

BID DOCUMENTS, SPECIFICATIONS,
AND DRAWINGS

Lower D2 Ditch Flood Mitigation Project – Precast Materials

Lewis and Clark County, Montana

June 2024



Prepared By:

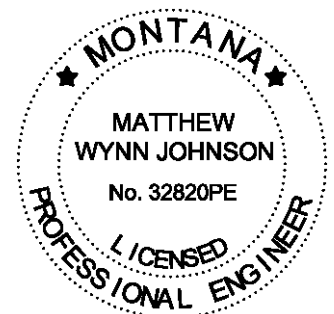
RESPEC

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Suite 101

Helena, MT 59601

RESPEC Project W0138.23003



PROJECT TEAM:

Project Owner

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INVITATION TO BID

The Lewis and Clark County Public Works Department is soliciting competitive bids from interested parties for the purchase of precast concrete materials required for the construction of the Lewis & Clark County – Lower D2 Ditch Flood Mitigation Project.

All Bids must be in accordance with the contract documents on file at the Lewis and Clark County Public Works Office, 3402 Cooney Drive, Helena MT 59602. For additional project information, please reach out to the designated point of contact at RESPEC, Matthew Johnson, at Matthew.Johnson@respec.com or by phone at 406-284-2528. Copies of the contract documents used for preparing a bid may be obtained by going to the Lewis and Clark County webpage at: <https://www.lccountymt.gov/Government/Grants-and-Purchasing/Bids-and-Proposals-Current>

A pre-bid conference will be held on Wednesday, June 5 at 3:00 p.m. local time in the Public Works Weed District Conference Room, located at 3402 Cooney Drive, Helena, Montana. Lewis and Clark County strongly urges interested bidders to attend.

Each bid or proposal must be accompanied by a Certified Check, Cashier's Check or Bid Bond payable to Lewis and Clark County, in an amount not less than ten percent of the total amount of the bid. Bids must also include signed certification forms included in Appendix A.

Bids will be considered based on the most responsible bid submitted and the following criteria: purchase price, product availability, and specifications.

Sealed bids must be received at the Office of the Board of County Commissioners, Room 345, City-County Building, 316 N. Park Avenue, Helena, MT 59623 no later than 4:00 p.m. local time on Monday, June 17. The envelope containing the sealed bid will be labeled with the bidder's name, address, and "Lower D2 Ditch Flood Mitigation Project – Precast Materials".

Bids will be opened and read aloud at the public meeting of the County Commissioners on Tuesday, June 18 at 9:00 a.m. local time in Room 330 of the City-County Building, 316 N. Park Avenue, Helena, MT.

This project is funded in whole or in part with a grant from the American Rescue Plan Act (ARPA). Award of the project will be contingent upon the Contractor providing or establishing a Unique Entity Identification (UEI) and passing a suspension and debarment verification per the requirements of the Funding Agency Special Provisions in this bid package.

The right is reserved to reject any or all proposals received, to waive informalities, to postpone the award of the contract for a period not to exceed sixty (60) days, and to accept the lowest responsive and responsible bid that is in the best interest of the Owner.

Lewis and Clark County reserves the right to reject any or all bids, to waive irregularities or to accept any bid deemed to be for the public good.

Legal Ad: Independent Record

Publish: Saturday, May 25, 2024
Saturday, June 1, 2024

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LEWIS AND CLARK COUNTY
INVITATION FOR BIDS
STANDARD TERMS AND CONDITIONS

1. **Competition.** Lewis and Clark County encourages free and open competition among bidders. Whenever possible, specifications, bid invitations, and conditions are designed to accomplish this objective, consistent with the necessity to satisfy the County's needs and accomplishment of a sound economical operation.

The bidder's signature on this proposal guarantees that the prices quoted have been established without collusion with other eligible bidders and without effort to preclude Lewis and Clark County from obtaining the lowest possible competitive price.

Prior to the award of the contract, bids may be held by Lewis and Clark County for a period not to exceed 30 days from the date of the opening of bids for the purpose of reviewing bids and investigating the qualifications of the bidders.

2. **Preparation of Bids.** Bids will be written in ink and/or typewritten on the bid forms furnished herewith. Erasures and alterations must be initialed by the bidder in ink. No verbal bids shall be accepted. The bidder agrees that the bid shall be good and may not be withdrawn during the 30-day review period.
3. **Bid Items.** The bidder warrants articles offered to conform to the specifications herein requested, to be fit and sufficient for the purpose manufactured, of good material and workmanship, and free from defect.
4. **Special Brands.** Brand name items or descriptions used in this proposal are specified solely for the purpose of indicating standards of quality, performance, and/or use desired. Any bid offering goods or sources which deviate from the specifications must be clearly indicated by the bidder. Substitutions must be identified by the manufacturer and stock number and complete descriptive literature must be included with the bid. Goods delivered which do not conform to the contract terms, conditions, or specifications may be rejected and returned at the vendors' expense. Any bid for foreign produced products shall be so indicated and the source of supply noted for each item.
5. **Packaging.** Unless otherwise stipulated, no charges will be allowed for packing, wrapping, bags, containers, reels, etcetera. All items shall be packed in accordance with prevailing commercial practices and in such a manner as to ensure delivery in good condition and as specified herein.
6. **Delivery/Shipping.** Goods shall be prepaid, Free on Board (FOB) destination. In the event the contract terms specify FOB shipping point, shipping charges will be prepaid and itemized as a separate item on invoicing. Such shipments shall be via the least expensive common carrier unless otherwise stipulated. Lewis and Clark County reserves the right to reject Cash on Delivery (COD).

7. **Warranty.** Bidders agree to provide a warranty for product on offer and perform all warranty and maintenance services in a professional and timely manner and acknowledge that they will be liable for any breach of this warranty.
8. **Cash Discount.** Bidders may quote a cash discount, provided it is based on a period of 30 days or more. A shorter period will not be considered in determination of a low bid. Any cash discount as part of this contract will be computed from the date of receipt of a properly executed claim or the date of completion of delivery of all items in satisfactory condition, whichever is later.
9. **Excise Taxes.** Lewis and Clark County is exempt from federal excise taxes (FET). Exemption certificates will be furnished upon request.
10. **Acceptance/Rejection of Bids.** Lewis and Clark County reserves the right to accept or reject any or all bids, wholly or in part, and to make awards in any manner deemed in the best interest of the County.
11. **All-or-None Proposals.** Bidders may submit alternate proposals on an all-or-none basis but are required to submit a primary quotation on an item-by-item basis to be considered for either type of award.
12. **Bid Determination.** The basis of the award will be dependent on the most responsible bid submitted with consideration given to the following criteria:
 - a. Purchase price;
 - b. Warranty and/or maintenance agreement;
 - c. Delivery date; and
 - d. Analysis and comparison by the county with similar or related equipment.
13. **Tabulation.** In the event that a quotation is entered in which the unit price and extension do not agree, the unit price shall prevail.
14. **Bid Proposal Worksheet.** Bidders are required to complete all Bid Proposal Worksheets and must provide a detailed proposed specification packet with the bid. Any variance to specifications the bidder wishes to seek consideration for must be clearly stated in the section provided on the Bid Proposal Worksheet.
15. **Nondiscrimination.** In accordance with federal and state laws, the bidder agrees not to discriminate against any client, employee, or applicant for employment or for services because of race, creed, color, national origin, sex, or age with regard to, but not limited to, the following:
 - a. Employment upgrading;
 - b. Demotion or transfer;
 - c. Recruitment or recruitment advertising;
 - d. Lay-offs or terminations;
 - i. Rates of pay or other forms of compensation;
 - ii. Selection for training; or

iii. Rendition of services.

Bidders and the awardee shall comply with all federal, state, and local laws, rules and regulations. Bidders and the awardee and any of the Bidders' and the awardee's sub-grantees, contractors, subcontractors, successors, transferees, and assignees shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also includes protection to persons with "Limited English Proficiency" in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury's Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract or agreement.

It is further understood that any vendor who is in violation of this clause shall be barred forthwith from receiving awards of any purchase from Lewis and Clark County unless a satisfactory showing is made that discriminatory practices have ceased, and the recurrence of such acts is unlikely.

- 16. Nondiscrimination Against Firearms Entities/trade Associations.** Pursuant to Section 30-20-301, Montana Code Annotated, Contracts with a value of at least \$100,000 with companies that have at least 10 full-time employees require the Contractor to certify that it does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the Contract against a firearm entity or firearm trade association.
- 17. Buy American Act Requirements.** The product on offer must conform to the requirements of the Buy American Act in that the product or the materials from which the product is manufactured must be present in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.
- 18. OSHA and EPA Requirements.** The equipment shall meet OSHA and EPA requirements and specifications on the date of the bid opening.
- 19. Bid Consideration.** No bid will be considered unless accompanied by a bid bond, bank draft, money order, or certified check in the amount of not less than ten (10) percent of the total bid.
- 20. Trade Secrets.** In order for a bidder to request that material be kept confidential, a notarized Affidavit for Trade Secret Confidentiality shall be provided by the bidder's attorney acknowledging that material included in a bid is open to public inspection except for information that meets the provisions of Montana's Uniform Trade Secrets Act. Trade secrets contained in the bid must be clearly marked and separate from materials that are open for public inspection. Bidders must be prepared to pay all legal costs and fees associated with defending a claim for confidentiality in the event of a records request from another party.

21. Cone of Silence. A cone of silence shall be established on all Lewis and Clark County formal solicitation processes. The cone of silence prohibits any communication regarding a formal solicitation between any bidder (or its agents or representatives) or other entity with the potential for a financial interest in the award (or their respective agents or representatives) and any Lewis and Clark County elected official, employee, or agent other than the designated point of contact for the solicitation.

The cone of silence shall be in effect from the time of posting the formal solicitation on the County's website and until the County issues a Notice of Intent to Award, cancels the solicitation, or otherwise takes action to end the selection process.

Violations of the cone of silence may be grounds for disqualification from the selection process. The cone of silence shall not apply to communications at any public proceeding or meeting.

22. Advanced Payments. Except as provided in law, provisions requiring payment by the County, fully or in part, for goods or services before receipt of such shall not be authorized.

23. Protest Procedure. A bidder aggrieved in connection with the solicitation or bid award may protest in accordance with the procedure outlined in the Lewis and Clark County purchasing policy.

SECTION 00900

FUNDING AGENCY SPECIAL PROVISIONS

The following terms and conditions apply to the awardee of solicitations, as a contractor of Lewis and Clark County, according to the County's ARPA Award Terms and Conditions on June 15, 2021; by ARPA and its implementing regulations; and as established by the United States Treasury Department.

1. **Equal Opportunity.** Bidder shall comply with Executive Order 11246, "Equal Employment Opportunity," as amended by EO 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and as supplemented by regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."
2. **Minority and Women Business Enterprises.** Bidder hereby agrees to comply with the following when applicable: The requirements of Executive Orders 11625 and 12432 (concerning Minority Business Enterprise), and 12138 (concerning Women's Business Enterprise), *when applicable*. Accordingly, Bidder hereby agrees to take affirmative steps to assure that women and minority businesses are utilized when possible as sources of supplies, equipment, construction and services. Affirmative steps shall include the following:
 - a. Including qualified women's business enterprises and small and minority businesses on solicitation lists;
 - b. Assuring that women's enterprises and small and minority businesses are solicited whenever they are potential sources;
 - c. When economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum participation by small and minority business, and women's business enterprises;
 - d. Where the requirement permits, establishing delivery schedules which will encourage participation by women's business enterprises and small and minority business;
 - e. Using the services and assistance of the Small Business Administration, and the U.S. Office of Minority Business Development Agency of the Department of Commerce; and
 - f. If any subcontracts are to be let, requiring the prime Contractor to take the affirmative steps in a through e above.

For the purposes of these requirements, a Minority Business Enterprise (MBE) is defined as an enterprise that is at least 51 percent owned and controlled in its daily operation by members of the following groups: Black, Hispanic, Asian or Pacific Islander, American Indian, or Alaskan Natives. A Women Business Enterprise (WBE) is defined as an enterprise that is at least 51 percent owned and controlled in its daily operation by women.

3. **Universal Identifier and System for Award Management.** This contract is covered under the requirements of [2 CFR Part 25](#) requiring Bidders to obtain and provide to the County their Unique Entity Identification (UEI) prior to execution of the Contract. Bidders can obtain or look up their UEI through the System for Award Management, available at www.sam.gov.

4. **Suspension and Debarment.** This contract is a covered transaction for purposes of 2 CFR pt. 180 and 2 CFR pt. 3000. As such, the Bidder is required to verify that none of Bidder's principals (defined at 2 CFR § 180.995) or its affiliates (defined at 2 CFR § 180.905) are excluded (defined at 2 CFR § 180.940) or disqualified (defined at 2 CFR § 180.935).

The Bidder must comply with 2 CFR pt. 180, subpart C and 2 CFR pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

This certification is a material representation of fact relied upon by Lewis and Clark County. If it is later determined that the Bidder did not comply with 2 CFR pt. 180, subpart C and 2 CFR pt. 3000, subpart C, in addition to remedies available to the County, the Federal Government may pursue available remedies, including, but not limited to suspension and/or debarment.

The Bidder agrees to comply with the requirements of 2 CFR pt. 180, subpart C and 2 CFR pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The Bidder further agrees to include a provision requiring such compliance in its lower-tier-covered transactions.

5. **Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352, as amended***. Bidder certifies that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. BIDDER shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

*Purchases over \$100,000 - Bidder must sign the certification on the last page of this exhibit.

6. **Access to Records.** The Bidder agrees to provide the Lewis and Clark County, the U.S. Department of Treasury, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Bidder which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions. The Bidder agrees to permit any of the foregoing parties to reproduce by any means or to copy excerpts and transcriptions as reasonably needed and agrees to cooperate with all such requests.

The Bidder agrees to provide the Treasury Department or authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.

No language in this contract is intended to prohibit audits or internal reviews by the Treasury Department or the Comptroller General of the United States.

7. **Rights to Inventions Made Under a Contract or Agreement.** Contracts or agreements for the performance of experimental, developmental, or research work shall provide for the rights of the Federal Government and the recipient in any resulting invention in accordance with 37 CFR part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any applicable implementing regulations.
8. **Contract Work Hours and Safety Standards Act (40 U.S.C. 327 through 333).** (Applies only to purchases over \$100,000, when laborers or mechanics are used.) Where applicable, all contracts in excess of \$100,000 that involve the employment of mechanics or laborers shall include a provision for compliance with 40 U.S.C. 3702 and 3704 of the Contract Work Hours and Safety Standards Act, as supplemented by Department of Labor regulations (29 CFR part 5). Under Section 3702 of the Act, each contractor shall be required to compute the wages of every mechanic and laborer on the basis of a standard workweek of 40 hours. Work in excess of the standard workweek is permissible provided that the worker is compensated at a rate of not less than 1 1/2 times the basic rate of pay for all hours worked in excess of 40 hours in the workweek. The requirements of 40 U.S.C. 3704 are applicable to construction work and provides that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.
9. **Clean Air Act & Federal Water Pollution Control Act.** (applies to purchases of more than \$150,000.) The Bidder agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.

The Bidder agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.

The Bidder agrees to report each violation of the Clean Air Act and the Water Pollution Control Act to the Lewis and Clark County and understands and agrees that the County will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

Bidder agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance.

10. **Prohibition on certain telecommunications and video surveillance services or equipment (Huawei and ZTE).** Bidder is prohibited from obligating or expending loan or grant funds to:
 - a. Procure or obtain;

- b. Extend or renew a contract to procure or obtain; or
- c. Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115–232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).
 - i. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).
 - ii. Telecommunications or video surveillance services provided by such entities or using such equipment.
 - iii. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

11. Procurement of Recovered Materials: (applies only if the work involves the use of materials).

In the performance of this contract, the Bidder shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:

- a. Competitively within a timeframe providing for compliance with the contract performance schedule;
- b. Meeting contract performance requirements; or
- c. At a reasonable price.

Information about this requirement, along with the list of EPA-designated items, is available at EPA’s Comprehensive Procurement Guidelines web site,

<https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.

The Bidder also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

12. Publications. Any publications produced with funds from this award must display the following language: “This project [is being] [was] supported, in whole or in part, by federal award number SLFRP4035 awarded to Lewis and Clark County by the U.S. Department of the Treasury.”

13. Increasing Seat Belt Use in the United States. Pursuant to Executive Order 13043, 62 FR 19217 (Apr. 18, 1997), Bidder is encouraged to adopt and enforce on-the-job seat belt policies and programs for your employees when operating company-owned, rented or personally owned vehicles.

- 14. Reducing Text Messaging While Driving.** Pursuant to Executive Order 13513, 74 FR 51225 (Oct. 6, 2009), Bidder is encouraged to adopt and enforce policies that ban text messaging while driving and establish workplace safety policies to decrease accidents caused by distracted drivers.
- 15. Title VI of the Civil Rights Act of 1964 – Protections to persons with Limited English Proficiency.** The Bidder and any of the Bidder’s sub-grantees, contractors, subcontractors, successors, transferees, and assignees shall comply with Title VI of the Civil Rights Act of 1964, which prohibits recipients of federal financial assistance from excluding from a program or activity, denying benefits of, or otherwise discriminating against a person on the basis of race, color, or national origin (42 U.S.C. § 2000d et seq.), as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract (or agreement). Title VI also includes protection to persons with “Limited English Proficiency” in any program or activity receiving federal financial assistance, 42 U.S.C. § 2000d et seq., as implemented by the Department of the Treasury’s Title VI regulations, 31 CFR Part 22, which are herein incorporated by reference and made a part of this contract or agreement.
- 16. Drug-Free Workplace.** The Drug-Free Workplace Act of 1988 (41 U.S.C. § 701 et seq.) requires that all organizations receiving grants from any Federal agency agree to maintain a drug-free workplace. You as the recipient must comply with drug-free workplace requirements in Subpart B (or Subpart C, if the recipient is an individual) of part 382, which adopts the Governmentwide implementation (2 CFR §182) of sec. 5152-5158 of the Drug-Free Workplace Act of 1988 (Pub. L. 100-690, Title V, Subtitle D; 41 U.S.C. 701-707). By signing the application, the AOR agrees that the recipient will provide a drug-free workplace and will comply with the requirement to notify SAMHSA if an employee is convicted of violating a criminal drug statute. Failure to comply with these requirements may be cause for debarment. Government wide requirements for Drug-Free Workplace for Financial Assistance are found in 2 CFR § 182; HHS implementing regulations are set forth in 2 CFR § 382.400.
- 17. Mandatory Disclosures.** Consistent with 45 CFR § 75.113, applicants and recipients must disclose in a timely manner, in writing to the COUNTY, all information related to violations, or suspected violations, of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award. Subrecipients must disclose, in a timely manner, in writing to the COUNTY all information related to violations, or suspected violations, of Federal criminal law involving fraud, bribery, or gratuity violations potentially affecting the Federal award. Failure to make required disclosures can result in any of the remedies described in 45 CFR § 75.371 – Remedies for noncompliance, including suspension or debarment (see 2 CFR §§ 180 & 376 and 31 U.S.C. 3321).

18. Trafficking Victims Protection Act of 2000 (22 U.S.C. 7104(G)), as amended, and 2 CFR § 175.

The Trafficking Victims Protection Act of 2000 authorizes termination of financial assistance provided to a private entity, without penalty to the Federal government, if the recipient or subrecipient engages in certain activities related to trafficking in persons. SAMHSA may unilaterally terminate this award, without penalty, if a private entity recipient, or a private entity subrecipient, or their employees:

- a. Engage in severe forms of trafficking in persons during the period of time that the award is in effect;
- b. Procure a commercial sex act during the period of time that the award is in effect; or,
- c. Use forced labor in the performance of the award or subawards under the award.

BID SPECIFICATIONS

1.1 PROJECT DESCRIPTION

- A. The Lower D2 Ditch Flood Mitigation Project consists of the installation of eight reinforced concrete box culverts, in addition to numerous other components. Installation of the box culverts will be accomplished under a separate contract administered by Lewis and Clark County Public Works Department. The work for this contract will involve furnishing four-sided precast concrete box culverts, precast end sections, and other appurtenant items. The items shall be manufactured, all fitment verified by manufacturer at their facility, and delivered to the worksite. All items shall be stored by the manufacturer until the installation is ready to begin. The installation contractor will schedule the delivery to the project site. The project location is shown on the cover sheet of the plans. All work shall be in compliance with the Drawings and Project Specifications.

1.2 GENERAL

- A. The Technical Specifications are comprised of specifications from the Standard Specifications for Road and Bridge Construction (hereafter referred to as the Standard Specifications) and Supplemental Specifications adopted by the Montana Department of Transportation (MDT), specifications developed by the Engineer (Technical Specifications), and the American Society for Testing Materials (ASTM) specifications. Any addenda or modifications to the Standard Specifications made in these General Requirements shall have precedence over the Standard Specifications.
- B. All Reinforced Concrete Box Culverts and associated end sections shall be designed to meet the requirements Montana Department of Transportation Standard Special Provision 603-3 and project specifications.
- C. Any item of work not specifically listed or referred to in these General Requirements shall be performed in accordance with the Standard Specifications.
- D. All references made in the Standard Specifications to the “Department,” “Department of Transportation,” or “State” shall, for the purposes of this Contract, be considered references made to Lewis & Clark County. Likewise, references made to the “Engineer” shall be considered as references made to RESPEC, Inc.
- E. The edition of the Standard Specifications specifically referenced herein is the 2020 Edition V5.0 adopted by the Montana Transportation Commission and Montana Department of Transportation.

- F. All references to AASHTO LRFD Bridge Design Specifications should be made to the Sixth Edition, w/2013 interim revisions.
- G. The design and shop drawings for the work described below shall be certified by a professional engineer licensed in the state of Montana.

1.3 WORK REQUIRED

A. Bid Item No. 1 – FURNISH CULVERT AND END SECTIONS– GLASS DRIVE 1

1. Description: This item shall cover the cost of fabrication, furnishing, and shipping one (1) concrete box culvert, its associated precast end sections, and cutoff walls. The culvert shall be designed to meet HL-93 loading requirements. The precast concrete box culvert shall consist of precast concrete box sections, joint sealant, all connection plate hardware, and appurtenant items needed to assemble each joint section as shown on the plans. The culvert shall be designed to meet the requirements of ASTM C1786, Montana Department of Transportation Standard Special Provision 603-3, and the Project Specifications.
2. Work under this section shall include but not be limited to the following:
 - a. Providing submittals for all culvert materials, including culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - b. Fabrication, furnishing, and shipping the specified culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - c. All other miscellaneous items;
 - d. Coordination with installation contractor, Engineer, and Lewis & Clark County;
 - e. All labor, tools, equipment, materials, royalties, and incidentals required to complete the work as specified;
3. Unit of Measurement: LUMP SUM
4. Measurement: Measurement for FURNISH CULVERT AND END SECTIONS – GLASS DRIVE 1 shall be per LUMP SUM.
5. Payment: Payment for FURNISH CULVERT AND END SECTIONS - GLASS DRIVE 1 shall be made at the LUMP SUM unit price indicated in the Bid Form.

B. Bid Item No. 2 – FURNISH CULVERT AND END SECTIONS – GLASS DRIVE 2

1. Description: This item shall cover the cost of fabrication, furnishing, and shipping one (1) concrete box culvert, its associated precast end sections, and cutoff walls. The culvert shall be designed to meet HL-93 loading requirements. The precast concrete box culvert shall consist of precast concrete box sections, joint sealant, all connection plate hardware, and appurtenant items needed to assemble each joint section as shown on the plans. The culvert shall be designed to meet the requirements of ASTM

C1786, Montana Department of Transportation Standard Special Provision 603-3, and the Project Specifications.

2. Work under this section shall include but not be limited to the following:
 - a. Providing submittals for all culvert materials, including culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - b. Fabrication, furnishing, and shipping the specified culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - c. All other miscellaneous items;
 - d. Coordination with installation contractor, Engineer, and Lewis & Clark County;
 - e. All labor, tools, equipment, materials, royalties, and incidentals required to complete the work as specified;
3. Unit of Measurement: LUMP SUM
4. Measurement: Measurement for FURNISH CULVERT AND END SECTIONS – GLASS DRIVE 2 shall be per LUMP SUM.
5. Payment: Payment for FURNISH CULVERT AND END SECTIONS - GLASS DRIVE 2 shall be made at the LUMP SUM unit price indicated in the Bid Form.

C. Bid Item No. 3 – FURNISH CULVERT AND END SECTIONS – CROSSING F

1. Description: This item shall cover the cost of fabrication, furnishing, and shipping one (1) concrete box culvert, its associated precast end sections, and cutoff walls. The culvert shall be designed to meet HL-93 loading requirements. The precast concrete box culvert shall consist of precast concrete box sections, joint sealant, all connection plate hardware, and appurtenant items needed to assemble each joint section as shown on the plans. The culvert shall be designed to meet the requirements of ASTM C1786, Montana Department of Transportation Standard Special Provision 603-3, and the Project Specifications.
2. Work under this section shall include but not be limited to the following:
 - a. Providing submittals for all culvert materials, including culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - b. Fabrication, furnishing, and shipping the specified culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - c. All other miscellaneous items;
 - d. Coordination with installation contractor, Engineer, and Lewis & Clark County;
 - e. All labor, tools, equipment, materials, royalties, and incidentals required to complete the work as specified;
3. Unit of Measurement: LUMP SUM
4. Measurement: Measurement for FURNISH CULVERT AND END SECTIONS – CROSSING F shall be per LUMP SUM.
5. Payment: Payment for FURNISH CULVERT AND END SECTIONS - CROSSING F shall be made at the LUMP SUM unit price indicated in the Bid Form.

