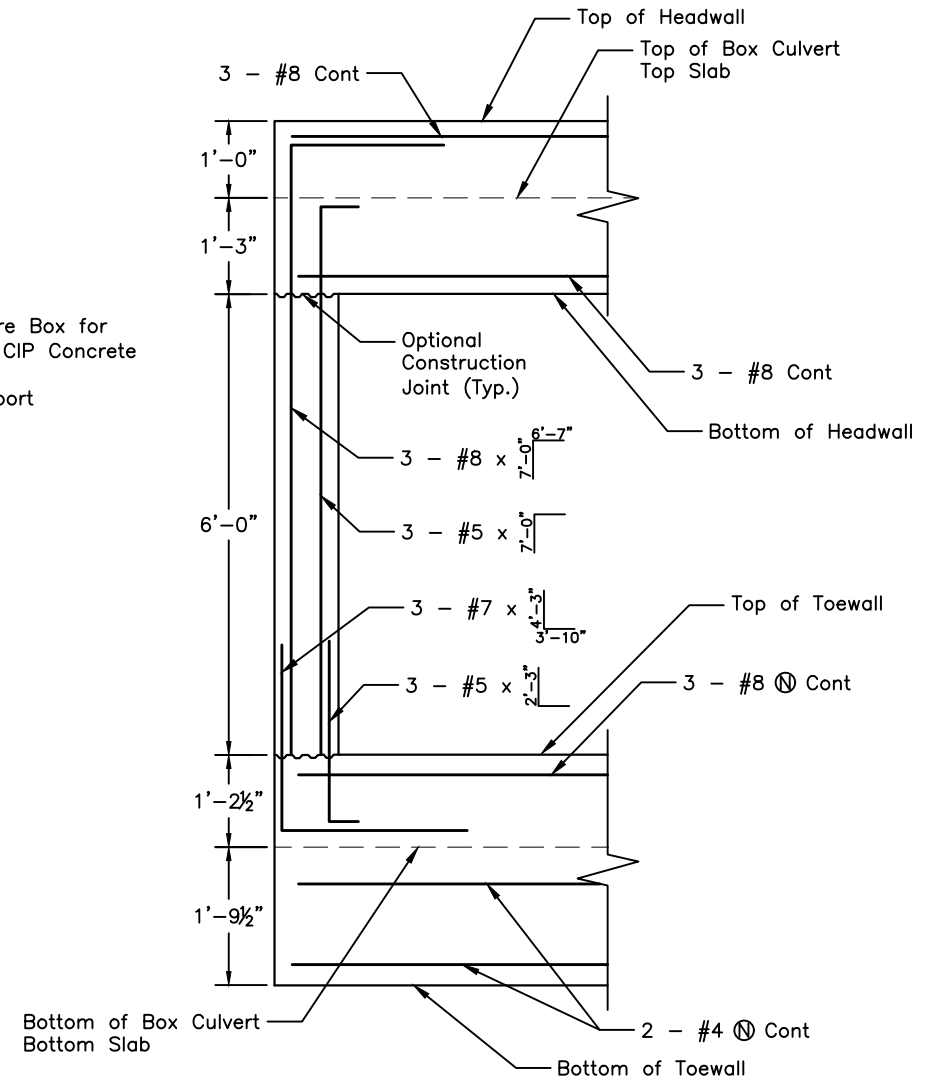




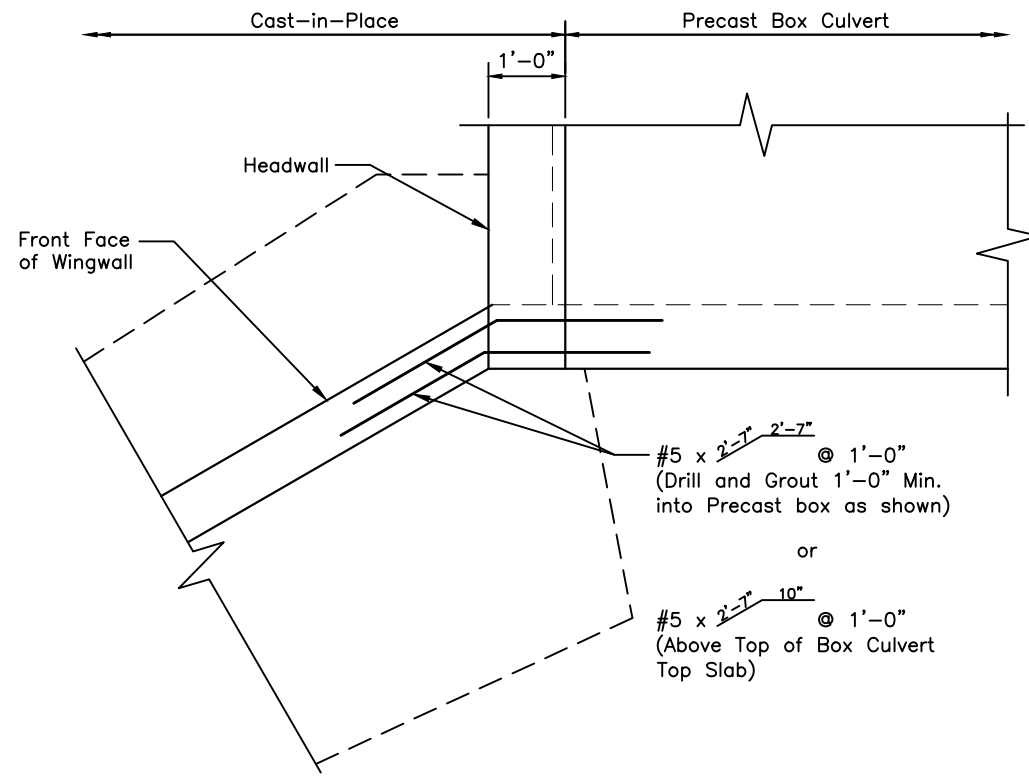
HEADWALL DETAIL



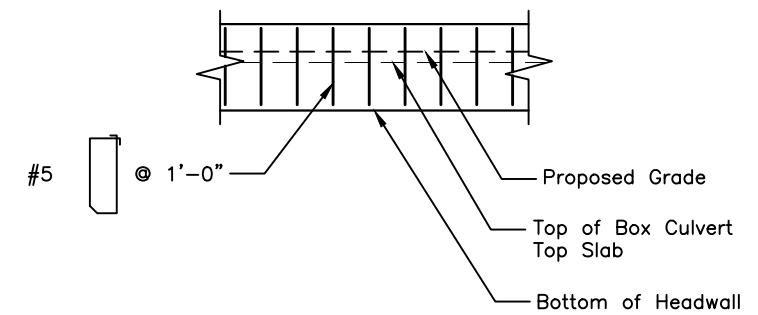
BOX CULVERT TOEWALL DETAIL



HEADWALL CORNER REINFORCING DETAIL



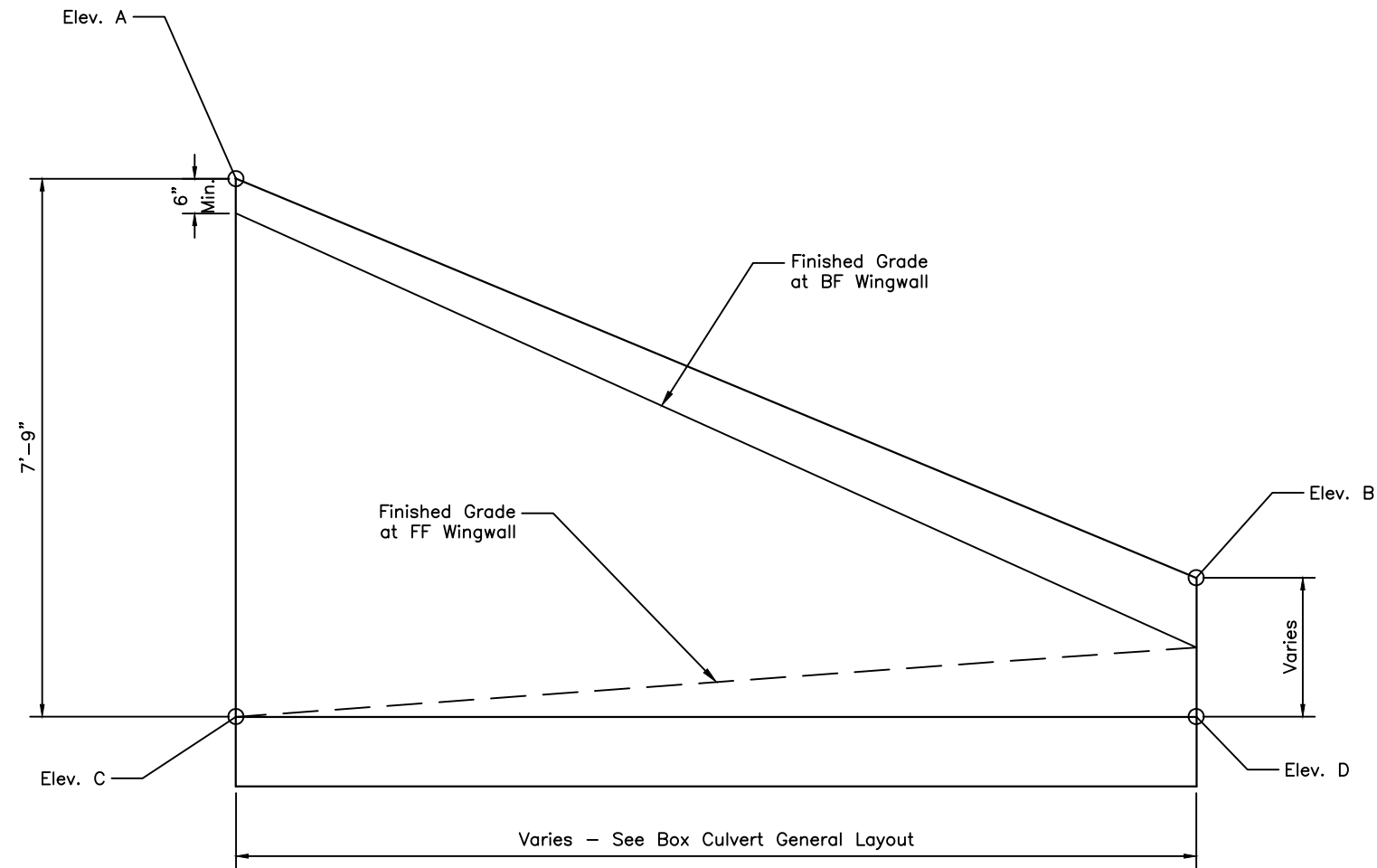
WINGWALL CONNECTION DETAIL
(See M-601-20 for Wingwall Footing Connection Details)



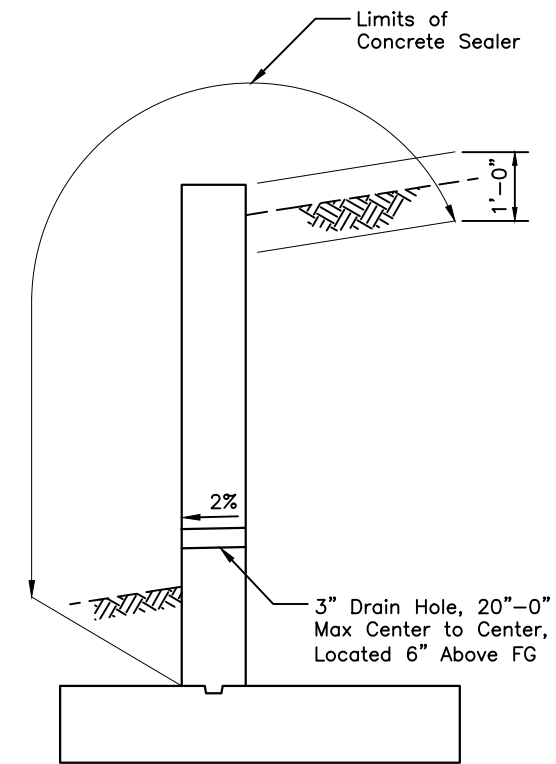
HEADWALL PARTIAL ELEVATION

NO.	DATE	REVISION DESCRIPTION:

TABLE OF ELEVATIONS				
WINGWALL	ELEV. A	ELEV. B	ELEV. C	ELEV. D
W1	5205.36	5199.70	5197.61	5197.70
W2	5205.36	5199.70	5197.61	5197.70
W3	5204.93	5202.87	5197.18	5197.12
W4	5204.93	5202.87	5197.18	5197.12



TYPICAL WINGWALL ELEVATION
Looking at Back Face of Wall



TYPICAL WINGWALL SECTION

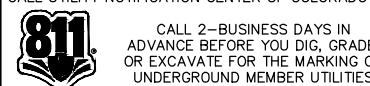
NOTES:

1. FOR REINFORCING AND DIMENSIONS, SEE STANDARD M-601-20.
2. DRAIN AND CONCRETE SEALER SHALL BE INCIDENTAL TO CLASS D CONCRETE



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NO.	DATE	REVISION DESCRIPTION:



**BOULDER COUNTY PUBLIC WORKS
ENGINEERING DIVISION**

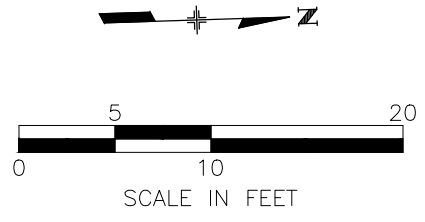
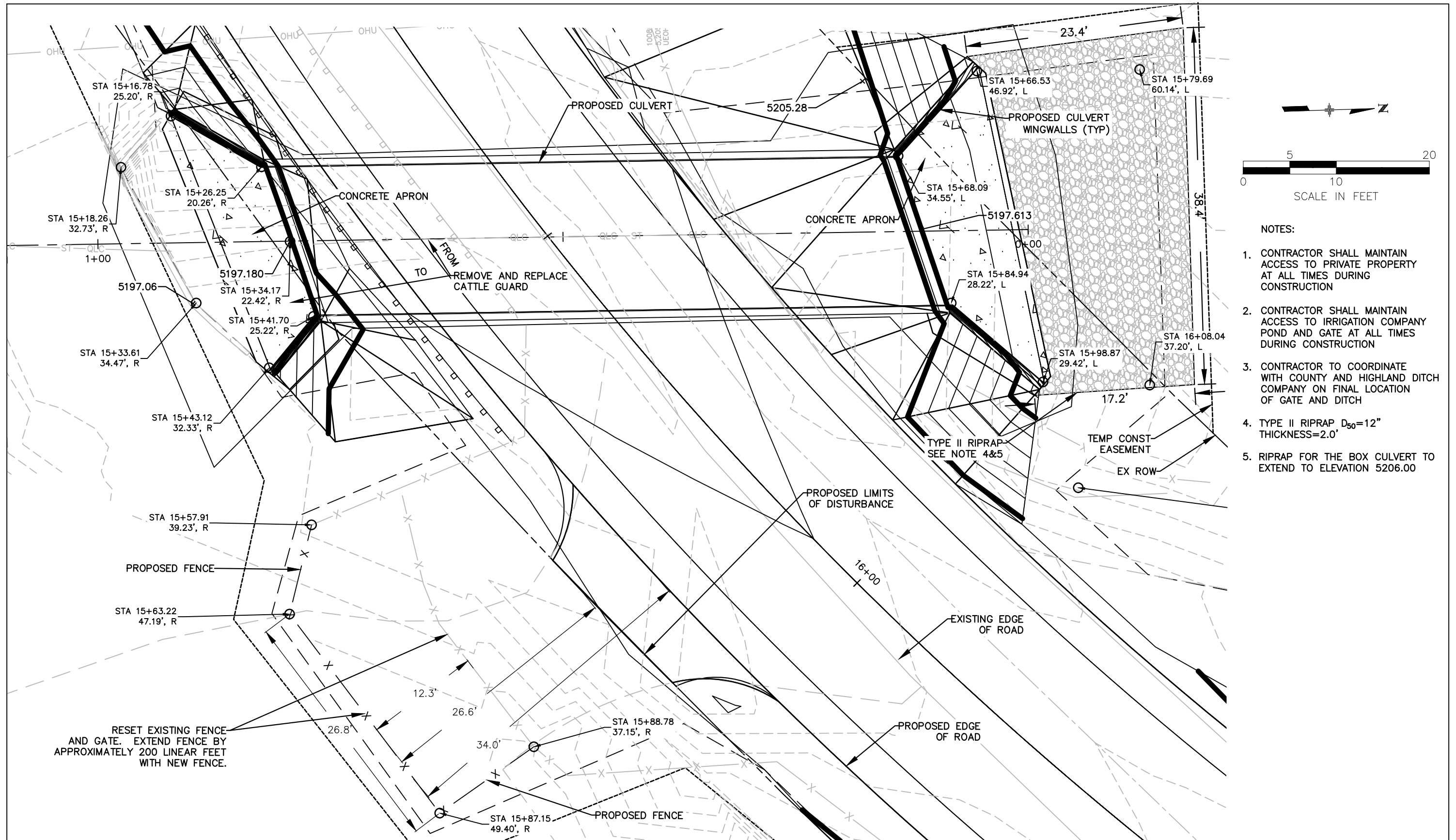
DESIGNED: PH CAD/G3D: PH CHECKED: NB DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR

WINGWALL DETAILS

PROJECT NO: BC-001001-1.4 SHEET NO: 43


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- NOTES:
1. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES DURING CONSTRUCTION
 2. CONTRACTOR SHALL MAINTAIN ACCESS TO IRRIGATION COMPANY POND AND GATE AT ALL TIMES DURING CONSTRUCTION
 3. CONTRACTOR TO COORDINATE WITH COUNTY AND HIGHLAND DITCH COMPANY ON FINAL LOCATION OF GATE AND DITCH
 4. TYPE II RIPRAP $D_{50}=12"$ THICKNESS=2.0'
 5. RIPRAP FOR THE BOX CULVERT TO EXTEND TO ELEVATION 5206.00

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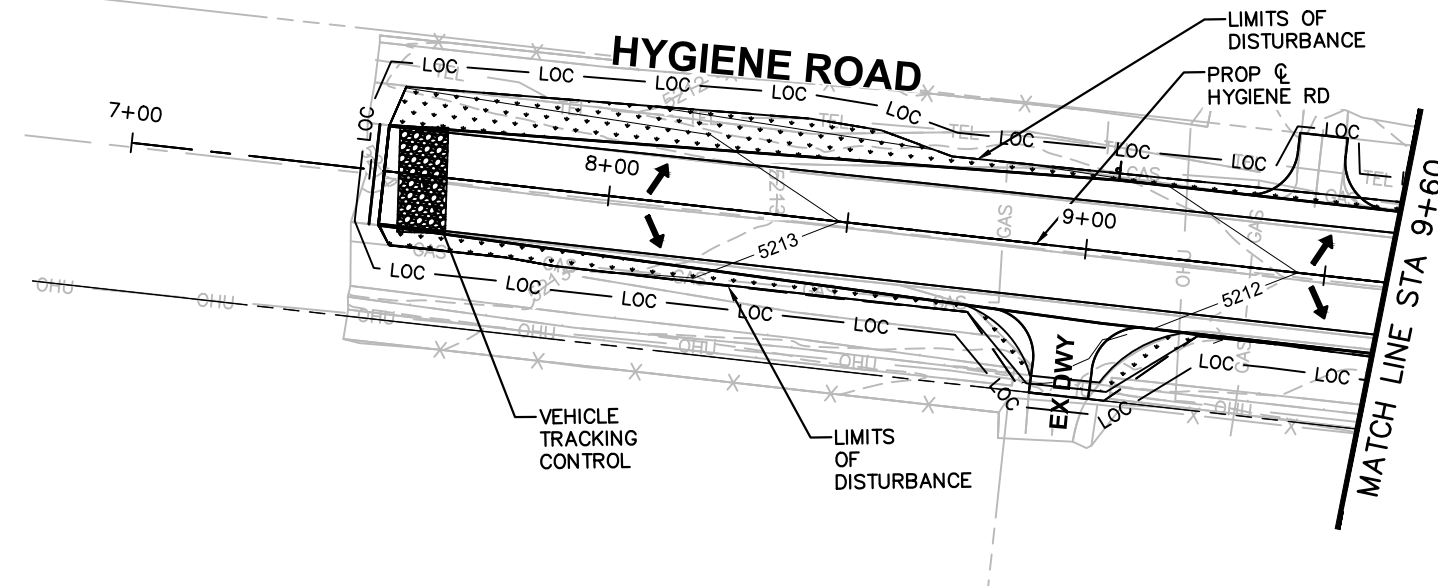
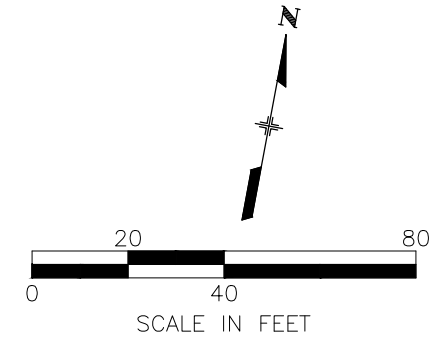
CALL UTILITY NOTIFICATION CENTER OF COLORADO

