



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

INVITATION TO BID
COVER PAGE

BID Number:	7470-23
BID Title:	Precast Box Culvert Hygiene Road at Foothills Reservoir Inlet
BID Questions Due:	May 16, 2023 – 2:00 p.m.
Submittal Due Date:	May 23, 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



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INSTRUCTIONS

1. Purpose/Background

Boulder County Public Works is seeking bids for the manufacturing and delivery of a 16-foot-wide by 6 foot high pre-cast box culvert shown on Sheets 39-43 of the plans. The pre-cast box culvert is to be delivered near 5460 Hygiene Road in Longmont Colorado. A notice to proceed to the selected bidder will be issued within 5 business days of the submittal due date. Delivery is requested as near to August 1, 2023 as manufacturing may allow.

2. 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 16, 2023**. A response from the county to all inquiries will be posted and sent via email no later than **May 18, 2023**.

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

3. 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 May 23, 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: 232 712 065 955

Passcode: xS6hNe

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

Or call in (audio only)

[+1 720-400-7859,,117740255#](#) United States, Denver

Phone Conference ID: 117 740 255#

[Find a local number](#) | [Reset PIN](#)

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 # 7470-23** 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. Pursuant to Colorado law (House Bill 1292), in any bidding process for public works in which a bid is received from a non-resident bidder who is from a state that provides a percentage bidding preference, a comparable percentage disadvantage will be applied to the bid of that bidder. Bidders may obtain additional information from the Department of Personnel’s website: <http://www.colorado.gov/dpa/>.



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SPECIFICATIONS

Boulder County Public Works is seeking bids for the manufacturing and delivery of a 16-foot-wide by 6 foot high pre-cast box culvert shown on Sheets 39-43 of the plans. The pre-cast box culvert is to be delivered near 5460 Hygiene Road in Longmont Colorado. A notice to proceed to the selected bidder will be issued within 5 business days of the submittal due date. Delivery is requested as near to August 1, 2023 as manufacturing may allow.

Please see the plans located at the end of this document.



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INSURANCE AND W-9 REQUIREMENTS

INSURANCE REQUIREMENTS

Commercial General Liability

This coverage should be provided on an Occurrence Form, ISO CG001 or equivalent, with Minimum limits of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products Completed Operations Aggregate.

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.

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, including delivery date
	Completed Bid Tab
	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

BOULDER COUNTY PUBLIC WORKS - ENGINEERING
PRE-CAST BOX CULVERT FOR HYGIENE ROAD AT FOOTHILLS RESERVOIR INLET
BC-001001-1.4
BID TABULATION
1-May-2023

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL UNITS	UNIT COST	TOTAL COST
1	16X6 FOOT CONCRETE BOX CULVERT (PRECAST)	LINEAR FOOT	66	_____	_____
2	ENGINEERING, SHOP DRAWINGS	LUMP SUM	1	_____	_____
3	LOAD RATING	LUMP SUM	1	_____	_____
4	INDEPENDENT DESIGN CHECK	LUMP SUM	1	_____	_____
5	FREIGHT (DELIVERY TO HYGIENE RD)	LUMP SUM	1	_____	_____



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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 (a) in a good and workmanlike manner, (b) at its own cost and expense, (c) in accordance with recognized industry standards of care, skill and diligence for the type of work being performed, and (d) in strict accordance with the Contract.
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 does 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.

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. No Suspension or Debarment: Contractor certifies, and warrants for the Contract Term, 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.
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.
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:
- Execution of this Contract and performance thereof is within Contractor's duly authorized powers;
 - The individual executing this Contract is authorized to do so by Contractor;
 - 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
 - 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 ensuring that its performance under this Contract and the Work itself will comply with all Federal, State, and local laws, regulations, ordinances and codes. County approval of the Work or any aspect of Contractor's performance, such as 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: County encourages Contractor to consider the procurement and use of environmentally preferable products and services while performing services under this Contract. "Environmentally preferable purchasing" means making purchasing choices for products and services that have a lesser or reduced adverse effect on human health and the environment when compared with competing products and services that serve the same purpose. Environmentally preferable purchasing is consistent with the County's commitment to protecting our air, water, soil, and climate for current and future generations. County encourages Contractor to incorporate the following actions into Contractor's performance of the Work: environmentally preferable supplies and services; conservation of water; efficient energy use; waste prevention; reuse and recycle construction and de-construction materials in a manner that maximizes reuse of materials; sustainable transportation choices, including consideration to business communication software such as Skype alternative to air travel and public transit or carpooling for in-person meetings; pollution prevention; low toxicity for public health & safety; and reduced emissions to address climate change.
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. 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.

43. Insurance: Prior to commencing the Work, Contractor will provide a Certificate of Insurance to the County demonstrating adequate insurance coverage as required by this Section. 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

This coverage should be provided on an Occurrence Form, ISO CG001 or equivalent, with Minimum limits of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products Completed Operations Aggregate.

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.

[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



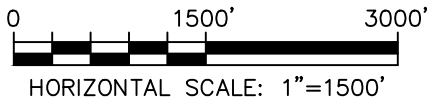
HYGIENE ROAD AT FOOTHILLS RESERVOIR INLET

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

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

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OR EXCAVATE FOR THE MARKING OF
UNDERGROUND MEMBER UTILITIES

REVISIONS:

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

TITLE SHEET

PROJECT NO: BC-001001-1.4 SHEET NO: 1

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■ M-100-2	ACRONYMS AND ABBREVIATIONS (4 SHEETS)	4-7
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■ M-203-2	DITCH TYPES	9
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■ M-206-1	EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS)	15-16
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□ M-412-1	CONCRETE PAVEMENT JOINTS (9 SHEETS)	35-39 <i>(REVISED ON JANUARY 31, 2022)</i>
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□ M-606-13	GUARDRAIL TYPE 7 F-SHAPE BARRIER (4 SHEETS)	98-101
□ M-606-14	PRECAST TYPE 7 CONCRETE BARRIER (4 SHEETS)	102-104 <i>(REVISED ON FEBRUARY 9, 2023)</i>
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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.

PLAN NUMBER	S STANDARD TITLE	PAGE NUMBER
□ S-612-1	DELINEATOR INSTALLATIONS (8 SHEETS)	171-178 <i>(REVISED ON JANUARY 19, 2023)</i>
□ S-613-1	ROADWAY LIGHTING (6 SHEETS)	179-186 <i>(REVISED ON SEPTEMBER 30, 2020)</i>
□ S-613-2	ALTERNATIVE ROADWAY LIGHTING (4 SHEETS)	<i>(NEW, ISSUED ON SEPTEMBER 30, 2020)</i>
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□ S-614-6	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS)	196-197
□ S-614-8	TUBULAR STEEL SIGN SUPPORT DETAILS (7 SHEETS)	198-204 <i>(REVISED ON DECEMBER 29, 2020)</i>
□ S-614-9	PEDESTRIAN PUSH BUTTON POST ASSEMBLY (2 SHEETS)	205-206 <i>(SUPERSEDED ON JANUARY 23, 2020 BY S-614-45)</i>
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■ S-614-12	STRUCTURE NUMBER INSTALLATION (2 SHEETS)	209-210
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□ S-614-22	TYPICAL MULTI-SIGN INSTALLATIONS	218
□ S-614-40	TYPICAL TRAFFIC SIGNAL 30'-75' DOUBLE MAST ARMS 65'-75' SINGLE MAST ARMS (5 SHEETS)	219-223 <i>(REVISED ON JULY 22, 2022)</i>
□ S-614-40A	ALTERNATIVE TRAFFIC SIGNAL 25'-55' SINGLE MAST ARMS (4 SHEETS)	224-227 <i>(REVISED ON JULY 22, 2022)</i>
□ S-614-41	TEMPORARY SPAN WIRE SIGNALS (13 SHEETS)	228-240
□ S-614-42	CABINET FOUNDATION DETAIL (4 SHEETS)	241-244
□ S-614-43	TRAFFIC LOOP AND MISCELLANEOUS SIGNAL DETAILS (8 SHEETS)	245-252
□ S-614-44	PEDESTAL POLE SIGNALS (2 SHEETS)	253-254
□ S-614-45	PEDESTRIAN PUSH BUTTON POST ASSEMBLY DETAILS (6 SHEETS)	<i>(REVISED ON DECEMBER 3, 2020)</i>
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□ S-614-60	DYNAMIC SIGN MONOTUBE STRUCTURES (14 SHEETS)	267-280
□ S-627-1	PAVEMENT MARKINGS (9 SHEETS)	281-289 <i>(REVISED ON JULY 22, 2022)</i>
■ S-630-1	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (26 SHEETS)	290-313 <i>(REVISED ON JANUARY 20, 2023)</i>
■ S-630-2	BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) AND VERTICAL PANELS	314
■ S-630-3	FLASHING BEACON (PORTABLE) DETAILS	315
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□ S-630-6	EMERGENCY PULL-OFF AREA (TEMPORARY)	320
□ S-630-7	ROLLING ROADBLOCKS FOR TRAFFIC CONTROL (3 SHEETS)	321-323



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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

STANDARD PLANS LIST

PROJECT NO: BC-001001-1.4 SHEET NO: 2

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

HYGIENE ROAD AT FOOTHILLS RESERVOIR	
GENERAL NOTES	
PROJECT NO: BC-001001-1.4	SHEET NO: 3

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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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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
GENERAL NOTES	
PROJECT NO: BC-001001-1.4	SHEET NO: 4

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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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HYGIENE ROAD AT FOOTHILLS RESERVOIR		
GENERAL NOTES		
PROJECT NO: BC-001001-1.4	SHEET NO:	5

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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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GENERAL NOTES

PROJECT NO: BC-001001-1.4 SHEET NO: 6

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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.	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

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HYGIENE ROAD AT FOOTHILLS RESERVOIR

SUMMARY OF APPROXIMATE QUANTITIES

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

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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.	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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HYGIENE ROAD AT FOOTHILLS RESERVOIR

SUMMARY OF APPROXIMATE QUANTITIES

PROJECT NO:	BC-001001-1.4	SHEET NO:	8
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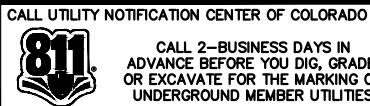
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TABULATION OF REMOVALS AND RESETS														
STATION	TO	STATION	SIDE	201-00000	202-00020	202-00010	202-00035	202-00220	202-01130	202-01400	202-01000	210-01000	210-01011	
				CLEARING AND GRUBBING	REMOVAL OF BOX CULVERT	REMOVAL OF TREE	REMOVAL OF 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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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
TABULATION OF APPROXIMATE QUANTITIES	
PROJECT NO: BC-001001-1.4	SHEET NO: 9

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TABULATION OF GUARDRAIL

STATION	TO	STATION	SIDE	606-00302	606-02003	606-01340
				GUARDRAIL TYPE 3 W-BEAM (7' POST)	END ANCHORAGE (NON-FLARED)	END ANCHORAGE 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 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

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	



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HYGIENE ROAD AT FOOTHILLS RESERVOIR

TABULATION OF APPROXIMATE QUANTITIES

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

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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
											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)	
		STREET	STA.	PANEL DIRECTION	POSITION	W"	x	H"			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	10	1	RESET SIGN 6
9	W13-1P	HYGIENE RD.	10+90.4	WEST		18	x	18	WHITE	25 MPH				2		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	OM8R	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	10		RESET SIGN 18
22	W13-1P	HYGIENE RD.	20+86	EAST		18	x	18	WHITE	25 MPH				2			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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HYGIENE ROAD AT FOOTHILLS RESERVOIR

TABULATION OF APPROXIMATE QUANTITIES

PROJECT NO: BC-001001-1.4 SHEET NO: 11

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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	UPPER	LOWER		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)	AGGREGETE 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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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
TABULATION OF APPROXIMATE QUANTITIES	
PROJECT NO: BC-001001-1.4	SHEET NO: 12

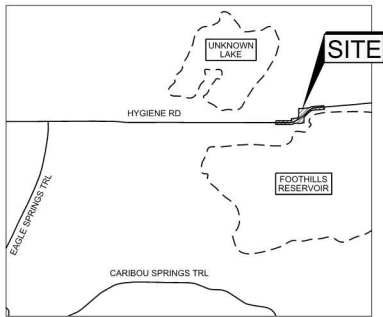
SUB-SURFACE UTILITY ENGINEERING (S.U.E.)

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

- 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 REVIEWS AND UNDERSTANDS THE SCOPE OF WORK AND LIMITS OF THE UTILITY INVESTIGATION LEADING TO THESE UTILITY DEPICTIONS.
- UTILITIES INVESTIGATED BY HCL ARE SHOWN IN COLOR. ALL OTHER INFORMATION PROVIDED BY OTHERS.
- UTILITIES ARE DEPICTED IN ACCORDANCE WITH THEIR ACHIEVED QUALITY LEVEL AS DEFINED IN ASCE 38-02. ALL SUBSURFACE UTILITIES ARE DEPICTED BY QUALITY LEVEL AS DEFINED IN THE LEGEND. ALL GRAVITY SEWER AND STORM DRAINS ARE DEPICTED AT QUALITY LEVEL C UNLESS NOTED.
- A UTILITY QUALITY LEVEL (QL) INDICATES A RELATIVE MEASURE OF THE RELIABILITY OF THE UTILITY LOCATION AND RELATED DATA. THERE ARE 4 QUALITY LEVELS. QUALITY LEVEL A IS THE MOST RELIABLE. QUALITY LEVEL D IS THE LEAST RELIABLE. QUALITY LEVELS C AND B ARE IN-BETWEEN IN ASCENDING ORDER. ONLY QUALITY LEVEL A CAN HAVE AN ACCURACY ASSOCIATED WITH IT. QUALITY LEVELS ARE FURTHER DESCRIBED BELOW:
 - QUALITY LEVEL A (QL A) - PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES USUALLY AT A SPECIFIC POINT. ACCURACY IS 0.05 FEET VERTICALLY AND TO APPLICABLE HORIZONTAL TOLERANCE DEFINED BY THE PROJECT.
 - 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.
 - 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.
 - 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.
- 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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- UTILITIES NOTED TO BE ABANDONED OR OUT OF SERVICE HAVE BEEN NOTED AS SUCH FROM INFORMATION PROVIDED BY OTHERS. USERS OF THIS DATA SHOULD VERIFY THIS STATUS INFORMATION.



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
--	-------------------



UTILITY DESCRIPTION TABLE					
UTILITY ID	TYPE	SIZE (INCHES)	MATERIAL	OWNER	CONTACT INFORMATION
G1	GAS	2"	POLYETHYLENE	XCEL	720-532-5828
G2	GAS	1.25"	POLYETHYLENE	XCEL	720-532-5828
G3	GAS	1.25"	STEEL	XCEL	720-532-5828
G4	GAS	2"	POLYETHYLENE	XCEL	720-532-5828
G5	GAS	1.25"	STEEL	XCEL	720-532-5828
GS1	GAS SERVICE	.75"	POLYETHYLENE	XCEL	720-532-5828
GS2	GAS SERVICE	.75"	POLYETHYLENE	XCEL	720-532-5828
GS3	GAS SERVICE	.675"	POLYETHYLENE	XCEL	720-532-5828
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GS5	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
ST2	STORM SEWER	16' W X 5.5' H	CONCRETE BOX CULVERT	UNKNOWN	UNKNOWN
ST3	STORM SEWER	16' W X 5.5' H	CONCRETE BOX CULVERT	UNKNOWN	UNKNOWN
ST4	STORM SEWER	12"	CMP	UNKNOWN	UNKNOWN

THIS DOCUMENT IS SIGNED AND SEALED
TO CERTIFY COMPLIANCE WITH ASCE 38-02



FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-922-1987)
UTILITY NOTIFICATION
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www.uncc.org



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

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

JOB NUMBER: 200059 | DRAWN BY: DKD
DATE: 09/30/2022 | CHECKED BY: AGW
SHEET NUMBER: 8

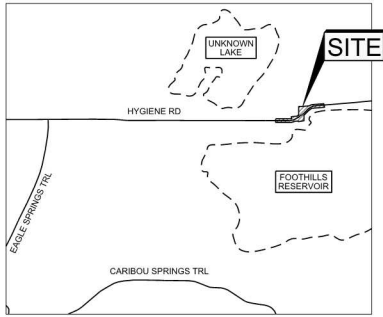
SUB-SURFACE UTILITY ENGINEERING (S.U.E.)

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

- 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 REVIEWS AND UNDERSTANDS THE SCOPE OF WORK AND LIMITS OF THE UTILITY INVESTIGATION LEADING TO THESE UTILITY DEPICTIONS.
- UTILITIES INVESTIGATED BY HCL ARE SHOWN IN COLOR. ALL OTHER INFORMATION PROVIDED BY OTHERS.
- UTILITIES ARE DEPICTED IN ACCORDANCE WITH THEIR ACHIEVED QUALITY LEVEL AS DEFINED IN ASCE 38-02. ALL SUBSURFACE UTILITIES ARE DEPICTED BY QUALITY LEVEL AS DEFINED IN THE LEGEND. ALL GRAVITY SEWER AND STORM DRAINS ARE DEPICTED AT QUALITY LEVEL C UNLESS NOTED.
- A UTILITY QUALITY LEVEL (QL) INDICATES A RELATIVE MEASURE OF THE RELIABILITY OF THE UTILITY LOCATION AND RELATED DATA. THERE ARE 4 QUALITY LEVELS. QUALITY LEVEL A IS THE MOST RELIABLE. QUALITY LEVEL D IS THE LEAST RELIABLE. QUALITY LEVELS C AND B ARE IN-BETWEEN IN ASCENDING ORDER. ONLY QUALITY LEVEL A CAN HAVE AN ACCURACY ASSOCIATED WITH IT. QUALITY LEVELS ARE FURTHER DESCRIBED BELOW:
 - QUALITY LEVEL A (QL A) - PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES USUALLY AT A SPECIFIC POINT. ACCURACY IS 0.05 FEET VERTICALLY AND TO APPLICABLE HORIZONTAL TOLERANCE DEFINED BY THE PROJECT.
 - 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.
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VICINITY MAP
NOT TO SCALE

LEGEND

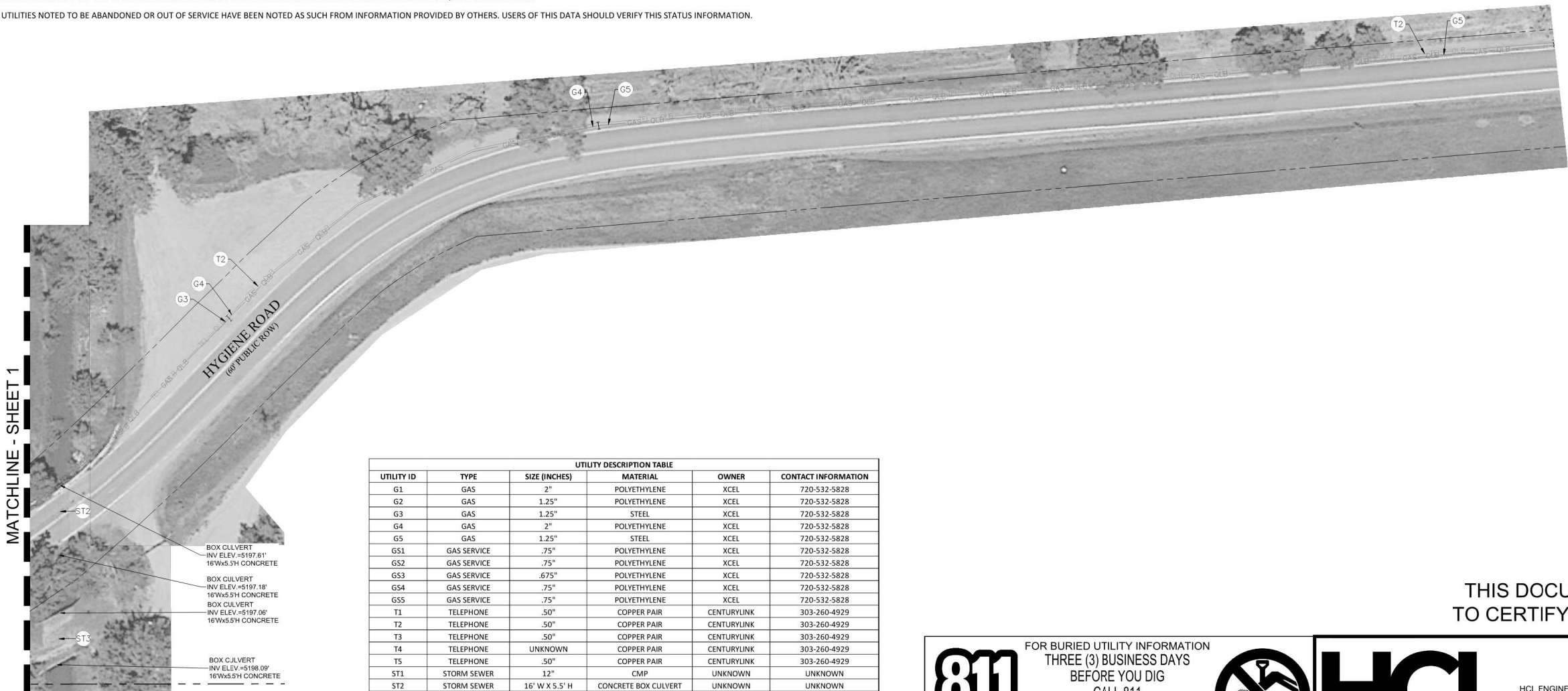
	ELECTRIC METER
	GAS METER
	TELEPHONE PEDESTAL
	CORRUGATED METAL PIPE
	UTILITY DESCRIPTION NUMBER, SEE UTILITY DESCRIPTION TABLE
	END OF UTILITY DESIGNATION
	END OF UTILITY
	OVERHEAD UTILITY LINE
	RIGHT OF WAY

LEGEND / QUALITY LEVEL B

	BURIED GAS LINE
	BURIED TELEPHONE LINE

LEGEND / QUALITY LEVEL C

	BURIED STORM LINE
--	-------------------



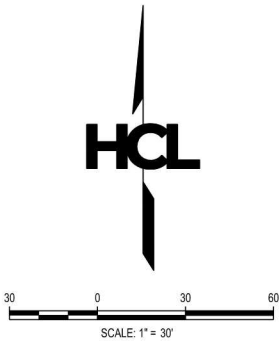
UTILITY DESCRIPTION TABLE					
UTILITY ID	TYPE	SIZE (INCHES)	MATERIAL	OWNER	CONTACT INFORMATION
G1	GAS	2"	POLYETHYLENE	XCEL	720-532-5828
G2	GAS	1.25"	POLYETHYLENE	XCEL	720-532-5828
G3	GAS	1.25"	STEEL	XCEL	720-532-5828
G4	GAS	2"	POLYETHYLENE	XCEL	720-532-5828
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T5	TELEPHONE	.50"	COPPER PAIR	CENTURYLINK	303-260-4929
ST1	STORM SEWER	12"	CMP	UNKNOWN	UNKNOWN
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ST3	STORM SEWER	16" W X 5.5' H	CONCRETE BOX CULVERT	UNKNOWN	UNKNOWN
ST4	STORM SEWER	12"	CMP	UNKNOWN	UNKNOWN

BOX CULVERT
INV ELEV = 5197.61'
16"Wx5.5'H CONCRETE

BOX CULVERT
INV ELEV = 5197.18'
16"Wx5.5'H CONCRETE

BOX CULVERT
INV ELEV = 5197.06'
16"Wx5.5'H CONCRETE

BOX CULVERT
INV ELEV = 5198.09'
16"Wx5.5'H CONCRETE



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WWW.HCLENGINEERING.COM

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

JOB NUMBER: 200059 | DRAWN BY: DKD
DATE: 09/30/2022 | CHECKED BY: AGW
SHEET NUMBER: 9

TOPOGRAPHIC SURVEY

HYGIENE ROAD

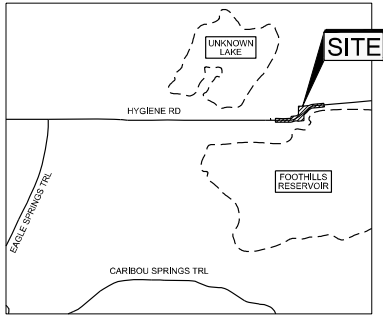
A PORTION OF LAND LOCATED IN SECTIONS 27, 28, 33, 34,
TOWNSHIP 3 NORTH, RANGE 70 WEST OF THE 6TH P.M.,
COUNTY OF BOULDER, STATE OF COLORADO.