D. Bid Item No. 4 – FURNISH CULVERT AND END SECTIONS – CROSSING E

1. Description: This item shall cover the cost of fabrication, furnishing, and shipping one (1) concrete box culvert, its associated precast end sections, and cutoff walls. The culvert shall be designed to meet HL-93 loading requirements. The precast concrete box culvert shall consist of precast concrete box sections, joint sealant, all connection plate hardware, and appurtenant items needed to assemble each joint section as shown on the plans. The culvert shall be designed to meet the requirements of ASTM C1786, Montana Department of Transportation Standard Special Provision 603-3, and the Project Specifications.
2. Work under this section shall include but not be limited to the following:
 - a. Providing submittals for all culvert materials, including culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - b. Fabrication, furnishing, and shipping the specified culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - c. All other miscellaneous items;
 - d. Coordination with installation contractor, Engineer, and Lewis & Clark County;
 - e. All labor, tools, equipment, materials, royalties, and incidentals required to complete the work as specified;
3. Unit of Measurement: LUMP SUM
4. Measurement: Measurement for FURNISH CULVERT AND END SECTIONS – CROSSING E shall be per LUMP SUM.
5. Payment: Payment for FURNISH CULVERT AND END SECTIONS - CROSSING E shall be made at the LUMP SUM unit price indicated in the Bid Form.

E. Bid Item No. 5 – FURNISH CULVERT AND END SECTIONS – ARROWHEAD DRIVE

1. Description: This item shall cover the cost of fabrication, furnishing, and shipping one (1) concrete box culvert, its associated precast end sections, and cutoff walls. The culvert shall be designed to meet HL-93 loading requirements. The precast concrete box culvert shall consist of precast concrete box sections, joint sealant, all connection plate hardware, and appurtenant items needed to assemble each joint section as shown on the plans. The culvert shall be designed to meet the requirements of ASTM C1786, Montana Department of Transportation Standard Special Provision 603-3, and the Project Specifications.
2. Work under this section shall include but not be limited to the following:
 - a. Providing submittals for all culvert materials, including culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - b. Fabrication, furnishing, and shipping the specified culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - c. All other miscellaneous items;

- d. Coordination with installation contractor, Engineer, and Lewis & Clark County;
 - e. All labor, tools, equipment, materials, royalties, and incidentals required to complete the work as specified;
3. Unit of Measurement: LUMP SUM
 4. Measurement: Measurement for FURNISH CULVERT AND END SECTIONS – ARROWHEAD DRIVE shall be per LUMP SUM.
 5. Payment: Payment for FURNISH CULVERT AND END SECTIONS - ARROWHEAD DRIVE shall be made at the LUMP SUM unit price indicated in the Bid Form.

F. Bid Item No. 6 – FURNISH CULVERT AND END SECTIONS – CROSSING D

1. Description: This item shall cover the cost of fabrication, furnishing, and shipping one (1) concrete box culvert, its associated precast end sections, and cutoff walls. The culvert shall be designed to meet HL-93 loading requirements. The precast concrete box culvert shall consist of precast concrete box sections, joint sealant, all connection plate hardware, and appurtenant items needed to assemble each joint section as shown on the plans. The culvert shall be designed to meet the requirements of ASTM C1786, Montana Department of Transportation Standard Special Provision 603-3, and the Project Specifications.
2. Work under this section shall include but not be limited to the following:
 - a. Providing submittals for all culvert materials, including culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - b. Fabrication, furnishing, and shipping the specified culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - c. All other miscellaneous items;
 - d. Coordination with installation contractor, Engineer, and Lewis & Clark County;
 - e. All labor, tools, equipment, materials, royalties, and incidentals required to complete the work as specified;
3. Unit of Measurement: LUMP SUM
4. Measurement: Measurement for FURNISH CULVERT AND END SECTIONS – CROSSING D shall be per LUMP SUM.
5. Payment: Payment for FURNISH CULVERT AND END SECTIONS - CROSSING D shall be made at the LUMP SUM unit price indicated in the Bid Form.

G. Bid Item No. 7 – FURNISH CULVERT AND END SECTIONS – CROSSING C

1. Description: This item shall cover the cost of fabrication, furnishing, and shipping one (1) concrete box culvert, its associated precast end sections, and cutoff walls. The culvert shall be designed to meet HL-93 loading requirements. The precast concrete box culvert shall consist of precast concrete box sections, joint sealant, all connection plate hardware, and

appurtenant items needed to assemble each joint section as shown on the plans. The culvert shall be designed to meet the requirements of ASTM C1786, Montana Department of Transportation Standard Special Provision 603-3, and the Project Specifications.

2. Work under this section shall include but not be limited to the following:
 - a. Providing submittals for all culvert materials, including culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - b. Fabrication, furnishing, and shipping the specified culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - c. All other miscellaneous items;
 - d. Coordination with installation contractor, Engineer, and Lewis & Clark County;
 - e. All labor, tools, equipment, materials, royalties, and incidentals required to complete the work as specified;
3. Unit of Measurement: LUMP SUM
4. Measurement: Measurement for FURNISH CULVERT AND END SECTIONS – CROSSING C shall be per LUMP SUM.
5. Payment: Payment for FURNISH CULVERT AND END SECTIONS - CROSSING C shall be made at the LUMP SUM unit price indicated in the Bid Form.

H. Bid Item No. 8 – FURNISH CULVERT AND END SECTIONS – CROSSING B

1. Description: This item shall cover the cost of fabrication, furnishing, and shipping one (1) concrete box culvert, its associated precast end sections, and cutoff walls. The culvert shall be designed to meet HL-93 loading requirements. The precast concrete box culvert shall consist of precast concrete box sections, joint sealant, all connection plate hardware, and appurtenant items needed to assemble each joint section as shown on the plans. The culvert shall be designed to meet the requirements of ASTM C1786, Montana Department of Transportation Standard Special Provision 603-3, and the Project Specifications.
2. Work under this section shall include but not be limited to the following:
 - a. Providing submittals for all culvert materials, including culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - b. Fabrication, furnishing, and shipping the specified culvert, cutoff walls, and sloped end sections, as specified in the Drawings;
 - c. All other miscellaneous items;
 - d. Coordination with installation contractor, Engineer, and Lewis & Clark County;
 - e. All labor, tools, equipment, materials, royalties, and incidentals required to complete the work as specified;
3. Unit of Measurement: LUMP SUM
4. Measurement: Measurement for FURNISH CULVERT AND END SECTIONS – CROSSING B shall be per LUMP SUM.

5. Payment: Payment for FURNISH CULVERT AND END SECTIONS - CROSSING B shall be made at the LUMP SUM unit price indicated in the Bid Form.

1.4 DRAWINGS

- A. The Engineer has specified the required RCB span, rise, end sections, and the overall lengths for each culvert installation site based on site conditions and permitting requirements. The Drawings should be referenced in preparation of this bid to identify the requirements for each bid item.
- B. To the best of the Engineer's knowledge, all major objects that may influence material requirements and their construction have been indicated on the Drawings and are for informational bidding purposes only. The Engineer and Owner shall in no way be held responsible for objects not located exactly as shown on the Drawings or for objects installed subsequent to preparation of the Drawings.

1.5 SUBMISSION OF BID

- A. The bid package shall be submitted at the time and place listed on the bid invitation. The bid must have the price filled out in both writing and numbers, must be signed, and must be submitted in a sealed envelope, as stated on the bid invitation.

BID PROPOSAL WORKSHEET

BASE BID

Bid Item No.	Description	Unit	Est. Quantity	Unit Price	Extended Price
1	FURNISH CULVERT AND END SECTIONS – GLASS DRIVE 1	LS	1		
2	FURNISH CULVERT AND END SECTIONS – GLASS DRIVE 2	LS	1		
3	FURNISH CULVERT AND END SECTIONS – CROSSING F	LS	1		
4	FURNISH CULVERT AND END SECTIONS – CROSSING E	LS	1		
5	FURNISH CULVERT AND END SECTIONS – ARROWHEAD DRIVE	LS	1		
6	FURNISH CULVERT AND END SECTIONS – CROSSING D	LS	1		
7	FURNISH CULVERT AND END SECTIONS – CROSSING C	LS	1		
8	FURNISH CULVERT AND END SECTIONS – CROSSING B	LS	1		
Total Bid Price (figures)					\$
Total Bid Price (written in words):					

**Return To: Lewis and Clark County
Board of County Commissioners
316 N. Park Avenue, Room 345
Helena, MT 59623**

Bids must be submitted no later than June 17, 2024 at 4:00 p.m. local time.

BID PROPOSAL WORKSHEET

THE UNDERSIGNED BIDDER has become familiar with the material solicited by Lewis and Clark County through the bid specifications. The Bidder agrees to follow and abide by all laws required in the State of Montana and Lewis and Clark County. The Bidder, having satisfied himself of the product specifications, contract documents, and addenda, does submit the offer as follows:

THE BIDDER HEREBY PROPOSES AND AGREES, if this offer is accepted, to enter into an Agreement to provide the material, and assumes all obligations, duties, and responsibilities specified herein for the following unit price and lump sum.

THE UNDERSIGNED BIDDER HEREBY CERTIFIES that:

1. This offer is genuine and is not made in the interest of, or on the behalf of, any undisclosed person or firm, and is not submitted as a result of any agreement with any association, corporation, or group.
2. The Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham offer.
3. The Bidder has not solicited or induced any person or firm to refrain from bidding.
4. The Bidder has not sought by collusion to obtain any advantage over any other bidder or over Lewis and Clark County.

BID PROPOSAL WORKSHEET

Signature of authorized company official:

By: _____
(Signature)

(Printed Name)

Title: _____

Date: _____

Bidder Name: _____

Bidder Address: _____

City, State, Zip: _____

Telephone: _____

E-Mail _____

Contact Name: _____

TECHNICAL SPECIFICATIONS
SECTION 06030 - CULVERTS

PART 1: GENERAL

1.1 DESCRIPTION

- A. Incorporate into the contract by reference the technical and supplemental specifications of Section 603 Culverts, Storm Drains, Sanitary Sewers, Stockpasses, and Underpasses, in its entirety, as published by the Montana Department of Transportation (MDT), Standard Specifications for Road and Bridge Construction, 2020 Edition V5.0.

1.2 REFERENCES

- A. Montana Department of Transportation Standard Specifications for Road and Bridge Construction, 2020 Edition V5.0:

Section 603 Culverts, Storm Drains, Sanitary Sewers, Stockpasses, And Underpasses
- C. Incorporate Montana Department of Transportation Standard Special Provision 603-3 for Reinforced Concrete Box Culverts, Revised 2-18-16.

PART 2: PRODUCTS

2.1 GENERAL

- A. Materials are in accordance with the entirety of Section 603.02.
- B. All specified Precast Reinforced Concrete Box Culverts (RCB) and End Sections will be procured by Lewis and Clark County and furnished to the site by the manufacturer.

2.2 PRECAST REINFORCED BOX CULVERTS

- A. Furnish RCB that meet the requirements HL-93 live loading. RCB must also meet the requirements of ASTM C1786 except the aggregate gradations must meet Subsection 701.01 or a Department approved optimized gradation. Refer to ASTM special design provisions for RCB sizes that are not included in the ASTM table or for any changes in wall thickness. Use Type V cement unless otherwise specified.
- B. Joint Sealant. Install flexible plastic gaskets between culvert sections meeting the requirements of Subsection 707.02. Provide joint material that is 1.25 inch (31.75 mm) equivalent diameter (1 inch (25.4 mm) x 1.23 inch (31.12 mm) actual dimensions).

- C. External Joint wrap. Furnish Type III, chemically bonded adhesive butyl bands for all joints between box sections meeting the requirements of ASTM C877. Use Type A designation with a sealing bandwidth of 12 inch (300 mm). Apply joint wrap material externally around each joint over semi-liquid paintable butyl rubber-based adhesive primer. Begin each joint wrap at haunch, extend up and over the top of the culvert, and terminate at the other haunch. Extend joint wrap under the haunches as far as possible on each side of the box culvert while maintaining seal with adhesive primer. If two or more pieces are required, lap a minimum of 6 inches (150 mm). Replace punctured or torn joint wrap damaged by culvert installation at Contractor expense.
- D. Bedding material. Use granular bedding material for bedding material. Provide a 12-inch (300 mm) thick base. Compact granular bedding by proof rolling with vibratory compactor or by using a method approved by the Project Manager. Place a 2-inch layer of uncompacted sand on top of compacted granular bedding material.
- E. Sloped End Section. Furnish precast sloped end sections according to the RCB detail.
- F. Reinforcing Steel. Use rebar dowels meeting the requirements of AASHTO M 31, Grade 60 (Grade 420).
- G. Epoxy Resin Bonding Adhesive. Meet the requirements of AASHTO M 235 Type 4.

PART 3: EXECUTION

3.1 GENERAL

- A. Complete all work in accordance with Section 603.03 unless specified otherwise herein.
- B. Install all Precast Reinforced Concrete Box Culverts, Precast Reinforced Concrete End Sections, and Precast Reinforced Concrete Cutoff Walls according to manufacturer's specifications and as shown in the Construction Drawings.

3.2 PRECAST REINFORCED BOX CULVERTS

- A. Joint Tolerance. When placing RCB sections in final position, the gaps between sections must not exceed 0.75 inch (19 mm). Check for misalignment by measuring normal to the walls and slabs. Correct misalignment between sections before adding the next section.
- B. Lift Holes. Plug all lift holes and fabrication holes before placing backfill. Use the manufacturer supplied plugs for filling holes in the top slab. Grout all holes in the side and floor slabs.
- C. Joint Orientation. Ensure groove end of joint is facing downstream.
- D. Tie Bolt Holes. Fill the annular area by injecting silicone caulking in tie bolt holes or fill with joint material after installation of the bolt and before placing the washer.
- E. Manufacturer's Installation Procedure. Follow the recommended installation procedure provided by the manufacturer. Provide the Project Manager one copy of the recommended procedure ten calendar days before installation.
- F. Welding Requirements. Perform all welding on precast member connections in accordance with AWS D1.1 Structural Welding Code.

DRAWINGS

DRAWINGS – SECTION A

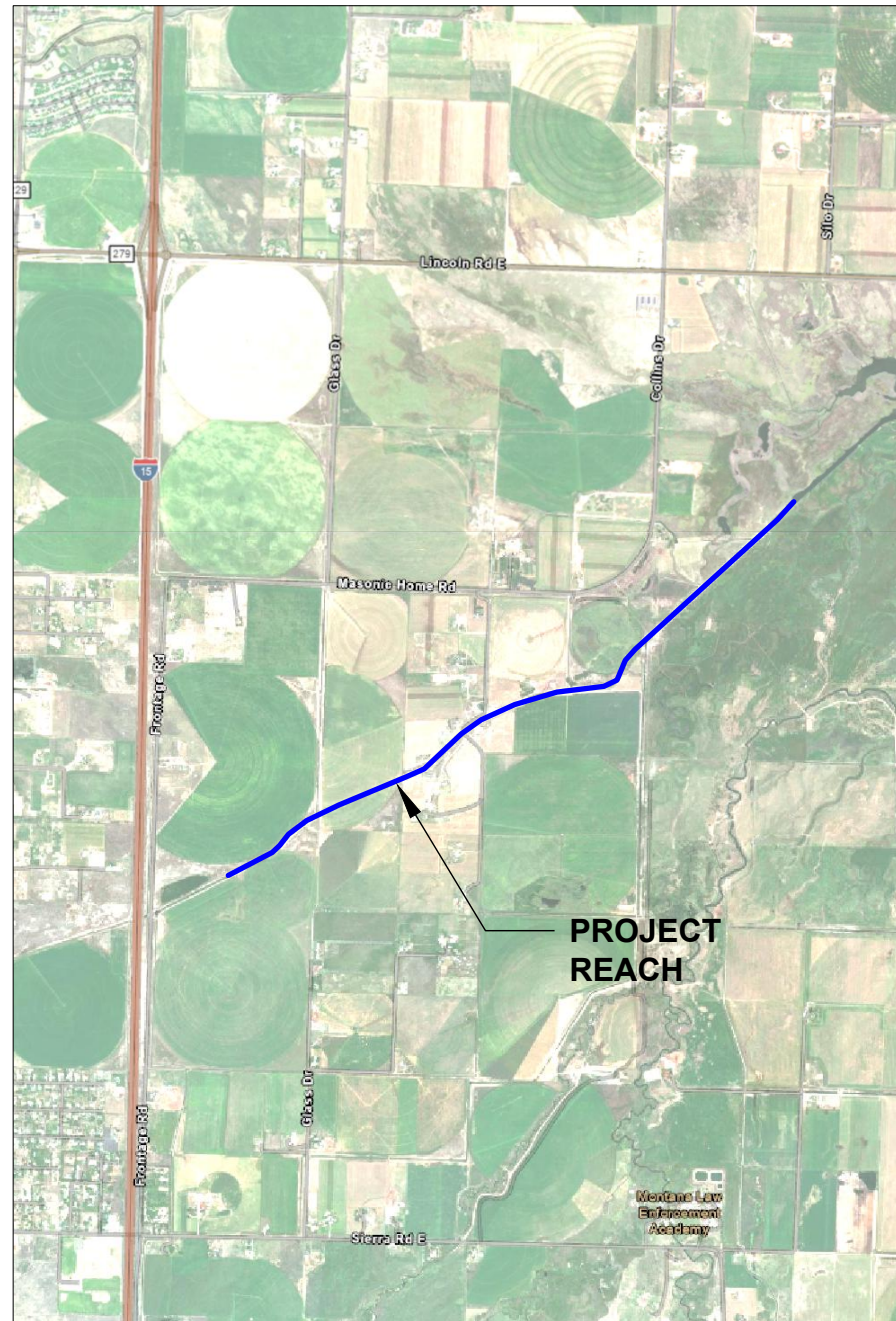
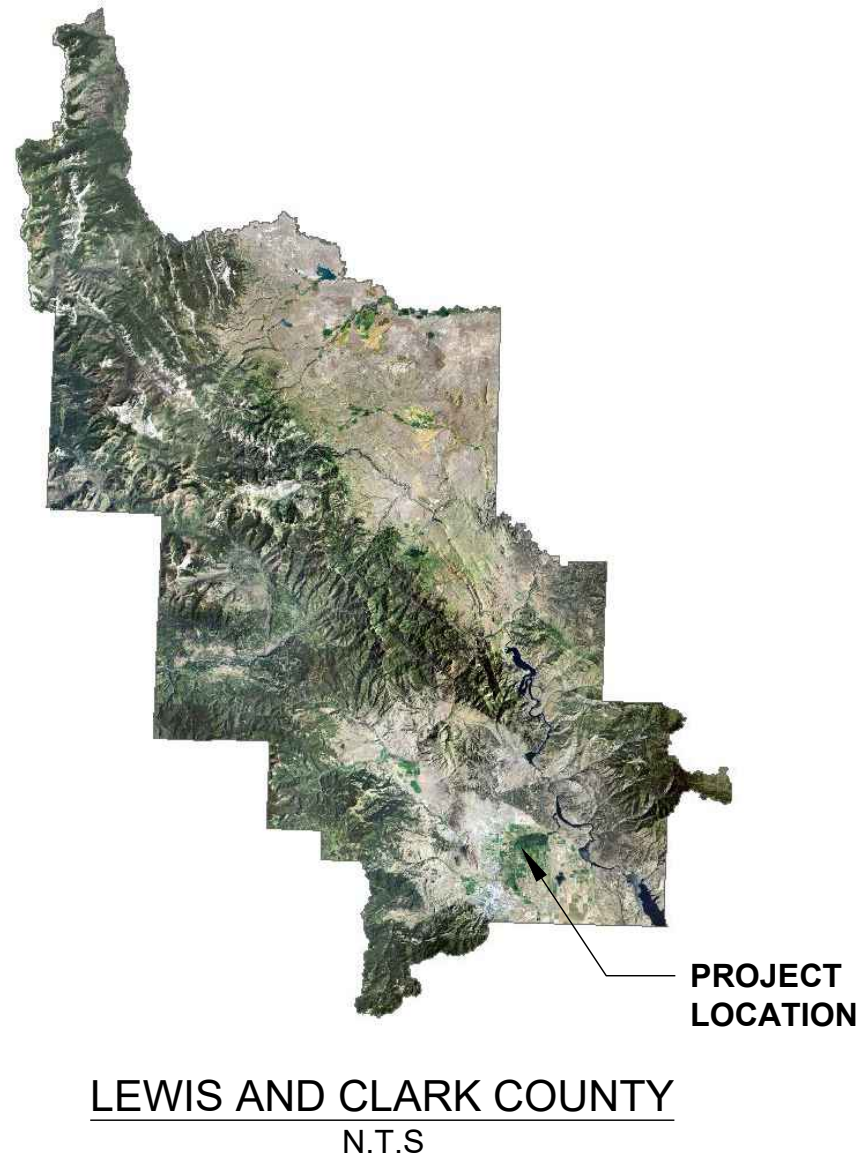
- **GLASS DRIVE 1**
- **GLASS DRIVE 2**
- **CROSSING F**
- **CROSSING E**
- **CROSSING D**
- **CROSSING C**
- **CROSSING B**

VALLEY FLOOD MITIGATION MASTER PLAN IMPLEMENTATION

PHASE II - LOWER D2 DITCH CROSSING IMPROVEMENTS

LEWIS AND CLARK COUNTY PUBLIC WORKS
JUNE 2023
RESPEC PROJECT NO. W0138.23003

DRAFT - NOT FOR CONSTRUCTION



SHEET INDEX TABLE	
SHEET NUMBER	SHEET TITLE
GENERAL	
G-00	COVER SHEET
G-01	GENERAL NOTES
G-02	LEGEND AND CONSTRUCTION QUANTITIES
G-03	PROJECT OVERVIEW
CIVIL	
C-01	GLASS DRIVE 1 - CULVERT DETAIL
C-02	GLASS DRIVE 2 - CULVERT DETAIL
C-03	CROSSING F - CULVERT DETAIL
C-04	CROSSING E - CULVERT DETAIL
C-05	CROSSING D - CULVERT DETAIL
C-06	CROSSING D - PROPOSED ROAD CROSSING DETAIL
C-07	CROSSING C - CULVERT DETAIL
C-08	CROSSING B - CULVERT DETAIL
DETAILS	
D-01	CULVERT TYPICAL DETAILS
D-02	CULVERT TYPICAL DETAILS
D-03	RIP RAP TYPICAL DETAILS
D-04	CROSSING SURFACE REPLACEMENT TYPICAL DETAILS
D-05	IRRIGATION INFRASTRUCTURE REINFORCEMENT TYPICAL DETAILS

NAME: N:\PROJECTS\W0138_23003-LCC_VFMMP_LOWER D2 TO CAD\SHEETS\W0138_23003_LOWER D2_S_GENERAL.DWG
PLOT DATE: May 16, 2024 11:37 AM, BY: JACOB LACY

MATTHEW JOHNSON
REGISTERED PROFESSIONAL ENGINEER
STATE OF MONTANA NO. PEL-PE-LIC-32820
DATE _____





DESIGNED	JAL	DATE	2/13/2024
DRAWN	JAL	CHECKED	MWJ
RESPEC WATER & NATURAL RESOURCES 3810 VALLEY COMMONS DR SUITE 4 BOZEMAN, MT 59718 WWW.RESPEC.COM PHONE: 406.584.4252			
STAMP 95% REVIEW PRELIMINARY NOT FOR CONSTRUCTION 5/2024			
Know what's below. Call before you dig.			
LEWIS AND CLARK COUNTY PUBLIC WORKS 3402 COONEY DRIVE HELENA, MT 59602			
VFMMP - LOWER D2 FLOOD INFRASTRUCTURE IMPROVEMENTS			
COVER SHEET			
SHEET NUMBER: G-00			
SHEET			

