



## **LETTER OF INTENT**

Date: January 31, 2019

Company: Marine Diving Solutions, LLC

Project: Investigation and Repair of Outlet Control Valves at Juniata Reservoir  
RFP-4591-19-DH

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Based upon review of the bid responses received for Investigation and Repair of Outlet Control Valves at Juniata Reservoir RFP-4591-19-DH, you have been selected as the preferred proposer for this project. It is the intent of the City of Grand Junction to award the aforementioned purchase to your company as is listed in the IFB documents, and your proposal response and clarifications.

This purchase must be approved by the City of Grand Junction – City Manager prior to award and a Contract being issued.

Upon receipt of Signed Contract and Notice to Proceed, please notify Lee Cooper, City of Grand Junction Project Engineer for project scheduling.

Please feel free to contact me with any questions at 970-244-1545.

Thank you and Best Regards

A handwritten signature in black ink, appearing to read "Duane Hoff Jr.", written in a cursive style.

Duane Hoff Jr., Senior Buyer



**NOTICE OF AWARD**

Date: February 14, 2019  
Company: Marine Diving Solutions, LLC  
Project: Investigation and Repair of Outlet Control Valves at Juniata Reservoir  
RFP-4591-19-DH

You have been awarded the City of Grand Junction Investigation and Repair of Outlet Control Valves at Juniata Reservoir RFP-4591-19-DH for a total price of **\$94,792.50** (this amount includes the 1% prompt payment discount for Net 10 Day Terms for invoicing).

Please notify Lee Cooper, City of Grand Junction Project Engineer 970-256-4155 for project scheduling and return to the City Purchasing Division an acknowledged copy of this Notice of Award, Signed Contract, and Insurance Certificate.

CITY OF GRAND JUNCTION, COLORADO

DocuSigned by:  
*Duane Hoff Jr., Senior Buyer - City of Grand Junction*  
9F789E7D50F118C...  
Duane Hoff Jr., Senior Buyer

**SUPPLIER ACKNOWLEDGEMENT**

Receipt of this Notice to Award is hereby acknowledged:

Company: Marine Diving solutions, LLC.  
By: DocuSigned by:  
*Ian Stephens*  
E91DEB0F8A2B46E... Ian Stephens  
Title: owner  
Date: 2/14/2019 | 13:52 PST



CITY OF GRAND JUNCTION, COLORADO

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**CONTRACT**

This CONTRACT made and entered into this 14<sup>th</sup> day of February, 2019 by and between the **City of Grand Junction, Colorado**, a government entity in the County of Mesa, State of Colorado, hereinafter in the Contract Documents referred to as the "Owner" and **Marine Diving Solutions, LLC** hereinafter in the Contract Documents referred to as the "Contractor."

WITNESSETH:

WHEREAS, the Owner advertised that sealed Responses would be received for furnishing all labor, tools, supplies, equipment, materials, and everything necessary and required for the Project described by the Contract Documents and known as **Investigation and Repair of Outlet Control Valves at Juniata Reservoir RFP-4591-19-DH**.

WHEREAS, the Contract has been awarded to the above named Contractor by the Owner, and said Contractor is now ready, willing and able to perform the Work specified in the Notice of Award, in accordance with the Contract Documents;

NOW, THEREFORE, in consideration of the compensation to be paid the Contractor, the mutual covenants hereinafter set forth and subject to the terms hereinafter stated, it is mutually covenanted and agreed as follows:

**ARTICLE 1**

**Contract Documents:** It is agreed by the parties hereto that the following list of instruments, drawings, and documents which are attached hereto, bound herewith, or incorporated herein by reference constitute and shall be referred to either as the "Contract Documents" or the "Contract", and all of said instruments, drawings, and documents taken together as a whole constitute the Contract between the parties hereto, and they are fully a part of this agreement as if they were set out verbatim and in full herein:

The order of contract document governance shall be as follows:

- a. The body of this contract agreement
- b. Solicitation Documents for the Project; **Investigation and Repair of Outlet Control Valves at Juniata Reservoir;**
- c. Notice of Award
- d. Contractors Response to the Solicitation



**Request for Proposal  
RFP-4591-19-DH**

**Investigation and Repair of Outlet Control  
Valves at Juniata Reservoir**

**RESPONSES DUE:**

January 15, 2019 prior to 3:30 PM Local

**Accepting Electronic Responses Only**

**Responses Only Submitted Through the Rocky Mountain E-Purchasing  
System (RMEPS)**

**<https://www.rockymountainbidsystem.com/default.asp>**

**(Purchasing Representative does not have access or control of the vendor side of RMEPS.  
If website or other problems arise during response submission, vendor MUST contact  
RMEPS to resolve issue prior to the response deadline. 800-835-4603)**

**PURCHASING REPRESENTATIVE:**

Duane Hoff Jr., Senior Buyer

**[duaneh@gjcity.org](mailto:duaneh@gjcity.org)**

970-244-1545

This solicitation has been developed specifically for a Request for Proposal intended to solicit competitive responses for this solicitation, and may not be the same as previous City of Grand Junction solicitations. All offerors are urged to thoroughly review this solicitation prior to submitting. Submittal by **FAX, EMAIL or HARD COPY IS NOT ACCEPTABLE** for this solicitation.

# **REQUEST FOR PROPOSAL**

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### **Section**

- 1.0 Administrative Information and Conditions for Submittal**
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- Attachments**

## REQUEST FOR PROPOSAL

### SECTION 1.0: ADMINISTRATIVE INFORMATION & CONDITIONS FOR SUBMITTAL

- 1.1 Issuing Office:** This Request for Proposal (RFP) is issued by the City of Grand Junction. All contact regarding this RFP shall be directed to:  
**RFP Questions:**  
Duane Hoff Jr., Senior Buyer  
[duaneh@gjcity.org](mailto:duaneh@gjcity.org)
- 1.2 Purpose:** The purpose of this RFP is to obtain proposals from qualified professional firms to provide underwater investigative and repair services of the outlet control valves at Juniata Reservoir.
- 1.3 The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or his authorized representative.
- 1.4 Compliance:** All participating Offerors, by their signature hereunder, shall agree to comply with all conditions, requirements, and instructions of this RFP as stated or implied herein. Should the Owner omit anything from this packet which is necessary to the clear understanding of the requirements, or should it appear that various instructions are in conflict, the Offeror(s) shall secure instructions from the Purchasing Division prior to the date and time of the submittal deadline shown in this RFP.
- 1.5 Submission:** Please refer to section 5.0 for what is to be included. ***Each proposal shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing website (<https://www.rockymountainbidsystem.com/default.asp>).*** ***This site offers both "free" and "paying" registration options that allow for full access of the Owner's documents and for electronic submission of proposals. (Note: "free" registration may take up to 24 hours to process. Please Plan accordingly.)*** Please view our "Electronic Vendor Registration Guide" at <http://www.gjcity.org/BidOpenings.aspx> for details. For proper comparison and evaluation, the City requests that proposals be formatted as directed in Section 5.0 "Preparation and Submittal of Proposals." Submittals received that fail to follow this format may be ruled non-responsive. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. **800-835-4603**)
- 1.6 Altering Proposals:** Any alterations made prior to opening date and time must be initialed by the signer of the proposal, guaranteeing authenticity. Proposals cannot be altered or amended after submission deadline.
- 1.7 Withdrawal of Proposal:** A proposal must be firm and valid for award and may not be withdrawn or canceled by the Offeror for sixty (60) days following the submittal deadline date, and only prior to award. The Offeror so agrees upon submittal of their proposal. After award this statement is not applicable.