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

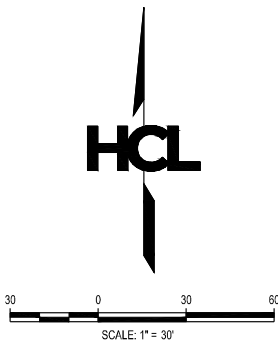
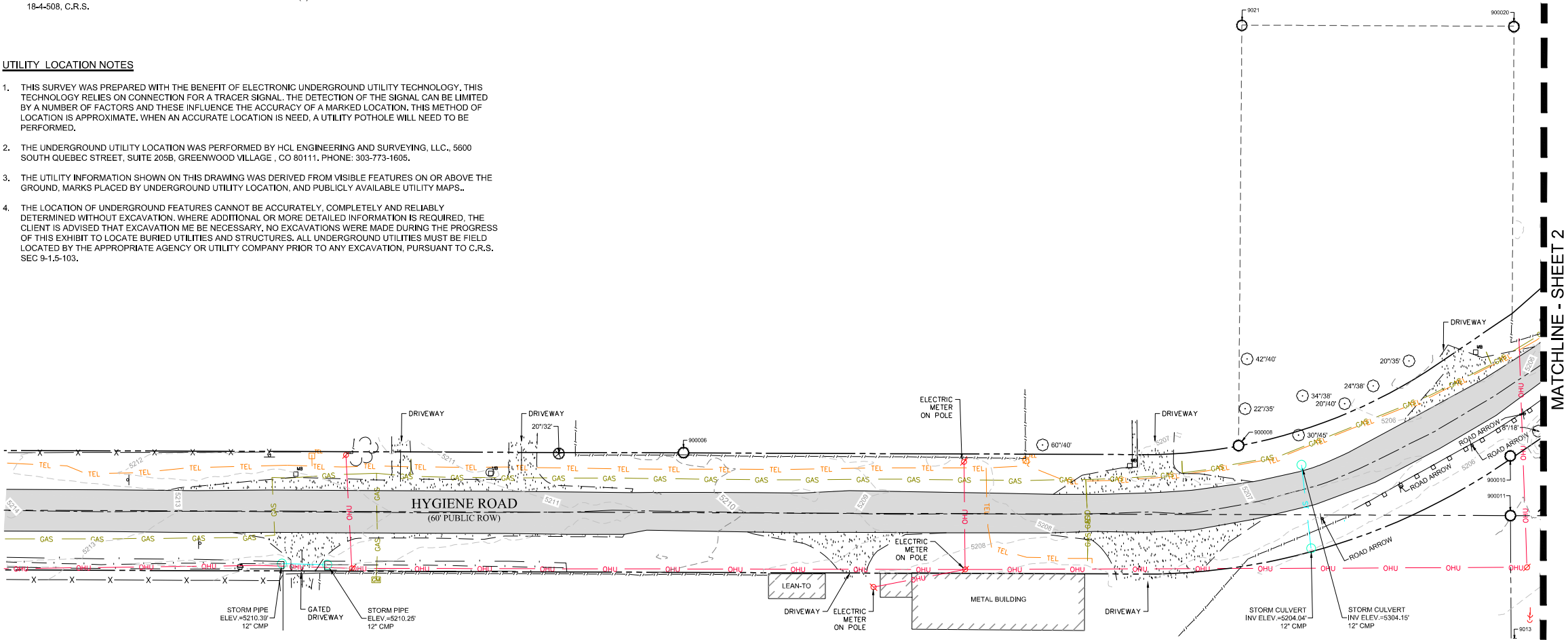
1. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF ELECTRONIC UNDERGROUND UTILITY TECHNOLOGY. THIS TECHNOLOGY RELIES ON CONNECTION FOR A TRACER SIGNAL. THE DETECTION OF THE SIGNAL CAN BE LIMITED BY A NUMBER OF FACTORS AND THESE INFLUENCE THE ACCURACY OF A MARKED LOCATION. THIS METHOD OF LOCATION IS APPROXIMATE. WHEN AN ACCURATE LOCATION IS NEED, A UTILITY POT HOLE 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.



VICINITY MAP
NOT TO SCALE

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	



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WWW.HCLENGINEERING.COM

TOPOGRAPHIC SURVEY
HYGIENE ROAD

JOB NUMBER: 200059 | DRAWN BY: KDK
DATE: 09/20/2022 | CHECKED BY: AGW
SHEET NUMBER: 1 OF 2

TOPOGRAPHIC SURVEY

HYGIENE ROAD

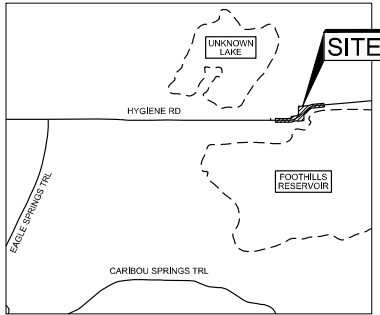
A PORTION OF LAND LOCATED IN SECTIONS 27, 28, 33, 34,
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GENERAL NOTES

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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
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UTILITY LOCATION NOTES

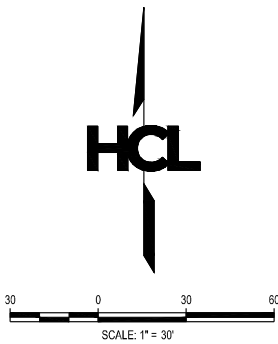
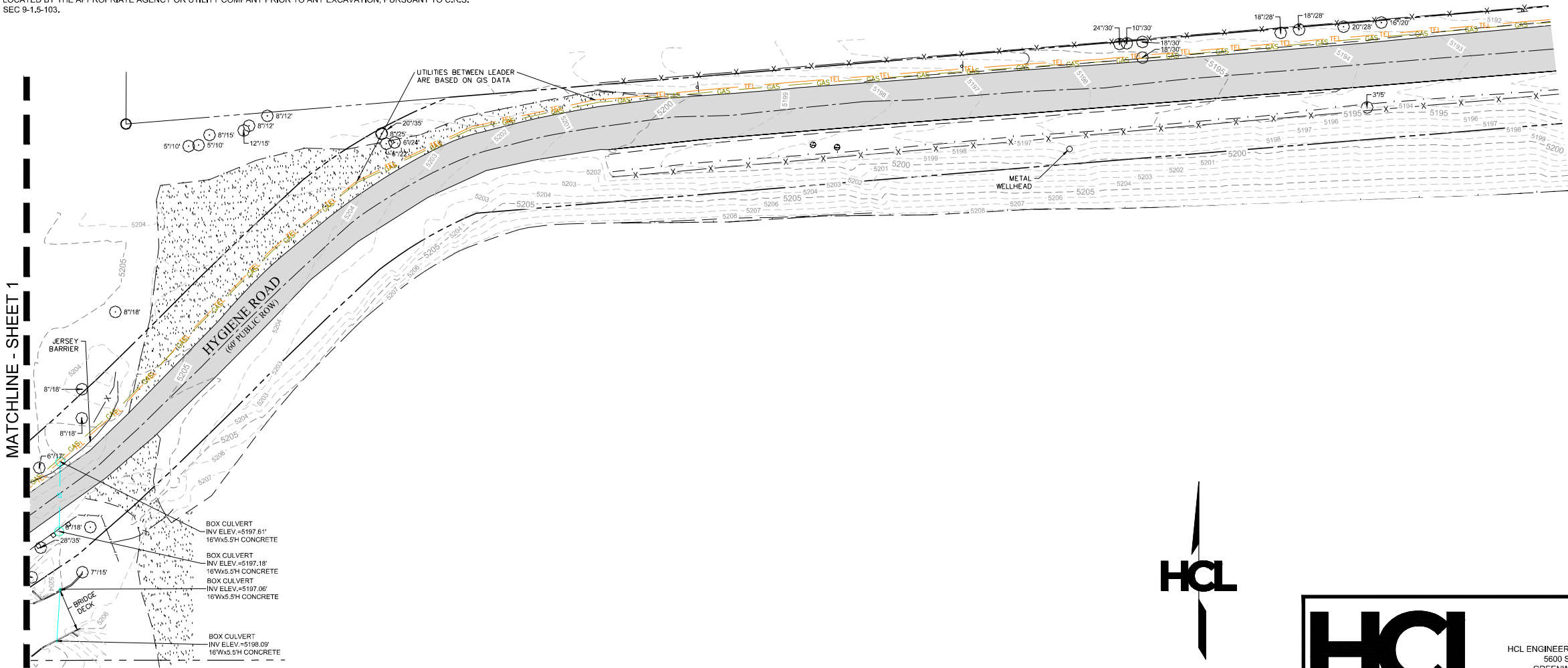
1. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF ELECTRONIC UNDERGROUND UTILITY TECHNOLOGY. THIS TECHNOLOGY RELIES ON CONNECTION FOR A TRACER SIGNAL. THE DETECTION OF THE SIGNAL CAN BE LIMITED BY A NUMBER OF FACTORS AND THESE INFLUENCE THE ACCURACY OF A MARKED LOCATION. THIS METHOD OF LOCATION IS APPROXIMATE. WHEN AN ACCURATE LOCATION IS NEEDED, A UTILITY POT HOLE 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.
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VICINITY MAP
NOT TO SCALE

LEGEND

—●—	SIGN
—□—	MAIL BOX
—○—	ELECTRIC METER
—○—	GUY WIRE
—○—	GUY POLE
—○—	STORM PIPE OUTLET
—○—	GAS METER
—○—	TELEPHONE PEDESTAL
—○—	DECIDUOUS TREE (TRUNK DIAMETER/DRIP LINE RADIUS)
—○—	CONIFEROUS TREE (TRUNK DIAMETER/DRIP 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



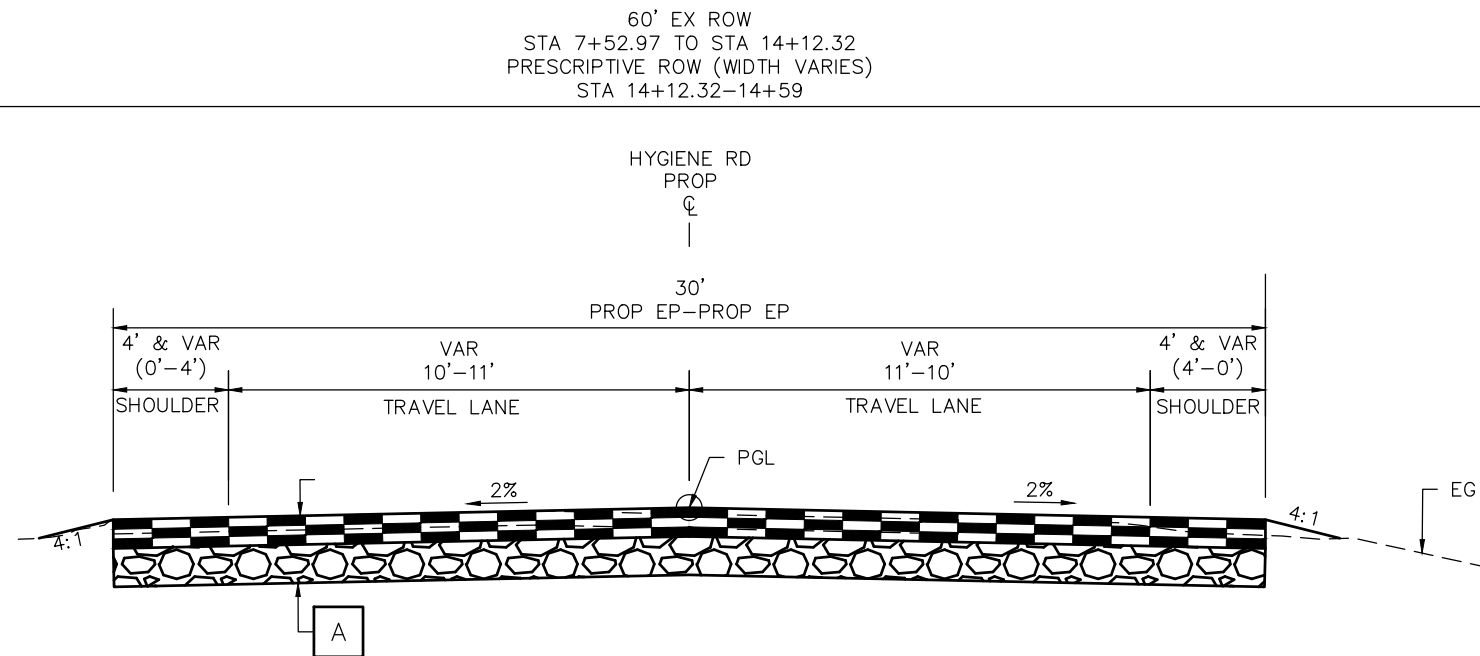
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GREENWOOD VILLAGE, CO 80111
PHONE: 303.773.1605
FAX: 303.773.3297
WWW.HCLENGINEERING.COM

TOPOGRAPHIC SURVEY
HYGIENE ROAD

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

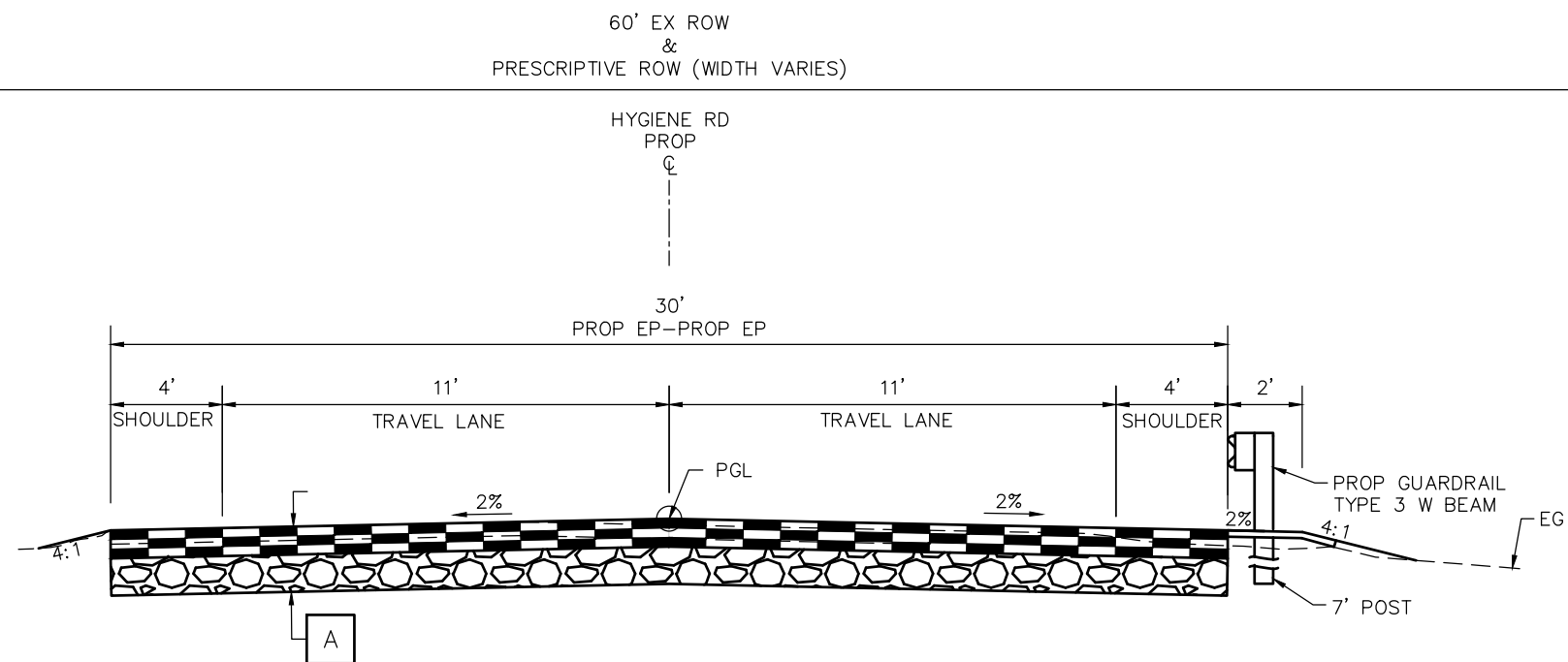
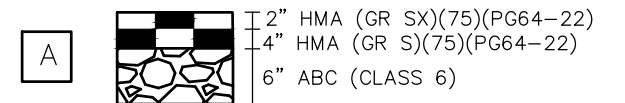
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TYPICAL SECTION

HYGIENE ROAD
STA 7+52.97 TO STA 14+59
NTS

PAVEMENT SECTION



TYPICAL SECTION

HYGIENE ROAD
STA 14+59 TO STA 15+64
NTS

ATKINS

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Denver, CO 80237
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CALL 2-BUSINESS DAYS IN
ADVANCE BEFORE YOU DIG, GRADE,
OR EXCAVATE FOR THE MARKING OF
UNDERGROUND MEMBER UTILITIES

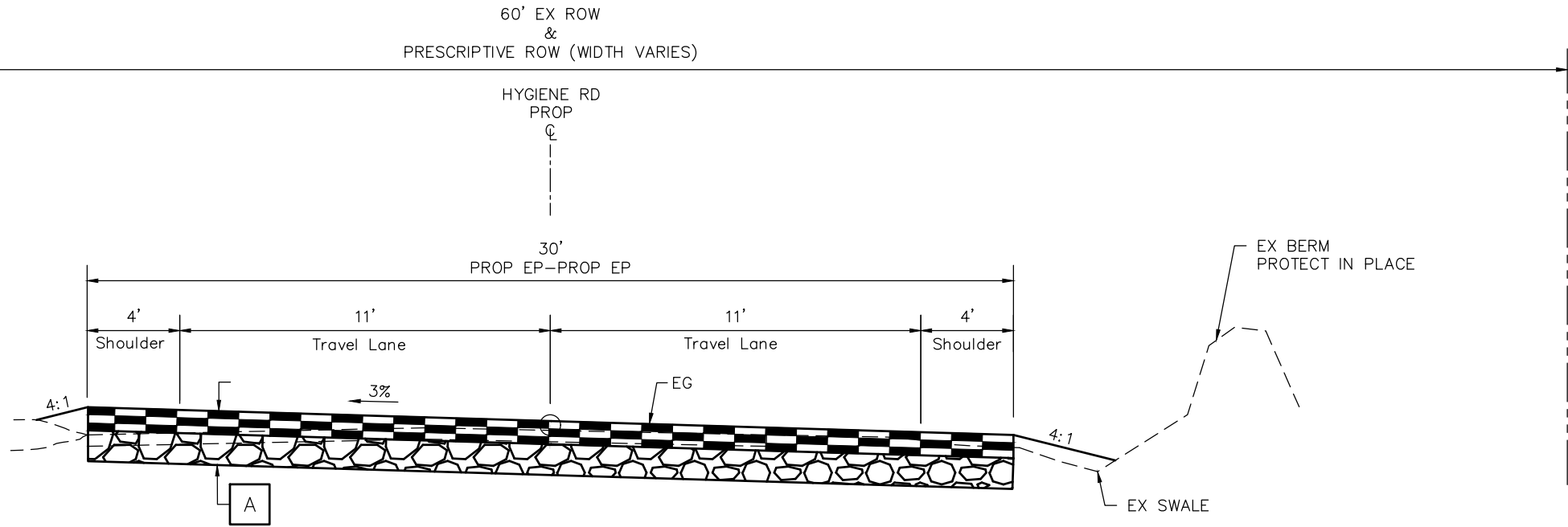
REVISED:	NO.	DATE	REVISION DESCRIPTION:



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

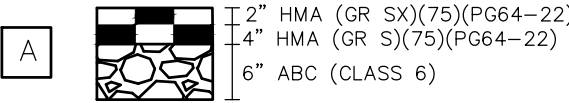
HYGIENE ROAD AT FOOTHILLS RESERVOIR	
TYPICAL SECTIONS	
PROJECT NO: BC-001001-1.4	SHEET NO: 17

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

PAVEMENT SECTION



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ADVANCE BEFORE YOU DIG, GRADE,
OR EXCAVATE FOR THE MARKING OF
UNDERGROUND MEMBER UTILITIES

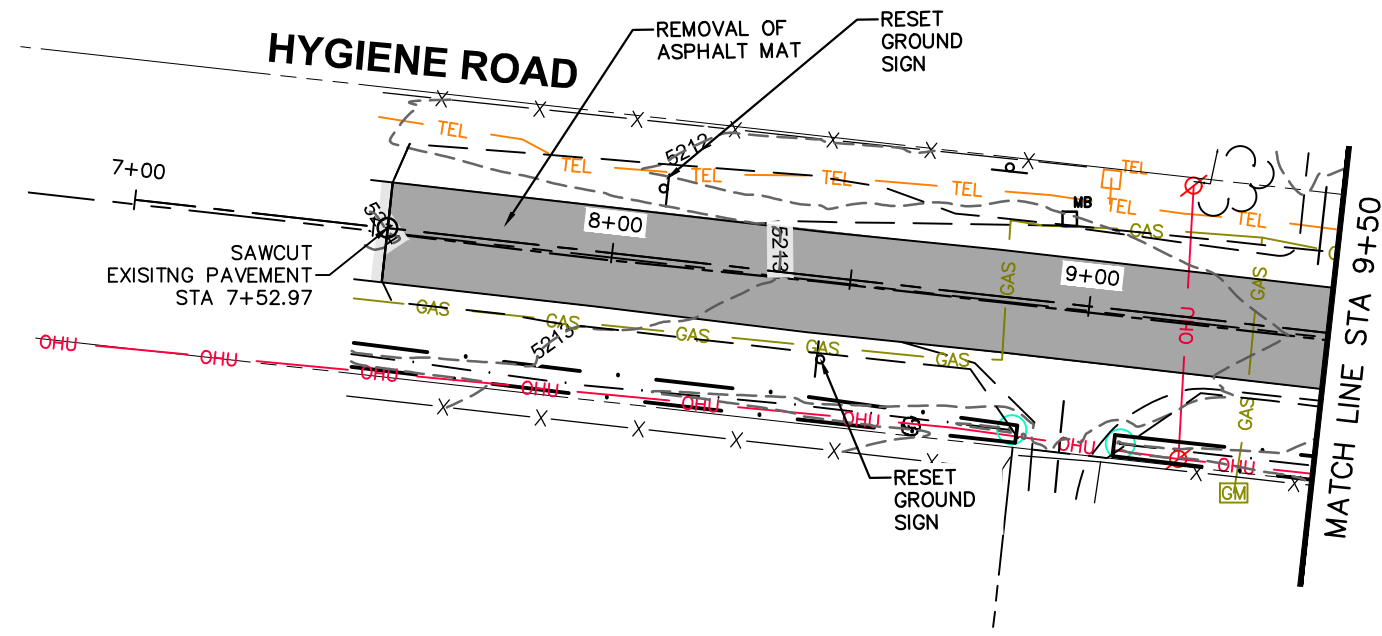
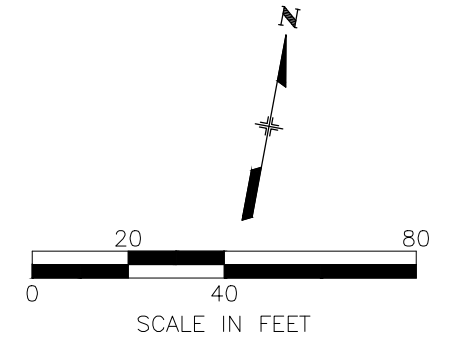
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BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION			
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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
TYPICAL SECTIONS	
PROJECT NO: BC-001001-1.4	SHEET NO: 18