GENERAL NOTES

1. ALL WORK, ACCESS, AND STAGING MUST BE COORDINATED WITH THE LANDOWNER PARTNERS OF THE PROJECT.
2. FIELD STAKING OF CONSTRUCTION LIMITS, EXCAVATIONS, AND PUBLIC RIGHT OF WAY IS THE RESPONSIBILITY OF THE CONTRACTOR.
3. ALL REINFORCED CONCRETE BOX CULVERTS (RCBs) ARE DRAWN WITH END SECTIONS IN PLAN VIEW AND WITHOUT THE END SECTIONS IN PROFILE VIEW.
4. ALL RCBs LENGTHS ARE SHOWN WITHOUT END SECTIONS.
5. CONTRACTOR RESPONSIBLE TO CONSTRUCT ALL TRENCHES TO APPLICABLE OSHA SPECIFICATIONS FOR ALL EXCAVATIONS AND INSTALLATIONS. DRAWINGS DO NOT SHOW LIMITS, DEPTHS, OR SLOPES OF TRENCH EXCAVATIONS REQUIRED TO COMPLY WITH APPLICABLE OSHA SPECIFICATIONS.
6. USE SUITABLE NATIVE MATERIAL FOR BACKFILL. SEE SPECIFICATIONS FOR CONDITIONS REQUIRING IMPORTED BACKFILL MATERIAL.
7. DISPOSE OF ALL CONCRETE AND ASPHALT RUBBLE ACCORDING TO ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS. NO CONCRETE, RUBBLE, OR EXTRA MATERIALS SHALL BE BACKFILLED ON SITE.
8. ALL RIPRAP SHALL BE CLASS II, AS DEFINED IN SECTION 701.06 OF MONTANA DEPARTMENT OF TRANSPORTATION (MDT) STANDARD SPECIFICATIONS (2014) AND INSTALLED ACCORDING TO SECTION 613 AS SHOWN IN THE PLANS.
9. ALL PUBLIC LAND SURVEY MONUMENTS TO BE REMOVED, RELOCATED, RESET, OR REFERENCED BY A LICENSED LAND SURVEYOR.
10. CLEAR AND GRUB TO CONSTRUCTION LIMITS AND MINIMIZE DAMAGE TO ADJACENT VEGETATION. CLEARING AND GRUBBING SHALL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
11. ALL ROADWAYS AND APPROACHES TO BE RECONSTRUCTED TO THEIR EXISTING CONDITION, INCLUDING ALL SURFACE AND BASE COURSE TYPES, THICKNESSES, AND EXISTING ELEVATIONS.
12. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE APPROVED PLANS AND A COPY OF ALL PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB, ON-SITE AT ALL TIMES.
13. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF ALL PERSONNEL, ALL SITE VISITORS, AND THE GENERAL PUBLIC WHO MAY BE AFFECTED BY THE CONSTRUCTION. THIS INCLUDES BUT IS NOT LIMITED TO GENERAL AND CHANNEL EXCAVATION, SHORING, TRAFFIC CONTROL, AND SECURITY.
14. IF DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
15. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS, OR DESIGNATED TO BE PROVIDED, INSTALLED, OR CONSTRUCTED, UNLESS SPECIFICALLY NOTED OTHERWISE.
16. 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 ENGINEER AT ALL TIMES. CONTRACTOR SHALL PROVIDE A FINAL SET OF AS-BUILT DRAWINGS TO THE ENGINEER PRIOR TO THE FINAL ACCEPTANCE AND FINAL PAYMENT.
17. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. IF PERTINENT DIMENSIONS ARE NOT SHOWN, CONTACT THE CONSULTANT ENGINEER FOR CLARIFICATION AND ANNOTATE THE DIMENSION ON THE AS-BUILT RECORD DRAWINGS.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAVING AND PROTECTING ALL EXISTING TREES AND VEGETATION WHERE REMOVAL FOR CONSTRUCTION IS NOT MANDATORY. TREES TO BE REMOVED ARE NOTED IN THE PLANS. ALL TREES TO BE REMOVED OR RELOCATED WILL BE MARKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO REMOVAL.
19. IF WOUNDING OF SAVED TREES OCCUR, A NON-TOXIC WOUND DRESSING MUST BE APPLIED IMMEDIATELY.
20. MATERIALS STORED ON THE SITE WHICH MIGHT CONTRIBUTE POLLUTANTS TO RUNOFF SHALL BE STORED ACCORDING TO ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
21. ALL EXISTING AND PROPOSED CONTOURS ARE LABELED IN FEET AND REFERENCE THE NATIONAL VERTICAL DATUM OF 1988. ALL SLOPES ARE SHOWN AS DIAGRAMMATIC AND SHALL BE ROUNDED AT THE TOP AND BOTTOM.
22. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING NECESSARY DISCHARGE PERMITS AND STORMWATER CONTROL PERMITS.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANUP OF THE PROJECT SITE AND SURROUNDING AREAS ON A DAILY BASIS OF ANY TRASH OR MUD ON THE SITE OR ADJACENT STREETS AS A RESULT OF CONSTRUCTION.
24. THE CONTRACTOR SHALL RESTORE ALL STAGING AND STOCKPILING AREAS TO THEIR ORIGINAL OR BETTER THAN EXISTING CONDITION UPON COMPLETION OF THE PROJECT. THE COST TO RESTORE THESE AREAS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
25. THE CONTRACTOR SHALL MAINTAIN ALL HAUL ROUTES AND RESTORE THEM TO THEIR ORIGINAL OR BETTER THAN EXISTING CONDITION UPON COMPLETION OF USE AT NO EXPENSE TO THE OWNER.

26. ALL PAVED HAUL ROUTES SHALL BE MAINTAINED FREE OF MUD AND DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS.
27. THE CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE ENGINEER. THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
28. ALL ESTIMATES OF QUANTITIES SHALL BE VERIFIED BY THE CONTRACTOR/SUBCONTRACTOR, WHO SHALL BE RESPONSIBLE FOR DETERMINING ALL QUANTITIES AND PROVIDING THE WORK AND MATERIALS AS SHOWN ON THE PLANS.
29. THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE AND DEPTHS ARE UNKNOWN. THE CONTRACTOR SHALL FIELD VERIFY PRIOR TO CONSTRUCTION AND COORDINATE CONSTRUCTION SCHEDULE WITH UTILITY RELOCATION SCHEDULE. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEANS TO PROTECT EXISTING UTILITIES NOT INTENDED FOR RELOCATION.
30. ALL WORK AND MATERIALS SHALL CONFORM TO THE "MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, SEVENTH ADDITION, 2021" AND MODIFICATIONS THERETO UNLESS NOTED OTHERWISE. IN CASE OF A CONFLICT BETWEEN REGULATORY OR STANDARD SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.
31. CONSTRUCTION SAFETY AND SANITATION FACILITIES SHALL BE PROVIDED BY THE CONTRACTOR AND MAINTAINED PER THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
32. THE CONTRACTOR SHALL PROTECT ADJACENT PRIVATE AND PUBLIC PROPERTY FROM DAMAGE DURING CONSTRUCTION. ANY DISTURBED PROPERTY OR SECTION CORNERS ARE TO BE RESET BY A PROFESSIONAL LAND SURVEYOR AT THE CONTRACTORS EXPENSE.
33. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NEEDED TRAFFIC CONTROL. TRAFFIC CONTROL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE APPROPRIATE GOVERNING AUTHORITY PRIOR TO IMPLEMENTATION.
34. THE CONTRACTOR SHALL REPLACE EXISTING FENCING AND ROADSIDE APPURTENANCES DISPLACED OR DAMAGED BY CONSTRUCTION.
35. CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL, USING WATER OR OTHER METHODS APPROVED BY THE ENGINEER.
36. THESE GENERAL NOTES ARE IN ADDITION TO SPECIFICATIONS PROVIDED IN THE CONTRACT DOCUMENTS, STANDARD SPECIFICATIONS, AND SPECIAL PROVISIONS. THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCIES, ERRORS, OR INCONSISTENCIES.

NAME: N:\PROJECTS\188_23003-LCC-VFMMP-LOWER D2 TO5\CAD\SHEETS\188_23003_LOWER D2_S_GENERAL.DWG
PLOT DATE: May 16, 2024 11:37 AM BY: JACOB LACY

DESIGNED JAL	DRAWN JAL	CHECKED MWJ	DATE 2/13/2024	REVISION
 RESPEC WATER & NATURAL RESOURCES 3810 VALLEY COMMONS DR SUITE 4 BOZEMAN, MT 59718 WWW.RESPEC.COM PHONE: 406.588.4252				
 RESPEC				
STAMP 				
PRELIMINARY NOT FOR CONSTRUCTION 5/2024				
 811 Know whats below. Call before you dig.				
LEWIS AND CLARK COUNTY PUBLIC WORKS 3402 COONEY DRIVE HELENA, MT 59602				
VFMMP - LOWER D2 FLOOD INFRASTRUCTURE IMPROVEMENTS				
GENERAL NOTES				
SHEET NUMBER: G-01				
SHEET				

LEGEND*

DESCRIPTION	EXISTING	PROPOSED
ASPHALT		
CONCRETE		
WETLAND		
RIGHT OF WAY		
SURVEY CONTROL		
CONTOUR		
CULVERT		
STORM DRAIN MANHOLE		
OVERHEAD POWER		
UNDERGROUND POWER		
POWER TRANSFORMER PEDESTAL		
UNDERGROUND FIBER OPTIC/PEDESTAL		
UNDERGROUND PHONE/PEDESTAL		
UNDERGROUND GAS		
TELEVISION		
WELL		
GUARDRAIL		
FENCE		
SIGN		
TREE		
RIPRAP		

*TO BE UPDATED WITH RELEVANT PLANIMETRICS FOLLOWING FIELD SURVEY.

ABBREVIATIONS

- EOP EDGE OF PAVEMENT
- EOC EDGE OF CONCRETE
- FES FLARED END SECTION
- ROW RIGHT OF WAY
- TYP TYPICAL SECTION
- RCB REINFORCED CONCRETE BOX

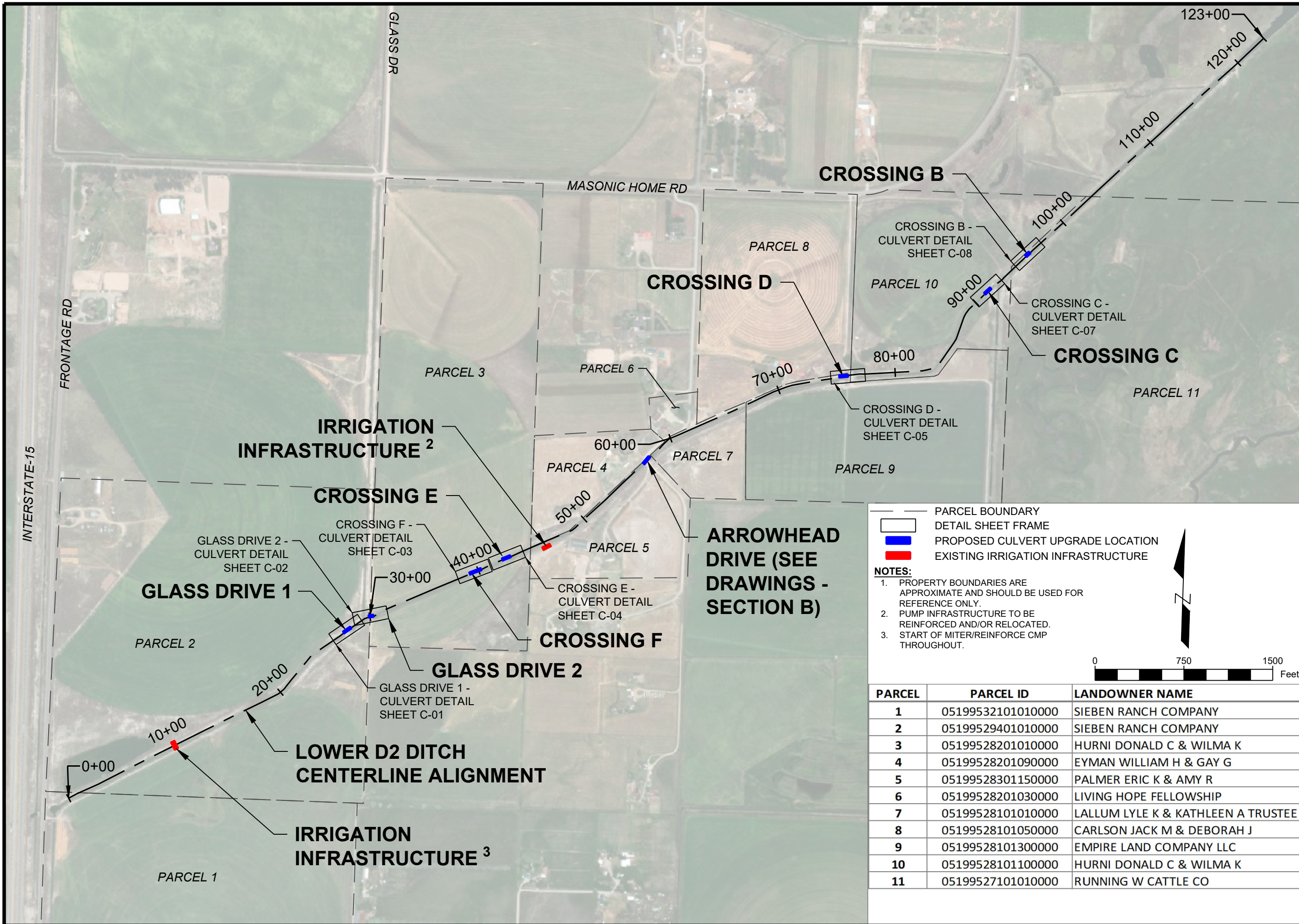
SUMMARY OF CONSTRUCTION QUANTITIES

DESCRIPTION	UNIT	QUANTITY	NOTES
REMOVE AND DISPOSE EXISTING CULVERTS TYPE I	EA	4	SMALL CMP
REMOVE AND DISPOSE EXISTING CULVERTS TYPE II	EA	3	DOUBLE CMP, BOX CULVERT, OR CULVERT WITH REMOVAL OF FOUNDATION MATERIALS
CHANNEL EXCAVATION	CY	1890	QUANTITY INCLUDES OVER EXCAVATION FOR RIPRAP. DOES NOT INCLUDE CULVERT EXCAVATION
CULVERT EXCAVATION	CY	3190	QUANTITY BASED ON ASSUMED CULVERT EXCAVATION SIDE SLOPE AND OVER EXCAVATION FOR BEDDING MATERIAL; INCLUDES VOLUME OCCUPIED BY EXISTING CULVERT
CULVERT NATIVE BACKFILL	CY	1320	QUANTITY INCLUDES CULVERT EXCAVATION LESS CULVERT VOLUME, DOES NOT INCLUDE CULVERT BEDDING
HAUL AND DISPOSE EXCESS MATERIAL	CY	3760	CHANNEL EXCAVATION AND CULVERT EXCAVATION LESS NATIVE BACKFILL
12'x6' RCB	LF	318	
12'X6'X12' RCB SLOPED END SECTION	EA	14	
BEDDING MATERIAL (RCB)	CY	171	
SAND CUSHION (RCB)	CY	32	
RIPRAP PROCUREMENT AND PLACEMENT	CY	1890	
AGGREGATE BASE COURSE	CY	109	MATERIAL FOR ROAD BASE
AGGREGATE SURFACE COURSE	CY	43	MATERIAL FOR ROAD SURFACING
REVEGETATION	EA	7	REVEGETATION FROM CONSTRUCTION DISTURBANCE AT EACH CROSSING
PUMP INFRASTRUCTURE REINFORCEMENT AND/OR RELOCATION	EA	2	REINFORCEMENTS AT EXISTING PUMP STATIONS
MITER/REINFORCE CMP	EA	7	CMP TO BE REINFORCED AND MITERED TO CONFORM TO SLOPE

NAME: N:\PROJECTS\180-23003-LCC-VFMMP-LOWER D2 TO S/CAD/SHEETS\180-23003-LOWER D2_S_GENERAL.DWG
PLOT DATE: May 16, 2024 11:37 AM, BY: JACOB LACY

DESIGNED JAL	DRAWN JAL	CHECKED MWJ	DATE 2/13/2024	REVISION
 RESPEC WATER & NATURAL RESOURCES 3810 VALLEY COMMONS DR SUITE 4 BOZEMAN, MT 59718 WWW.RESPEC.COM PHONE: 406.584.4252				
STAMP 95% REVIEWED PRELIMINARY NOT FOR CONSTRUCTION 5/2024				
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LEWIS AND CLARK COUNTY PUBLIC WORKS 3402 COONEY DRIVE HELENA, MT 59602				
VFMMP - LOWER D2 FLOOD INFRASTRUCTURE IMPROVEMENTS				
LEGEND AND CONSTRUCTION QUANTITIES				
SHEET NUMBER:				
G-02				
SHEET				

NAME: N:\PROJECTS\SW10138_23005-LCC_VFMMP_LOWER D2 TOS\CAD\SHEETS\SW10138_23005_LOWER D2_S_OVERVIEW.DWG
 PLOT DATE: May 16, 2024 11:37 AM, BY: JACOB LACY



LEGEND:

- PARCEL BOUNDARY
- DETAIL SHEET FRAME
- PROPOSED CULVERT UPGRADE LOCATION
- EXISTING IRRIGATION INFRASTRUCTURE

NOTES:

- PROPERTY BOUNDARIES ARE APPROXIMATE AND SHOULD BE USED FOR REFERENCE ONLY.
- PUMP INFRASTRUCTURE TO BE REINFORCED AND/OR RELOCATED.
- START OF MITER/REINFORCE CMP THROUGHOUT.

SCALE: 0 750 1500 Feet

ORIENTATION: N

PARCEL	PARCEL ID	LANDOWNER NAME
1	05199532101010000	SIEBEN RANCH COMPANY
2	05199529401010000	SIEBEN RANCH COMPANY
3	05199528201010000	HURNI DONALD C & WILMA K
4	05199528201090000	EYMAN WILLIAM H & GAY G
5	05199528301150000	PALMER ERIC K & AMY R
6	05199528201030000	LIVING HOPE FELLOWSHIP
7	05199528101010000	LALLUM LYLE K & KATHLEEN A TRUSTEE
8	05199528101050000	CARLSON JACK M & DEBORAH J
9	05199528101300000	EMPIRE LAND COMPANY LLC
10	05199528101100000	HURNI DONALD C & WILMA K
11	05199527101010000	RUNNING W CATTLE CO

DESIGNED	JAL	REVISION	
DRAWN	JAL		
CHECKED	MWJ		
DATE	2/13/2024		

RESPEC
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 WWW.RESPEC.COM | PHONE: 406.584.4252

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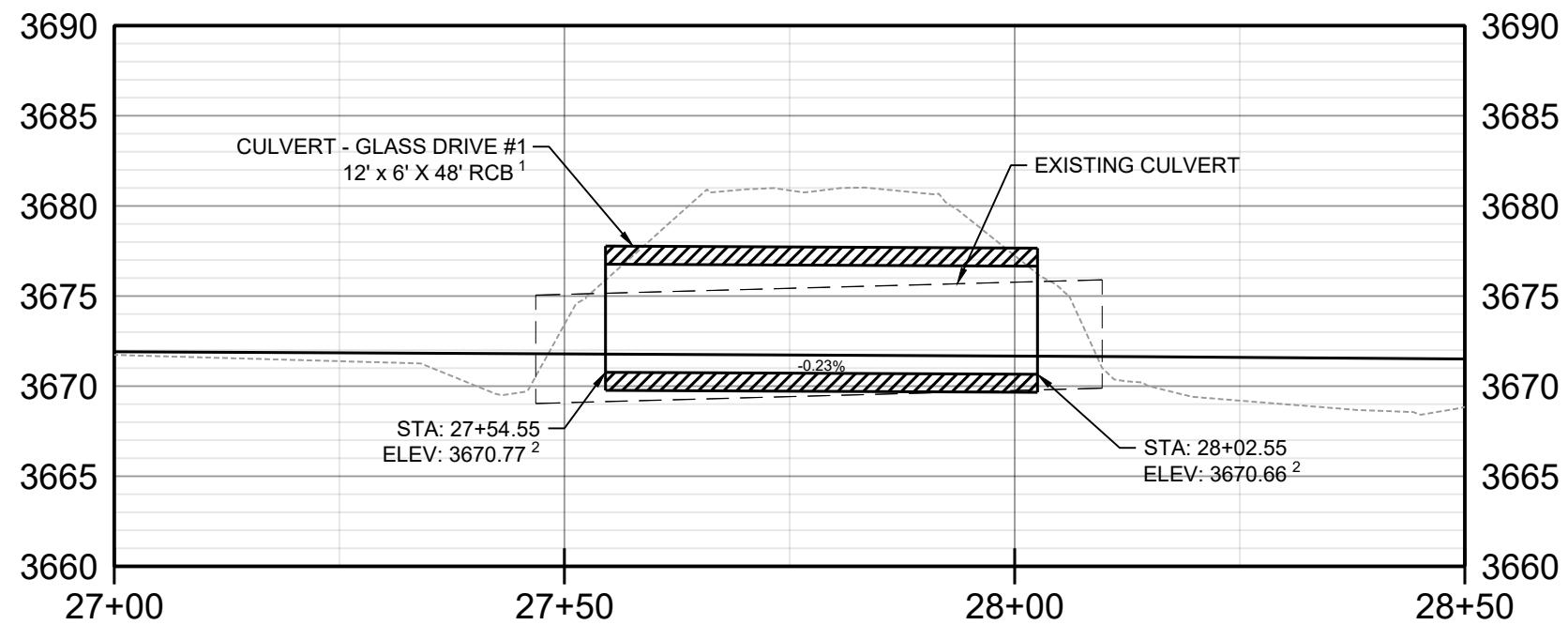
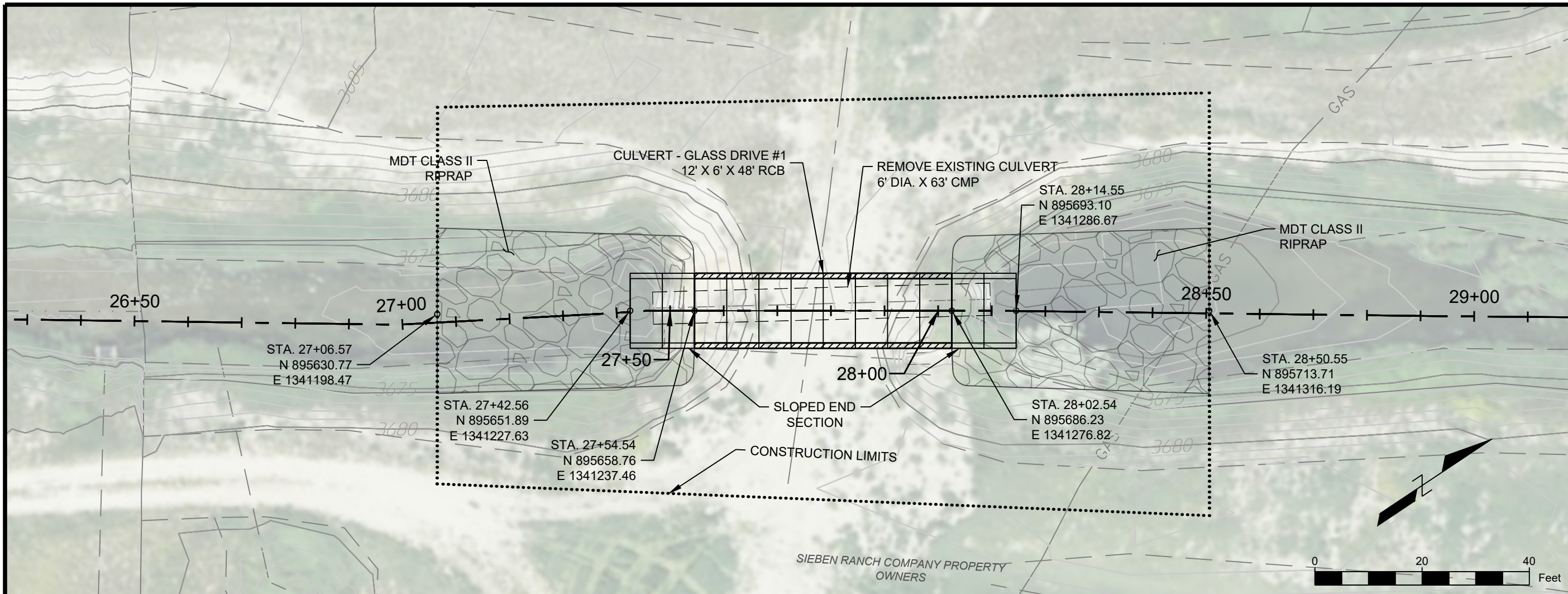
LEWIS AND CLARK COUNTY
 PUBLIC WORKS
 3402 COONEY DRIVE
 HELENA, MT 59602

VFMMP - LOWER D2
 FLOOD
 INFRASTRUCTURE
 IMPROVEMENTS

PROJECT OVERVIEW

SHEET NUMBER:
G-03
 SHEET

NAME: N:\PROJECTS\10138_23003-LCC-VFMMP-LOWER D2 TO S\CAD\SHEETS\10138_23003_LOWER D2_S_CULVERT P&P.DWG
 PLOT DATE: May 16, 2024 11:39 AM, BY: JACOB LACY



NOTES:

1. END SECTIONS NOT SHOWN IN PROFILE VIEW.
2. CULVERT WILL BE PLACED IN A MANNER THAT THE POST-CONSTRUCTION EQUILIBRATED CHANNEL PROFILE WILL BE 1.0' ABOVE CULVERT INVERTS.