 CALL 2--BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:

BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION
 DESIGNED: TM CAD/C3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR
 CULVERT DETAILED GRADING PLAN
 PROJECT NO: BC-001001-1.4 SHEET NO: 44

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NOTES:
1. AREA OF DISTURBANCE: 1.53 ACRE

- LEGEND
- LOC — LIMITS OF CONSTRUCTION
 - / / — SILT FENCE
 - SEEDING

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CALL UTILITY NOTIFICATION CENTER OF COLORADO
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CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

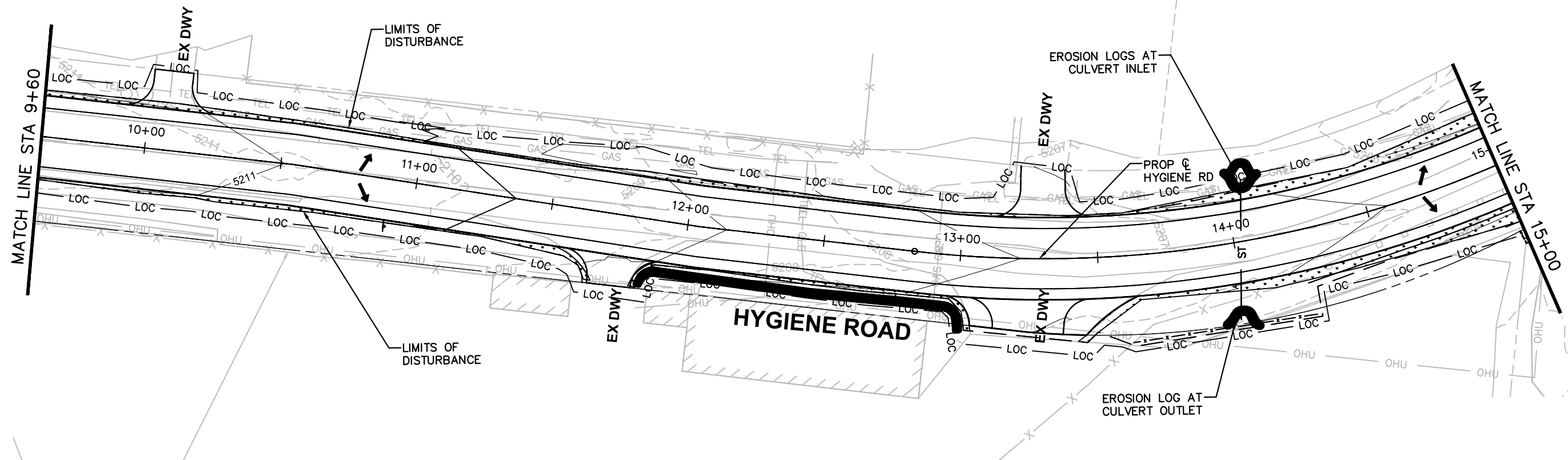
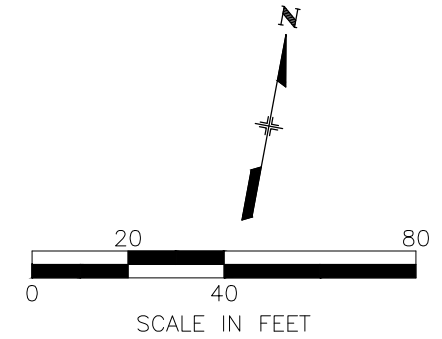
NO.	DATE	REVISION DESCRIPTION:

BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION

DESIGNED: TM CAD/G3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR
EROSION CONTROL (SWMP) PLANS
PROJECT NO: BC-001001-1.4 SHEET NO: 45

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- LEGEND**
- Loc — LIMITS OF CONSTRUCTION
 - - - SILT FENCE
 - SEEDING
 - EROSION LOG TYPE 1 (12 INCH)

- NOTES:**
1. AREA OF DISTURBANCE: 1.53 ACRE
 2. CONTRACTOR SHALL USE SILT FENCE TO PROTECT TREES WITHIN THE PROJECT LIMITS

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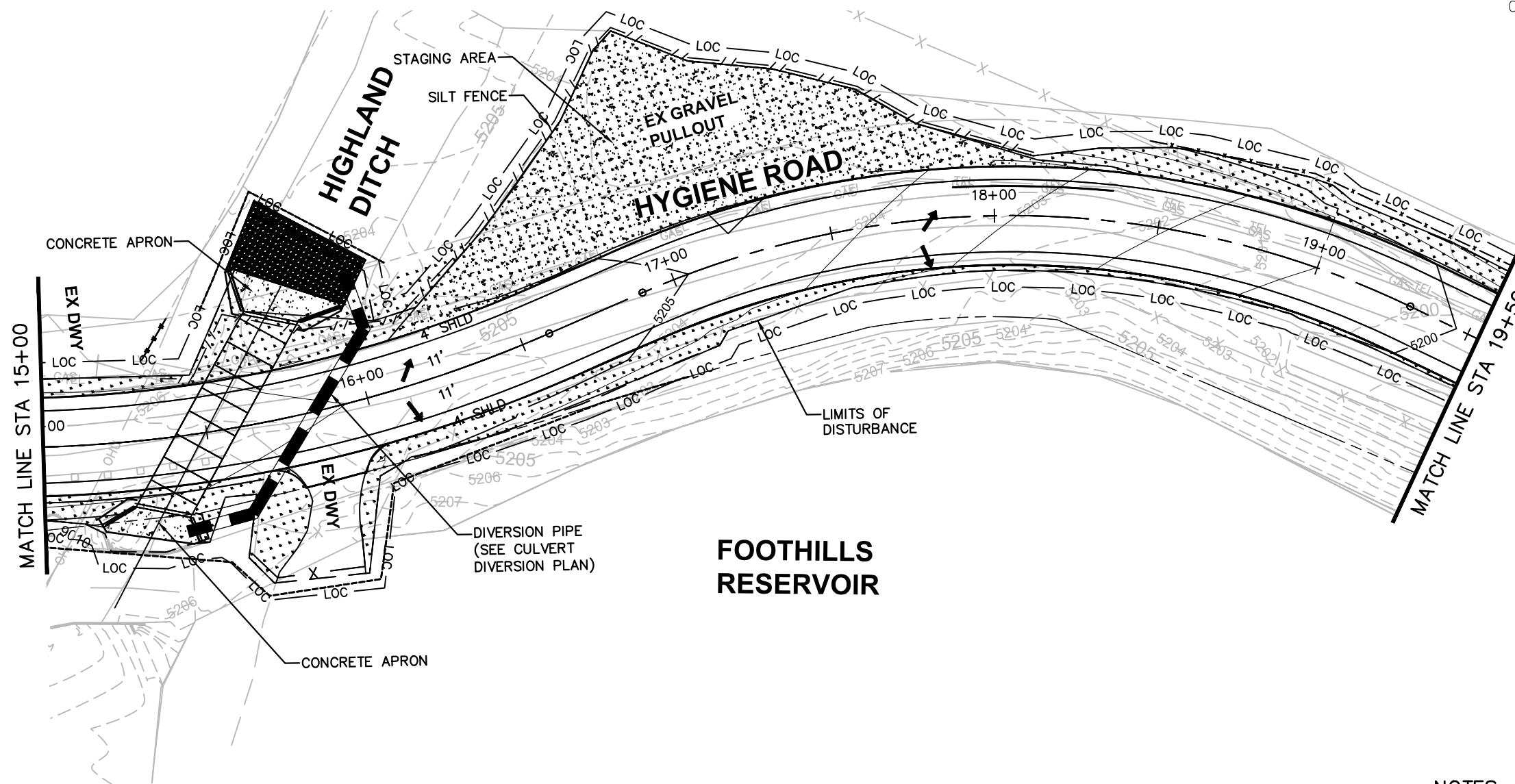
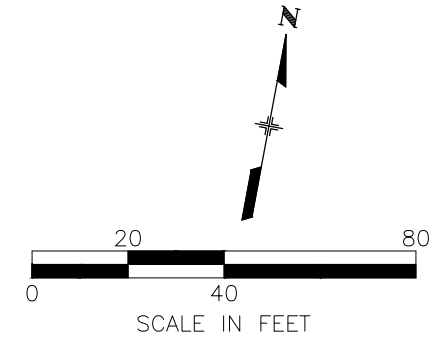
 CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:

BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION
 DESIGNED: TM CAD/G3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR
 EROSION CONTROL (SWMP) PLANS
 PROJECT NO: BC-001001-1.4 SHEET NO: 46

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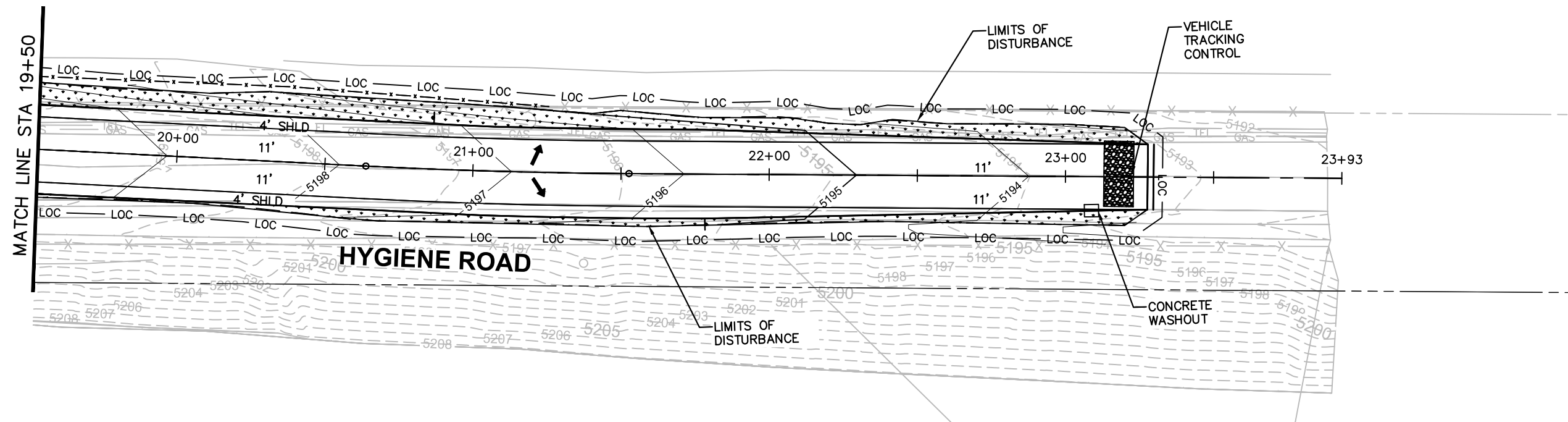
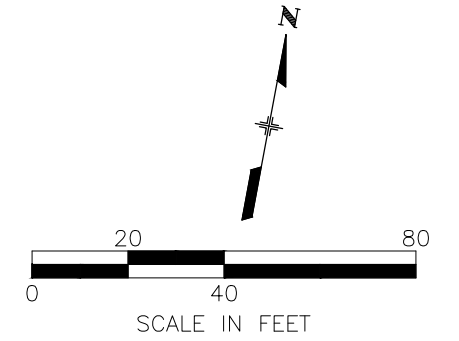


- LEGEND**
- LOC — LIMITS OF CONSTRUCTION
 - / - SILT FENCE
 - SEEDING

- NOTES:**
1. AREA OF DISTURBANCE: 1.53 ACRE
 2. CONTRACTOR SHALL FURNISH AND INSTALL NETTING AS PART OF CONSTRUCTION. LOCATION OF NETTING SHALL BE COORDINATED WITH BOULDER COUNTY
 3. CONTRACTOR SHALL USE SILT FENCE TO PROTECT TREES WITHIN THE PROJECT LIMITS

NO.	DATE	REVISION DESCRIPTION:

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- LEGEND
- Loc — LIMITS OF CONSTRUCTION
 - // — SILT FENCE
 - SEEDING

- NOTES:
1. AREA OF DISTURBANCE: 1.53 ACRE
 2. CONTRACTOR SHALL USE SILT FENCE TO PROTECT TREES WITHIN THE PROJECT LIMITS

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NO.	DATE	REVISION DESCRIPTION:

BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION

DESIGNED: TM CAD/G3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR	
EROSION CONTROL (SWMP) PLANS	
PROJECT NO: BC-001001-1.4	SHEET NO: 48

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SWMP TEMPLATE (PLAN SHEETS) FOR PROJECTS WITH 1 ACRE OR MORE OF DISTURBANCE 2/25/2022 UPDATE

1. SITE DESCRIPTION

The Contractor shall comply with all CDOT contractual requirements, and all requirements associated with the CDP-SCP on this project. The SWMP Administrator for Construction shall update the SWMP to reflect current project site conditions.

A. PROJECT SITE LOCATION:

Hygiene Road at Foothills Reservoir Inlet. A portion of the NE ¼ of Section 14, and a portion of the SE ¼ of Section 14, T2N, R70W 6th PM

B. PROJECT SITE DESCRIPTION:

The Hygiene Road Culvert at Foothills Reservoir Inlet (Site) - seeks to evaluate potential roadway corridor improvements, and select a preferred alignment, geometry, structure, and design approach to improve safety critical elements. The existing roadway width is substandard and does not include paved shoulders for the entire length of the corridor. Additionally, an existing ditch crosses the roadway alignment and previous assessments of the structure deemed it in need of repair or replacement

C. PROPOSED SCHEDULE FOR SEQUENCE FOR MAJOR CONSTRUCTION ACTIVITIES:

Stabilize all areas that are not paved or landscaped through establishment of vegetation cover. The area includes approximately 1.95 acres. Schedule planned for a NTP for construction on August 1st. Construction of the project is anticipated to be approximately 6 months.

D. ACRES OF DISTURBANCE:

- The area includes approximately 1.53 acres. Which included
1. Total area of construction site (LOC (PERMITTED AREA)): 1.95 acres
 2. Total area of proposed disturbance (LDA): 1.39 acres
 3. Total area of seeding: 0.41 acres
 4. Total area of pre-project impervious surface: 0.63 acres.
 5. Total area of final impervious surface: 1.10 acres.
 6. Mowing is incidental to the work of the project

E. EXISTING SOIL DATA:

The area is primarily type D&C Soils. Primarily LaE, Me and W. The erodibility factor is 2 and 5 per acres per year. <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>
Data Source(s): NRCS Soils Survey

F. EXISTING VEGETATION, INCLUDING PERCENT OF VEGETATIVE COVER:

During design, the SWMP Administrator for Design in consultation with the Engineer will determine if the SWMP Administrator for Design or the SWMP Administrator for Construction will conduct the Vegetation Transects. If the site is disturbed, an Adequate Reference Site(s) may be utilized, refer to the permit. <https://www.codot.gov/programs/environmental/landscape-architecture/swmp/vegetative-transect-procedure.pdf>

Pre-Construction Date of survey: 9/20/2022 Percent Existing Vegetative Cover: 60%

Description of existing vegetation: Native grasses

Method for determining percent vegetative cover: CDOT Vegetative Transect Procedure

Include a map or table showing transect locations, photos documenting pre-Construction vegetative cover, and methodology used to determine existing vegetative cover to SWMP tab 17:

<https://www.codot.gov/programs/environmental/landscape-architecture>

Post-Construction Date of survey: _____ Percent Vegetative Cover: _____

Description of vegetation:

The method used to determine pre-construction percent cover shall be used to determine post construction percent cover.

G. POTENTIAL POLLUTANTS SOURCES:

Refer to Potential Pollutant Sources in SWMP Section 4A. The SWMP Administrator for Construction shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

H. DRAINAGE PATTERNS AND RECEIVING WATER(S):

1. Description of drainage patterns from the Site:
Tributary and direct flows drainage toward the ditch and culvert. No adverse effects are anticipated with the proposed design or construction
2. Names of immediate and ultimate receiving water(s) on site:
Immediate receiving water Highland Ditch, Ultimate receiving water Foothills Reservoir
3. Description of all stream crossings located within the Construction Site Boundary:
N/A

Location	Stream Name	Description Of Any Disturbed Upland Areas
N/A	N/A	N/A

I. ALLOWABLE NON-STORMWATER DISCHARGES:

Discharge Description	Site Map #	Method Statement (Location)
Uncontaminated Springs	N/A	N/A
Concrete Washout Water (in-ground washout structure)#	See Sheet 30	East portion of the project
Landscape Irrigation Return Flows	N/A	N/A
Discharges from Diversions of State Waters	N/A	N/A
Emergency Fire Fighting	N/A	N/A

#Concrete washout water associated with the washing of concrete tools and concrete mixer chutes can be discharged to the ground if site is managed accordingly to prevent the water from leaving the site as surface runoff or reaching receiving waters.

J. DIVERSION CRITERIA:

1. Is a diversion planned for the Site? Yes
2. If yes, complete information below:
 - a. What is the 2-year peak flow for the waterway being diverted. N/A. Diversion only required for 70cfs per Highland Ditch Company discussion
 - b. What are the monthly averages if available? N/A. Diversion only required for 70cfs per Highland Ditch Company discussion
 - c. What is the upstream contributing drainage area and imperviousness? N/A. Diversion only required for 70cfs per Highland Ditch Company discussion
 - d. A method statement must be prepared by the Contractor and approved by CDOT for each diversion. Diversion structures must minimize soil transport and erosion within the entire diversion, minimize erosion during discharge, and minimize run-on into the diversion and meet the conditions in the SCP. N/A. Diversion only required for 70cfs per Highland Ditch Company discussion
 - e. If the conditions in the SCP cannot be met and an alternative is required, Boulder County must approve the alternative and then it must be submitted and approved by CDPHE's Water Quality Control Division prior to implementation. N/A. Diversion only required for 70cfs per Highland Ditch Company discussion

K. ALTERNATIVE TEMPORARY STABILIZATION SCHEDULE:

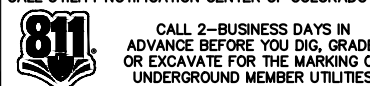
If applicable, provide a description of the alternative temporary stabilization schedule. If temporary stabilization exceeds the 14-day schedule, then the SWMP must document the constraints necessitating the alternative schedule, provide the alternative schedule, and identify all the locations where the alternative schedule is applicable on the site map. Alternative temporary stabilization schedules must be approved by CDOT prior to implementation.