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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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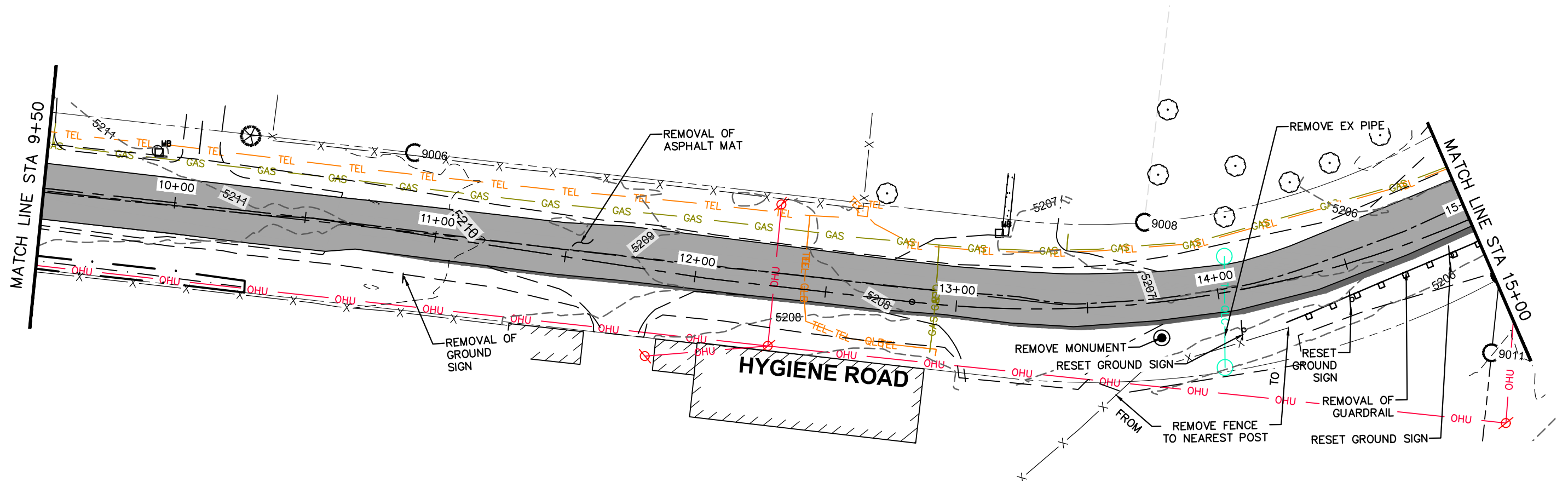
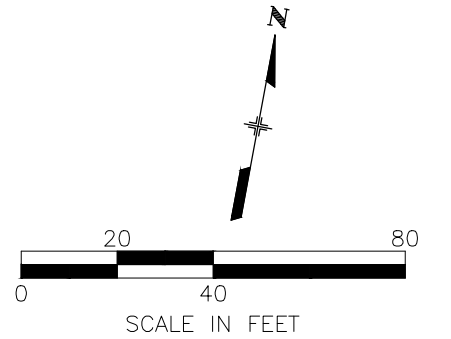
REVISED:	NO.	DATE	REVISION DESCRIPTION:



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

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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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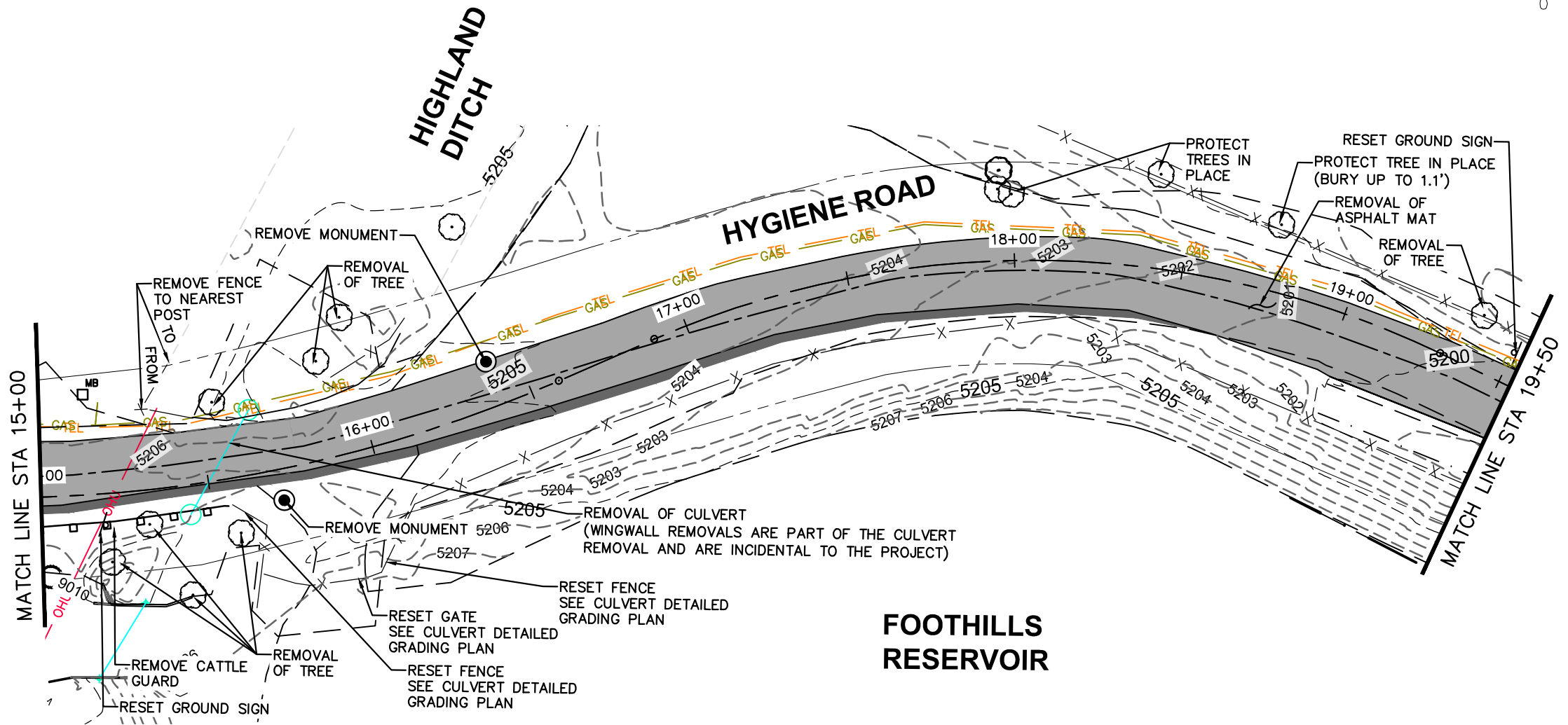
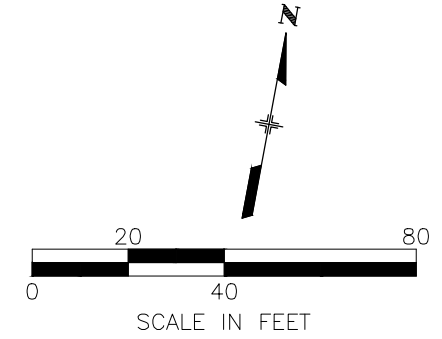
REVISIONS:	NO.	DATE	REVISION DESCRIPTION:



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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
[Shaded Box] 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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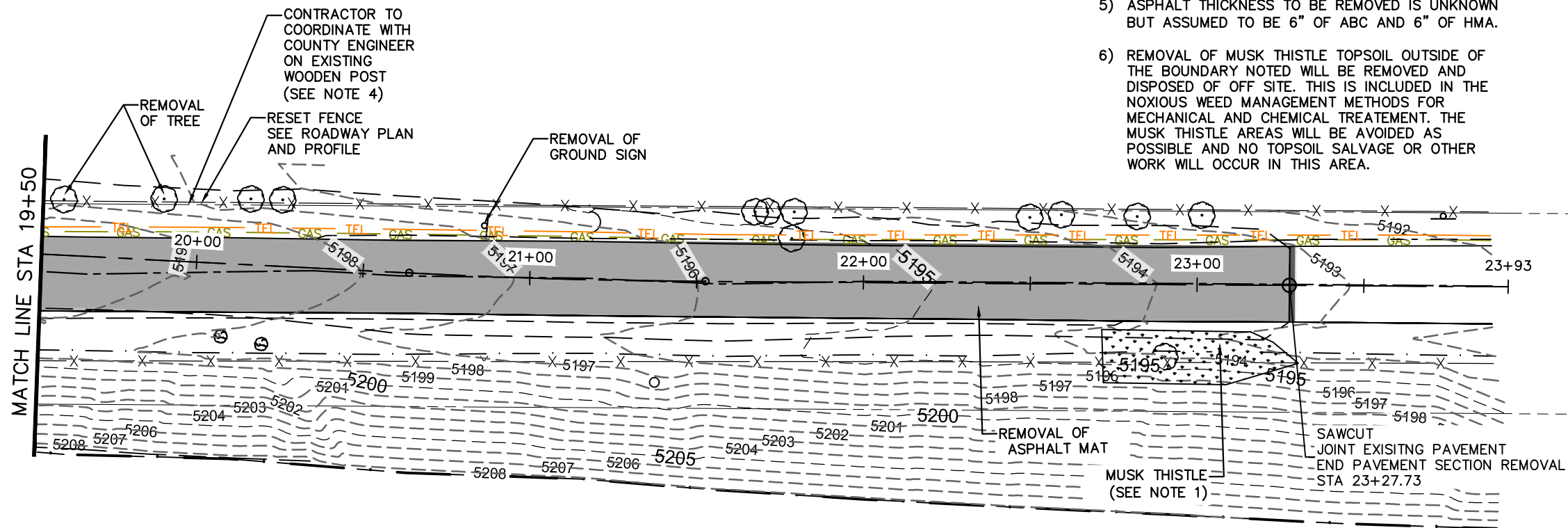
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ENGINEERING DIVISION**

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

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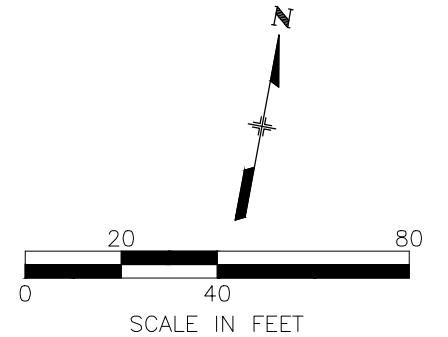


LEGEND

PAVEMENT REMOVAL

NOTES

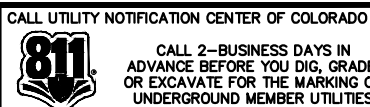
- 1) AVOID REUSE OF TOPSOIL WHERE NOXIOUS WEEDS ARE FOUND TO AVOID SEED BANK REDISTRIBUTION. REMOVAL OF ADDITIONAL MILK THISTLE OUTSIDE OF THE HATCHED BOUNDARY WILL BE INCLUDED IN THE NOXIOUS WEEDS MANAGEMENT LUMP SUM BID ITEM.
- 2) LOGS FROM TREE REMOVALS TO BE LEFT ONSITE WITHIN PROJECT LIMITS. COORDINATE 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.



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

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PROJECT NO: BC-001001-1.4	SHEET NO: 22

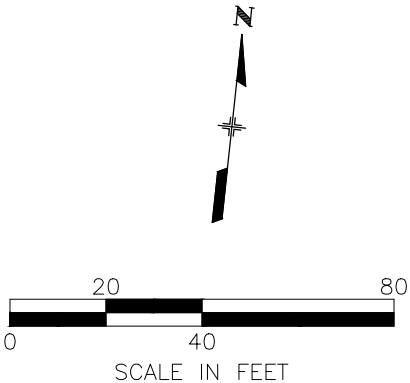
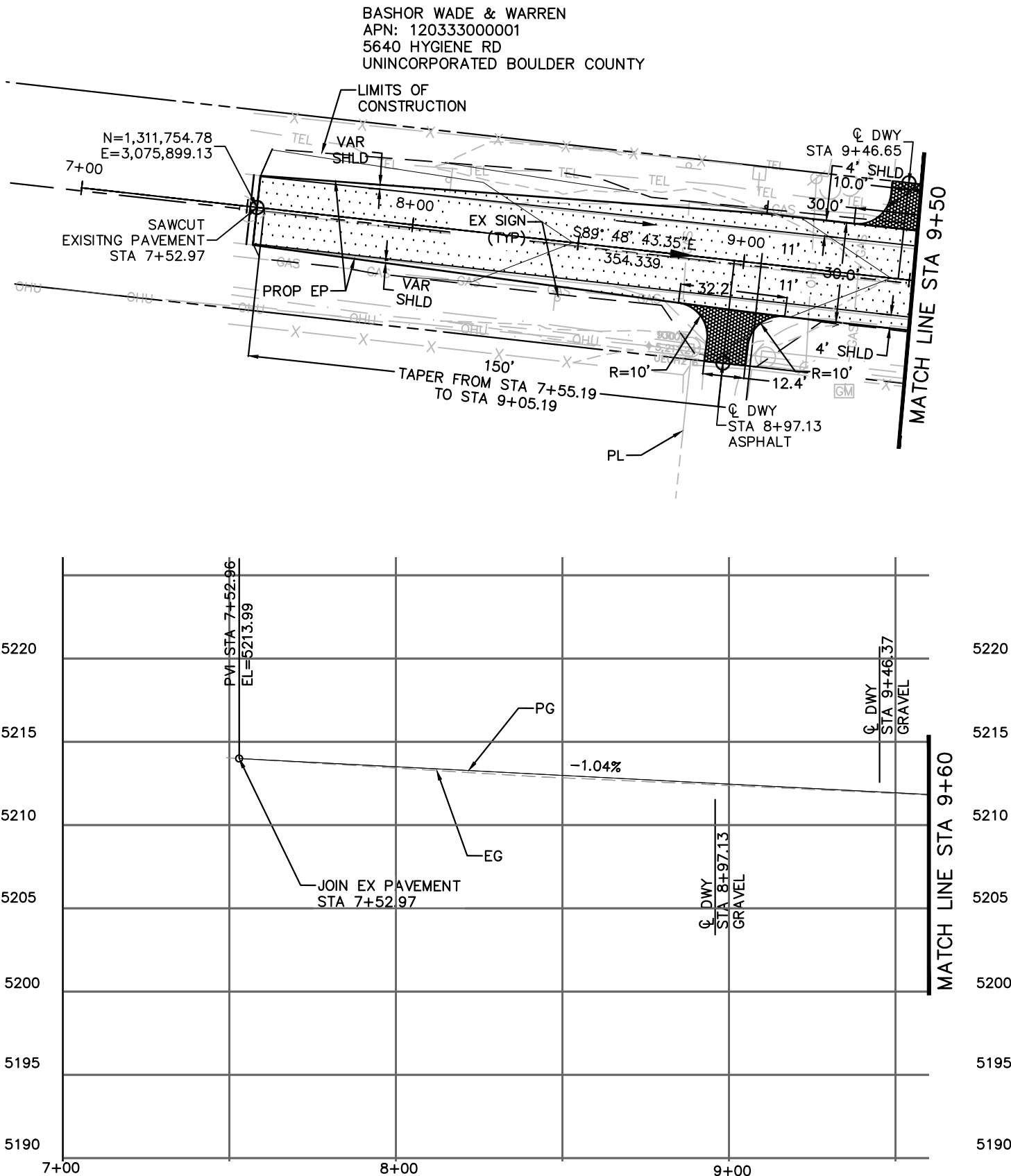
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NOTES:

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

LEGEND

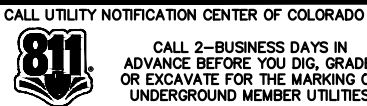
-  PROPOSED HMA OVER ABC
-  PROPOSED HMA OVER ABC DRIVEWAY
- EP EDGE OF PAVEMENT
- EX EXISTING
- R RADIUS
- ROW RIGHT OF WAY
- SHLD SHOULDER
- LIMIT OF CONSTRUCTION



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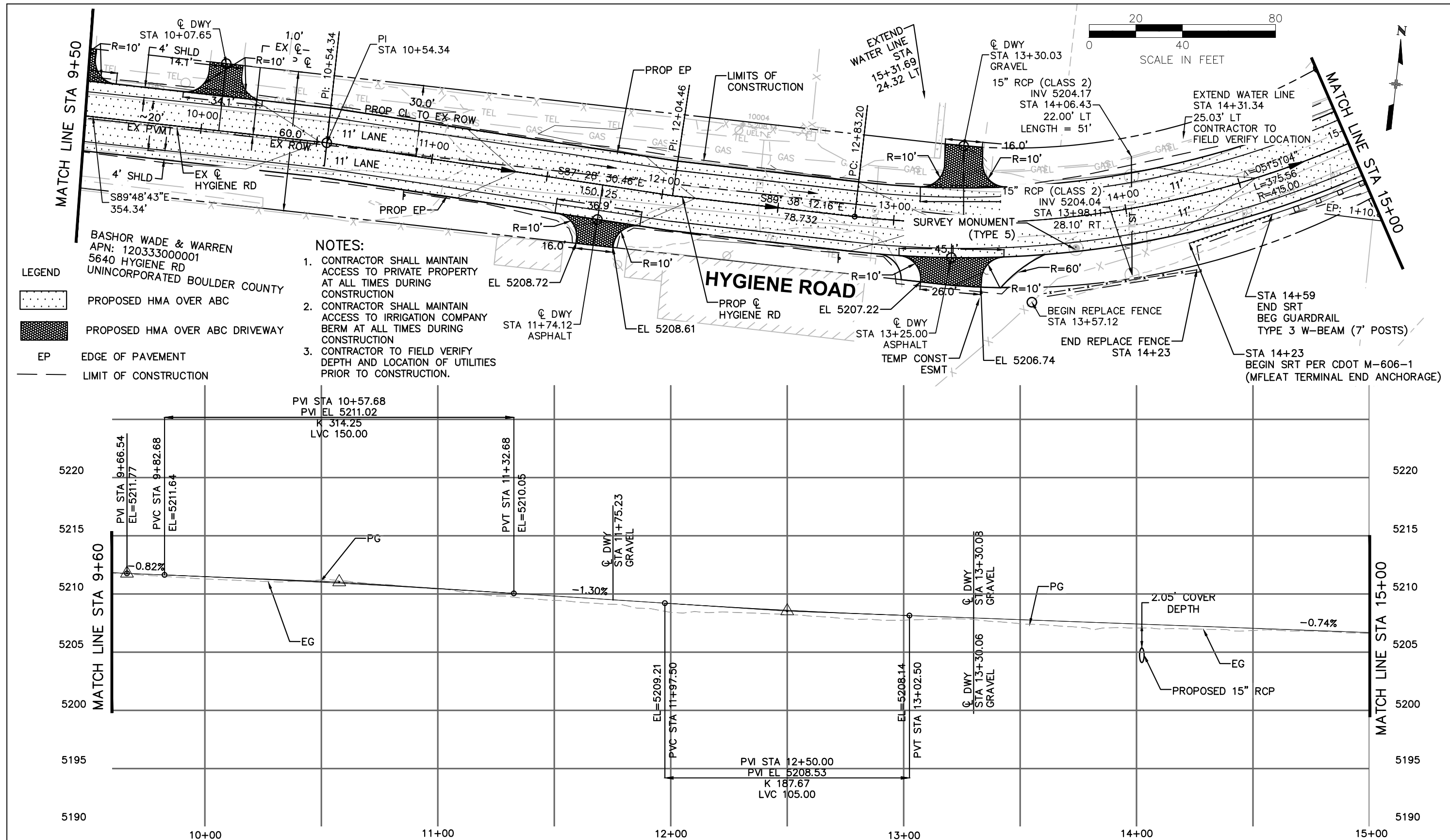
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BOULDER COUNTY PUBLIC WORKS ENGINEERING DIVISION			
DESIGNED: TM	CAD/C3D: CH	CHECKED: SS	DATE: 4/28/2023

HYGIENE ROAD AT FOOTHILLS RESERVOIR	
ROADWAY PLAN AND PROFILES	
PROJECT NO: BC-001001-1.4	SHEET NO: 23

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UNDERGROUND MEMBER UTILITIES

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

HYGIENE ROAD AT FOOTHILLS RESERVOIR

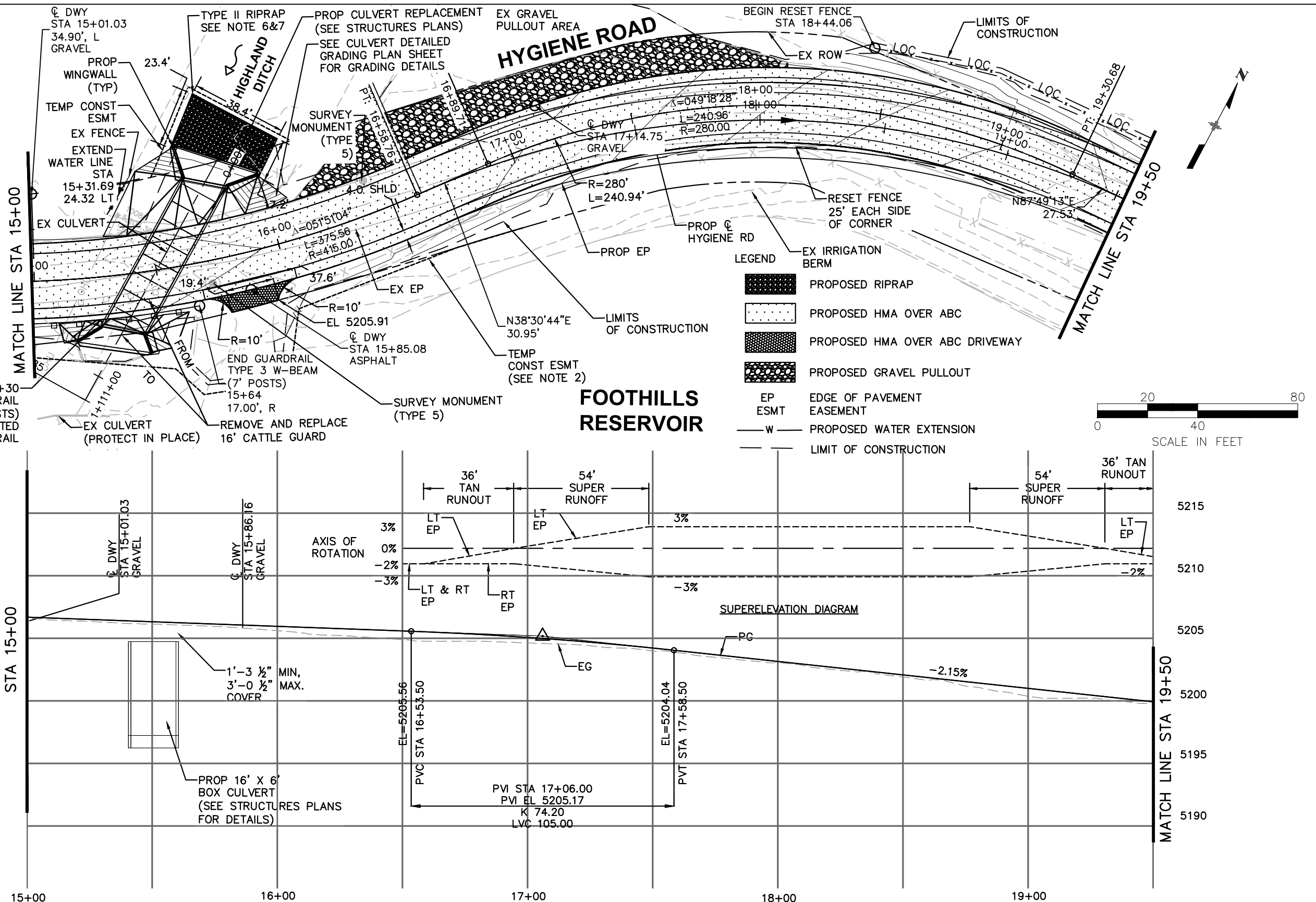
ROADWAY PLAN AND PROFILES

PROJECT NO: BC-001001-1.4 SHEET NO: 24

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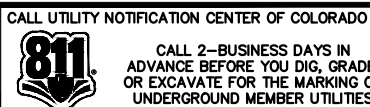
1. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTY AT ALL TIMES DURING CONSTRUCTION
2. CONTRACTOR SHALL MAINTAIN ACCESS TO IRRIGATION COMPANY BERM AT ALL TIMES DURING CONSTRUCTION
3. CONTRACTOR SHALL LEAVE REMOVED TREES ONSITE AND COORDINATE LOCATION WITH THE PROPERTY OWNER
4. CONTRACTOR SHALL REPLACE 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



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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
ROADWAY PLAN AND PROFILES	
PROJECT NO: BC-001001-1.4	SHEET NO: 25