----- EXISTING GROUND PROFILE
 _____ POST CONSTRUCTION EQUILIBRATED CHANNEL PROFILE

DESIGNED	DRAWN	CHECKED	DATE
JAL	JAL	MWJ	2/13/2024

REVISION

STAMP
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 PRELIMINARY
 NOT FOR CONSTRUCTION
 5/2024



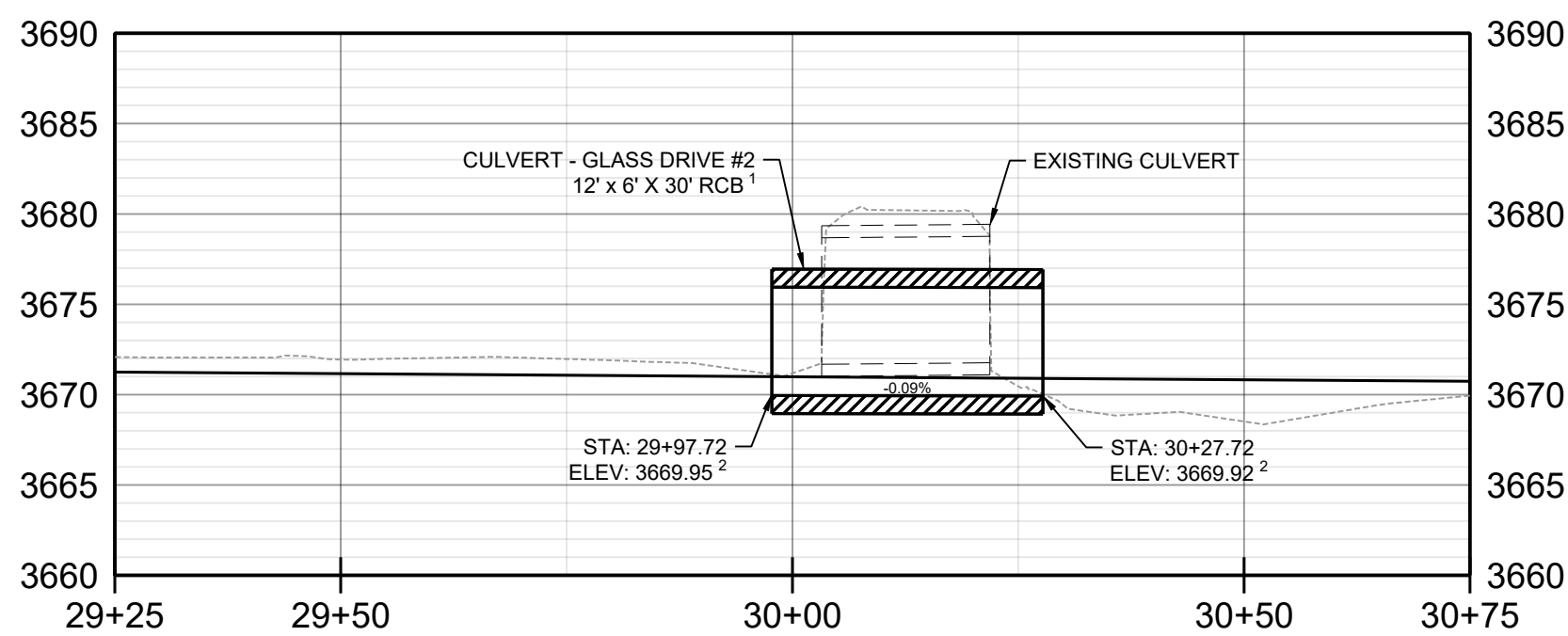
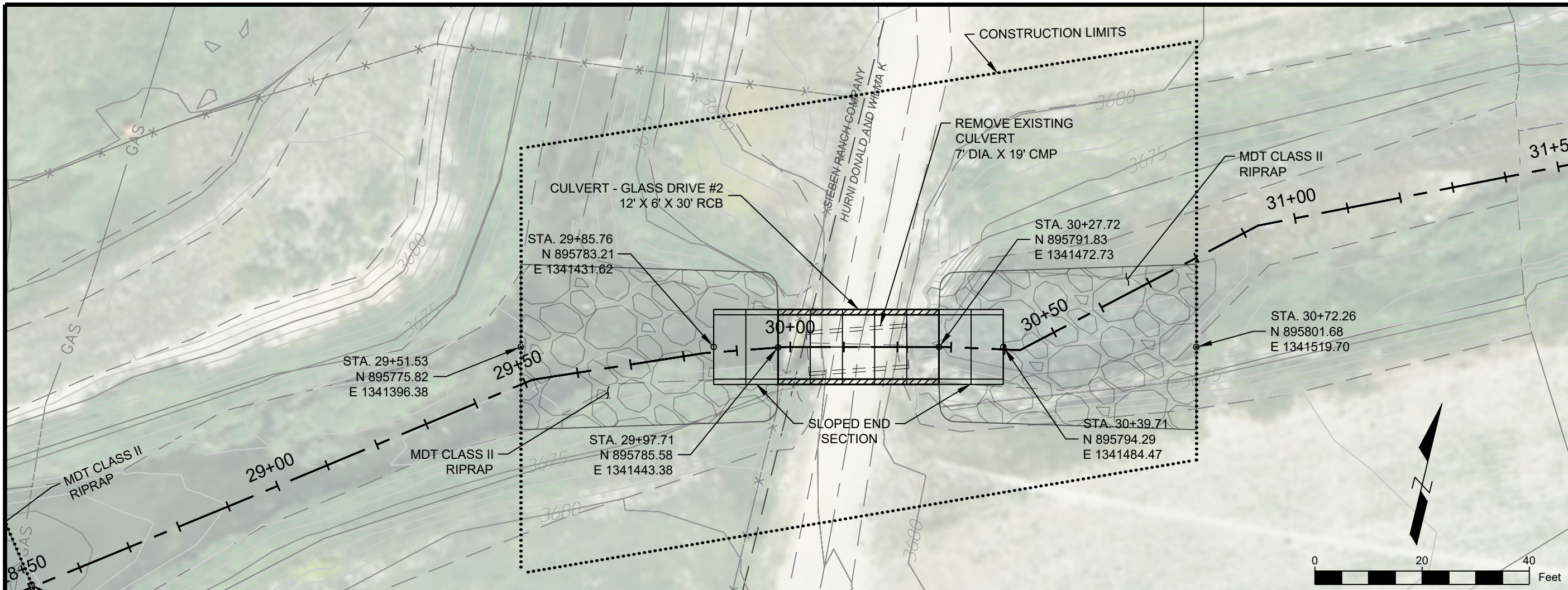
LEWIS AND CLARK COUNTY
 PUBLIC WORKS
 3402 COONEY DRIVE
 HELENA, MT 59602

VFMMP - LOWER D2
 FLOOD
 INFRASTRUCTURE
 IMPROVEMENTS

GLASS DRIVE 1 -
 CULVERT DETAIL

SHEET NUMBER:
C-01
 SHEET

NAME: N:\PROJECTS\W0138_23005-LCC-VFMMP-LOWER D2 TO S\CAD\SHEETS\W0138_23005_LOWER D2_S_CULVERT P&P.DWG
 PLOT DATE: May 16, 2024 11:39 AM, BY: JACOB LACY



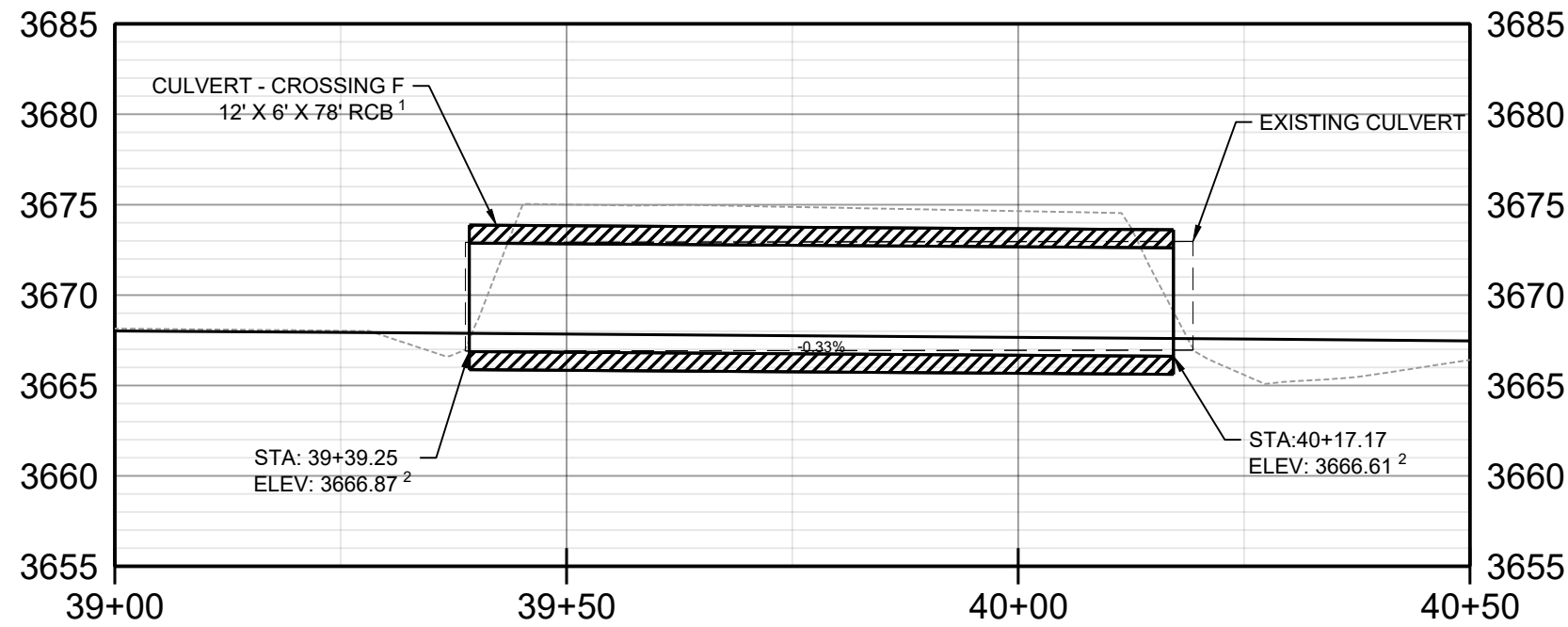
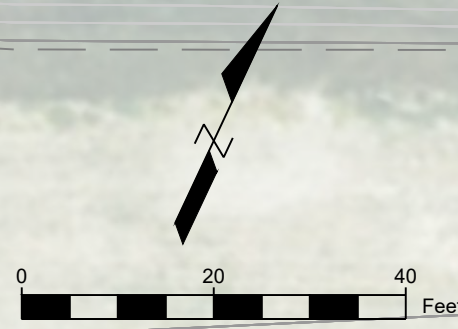
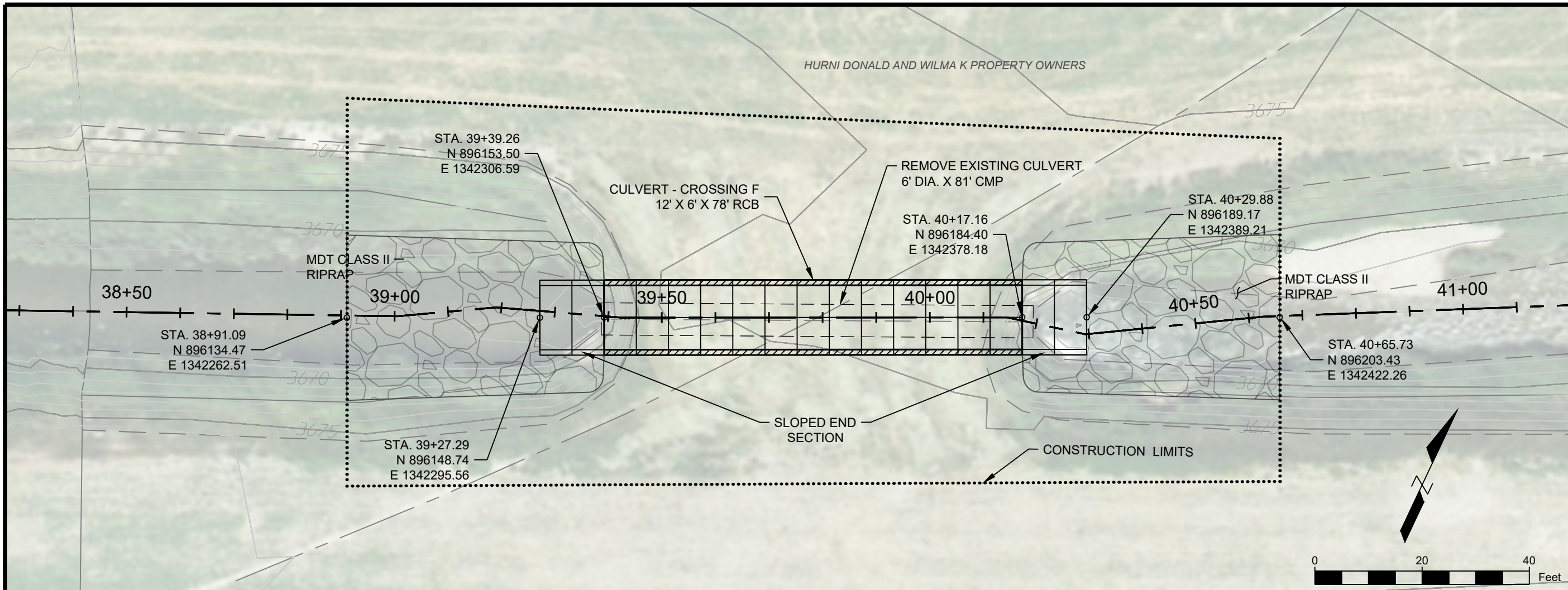
GLASS DRIVE #2 - CULVERT PROFILE
 HORIZ. SCALE: 1" = 20'
 VERT. SCALE: 1" = 10'

- NOTES:**
1. END SECTIONS NOT SHOWN IN PROFILE VIEW.
 2. CULVERT WILL BE PLACED IN A MANNER THAT THE POST-CONSTRUCTION EQUILIBRATED CHANNEL PROFILE WILL BE 1.0' ABOVE CULVERT INVERTS.

----- EXISTING GROUND PROFILE
 _____ POST CONSTRUCTION EQUILIBRATED CHANNEL PROFILE

DESIGNED JAL	DRAWN JAL	CHECKED MWJ	DATE 2/13/2024	REVISION
<p>RESPEC WATER & NATURAL RESOURCES 3810 VALLEY COMMONS DR SUITE 4 BOZEMAN, MT 59718 WWW.RESPEC.COM PHONE: 406.588.4252</p>				
<p>9.5% REVIEW</p>				
<p>PRELIMINARY NOT FOR CONSTRUCTION 5/2024</p>				
<p>811 Know what's below. Call before you dig.</p>				
LEWIS AND CLARK COUNTY PUBLIC WORKS 3402 COONEY DRIVE HELENA, MT 59602				
VFMMP - LOWER D2 FLOOD INFRASTRUCTURE IMPROVEMENTS				
GLASS DRIVE 2 - CULVERT DETAIL				
SHEET NUMBER: C-02				
SHEET				

NAME: N:\PROJECTS\W0138_23003-LCC-VFMMP-LOWER D2 TO S\CAD\SHEETS\W0138_23003_LOWER D2_S_CULVERT P&P.DWG
 PLOT DATE: May 16, 2024 11:40 AM, BY: JACOB LACY



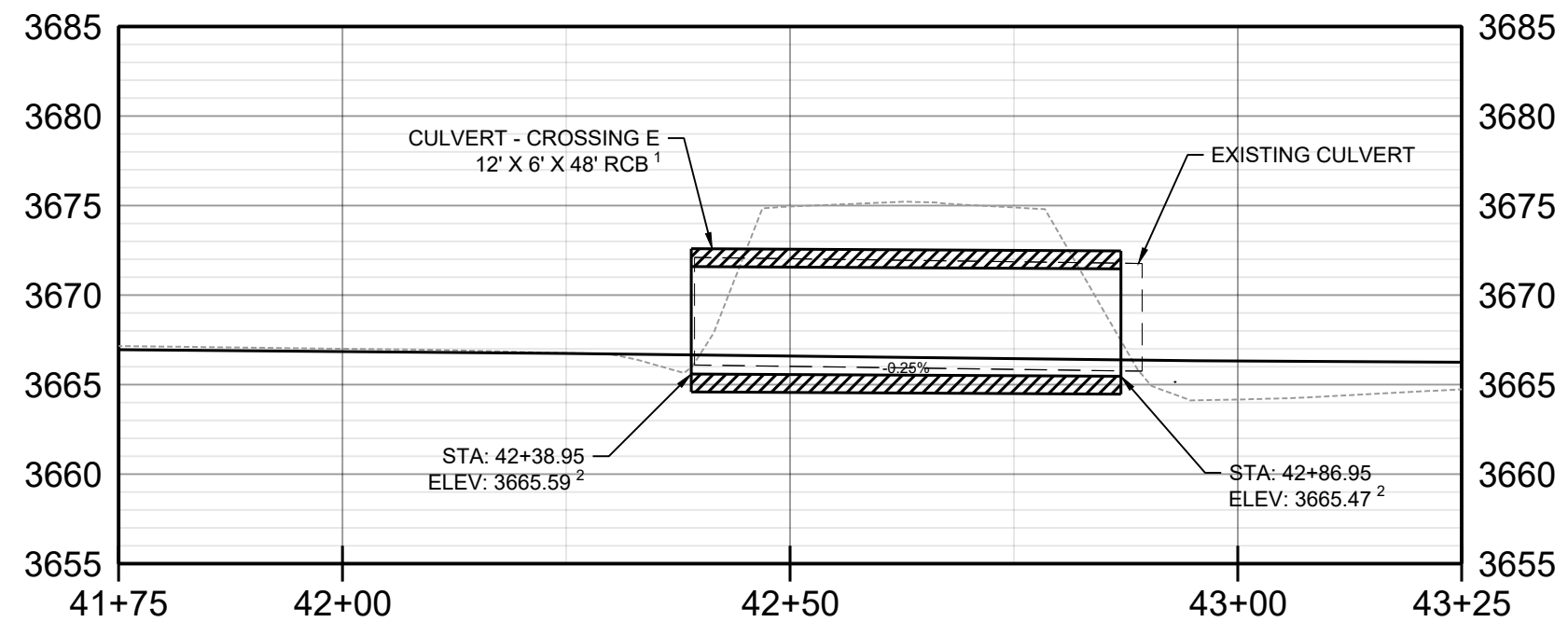
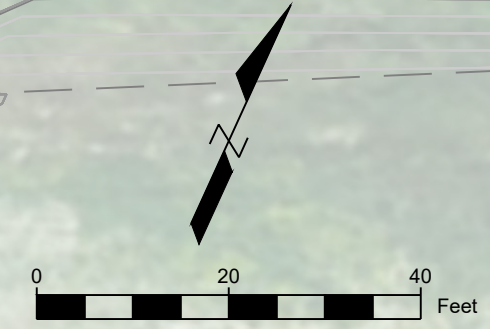
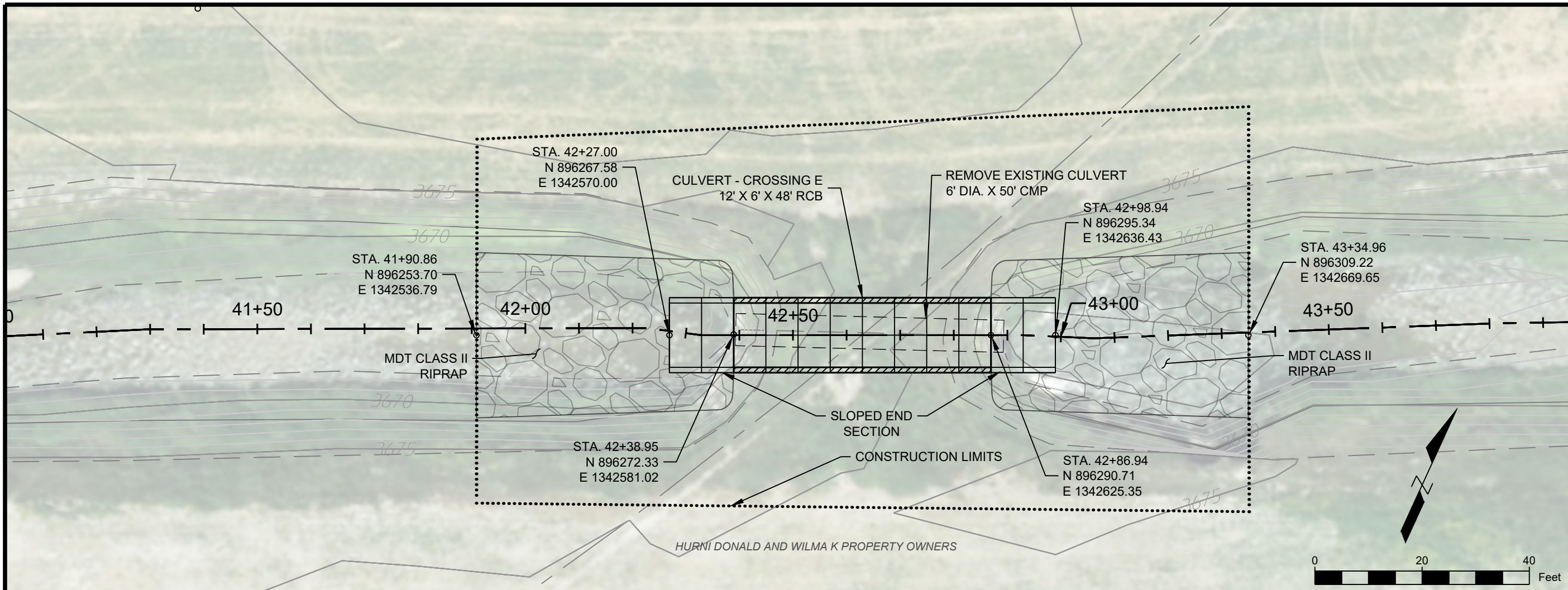
CROSSING F - CULVERT PROFILE
 HORIZ. SCALE: 1" = 20'
 VERT. SCALE: 1" = 10'

----- EXISTING GROUND PROFILE
 _____ POST CONSTRUCTION EQUILIBRATED CHANNEL PROFILE

- NOTES:**
1. END SECTIONS NOT SHOWN IN PROFILE VIEW.
 2. CULVERT WILL BE PLACED IN A MANNER THAT THE POST-CONSTRUCTION EQUILIBRATED CHANNEL PROFILE WILL BE 1.0' ABOVE CULVERT INVERTS.

DESIGNED	JAL	DATE	2/13/2024
DRAWN	JAL	CHECKED	MMW
RESPEC WATER & NATURAL RESOURCES 3810 VALLEY COMMONS DR SUITE 4 BOZEMAN, MT 59718 WWW.RESPEC.COM PHONE 406.584.4252			
STAMP REVIEW 95%			
PRELIMINARY NOT FOR CONSTRUCTION 5/2024			
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LEWIS AND CLARK COUNTY PUBLIC WORKS 3402 COONEY DRIVE HELENA, MT 59602			
VFMMP - LOWER D2 FLOOD INFRASTRUCTURE IMPROVEMENTS			
CROSSING F - CULVERT DETAIL			
SHEET NUMBER: C-03			
SHEET			

NAME: N:\PROJECTS\W0138_23003-LCC-VFMMP-LOWER D2 TO S\CAD\SHEETS\W0138_23003_LOWER D2_S_CULVERT P&P.DWG
 PLOT DATE: May 16, 2024 11:40 AM, BY: JACOB LACY



CROSSING E - CULVERT PROFILE
 HORIZ. SCALE: 1" = 20'
 VERT. SCALE: 1" = 10'

----- EXISTING GROUND PROFILE
 _____ POST CONSTRUCTION EQUILIBRATED CHANNEL PROFILE

- NOTES:**
1. END SECTIONS NOT SHOWN IN PROFILE VIEW.
 2. CULVERT WILL BE PLACED IN A MANNER THAT THE POST-CONSTRUCTION EQUILIBRATED CHANNEL PROFILE WILL BE 1.0' ABOVE CULVERT INVERTS.