Template Revised: 2.25.2022



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NO.	DATE	REVISION DESCRIPTION:



BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION

DESIGNED: TM CAD/G3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR
EROSION CONTROL (SWMP) PLANS

PROJECT NO: BC-001001-1.4 SHEET NO: 49

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2. SITE MAP COMPONENTS:

Pre-construction: See survey plans

- A. PROJECT CONSTRUCTION POTENTIAL SITE BOUNDARIES:
See SWMP Plans
- B. FLOW ARROWS THAT DEPICT STORMWATER FLOW DIRECTIONS ON-SITE, RUN-ON AND RUNOFF DIRECTION:
See SWMP Plans
- C. ALL AREAS OF GROUND SURFACE DISTURBANCE:
See SWMP Plans
- D. AREAS OF CUT AND FILL:
See SWMP Plans
- E. AREAS USED FOR STORING AND STOCKPILING OF MATERIALS, STAGING AREAS (field trailer, fueling, etc.) and LOCATIONS OF ALL WASTE ACCUMULATION and BATCH PLANTS INCLUDING MASONRY MIXING STATIONS:
See SWMP Plans
- F. LOCATION OF ALL STRUCTURAL CONTROL MEASURES IDENTIFIED IN THE SWMP:
See SWMP Plans
- G. LOCATION OF NON-STRUCTURAL CONTROL MEASURES AS APPLICABLE IN THE SWMP:
See SWMP Plans
- H. SPRINGS, STREAMS, WETLANDS, DIVERSIONS, AND OTHER STATE WATERS, INCLUDING AREAS THAT REQUIRE PRE-EXISTING VEGETATION BE MAINTAINED WITHIN 50 FEET OF A RECEIVING WATER:
See SWMP Plans
- I. LOCATIONS OF ALL STREAM CROSSING LOCATED WITHIN THE CONSTRUCTION SITE BOUNDARY:
N/A
- J. PROTECTION OF TREES, SHRUBS, SENSITIVE HABITAT, AND CULTURAL RESOURCES:
See SWMP & Removals Plans
- K. LOCATIONS WHERE ALTERNATIVE TEMPORARY STABILIZATION SCHEDULES APPLY:
N/A

3. QUALIFIED STORMWATER MANAGERS:

A. SWMP ADMINISTRATOR FOR DESIGN:

Name/Title	Contact Information [phone & email]	Certification #
Atkins	Sean Stellish, (720) 475-7035, sean.stellish@atkinsglobal.com	N/A

- B. SWMP ADMINISTRATOR FOR CONSTRUCTION: (As defined in Section 208) The Contractor shall designate a SWMP Administrator for Construction upon accepting co-permittee of the permit. The SWMP Administrator for Construction shall become the operator for the SWMP and assume responsibility for all design changes to the SWMP implementation and maintenance in accordance to 208.03, the SWMP shall remain the property of CDOT. The SWMP Administrator for Construction shall be responsible for implementing, maintaining and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP Administrator for Construction shall address all aspects of the project's SWMP. (Update the information below for each new SWMP Administrator for Construction) (A copy of TECS Certification must be included in the SWMP.)

Name/Title	Contact Information (phone & email)	Certification #	Start Date	Engineer Approval
Contractor (TBD)	Contractor (TBD)	Contractor (TBD)	Contractor (TBD)	Contractor (TBD)

- C. EROSION CONTROL INSPECTOR: (As defined in Section 208) The Contractor may designate an Erosion Control Inspector. The Erosion Control Inspector shall complete duties in accordance with subsection 208.03 (c) (Copy of TECS Certification must also be included in the SWMP.)

Name/Title	Contact Information (phone & email)	TECS Certification #	Start Date	Engineer Approval
Contractor (TBD)	Contractor (TBD)	Contractor (TBD)	Contractor (TBD)	Contractor (TBD)

- D. PERMANENT STABILIZATION SUBJECT MATTER EXPERT: This qualified individual will be either a Regional Environmental Staff member, or an Independent Contractor Controller (Independent Assurance Program). This expert is a project team leader responsible for ensuring project adherence to requirements of the 207 and 212 Project Special Provisions as follows and will be available for questions regarding permanent stabilization requirements.

1. Review the Topsoil Management Plan and the Permanent Stabilization Site Maps.
2. Attend the Environmental Pre-Construction Conference.
3. Coordinate the Site Pre-Vegetation Conference.
4. Review and recommend approval of products.
5. Review and recommend approval of the Quantities Verification Prerequisite.
6. Attend the Partial Landscape Completion Walkthrough.
7. Attend the Final Landscape Completion Walkthrough.

Name/Title	Contact Information [phone & email]
N/A	N/A

4. STORMWATER MANAGEMENT CONTROLS FOR FIRST CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

- A. POTENTIAL POLLUTANT SOURCES:
Evaluate, identify, locate and describe all potential sources of pollutants at the site in accordance with subsection 107.25, CDPS-SCP and place in the SWMP. All control measures related to potential pollutants shall be shown on the SWMP Site Map by the Contractor's SWMP Administrator for Construction.
- B. OFFSITE DRAINAGE (RUN ON WATER):
Describe and record control measures on the SWMP Site Map that have been implemented to address off site run-on water in accordance with subsection 208.03.
- C. VEHICLE TRACKING CONTROL:
Control measures shall be implemented in accordance with subsection 208.04.
- D. PERIMETER CONTROL:
 1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters. Perimeter control shall be in accordance with subsection 208.04
 2. Perimeter control may consist of berms, silt fence, erosion logs, existing landforms, or other control measures as approved.

5. DURING CONSTRUCTION

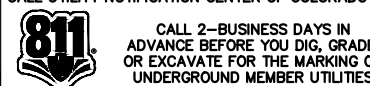
RESPONSIBILITIES OF THE SWMP ADMINISTRATOR FOR CONSTRUCTION: Considered a "living document", the SWMP is continuously reviewed and modified throughout the construction phases. During construction, SWMP Administrator

Template Revised: 2.25.2022



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CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

NO.	DATE	REVISION DESCRIPTION:



BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION			
DESIGNED: TM	CAD/C3D: CH	CHECKED: SS	DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR	
EROSION CONTROL (SWMP) PLANS	
PROJECT NO: BC-001001-1.4	SHEET NO: 50

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for Construction shall add, update, or amend the items A-G below as needed in accordance with subsection 208.03.

During construction, indicate how items that were not addressed during design are being handled in construction. If items are covered in other sections of the SWMP, indicate below what section the discussion takes place.

- A. **MATERIALS HANDLING AND SPILL PREVENTION AND RESPONSE PLAN:** Prior to construction commencing the Contractor shall submit a Spill Response Plan. Materials handling and Spill Response Plan shall be in accordance with subsection 208.06.
- B. **OTHER CDPS PERMITS:** List applicable CDPS permits associated with the permitted site and activities.
- C. **STOCKPILE MANAGEMENT:** Shall be done in accordance with subsections 107.25 and 208.07.
- D. **CONCRETE WASHOUT:** Concrete washout water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.
- E. **SAW CUTTING:** Shall be done in accordance with subsections 107.25, 208.04, 208.05
- F. **STREET SWEEPING:** Shall be done in accordance with subsection 208.04.

6. INSPECTIONS

- A. Water Quality Inspections shall be in accordance with subsection 208.03(c).
- B. Permanent Stabilization Inspections shall be in accordance with subsections 208.04(e)4 and 208.10.

7. CONTROL MEASURE MAINTENANCE

Maintenance shall be in accordance with subsection 208.04(f).

8. RECORD KEEPING

Records shall be kept in accordance with subsection 208.03(d).

9. INTERIM, PERMANENT STABILIZATION and LONG-TERM STORMWATER MANAGEMENT

The Contractor shall comply with all interim stabilization and permanent stabilization requirements in accordance with subsection 208.04(e).

A. SEEDING PLAN:

See SWMP Plans for seeding and mix design
The following seed mix(es) and rates are for broadcast seeding method as shown on the Permanent Stabilization Site Maps shall be used:

COMMON NAME	BOTANICAL NAME	LBS. PLS PER ACRE
Blue grama	<i>Bouteloua gracilis</i>	1.23
Sideoats grama	<i>Bouteloua curtipendula</i>	2.05
Western wheatgrass	<i>Pascopyrum smithii</i>	3.95
Slender wheatgrass	<i>Elymus trachycaulus</i>	2.18
Buffalograss	<i>Buchloe dactyloides</i>	4.67
Switchgrass	<i>Panicum virgatum</i>	0.78
Thickspike wheatgrass	<i>Elymus lanceolatus</i>	3.96
Streambank wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	3.63
Inland saltgrass	<i>Distichlis spicata</i>	1.09
Total		23.55

B. SEEDING APPLICATION METHOD:

The following seeding methods shall be used for all areas shown on the Permanent Stabilization Site Maps. Soil compaction shall be minimized for areas where permanent stabilization will be achieved through vegetative cover.

Pay Item	Seeding Method (subsection 212.05)	Acre
212-00706	Seeding (Native) Drill	N/A
212-00707	Seeding (Native) Hydraulic	N/A
212-00708	Seeding (Native) Broadcast	0.45
212-00709	Seeding (Wetland) Drill	N/A
212-00710	Seeding (Wetland) Hydraulic	N/A
212-00711	Seeding (Wetland) Broadcast	N/A
Total		

C. SOIL STABILIZATION METHODS:

- Minimum soil stabilization methods (attached mulch) for all disturbances to receive seeding.
- Apply a minimum of 2 tons/ac certified weed free hay or 2 ½ tons/ac of certified weed free straw and mechanically crimp into the soil in combination with natural mulch tackifier in accordance with Section 213. Prior to winter shutdown or the summer seeding window closure: Uncompleted slopes shall be mulched with 2 tons of mulching (weed free) per acre, mechanically crimped into the topsoil in combination with an organic mulch tackifier in accordance with Sections 208 and 213.
 - Apply Spray-on Mulch Blanket hydraulically in accordance with Section 213.
 - Apply Bonded Fiber Matrix hydraulically in accordance with Section 213.
 - Install Soil Retention Blankets in accordance with Standard Plan M-216-1 and Section 216.

D. SPECIAL REQUIREMENTS:

- Soil amendments, seedbed preparation, and permanent stabilization mulching shall be accomplished within four working days of placing the topsoil on the de-compacted civil subgrades. If placed topsoil is not mulched with permanent stabilization mulch within four working days, the Contractor shall complete interim stabilization methods in accordance with subsection 208.04(e) at no additional cost to the Department.
- Complete permanent stabilization mulching within 24 hours of hydraulic application of native seed.
- The Contractor shall submit a proposed Permanent Stabilization Phasing Plan to the Engineer for approval showing how implementation of SWMP Permanent Stabilization Plans will minimize damage to seeded areas.

E. Permanent Stabilization Application Under Structures:

Under structures shade patterns should be considered and the use of Median Cover Material (Stone) or other stabilized options with an approved Project Special Provision should be used. See SWMP Site Map for locations. N/A

F. RESEEDING OPERATIONS/CORRECTIVE STABILIZATION:

- Prior to stormwater construction work partial acceptance.
- All seeded areas shall be reviewed by the SWMP Administrator for Construction and or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.
 - The Contractor shall maintain seeding/mulch/tackifier/blanket/TRM, mow to control weeds or apply herbicide to control weeds in the seeded areas, at no additional cost to the project.

G. LOCATION AND DESCRIPTION OF PLANNED PERMANENT CONTROL MEASURES: Is Permanent Water Quality Required. No

10. PRIOR TO PROJECT FINAL ACCEPTANCE

- A. When directed by the Engineer, removal and disposal of temporary control measures shall be included in the cost of work.
- B. At the end of the project, all ditch checks shall consist of either temporary erosion logs (or equivalent) or permanent riprap.
- C. All storm drains shall be cleaned prior to the Final Acceptance of the project. If required, include work in 202-04002 Clean Culvert. **[**Check with Region Water Quality staff to see if CLEAN CULVERT PSP is needed and what Pay Item to use.**]**
- D. Refer to subsection 208.10 for Items to be completed prior to requesting partial acceptance of water quality work.

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NO.	DATE	REVISION DESCRIPTION:



BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION
DESIGNED: TM CAD/G3D: CH CHECKED: SS DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR
EROSION CONTROL (SWMP) PLANS
PROJECT NO: BC-001001-1.4 SHEET NO: 51

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11. NARRATIVES

Control Measure Matrixes During Construction:

- Control measure narratives have been included for the CDOT Standard Specifications and Standard Plan M-208 and M-216 along with any non-standard control measures approved during the design process. If a Non-Standard Control Measure not included in the SWMP is proposed and approved by the Engineer the SWMP Administrator for Construction shall do the following: Place an "X" in the column for non-standard and complete a Non-Standard Control Measure Specification and Narrative covering the what, when, where and why the control measure is being used shall be add to the SWMP. The appropriate "X" shall also be added to the implementation phase(s).
- The SWMP Administrator for Construction shall place an "X" in the column in Use On Site when the control measure has been installed.
- A "B" in the Initial Activities Column indicates that the control measure shall be installed **before** construction activity starts. Locations and quantities will be discussed during the Environmental Pre-Construction Conference with the Regional Water Pollution Control Manager.

STRUCTURAL Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to the following:

APPLICATION, CONTROL MEASURE	NARRATIVE	M- 208 STANDARD or "X" for NON-STANDARD	IN USE ON SITE	CONTROL MEASURE IMPLEMENTATION PHASE		
				INITIAL ACTIVITIES	INTERIM ACTIVITIES	PERMANENT STABILIZATION
PROTECTION OF EXISTING WETLANDS <i>Fence (plastic) and erosion logs</i>	Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment into state waters prior to start of construction disturbances. Fence (plastic) shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbance area. Logs shall be placed to direct flows away from or filter water running into wetlands from disturbance areas.		No			
PROTECTION OF EXISTING TREES/LANDSCAPING <i>Silt Fence</i>	Fence (plastic) shall be used in areas indicated in the plans to prevent encroachment of construction traffic and sediment for the protection of sensitive habitat, mature trees and/or existing landscaping prior to start of construction disturbances.			B	X	
CHECK DAM/DITCH CHECK <i>Erosion log, silt berm, silt dike, rock check dam</i>	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start of construction disturbances.	M-208				
Storm Drain Inlet Protection In Paved Roadways (Type 1, 2 and 3 as shown on M-208-1, sheet 5 of 11)	Manufactured storm drain inlet protection placed prior to construction disturbances as detailed in M-208-1, to protect existing inlets or immediately upon completion of new inlets to prevent sediment from entering the inlet throughout construction.	M-208				
Storm Drain Inlet Protection In Native Seed Areas (M-604 Standard Inlets Type C and D)	Erosion logs or aggregate bags placed around inlet grate to prevent sediment from entering inlet. Place prior to construction disturbances to protect existing inlets or immediately upon completion of new inlets.	M-208				
CULVERT INLET/OUTLET PROTECTION <i>Erosion logs, aggregate bags</i>	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Place prior to the start of construction disturbances.	M-208		X	X	
TYPE C, TYPE D AND TYPE 13 PROTECTION <i>Erosion logs, aggregate bags, erosion bales</i>	Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Place prior to the start of construction disturbances.	M-208				
STOCKPILE PROTECTION <i>Temporary berm, erosion logs, aggregate bags*</i>	Placed within specified distance, in accordance with subsection 208.06, from toe to contain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stockpiling, increase control as the stockpile increases size.	M-208				
TOE OF FILL PROTECTION <i>Erosion logs, temporary berm, silt fence, topsoil windrow*</i>	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.	M-208		X	X	
PERIMETER CONTROL <i>Erosion logs, silt fence, temporary berm, topsoil windrow*</i>	Placed prior to construction commencing to address potential run-on water from off site, and to divert around disturbed area. *Can be used to stockpile topsoil for salvage.	M-208		X	X	
SLOPE CONTROL <i>Silt fence, erosion logs</i>	Placed on the contour of a slope to contain and slow down construction runoff. Place prior to the start of construction disturbances.	M-208		X	X	
TEMPORARY SEDIMENT TRAP	Used to capture sediment laden runoff from disturbed areas < 5 acres during construction. Place prior to the start of construction disturbances. Outlets that withdraw water from or near the surface may be installed when discharging from basins and impoundments.	M-208				
TEMPORARY SLOPE DRAIN OUTLET PROTECTION	Placed as a conduit or chute to drain runoff down slope and to prevent erosion of slope.	M-208				
<i>Riprap, or approved other</i>	Material placed as an energy dissipater to prevent erosion at outlet structure.	M-601-12				
CONCRETE WASHOUT <i>In-ground or fabricated</i>	Construction control, used for waste management of concrete and concrete equipment cleaning. Place prior to the start of concrete activities.	M-208		X	X	

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APPLICATION, CONTROL MEASURE	NARRATIVE	M- 208 STANDARD or "X" for NON-STANDARD	IN USE ON SITE	CONTROL MEASURE IMPLEMENTATION PHASE		
				INITIAL ACTIVITIES	INTERIM ACTIVITIES	PERMANENT STABILIZATION
VEHICLE TRACKING PAD	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to the start of construction disturbances.	M-208		X	X	
Engineered SEDIMENT BASIN	Constructed early in the project, prior to storm sewer/ditches and in accordance with 208.05(p) to capture storm flow. Outlet structure and/or outfall shall be modified for temporary sediment control using an approved non-standard detail. Outlets that withdraw water from or near the surface shall be installed when discharging from basins and impoundments, unless infeasible					
DEWATERING <i>(Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment.)</i>	Shall be done in such a manner to prevent potential pollutants from entering state waters.				X	
TEMPORARY STREAM CROSSING	Constructed over stream or drainage to prevent discharge of pollutants from construction equipment into water.					
TEMPORARY DIVERSION	Placed to divert clean surface or groundwater around the disturbance area to prevent it from mixing with construction runoff.	M-208		X	X	
OTHER						

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**BOULDER COUNTY PUBLIC WORKS
ENGINEERING DIVISION**

DESIGNED: TM	CAD/G3D: CH	CHECKED: SS	DATE: 4/28/2023
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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
EROSION CONTROL (SWMP) PLANS	
PROJECT NO: BC-001001-1.4	SHEET NO: 53

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NON-STRUCTURAL Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:
 Erosion control devices are used to limit the amount of soil loss on site. Sediment control devices are designed to capture sediment on the project site. Construction controls are control measures related to construction access and staging. Control Measure locations are indicated on the SWMP Site Map.

*** Use of vegetative buffer strip requirements.** The CDPHE Water Quality Control Division Technical Memorandum dated August 27, 2015 clarifies the requirements for utilization of existing vegetation as a buffer type of sediment control measure, while maintaining compliance with the CDPS permit for Stormwater Discharges Associated with Construction Activity – CDPS Permit No. COR4000000. In general, the division does not recommend that vegetated buffers be implemented as a sediment removal control measure for runoff from disturbed areas at construction sites, unless implemented as a "finishing" component of a treatment train comprised of additional, adequate up-gradient Control Measures. The entire memorandum can be found at: <https://www.colorado.gov/pacific/sites/default/files/Vegetative%20Buffer%20Memo.pdf>

APPLICATION, CONTROL MEASURE	NARRATIVE	M-STANDARD or "For NON-STANDARD	IN USE ON SITE	CONTROL MEASURE IMPLEMENTATION PHASE		
				INITIAL ACTIVITY	INTERIM ACTIVITIES	PERMANENT STABILIZATION
* VEGETATIVE BUFFER STRIP	Finishing component for filtering sediment-laden runoff from disturbance area. Area within CDOT ROW or temporary easement to be identified on SWMP prior to construction starting.					
GRADING APPLICATIONS (LANDFORM)	Existing or created landforms may be used as a control measure if they prevent sediment from entering or leaving the disturbance area. If a landform directs flow of water to a concentrated outfall point, the outfall point shall be protected to prevent erosion. Area to be identified on SWMP prior to construction starting.	M-208		X	X	
TOPSOIL MANAGEMENT STOCKPILE/SALVAGE Stockpile	Prior to any site disturbance work commencing, existing topsoil shall be scraped to a depth six inches or as specified, and placed in stockpiles or windrows. Upon completion of final grading, topsoil shall be evenly distributed over embankment to a depth of six inches or as specified.	M-208		X	X	X
SURFACE ROUGHENING / GRADING TECHNIQUES	Temporary stabilization of disturbance and to minimize wind and erosion.				X	
SEEDING (TEMPORARY)	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction.					
BONDED FIBER MATRIX or MULCHING (HYDRAULIC)	Not to be used in areas of concentrated flows, i.e. ditch lines. To be for either Interim or Permanent Stabilization placed as a surface cover for erosion control. May be used as surface cover when work is temporarily halted and as approved by the Engineer for stockpiles.					
Straw or Hay MULCH/MULCH TACKIFIER	Interim or Permanent Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as Interim Stabilization as a surface cover when work is temporarily halted and as approved by the Engineer					
SPRAY-ON MULCH BLANKET (Not to be used in areas of concentrated flows, i.e. ditch lines.)	Interim or Permanent Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer					
SEEDING PERMANENT (NATIVE PERENNIAL)	Permanent Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.					X
SOIL RETENTION BLANKET (SRB)	Permanent Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	M-216				
TURF REINFORCEMENT MAT (TRM)	Permanent Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas. Placed in channels or on slopes for erosion control, channel liner and seeding establishment.	M-216				
Sweeping	Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from entering drainage system. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted.					
OTHER						

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12. TABULATION OF STORMWATER QUANTITIES

A. Control Measure sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Equipment) and 208 Removal and Disposal of Sediment (Labor). All other control measure maintenance shall be included in the cost of the control measure.