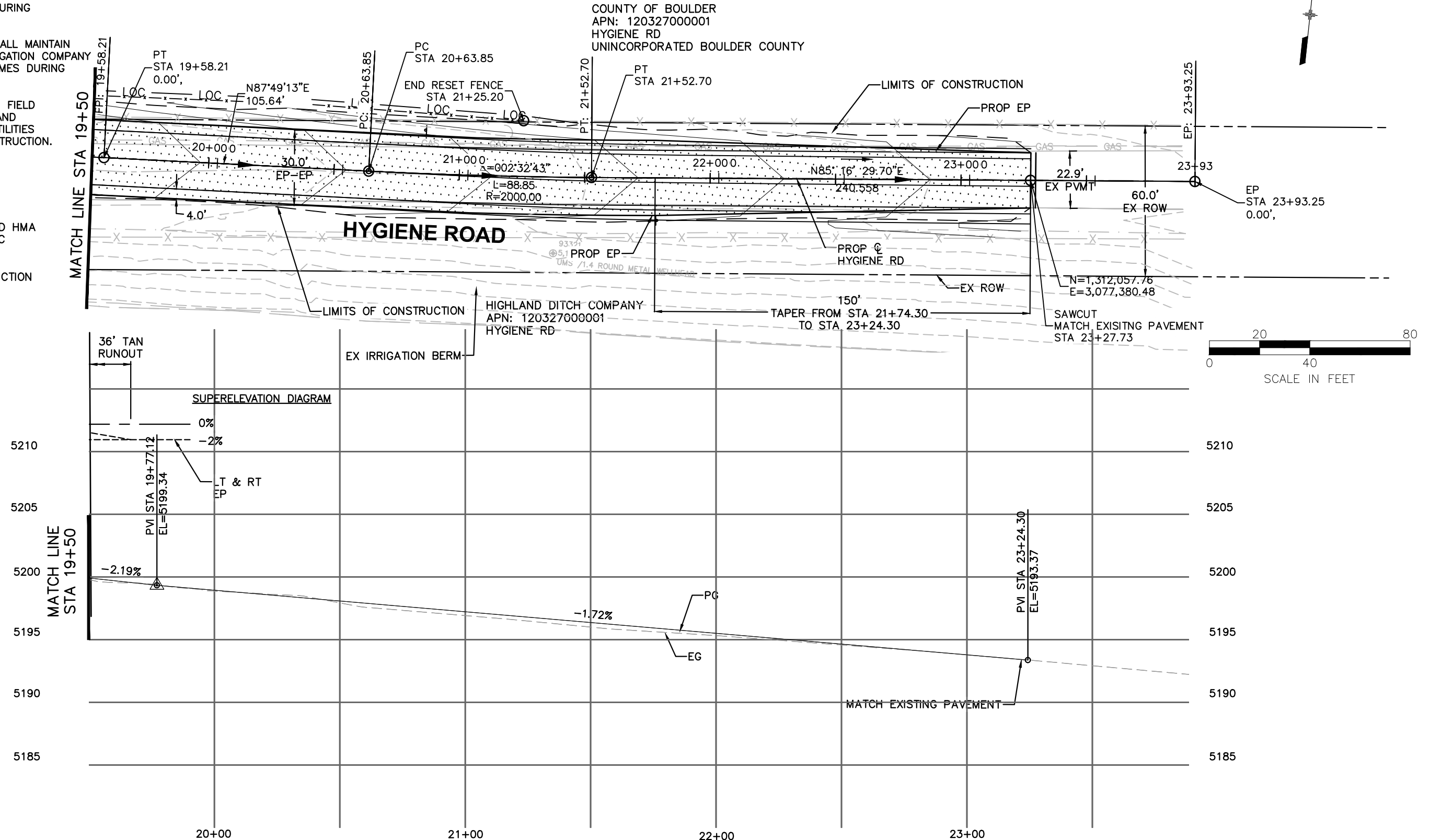
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NOTES:

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

LEGEND

- PROPOSED HMA OVER ABC
- LIMIT OF CONSTRUCTION



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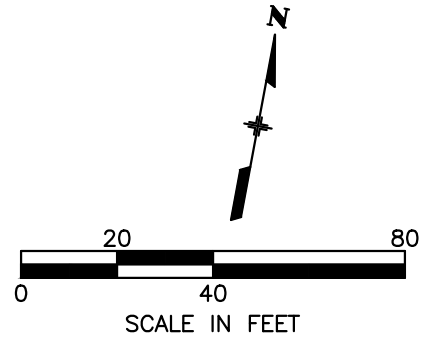
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HYGIENE ROAD AT FOOTHILLS RESERVOIR

ROADWAY PLAN AND PROFILES

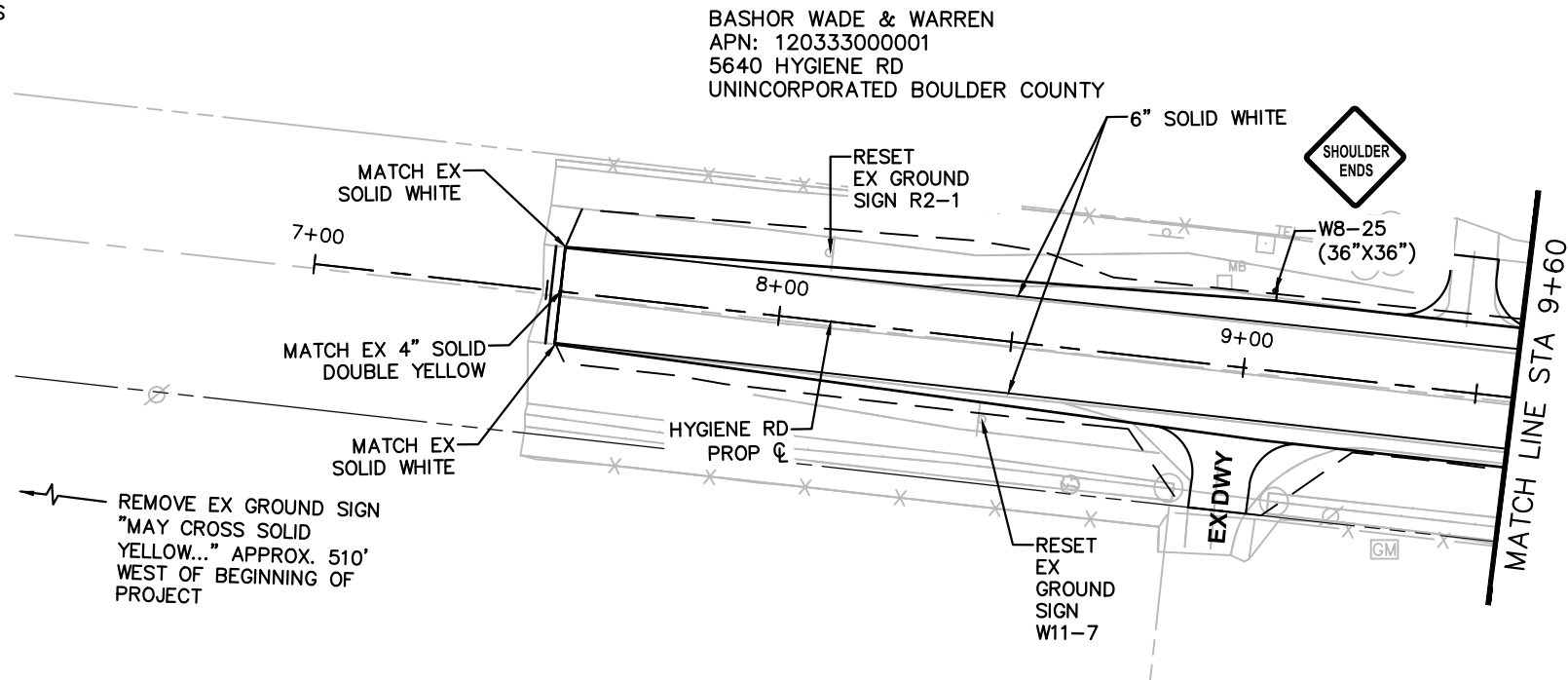
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NOTES:

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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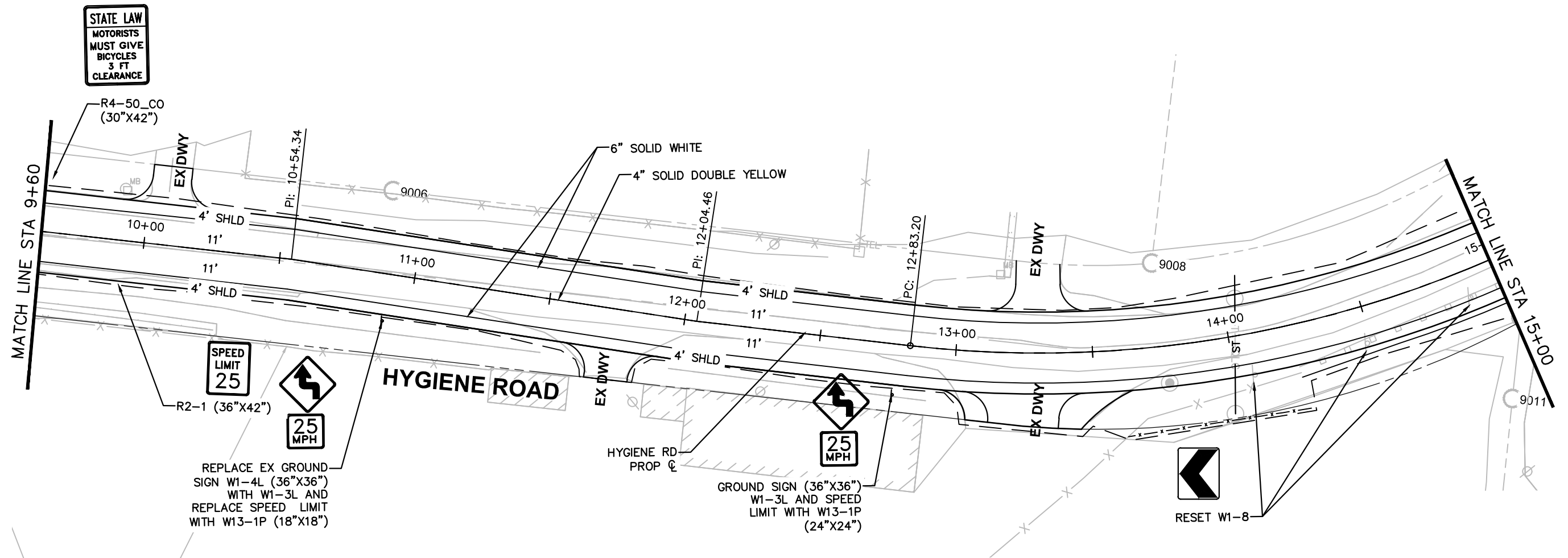
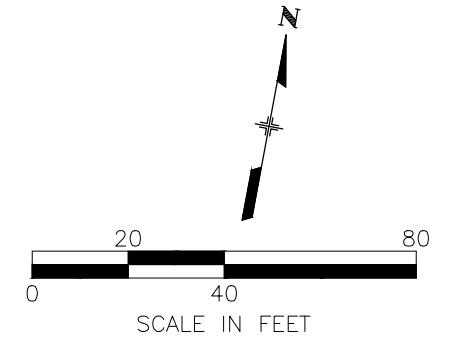
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HYGIENE ROAD AT FOOTHILLS RESERVOIR

SIGNAGE AND STRIPING PLANS

PROJECT NO: BC-001001-1.4	SHEET NO: 27
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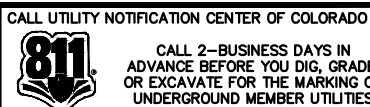
NOTES:

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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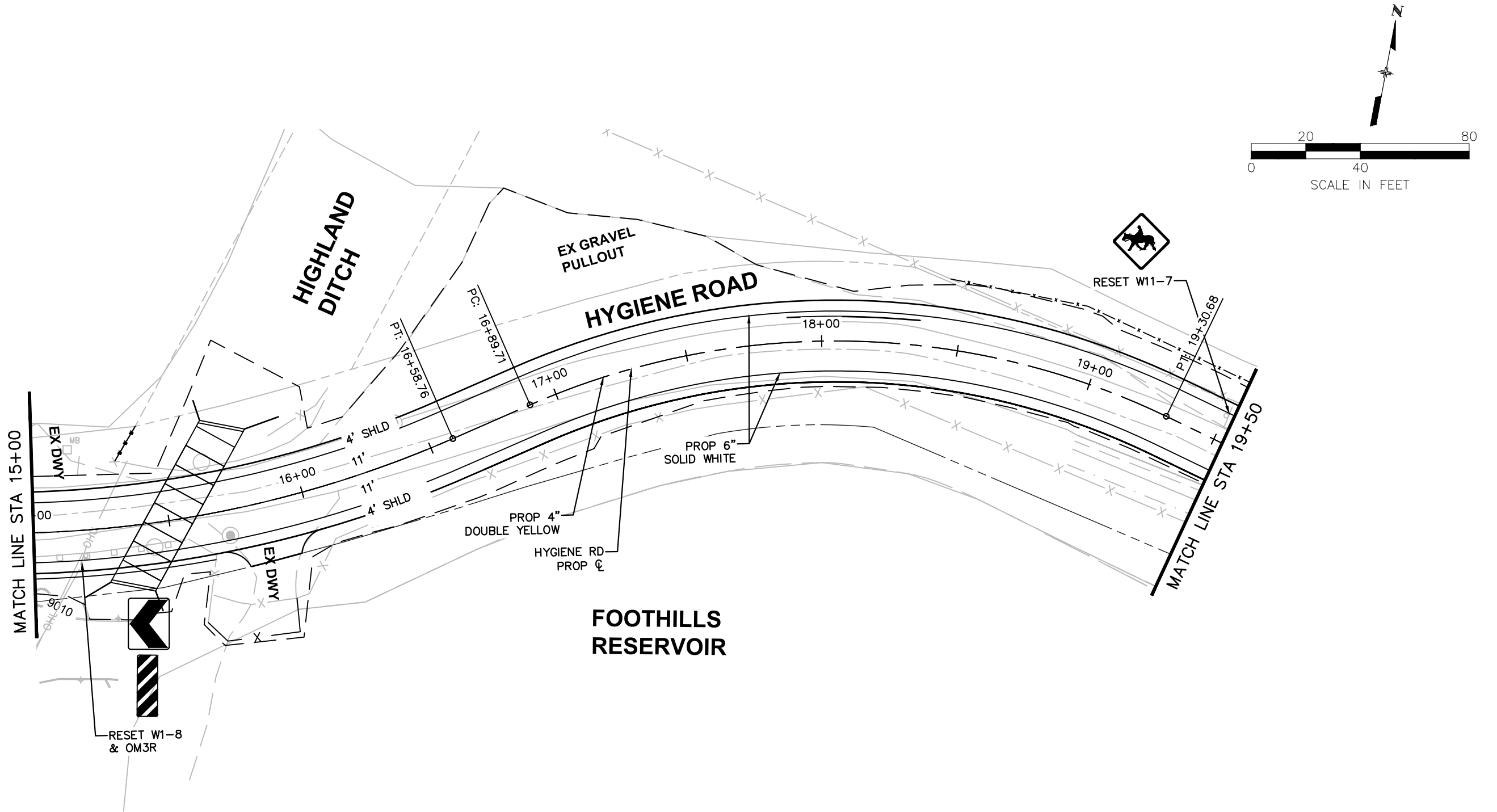
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TM	CH	SS	4/28/2023	

HYGIENE ROAD AT FOOTHILLS RESERVOIR		
SIGNAGE AND STRIPING PLANS		
PROJECT NO:	BC-001001-1.4	SHEET NO: 28

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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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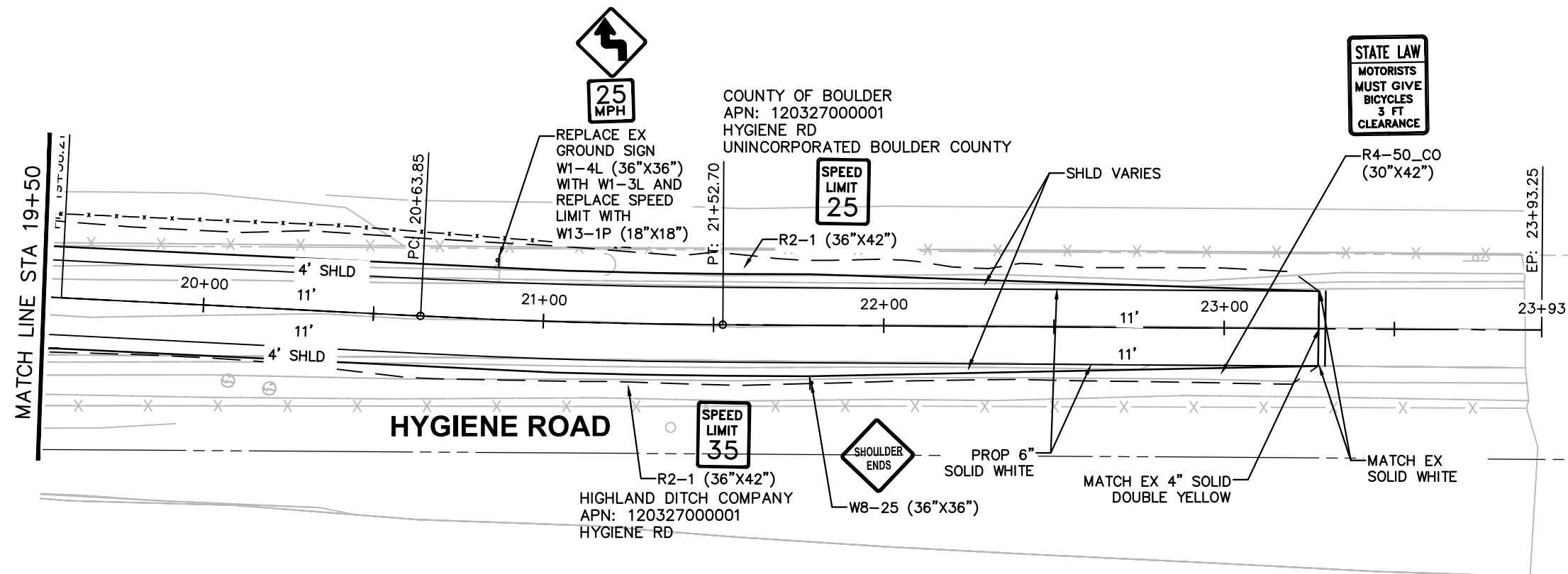
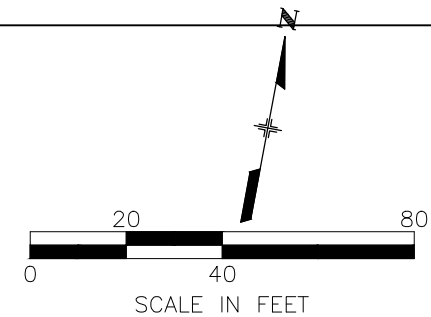
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HYGIENE ROAD AT FOOTHILLS RESERVOIR

SIGNAGE AND STRIPING PLANS

PROJECT NO: BC-001001-1.4	SHEET NO: 29
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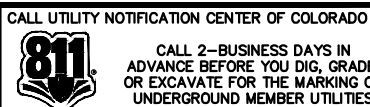
NOTES:

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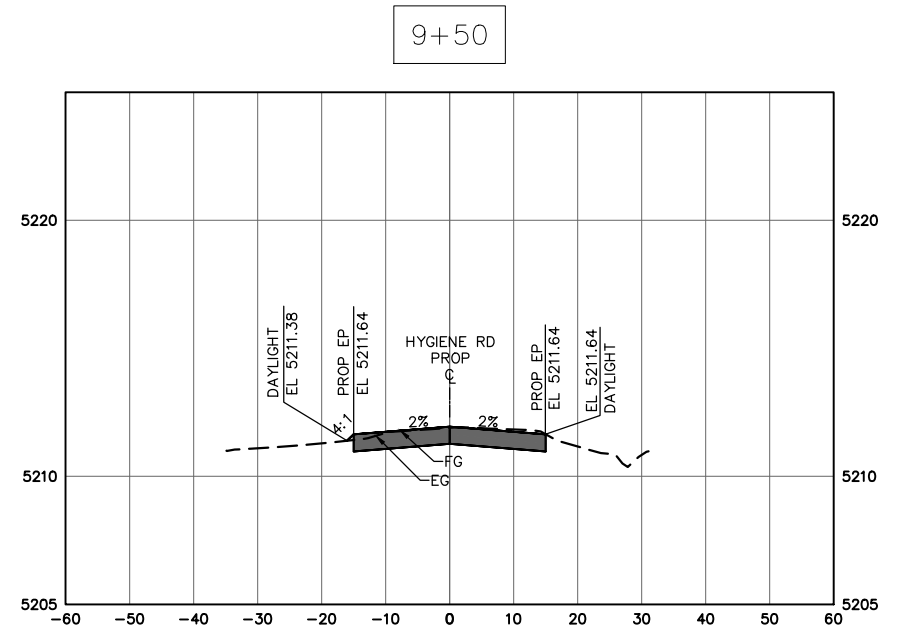
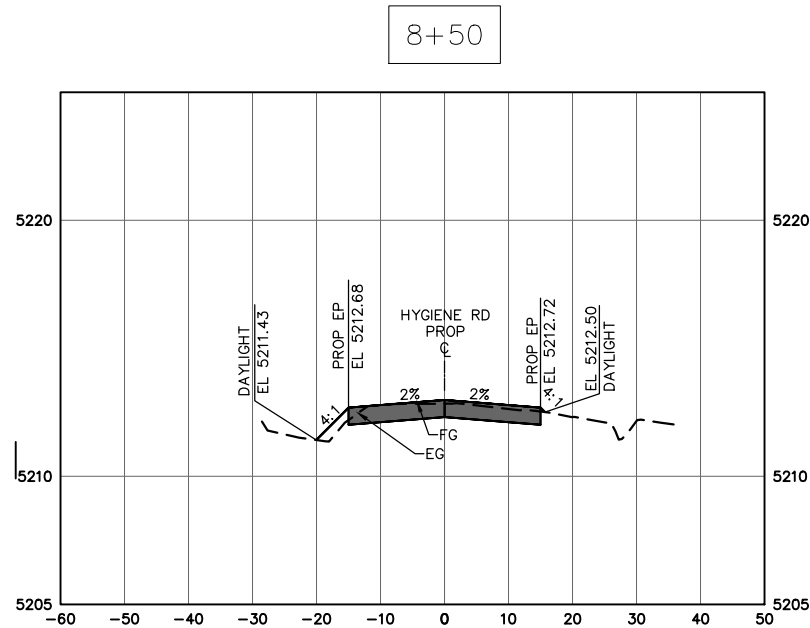
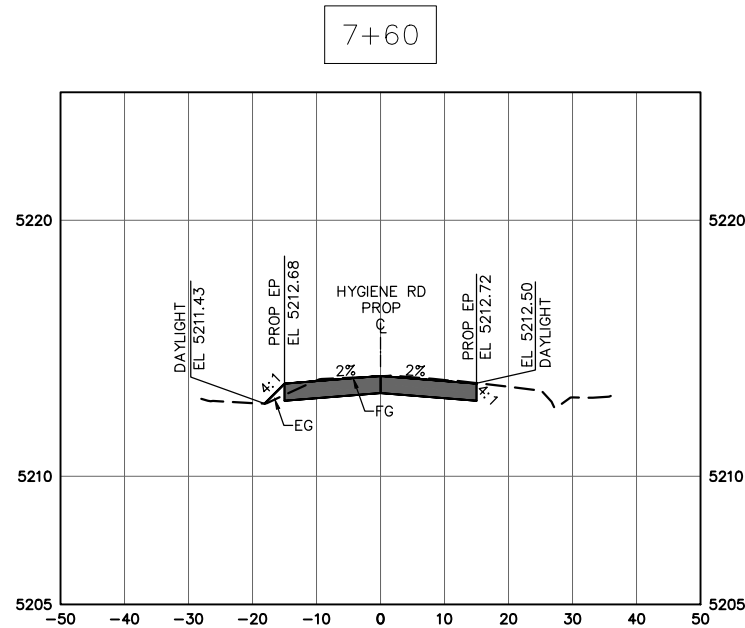
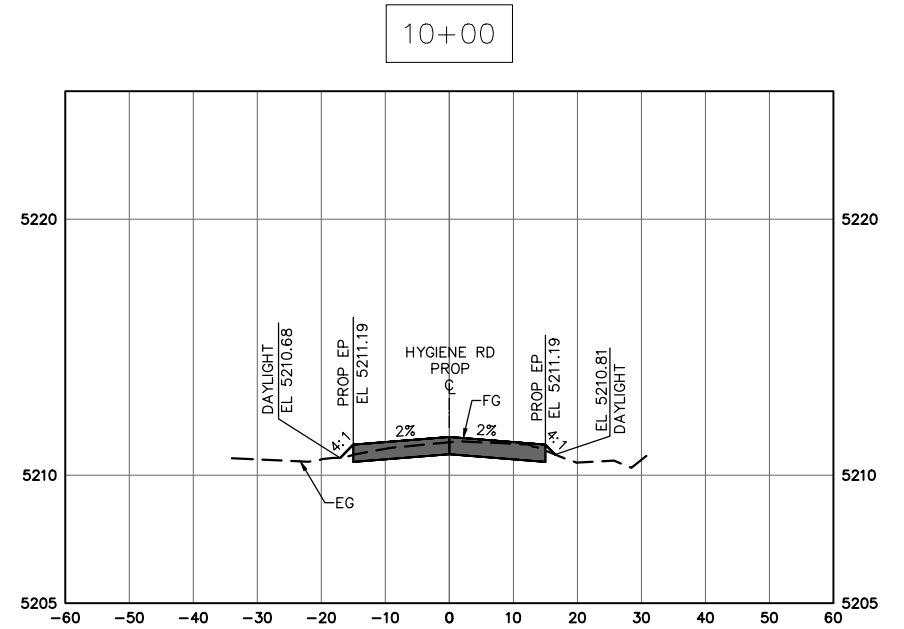
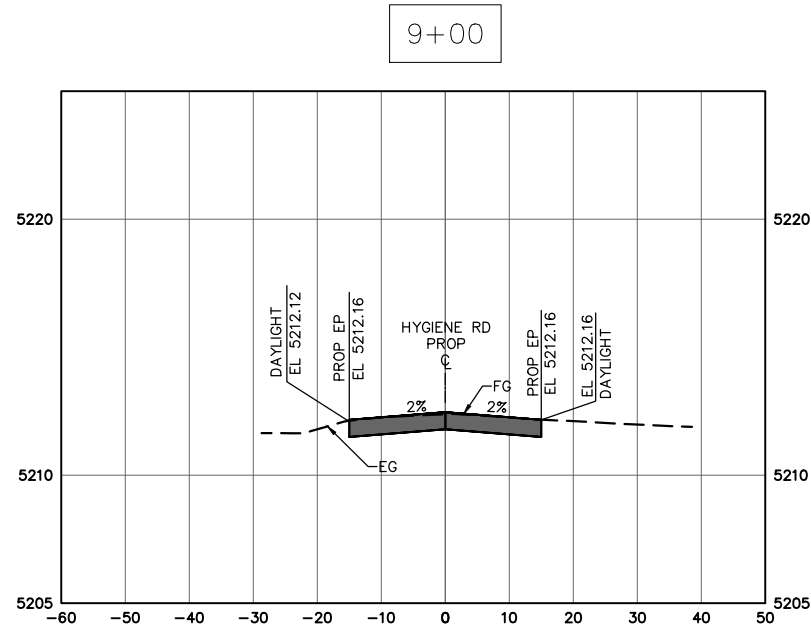
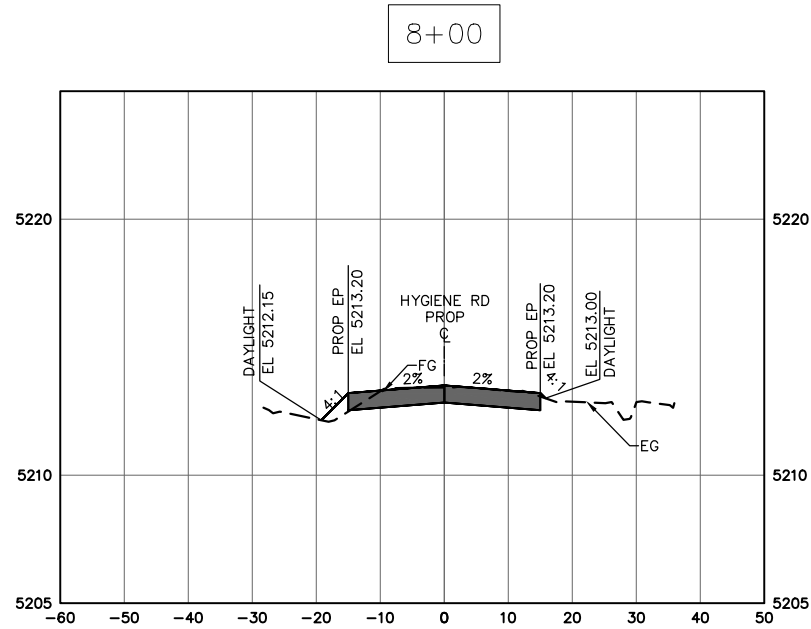
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DESIGNED: TM	CAD/C3D: CH	CHECKED: SS	DATE: 4/28/2023	