DESIGNED	JAL	DATE	REVISION
DRAWN	JAL		
CHECKED	MWJ	2/13/2024	

STAMP
 9.5% REVIEW
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 NOT FOR CONSTRUCTION
 5/2024



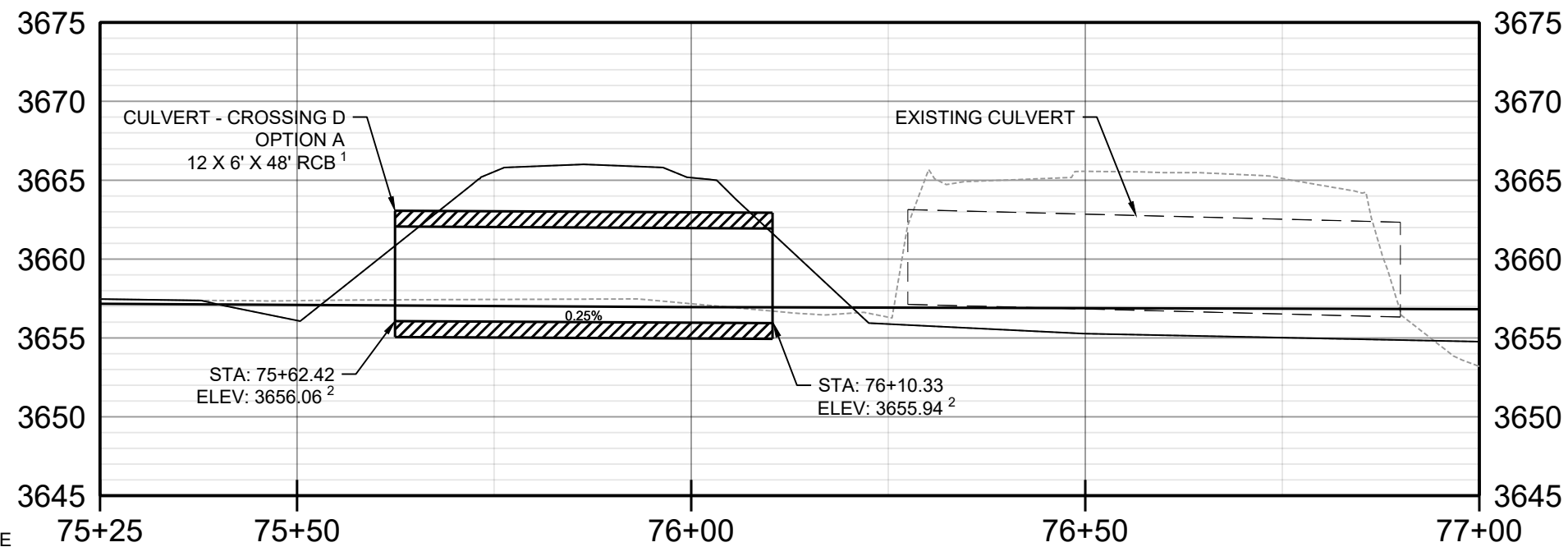
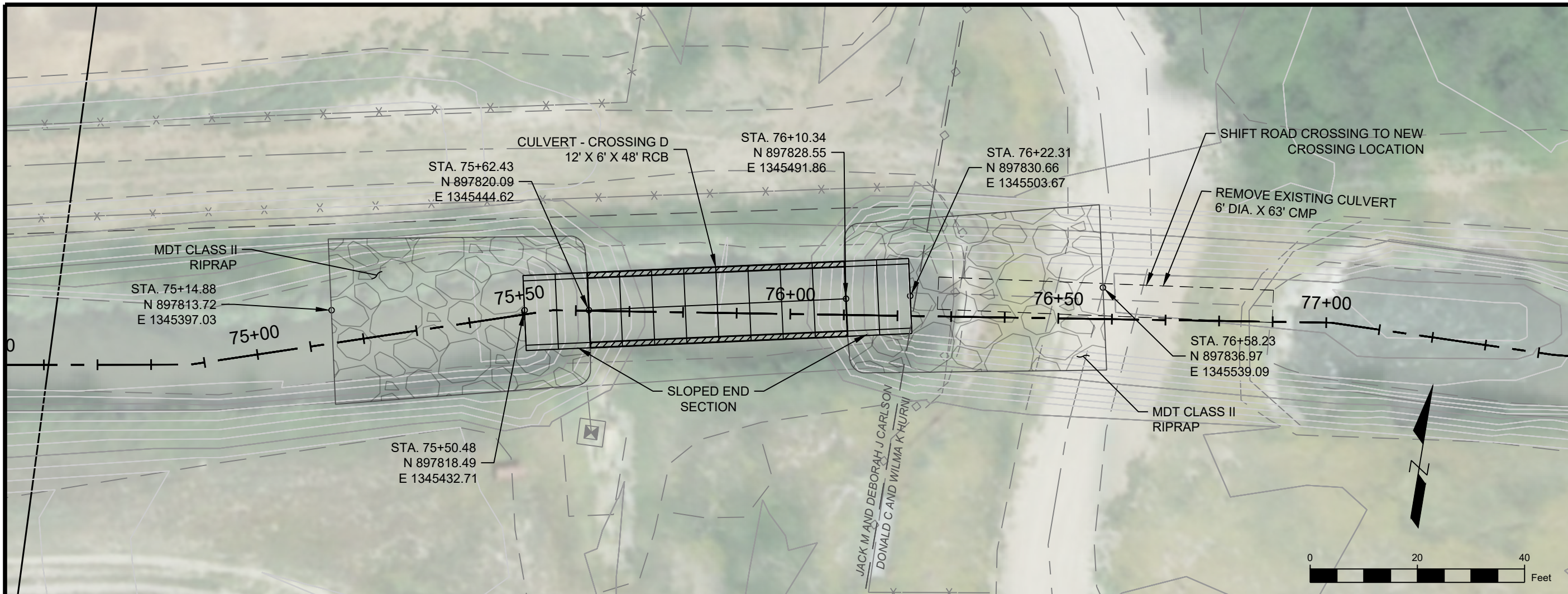
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 HELENA, MT 59602

VFMMP - LOWER D2
 FLOOD
 INFRASTRUCTURE
 IMPROVEMENTS

CROSSING E -
 CULVERT DETAIL

SHEET NUMBER:
C-04
 SHEET

NAME: N:\PROJECTS\W0138_23003-LCC_VFMMP_LOWER D2_T05\CAD\SHEETS\W0138_23003_LOWER D2_S_CULVERT P&P.DWG
 PLOT DATE: May 16, 2024 11:41 AM BY: JACOB LACY



- NOTES:**
1. END SECTIONS NOT SHOWN IN PROFILE VIEW.
 2. CULVERT WILL BE PLACED IN A MANNER THAT THE POST-CONSTRUCTION EQUILIBRATED CHANNEL PROFILE WILL BE 1.0' ABOVE CULVERT INVERTS.
 3. EASEMENT BOUNDARIES ARE APPROXIMATE AND NOT FOR LEGAL PURPOSES.
 4. CONSTRUCTION LIMITS SHOWN ON SHEET C-06.

CROSSING D - CULVERT PROFILE
 HORIZ. SCALE: 1" = 20'
 VERT. SCALE: 1" = 10'

----- EXISTING GROUND PROFILE
 _____ POST CONSTRUCTION EQUILIBRATED CHANNEL PROFILE

DESIGNED	JAL	REVISION	
DRAWN	JAL		
CHECKED	MWJ		
DATE	2/13/2024		

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 WWW.RESPEC.COM PHONE 406.588.4252

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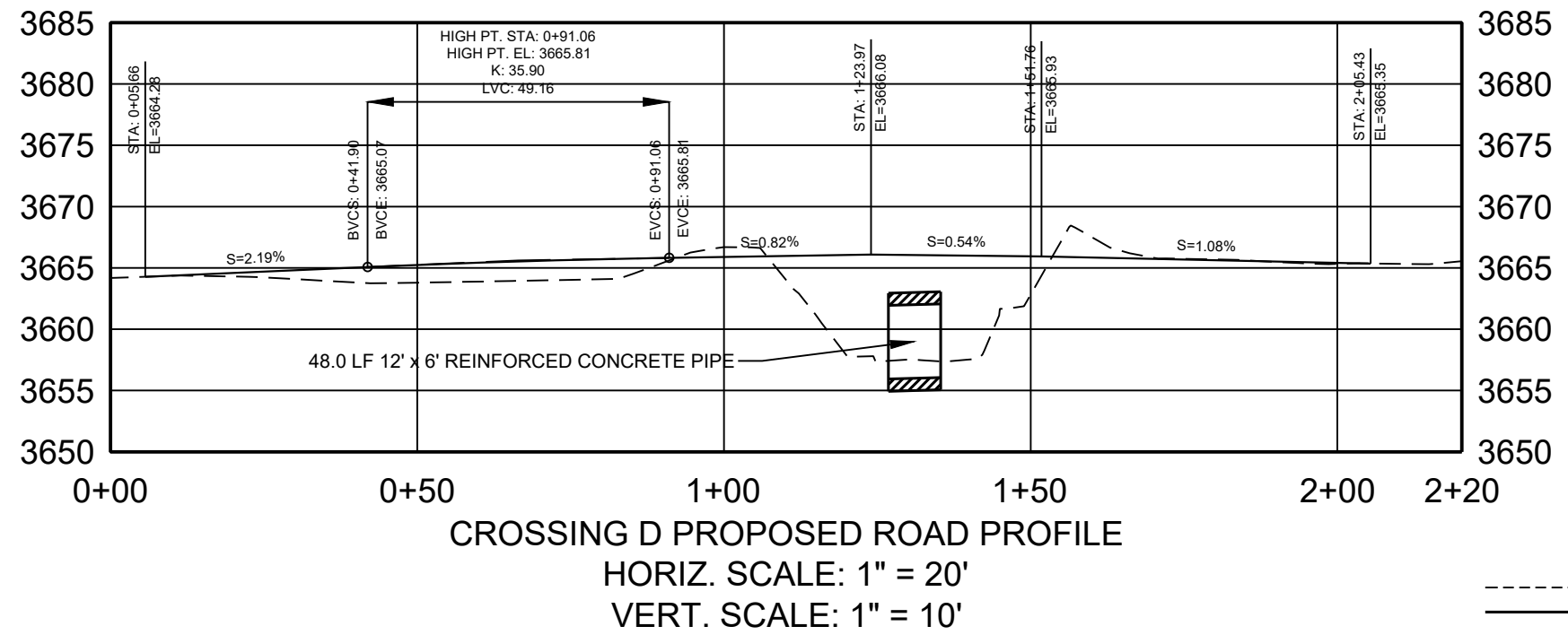
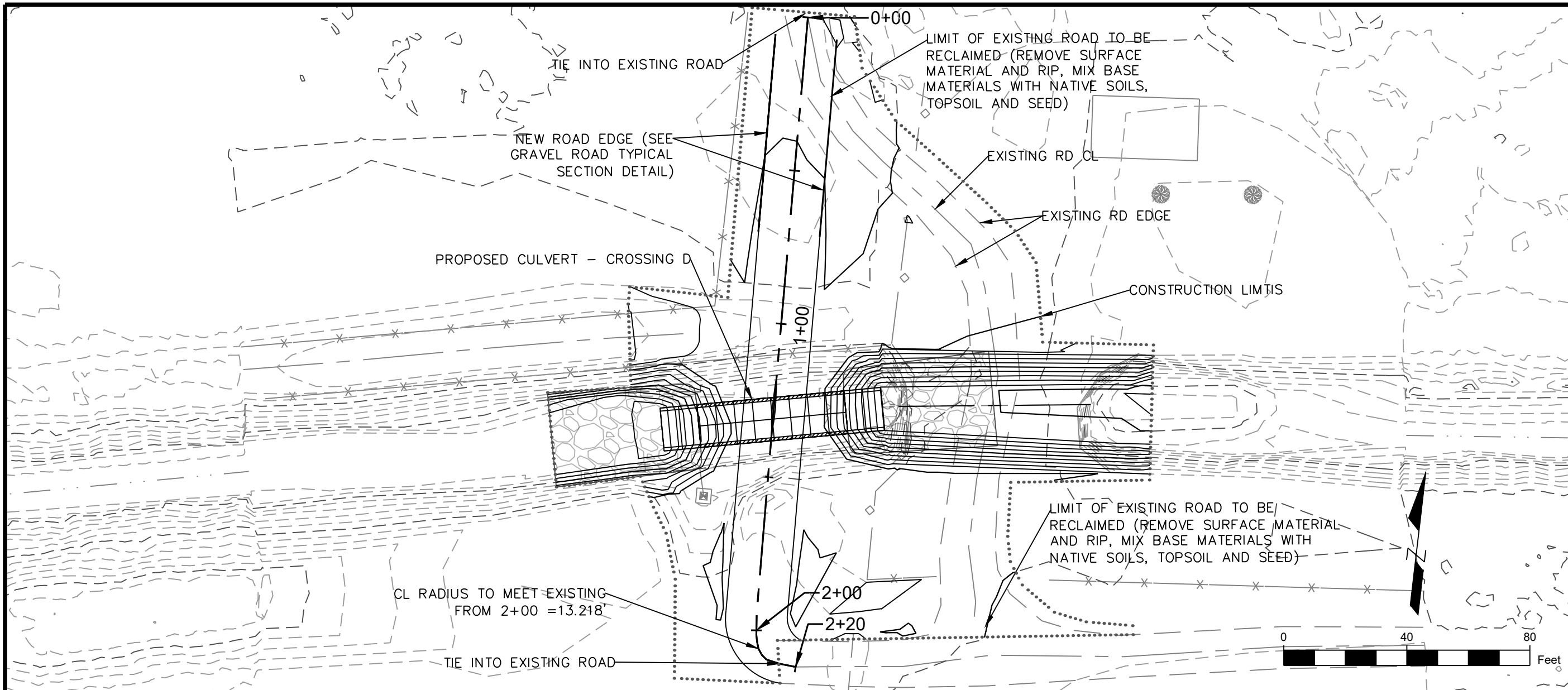
LEWIS AND CLARK COUNTY
 PUBLIC WORKS
 3402 COONEY DRIVE
 HELENA, MT 59602

VFMMP - LOWER D2
 FLOOD
 INFRASTRUCTURE
 IMPROVEMENTS

CROSSING D -
 CULVERT DETAIL

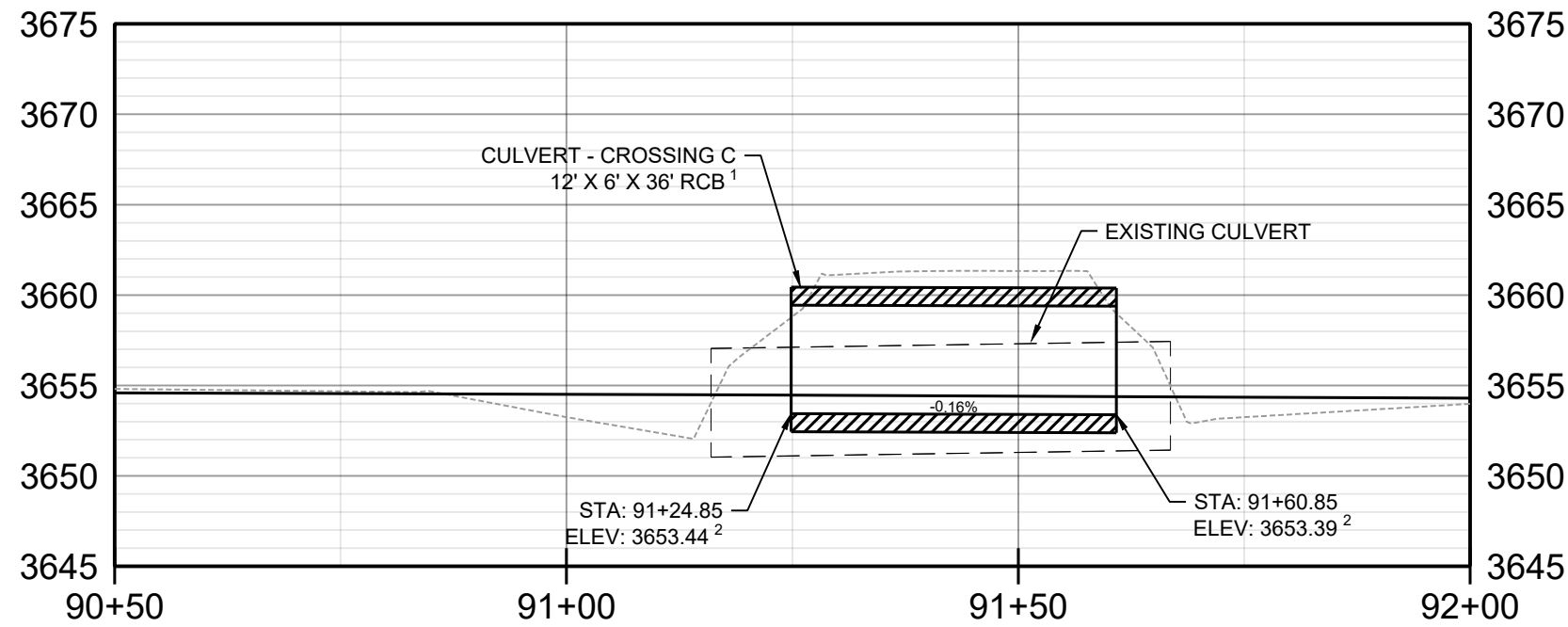
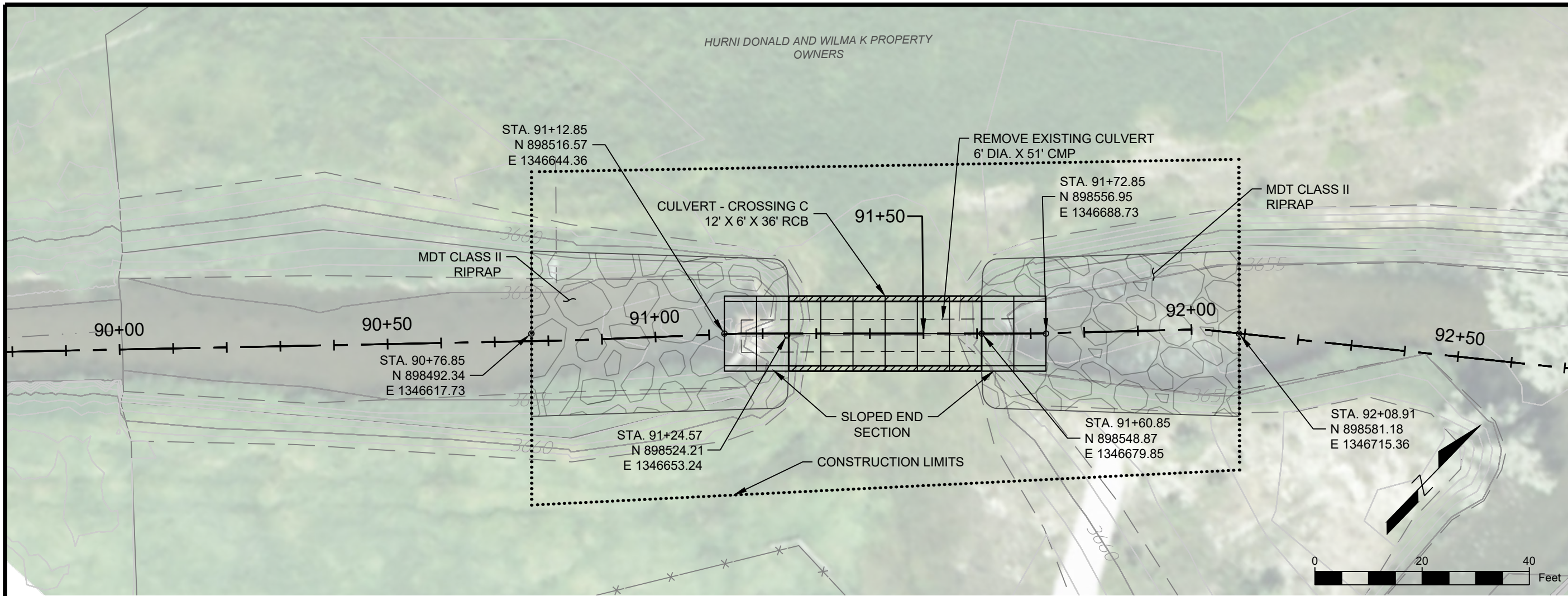
SHEET NUMBER:
C-05
 SHEET

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 PLOT DATE: May 16, 2024 11:41 AM, BY: JACOB LACY



DESIGNED	JAL	DATE	2/13/2024
DRAWN	JAL	CHECKED	
		WATER & NATURAL RESOURCES 3810 VALLEY COMMONS DR SUITE 4 BOZEMAN, MT 59718 WWW.RESPEC.COM PHONE: 406.584.4252	
STAMP 95% REVIEW			
PRELIMINARY NOT FOR CONSTRUCTION 5/2024			
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LEWIS AND CLARK COUNTY PUBLIC WORKS 3402 COONEY DRIVE HELENA, MT 59602			
VFMMP - LOWER D2 FLOOD INFRASTRUCTURE IMPROVEMENTS			
CROSSING D - PROPOSED ROAD CROSSING DETAIL			
SHEET NUMBER: C-06			
SHEET			

HURNI DONALD AND WILMA K PROPERTY OWNERS



- NOTES:**
1. END SECTIONS NOT SHOWN IN PROFILE VIEW.
 2. CULVERT WILL BE PLACED IN A MANNER THAT THE POST-CONSTRUCTION EQUILIBRATED CHANNEL PROFILE WILL BE 1.0' ABOVE CULVERT INVERTS.

----- EXISTING GROUND PROFILE
 _____ POST CONSTRUCTION EQUILIBRATED CHANNEL PROFILE

DESIGNED	DRAWN	CHECKED	DATE
JAL	JAL	MWJ	2/13/2024

REVISION

STAMP
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 PUBLIC WORKS
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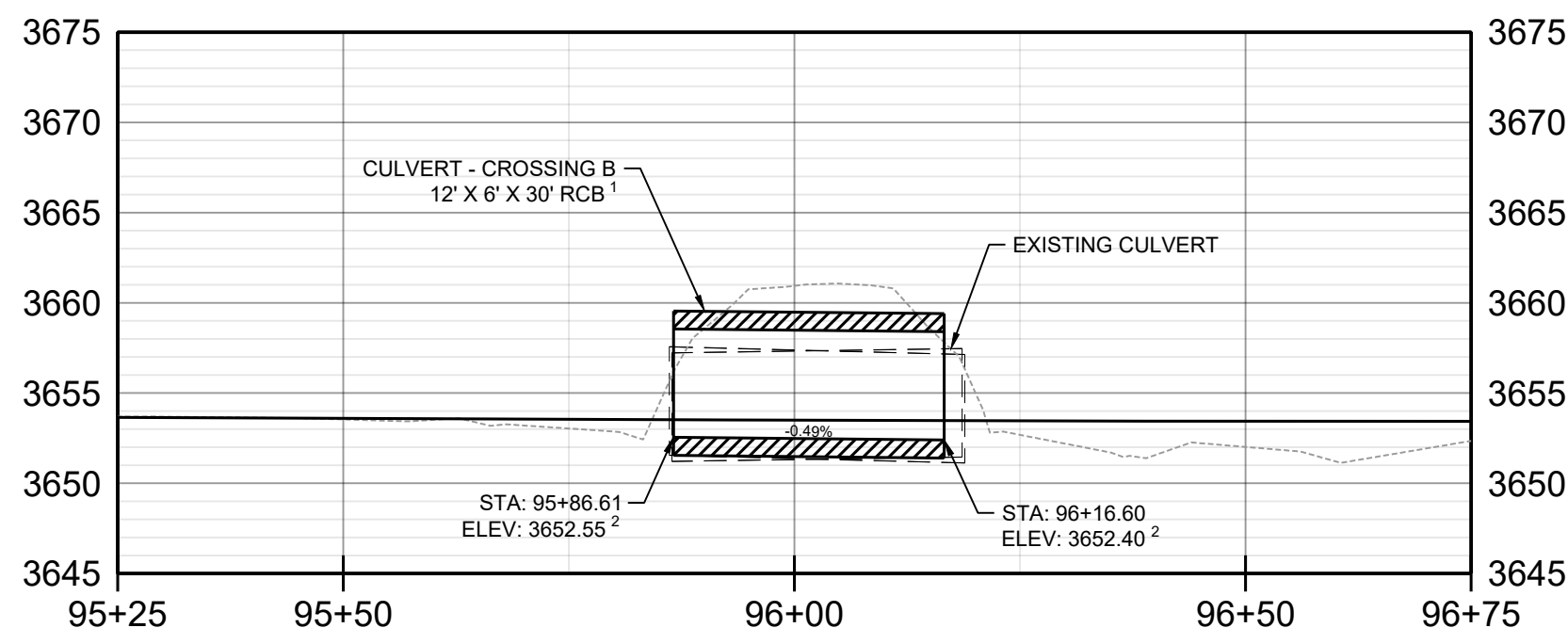
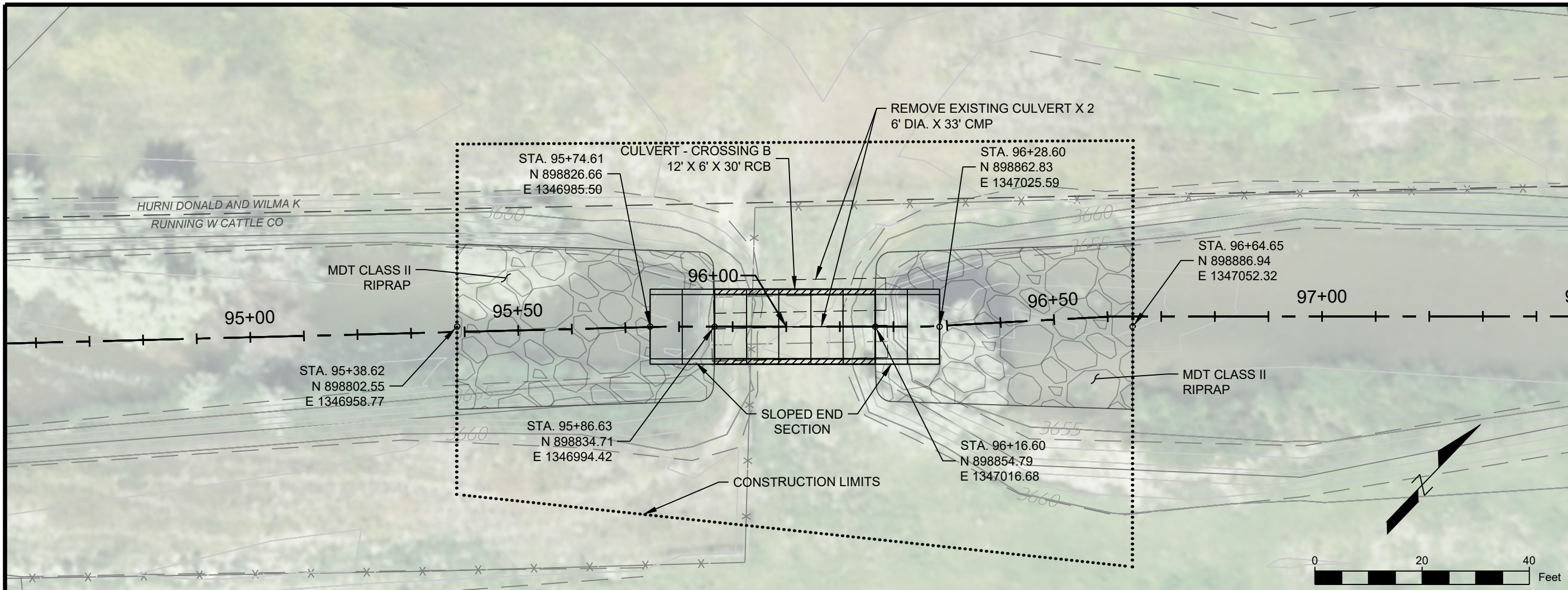
VFMP - LOWER D2
 FLOOD
 INFRASTRUCTURE
 IMPROVEMENTS

CROSSING C -
 CULVERT DETAIL

SHEET NUMBER:
C-07
 SHEET

NAME: N:\PROJECTS\W0138_23005-LCC-VFMP-LOWER D2 TO CAD\SHEETS\W0138_23005_LOWER D2_S_CULVERT P&P.DWG
 PLOT DATE: May 16, 2024 11:42 AM, BY: JACOB LACY

NAME: N:\PROJECTS\W0138_23003-LCC-VFMP-LOWER D2 TO CAD\SHEETS\W0138_23003_LOWER D2_S_CULVERT P&P.DWG
 PLOT DATE: May 16, 2024 11:43 AM, BY: JACOB LACY



- NOTES:**
1. END SECTIONS NOT SHOWN IN PROFILE VIEW.
 2. CULVERT WILL BE PLACED IN A MANNER THAT THE POST-CONSTRUCTION EQUILIBRATED CHANNEL PROFILE WILL BE 1.0' ABOVE CULVERT INVERTS.