PSP Spec.	Pay Item	Description	Pay Unit	Initial Const.	Interim Const.	Permanent Stabilization	*Total Quantity
	207-00700	Topsoil (Onsite)	CY	269			269
	207-00702	Topsoil (Offsite)	CY	100			100
	207-00706	Seeding Media	CY	150			150
	208-00002	Erosion Control Log Type 1 (12 INCH)	LF	500			500
	208-00020	Silt Fence	LF	635			635
	208-00045	Concrete Washout Structure	EA	1			1
	208-00075	Pre-fabricated (Vehicle Tracking Pad)	Each	2			2
	208-00301	Temporary Diversion	LS	1			1
	212-00700	Organic Fertilizer	LB	35			35
	212-00708	Seeding Native (Broadcast)	Acre	0.45			0.45
	216-00101	Soil Retention Blanket (Straw/Coconut)	SY	500			500
	218-00000	Noxious Weeds Management	Lump Sum	1			1

*It is anticipated that additional control measures and control measure quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsections 208.03 and 208.04. **Quantities for all control measures shown above are estimated and have been increased for unforeseen conditions and normal control measure life expectancy.** Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.
 ** F/A refers to CDOT's Force Account Pay Items.

13. BIOLOGICAL IMPACTS and DEWATERING

A. ENVIRONMENTAL IMPACTS:

1. Wetland Impacts: NO
2. Stream Impacts: NO
3. Threatened and Endangered Species:
No species are anticipated to be impacted by the project.

B. DEWATERING:

(Not covered under the CDPHE guidance document Low Risk Discharge Guidance Discharges of Uncontaminated Groundwater to Land):
<https://www.colorado.gov/pacific/sites/default/files/WQ%20LOW%20RISK%20GW.pdf>
 1. Dewatering: Refer to other environmental permits in accordance with subsection 107.02 and the permits contained in Tab 16 of the SWMP.
 2. If groundwater does not meet water quality standards for receiving water a separate CDPS Dewatering Permit shall be obtained by the Contractor from CDPHE in accordance with subsections 107.02 and 107.25.

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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
EROSION CONTROL (SWMP) PLANS	
PROJECT NO: BC-001001-1.4	SHEET NO: 55

2023

PROJECT SPECIFICATIONS

HYGIENE ROAD AT FOOTHILLS RESERVOIR INLET

May 8, 2023

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PROJECT SPECIFICATIONS
Hygiene Road at Foothills Reservoir Inlet

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PROJECT SPECIAL PROVISIONS

The 2022 Colorado Department of Transportation Standard Specifications for Road and Bridge Construction controls construction of this project. The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

COMMENCEMENT AND COMPLETION OF WORK (WORKING DAYS OR CALENDAR DATE)

The Contractor shall commence work under this Contract on or after the 5th day following contract execution, unless such time for beginning the work shall be changed by Boulder County Public Works in the "Notice to Proceed." The contractor has until December 1, 2023 to complete the work in accordance with the Notice to Proceed. Once work has begun, the contractor will have 70 working days to complete. The contractor shall notify Boulder County 30 days prior to start of construction. The contractor shall notify the Highland Ditch Company 5 days prior to start of construction. Once the contractor starts in a particular location with a specific element of work, he cannot leave that portion of the project until it is complete. Due to paving temperature requirements, construction will not take place over the winter.

Per the Boulder County Stormwater Quality Permit (SWQP) requirements, no earthwork can occur except that which is required to facilitate the installation of erosion control measures until all control measures have been inspected by the County. Contractor's schedule shall include this process. Working days will not be counted between control measure installation and County inspection.

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**REVISION OF SECTION 101
DEFINITIONS AND TERMS**

Certain terms utilized in the latest edition of the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction shall be interpreted to have different meanings within the scope of this Contract. A summary of redefinitions is as follows:

Section 101 of the Standard Specifications is hereby revised for this project as follows:

Subsection 101.22 "Contractor" shall mean prefabricator and/or contractor as described in subsection 101.23

Subsection 101.28 "Department" shall mean Boulder County, Colorado (where applicable).

Subsection 101.29 "Engineer" shall mean County Engineer, Boulder County, Colorado or designated representative (where applicable).

Subsection 101.36 shall be replaced with the following:

When New Year's Day, Cesar Chavez Day, Independence Day, or Christmas Day falls on a Sunday, the following Monday shall be considered a holiday. When one of these days falls on a Saturday, the preceding Friday shall be considered a holiday.

Holidays recognized by the Boulder County are:

New Year's Day
Dr. Martin Luther King, Jr. Day
President's Day
Memorial Day
Juneteenth
Independence Day
Labor Day
General Election Day (Even years)
Veterans Day
Thanksgiving Day
Friday after Thanksgiving Day
Christmas Eve, 1/2 Day Christmas Eve (beginning at noon, only if day falls on Tuesday - Thursday), Full Day Christmas Eve, only if day falls on Monday
Christmas Day
New Year's Eve, 1/2 Day New Year's Eve (beginning at noon, only if day falls on Tuesday - Thursday), Full day New Year's Eve, only if day falls on Monday

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**REVISION OF SECTION 101
DEFINITIONS AND TERMS**

Boulder County projects utilizing funds overseen by the Colorado Department of Transportation may also recognize the State of Colorado recognized holidays. are:

Cesar Chavez Day

Frances Xavier Cabrini Day (Cabrini Day)

Subsection 101.39 “Laboratory” shall mean Boulder County, Colorado or their designated representative.

Subsection 101.51 “Project Engineer” shall mean Boulder County’s duly authorized representative who may be a Boulder County employee or an employee of a consulting engineer (consultant) under contract to Boulder County. (where applicable)

Subsection 101.51 (a) “CDOT Project Engineer” shall be replaced with “Project Engineer” within these specifications. When applicable and when these documents reference a CDOT engineer, this reference shall be construed to mean Project Engineer.

Subsection 101.96 shall be added as follows:

Department’s Field Materials Manual. The Departments’ Field Materials Manual shall refer to Boulder County’s *Minimum Construction Testing Requirement Checklist*.

Subsection 101.51 (b) shall be replaced with the following:

“Consultant Project Engineer”. The consultant employee under the responsible charge of the consultant’s Professional Engineer who is in direct charge of the work and is responsible for the administration and satisfactory completion of the project. The Consultant Project Engineer’s duties are delegated by the Project Engineer in accordance with the scope of work in the consultant’s contract with Boulder County. The Consultant Project Engineer is not authorized to sign or approve Contract Modification Orders.

Subsection 101.58 “Region Transportation Director” shall mean Boulder County Engineer, Boulder County, Colorado or designated representative (where applicable).

Subsection 101.76 “State” shall mean Boulder County, Colorado (where applicable).

**REVISION OF SECTION 102
PROJECT PLANS AND OTHER DATA**

Section 102 of the Standard Specifications is hereby revised for this project as follows:

Subsection 102.04 shall be replaced with the following:

Any change to proposal forms, plans, or specifications prior to the opening of proposals will be issued by the Department by posting to bouldercounty.org and to bidnet.com and by emailing directly to vendors on the vendor list, Colorado Unified Certification Program DBE Directory vendor list and Minority Business Development Agency which emails them to their vendor list. Certain individuals are named in the project specifications who have sole authority to provide information, clarification or interpretation to bidders prior to opening of proposals. Information obtained from persons other than those named individuals is invalid and shall not be used for bidding purposes.

Subsection 102.05 shall include the following:

Boulder County will provide electronic files of drawings, the sample contract document, the project technical specifications in PDF format, online at the designated internet bid advertisement site, and they will be considered as the official bid set and record set.

It is the responsibility of the Contractor to obtain their own electronic copy of the Standard Specification for Road and Bridge Construction issued by the Colorado Department of Transportation (CDOT). It is also the Contractor's responsibility to ensure they are always available for use on the project site. Contractors shall use the most current adopted version at the time of the first date of bid advertisement or as otherwise noted in the index for CDOT standard special provisions for the specific project. CDOT's specifications can be found at: <https://www.codot.gov/business/designsupport/cdot-construction-specifications>.

**REVISION OF SECTION 103
AWARD AND EXECUTION OF CONTRACT**

Section 103 of the Standard Specifications is hereby revised for this project as follows:

Subsection 103.01 shall be replaced with the following:

Consideration of Proposals. After the proposals (bids) are opened and read, they will be evaluated, and the Contract awarded or rejected in accordance with the “Rules” referenced in subsection 102.01.

**REVISION OF SECTION 104
MAINTAINING TRAFFIC**

Section 104 of the Standard Specifications is hereby revised as follows:

Subsection 104.04 shall include the following:

Employee vehicle parking is prohibited where it conflicts with safety, access or flow of traffic. The Contractor is responsible for obtaining, coordinating and maintaining acceptable parking and staging areas for the duration of the construction activities. This shall not be paid for separately but shall be included in the work.

During the road closure, access shall be maintained for reservoir maintenance, resident access and Bashor Farms operations.

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**REVISION OF SECTION 106
CONTROL OF MATERIAL**

Section 106 of the Standard Specifications is hereby revised for this project as follows:

Subsection 106.03 shall include the following:

For projects not funded with State or Federal Highway Administration (FHWA) monies, sampling and testing will be done in accordance with Boulder County Public Works Department's *Minimum Guideline for Sampling and Testing*, see Table 106-3. Boulder County may elect to use the Colorado Department of Transportation Field Materials Manual when applicable.

The Contractor will be responsible for establishing, documenting, and implementing a Quality Control Plan. The Quality Control Plan shall include all procedures necessary for the Contractor to control the quality of its production processes to meet the requirements of the Contract. The Contractor's Quality Control Plan shall include a testing and inspection schedule to control the production processes.

Boulder County will provide a qualified Construction Quality Assurance team to perform Quality Assurance (QA) testing, auditing and acceptance testing. The QA staff shall remain independent from the Contractor's production and Quality Control (QC). The Boulder County Construction Inspection team and/or testing firm will perform on-site inspection and testing of the construction elements of the work to verify that all work has been constructed in conformance with the Contract requirements.

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REVISION OF SECTION 106
CONTROL OF MATERIAL

Table 106-3
SCHEDULE FOR MINIMUM SAMPLING AND TESTING FOR COUNTY FUNDED PROJECTS

Pay Item	Type of Test	Sampling & Testing Frequency
203 Embankment	In-Place Density	1 per 2000 cu yds. Or a fraction thereof of embankment placed. (or as specified by Construction Inspector, Project Engineer or contract)
203 Embankment	Moisture Density Curve	1 per soil type.
206 STR. Backfill (Class 1)	Gradation	1 per 200 cu yds. (or as per contract)
206 STR. Backfill (Class 1)	Moisture Density Curve	1 per source. (or as per contract)
206 STR. Backfill (Class 1)	In Place Density	1 per 200 cu yds. (or as per contract)
206 STR. Backfill (Class 2)	Moisture Density Curve	1 per source. (or as per contact)
206 STR. Backfill (Class 2)	In Place Density	1 per 200 cu yds. or fraction thereof
207 Topsoil	Boulder County may elect to use the CDOT Field Materials Manual 2013. Schedule (Quality Assurance) for Minimum Materials Sampling, Testing and Inspection.	
304 Aggregate Base Course	Gradation	1 per 2000 tons or fraction thereof.
304 Aggregate Base Course	In-Place Density	1 per 2000 tons or fraction thereof or as specified by the Construction Inspector, Project Engineer or contract.
304 Aggregate Base Course	Moisture-Density Curve	1 per source.
306 Reconditioning	In Place Density	1 per 5000 sq. yds. or a fraction thereof.
306 Reconditioning	Moisture-Density Curve	1 per type.
403 HMA	Asphalt Content	1 per 1500 within the first 2 days of paving (or as specified by Project Engineer or Contract)
403 HMA	Binder	1 per mix design.

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**REVISION OF SECTION 106
 CONTROL OF MATERIAL**

Pay Item	Type of Test	Sampling & Testing Frequency
403 HMA	Gradation	1 per 1500 tons or a fraction thereof of mix produced (or as specified by Project Engineer or Contract)
403 HMA	In-Place Density	Top Lift 1 per 500 tons or a fraction thereof of mix placed. Bottom Lift 1 per 1000 (or as specified by Project Engineer or Contract)
403 HMA	Theoretical Max. SP Gravity (RICE)	1 per project location (or as specified by Construction Inspector, Project Engineer)
403 HMA	Air Voids	1 per mix design or as specified by Project Engineer, Construction Inspector (or as specified by contract)
403 HMA	Longitudinal Joint Density	1 per 5000 Linear FT. or fraction thereof.
601 Structural Concrete	Air Content, Slump, Unit Weight	1 per set (5) of cylinders per day. Or as specified by Project Engineer, Construction Inspector (or as specified Slump, Unit Weight by Contract).
601 Structural Concrete	Compressive Strength	1 set (5) per 200cu yds. or fraction thereof or as specified by Project Engineer, Construction Inspector (or as specified by Contract)
608 Sidewalk and Bikeways	Air Content, Slump, Unit Weight	1 per 1000 sq. yds. or fraction thereof. or as specified by Project Engineer, Construction Inspector (or as specified by Contract)
608 Sidewalk	Compressive Strength	1 set (5) of cylinders per 1000 sq. yd. or fraction thereof. and Bikeways as specified by Project Engineer, Construction Inspector (or as specified by Contract)
609 Curb and Gutter	Air Content, Slump, Unit Weight	1 per 2000 lin. ft. or fraction thereof.
609 Curb and Gutter	Compressive Strength	1 set (5) of cylinders per 2000 lin. ft. or fraction thereof.

REVISION OF SECTION 107 AIR QUALITY CONTROL

Section 107 of the Standard Specifications is hereby revised for this project as follows:

Subsection 107.24 shall include the following:

Equipment Emissions. Boulder County projects shall meet or exceed current Colorado Air Quality standards. The project work shall be performed using practices that minimize air quality detriments during construction. All the standards below shall be followed to improve air quality related to this project:

(1) Emissions standards:

- Optimally, electric or hybrid powered equipment or vehicles will be used on all projects.
- Equipment engines shall be compliant with the most recent Environmental Protection Agency (EPA) requirements.
- Contractors are required to maintain a minimum emissions level for diesel fueled equipment at a Tier 3 level.
- Contractors shall provide certification of compliance with diesel emissions standards. Failure to do so will result in immediate stoppage of work and is a non-excusable delay per subsection 108.08(c)2.
- All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel (B20) blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.

(2) Proximity. Any project within 1000 linear feet of a residence or regular gathering location of multiple people (i.e., schools, parks, places of worship, commercial buildings, etc.) is required to have either electric, hybrid or Tier 4 diesel powered equipment or vehicles.

(3) Exemption. Emergency equipment is exempt from this specification. All reasonable effort will be made to replace equipment placed in service at the beginning of the emergency work with equipment as specified above as soon as possible.

(4) Definition. Vehicle, for the purposes of this specification, is defined as any diesel-powered company owned car or truck. It does not apply to personal vehicles.

(5) Cost. Unless shown otherwise in the bid tabulation for this project, costs to achieve this specification will be included in the overall cost of the project.

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**REVISION OF SECTION 107
FIRE PROTECTION PLAN**

Section 107 of the Standard Specifications is hereby revised as follows:

Subsection 107.18 shall be deleted and replaced with the following:

107.18 Fire Protection Plan. The following work elements are considered safety critical work for this project:

- *Fire Protection Plan.* Prior to start of work, the Contractor shall submit a Fire Control Plan in writing to the Engineer and Local Fire Authority for approval. The plan shall include the following:

PART 1 - The name and contact information of a Fire Control Coordinator who shall be assigned to the project.

PART 2 - A 24-hour Emergency Contact List which, at a minimum, includes Project Superintendent, Project Foreman and Project Traffic Control Supervisor.

PART 3 - A complete list, including storage locations, of all tools and equipment the Contractor will use in the event of an emergency within project limits.

PART 4 - Methods that will be employed if a fire is encountered or started during construction activities within the project limits.

PART 5 - Specific fire prevention precautions, and the required fire mitigation equipment, for every activity which has the potential for starting a fire. At a minimum the plan shall address prevention planning related to use of heavy equipment, vehicles, hand tools, storage and parking areas.

PART 6 - Specific precautions for fueling operations.

PART 7 - Provisions for field safety meetings. The Contractor shall conduct field safety meetings (also known as toolbox or tailgate meetings) at least once per week to include a local Fire Authority Representative. The Contractor shall encourage participation by all persons working at the project site. Participants shall discuss specific fire prevention precautions for construction activities.

- *Open Burn Exemption.* A BURN EXEMPTION may be requested by the Contractor from the Boulder County Sheriff's Office if current fire restrictions are in place. The fire restrictions Prohibit:
 - (a) Building, maintaining, attending, or using an open fire, campfire or stove fire (including charcoal barbecues and grills) on public land;
 - (b) Use of all personal fireworks;
 - (c) Shooting or discharging firearms for recreational purposes, except for hunting with a valid and current hunting license on public land;

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**REVISION OF SECTION 107
FIRE PROTECTION PLAN**

- (d) Smoking, except in an enclosed vehicle or building, a developed recreation site, or while stopped in an area at least three feet in diameter that is barren or cleared of all flammable materials;
 - (e) Operating a chainsaw without a USDA or SAE-approved spark arrester properly installed and in effective working order. A chemical, pressurized fire-extinguisher must be kept with the operator, and at least one round-point shovel with an overall length of at least 35 inches must be readily available for use;
 - (f) Welding or operating acetylene or other open-flame torches, except in cleared areas of at least 10 feet in diameter, and with a chemical, pressurized fire-extinguisher immediately available for use; and
 - (g) Using an explosive.
- *Equipment and Procedures.*

Fire Boxes. If required by the local Fire Authority shall contain tools and equipment that shall be used exclusively for controlling or suppressing fires which occur due to construction activities on project sites. Each fire box shall contain, as a minimum, the following:

- (1) Five round-pointed shovels,
- (2) Two double-bitted axes,
- (3) Three Pulaskis or mattocks,
- (4) Two backpack pumps, and
- (5) Four large fire extinguishers as prescribed by the local Fire Authority.

Welding/Torching/Cutting/Drilling. If work at field locations is required, the work shall be done at a location where all flammable material has been cleared within a 30-foot radius and approved by the local Fire Authority.

Spark Arrestors. All diesel and gasoline powered engines, both mobile and stationary, shall be equipped with serviceable spark arrestors each gasoline power saw shall be provided with a spark screen and a muffler in good condition. Spill-proof metal safety cans shall be used for refueling. Approved and inspected by the local Fire Authority.

Storage and Parking Areas. Batch plant areas, equipment service areas, parking areas, gas and oil drum storage areas, and explosive storage areas shall be cleared of all flammable materials for a distance of 50 feet. Small stationary engine sites shall be cleared of all flammable material for distance of 20 feet. Other mitigation methods may be used as approved by the Engineer and applicable codes.

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REVISION OF SECTION 107 FIRE PROTECTION PLAN

- *Fire Control Coordinator Responsibilities.* The Fire Control Coordinator shall:
 - (1) Be the primary contact for the local Fire Authority and Project Engineer
 - (2) Implement the Fire Control Plan.
 - (3) Monitor, manage, and adjust the Fire Control Plan as needed as construction work progresses.
 - (4) Document in a letter to the Engineer and Local Fire Authority changes to the Fire Control Plan.
 - (5) Contact local firefighting authorities 3 days in advance when a hazardous operation is scheduled. Inspection due to construction activities within project limits may be required.
 - (6) Coordinate fire control, mitigation and possible suppression activities until authorities arrive, including the evacuation of staff.

When the Fire Control Coordinator cannot be on the project site, they shall designate a person who is on site to serve as the Fire Control Coordinator. The Fire Control Coordinator, or his designee, shall always be on site while work is performed.

- *Open Burning During Weather Events.* **During any of the following weather events, open burning is not permitted in unincorporated Boulder County from time of issuance until midnight in which the event expires: Red Flag Warning, High Wind Warning, High Wind Watch and Fire Danger Warning.** Check the local forecast for up to date information issued by the National Weather Service. This is per Boulder County Ordinance 2018-1, "An Ordinance Repealing and Replacing Boulder County Ordinance 2006-2 and Authorizing the Declaration of Open Fire Bans by the Board of County Commissioners or the County Sheriff."

The National Weather Service issues weather statements to inform area firefighting and land use management agencies that conditions are ideal for wildland fire ignition and propagation (Red Flag Warning, High Wind Warning, High Wind Watch, Fire Danger Warning).

For this standard special provision, smoking is an open flame and shall be included in the definition of open burning, which is not permitted for the above listed weather events. Any smoking or lighting of items outside or within a vehicle with open windows is not permitted on the project site or within 500 feet of the project's limits of disturbance. With the approval of the Engineer, who consults with the local Fire Authority, a designated smoking area may be established.