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

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REVIEWS:	NO.	DATE	REVISION DESCRIPTION:

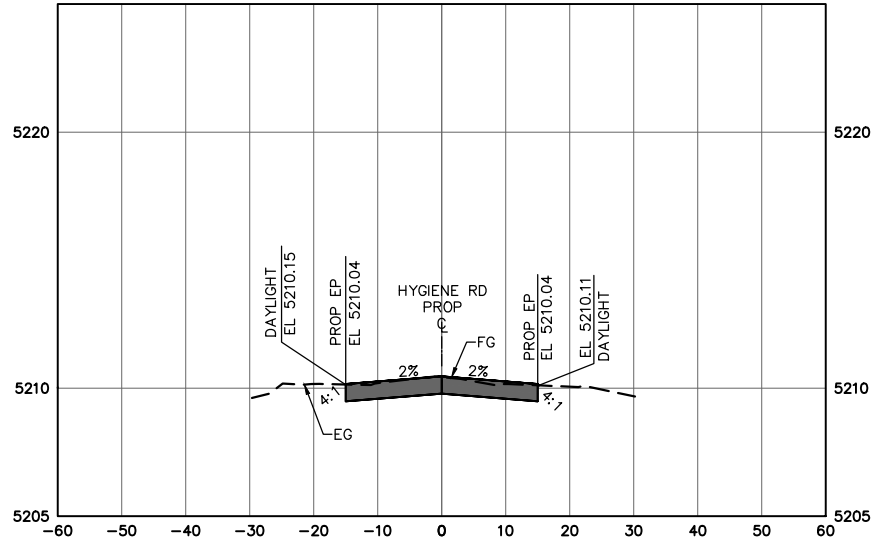


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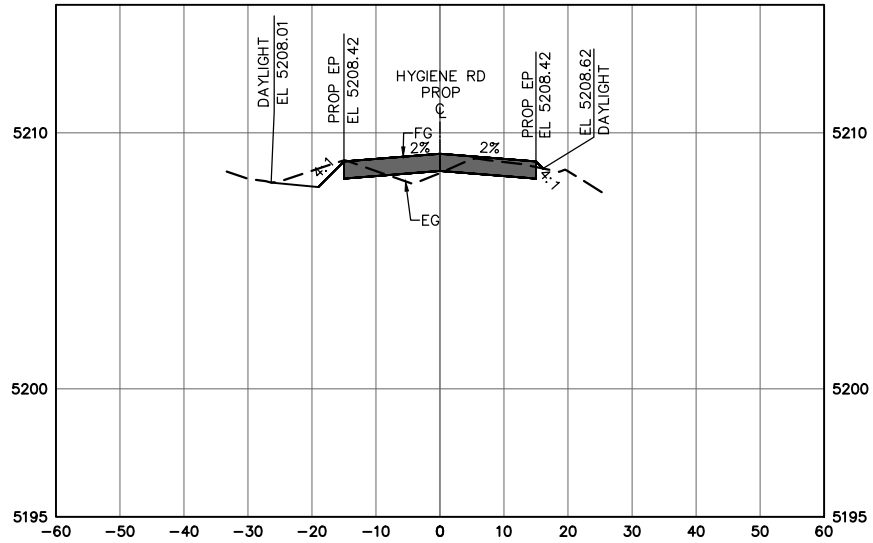
HYGIENE ROAD AT FOOTHILLS RESERVOIR	
ROADWAY CROSS SECTIONS	
PROJECT NO: BC-001001-1.4	SHEET NO: 31

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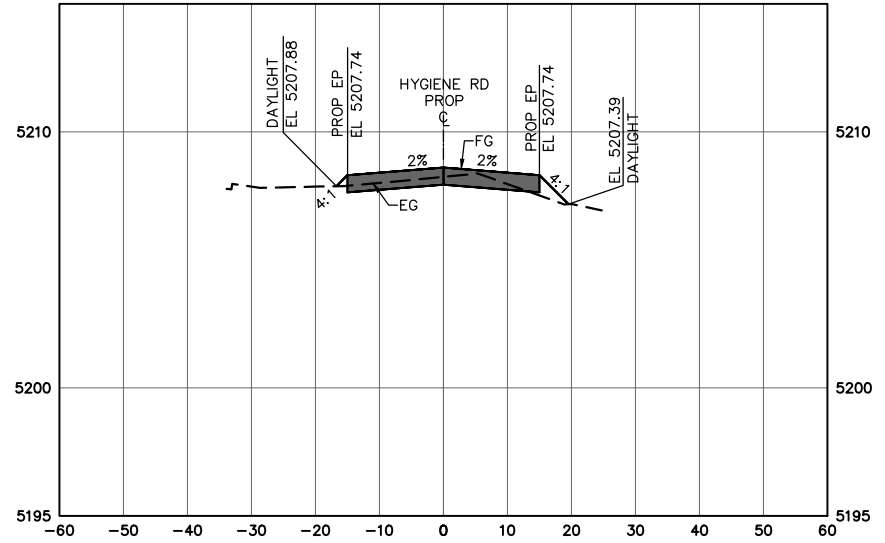
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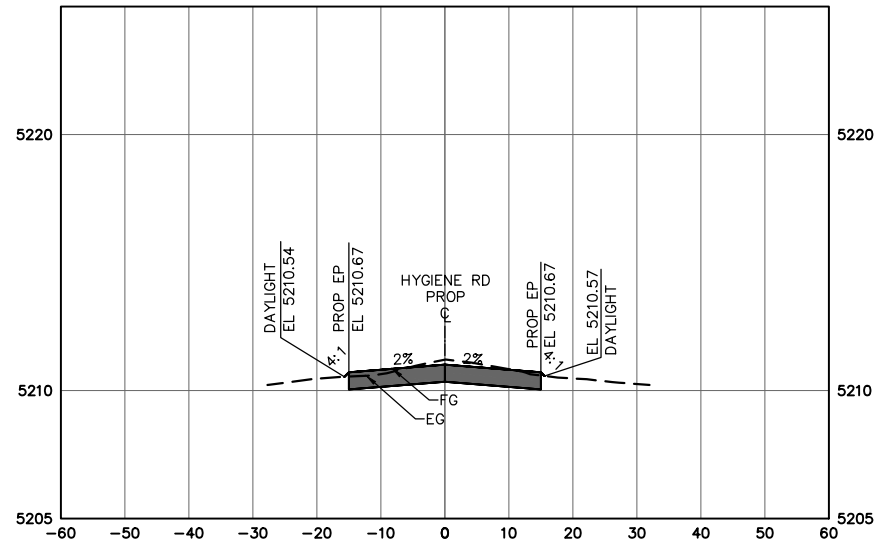
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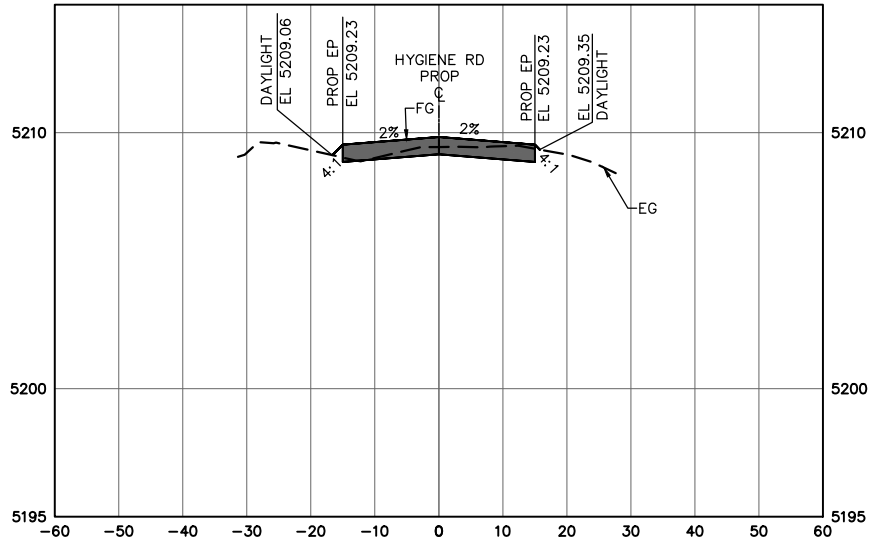
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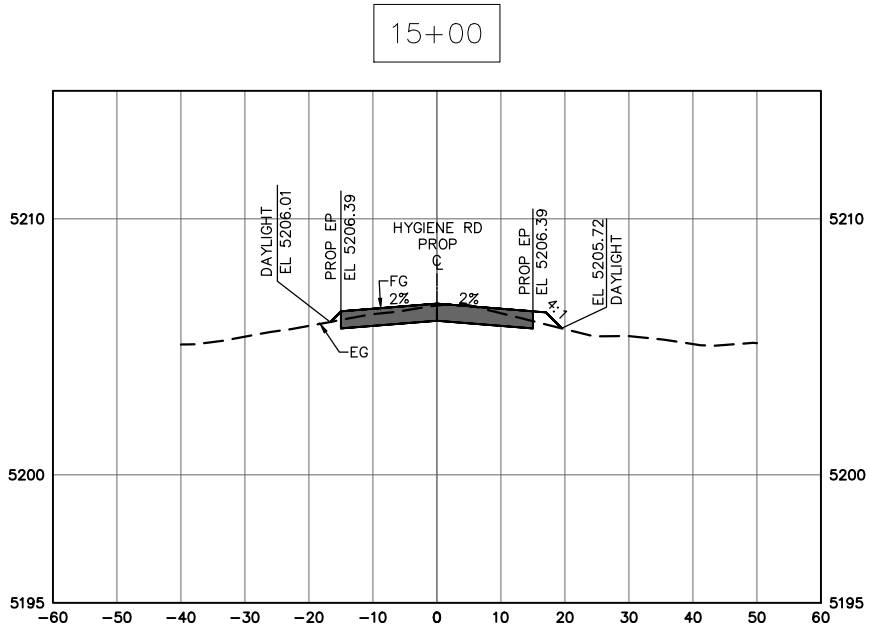
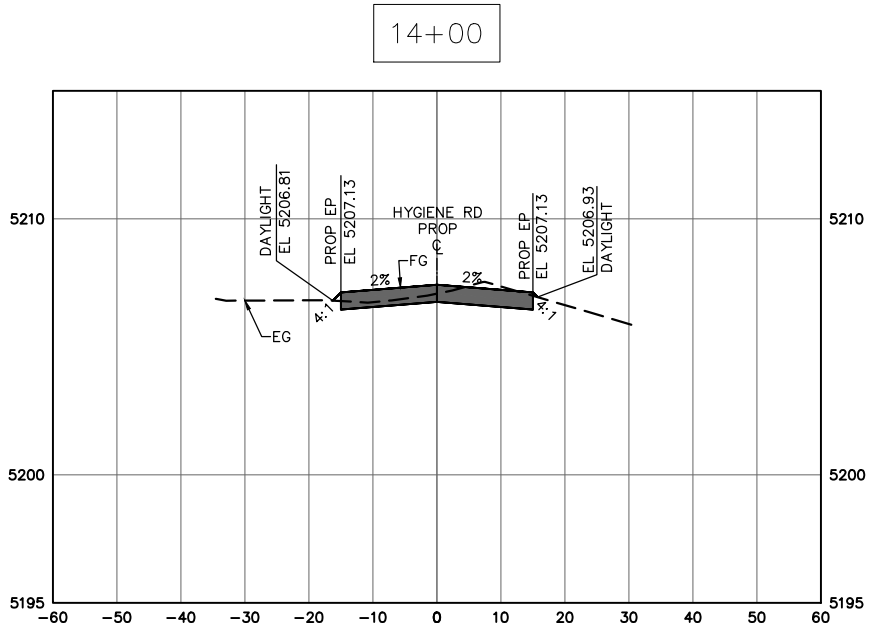
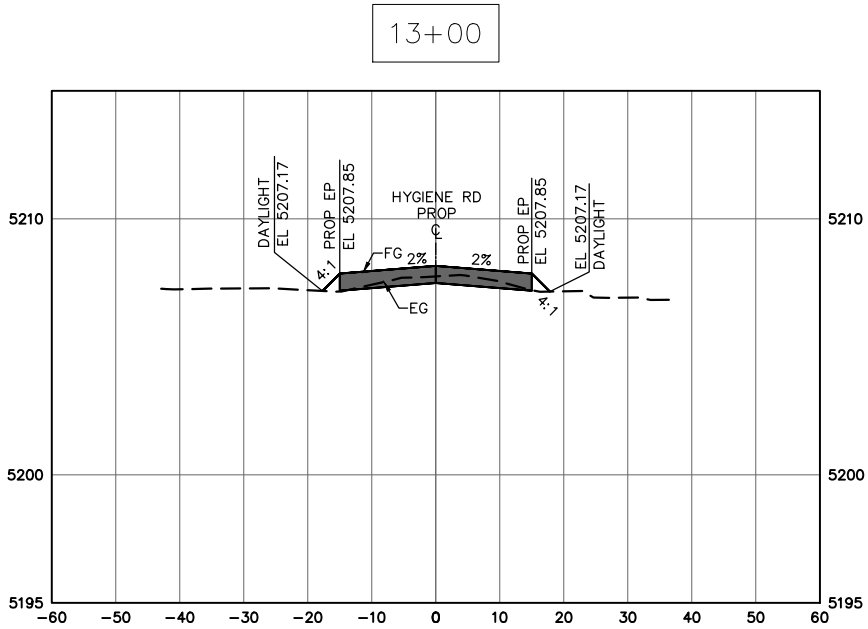
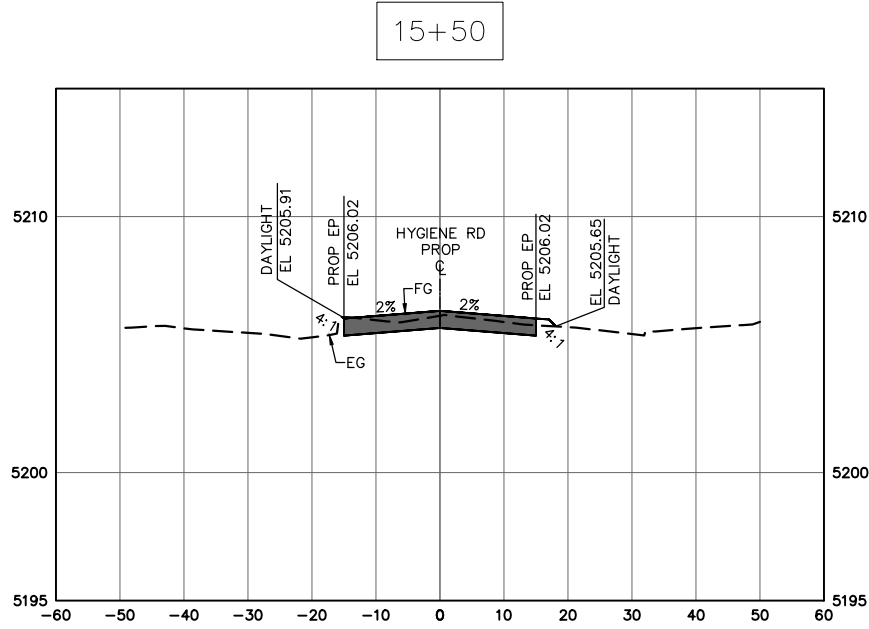
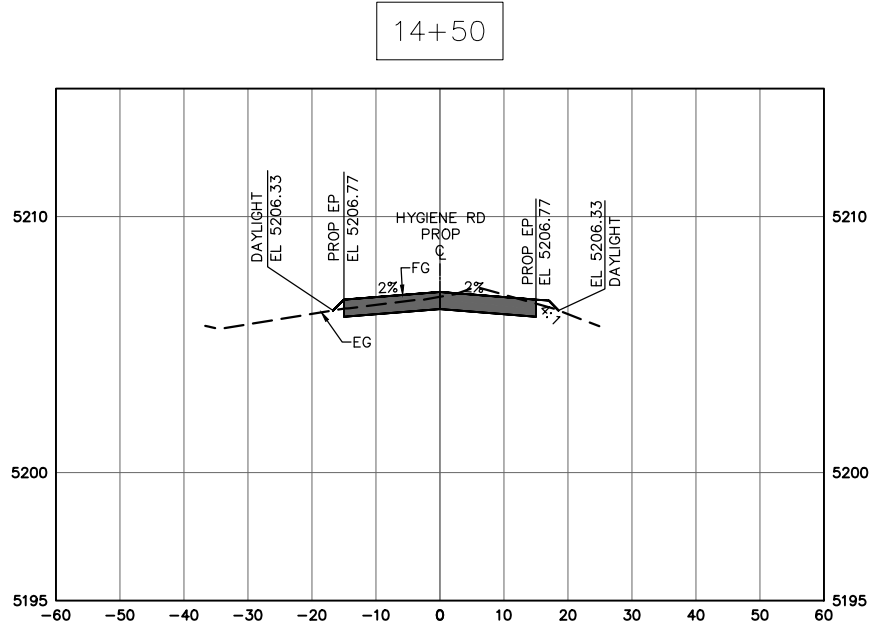
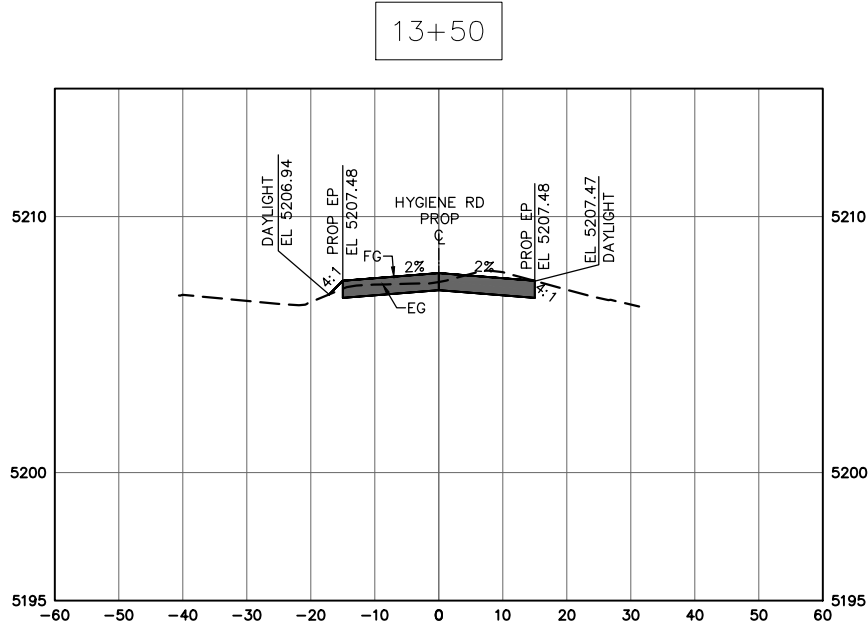
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ROADWAY CROSS SECTIONS