CROSSING B - CULVERT PROFILE
 HORIZ. SCALE: 1" = 20'
 VERT. SCALE: 1" = 10'

----- EXISTING GROUND PROFILE
 _____ POST CONSTRUCTION EQUILIBRATED CHANNEL PROFILE

DESIGNED	JAL	REVISION	
DRAWN	JAL		
CHECKED	MWJ		
DATE	2/13/2024		

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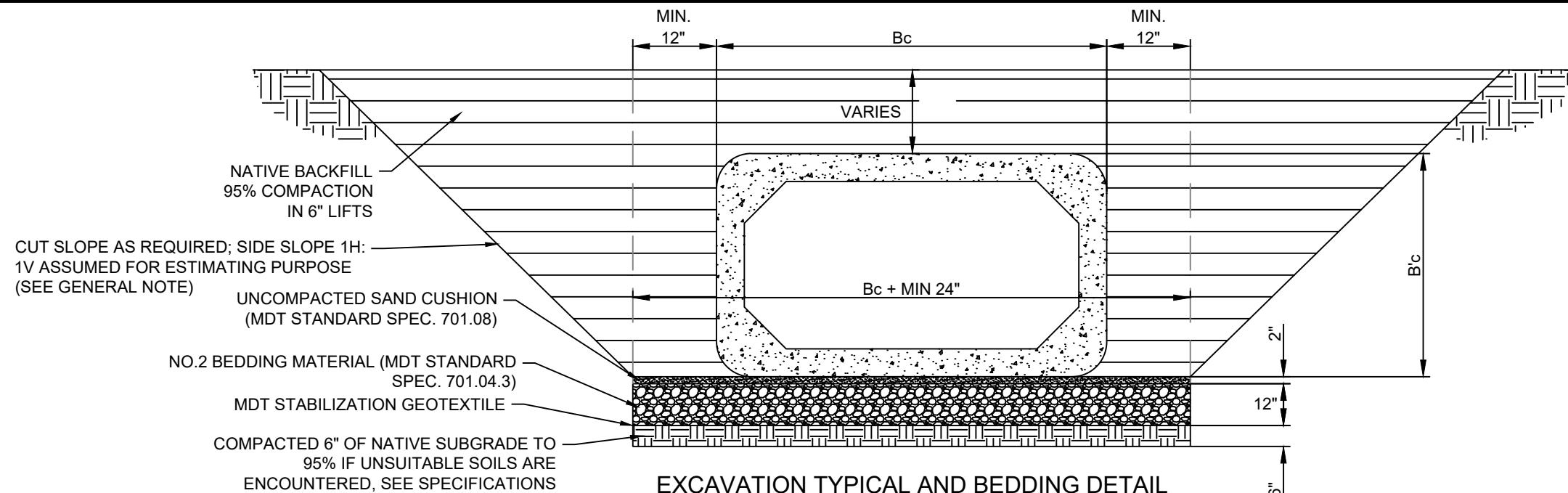
811
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 PUBLIC WORKS
 3402 COONEY DRIVE
 HELENA, MT 59602

VFMP - LOWER D2
 FLOOD
 INFRASTRUCTURE
 IMPROVEMENTS

CROSSING B -
 CULVERT DETAIL

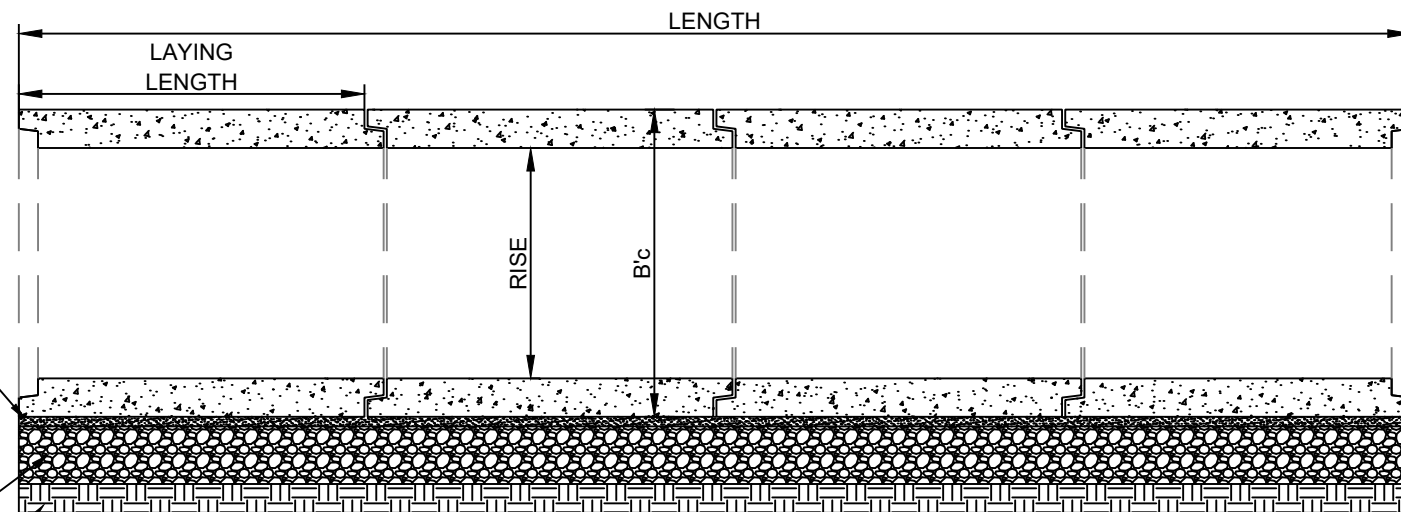
SHEET NUMBER:
C-08
 SHEET



EXCAVATION TYPICAL AND BEDDING DETAIL

N.T.S.

- NATIVE BACKFILL
95% COMPACTION
IN 6" LIFTS
- CUT SLOPE AS REQUIRED; SIDE SLOPE 1H:
1V ASSUMED FOR ESTIMATING PURPOSE
(SEE GENERAL NOTE)
- UNCOMPACTED SAND CUSHION
(MDT STANDARD SPEC. 701.08)
- NO.2 BEDDING MATERIAL (MDT STANDARD
SPEC. 701.04.3)
- MDT STABILIZATION GEOTEXTILE
- COMPACTED 6" OF NATIVE SUBGRADE TO
95% IF UNSUITABLE SOILS ARE
ENCOUNTERED, SEE SPECIFICATIONS



TYPICAL RCB PROFILE AND BEDDING DETAIL

N.T.S.

CULVERT	BEGIN STA	BEGIN NORTHING	BEGIN EASTING	END STA	END NORTHING	END EASTING	SPAN (FT)	RISE (FT)	LENGTH (FT) *	SLAB (IN)	WALL (IN)	Bc (FT)	B'c (FT)	LAY LENGTH (FT)	UPSTREAM INVERT	DOWNSTREAM INVERT
GLASS DRIVE #1	27+54.55	895658.761	1341237.472	28+02.55	895686.235	1341276.829	12	6	48	12	12	14	8	6	3670.77	3670.66
GLASS DRIVE #2	29+97.72	895785.674	1341443.36	30+27.72	895791.83	1341472.724	12	6	30	12	12	14	8	6	3669.95	3669.92
CROSSING F	39+39.25	896153.495	1342306.581	40+17.17	896184.409	1342378.193	12	6	78	12	12	14	8	6	3666.87	3666.61
CROSSING E	42+38.95	896272.205	1342581.075	42+86.95	896290.713	1342625.362	12	6	48	12	12	14	8	6	3665.59	3665.47
CROSSING D	75+62.42	897820.084	1345444.607	76+10.33	897828.547	1345491.855	12	6	48	12	12	14	8	6	3656.06	3655.94
CROSSING C	91+24.85	898524.644	1346653.232	91+60.85	898548.871	1346679.859	12	6	36	12	12	14	8	6	3653.44	3653.39
CROSSING B	95+86.61'	898834.696	1346994.408	96+16.60'	898854.789	1347016.682	12	6	30	12	12	14	8	6	3652.55	3652.4

* LENGTH DOES NOT INCLUDE END SECTIONS.

NAME: N:\PROJECTS\10138_23003-LCC_VFMMP_LOWER D2_T05\CAD\SHEETS\10138_23003_LOWER D2_S_DETAILS.DWG
PLOT DATE: May 16, 2024 11:43 AM, BY: JACOB LACY

DESIGNED	DRAWN	CHECKED	DATE
JAL	JAL	MMJ	2/13/2024

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BOZEMAN, MT 59718
WWW.RESPEC.COM | PHONE: 808-842-2552

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5/2024

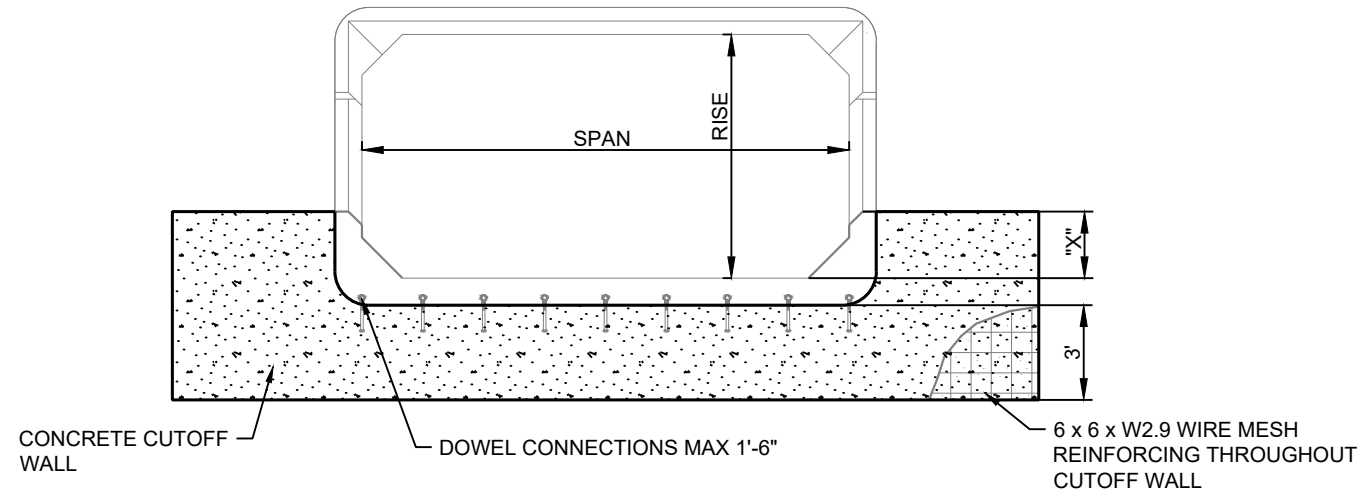
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3402 COONEY DRIVE
HELENA, MT 59602

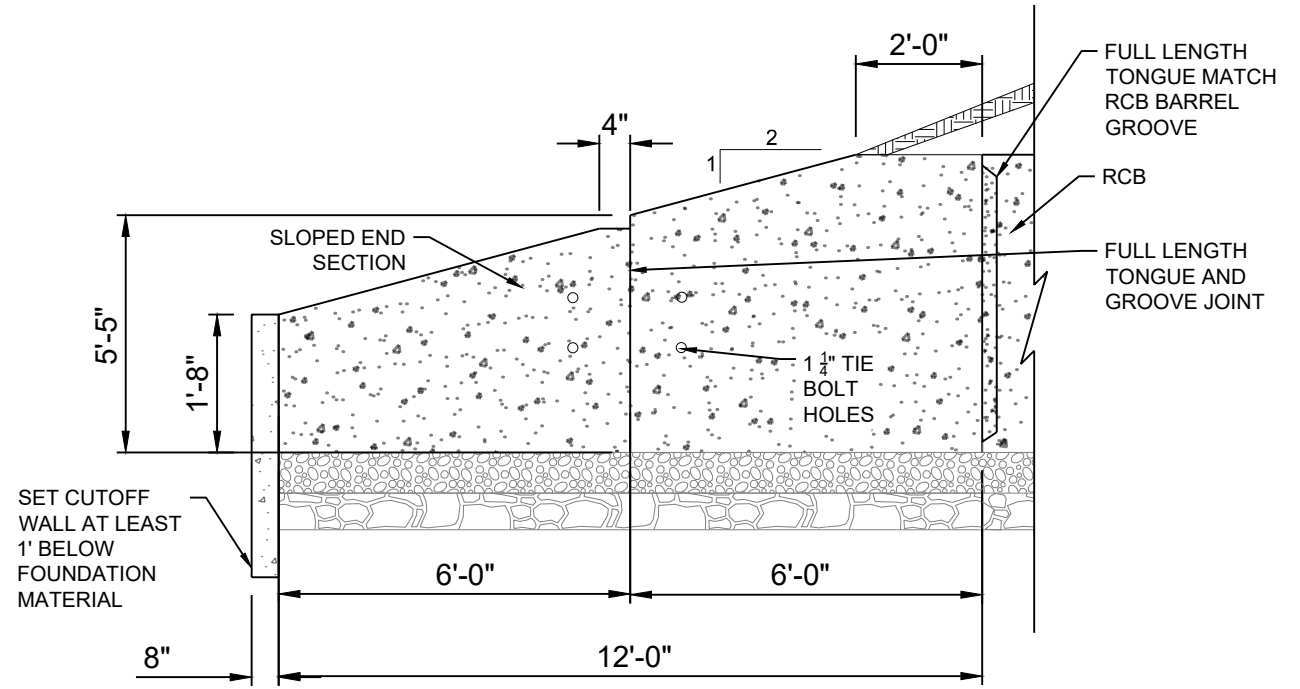
VFMMP - LOWER D2
FLOOD
INFRASTRUCTURE
IMPROVEMENTS

CULVERT TYPICAL
DETAILS

SHEET NUMBER:
D-01
SHEET

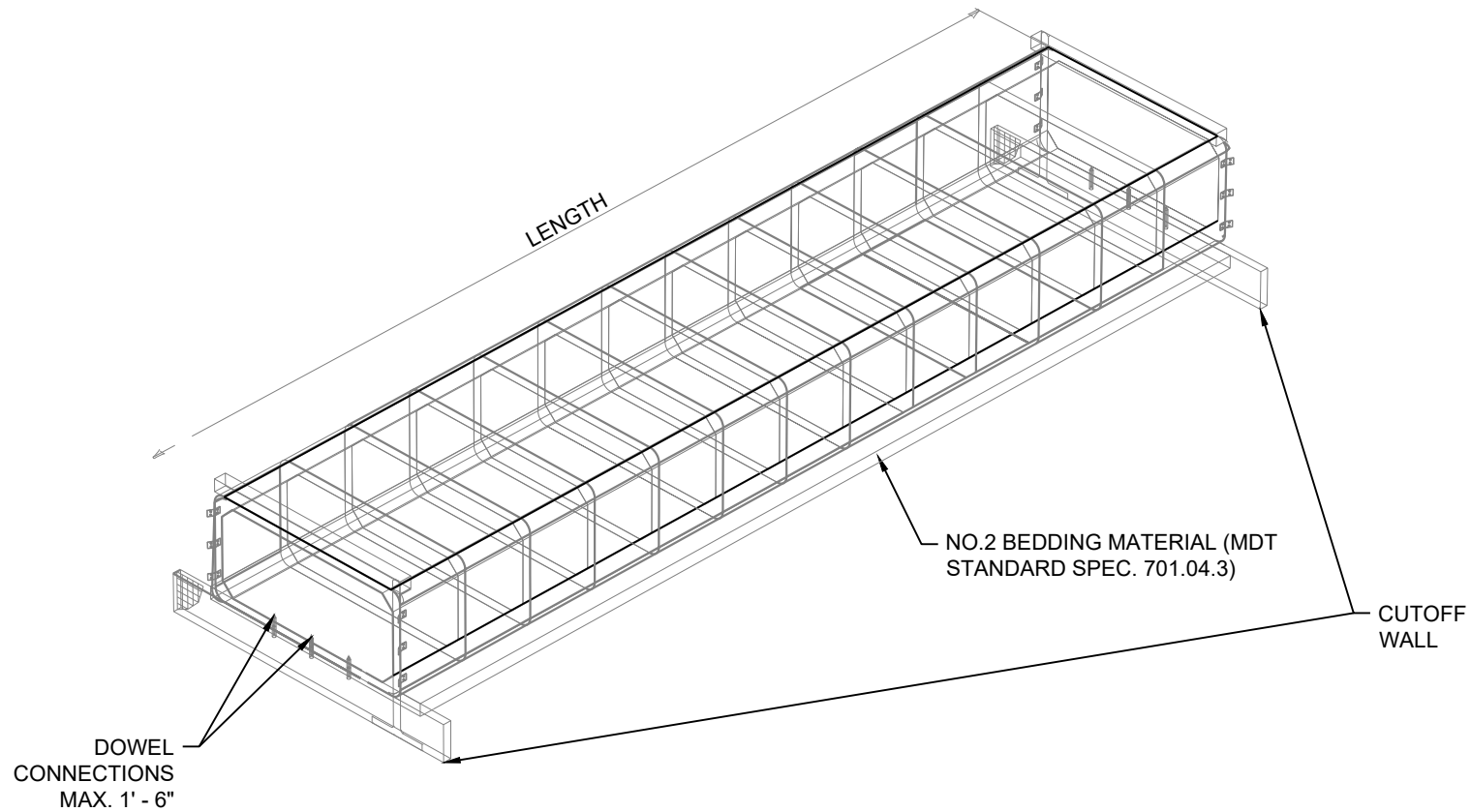


FRONT ELEVATION
N.T.S.



SIDE ELEVATION
N.T.S.

SLOPED END SECTION RCB



ISOMETRIC VIEW OUTLET END
N.T.S.

DESIGNED		DRAWN		CHECKED		DATE	
JAL	JAL	JAL	JAL	MMWJ	MMWJ	2/13/2024	2/13/2024

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STAMP
 95% REVIEWED

PRELIMINARY
 NOT FOR CONSTRUCTION
 5/2024

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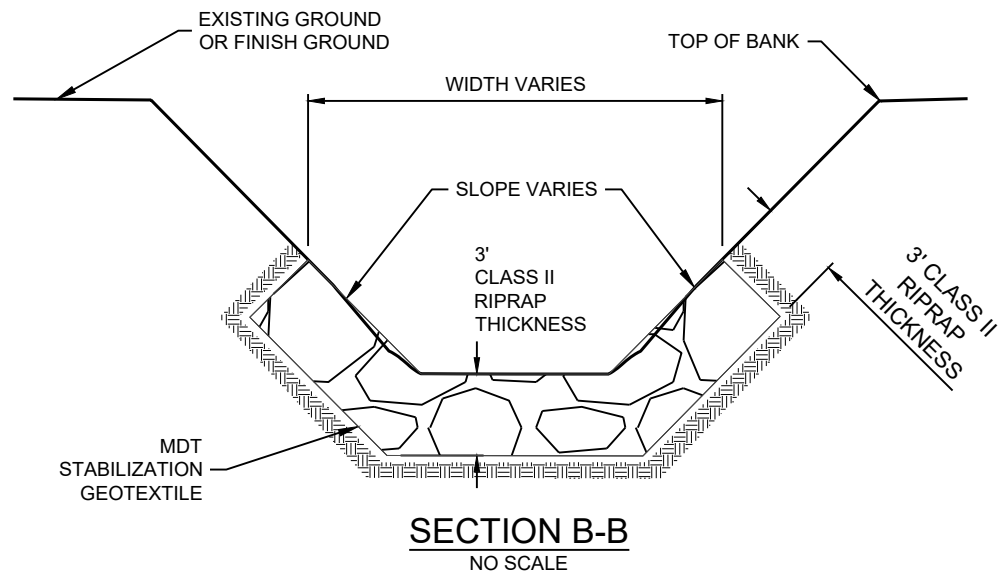
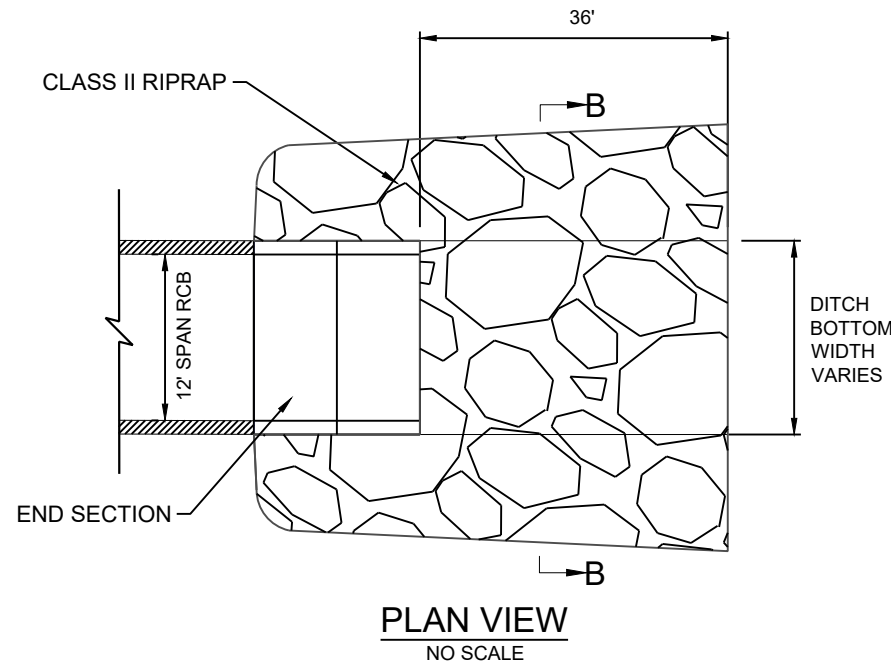
LEWIS AND CLARK COUNTY
 PUBLIC WORKS
 3402 COONEY DRIVE
 HELENA, MT 59602

VFMP - LOWER D2
 FLOOD
 INFRASTRUCTURE
 IMPROVEMENTS

CULVERT TYPICAL
 DETAILS

SHEET NUMBER:
D-02
 SHEET

NAME: N:\PROJECTS\W0138-23003-LCC-VFMP-LOWER D2 TO CAD\SHEETS\W0138-23003-LOWER D2_S-DETAILS.DWG
 PLOT DATE: May 16, 2024 11:43 AM, BY: JACOB LACY



CULVERT INLET AND OUTLET DETAIL

CULVERT	STATION START INLET RIPRAP	STATION END INLET RIPRAP	CHANNEL LENGTH OF INLET RIPRAP (FT)	STATION START OUTLET RIPRAP	STATION END OUTLET RIPRAP	CHANNEL LENGTH OF OUTLET RIPRAP (FT)
GLASS DRIVE #1	27+06.57	27+54.54	36	28+02.54	28+50.55	36
GLASS DRIVE #2	29+51.53	29+97.71	36	30+27.72	30+72.26	36
CROSSING F	38+91.09	39+39.26	36	40+17.16	40+65.73	36
CROSSING E	41+90.86	42+38.95	36	42+86+94	43+34.96	36
CROSSING D	75+14.88	75+62.43	36	76+10.34	76+58.23	36
CROSSING C	90+76.85	91+24.57	36	91+60.85	92+08.91	36
CROSSING B	95+38.62	95+86.63	36	96+16.60	96+64.65	36

NAME: N:\PROJECTS\W0138-23003-LCC-VFMMP-LOWER D2 TO S\CAD\SHEETS\W0138-23003-LOWER D2_S-DETAILS.DWG
PLOT DATE: May 16, 2024 11:44 AM, BY: JACOB LACY

DESIGNED	DRAWN	CHECKED	DATE
JAL	JAL	MMJ	2/13/2024

RESPEC
WATER & NATURAL RESOURCES
3810 VALLEY COMMONS DR SUITE 4
BOZEMAN, MT 59718
WWW.RESPEC.COM | PHONE: 406.588.4252

STAMP
9.5% REVIEW

PRELIMINARY
NOT FOR CONSTRUCTION
5/2024



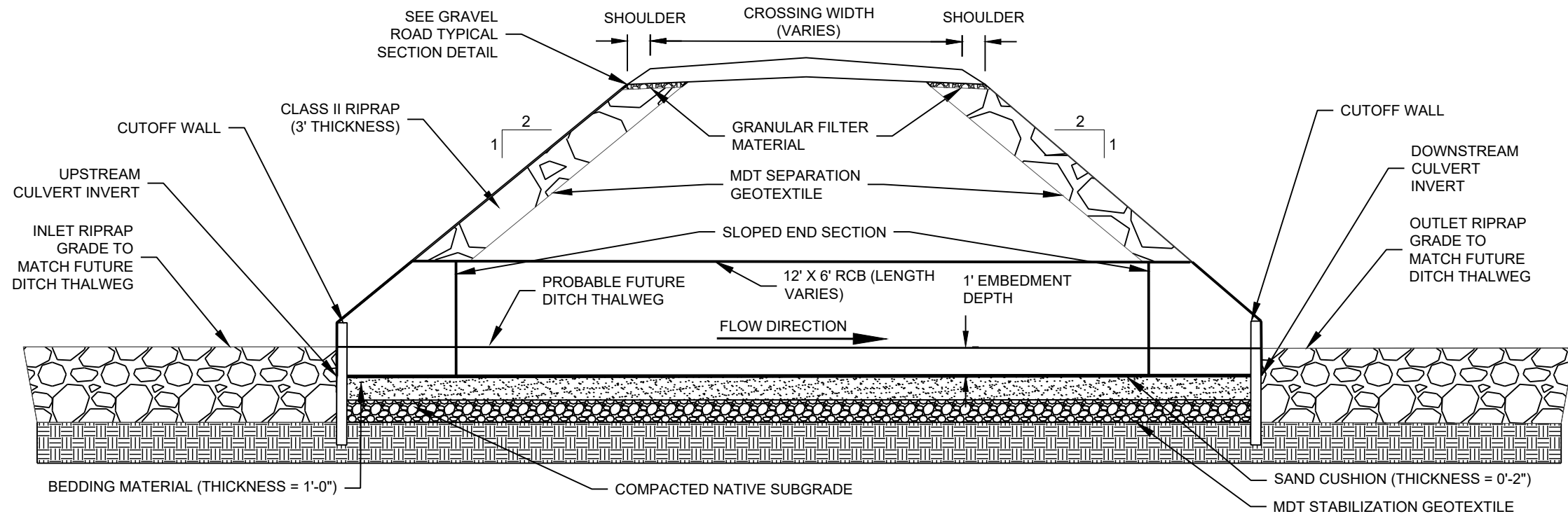
Know what's below.
Call before you dig.