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**REVISION OF SECTION 107
FIRE PROTECTION PLAN**

No additional payment or compensation will be paid to the Contractor during any weather events associated with open burning and include Red Flag Warning, High Wind Warning, High Wind Watch, Fire Danger Warning. Delays may be counted as an excusable delay per Standard Specification 108.08 or at the discretion of the Engineer.

- *Costs.* All costs associated with the preparation and implementation of the Plan and compliance with all fire protection provisions and requirements will not be measured and paid for separately but shall be included in the work.

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**REVISION OF SECTION 108
PROSECUTION AND PROGRESS**

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Subsection 108.03 shall include the following:

The Contractor shall submit a CPM baseline schedule to the Engineer at least three (3) working days prior to the preconstruction meeting. This CPM baseline schedule shall show the major salient features of the project through completion.

The minimum salient features to be shown on the Contractor's CPM Schedule are:

- (a) Erosion Control, Mobilization
- (b) Construction Surveying
- (c) Traffic Control Phasing
- (d) Unclassified Excavation
- (e) Storm Drainage
- (f) Aggregate Base Course placement
- (g) Hot Mix Asphalt Placement
- (h) Signing and Striping
- (i) Fencing
- (j) Planting, Seeding & Clean Up

Meetings will be required to review progress and plan upcoming activities. The Erosion Control Supervisor, other representatives, as appropriate, the Contractor and all active subcontractors shall attend the meetings. Such meetings will be required on a weekly basis at a time to be determined by the Engineer and the Contractor.

At the weekly progress meetings, the Contractor shall submit a written statement of planned activities and anticipated inspection, testing, and surveying requirements for the upcoming three (3) weeks. The Contractor shall provide a 24-hour notice to the Engineer if the Contractor elects to change a planned activity.

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**REVISION OF SECTION 108
PROSECUTION AND PROGRESS**

Subsection 108.05 shall include the following:

All work performed by the Contractor or any of their agents shall be accomplished during the established working hours of 8:00 A.M. and 4:30 P.M., Monday through Friday. Neither the Contractor nor their agents shall work outside of the daily working hours without prior approval by the Engineer.

If the Contractor receives approval to work additional hours for their convenience, the Contractor shall reimburse the County for the cost of providing additional engineering and inspection services. The reimbursement to the County will be at a rate of \$125.00 per hour for each County employee and \$175.00 per hour for each consultant required to be on the job site. This cost will be deducted from any money due the Contractor.

**REVISION OF SECTION 201
CLEARING AND GRUBBING**

Section 201 of the Standard Specifications is hereby revised for this project as follows:

Subsection 201.02 shall include the following:

Clearing and grubbing on this project will include clearing and grubbing along the shoulders of the roads to accommodate aggregate base course shouldering materials. The material generated will be removed from the site.

Subsection 201.04 shall include the following:

Pay Item	Pay Unit
Clearing and Grubbing	Lump Sum

REVISION OF SECTION 202 REMOVAL OF TOPSOIL

Section 202 of the Standard Specification is hereby revised as follows:

Subsection 202.02 shall include the following:

Topsoil Removal: After the construction area and its access have been delineated, the vegetation should be mowed to a maximum height of four (4) inches over the area to be disturbed. If the amount of vegetation exceeds what can be incorporated into the soil without interfering with establishing a proper seedbed, then excess vegetation shall be removed.

Topsoil should be removed by a front-end loader (preferred method) or grader. Under no circumstances should upland topsoil be removed under wet soil moisture conditions. The depth of the topsoil layer may vary. Topsoil may be delineated from the subsoil by a higher organic matter content (usually, but not always, indicated by a darker color) and a relatively loose and friable soil structure. Typically, topsoil is between four (4) and eight (8) inches in depth.

Under no circumstances shall subsoil be mixed with topsoil, and subsoil shall not be placed on top of the topsoil. If necessary, salvaged topsoil shall be cordoned off to delineate the topsoil from subsoil or other materials. The topsoil shall be protected from contamination by subsoil material, weeds, etc. and from compaction by construction equipment and vehicles.

**REVISION OF SECTION 202
REMOVAL OF PAVEMENT MARKING**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

Subsection 202.05 shall include the following:

Pavement Markings to be removed shall be marked by the Contractor no less than 48 hours prior to removal. The Department shall review and approve the pavement markings to be removed prior to the work. All Removal of Pavement Markings shall be completed prior to permanent striping layout. All pavement markings removed shall become the property of the Contractor and disposed of properly offsite.

Subsection 202.11 Replace the second paragraph with the following:

Removal of pavement markings will not be measured but shall be included in the work.

**REVISION OF SECTION 202
REMOVAL OF CONCRETE BOX CULVERT**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

Subsection 202.12 shall include the following:

Payment for Concrete Box Culvert removal shall include:

- Removal of headwalls
- Removal of wingwalls associated with the box culvert that is being removed

**REVISION OF SECTION 203
EXCAVATION AND EMBANKMENT**

Section 203 of the Standard Specifications is hereby revised for this project as follows:

Subsection 203.05 (b), first paragraph, shall include the following:

Excess material that must be removed from the project shall become the property of the Contractor and disposed of outside the project limits.

The Contractor shall make all arrangements to obtain any required agency permit(s) and written permission from property owners for disposal locations outside the limits of the project, within unincorporated Boulder County.

Copies of the permit(s) and written permission shall be furnished to the Engineer before the disposal area is used.

Subsection 203.12 shall include the following:

Payment for Unclassified Excavation and Unclassified Excavation (Complete in Place) shall also include costs associated with obtaining any necessary permits or written permissions and will not be paid separately.

**REVISION OF SECTION 207
TOPSOIL**

Section 207 of the Standard Specification is hereby revised as follows:

Subsection 207.01 last sentence shall be replaced with the following:

It shall include the placing of topsoil upon constructed cut and fill slopes after grading operations are completed.

Subsection 207.02 shall include the following:

All topsoil shall be either secured from the site or imported and shall be approved by Boulder County at the source prior to import.

Subsection 207.03 shall include the following:

Relieving Compaction: Areas to receive topsoil that have been compacted by heavy equipment shall be ripped or chiseled **prior to redistribution of topsoil**. Construction areas and other compacted areas will be chiseled to a minimum depth of 10 inches, with no more than a 10-inch interval between chiseled furrows. Two passes with a chiseler may be necessary, with the second pass chiseling between the first furrows, or perpendicular to original furrows.

Redistribution of Topsoil and Application of Soil Conditioning: The topsoil should be redistributed uniformly over the disturbed areas, minimizing compaction by equipment. **Topsoil redistribution shall not occur under wet soil conditions.** When applicable, fertilizer or soil conditioning shall be incorporated evenly throughout the topsoil as described in Specification.

REVISION OF SECTION 208 EROSION CONTROL

Section 208 of the Standard Specification is hereby revised as follows:

Subsection 208.02(h) shall include the following:

All erosion logs shall be biodegradable unless otherwise approved by the Engineer. Photodegradable will not be accepted. Diversion removals, pipe cofferdam, minor grading will be incidental to the work. Maintaining the cofferdam and construction will be incidental to the work.

Subsection 208.02 (k) shall include the following:

Prior to the initial arrival onto the project site, all equipment shall be thoroughly power washed, including the undercarriages and tires. Equipment must be clean of mud, vegetative matter, and other debris to prevent importation of non-native and noxious weed seeds from other project sites.

The temporary diversion requires the use of a cofferdam. Reinforce the cofferdam to withstand embankment to withstand pressure and erosion to prevent overtopping of 70 cfs, as provided by the Highland Ditch Company. Provide sufficient clearance of the box culvert construction and provide for ditch flow bypass and dewatering, if necessary. Protect the box culvert construction fresh concrete and existing properties against damages from ditch flows.

This work will be included with the cost of the work and as part of the temporary diversion ditch.

**REVISION OF SECTION 209
DUST PALLIATIVES**

Section 209 of the Standard Specifications is hereby revised as follows:

Subsection 209.05 shall include the following:

The contractor shall be responsible for controlling vehicle and equipment speeds within the project site to keep dust to a minimum. The Contractor shall monitor activities daily for dust. If excessive dust is being generated, contractor shall use water at no additional cost for dust suppression and immediately take corrective action to ensure operators and drivers control speeds, thereby, assisting in dust suppression.

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER, AND SODDING**

Section 212 of the Standard Specification is hereby revised as follows:

Subsection 212.02 (a) shall include the following:

Maximum crop and weed content shall follow the Colorado Seed Certification Standards for certified seed:

- (a) Prohibited (Primary) Noxious Weeds (List A): None,
- (b) Restricted (Secondary) Noxious Weeds (List B): Less than 0.1%, and
- (c) Total Other Crop Seed: Less than 1.0%.

Seed shall be free of Prohibited (Primary) Noxious Weeds (List A) including, but not limited to, Canada thistle, diffuse knapweed, spotted knapweed, Russian knapweed, field bindweed, hoary cress, jointed goat grass, leafy spurge, musk thistle, and yellow toadflax. The Contractor shall be responsible for replacing any refused seed at no additional cost to the project.

If specified type or variety of seed is not available, substitutions must be submitted and approved by the Engineer.

Subsection 212.02 (b) 1 shall be replaced with the following.

(1) Fertilizer, Soil Conditioners and Biochar

- Fertilizer: Fertilizer may only be used if directed by the project specific documents.

Fertilizer shall meet the following description; a slow release organic fertilizer composed of dried granulated fungal and bacterial biomass. The nutrient source shall be derived from fermented plant material along with nutrients such as cottonseed meal, soybean meal and trace elements all under sterile conditions. It shall not contain urea or sewage material.

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

The fertilizer shall meet the following minimum requirements:

Criteria	Requirement
Nutrient Content (N-P-K)	7-2-1 (1) Nitrogen (total) >7% (2) Nitrogen (water soluble) <0.5% (3) Phosphorus (P205) 2-4%, (4) Potassium (K20) 1%
Phosphorous Content	3-6-3, 4-6-4, 3-7-4, or comparable
pH level	6.5-7.5
Organic Material	>75%

Subsection 212.02 (b) 2 shall be replaced with the following:

- Soil Conditioner: Soil conditioner shall consist of compost, biological nutrient, biological culture or humic acid-based material. Compost shall be used as a soil conditioner unless otherwise specified in the project specific documents.

Humic acid-based material (Humate) shall be mined from fresh water, sand matrix source and shall include the following:

- (b) A pH 3.5 to 4.0.
- (c) Maximum 15 percent inert ingredients.
- (d) Minimum 85 percent organic material with 50 percent minimum humic acid.

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Compost shall be weed-free, organic compost derived from a variety of feed stocks including agricultural, biosolids, forestry, food, leaf and yard trimmings, manure, tree wood with no substance toxic to plants. Material shall be aerobically composted in a facility permitted by the Colorado Department of Public Health and Environment (CDPHE) to produce or sell compost in accordance with House Bill (HB) 1181. The Contractor shall submit a copy of this permit to the Engineer for approval and the project records. The compost shall be tested in accordance with the U.S. Composting Council's Test Methods for Examining of Composting and Compost (TMECC) manual.

The compost manufacturer shall be a participating member of in the U.S. Composting Council's Seal of Testing Assurance Program (STA). The Contractor shall provide a participation certificate and test data on a Compost Technical Data Sheet. The Contractor shall provide a participation certificate and test data showing the lab analysis on a Compost Technical Data sheet that verifies that the compost meets the requirements. The Contractor shall submit documentation showing the feedstock amount by percentage in the final compost product. Compost feedstock may include, but is not limited to, leaves and yard trimmings, food scraps, food-processing residuals, manure or other agricultural residuals, forest residues, bark, and paper. Biosolids (from sewage treatment facilities) are not considered suitable feedstock.

Compost shall consist of a carbon to nitrogen ratio between 10:1 and 20:1. Compost may consist of one or more of the following, or include other appropriate composts:

2. Well-aged dairy cattle manure,
3. Well-aged poultry manure, or
4. Composted yard wastes.

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**REVISION OF SECTION 212
 SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Compost shall have the following physical properties:

Compost Parameters	Reported As	Requirement	Test Method
pH	pH units	6.0 – 8.5	TMECC 04.11-A
Soluble Salts (Electrical Conductivity)	dS m ⁻¹ or mmhos cm ⁻¹	Maximum 10dS/m	TMECC 04.10-A
Moisture Content	%, wet weight basis	30 – 60%	TMECC 03.09-A
Organic Matter Content	%, dry weight basis	30 – 65%	TMECC 05.07-A
Particle Size (sieve sizes)	%, dry weight basis for each sieve fraction	Passing 1 inch – 100% 1/2 inch – 95%	TMECC 02.02-B
Man-made Inert Contamination	%, dry weight basis	< 1%	TMECC 03.08-A
Stability (Respirometry)	mg CO ₂ -C per g TS per day mg CO ₂ -C per g OM per day (PASS/FAIL) Limits:	8 or below	TMECC 05.08-B
Select Pathogens	Salmonella <3 MPN/4grams of TS, or Coliform Bacteria <1000 MPN/gram (PASS/FAIL) Limits:	Pass	TMECC 07.01-B Fecal Coliforms, or 07.02 Salmonella
Trace Metals	(PASS/FAIL) Limits (mg kg ⁻¹ , dw basis): As 41, Cd 39, Cu 1500, Pb 300, Hg 17, Ni 420, Se 100, Zn 2800	Pass	TMECC 04.06
Maturity (Bioassay) Percent Emergence Relative Seedling Vigor	%, (average) %, (average)	> 80% > 80%	TMECC 05.05-A
The Contractor shall provide a CTR in accordance with subsection 106.13 confirming that the material has been tested in accordance with TMECC.			

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

3. Biochar: Biochar shall be a USDA Certified Biobased Product. Biochar shall be made in a slow pyrolysis process and exceed 70% carbon content in the delivered product. The size of an individual piece of char shall range between 0.25 inches to 1.25 inches.

Mycorrhizae: Supplemental mycorrhizae, Quantum Growth VSC:

- (1) 1.32% humic acid (from peat humus)
- (2) 0.50% *Rhodopsuedomonas palustris*..... 1.0 E+6 cfu/ml
- (3) 0.25% *Bacillus amyloliquefaciens*..... 5.0 E+5 cfu/ml
- (4) 0.25% *Bacillus licheniformis*..... 3.0 E+5 cfu/ml
- (5) 0.25% *Bacillus megaterium*..... 1.0 E+5 cfu/ml
- (6) 0.25% *Bacillus subtilis*..... 2.0 E+5 cfu/ml

Supplemental mycorrhizae, Quantum Growth Light:

- (1) 0.5% *Rhodopsuedomonas palustris*.....5.0 E+6 cells/ml
- (2) 99.5% de-ionized water

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Subsection 212.06 (a) shall be replaced with the following:

(d) *Soil Preparation.* Following redistribution of topsoil, the disturbed areas shall be chiseled again to a minimum depth of 12 inches, with no more than a 10-inch interval between chiseled furrows. Slopes flatter than 2:1, shall be tilled to a well settled, firm, and friable seedbed four (4) inches deep. Slopes 2:1 or steeper shall be left in a roughened condition. Slopes shall be free of soil clods, sticks, stones, and debris more than four (4) inches in any dimension and be brought to the desired grade and line. Uneven grading of the soil surface is acceptable and encouraged to prevent further compaction from excess heavy machinery operation. All slopes shall be free of concrete and asphalt. No soil preparation for seeding shall occur when soil is frozen or in an extreme wet or dry condition.

Subsection 212.06 (b) shall be replaced with the following:

- (2) *Fertilizing and Soil Conditioning.* Prior to seeding, fertilizer, soil conditioner, or both shall be applied evenly throughout the topsoil.
- a. Fertilizing. Apply approved product at 800 to 1,300 lbs. per acre. Fertilizers shall be incorporated into the top four (4) inches of soil after broadcasting seed.
 - b. Compost. Biological nutrient, culture or humic based material called for on the plans shall be uniformly applied at three (3) cubic yards per 1000 square feet onto the soil surface. Organic amendments shall be applied uniformly over the soil surface and incorporated into the top six (6) inches of soil. No measurable quantity of organic amendment shall be present on the surface after incorporation.
 - c. Biochar. Supplemental mycorrhizae – Quantum Growth VSC applied at 2 gal/acre and Quantum Growth Light applied at 1 gal/acre.

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Subsection 212.06 (c) shall be replaced with the following:

- (1) *Seeding.* Seeding shall be accomplished within 24 hours of tilling or scarifying to make special seed bed preparation unnecessary. The seeding application rate shall be as designated in the Contract. All slopes flatter than 2:1 shall be seeded with grass or no-till drills followed by packer wheels. Drag chains are not allowed. Drills shall have depth bands set to maintain a planting depth between $\frac{1}{2}$ and $\frac{3}{4}$ inch and shall be set to space the rows not more than seven (7) inches apart. Packer wheels that firm the soil over the drill row are required. Seed that is extremely small shall be sowed from a separate hopper adjusted to the proper rate of application. The Contractor shall notify the Engineer 24 hours in advance and request inspection of seeding areas prior to installation.

Seed must be applied with a grass or no-till drill that is specifically designed to accommodate variability in size and physical characteristic of native grass seeds. **Seed drills must be clean of seed from previous seeding jobs before any seeding begins.**

If strips greater than seven (7) inches between the rows have been left unplanted or other areas skipped, the Engineer will require additional seeding at the Contractor's expense.

When requested by the Contractor and approved by the Engineer, seeding may be accomplished by broadcast or hydraulic type seeders at twice the rate specified in the Contract at no additional cost to the project.

All seed sown by broadcast-type seeders shall be "raked in" or covered with soil to a depth of at least $\frac{1}{4}$ inch. Broadcasting seed will be permitted only on small areas not accessible to machine methods. Broadcast seeding shall proceed on freshly disturbed (raked or harrowed) soil surface and broadcast seed shall be immediately raked or harrowed into the surface. Raking shall be accomplished using metal-tined garden or landscape rakes; no plastic leaf rakes shall be allowed. If harrowing is used, an English harrow or its equivalent shall be required.

Hydraulic seeding will not be accepted.

Seeded areas damaged due to circumstances beyond the Contractor's control shall be repaired and reseeded as ordered. Payment for this corrective work, when ordered, shall be at the contract prices.

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**REVISION OF SECTION 212
SEEDING, FERTILIZER, SOIL CONDITIONER AND SODDING**

Areas not requiring seeding that have been damaged due to the seeding operation shall be required as ordered. Payment for this corrective work, when ordered, shall at the contract prices.

Multiple seeding operations shall be anticipated as portions of job are completed to take advantage of growing conditions and to comply with Section 208 and subsection 212.03.

Application of various types of seeding are as follows:

- a. Seeding (Upland). Prior to seeding, the soil conditioner shall be applied at 3 CY per 1000 SF and incorporated into the top eight (8) inches of soil.

Seed shall be applied at the percent of mix (% of mix) and application rate (PLS/Acre) that is designated on the plans under Seeding (Upland). Seed shall be applied to Seeding (Upland) areas shown on plans.

- b. Seeding (Riparian). Prior to seeding, the soil conditioner shall be applied at 6 CY per 1000 SF and incorporated into the top eight (8) inches of soil.

Seed shall be applied at the percent of mix (% of mix) and application rate (PLS/Acre) that is designated on the plans under Seeding (Riparian). Seed shall be applied to Seeding (Riparian) and Perennial (Tublings) areas shown on plans.

- c. Combined Seeding. Prior to seeding, the soil conditioner shall be applied at three cubic yards per 1000 SF and incorporated into the top eight (8) inches of soil.

Seed shall be made up of 70% Seeding (Upland) and 30% Seeding (Riparian). Combined seeding shall be applied at the percent of mix (% of mix) and application rate (PLS/Acre) that is designated on the plans under both Seeding (Upland) and Seeding (Riparian).

Subsection 212.07, paragraph four, shall include the following:

The Contractor shall furnish the Engineer with delivery tickets or bag weight tickets prior to placing any soil conditioner. Any soil conditioner placed by the Contractor without the Engineer's approval will not be paid for.

Tags attached to bags of seed will not be removed until the bag is opened on site at the time of seeding.