PROJECT NO: BC-001001-1.4 SHEET NO: 32

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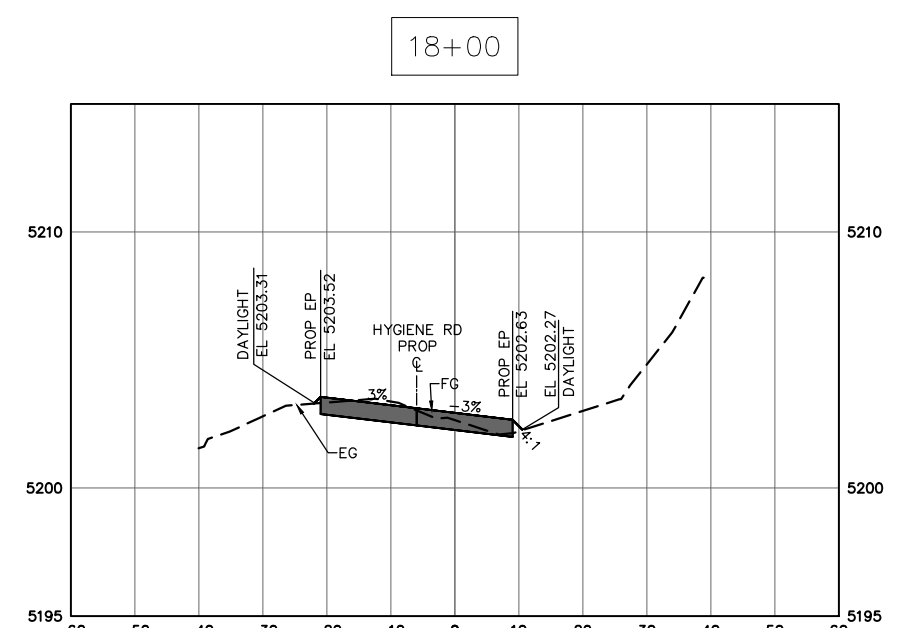
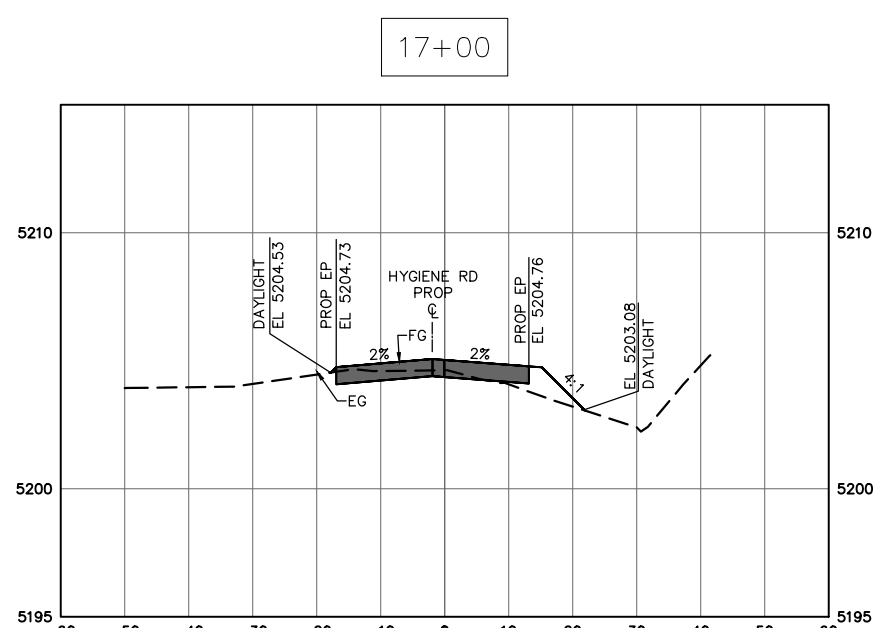
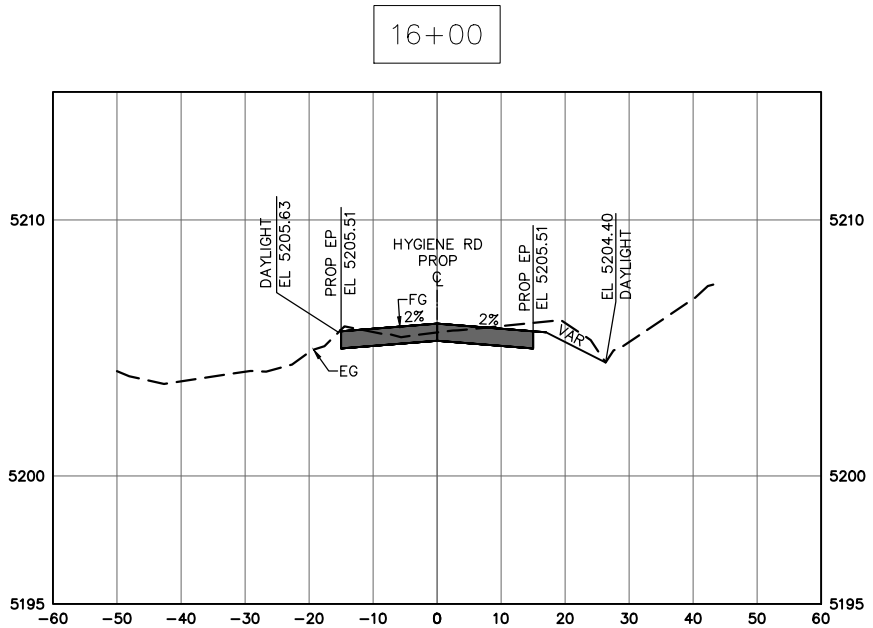
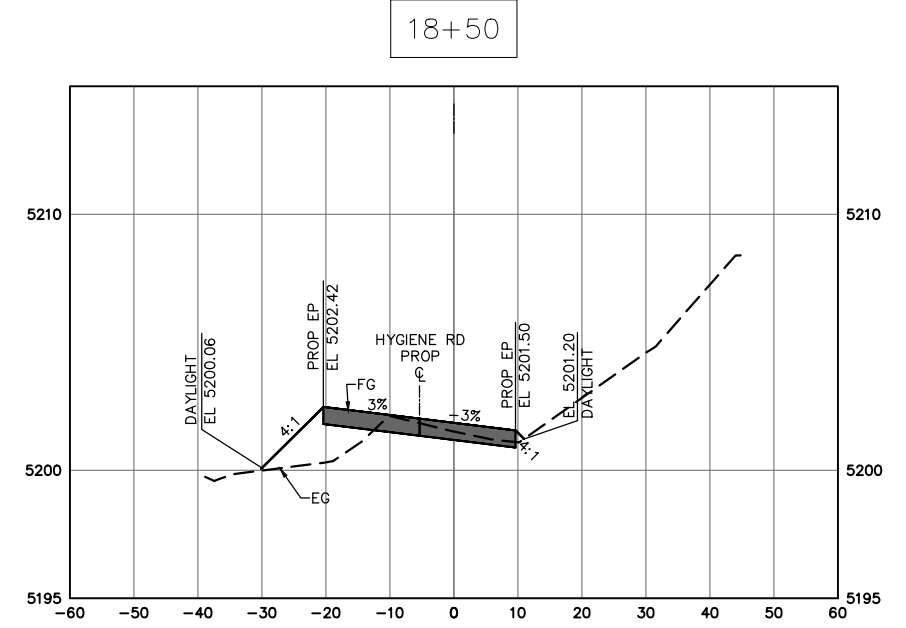
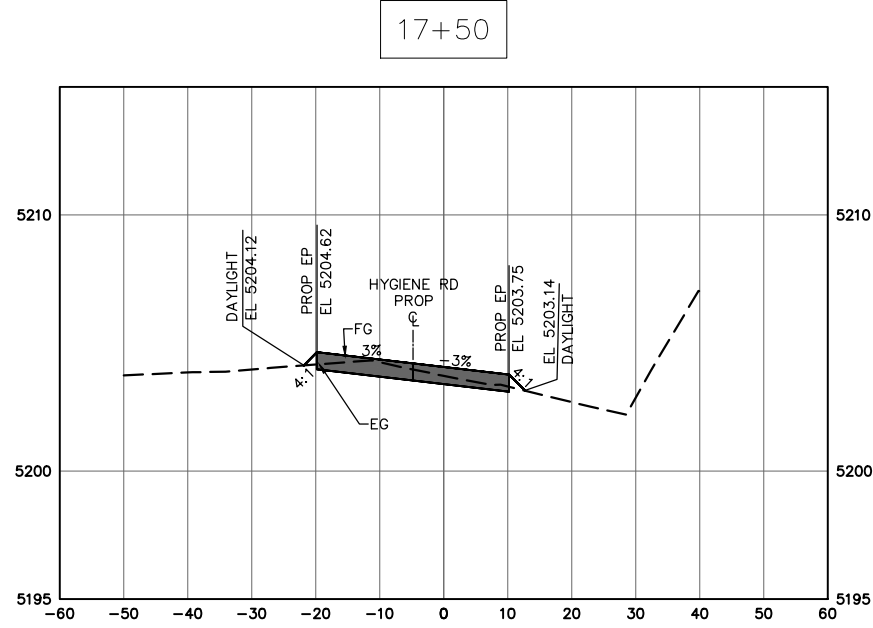
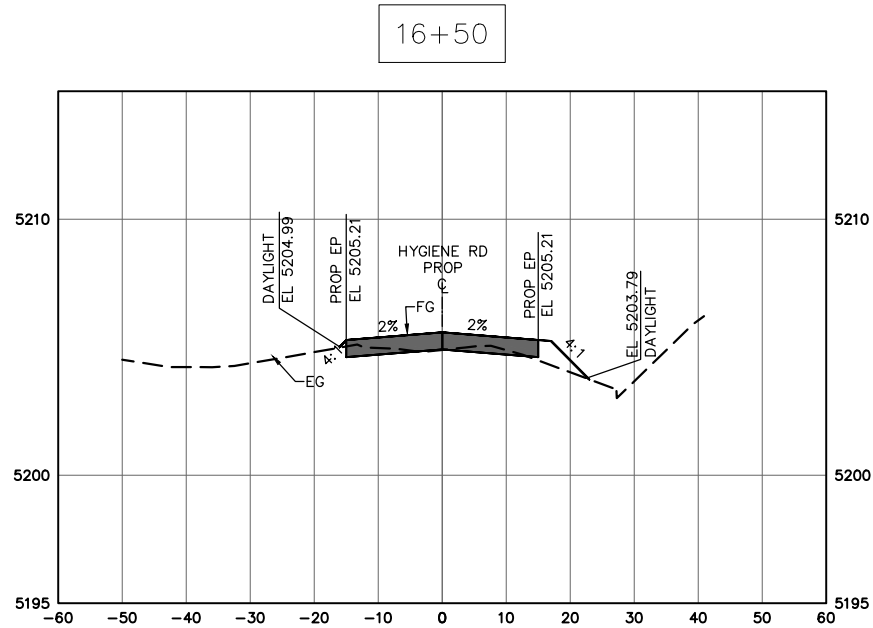
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HYGIENE ROAD AT FOOTHILLS RESERVOIR

ROADWAY CROSS SECTIONS

PROJECT NO:	BC-001001-1.4	SHEET NO:	33
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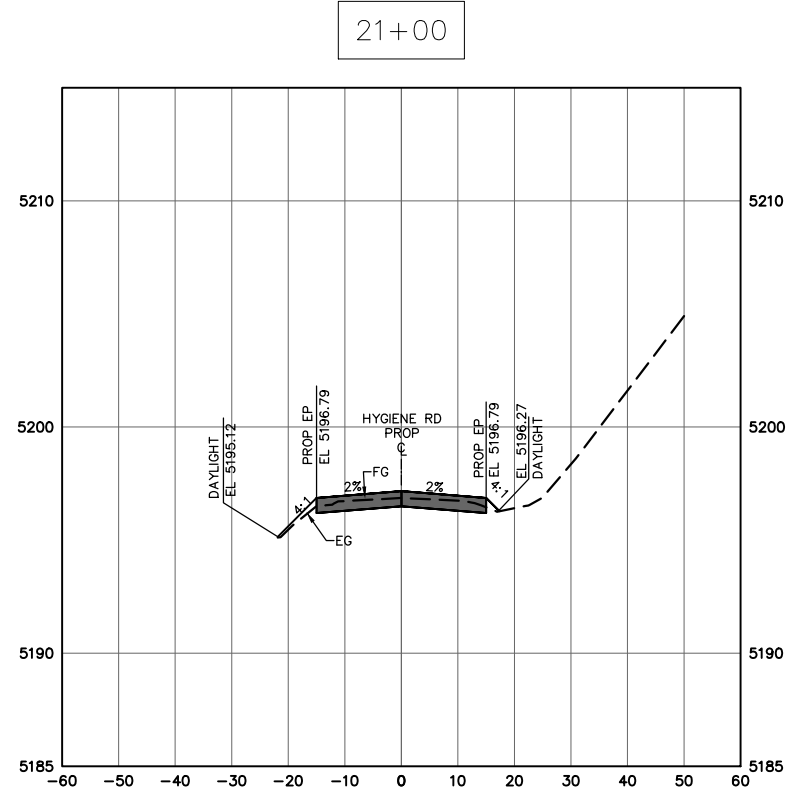
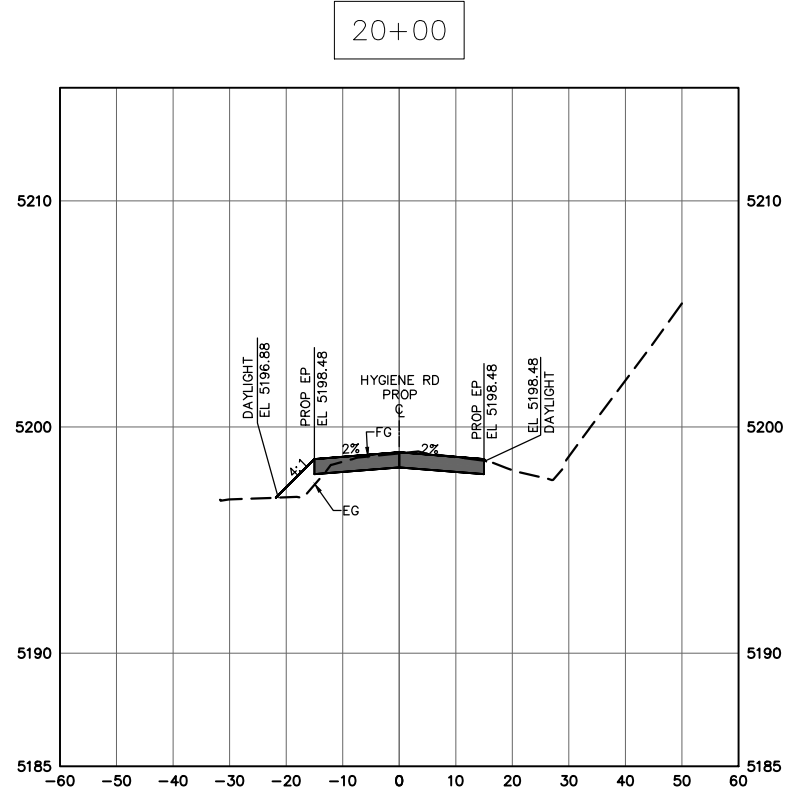
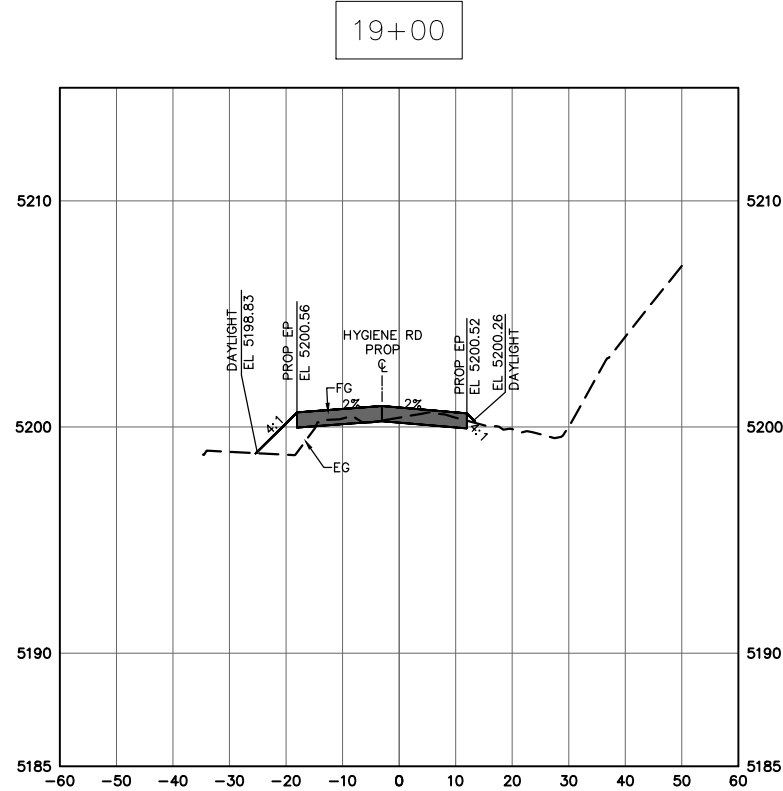
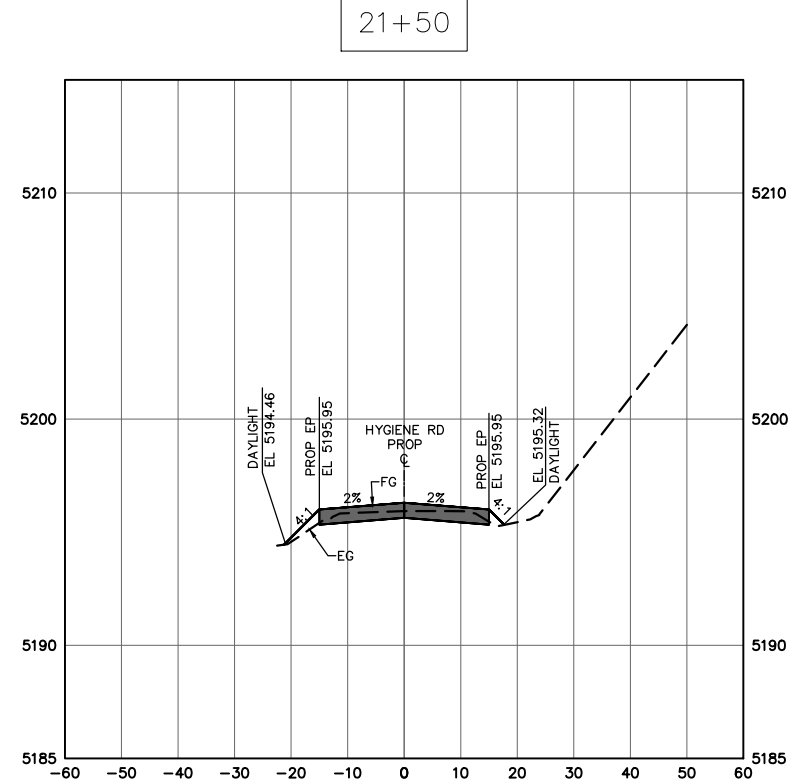
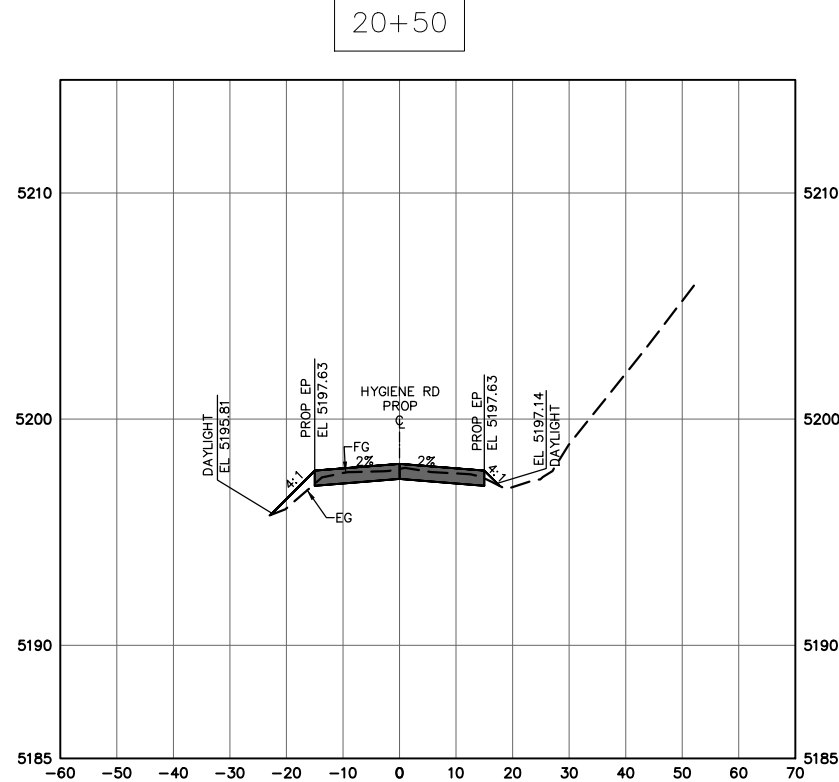
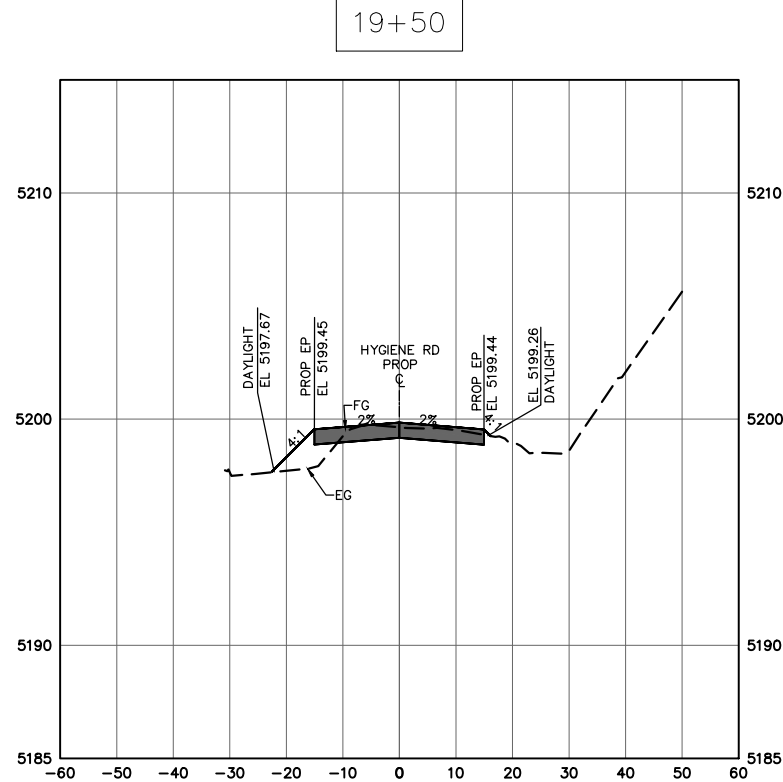
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ROADWAY CROSS SECTIONS