LEWIS AND CLARK COUNTY
PUBLIC WORKS
3402 COONEY DRIVE
HELENA, MT 59602

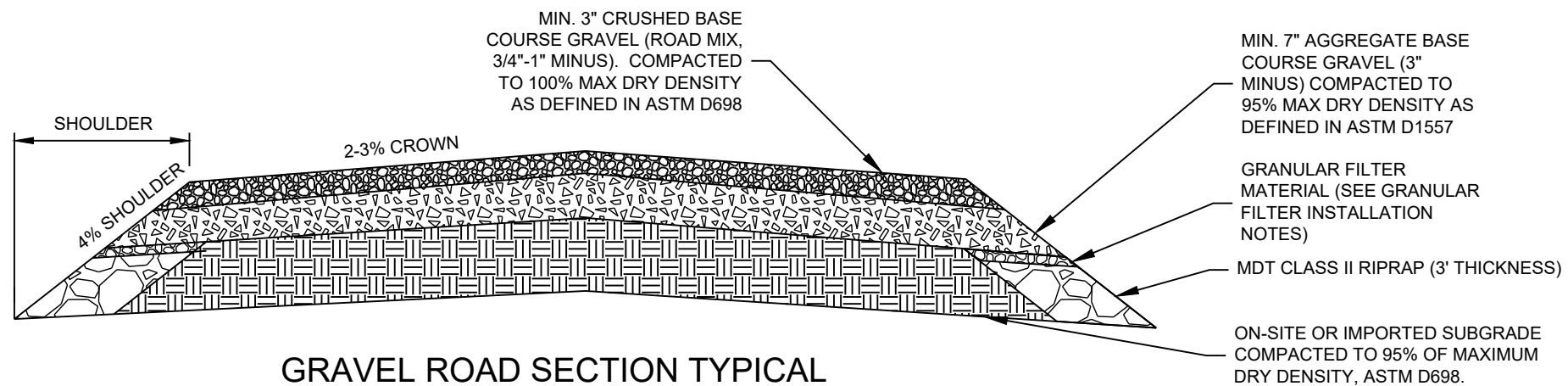
VFMMP - LOWER D2
FLOOD
INFRASTRUCTURE
IMPROVEMENTS

RIP RAP TYPICAL
DETAILS

SHEET NUMBER:
D-03
SHEET



REPLACEMENT CROSSING TYPICAL PROFILE
N.T.S



GRAVEL ROAD SECTION TYPICAL

CULVERT	PROPOSED CROSSING WIDTH (FT)	ADDITIONAL SHOULDER WIDTH (FT)
GLASS DRIVE #1 *	20	2
GLASS DRIVE #2 *	12	2
CROSSING F *	63	2
CROSSING E *	29	2
CROSSING D	20	3
CROSSING C *	25	2
CROSSING B *	13	2

* INDICATES MATCH EXISTING

GRANULAR FILTER MATERIAL INSTALLATION NOTES:

1. THIS WORK IS THE INCORPORATION OF INFILL MATERIAL INTO RIPRAP VOIDS TO PROVIDE A UNIFORM SURFACE FOR PLACEMENT OF EMBANKMENT AND ROAD MATERIALS ON TOP OF RIPRAP SURFACES.
2. PROVIDE FILTER MATERIAL NO. 2 (MEETING SUBSECTION 701.05 REQUIREMENTS), OR NATIVE MATERIAL OF A SIMILAR GRADATION APPROVED BY THE ENGINEER.
3. FILL THE SPACES AND VOIDS BETWEEN THE ROCKS WITH RIPRAP INFILL MATERIAL. PLACE A SUFFICIENT AMOUNT OF MATERIAL OVER THE RIPRAP, SO THAT AFTER SETTLING, THE LEVEL OF FILTER MATERIAL COMES TO THE VERY TOP OF THE ROCK.
4. PLACE MATERIAL IN A MANNER THAT CREATES A SMOOTH, UNIFORM SURFACE FOR CONSTRUCTING EMBANKMENT AND ROAD ABOVE.
5. PLACE NO MATERIAL INSIDE BOX CULVERT TO ALLOW NATURAL BACKFILL.

NAME: N:\PROJECTS\10138_23003-LCC-VFMMP-LOWER D2 TOS\CAD\SHEETS\10138_23003_LOWER D2_S_DETAIL S.DWG
PLOT DATE: May 16, 2024 11:44 AM, BY: JACOB LACY

DESIGNED	DRAWN	CHECKED	DATE
JAL	JAL	MMJ	2/13/2024

RESPEC
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3810 VALLEY COMMONS DR SUITE 4
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VFMMP - LOWER D2
FLOOD
INFRASTRUCTURE
IMPROVEMENTS

CROSSING
SURFACE
REPLACEMENT
TYPICAL DETAILS

SHEET NUMBER:
D-04
SHEET

DRAWINGS – SECTION B

- **ARROWHEAD DRIVE**

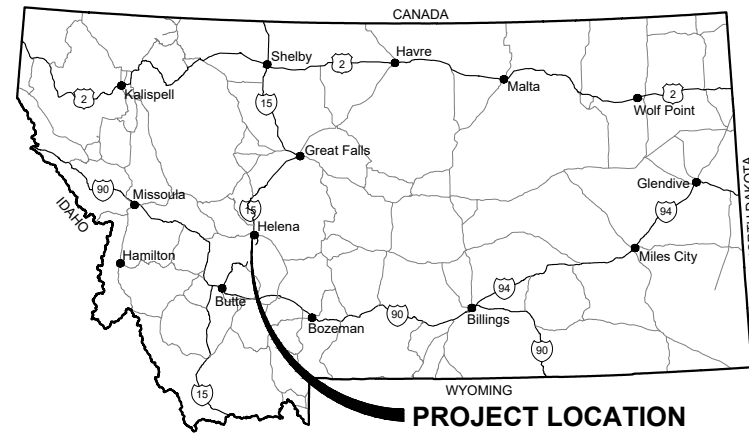
SHEET INDEX

PROJECT: 1-17277-TO12
DATE: APRIL 21, 2023

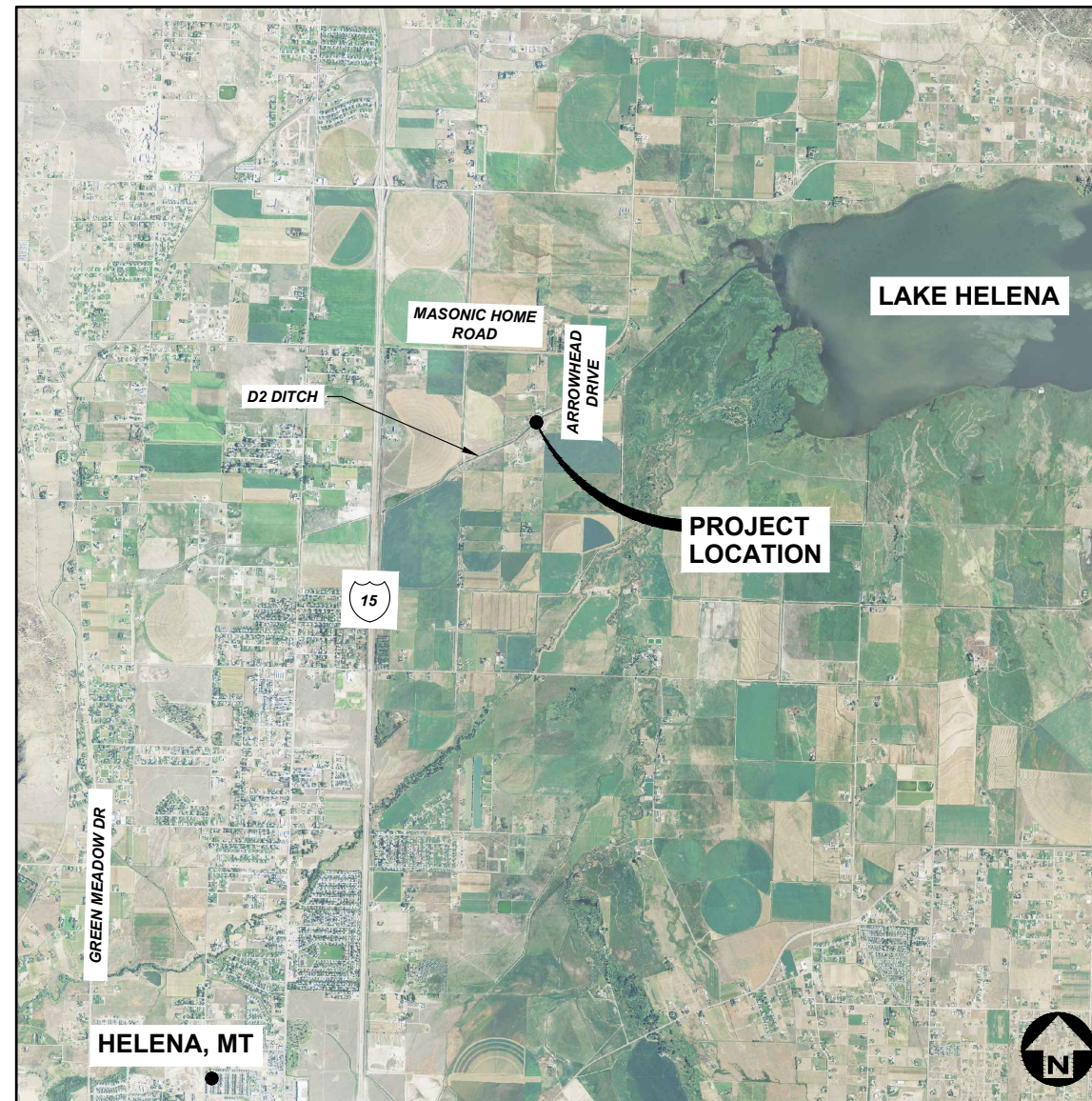
SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5

COVER
LEGEND AND GENERAL NOTES
ARROWHEAD DRIVE PLAN & PROFILE
D2 DITCH PLAN & PROFILE
DETAILS

LEWIS AND CLARK COUNTY ARROWHEAD DRIVE CULVERT



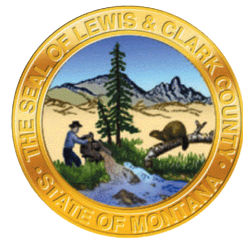
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NOT TO SCALE

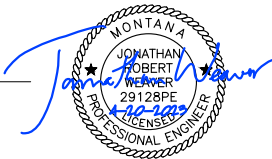
PLANS PREPARED FOR:

LEWIS & CLARK COUNTY



APPROVED BY:

JONATHAN WEAVER, P.E.
GREAT WEST ENGINEERING



QA/QC BY:

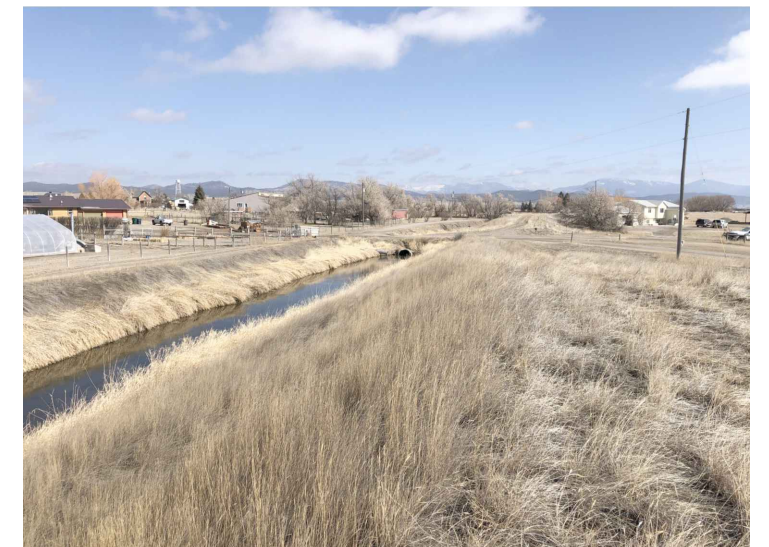
KARL YAKAWICH, P.E.
GREAT WEST ENGINEERING

PLANS PREPARED BY:

EVAN CARROLL, E.I.
LISBETH OLSEN, E.I.



VIEW OF EXISTING CULVERT - LOOKING SW



VIEW OF EXISTING CULVERT - LOOKING NE

NO.	REVISION DESCRIPTION	BY	DATE	SET NO.
△				SHEET NO. 1
△				
△				
△				
△				
△				

Y:\Shared\Helena Projects\1-17277-L&C Bridge On-Call 2017\TO 12 - Arrowhead Drive Bridge\CADD 1-17277-TO12\Sheets\1-17277-TO12-01 - Cover.dwg

ABBREVIATIONS

⊙	AT	LPG	LIQUID PROPANE GAS
Δ	ANGLE OF DEFLECTION, DELTA ANGLE	LT	LEFT
<PT	ANGLE POINT	MAX	MAXIMUM
AB	ANCHOR BOLT	MD	MEASURE DOWN
ABDN	ABANDON	MFD	MANUFACTURED
AC	ASBESTOS CONCRETE	MFR	MANUFACTURE, MANUFACTURER
ADDN	ADDITIONAL	MH	MANHOLE
ADJ	ADJACENT	MIN	MINIMUM
AFF	ABOVE FINISHED FLOOR	MISC	MISCELLANEOUS
ALT	ALTERNATE	MJ	MECHANICAL JOINT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MOV	MOTOR OPERATED VALVE
APPROX	APPROXIMATE	MPWSS	MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS
APVD	APPROVED	N	NORTH
ARCH	ARCHITECTURE, ARCHITECTURAL	NE	NORTHEAST
ASPH	ASPHALT	NG	NATURAL GAS
AVE	AVENUE	NIC	NOT IN CONTRACT
AVG	AVERAGE	NO	NUMBER
BFV	BUTTERFLY VALVE	NOM	NOMINAL
BLDG	BUILDING	NTS	NOT TO SCALE
BLK	BLOCK	NW	NORTHWEST
BLVD	BOULEVARD	OC	ON CENTER
BM	BEAM, BENCHMARK	OD	OUTSIDE DIAMETER
BOT	BOTTOM	OF	OVERFLOW
BRG	BEARING	OH	OVERHEAD
BRKT	BRACKET	OHP	OVERHEAD POWER
BVC	BEGIN VERTICAL CURVE	OHT	OVERHEAD TELEPHONE
C-C	CENTER TO CENTER	OPNG	OPENING
CHAN	CHANNEL	PC	POINT OF CURVATURE
CHK	CHECK	PCC	POINT OF COMPOUND CURVATURE
CI	CAST IRON	PE	PLAIN END, POLYETHYLENE
CIPC	CAST-IN-PLACE CONCRETE	PERP	PERPENDICULAR
CIRC	CIRCULAR	PI	POINT OF INTERSECTION
CJ	CONSTRUCTION JOINT, CONTROL JOINT	PL	PROPERTY LINE
CL	CENTER LINE	PNL	PANEL
CLR	CLEAR, CLEARANCE	PRC	POINT OF REVERSE CURVATURE
CMP	CORRUGATED METAL PIPE	PREFAB	PREFABRICATED
CMU	CONCRETE MASONRY UNITS	PRELIM	PRELIMINARY
CO	CLEANOUT	PREP	PREPARE, PREPARATION
COL	COLUMN	PROP	PROPERTY
CONC	CONCRETE	PRV	PRESSURE REDUCING VALVE
CONSTR	CONSTRUCTION	PSF	POUNDS PER SQUARE FOOT
CONT	CONTINUE, CONTINUED, CONTINUOUS	PSI	POUNDS PER SQUARE INCH
CONTR	CONTRACTOR	PT	POINT, POINT OF TANGENCY
COORD	COORDINATE	PVC	POLYVINYL CHLORIDE
CP	CONTROL PANEL, CONTROL POINT	PVI	POINT OF VERTICAL INTERSECTION
CPLG	COUPLING	PVMT	PAVEMENT
CTR	CENTER	R, RAD	RADIUS
CTV	CABLE TELEVISION	RC	REINFORCED CONCRETE
CU	CUBIC, COPPER	RCP	REINFORCED CONCRETE PIPE
CF	CUBIC FEET	RD	ROAD
CULV	CULVERT	RDCR	REDUCER
CY	CUBIC YARD	REBAR	REINFORCEMENT BAR
DET	DETAIL	REF	REFERENCE
DI	DUCTILE IRON, DRAIN INLET	REINF	REINFORCE
DIA, ∅	DIAMETER	REQD	REQUIRED
DIAG	DIAGONAL	RR	RAILROAD
DIM	DIMENSION	RST	REINFORCING STEEL
DR	DRIVE	RT	RIGHT
DWG	DRAWING	R/W	RIGHT-OF-WAY
E	EAST	S	SOUTH, SANITARY SEWER
EA	EACH	SAN	SANITARY
EL, ELEV	ELEVATION	SCH	SCHEDULE
ELB	ELBOW	SD	STORM DRAIN
ELEC	ELECTRIC, ELECTRICAL	SDWK	SIDEWALK
ENCL	ENCLOSE	SE	SOUTHEAST
ENGR	ENGINEER	SECT	SECTION
EOP	EDGE OF PAVEMENT	SF	SQUARE FOOT
EQ	EQUAL, EQUALLY	SHT	SHEET
EQ SP	EQUALLY SPACED	SIM	SIMILAR
EQUIP	EQUIPMENT	SLP	SLOPE
EQUIV	EQUIVALENT	SPEC	SPECIFICATION
EVC	END VERTICAL CURVE	SQ	SQUARE
EW	EACH WAY	SSTL	STAINLESS STEEL
EXC	EXCAVATE	STA	STATION
EXP	EXPANSION	SS	SANITARY SEWER SERVICE
EXP JT	EXPANSION JOINT	STD	STANDARD
EXST	EXISTING	ST	STREET
FCV	FLOW CONTROL VALVE	STL	STEEL
FD	FLOOR DRAIN	STRUCT	STRUCTURE
FDN	FOUNDATION	SW	SOUTHWEST
FES	FLARED END SECTION	SYM	SYMMETRICAL
FET	FLARED END TERMINAL	TB	THRUST BLOCK
FF	FINISHED FLOOR	TBC	TOP BACK OF CURB
FG	FINISH GRADE	TBM	TEMPORARY BENCH MARK
FHYD	FIRE HYDRANT	TEL	TELEPHONE
FJ	FLANGE JOINT	TEMP	TEMPORARY
FL	FLOW LINE	THRU	THROUGH
FLEX	FLEXIBLE	TYP	TYPICAL
FM	FORCEMAIN	UG	UNDERGROUND
FT	FOOT, FEET	UGP	UNDERGROUND POWER
FO	FIBER OPTIC	UGT	UNDERGROUND TELEPHONE
FTG	FOOTING, FITTING	UTIL	UTILITY
G	NATURAL GAS	V	VALVE, VOLT
GA	GAGE, GAUGE	VB	VALVE BOX
GAL	GALLON	VERT	VERTICAL
GALV	GALVANIZED	VOL	VOLUME
GND	GROUND	W	WEST, WATER
GVL	GRAVEL	WTR	WATER
HB	HOSE BIB	WD	WOOD
HDPE	HIGH DENSITY POLYETHYLENE	W/	WITH
HOR, HORIZ	HORIZONTAL	W/O	WITHOUT
Hwy	HIGHWAY	WL	WETLAND
HYD	HYDRANT	WM	WIRE MESH, WATER METER
ID	INSIDE DIAMETER	WS	WATERSTOP, WATER SURFACE, WATER SERVICE
IE	INVERT ELEVATION	WT	WEIGHT
IN	INCH	WV	WATER VALVE
INV	INVERT	WWF	WELDED WIRE FABRIC
JB	JUNCTION BOX	WWM	WELDED WIRE MESH
JT	JOINT	XFMR	TRANSFORMER
K	RATE OF VERTICAL CURVATURE	X-ING	CROSSING
LBS	POUNDS	XS	CROSS SECTION
LF	LINEAR FEET	YD	YARD
LN	LANE		

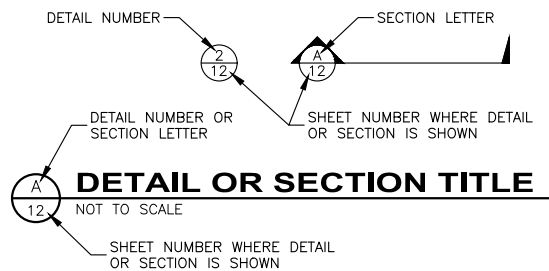
LEGEND

EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION
---	---	MAJOR CONTOUR	⊙	⊙	STUMP
---	---	MINOR CONTOUR	⊙	⊙	SHRUB/BUSH
---	---	OVERHEAD TELEPHONE	☀	☀	TREE--CONIFER
---	---	UNDERGROUND TELEPHONE	☀	☀	TREE--DECIDUOUS
---	---	CABLE TELEVISION	☀	☀	TREE LINE
---	---	FIBER OPTIC	⊙	⊙	COMMUNICATION MANHOLE
---	---	NATURAL GAS	⊙	⊙	COMMUNICATION VAULT
---	---	OVERHEAD POWER	⊙	⊙	TELEPHONE RISER
---	---	UNDERGROUND POWER	⊙	⊙	CABLE TV RISER
---	---	SANITARY SEWER	⊙	⊙	NATURAL GAS METER
---	---	SANITARY SEWER SERVICE	⊙	⊙	NATURAL GAS RISER
---	---	SANITARY SEWER FORCEMAIN	⊙	⊙	NATURAL GAS VALVE
---	---	STORM DRAIN	⊙	⊙	LIGHT POLE
---	---	STORM CULVERT	⊙	⊙	STREET LIGHT POLE
---	---	WATER	⊙	⊙	POWER RISER
---	---	WATER SERVICE	⊙	⊙	PAD MOUNTED TRANSFORMER
---	---	CHAINLINK FENCE	⊙	⊙	POWER VAULT
---	---	BARBED WIRE FENCE	⊙	⊙	UTILITY POLE
---	---	WOOD FENCE	⊙	⊙	GUY WIRE
---	---	PAVED ROAD	⊙	⊙	SANITARY MANHOLE
---	---	GRAVEL ROAD	⊙	⊙	SANITARY CLEANOUT
---	---	PROPERTY/LOT LINE	⊙	⊙	SANITARY LAMPHOLE
---	---	PROPERTY EASEMENT	⊙	⊙	STORM MANHOLE
---	---	PROPERTY SETBACK	⊙	⊙	STORM ROUND INLET
---	---	RIGHT-OF-WAY	⊙	⊙	STORM SQUARE INLET
---	---	CITY LIMIT/DISTRICT BOUNDARY	⊙	⊙	STORM CATCH BASIN
---	---	RAILROAD	⊙	⊙	11.25' ELBOW
---	---	DITCH	⊙	⊙	22.50' ELBOW
---	---	WATER EDGE	⊙	⊙	45' ELBOW
---	---	WETLAND	⊙	⊙	90' ELBOW
---	---	BUILDING	⊙	⊙	TEE
---	---	BENCHMARK	⊙	⊙	CROSS
---	---	CONTROL POINT	⊙	⊙	CAP
---	---	PROPERTY PIN	⊙	⊙	FIRE HYDRANT
---	---	BORING	⊙	⊙	GATE VALVE
---	---	MONITORING WELL	⊙	⊙	REDUCER
---	---	TEST PIT	⊙	⊙	WATER METER
---	---	BOLLARD	⊙	⊙	WELL
---	---	MAIL BOX	⊙	⊙	CURB STOP
---	---	SIGN	⊙	⊙	FROST FREE HYDRANT

GENERAL NOTES:

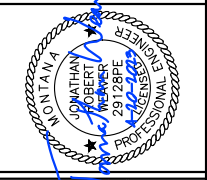
- THIS IS A STANDARD LEGEND AND ABBREVIATION LIST. THEREFORE, NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED ON THIS PROJECT.
- UNLESS MODIFIED BY THE CONTRACT DOCUMENTS, ALL WORK WILL CONFORM TO THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS, SIXTH EDITION, APRIL 2010 (REFERRED TO COLLECTIVELY AS MPWSS).
- EXISTING UNDERGROUND UTILITIES SHOWN ARE FROM THE BEST INFORMATION AVAILABLE. THIS INFORMATION IS APPROXIMATE AND MAY BE INCOMPLETE. FOR ACCURATE LOCATION, THE CONTRACTOR SHALL CONTACT, PRIOR TO EXCAVATION, THE UTILITIES UNDERGROUND LOCATION CENTER AT: 1-800-424-5555.