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**REVISION OF SECTION 216
SOIL RETENTION COVERING**

Section 216 of the Standard Specifications is hereby replaced as follows:

DESCRIPTION

216.01 This work consists of furnishing, preparing, applying, placing, and securing soil retention blankets for erosion control on roadway slopes or channels as designated in the Contract

MATERIALS

216.02 Soil retention covering shall be a soil retention blanket as specified in the Contract. All soil retention coverings shall be biodegradable. Photodegradable will not be accepted. It shall conform to the following:

- (1) *Soil Retention Blanket.* Soil retention blanket shall be composed of degradable natural fibers mechanically bound together between two slowly degrading natural fiber nettings to form a continuous matrix and shall conform to the requirements of Tables 216-1 and 216-2. The blanket shall be of consistent thickness with the fiber evenly distributed over the entire area of the mat.

When biodegradable blanket is specified, the thread shall be 100 percent biodegradable; polypropylene thread is not allowed.

Blankets and nettings shall be non-toxic to vegetation and shall not inhibit germination of native seed mix as specified in the Contract. The materials shall not be toxic or injurious to humans. Class 1 blanket shall be an extended term blanket with a typical 24-month functional longevity. Class 2 blanket shall be a long-term blanket with a typical 36-month functional longevity. The class of blanket is defined by the physical and performance characteristics.

1. *Soil Retention Blanket (Straw-Coconut) (Biodegradable).* Soil Retention Blanket (Straw-Coconut) shall be a machine produced mat consisting of 70 percent certified weed free agricultural straw or Colorado native grass straw and 30 percent coconut fiber. The blanket shall be either biodegradable or photodegradable. Blankets shall be sewn together on a maximum 2-inch centers.

The top and bottom netting shall be 100 percent biodegradable organic jute fiber. Netting shall be constructed using a weave unattached at intersections which allows the strands of the net to move independently of each other.

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**REVISION OF SECTION 216
 SOIL RETENTION COVERING**

2. *Soil Retention Blanket (Coconut) (Biodegradable)*. Soil Retention Blanket (Coconut) (Biodegradable) shall be a machine produced mat consisting of 100 percent coconut fiber that is biodegradable.

The top and bottom netting shall be 100 percent biodegradable organic jute fiber. Netting shall be constructed using a weave which is unattached at the intersections, and which allows the strands of the net to move independently of each other.

**TABLE 216-1
 PHYSICAL REQUIREMENTS FOR
 SOIL RETENTION BLANKET – BIODEGRADABLE BLANKET**

Bio Degradable Class	Minimum Roll Width	Minimum Thickness ASTM D6525	Acceptable Matrix Fill Material	Min. Mass per Unit Area ASTM D6475	Size of Net Opening
1	6.5 ft.	250 mils	Straw/ Coconut	8oz/sy	Minimum 0.50"x0.50"
					Maximum 0.50"x1.00"
2	6.5 ft.	300 mils	Coconut*	8oz/sy	Minimum 0.50"x0.5"
					Maximum 0.5"x1.00"
*Minimum Open Area, 36%					

**TABLE 216-2
 PERFORMANCE REQUIREMENTS FOR
 SOIL RETENTION BLANKET – BIODEGRADABLE BLANKET**

Biodegradable Class	Slope Application "C" Factor ¹ ASTM D6459	Minimum Tensile Strength MD ² ASTM D6818	Minimum Tensile Strength ASTM D4595
1	<0.1 at 3:1	8.33 lbs/in	
2	<0.1 at 3:1	10.42 lb/in	1968 lb/ft

1. "C" Factor is calculated as ratio of soil loss from soil retention blanket protected slope (tested as specified or greater gradient, 3H:1V) to ratio of soil loss from unprotected (control) plot in large-scale testing.
 2. MD is for machine direction testing (along the length of the roll).

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REVISION OF SECTION 216 SOIL RETENTION COVERING

Blankets shall be tested for physical properties and have published data from an independent testing facility.

Large scale testing of Slope Erosion Protection ("C" factor) shall be performed by an independent testing facility.

- (2) *Staples.* Staples shall be made of ductile steel wire, 0.165 inches in diameter, 8 inches long and have a 1-inch crown. "T" shaped staples will not be permitted.

A sample of the staples and a Certificate of Compliance (COC) including the manufacturer's product data showing that the product meets the Contract requirements shall be submitted for approval at the Environmental Pre-construction Conference. Installation of the blanket will not begin until approval has been received from the Engineer in writing.

- (3) *Earth Anchors.* The mechanical earth anchor shall be composed of a load bearing face plate, a tendon rod or wire rope, and a locking head or percussion anchor. Each element of the anchor shall be composed of corrosion resistant materials. The anchor and wire rope shall have a breaking strength of 9,500 pounds utilizing standard tensile testing and ASTM A1007-07. The anchor shall have a minimum 1,000 pounds ultimate holding strength in normal soil and a manufacturer's recommended minimum driven depth of 3.5 feet.

A sample of the anchors and a Certificate of Compliance (COC) including the manufacturer's product data showing that the product meets the Contract requirements shall be submitted for approval at the Environmental Pre-construction Conference. Installation of the blanket will not begin until approval has been received from the Engineer in writing.

CONSTRUCTION REQUIREMENTS

216.03 The Contractor shall install soil retention coverings in accordance with Standard Plan M-216-1 and the following procedure:

1. Prepare soil in accordance with subsection 212.06(a).
2. Apply topsoil or soil conditioning as directed in the Contract to prepare seed bed.
3. Place seed in accordance with the Contract.
4. Unroll the covering parallel to the primary direction of flow.

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REVISION OF SECTION 216 SOIL RETENTION COVERING

5. Ensure that the covering maintains direct contact with the soil surface over the entirety of the installation area.
6. Do not stretch the material or allow it to bridge over surface inconsistencies.
7. Staple the covering to the soil such that each staple is flush with the underlying soil.
8. Ensure that staples or earth anchors are installed full depth to resist pull out. No bent over staples will be allowed. Install anchor trenches, seams, and terminal ends as shown on the plans.

216.04 Slope Application. Soil retention coverings shall be installed on slopes as follows: The upslope end shall be buried in a trench 3 feet beyond the crest of the slope if possible. Trench depth shall be a minimum of six inches unless required by the manufacture to be deeper. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil, compacted by foot tamping, and seeded. Fabric shall be brought back over trench and secured with staples or earth anchors at one foot on center.

There shall be an overlap wherever one roll of fabric ends, and another begins with the uphill covering placed on top of the downhill covering. Staples shall be installed in the overlap.

There shall be an overlap wherever two widths of covering are applied side by side. Staples shall be installed in the overlap.

Staple checks shall be installed on the slope length at a maximum of every 35 feet. Each staple check shall consist of two rows of staggered staples.

The down slope end shall be buried in a trench 3 feet beyond the toe of slope. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil, compacted by foot tamping and seeded. Fabric shall be brought back over the trench and secured with staples or earth anchors. If a slope runs into State waters or cannot be extended 3 feet beyond the toe of slope, the end of covering shall be secured using a staple check as described above.

Coverings shall be securely fastened to the soil by installing staples or earth anchors at the minimum rate shown on the Standard Plan M-216-1. Staple or earth anchor spacing shall be reduced where required due to soil type or steepness of slope.

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**REVISION OF SECTION 216
SOIL RETENTION COVERING**

216.05 Channel Application. Soil retention coverings shall be installed as follows on a channel application:

Coverings shall be anchored at the beginning and end of the channel across its entire width by burying the end in a trench. Trench depth shall be a minimum of 6 inches, unless a larger depth is specified by the manufacturer's recommendations. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil and compacted by foot tamping and seeded. Fabric shall be brought back over the trench and stapled.

Covering shall be unrolled in the direction of flow and placed in the bottom of the channel first. Seams shall not be placed down the center of the channel bottom or in areas of concentrated flows when placing rolls side by side.

There shall be an overlap wherever one roll of covering ends and another begins with the upstream covering placed on top of the downstream covering. Two rows of staggered staples shall be placed.

There shall be an overlap wherever two widths of covering are applied side by side. Staples shall be placed in the overlap.

The covering shall have a channel check slot every 30 feet along the gradient of the flowline. Check slots shall extend the entire width of the channel. The covering shall be buried in a trench. Before backfilling begins, staples shall be placed across the width of the trench. The trench shall then be backfilled to grade with soil amended with soil conditioning or topsoil, compacted by foot tamping, and seeded. Fabric shall be brought back over the trench and continued down the channel.

Coverings shall be securely fastened to the soil by installing staples at the minimum rate shown on the plans. Staple spacing shall be reduced where needed due to soil type or high flows.

216.06 Maintenance. The Contractor shall maintain the soil retention coverings until all work on the Contract has been completed and accepted. Maintenance shall consist of the repair of areas where damage is due to the Contractor's operations. Maintenance shall be performed at the Contractor's expense. Repair of those areas damaged by causes not attributable to the Contractor's operations shall be repaired by the Contractor and will be paid for at the contract unit price. Areas shall be repaired to reestablish the condition and grade of the soil and seeding prior to application of the covering.

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**REVISION OF SECTION 216
SOIL RETENTION COVERING**

METHOD OF MEASUREMENT

216.07 Soil retention coverings, including staples, complete in place and accepted, will be measured by the square yard of finished surface, excluding overlap, which is installed and accepted. Earth anchors will be measured by the actual number of earth anchors complete in place and accepted.

BASIS OF PAYMENT

216.08 The accepted quantities of soil retention coverings will be paid for at the contract unit price per square yard. The accepted quantities of earth anchors will be paid for at the contract unit price for each installed.

Payment will be made under:

Pay Item	Pay Unit
Soil Retention Blanket (Straw-Coconut) (Biodegradable Class 1)	Square Yard

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ADDITION OF SECTION 218 NOXIOUS WEED MANAGEMENT

Section 218 is hereby added to the Standard Specifications as follows:

DESCRIPTION

218.01 This work includes the prevention, control, and monitoring of noxious weeds using all methods that are available for the targeted weed species. Contractor or persons familiar with invasive plant identification, shall survey limits of construction prior to commencing work.

Noxious weed management will include the prevention and control of noxious weeds identified in the project area. Effective noxious weed management procedures shall use a combination of the four basic methods: chemical (herbicide), mechanical, cultural, or biological techniques, including prevention and monitoring.

Many of the species listed can be eradicated using hand tools and mechanical means. If required due to rhizomatous growth type and/or extent of invasive plant patch, use herbicides and associated chemical compounds that include a GLYPHOSATE (Rodeo), or other herbicide approved by Boulder County.

The Contractor shall control and prevent the spread of noxious weeds throughout construction to comply with Title CRS § 35-5.5, Colorado Noxious Weed Act.

Prior to starting the Work, Contractor shall submit a proposed invasive species treatment schedule, including specific sequence and timing of control techniques, to Boulder County for review. Do not perform any Work until the schedule is approved by Boulder County.

Perform treatment in accordance with Colorado and Federal regulations. Provide the Engineer with a current Commercial/Professional Applicator license upon request.

MATERIALS

218.02 The material for Noxious Weed Management, other than chemical (herbicide) shall conform to the following:

1. *Mechanical Control.* Mechanical control shall consist of mowing and brush cutting, hand pulling, blading, grubbing, and the use of hand operated tools, such as power weeders, string trimmers, chain saws, brushhooks, or heavy equipment. Engineer or Owner shall approve any planned mowing.

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**SECTION 218
 NOXIOUS WEED MANAGEMENT**

2. *Cultural Control.* Cultural control to enhance the vigor of desirable plants shall consist of native seeding and plantings using the appropriate project seed mix(es), mulching, as appropriate and in accordance with CDOT Standard Specifications, Sections 212, 213, 214, 216, and as shown on the plans.
3. *Biological Control.* Biological control shall consist of the use of approved living organisms (insects, animals, or pathogens) with assistance provided by the Colorado Department of Agriculture’s Division of Plant Industry or Colorado State University Cooperative Extension.
4. *Chemical Control.* Herbicide product(s) and quantity shall be selected by the Contractor’s Qualified Supervisor. The qualified supervisor shall always be present when herbicide is applied and must be approved by the Engineer. Use only an aquatic Glyphosate – based herbicide within 35 feet of waterways.

CONSTRUCTION REQUIREMENTS

218.03 Prior to starting the Work, submit a proposed invasive species treatment schedule, including specific sequence and timing of control techniques, for review. Do not perform any Work until the schedule is approved by the Engineer. Herbicide application will be considered a last resort and authorized upon consultation with the Engineer. Table 218-1 lists the known primary invasive plant species requiring treatment.

**TABLE 218-1
 PRIMARY KNOWN INVASIVE PLANT SPECIES REQUIRING TREATMENT**

Common Name	Scientific Name	State List
Common teasel	<i>Dipsacus fullomun</i>	B
Canada thistle	<i>Cirsium arvense</i>	B
Russian olive	<i>Elaeagnus angustifolia</i>	B
Scotch thistle	<i>Onopordum acanthium</i>	B
Musk thistle	<i>Carduus nutans</i>	B
Bull thistle	<i>Cisium vulgare</i>	B
Common mullein	<i>Verbascum Thapsus</i>	C
Diffuse knapweed	<i>Centaurea diffusa</i>	B
Moth mullein	<i>Verbascum blattaria</i>	B
Sulfur cinquefoil	<i>Potentilla recta</i>	B

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SECTION 218 NOXIOUS WEED MANAGEMENT

Noxious weed plants and plant parts, including seed heads, that have been mechanically removed, shall be placed in appropriate bags or other suitable containers that can be tightly closed or sealed and shall be disposed of at a solid waste disposal facility. This work is incidental to the project. The quantities include removal of noxious weeds outside the boundary outline in the plans in Noxious weed management, after earthwork operations and stabilizing has been completed, shall not result in non-target injury. Any non-target injury shall be reseeded and re-mulched in accordance with Section 212 and 213 at no cost to the project.

Weed management practices for staging areas are to be approved by the Engineer prior to their construction. Project stage areas will be cleared of noxious weeds prior to mobilizing construction equipment. Weed infested staging areas shall be mowed and cleared of noxious weeds as described in the plans.

METHOD OF MEASUREMENT

218.04 Noxious Weed Management will not be measured separately but will be paid for on an hourly, acre or lump sum basis. The price will be full compensation for all work, material, equipment and personnel required to complete the item. Solid waste disposal shall be paid for in accordance to Section 250. Mechanical removal of noxious weeds will not be paid for separately and is incidental to the work.

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**SECTION 218
NOXIOUS WEED MANAGEMENT**

BASIS OF PAYMENT

218.05 The accepted quantities will be paid for at the contract unit price per hour, acre or lump sum.

Payment will be made under:

Pay Item	Pay Unit
Noxious Weed Management	Hour

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SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST

Section 240 is hereby added to the Standard Specifications for this project as follows:

DESCRIPTION

240.01 This work consists of protecting migratory birds during construction.

MATERIALS AND CONSTRUCTION REQUIREMENTS

240.02 The Contractor shall schedule clearing and grubbing operations and work on structures to avoid taking (pursue, hunt, take, capture or kill; attempt to take, capture, kill or possess) migratory birds protected by the Migratory Bird Treaty Act (MBTA). The Contractor shall retain a qualified wildlife biologist for this project. The wildlife biologist shall have a minimum of three years experience conducting migratory bird surveys and implementing the requirements of the MBTA. The Contractor shall submit documentation of the biologist's education and experience to the Engineer for acceptance. A biologist with less experience may be used by the Contractor subject to the approval of the Engineer based on review of the biologist's qualifications.

The wildlife biologist shall record the location of each protected nest, bird species, the protection method used, and the date installed. A copy of these records shall be submitted to the Engineer.

- (1) *Vegetation Removal.* When possible, vegetation shall be cleared prior to the time when active nests are present. Vegetation removal activities shall be timed to avoid the migratory bird breeding season which begins on April 1 and runs to August 31. All areas scheduled for clearing and grubbing between April 1 and August 31 shall first be surveyed within the work limits for active migratory bird nests. The Contractor's wildlife biologist shall also survey for active migratory bird nests within 50 feet outside work limits. Contractor personnel shall enter areas outside the right of way only if a written, signed document granting permission to enter the property has been obtained from the property owner. The Contractor shall document all denials of permission to enter property. The Contractor shall avoid all active migratory bird nests. The Contractor shall avoid the area within 50 feet of the active nests or the area within the distance recommended by the biologist until all nests within that area have become inactive. Inactive nest removal and other necessary measures shall be incorporated into the work as follows:

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SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST

- a. *Tree and Shrub Removal or Trimming.* Tree and shrub removal or trimming shall occur before April 1 or after August 31 if possible. If tree and shrub removal or trimming will occur between April 1 and August 31, a survey for active nests shall be conducted by the wildlife biologist within the seven days immediately prior to the beginning of work in each area of tree and shrub removal or trimming. The survey shall be conducted for each phase of tree and shrub removal or trimming.

If an active nest containing eggs or young birds is found, the tree or shrub containing the active nest shall remain undisturbed and protected until the nest becomes inactive. The nest shall be protected by placing fence (plastic) a minimum distance of 50 feet from each nest to be undisturbed. This buffer dimension may be changed if determined appropriate by the wildlife biologist and approved by the Engineer. Work shall not proceed within the fenced buffer area until the young have fledged or the nests have become inactive.

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges but will be charged as contract time.

- b. *Grasses and Other Vegetation Management.* Due to the potential for encountering ground nesting birds' habitat, if work occurs between April 1 and August 31, the area shall be surveyed by a wildlife biologist within the seven days immediately prior to ground disturbing activities.

The undisturbed ground cover to 50 feet beyond the planned disturbance, or to the right of way line, whichever is less, shall be maintained at a height of 6 inches or less beginning April 1 and continuing until August 31 or until the end of ground disturbance work, whichever comes first.

If birds establish a nest within the survey area, an appropriate buffer of 50 feet will be established around the nest by the Owner's biologist. This buffer dimension may be changed if determined appropriate by the Owner's biologist and approved by the Engineer. The Contractor shall install fence (plastic) at the perimeter of the buffer. Work shall not proceed within the buffer until the young have fledged or the nests have become inactive.

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SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST

If the fence is knocked down or destroyed by the Contractor, the Engineer will suspend the work, wholly or in part, until the fence is satisfactorily repaired at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges but will be charged as contract time.

The wildlife biologist shall conduct dusk and dawn surveys of Bald Eagle roosts within seven days prior to the start of any construction during the winter season, September 1 to June 30. If a Bald Eagle roost is identified, construction activity shall not proceed within 0.15 mile of active nocturnal roost sites between December 1 and July 31.

- (1) *Work on structures.* The Contractor shall prosecute work on structures in a manner that does not result in a taking of migratory birds protected by the Migratory Bird Treaty Act (MBTA). The Contractor shall not prosecute the work on structures during the primary breeding season, April 1 through August 31, unless they take the following actions:
- The Contractor shall remove existing nests prior to April 1. If the Contract is not awarded prior to April 1 and CDOT has removed existing nests, then the monitoring of nest building shall become the Contractor's responsibility upon Notice to Proceed.
 - During the time that the birds are trying to build or occupy their nests, between April 1 and August 31, the Contractor shall monitor the structures at least once every three days for any nesting activity.
 - If the birds have started to build any nests, they shall be removed before the nest is completed. Water shall not be used to remove the nests if nests are located within 50 feet of any surface waters.
 - Installation of netting may be used to prevent nest building. The netting shall be monitored and repaired or replaced as needed. Netting shall consist of a mesh with openings that are $\frac{3}{4}$ inch by $\frac{3}{4}$ inch or less.

If an active nest become established, i.e., there are eggs or young in the nest, all work that could result in abandonment or destruction of the nest shall be avoided until the young have fledged or the nest is unoccupied as determined by the wildlife biologist and approved by the Engineer. The Contractor shall prevent construction activity from displacing birds after they have laid their eggs and before the young have fledged.

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SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST

If the project continues into the following spring, this cycle shall be repeated. When work on the structure is complete, the Contractor shall remove and properly dispose of netting used on the structure.

METHOD OF MEASUREMENT

240.03 Wildlife Biologist will be measured by the actual authorized number of hours a wildlife biologist is on site performing the required tasks.

Removal of nests will be measured by the actual number of man-hours spent removing inactive nests just prior to and during the breeding season, April 1 through August 31. During this period, the Contractor shall submit to the Engineer each week for approval a list of the workers who removed nests and the number of hours each one spent removing nests.

Netting will be measured by the square yard of material placed to keep birds from nesting on the structure. Square yards will be calculated using the length of netting measured where it is attached to the ground and the average height of the netting where it is attached to the structure.

BASIS OF PAYMENT

240.04 The accepted quantities measured as provided above will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

Pay Item	Pay Unit
Wildlife Biologist	Hour
Removal of Nests	Hour
Netting	Square Yard

Payment for Wildlife Biologist will be full compensation for all work and materials required to complete the item, including wildlife biologist, wildlife survey, and documentation (record of nest location and protection method).