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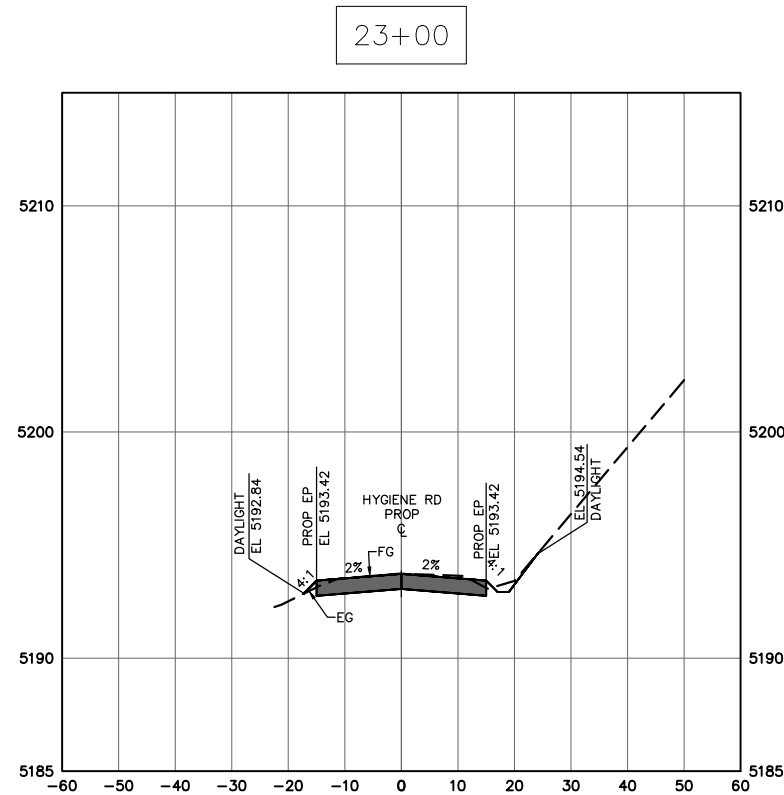
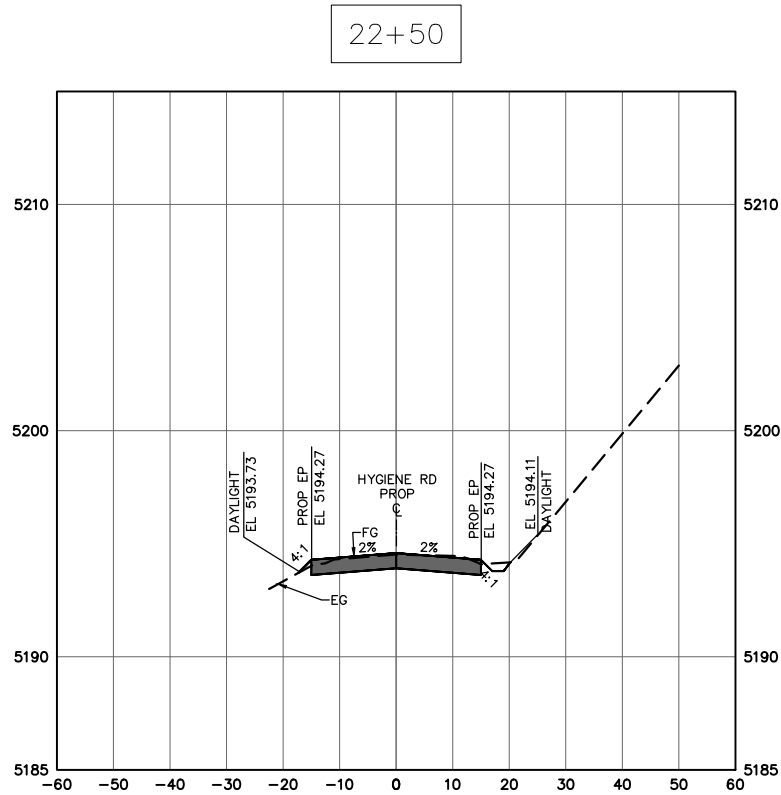
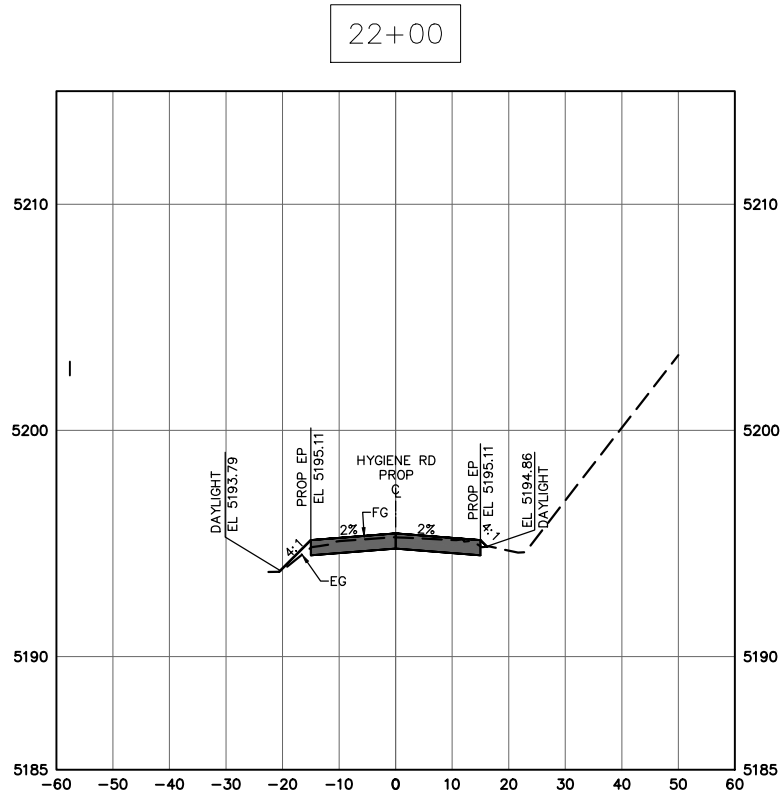
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ROADWAY CROSS SECTIONS		
PROJECT NO:	BC-001001-1.4	SHEET NO: 35

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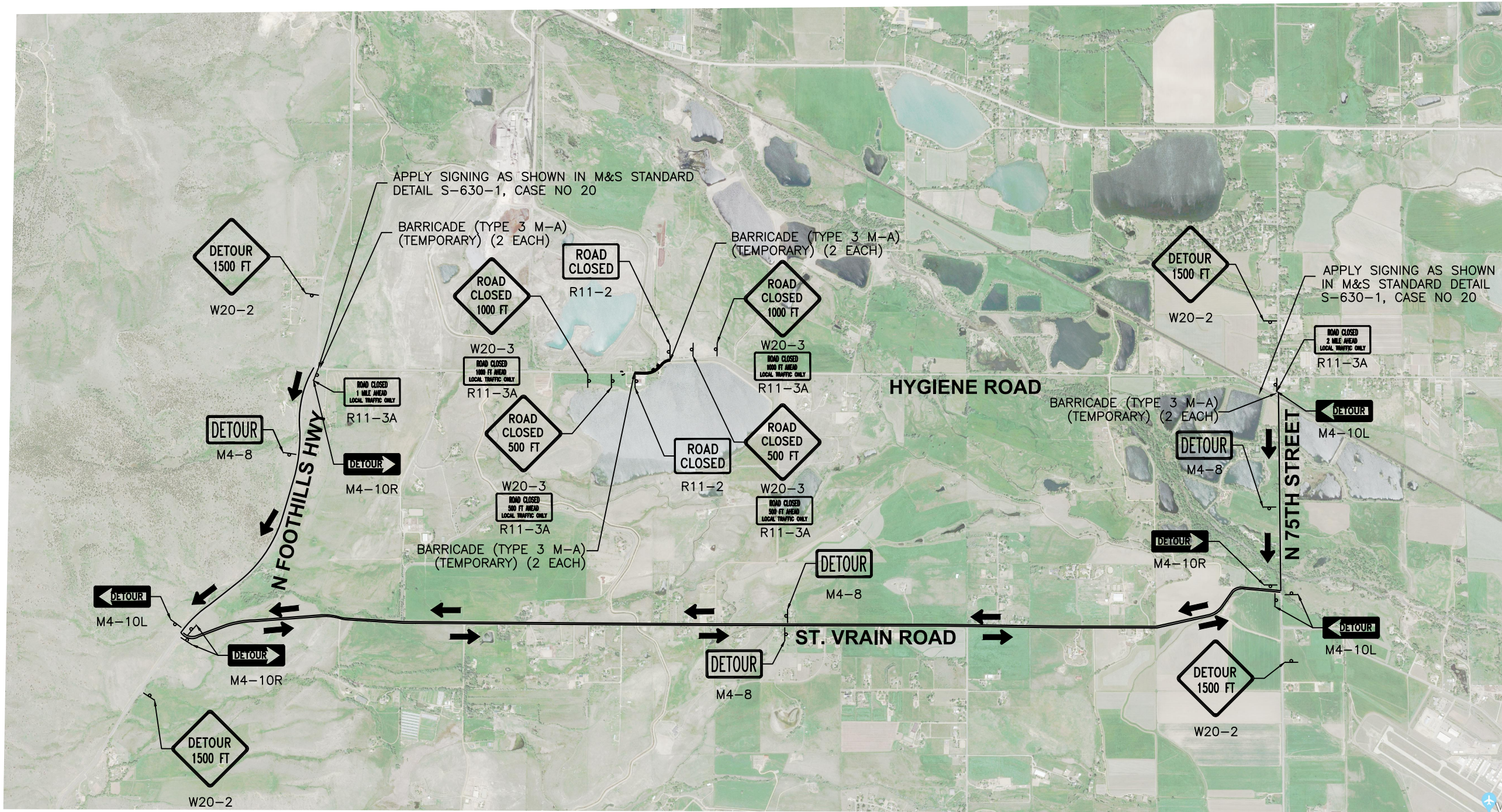
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HYGIENE ROAD AT FOOTHILLS RESERVOIR

ROADWAY CROSS SECTIONS

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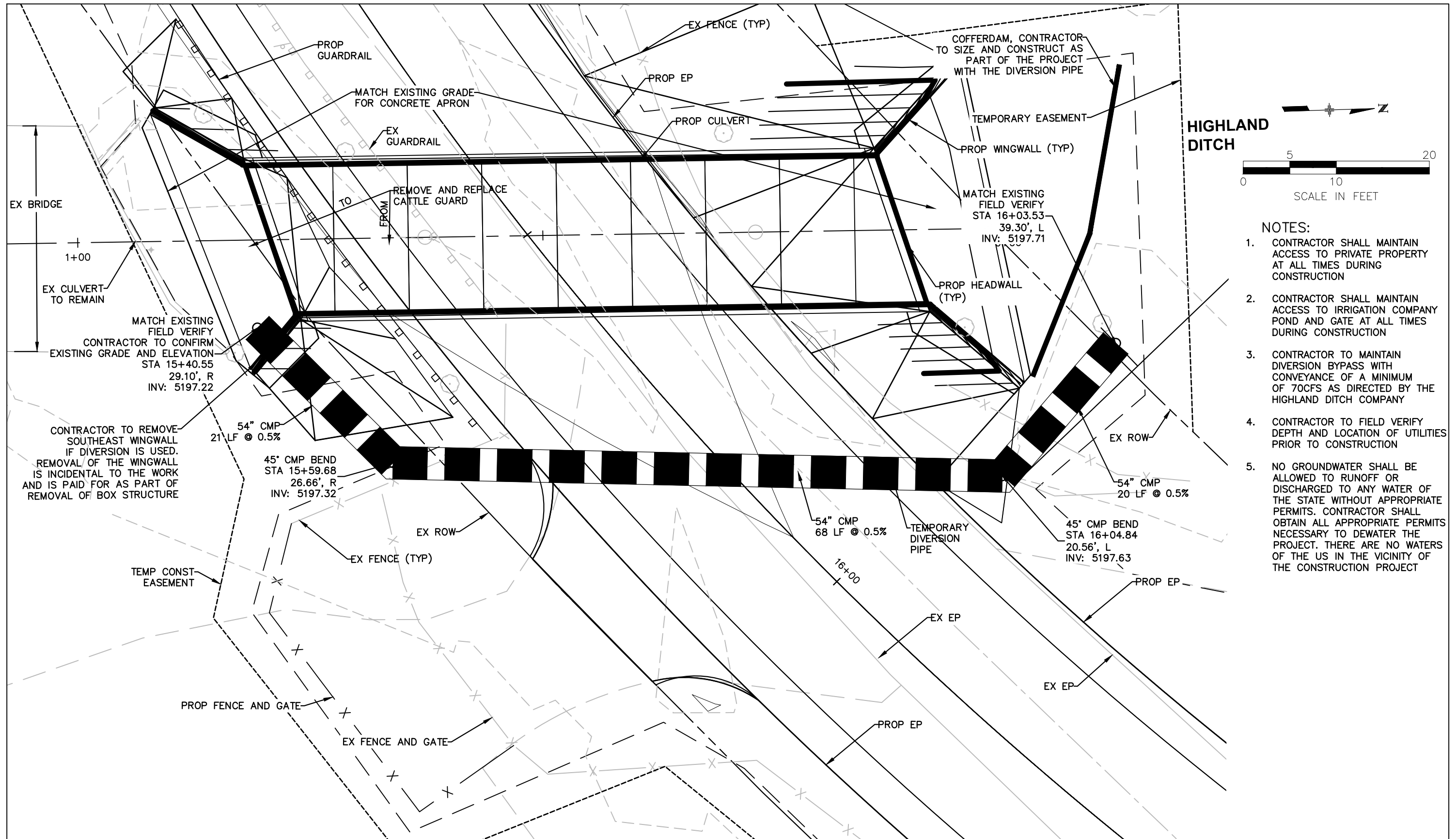
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HYGIENE ROAD AT FOOTHILLS RESERVOIR

DETOUR PLAN

PROJECT NO: BC-001001-1.4 SHEET NO: 37

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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
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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	FF = FRONT FACE
BF = BACK FACE	GALV. = GALVANIZED
BOT = BOTTOM	HBP = HOT BITUMINOUS PAVEMENT
CBC = CONCRETE BOX CULVERT	HCL = HORIZONTAL CONTROL LINE
CLR. = CLEAR	JT. = JOINT
CONST. = CONSTRUCTION	N.F. = NEAR FACE
CONT. = CONTINUOUS	NTS = NOT TO SCALE
DWG. = DRAWING	NO. = NUMBER
EF = EACH FACE	PGL = PROFILE GRADE LINE
EQ = EQUAL	ROW = RIGHT-OF-WAY
EXP. = EXPANSION	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



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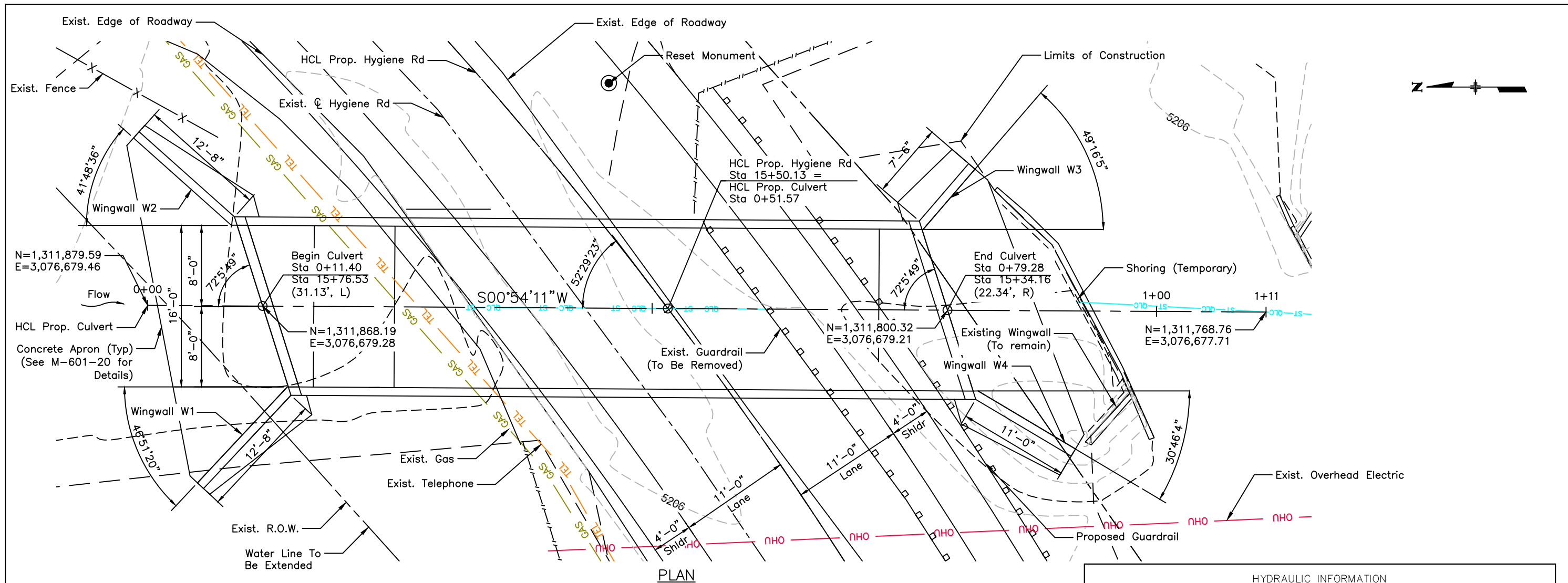
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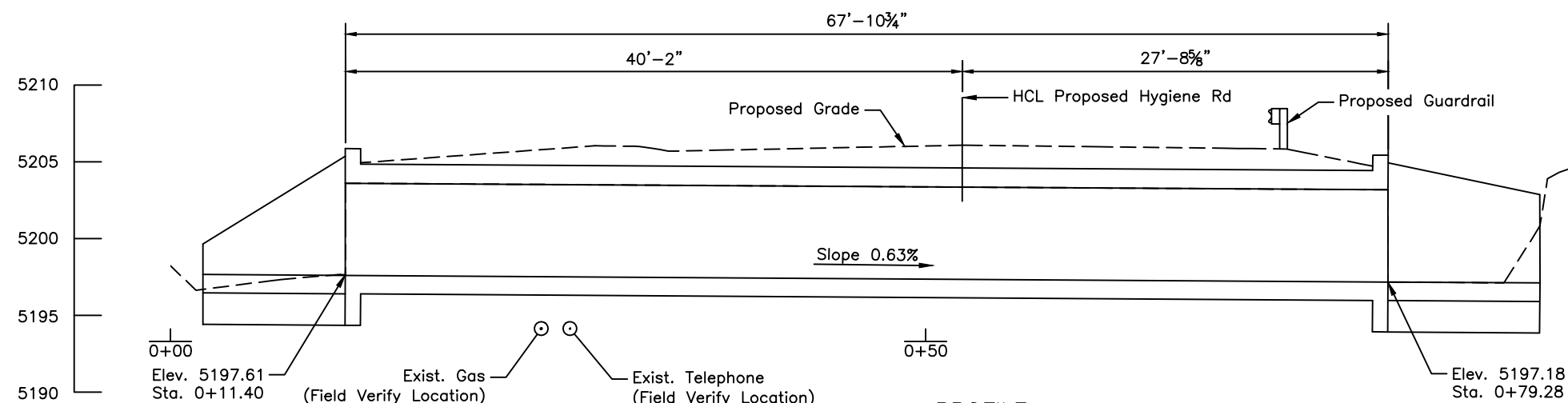
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BOX CULVERT GENERAL INFORMATION

PROJECT NO: BC-001001-1.4	SHEET NO: 39
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PLAN



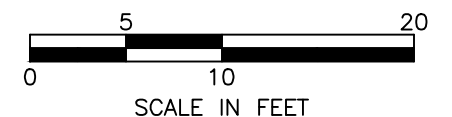
PROFILE

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:

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



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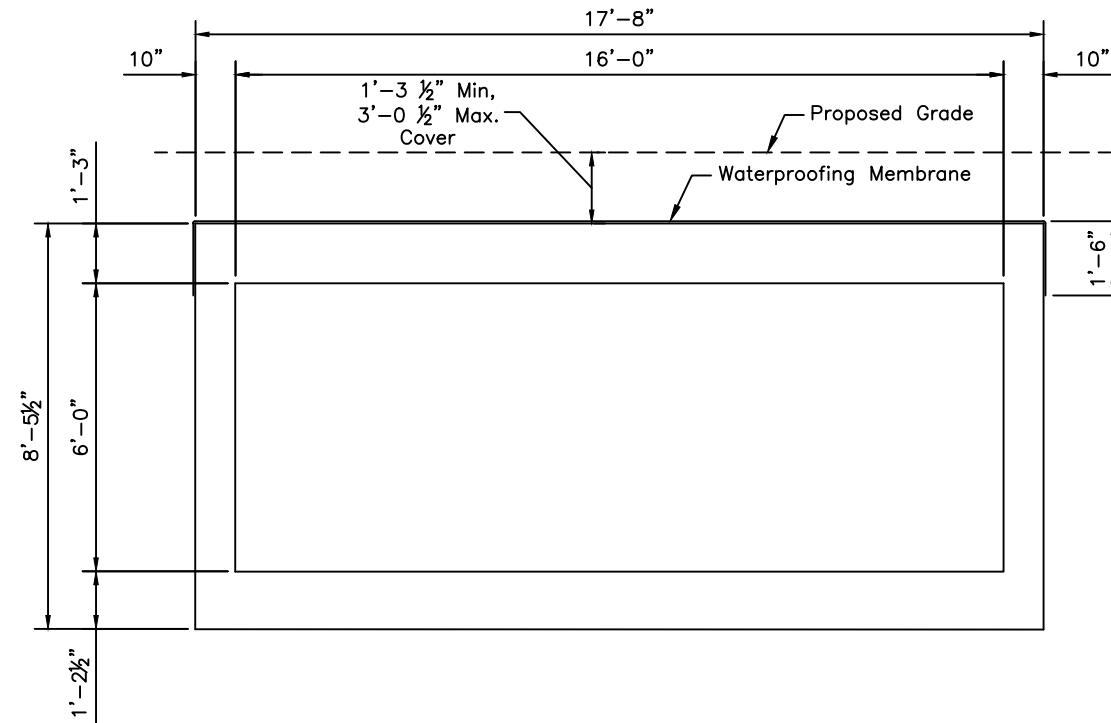
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BOX CULVERT GENERAL LAYOUT

PROJECT NO: BC-001001-1.4 SHEET NO: 40



TYPICAL SECTION

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



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	NO.	DATE	



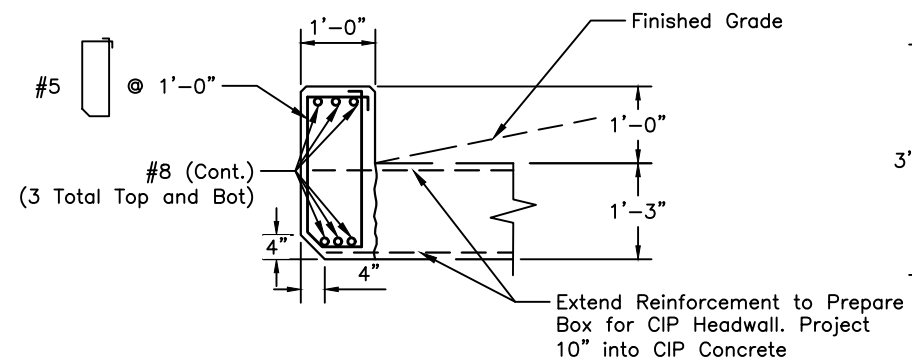
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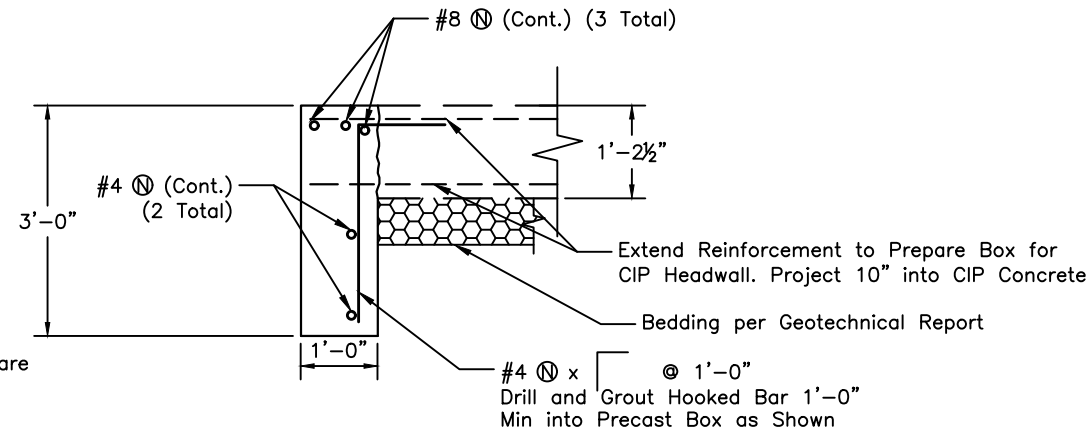
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BOX CULVERT TYPICAL SECTION