GENERAL DESIGN DESIGNATIONS:



NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-17277-TO12
DESIGNED: EAC
DRAWN: EAC
CHECKED: KFY
APPROVED: JRW
DATE: APRIL 21, 2023



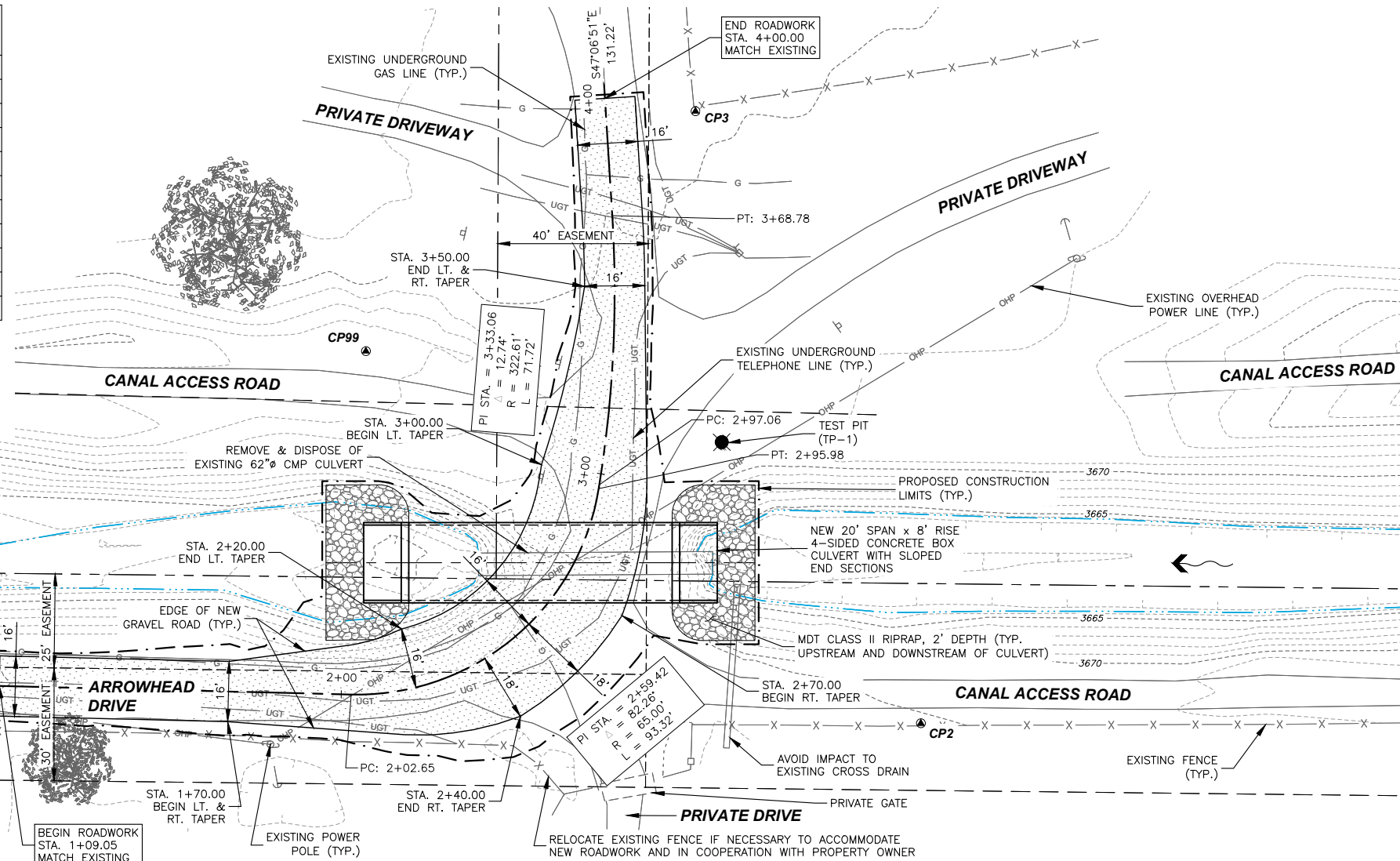
LEWIS AND CLARK COUNTY
ARROWHEAD DRIVE CULVERT
LEGEND AND GENERAL NOTES

SHEET NO.
2
 OF 5

CONTROL TABLE

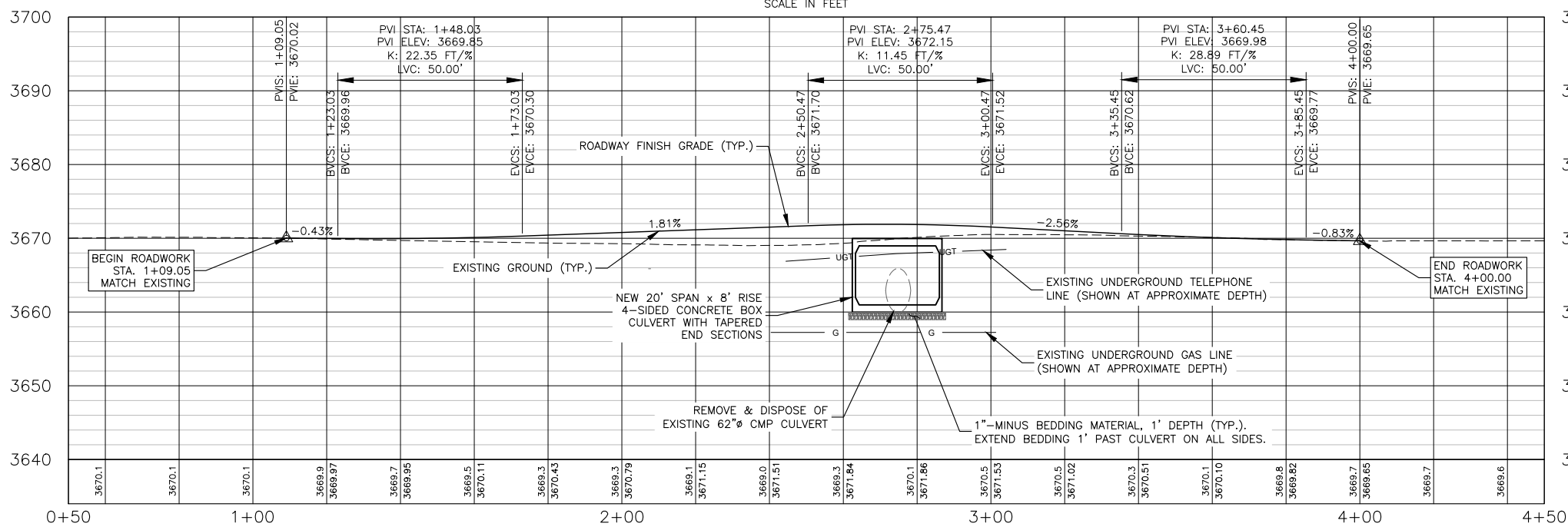
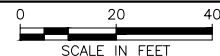
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	897,350.746	1,344,060.804	3,670.27	REBAR W/ CAP
2	897,094.389	1,343,706.593	3,669.92	REBAR W/ CAP
3	897,017.692	1,343,862.021	3,670.08	REBAR W/ CAP
4	896,780.760	1,344,095.506	3,670.79	REBAR W/ CAP
10	897,110.624	1,343,846.522	3,672.08	REBAR W/ CAP
11	896,789.450	1,344,148.466	3,671.29	REBAR W/ CAP
12	897,535.228	1,344,642.597	3,673.47	REBAR W/ CAP
14	897,294.325	1,343,895.749	3,670.16	REBAR W/ CAP
15	897,360.518	1,343,815.237	3,673.27	REBAR W/ CAP
99	897,124.227	1,343,881.652	3,673.39	REBAR W/ CAP

SURVEY NOTES:
 1. THIS PROJECT IS ON THE MONTANA COORDINATE SYSTEM OF NAD83 GEOID 12B. NORTHING AND EASTING COORDINATES ARE EXPRESSED IN UNITS OF INTERNATIONAL FEET. ELEVATIONS ARE REFERENCED TO THE NAVD88 VERTICAL DATUM.
 2. DIMENSIONS SHOWN ON THE PLANS ARE GRID. ALL SURVEY AND STAKING REQUIRE THE USE OF A COMBINATIONS SCALE FACTOR (CSF) TO CONVERT GRID DIMENSIONS TO GROUND DIMENSIONS (GRID DISTANCE/CSF = GROUND DISTANCE). THE CSF FOR THIS PROJECT IS 0.999235958984.



PLAN VIEW OF ARROWHEAD DRIVE - STA. 0+50 TO STA. 4+50

NOTE: DESIGN VEHICLE FOR HORIZONTAL TURNING MOVEMENT IS WB-62.



PROFILE VIEW OF ARROWHEAD DRIVE - STA. 0+50 TO STA. 4+50

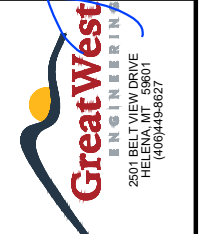
HORIZONTAL SCALE: 1" = 40'
 VERTICAL SCALE: 1" = 20'

CONCRETE BOX CULVERT NOTES:

1. THE SUPPLIER IS RESPONSIBLE FOR THE FINAL DESIGN OF THE PRECAST BARREL SECTIONS, SLOPED END SECTIONS, AND CUTOFF WALLS, AS WELL AS JOINT CONNECTIONS. THE FINAL DESIGN AND FULL SHOP DRAWINGS SHALL BE PREPARED BY A LICENSED ENGINEER REGISTERED IN THE STATE OF MONTANA.
2. ALL LOADING, DESIGN METHODS AND MATERIAL MUST COMPLY WITH ASTM C1577. CONCRETE BOX SHALL BE DESIGNED FOR HL-93 LIVE LOADING.
3. THE SLOPED END SECTIONS AND CUTOFF WALLS SHALL BE DESIGNED AND FABRICATED BY THE PRECAST MANUFACTURER.
4. THE STRUCTURE SHALL BE ASSEMBLED AND INSTALLED IN ACCORDANCE WITH THE SHOP DRAWINGS PROVIDED BY THE MANUFACTURER AND PER THE MANUFACTURER'S RECOMMENDATIONS.
5. THE STRUCTURE SHALL BE BACKFILLED USING CLEAN, WELL GRADED ROAD MIX OR OTHER GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS OF AASHTO M145 FOR SOIL A-1, A-3, A-2-4, OR A-2-5. BACKFILL MUST BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN 6-8 LOOSE INCH LIFTS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY AT +/- 2% OF OPTIMUM MOISTURE.
6. FOR CULVERT BEDDING MATERIAL, FURNISH GRANULAR BEDDING IN ACCORDANCE WITH THE MDT STANDARD SPECIFICATIONS SUBSECTION 701.04.3.

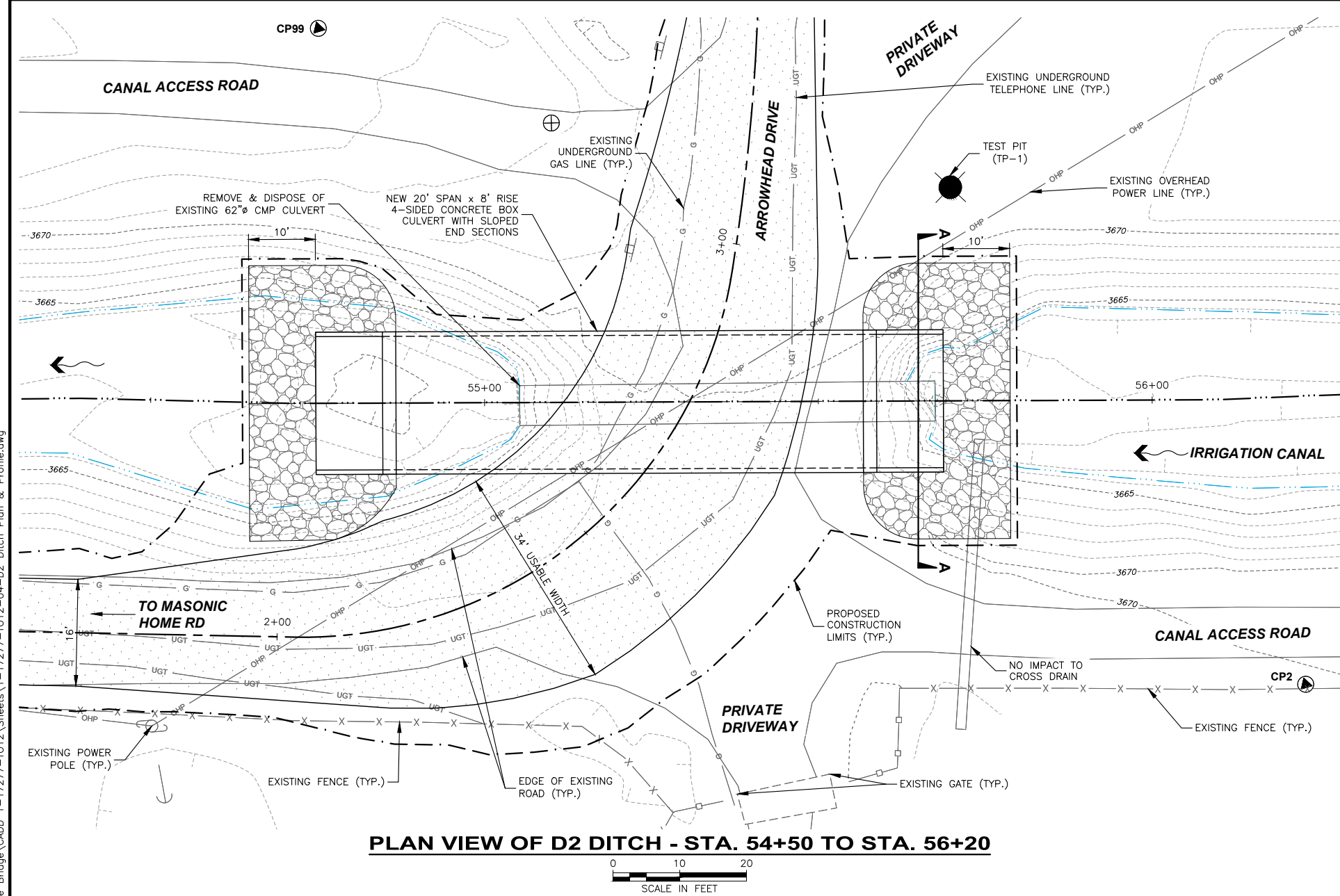
NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-17277-T012
 DESIGNED: EAC
 DRAWN: EAC
 CHECKED: KFY
 APPROVED: JRW
 DATE: APRIL 21, 2023

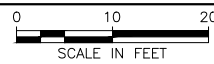


LEWIS AND CLARK COUNTY
ARROWHEAD DRIVE CULVERT
 ARROWHEAD DRIVE PLAN & PROFILE

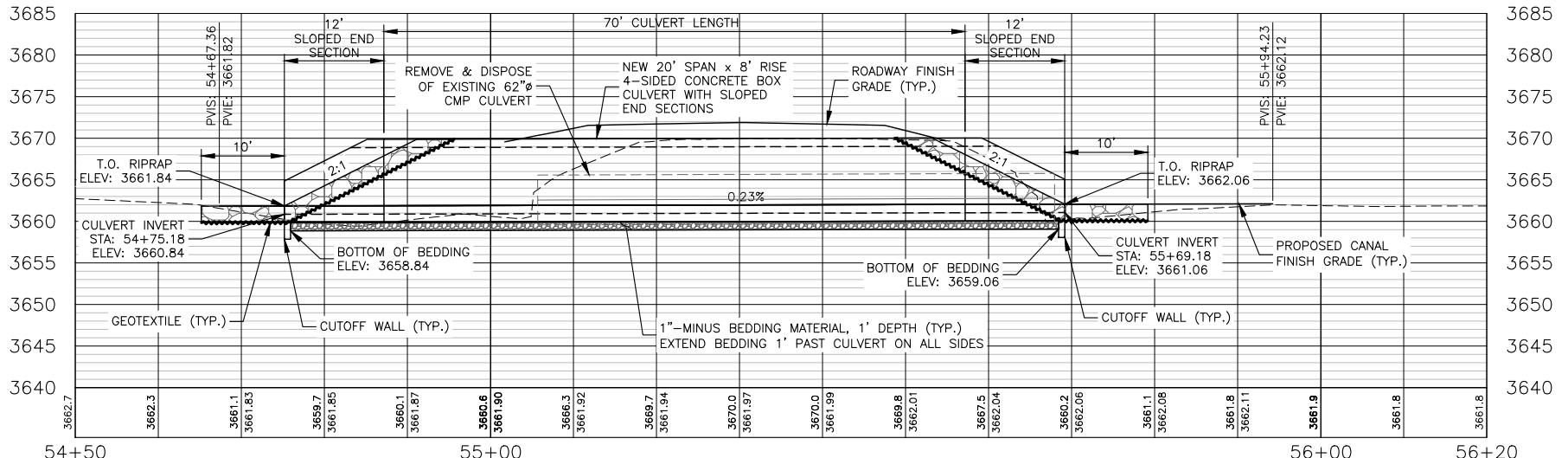
Y:\Shared\Helena Projects\1-17277-L&C Bridge On-Call 2017\TO 12 - Arrowhead Drive Bridge\CADD 1-17277-TO12-Sheets\1-17277-TO12-04-D2 Ditch Plan & Profile.dwg



PLAN VIEW OF D2 DITCH - STA. 54+50 TO STA. 56+20

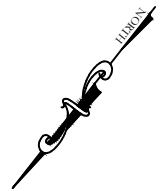


ESTIMATED QUANTITIES		
TOTAL STRUCTURE EXCAVATION	1353	CY
CRUSHED AGGREGATE SURFACING	60	CY
CRUSHED BASE COURSE	131	CY
STRUCTURAL BACKFILL	937	CY
ROADWAY EMBANKMENT	127	CY
1"-MINUS BEDDING MATERIAL	118	CY
CLASS 2 RIPRAP	95	CY
GEOTEXTILE	39	SY



PROFILE VIEW OF D2 DITCH - STA. 54+50 TO STA. 56+20

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 20'



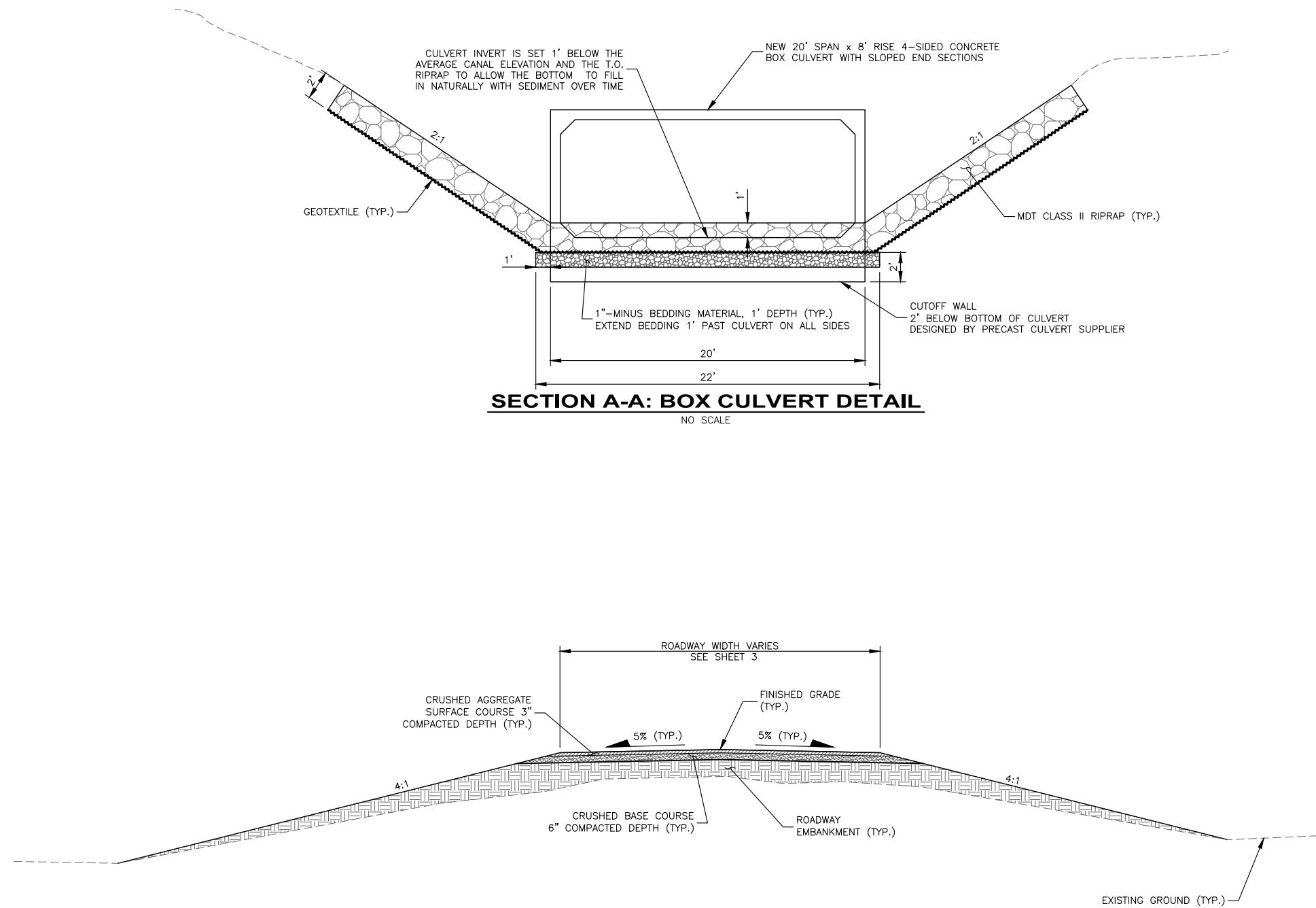
NO.	REVISION DESCRIPTION	BY	DATE

PROJECT: 1-17277-TO12
DESIGNED: EAC
DRAWN: EAC
CHECKED: KFY
APPROVED: JRW
DATE: APRIL 21, 2023



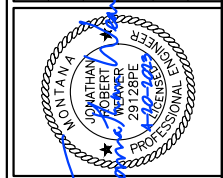
LEWIS AND CLARK COUNTY
ARROWHEAD DRIVE CULVERT
D2 DITCH PLAN & PROFILE

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NO.	REVISION DESCRIPTION	BY	DATE
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PROJECT: 1-17277-T012
 DESIGNED: EAC
 DRAWN: EAC
 CHECKED: KFY
 APPROVED: JRW
 DATE: APRIL 21, 2023



LEWIS AND CLARK COUNTY
ARROWHEAD DRIVE CULVERT
 DETAILS

APPENDIX A - CERTIFICATION FORMS



Lewis and Clark County Grants and Purchasing Department

Nondiscrimination Against Firearms Entities/Trade Associations.

The contractor shall not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association, and the Contractor shall not discriminate during the term of the contract against a firearm entity or firearm trade association. This section shall be construed in accordance with HB 356, Ch. 193, Mont. L. 2023.

Verification of Nondiscrimination Against Firearms Entities/Trade Associations.

1. By selecting 'Yes,' the Contractor certifies and affirms:
 - a. Contractor does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association during the term of this contract; and
 - b. Contractor will not discriminate against a firearm entity or firearm trade association during the term of this contract.
2. By selecting 'No,' the Contractor certifies and affirms that the Contractor is unable to make both of the certifications in part 1, during the anticipated term of the contract.

The contractor's certification is made in compliance with and in reference to HB 356, Ch. 193, Mont. L. 2023 (HB 356) and the terms defined therein. If the Contractor determines the provisions of HB 356 do not apply to the contract, the Contractor shall submit a statement setting forth in detail the basis for such determination.

Yes. I confirm that we do not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association.

No. I cannot confirm.

Signed:

Date:

31 CFR Part 21 – New Restrictions on Lobbying - CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of their knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit [Standard Form-LLL](#), "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all contractors shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Ch. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's authorized official

Date: _____

(Print name of person signing above)

(Print title of person signing above)