Payment for Removal of Nests will be full compensation for all work and material required to complete the work.

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SECTION 240
PROTECTION OF MIGRATORY BIRDS
BIOLOGICAL WORK PERFORMED BY THE CONTRACTOR'S BIOLOGIST

Payment for netting will be full compensation for all work and material required to complete the item. Overlaps of netting will not be measured and paid for separately but shall be included in the work. Maintenance and replacement, removal, and disposal of netting will not be measured and paid for separately but shall be included in the work.

Clearing and grubbing will be measured and paid for in accordance with Section 201. Mowing will not be measured and paid for separately but shall be included in the work.

Removal and trimming of trees will be measured and paid for in accordance with Section 202.

Fence (Plastic) will be measured and paid for in accordance with Section 607.

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**REVISION OF SECTION 240
BLACK-TAILED PRAIRIE DOG AND BURROWING OWL MANAGEMENT**

Section 240 of the Standard Specification is hereby added to this project as follows:

240.01 This work may consist of passive relocation, active trapping, transporting, donating, or euthanizing (or a combination of two or more of these) of Black Tailed Prairie Dog (BTPD) within the limits or project disturbance. Contractor shall follow CDOT BTPD policy at all times, which is included in Subsection 102-Project Plans and Other Data. This work also refers to burrowing owl management.

240.02 The Contractor shall furnish all material and equipment of sufficient type and size to complete the BTPD management.

240.03 The Contractor shall perform the appropriate work at locations as shown on the Plans:

- (a) If construction begins between July 31 and March 15, Passive Relocation shall be used on the project. Schedule this action in collaboration with Boulder County Environmental Manager.
- (1) Contractor shall install silt fence enclosure in areas occupied by the BTPD. The fence shall parallel the highway for the entire distance of the colony within the work zone. The fencing perpendicular to the highway shall extend to no more than 30' from the edge of asphalt in order to create a long rectangular enclosure. The fence should be trenched in to a depth of at least 6" so that no light will show from the bottom edge. Hay bales can be substituted for silt fence as long as the bales have a height of 2' minimum and no light shows through in the gaps. The corridor should now be enclosed so the no BTPD can access the work area from above ground.
 - (2) The Contractor shall then grade the entrances to the burrows that lie within the corridor to a maximum depth of **no greater than 6"**. This will prevent the BTPD from easily re-opening burrows in the work area.
 - (3) Normal construction activities within the corridor shall commence no more than 24 hours after the BTPD burrows have been graded. If there are signs of BTPD digging out through the closed burrows within 4 hours of the initial closure, the BTPD shall be captured and placed outside the barrier or humanely euthanized.

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**REVISION OF SECTION 240
BLACK-TAILED PRAIRIE DOG AND BURROWING OWL MANAGEMENT**

- (b) If construction begins between March 16 and July 30; or if disturbance area is greater than 30' from the edge of oil; Trapping, Removing/Relocating, and Euthanization (if necessary) shall be used on the project.

Prior to trapping and relocation of prairie dogs, the Contractor shall perform all activities required by the Colorado Parks and Wildlife (CPW), Colorado Department of Public Health and Environment (CDPHE), US Fish and Wildlife Service (FWS), and any other entity with legal authority.

- a. The Contractor shall contact the following programs one month prior to trapping to determine final acceptance of relocated BTPD:
- i. FWS Black Footed Ferret (BFF) Recovery Program in Wellington, Colorado
 - ii. Birds of Prey Foundation in Broomfield, Colorado
 - iii. Rocky Mountain Raptor Program in Fort Collins, Colorado
- b. The Contractor shall obtain and submit all the respective permits from the CPW.
- c. The Contractor shall obtain and submit all other permits required to complete the work.
- d. The Contractor shall hire a BTPD removal specialist, certified by the CPW, to trap, remove, and transport the BTPD from the proposed impacted location disturbed by construction activities. The specialist shall also be qualified to identify the presence of burrowing owls in the area of disturbance.

- (1) Trapping shall be limited to construction limits within silt fence, which will be identified by the Boulder County Environmental Manager at least one week prior to prairie dog management activities. Additional removal activities are not anticipated outside of these construction limits. If the Contractor exceeds these construction limits, the CDOT Environmental Manager shall be contacted.
- (2) The Contractor shall trap, remove, and transport as many BTPD to the donation program site, as possible during a 10-day trapping period.
- (3) The trapping period includes March 16 to March 31 and June 16 to July 30 and excludes the period between April 1 and June 15 during the weaning period.
- (4) Following a 10-day trapping effort, any remaining BTPD will be euthanized on-site prior to ground disturbance by a licensed operator.
- (5) If all of the approved donation programs are not currently taking BTPD, all BTPD will be euthanized on-site prior to ground disturbance by a licensed operator.

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**REVISION OF SECTION 240
BLACK-TAILED PRAIRIE DOG AND BURROWING OWL MANAGEMENT**

- (c) If prairie dog management activities are initiated during the nesting season for burrowing owls (March 15 to October 31), a burrowing owl survey is required and the Boulder County Environmental Manager shall be contacted, 30-days prior to the survey. If prairie dog management is required outside of the burrowing owl nesting season, the Contractor shall contact the Boulder County Environmental Manager 30-days prior prairie dog management activities.

240.04 Measurement and payment for Prairie Dog Management will not be measured but will be paid as a single Lump Sum account for all labor, materials, and equipment and permits required to complete the work.

Applying for and obtaining permits, hiring licensed specialists, trapping, transporting, euthanizing, parasite and disease management (including pesticides and other chemicals), and all other activities necessary to properly remove the BTPD in accordance with all of the requirements of the CDOT BTPD policy will not be measured and paid for separately, but shall be included in the work.

Partial payments for Prairie Dog management will made according to the following schedule:

-50 percent of the bid amount will be paid on the first pay request that work associated with Prairie Dog Management is required for construction

-When 50 percent of the original contract amount is earned, 75 percent of the bid amount will be paid

-100 percent of the bid amount will be paid on the final pay request upon request acceptance Payment will be made under:

For Colorado Division of Wildlife supplemental information see Appendix for "Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls When Conducting Prairie Dog Control"

Pay Item	Pay Unit
Prairie Dog Management	Lump Sum

**REVISION OF SECTION 304
AGGREGATE BASE COURSE**

Section 304 of the Standard Specifications is hereby revised for this project as follows:

Subsection 304.02 shall include the following:

Materials for the subbase shall be Aggregate Base Course (Class 6) as shown in subsection 703.03.

Materials for the base course shall be Aggregate Base Course (Class 6) as shown in subsection 703.03

The aggregate base course (Class 6) must meet the gradation requirements and have a resistance value of at least 78 when tested by the Hveem Stabilometer method.

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REVISION OF SECTION 403
HOT MIX ASPHALT

Section 403 of the Standard Specifications is hereby revised for this project as follows:

Subsection 403.02 shall include the following:

The design mix for hot mix asphalt shall conform to the following:

Table 403-1

Property	Test Method	Value for Grading	
		S (75)	SX (75)
Air Voids, percent at: N (design)	CPL 5115	3.5 – 4.5	3.5 – 4.5
Lab Compaction (Revolutions): N (design)	CPL 5115	75	75
Stability, minimum	CPL 5106	28	28
Aggregate Retained on the 4.75 mm (No. 4) Sieve with at least 2 Mechanically Induced fractured faces, % minimum	CP 45	60	60
Accelerated Moisture Susceptibility Tensile Strength Ratio (Lottman), minimum	CPL 5109 Method B	80	80
Minimum Dry Split Tensile Strength, psi	CPL 5109 Method B	30	30
Grade of Asphalt Cement, Top Layer			PG 64-22
Grade of Asphalt Cement, Layers below Top		PG 64-22	
Voids in the Mineral Aggregate (VMA) % minimum	CP 48	See Table 403-2	See Table 403-2
Voids Filled with Asphalt (VFA), %	AI MS-2	65-80	65-80
Dust to Fine Gradation Asphalt Ratio: Coarse Gradation	CP 50	0.6 – 1.2 0.8 – 1.6	0.6 – 1.2 0.8 – 1.6
<ul style="list-style-type: none"> • AI MS-2 = Asphalt Institute Manual Series 2 • The current version of CPL 5115 is available from the Region Materials Engineer. • Mixes with gradations having less than 40% passing the 4.75 mm (No. 4) sieve shall be approached with caution because of constructability problems. • Gradations for mixes with a nominal maximum aggregate size of one-inch or larger are considered a coarse gradation if they pass below the maximum density line at the #4 screen. • Gradations for mixes with a nominal maximum aggregate size of ¾ inch or smaller are considered a coarse gradation if they pass below the maximum density line at the #8 screen. 			

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**REVISION OF SECTION 403
 HOT MIX ASPHALT**

All mix designs shall be run with a gyratory compaction angle of 1.25 degrees and properties must satisfy Table 403-1. The job mix formula (Form 43) will establish construction targets for asphalt cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum.

Table 403-2

Minimum Voids in the Mineral Aggregate (VMA)			
Nominal Maximum Size*, mm (inches)	***Design Air Voids **		
	3.5%	4.0%	4.5%
37.5 (1½)	11.6	11.7	11.8
25.0 (1)	12.6	12.7	12.8
19.0 (¾)	13.6	13.7	13.8
12.5 (½)	14.6	14.7	14.8
9.5 (¾)	15.6	15.7	15.8
* The Nominal Maximum Size is defined as one sieve larger than the first sieve to retain more than 10%. ** Interpolate specified VMA values for design air voids between those listed. *** Extrapolate specified VMA values for production air voids beyond those listed.			

The Contractor shall prepare a quality control plan outlining the steps taken to minimize segregation of HMA. This plan shall be submitted to the Engineer and approved prior to beginning the paving operations. When the Engineer determines that segregation is unacceptable, the paving shall stop, and the cause of segregation shall be corrected before paving operations will be allowed to resume.

The hot mix asphalt will include reclaimed asphalt pavement (RAP) per revised Standard section 401.

Hot mix asphalt for patching shall conform to the gradation requirements for Hot Mix Asphalt (Grading S) (75) (PG 64-22).

A minimum of one percent hydrated lime by weight of the combined aggregate shall be added to the aggregate for all hot mix asphalt.

Acceptance samples shall be taken according to CP-41.

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**REVISION OF SECTION 403
HOT MIX ASPHALT**

Subsection 403.03 shall include the following:

A material transfer device will be required for the placement of asphalt on the top lift of paving.

Prior to placing tack coat and beginning overlay work, the surface to be tack coated shall be swept to remove accumulations of loose gravel, vegetation and debris.

All patching shall be completed prior to any mill/planning process and before the heating and scarifying process.

Subsection 403.05 shall include the following:

Payment will be made under:

PAY ITEM	PAY UNIT
Hot Mix Asphalt (Grading SX) (75)(PG 64-22)	Ton
Hot Mix Asphalt (Grading S) (75)(PG 64-22)	Ton

Aggregate, asphalt recycling agent, additives, hydrated lime, and all other work necessary to complete each hot mix asphalt item will not be paid for separately but shall be included in the unit price bid. When the pay item includes the PG binder grade, the asphalt cement will not be measured and paid for separately but shall be included in the work. Asphalt cement will not be measured and paid for separately but shall be included in the work. Asphalt cement used in Hot Mix Asphalt (Patching) will not be measured and paid for separately but shall be included in the work.

Hot Mix Asphalt (Patching) (Asphalt) shall include, neat line cutting around the perimeter of the patch area, the removal and disposal of existing pavement and underlying material six (6) inches in depth to achieve the desired patch section, mechanical compaction of subgrade, placement of emulsified asphalt (CSS-1H) tack coat, and the haul, placement, and compaction of six (6) inches of full depth Hot Mix Asphalt.

**REVISION OF SECTION 601
STRUCTURAL CONCRETE**

Section 601 of the Standard Specification is hereby revised for this project as follows:

Subsection 601.13 shall include the following:

Maturity Meter Strength. Maturity meters may be used by Boulder County for determining strength for removing forms, removing false work, backfilling against structures, or loading the structure. If a maturity meter fails, is tampered with, destroyed, or was not placed, the following may apply: The minimum curing time or waiting time for removing forms, removing false work, backfilling against structures, or loading the structure shall be 28 days unless alternate methods of testing have been selected.

Subsection 601.20 shall include the following:

Payment for Concrete Class D shall include reinforcing steel and epoxy coating.

**REVISION OF SECTION 602
REINFORCING STEEL**

Section 602 of the Standard Specification is hereby revised for this project as follows:

Subsection 602.08 shall include the following:

Reinforcing Steel shall not be paid for separately, but shall be included in the cost of the Concrete Class D payment item.

REVISION OF SECTION 603 CULVERTS AND SEWERS

Section 603 of the Standard Specifications is hereby revised for this project as follows:

Subsection 603.01 shall include the following:

Boulder County will supply the 16'x6 precast concrete box culvert only.

The contractor will be responsible scheduling, coordination, off-loading and installation.

Cast-in-place end sections will be the contractor's responsibility with quantities and specifications to be addressed in a bid addendum.

Subsection 603.03 shall include the following:

The contractor is responsible for inspecting the precast units. Any perceived damage or defects shall be brought to the attention of the Engineer prior to installation.

Subsection 603.13 shall include the following:

The Concrete Box Culvert (Precast) shall be reimbursed for scheduling, coordination, off-loading, and installation only.

Cast in place end sections will be paid for as Concrete Class D (Box Culvert) (Includes Rebar)

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**REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES**

Section 626 of the Standard Specifications is hereby revised for this project as follows:

Subsection 626.01 shall include the following:

The Boulder County Public Works Department Public Information Officer (PIO) will coordinate public information regarding the project and provide timely updates regarding construction to the public through a variety of established channels

The contractor shall designate a representative with whom the PIO can confer with as needed to ensure that all pertinent construction-related information is conveyed to the public. The contractor-designated representative may maintain a direct line of contact with the PIO to assist with answering questions from the public. The PIO will also conduct any media related activities that may arise over the course of the project. All media inquiries will be directed to the PIO for follow up. The contractor-designated representative may be called upon to assist with media related requests for information and photo or video content.

It shall be the contractor's responsibility to maintain adequate signage throughout the construction site. The Contractor shall erect construction traffic signs with the dates the Contractor expects to initiate and complete construction. The signs shall conform to the requirements of Section 630 and shall be erected at least one week prior to the beginning of construction. These signs shall be updated if the project schedule changes, at no cost to the project.

The contractor should confer with the PIO and the Engineer on any messages that will appear on static or variable messaging boards. It will also be the responsibility of the contractor to maintain timely and frequent communications with construction zone area residents/property owners who will be directly impacted by daily construction activities. The contractor can do this as they so choose (door hangers, site visits, etc.) but they are to inform any resident at least 48-hours prior to work being conducted in front of a property so that they understand the impacts of the work on their daily activities and how they can access their home while work is taking place in their area. The contractor is also responsible for informing impacted property owners and residents of any utility service interruptions (i.e., water, power, cable, phone, internet).

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**REVISION OF SECTION 626
PUBLIC INFORMATION SERVICES**

Access for emergency vehicles must always be provided. Coordination with emergency service providers is the responsibility of the contractor. The contractor must inform local emergency service providers (Sheriff, Fire Protection District, ambulance services) of any work that may impact their ability to respond to an emergency in the area of the construction project prior to completing the work.

The Contractor must also coordinate with the United States Postal Service (USPS) and trash haulers if construction-related activities will interfere with their ability to complete their duties.

Impacts to local school bus routes must also be coordinated by the contractor and the affected school district. The same can be said for impacts to Regional Transportation District Route (RTD) that are impacted by construction.

The Contractor shall submit weekly lane closure reports to the Engineer and the PIO.

Public Information Services Contacts:

Project Manager

Name:

Phone:

Email:

Boulder County Public Works Public Information Officer

Andrew Barth

Phone: 303-441-1032

Fax: 303-441-4594

Email: abarth@bouldercounty.org

**REVISION OF SECTIONS 627 AND 713
GLASS BEADS FOR PAVEMENT MARKING**

Sections 627 and 713 of the Standard Specifications are hereby revised for this project as follows:

Subsection 627.05, shall include the following:

Contractor shall sweep excess glass beads within 24 hours once the modified epoxy pavement marking is dry.

Subsection 627.05, delete the last paragraph and replace with the following:

Modified epoxy pavement marking and beads shall be applied within the following limits:

**Application Rate or Coverage
Per Gallon of Modified Epoxy Pavement Marking**

	Minimum	Maximum
16 – 18 mil marking	90 sq. ft.	100 sq. ft.
Beads	18 lbs.	20 lbs.

Subsection 713.08 (8) delete and replace with the following:

A minimum of 40 percent of the total weight shall be manufactured using a molten kiln direct melt method. All molten kiln direct melt glass beads shall be above the 600 µm (#30) sieve.

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**REVISION OF SECTION 627
PAVEMENT MARKING**

Section 627 of the Standard Specifications is hereby revised for this project as follows:

Subsection 627.03 shall include the following:

Full-compliance pavement markings by means of temporary or final markings shall be in place at the end of the day following placement of the upper asphalt lift both for detour pavement and permanent pavement.

- (1) *Pre-striping and Marking Construction Meeting.* A pre-striping and marking construction meeting shall be held prior to the layout to confirm the pavement marking plan. At a minimum, attendees shall include the Contractor, the Striping Contractor or Subcontractor and Department representative(s).

Any striping or marking detail or minor modification shall be provided by the Department in advance of layout. Minor changes shall be addressed in the Pre-striping and Marking Construction Meeting and vetted for constructability and cost.

Any significant modification shall be addressed by an approved change modification order with the Engineer prior the Pre-striping and Marking Construction Meeting.

Control Points and layout shall be done by the Contractor no less than 48 hours prior to striping and marking, and the Department shall review and approve the layout prior to the work whether temporary or final. Layout of all pavement marking, whether temporary or final, is included in the work.

Subsection 627.05 shall include the following:

The Contractor shall clean up excess beads from the roadway, shoulders and adjacent facilities. When used, Contractor shall leave all "Highway Striping" "next __ miles" construction warning signs in place until excess glass beads have been cleared from the facilities.

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**REVISION OF SECTION 627
PAVEMENT MARKING**

Subsection 627.06 shall include the following:

Crosswalk bars shall be two feet wide and nine feet long unless otherwise noted.

Thermoplastic pavement marking arrows shall be the elongated type.

The Contractor shall clean up excess beads from the roadway, shoulders and adjacent facilities. Clean up of excess beads shall be included in the work.

Subsection 627.13 shall include the following:

Clean up of excess beads shall be included in the cost of the work.

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SECTION 629
SURVEY MONUMENTATION
DESCRIPTION

Section 629.01 shall include the following:

This work consists of locating, preserving, referencing, installing and restoring land monuments, such as Primary Control monuments from which the right of way or any land boundary will be calculated, described or monumented, Public Land Survey System (PLSS) monuments, General Land Office (GLO) monuments, Bureau of Land Management (BLM) monuments, Mineral Survey (MS) monuments, Right-of-way (ROW) monuments, property boundary monuments, easement monuments, and other monuments that are required by law or regulation to be established and recorded by a Professional Land Surveyor (PLS), along with installing or adjusting monument boxes as listed on the Survey Tabulation Sheet or as shown on the plans.

All such monuments included in this section shall be established in accordance with the applicable and most recent editions of the Department of Interior's Manual of Surveying Instructions (BLM Manual), Colorado Revised Statutes (CRS), Colorado State Board of Licensure for Professional Engineers and Land Surveyors (State Board) Rules and Policies, the Memorandum of Understanding (MOU) with the State Board and CDOT, and the CDOT Survey Manual, under the supervision of a PLS who is experienced and competent in Right of Way and boundary surveying and licensed in the State of Colorado. The PLS shall be available to review work, resolve problems, and make decisions in a timely manner. Unless specified otherwise in the contract, all survey procedures shall be in conformance with the CDOT Survey Manual.

MATERIALS AND EQUIPMENT

Subsection 626.02 shall include the following:

The Contractor shall furnish all personnel, survey equipment, safety equipment, materials, and traffic control necessary to perform the required monumentation and related surveying.

Monuments and monument boxes will be furnished by the Department. The various types of monuments and monument boxes shall be constructed according to the details shown on Standard Plan M-629-1. The Contractor shall furnish all labor, survey tools, equipment, and incidental materials such as but not limited to concrete, grout, asphalt caulk, glue, epoxy, nails, stakes, lath, and replacement monuments of the variety not included on the Standard Plan M-629-1.