- 1.8 Addenda:** All Questions shall be submitted in writing to the appropriate person as shown in Section 1.1. Any interpretations, corrections and changes to this RFP or extensions to the opening/receipt date shall be made by a written Addendum to the RFP by the Owner. Sole authority to authorize addenda shall be vested in the City of Grand Junction Purchasing Representative. Addenda will be issued electronically through the Rocky Mountain E-Purchasing website at [www.rockymountainbidsystem.com](http://www.rockymountainbidsystem.com). Offerors shall acknowledge receipt of all addenda in their proposal.
- 1.9 Exceptions and Substitutions:** All proposals meeting the intent of this RFP shall be considered for award. Offerors taking exception to the specifications shall do so at their own risk. The Owner reserves the right to accept or reject any or all substitutions or alternatives. When offering substitutions and/or alternatives, Offeror must state these exceptions in the section pertaining to that area. Exception/substitution, if accepted, must meet or exceed the stated intent and/or specifications. The absence of such a list shall indicate that the Offeror has not taken exceptions, and if awarded a contract, shall hold the Offeror responsible to perform in strict accordance with the specifications or scope of work contained herein.
- 1.10 Confidential Material:** All materials submitted in response to this RFP shall ultimately become public record and shall be subject to inspection after contract award. **“Proprietary or Confidential Information”** is defined as any information that is not generally known to competitors and which provides a competitive advantage. Unrestricted disclosure of proprietary information places it in the public domain. Only submittal information clearly identified with the words **“Confidential Disclosure”** and uploaded as a separate document shall establish a confidential, proprietary relationship. Any material to be treated as confidential or proprietary in nature must include a justification for the request. The request shall be reviewed and either approved or denied by the Owner. If denied, the proposer shall have the opportunity to withdraw its entire proposal, or to remove the confidential or proprietary restrictions. Neither cost nor pricing information nor the total proposal shall be considered confidential or proprietary
- 1.11 Response Material Ownership:** All proposals become the property of the Owner upon receipt and shall only be returned to the proposer at the Owner’s option. Selection or rejection of the proposal shall not affect this right. The Owner shall have the right to use all ideas or adaptations of the ideas contained in any proposal received in response to this RFP, subject to limitations outlined in the section titled “Confidential Material”. Disqualification of a proposal does not eliminate this right.
- 1.12 Minimal Standards for Responsible Prospective Offerors:** A prospective Offeror must affirmably demonstrate their responsibility. A prospective Offeror must meet the following requirements:
- Have adequate financial resources, or the ability to obtain such resources as required.
  - Be able to comply with the required or proposed completion schedule.
  - Have a satisfactory record of performance.
  - Have a satisfactory record of integrity and ethics.
  - Be otherwise qualified and eligible to receive an award and enter into a contract with the Owner.

- 1.13 Nonconforming Terms and Conditions:** A proposal that includes terms and conditions that do not conform to the terms and conditions of this Request for Proposal is subject to rejection as non-responsive. The Owner reserves the right to permit the Offeror to withdraw nonconforming terms and conditions from its proposal prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions
- 1.14 Open Records:** All proposals shall be open for public inspection after the contract is awarded. Trade secrets and confidential information contained in the proposal so identified by offer as such shall be treated as confidential by the Owner to the extent allowable in the Open Records Act.
- 1.15 Sales Tax:** City of Grand Junction is, by statute, exempt from the State Sales Tax and Federal Excise Tax; therefore, all fees shall not include taxes.
- 1.16 Public Opening:** Proposals shall be opened in the City Hall Auditorium, 250 North 5<sup>th</sup> Street, Grand Junction, CO 81501, immediately following the proposal deadline. Offerors, their representatives and interested persons may be present. Only the names and locations on the proposing firms will be disclosed.