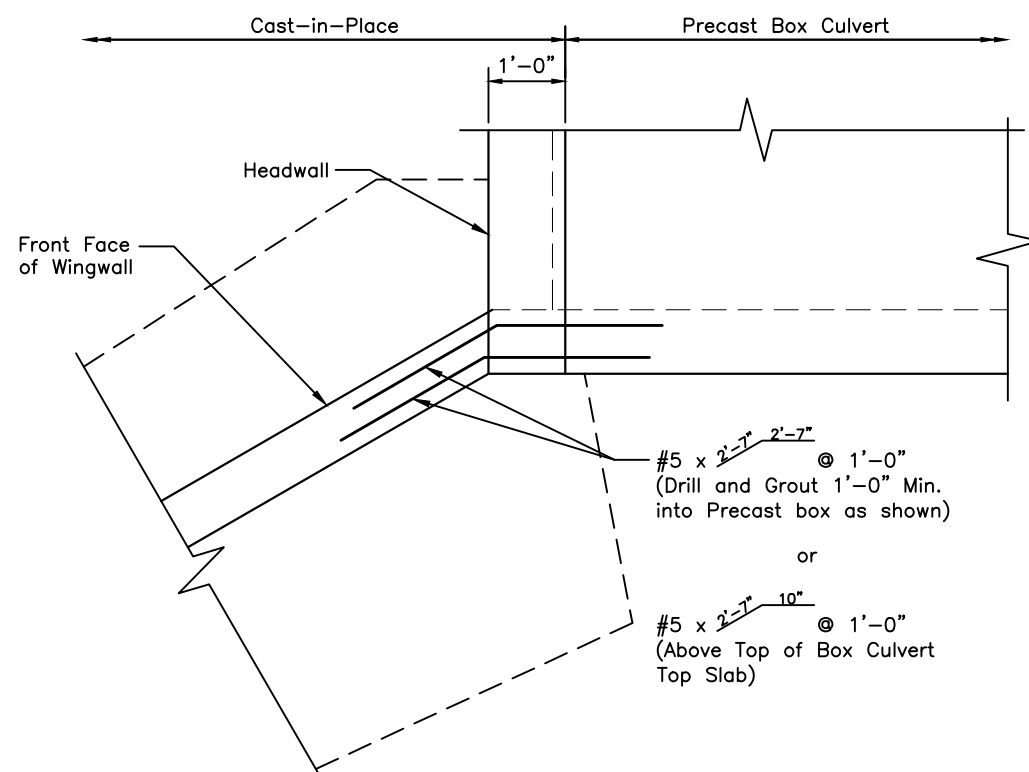
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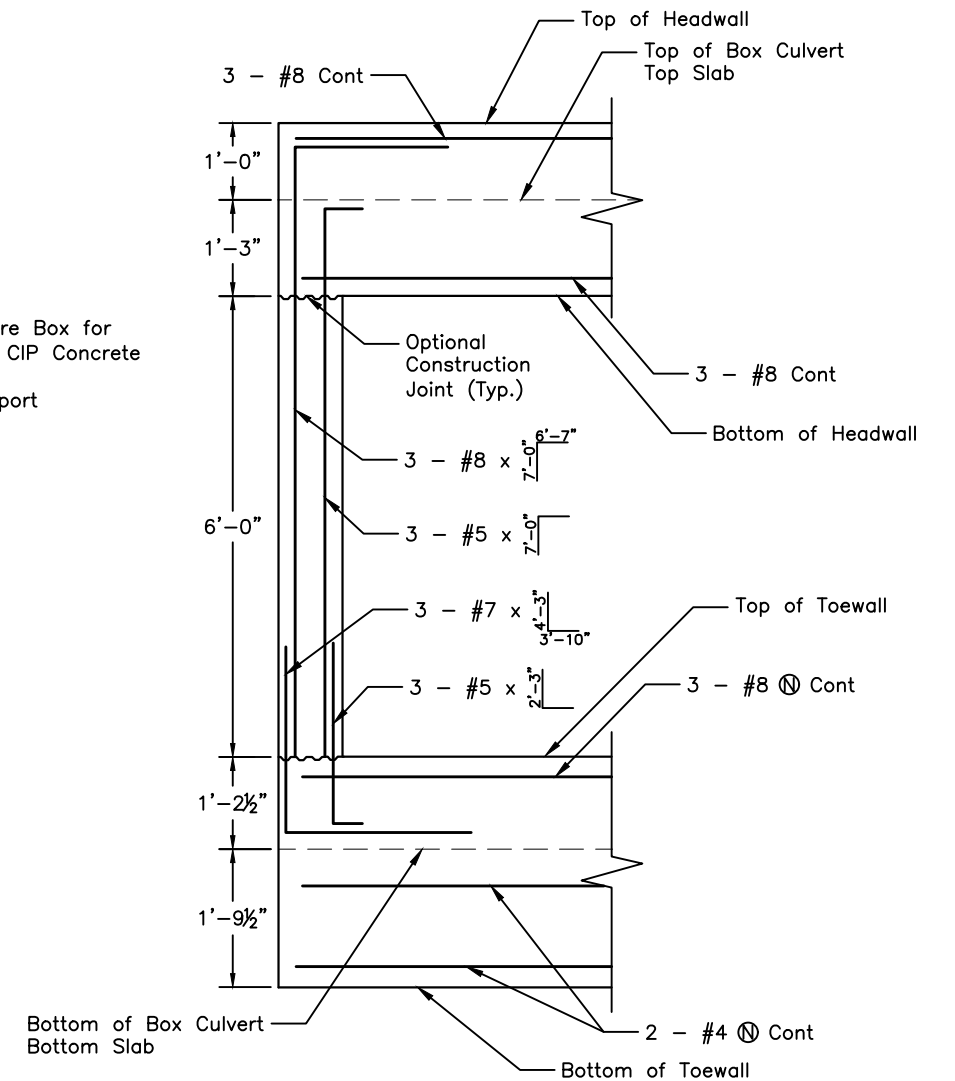
HEADWALL DETAIL



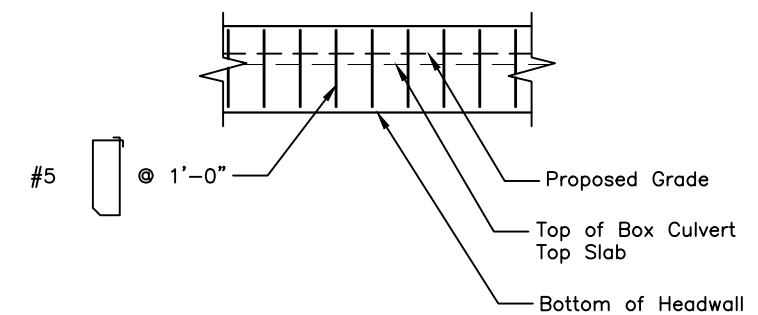
BOX CULVERT TOEWALL DETAIL



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

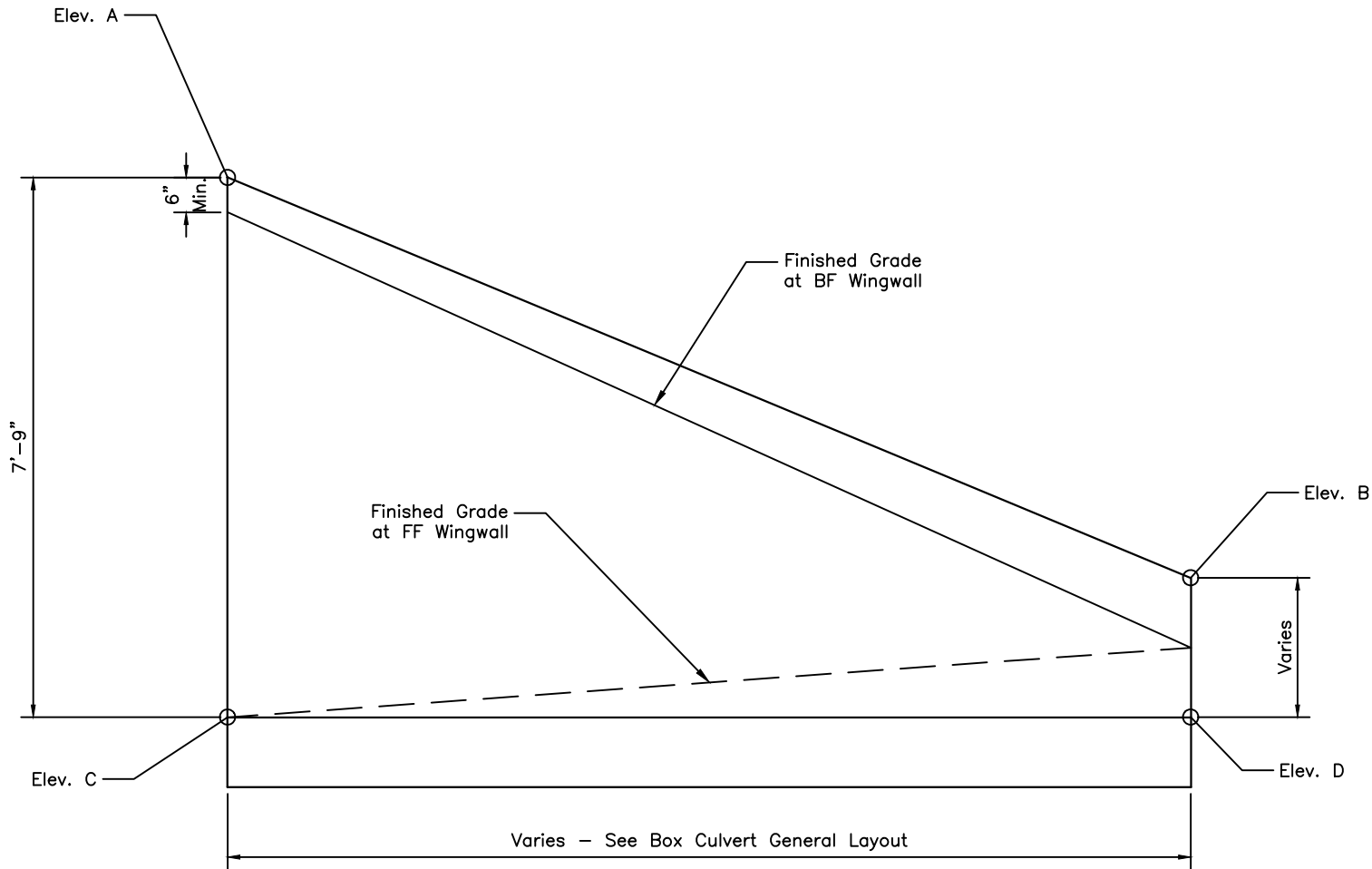


HEADWALL CORNER REINFORCING DETAIL

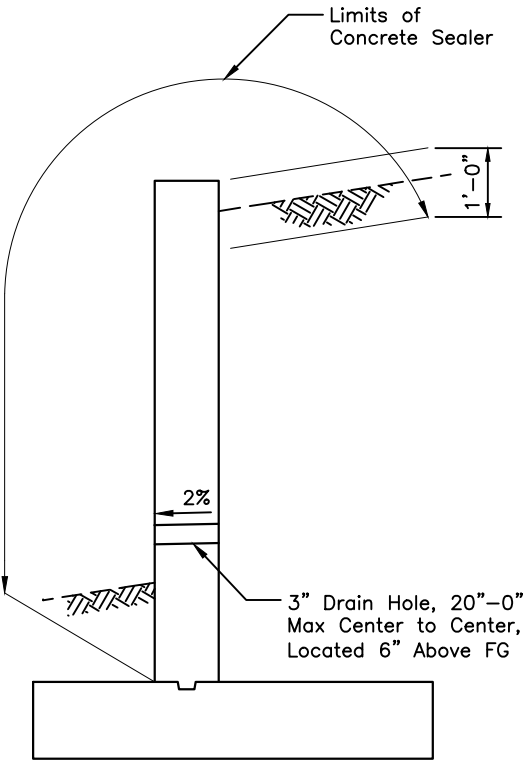


HEADWALL PARTIAL ELEVATION

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

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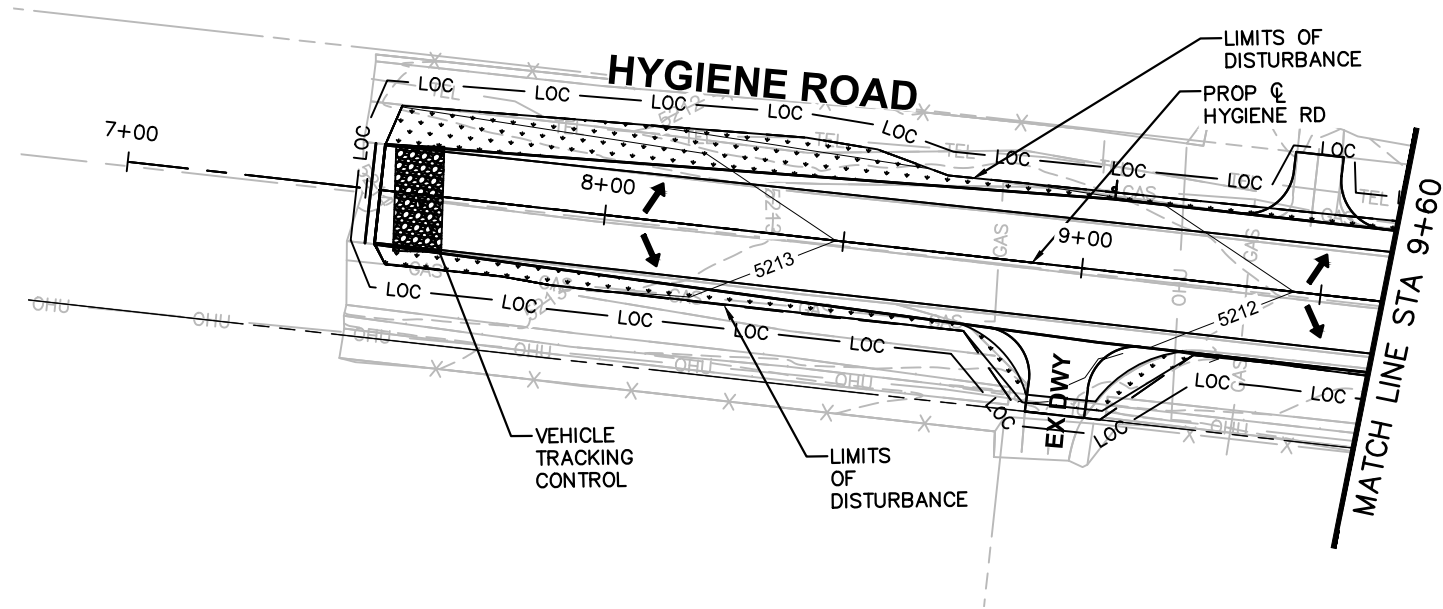
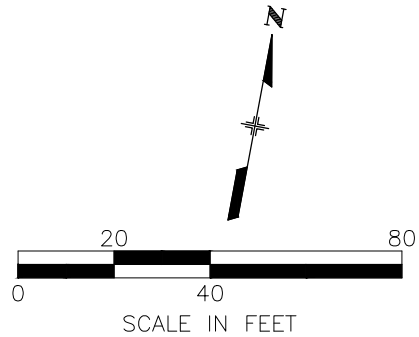
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HYGIENE ROAD AT FOOTHILLS RESERVOIR

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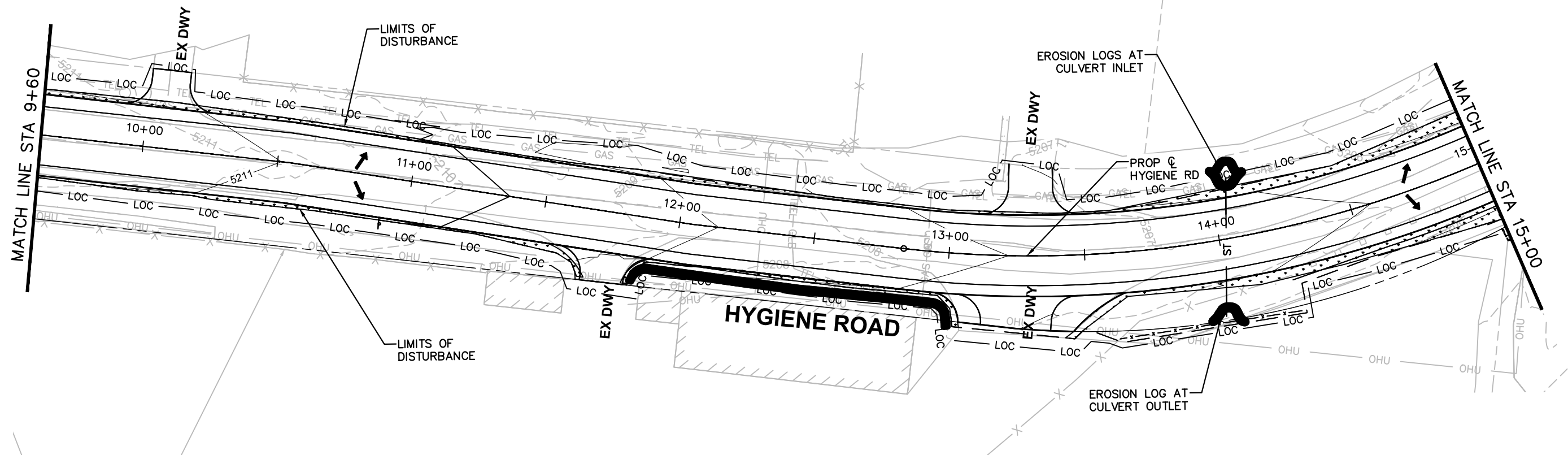
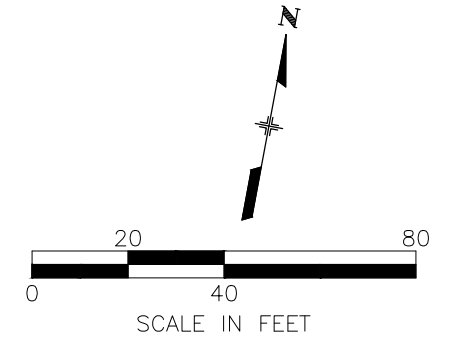
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HYGIENE ROAD AT FOOTHILLS RESERVOIR			
EROSION CONTROL (SWMP) PLANS			
PROJECT NO:	BC-001001-1.4	SHEET NO:	45

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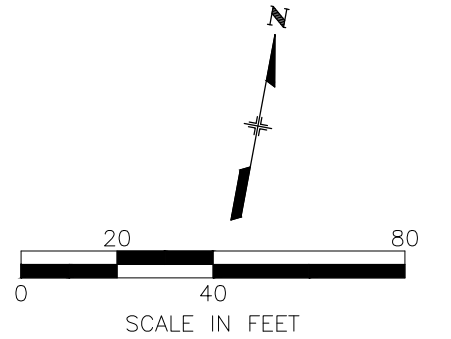
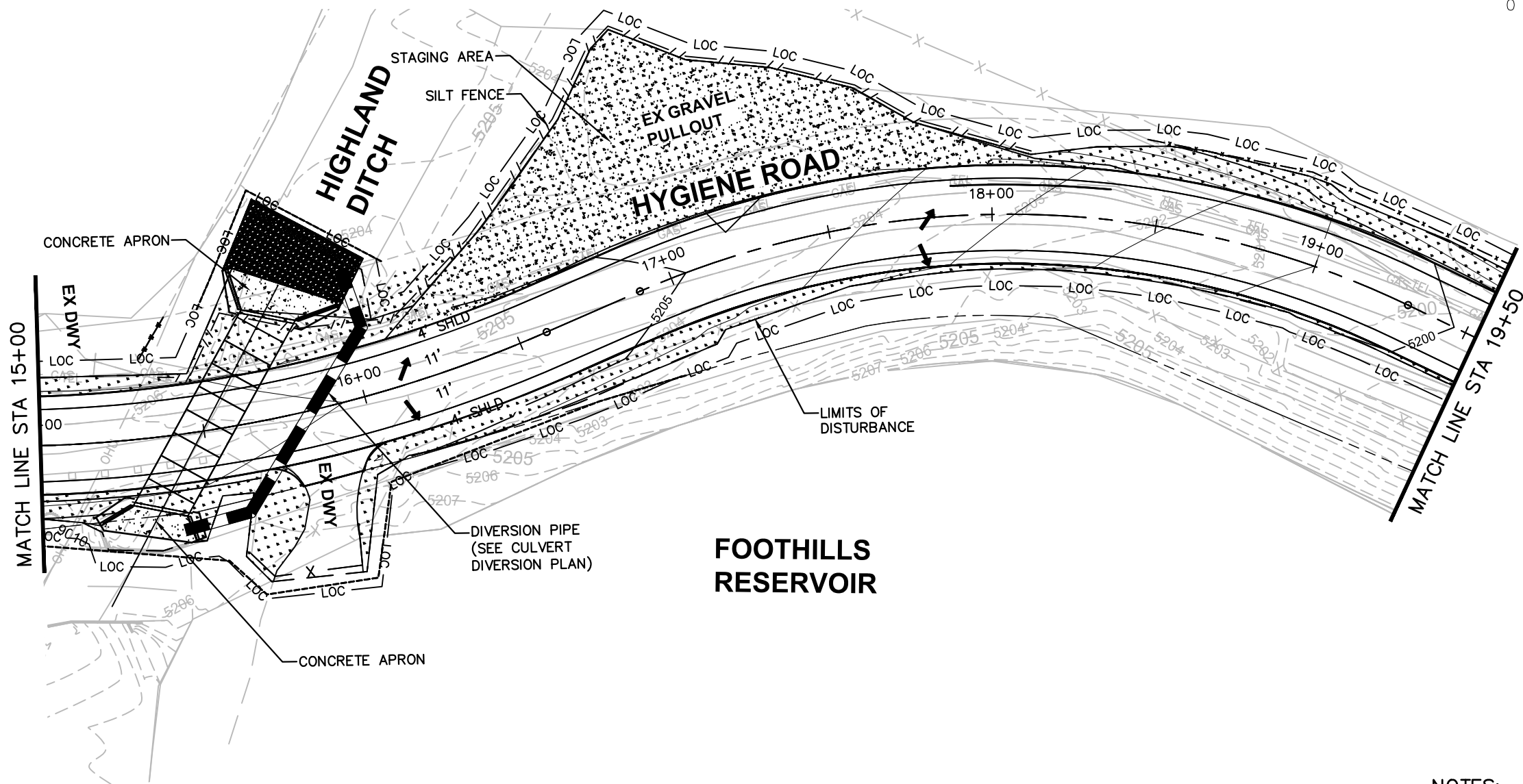
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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
EROSION CONTROL (SWMP) PLANS	
PROJECT NO: BC-001001-1.4	SHEET NO: 46

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LEGEND

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— / / — 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

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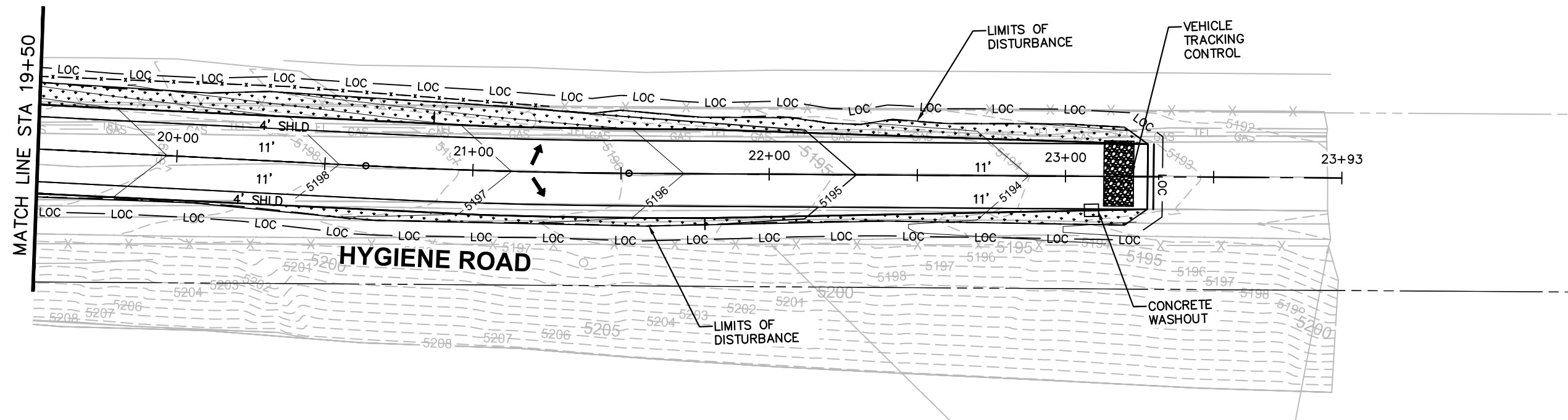
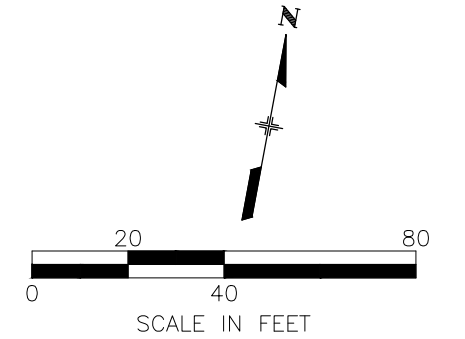
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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
EROSION CONTROL (SWMP) PLANS	
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NOTES:

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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 CDPS-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 o 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.

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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@atkinglobal.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

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ENGINEERING DIVISION**

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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.

1. 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.
2. Apply Spray-on Mulch Blanket hydraulically in accordance with Section 213.
3. Apply Bonded Fiber Matrix hydraulically accordance with Section 213.
4. Install Soil Retention Blankets in accordance with Standard Plan M-216-1 and Section 216.

D. **SPECIAL REQUIREMENTS:**

1. 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.
2. Complete permanent stabilization mulching within 24 hours of hydraulic application of native seed.
3. 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.

1. 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.
2. 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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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:

1. 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).
2. The SWMP Administrator for Construction shall place an "X" in the column In Use On Site when the control measure has been installed.
3. 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	Placed as a conduit or chute to drain runoff down slope and to prevent erosion of slope.	M-208				
OUTLET PROTECTION <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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HYGIENE ROAD AT FOOTHILLS RESERVOIR	
EROSION CONTROL (SWMP) PLANS	
PROJECT NO: BC-001001-1.4	SHEET NO: 52

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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 (Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment.)	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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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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HYGIENE ROAD AT FOOTHILLS RESERVOIR

EROSION CONTROL (SWMP) PLANS

PROJECT NO: BC-001001-1.4 SHEET NO: 54

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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