All surveying equipment, including Electronic Distance Meters (EDM), total stations, theodolites, levels, rods, tapes, tripods, tribrachs, and Global Positioning System (GPS) receivers

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SECTION 629 SURVEY MONUMENTATION

and equipment, shall be checked and calibrated in accordance with the Colorado Department of Transportation (CDOT) Survey Manual, Chapter 6, Section 6.1.10, and documented in the survey records prior to the start of work and every six months thereafter.

EDM and total stations shall be checked and calibrated on a National Oceanic and Atmospheric Administration/ National Geodetic Survey (NOAA / NGS) calibrated baseline in accordance with the CDOT Survey Manual, Chapter 2, Section 2.1 and 2.2, and documented in the survey records prior to the start of work and every six months thereafter.

GPS receivers and equipment shall be checked and calibrated on a NOAA / NGS calibrated baseline in accordance with the CDOT Survey Manual, Chapter 3, Section 3.3, and documented in the survey records prior to the start of work and every six months thereafter.

Levels shall be checked and calibrated in accordance with the CDOT Survey Manual, Chapter 6, Section 6.4.5, and Chapter 5, Section 5.9.12, and documented in the survey records prior to the start of any level circuit.

If any survey equipment is found to be functioning outside the manufacturer's specified tolerance, certification from an approved repair facility showing that the instruments have been repaired, properly adjusted, or both if needed shall be included in the survey records and submitted to the Engineer before being used.

Traffic control shall be in accordance with Section 630.

CONSTRUCTION REQUIREMENTS

Subsection 626.03. shall include the following:

The Department will establish Primary horizontal and vertical control for the project. All available information defining the extent of that control is provided on the plans in accordance with the CDOT Survey Manual Chapter 6, Section 6.1.11 and 6.1.16, or is available from the Engineer.

Presurvey Conference – Construction Survey shall be held in accordance with the CDOT Survey Manual Chapter 6, Section 6.1.6, prior to performing any surveying work under this section. The Engineer, Region Survey Coordinator and Plans Coordinator (or designee), Contractor's Superintendent, Contractor's Surveyor (PLS) and Party Chief shall attend. A Presurvey Conference – Construction Survey Form shall be included in accordance with the CDOT Survey

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SECTION 629 SURVEY MONUMENTATION

Manual Chapter 6, Appendix 6.A.4. A surveying work schedule shall be submitted to the Engineer for review prior to the presurvey conference.

The Contractor shall check all Department established Primary horizontal and vertical control points in accordance with the CDOT Survey manual Chapter 6, Section 6.1.13, and verify and document in the survey records their horizontal accuracy tolerance in accordance with the CDOT Survey Manual Chapter 5, Section 5.5, and their vertical accuracy tolerance in accordance with the CDOT Survey Manual Chapter 6, Section 6.4.3 and Chapter 5, Section 5.8.6, for a CDOT Class A - Primary Survey prior to using them for monumentation surveying control.

Survey records shall be completed as the work is done. Field survey notes for monumentation, surveying and checking by the Contractor shall be recorded in survey records in conformance with the format given in the CDOT Survey Manual Chapter 6, Section 6.1.15. Survey field books shall be indexed in accordance with the Survey Manual Chapter 2, Section 2.4.14.

The Contractor shall make all survey records generated available to the Engineer for inspection or reproduction at all times. The Contractor shall submit all survey records to the Engineer before Final Acceptance. All survey records are considered property of the Department. The responsible PLS or PE identified in subsection 629.01, shall electronically seal all survey records.

The electronic format shall contain the information and format as required in the Survey Manual Chapter 6, Section 6.1.15 including stakeout data and the raw data from the actual placement of the monuments.

Survey records shall include the requirements specified in the CDOT Survey Manual Chapter 6, Section 6.3, and Chapter 5, Section 5.11.9 and 5.11.10, for any PLSS monument, GLO monument, BLM monument, or MS monument on the project.

Copies of any new Monument Records filed by the PLS with the State Board of Registration in accordance with the CDOT Survey Manual Chapter 6, Section 6.3.5, and Chapter 5, Section 5.11.9, shall be submitted to the Engineer prior to filing.

629.04 Locating Monuments. shall include the following:

This work consists of field locating all survey monumentation that is in place because of a Government (Federal, State, County or Municipal) survey or resurvey as shown on original PLSS,

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SECTION 629 SURVEY MONUMENTATION

GLO, BLM, or MS plats, notes, or other survey monumentation documented in the public record in accordance with the CDOT Survey Manual Chapter 6, Section 6.3.

A diligent search of construction zones and project limits shall be performed by the PLS in accordance with the Survey Manual Chapter 5, Section 5.11.9, to locate any survey monumentation of the public record. An electronic magnetic field sensor or locator shall be used in this search. The responsible PLS shall document the search, and time spent searching, in the survey records using a narrative form. The survey records shall include the procedures used to make the diligent search, a description of each monument searched for, and the actions taken to reference and preserve the location of the monument in accordance with subsection 629.05.

629.05 Preserving and Referencing Monuments. shall include the following:

This work consists of field surveying, establishing, installing, and making measurements to reference monuments that will facilitate the installation of a replacement monument in the event the construction activity disturbs a monument of the public record as listed in subsection 629.04.

Referencing of monuments for possible replacement requires the use of correct replacement methods so the stated precision of the monument in question is not degraded.

When a construction activity is planned which will disturb an existing PLSS, GLO, B.L.M., or MS monument, the monument shall be referenced and the survey records shall include the information required in subsection 629.03, and the monument shall be upgraded by the PLS and a new Monument Record filed with the State Board in accordance with the Survey Manual Chapter 5, Section 5.11.9 and Section 5.11.10, when the following conditions are met:

- (1) No boundary survey was done for the project.
- (2) A Monument Record has been filed with the State Board and there are no Monument Records that indicate conflicting locations.
- (3) The existing monument does not meet the physical standards set by the State Board.

A new monument record shall be filed with the State Board in accordance with Title 38 CRS and State Board Rules and Polices, a disclaimer should be written on the new Monument Record stating, "the new monument was set in the same location as described by the previous monument record".

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SECTION 629 SURVEY MONUMENTATION

When conflicting evidence of the location of an existing PLSS, GLO, BLM, or MS monument is encountered and construction activity is planned which will alter the evidence, the monument shall be referenced and the survey records shall include the information required in subsection 629.03. A minimum of two CDOT permanent reference monuments shall be established in accordance with the CDOT Survey Manual, Chapter 5, Section 5.11.9, and Section 5.11.10, to reference the location of all existing found monuments. Reference monuments must meet the required physical standards of the actual monument for the type of monument being referenced. These references shall be set when all of the following conditions are met:

- (1) No boundary survey was done for the project.
- (2) No monument record or conflicting monument records are filed with the State Board.

The reference monuments shall be set and stamped in accordance with Title 38 CRS and State Board Rules and Polices, a new monument record should be marked "Other" for "Type of Monument" and a full explanation given on the monument record as to why the presumed monument was not upgraded, the monument record shall be filed with the State Board in accordance with Title 38 CRS.

Copies of all new Monument Records filed by the PLS with the State Board shall be submitted to the Engineer prior to filing.

The equipment used in referencing or replacing the monument shall be able to produce the stated accuracies as specified by the owner of the monument. For example, the Colorado High Accuracy Reference Network (HARN) and CDOT HARN Densification (HARN D) monuments shall be referenced or replaced using Dual Frequency survey grade GPS equipment in accordance with the procedures set forth under the most recent Policy of the National Ocean Service Regarding the Incorporation of Geodetic Data of Other Organizations into the National Geodetic Survey Data Base, standards of accuracy are given in the Standards and Specifications for Geodetic Control Networks and Geometric Geodetic Accuracy Standards and Specifications for using GPS Relative Positioning Techniques (as amended).

National Geodetic Survey (NGS), U.S. Coast and Geodetic (USCG), and U.S. Geological Survey (USGS) benchmarks shall be referenced by setting a minimum of 3 temporary benchmarks in accordance with the procedures set forth under the most recent edition of the NGS Benchmark Reset Procedures. The temporary benchmarks shall be set outside the construction area so a permanent monument can be reset upon completion of the construction.

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SECTION 629
SURVEY MONUMENTATION

Referencing, moving, or replacing a federal or local government agency monument shall be done in accordance with the CDOT Survey Manual Chapter 6, Section 6.2.9, and Chapter 5, Section 5.11.10. Prior to referencing, moving or replacing the monument the NGS State Geodetic Advisor and the CDOT Region Survey Coordinator is to be notified, contact information is available in the CDOT Survey Manual Chapter 1, Section 1.2.5.

Survey records for referencing, moving, or replacing a federal or local government agency monument shall include documentation of the work in accordance with subsection 629.03. The survey records shall be submitted to the Engineer, for review by the Region Survey Coordinator, before payment is made and shall include the following:

- (1) Description of the original monument and two sets of close up photographs.
- (2) Two sets of labeled color photographs showing a close up of the replaced monument, and a view of the monument looking toward the horizon in each of the cardinal directions.
- (3) A complete description of the reference monuments and replacement monument with a “to-reach” description.
- (4) A signed and sealed statement by the responsible PLS that states the replacement monument’s positional tolerance has not been degraded. The documentation shall conform to the owner of the monument’s specifications that control the work.

Before Survey Monumentation payment is made, the Contractor’s surveyor shall submit legible electronically sealed copies of the survey records in accordance with subsection 629.03.

Before final Survey Monumentation payment and prior to depositing with the county, in accordance with Title 38 CRS, Property – Real and Personal, State Board Rules and Policies, MOU, and the CDOT Survey Manual, the Contractor shall complete and electronically seal all survey records, the ROW Plans, and the Project Control Diagram (new, supplemental or amended) and submit copies the Engineer.

629.06 Installing Monuments. shall include the following:

This survey work consists of installing Primary Control monuments, benchmarks, ROW monuments, property boundary monuments, easement monuments, PLSS, GLO, BLM, or MS monuments, and other monuments included on the plans. The work shall include determining the location of the monuments, installing the monuments, and verifying the positional accuracy of the monument is correct.

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SECTION 629 SURVEY MONUMENTATION

A Primary Control survey, when not furnished by the Department, shall be performed in accordance with the CDOT Survey Manual Chapter 5, meeting the horizontal and vertical accuracy tolerances for a CDOT Class A - Primary Survey. A Project Control Diagram shall be submitted to the Engineer and the Region Survey Coordinator for all new Primary Control monuments and surveys in accordance with the CDOT Survey Manual Chapter 5, Section 5.10.

Vertical accuracy tolerances for Primary Control monuments and surveys shall be as specified in the CDOT Survey Manual Chapter 6, Section 6.4.3 and Chapter 5, Section 5.8.6.

Unless stated otherwise in the contract, if construction activity disturbs a Primary Control monument (or benchmark) a new Primary Control monument (or benchmark) shall be installed by the Contractor in accordance with the CDOT Survey Manual, Chapter 6, Section 6.2. Primary Control monuments shall be set so they are intervisible from at least two adjacent Primary Control monuments and shall not exceed 0.2 mile between adjacent intervisible Primary Control monuments. Primary Control monuments set by the Contractor shall not conflict with construction activities. The Primary Control survey shall consist of a closed loop network and have adequate redundancy, precision, and accuracy to prove that all the monuments included in the network are within the horizontal and vertical accuracy tolerance as specified in the CDOT Survey Manual Chapter 5, Section 5.5 for a CDOT Class A - Primary Survey.

Survey records shall include documentation of Primary Control monuments and survey in accordance with subsection 629.03. A supplemental or amended Project Control Diagram shall be submitted to the Engineer and the Region Survey Coordinator for all replaced, transferred or re-established Primary Control monuments in accordance with the CDOT Survey Manual Chapter 6, Section 6.2.3.

ROW monuments, property boundary monuments, and easement monuments shall be installed in accordance with the CDOT Survey Manual Chapter 6, Section 6.3, and Chapter 5, Section 5.11, meeting the horizontal accuracy tolerances as specified in the CDOT Survey Manual Chapter 5, Section 5.5 for a CDOT Class B - Secondary Survey using the Primary Control monuments and the data on the Control and Monumentation sheet of the ROW plans.

Additional Secondary Control monuments may be required to be set in accordance with the CDOT Survey Manual Chapter 5, Section 5.6.8, meeting the horizontal accuracy tolerance specified in the CDOT Survey Manual Chapter 5, Section 5.5 for a CDOT Class B Secondary Survey, before the ROW monuments are installed.

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SECTION 629
SURVEY MONUMENTATION

The procedures used to set ROW monuments shall include an independent check of the installation in accordance with the CDOT Survey Manual Chapter 5, Section 5.11.5 and Section 5.11.6. Survey records shall include documentation of the survey performed to establish the monuments in accordance with subsection 629.03. The independent check shall be documented in the survey records and the field measured differences calculated or reduced to show the work is within the specified horizontal accuracy tolerance.

PLSS, GLO, BLM, or MS monuments shall be installed in accordance with the CDOT Survey Manual Chapter 6, Section 6.3 and Chapter 5, Section 5.11, meeting the horizontal accuracy tolerance specified in the CDOT Survey Manual Chapter 5, Section 5.5 for a CDOT Class B Secondary Survey using the Primary Control monuments and the data on the Control and Monumentation sheet of the ROW plans. The procedures used to set PLSS, GLO, BLM, or MS monuments shall include an independent check of the installation in accordance with the CDOT Survey Manual Chapter 5, Section 5.11.5 and Section 5.11.6. Survey records shall include documentation of the survey performed to establish the monuments in accordance with subsection 629.03. The independent check shall be documented in the survey records and the field measured differences calculated or reduced to show the work is within the specified horizontal accuracy tolerance.

The installation of ROW, property boundary, easement, PLSS, GLO, BLM, or MS monuments installed at a different location than the data shown on the Monumentation sheet of the ROW plans shall be submitted to the Engineer and the Region Survey Coordinator along with the monuments description and horizontal data in order that the new monument can be revised on the Land Survey Control Diagram and ROW plan sheets.

Copies of all new Monument Records filed by the PLS with the State Board for the installation of new PLSS, GLO, BLM, or MS monuments shall be submitted to the Engineer prior to filing.

629.07 Monument Box. shall include the following:

This survey work shall consist of installing or adjusting monument boxes included on the plans. When it is necessary to set a monument within a monument box in accordance with Title 38 CRS and State Board Rules and Policies, the work shall be done in accordance with Standard Plan M-629-1. If the monument meets the physical standard as stated by the State Board and is situated within the finished roadway, a monument box shall be installed as shown on Standard Plan M-629-1. When an existing monument box, due to construction, will no longer meet the physical standard set by the State Board, the box shall be replaced or adjusted to meet those standards.

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SECTION 629
SURVEY MONUMENTATION

METHOD OF MEASUREMENT

629.08 Survey Monuments shall include the following:

Monument Boxes, and Adjust Monument Boxes will be measured by the actual number of the various types installed and accepted by the Engineer. Measurement for locating survey monuments will be by the hour as approved by the Engineer.

Subsection 629.09 shall include the following:

All costs incidental to the foregoing requirements shall be included in the original contract prices for the project.

**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

Section 630 of the Standard Specifications is hereby revised as follows:

Subsection 630.11 shall include the following:

The Contractor's Superintendent and Traffic Control Supervisor (TCS) shall always be equipped with a mobile telephone unit that has a local number for contact with one another, the Engineer, and emergency response dispatchers when emergency services are required. The TCS shall make immediate contact with emergency personnel as required to assist accident victims, expedite the removal of broken-down vehicles, and maintain the smooth flow of traffic. This shall not be paid for separately but shall be included in the work items under Section 630.

**REVISION OF SECTION 703
AGGREGATES**

Section 703 of the Standard Specification is hereby revised for this project as follows:

Subsection 703.00 shall include the following:

No crushed slag, crushed reclaimed concrete or recycled asphalt material may be used as a substitute for aggregates when used for aggregate material that is exposed to the elements.

Subsection 703.03 shall include the following:

Aggregates for bases used for shoulder material shall be crushed stone, crushed gravel or natural gravel and shall not be crushed slag, crushed reclaimed concrete or asphalt material unless otherwise approved by the Engineer.

FORCE ACCOUNT ITEMS

DESCRIPTION

This special provision contains the Department's estimate for force account items included in the Contract. The estimated amounts marked with an asterisk will be added to the total bid to determine the amount of the performance and payment bonds. Force Account work shall be performed as directed by the Engineer.

BASIS OF PAYMENT

Payment will be made in accordance with subsection 109.04. Payment will constitute full compensation for all work necessary to complete the item.

Force account work valued at \$5,000 or less, that must be performed by a licensed journeyman in order to comply with federal, state, or local codes, may be paid for after receipt of an itemized statement endorsed by the Contractor.

<u>Force Account Item</u>	<u>Quantity</u>	<u>Estimated Amount</u>
F/A Minor Contract Revisions	F.A.	\$75,000

Force Account Descriptions

F/A Minor Contract Revisions – Consists of minor work authorized and approved by the Engineer, which is not included in the contract plans or specifications, and is necessary to accomplish the scope of work of this contract.

TRAFFIC CONTROL PLAN – GENERAL

The key elements of the Contractor's method of handling traffic (MHT) are outlined in subsection 630.10(a).

The components of the TCP for this project are included in the following:

1. Subsection 104.04 and Section 630 of the specifications,
2. Standard Plan S-630-1, Traffic Controls for Highway Construction and Standard Plan S-630-2,
3. Signing Plans,
4. Manual of Traffic Control Devices (MUTCD)

Unless otherwise approved by the Engineer, the Contractor's equipment shall follow normal and legal traffic movements. The Contractor's ingress and egress of the work area shall be accomplished with as little disruption to traffic as possible. Traffic control devices shall be removed by picking up the devices in a reverse sequence to that used for installation. This may require moving backwards through the work zone. When located behind barrier or at other locations shown on approved traffic control plans, equipment may operate in a direction opposite to adjacent traffic.

Special Traffic Control Plan requirements for this project are as follows:

1. During the construction of this project, traffic shall use the present traveled roadway unless identified on the plans or approved by the Engineer.
2. The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time, unless approved by the Engineer.
3. The Contractor shall not perform any work requiring lane closure on the roadway without approval of the Engineer.
4. The Contractor shall submit to the County Traffic Engineer a method of handling vehicular traffic (MHT) for approval at least 10 working days prior to each construction phase, prior to changes in traffic control and or prior to start of any construction. Contractor shall obtain any necessary permits required from other agencies.
5. Access to residents' and properties shall always be maintained.
6. At least one week prior to starting construction, the Contractor shall notify the Engineer of the date the Contractor intends to start construction.

All costs incidental to the foregoing requirements shall be included in the original contract prices for the project.

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UTILITIES

The following utilities are within the limits of this project but are not expected to be involved.

UTILITY OWNER / ADDRESS	CONTACT	PHONE / FAX
Xcel Energy – Gas & Electric	Marissa Matthews	720-532-5828
CenturyLink	Gary Crispe	303-260-4929
Poudre Valley Electric	Eric McGhee	970-282-6409
Various Member Utilities	UNCC	811 or 1-800-922-1987
Foothills Reservoir	Wade Gonzales	303-517-0151

The work described in the contract documents, including the plans and specifications, requires coordination and scheduling between the Contractor and the utility companies in accordance with subsection 105.11 in conducting their respective operations as necessary to complete the utility work with minimum delay to the project.

THE WORK LISTED BELOW SHALL BE PERFORMED BY THE CONTRACTOR:

The work listed below shall be performed by the Contractor in accordance with the plans and specifications, and as directed by the Engineer. The Contractor shall keep each utility company advised of any work being done to its facility, so that the utility company can coordinate its inspections for final acceptance of the work with the Engineer.

FOR:

No Utility Work for any utility agency is anticipated by the Contractor.

The only utility work by the contractor, will be to extend a sprinkler line near the NW corner of the box culvert.

THE WORK LISTED BELOW WILL BE PERFORMED BY THE UTILITY OWNERS OR THEIR AGENTS:

No Utility Work is anticipated by the Utility Owners.

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UTILITIES

GENERAL:

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavation or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the day of notification, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at (8-1-1) or 1-800-922-1987 to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective company. Utility service laterals shall also be located prior to beginning excavating or grading.

The location of utility facilities as shown on the plan and profile sheets, and herein described, were obtained from the best available information.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.