## **SECTION 2.0: GENERAL CONTRACT TERMS AND CONDITIONS**

- 2.1. Acceptance of RFP Terms:** A proposal submitted in response to this RFP shall constitute a binding offer. Acknowledgment of this condition shall be indicated on the Cover Letter by the Offeror or an officer of the Offeror legally authorized to execute contractual obligations. A submission in response to the RFP acknowledges acceptance by the Offeror of all terms and conditions, as set forth herein. An Offeror shall identify clearly and thoroughly any variations between its proposal and the Owner's RFP requirements. Failure to do so shall be deemed a waiver of any rights to subsequently modify the terms of performance, except as outlined or specified in the RFP.
- 2.2. Execution, Correlation, Intent, and Interpretations:** The Contract Documents shall be signed by the Owner and Contractor. By executing the contract, the Contractor represents that they have familiarized themselves with the local conditions under which the Work is to be performed, and correlated their observations with the requirements of the Contract Documents. The Contract Documents are complementary, and what is required by any one, shall be as binding as if required by all. The intention of the documents is to include all labor, materials, equipment, services and other items necessary for the proper execution and completion of the scope of work as defined in the technical specifications and drawings contained herein. All drawings, specifications and copies furnished by the Owner are, and shall remain, Owner property. They are not to be used on any other project.
- 2.3. Permits, Fees, & Notices:** The Contractor shall secure and pay for all permits, fees and licenses necessary for the proper execution and completion of the work. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the work. If the Contractor observes that any of the Contract Documents are at variance in any respect, Contractor



shall promptly notify the Owner in writing, and any necessary changes shall be adjusted by change order/amendment. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, Contractor shall assume full responsibility and shall bear all costs attributable.

- 2.4. Responsibility for those Performing the Work:** The Contractor shall be responsible to the Owner for the acts and omissions of all their employees and all other persons performing any of the work under a contract with the Contractor.
- 2.5. Use of the Site:** The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the site with any materials or equipment.
- 2.6. Cleanup:** The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by their operations. At the completion of work they shall remove all their waste materials and rubbish from and about the project, as well as all their equipment and surplus materials.
- 2.7. Payment & Completion:** The Contract Sum is stated in the Contract and is the total amount payable by the Owner to the Contractor for the performance of the work under the Contract Documents. Upon receipt of written notice that the work is ready for final inspection and acceptance and upon receipt of application for payment, the Owner's Project Manager will promptly make such inspection and, when Owner finds the work acceptable under the Contract Documents and the Contract fully performed, the Owner shall make payment in the manner provided in the Contract Documents. Partial payments will be based upon estimates, prepared by the Contractor, of the value of Work performed and materials placed in accordance with the Contract Documents.
- 2.8. Protection of Persons & Property:** The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain, as required by existing safeguards for safety and protection, and all reasonable precautions, including posting danger signs or other warnings against hazards promulgating safety regulations and notifying owners and users of adjacent utilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct by the Contractor in the execution of the work, or in consequence of the non-execution thereof by the Contractor, they shall restore, at their own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or it shall make good such damage or injury in an acceptable manner.
- 2.9. Changes in the Work:** The Owner, without invalidating the contract, may order changes in the work within the general scope of the contract consisting of additions, deletions or other revisions. All such changes in the work shall be authorized by Change Order and shall be executed under the applicable conditions of the contract documents. A Change Order is a written order to the Contractor signed by the Owner issued after the execution of the contract, authorizing a change in the work or an adjustment in the contract sum or the contract time.

- 2.10. Minor Changes in the Work:** The Owner shall have authority to order minor changes in the work not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the contract documents.
- 2.11. Uncovering & Correction of Work:** The Contractor shall promptly correct all work found by the Owner as defective or as failing to conform to the contract documents. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Owner's additional services thereby made necessary. The Owner shall give such notice promptly after discover of condition. All such defective or non-conforming work under the above paragraphs shall be removed from the site where necessary and the work shall be corrected to comply with the contract documents without cost to the Owner.
- 2.12. Acceptance Not Waiver:** The Owner's acceptance or approval of any work furnished hereunder shall not in any way relieve the proposer of their present responsibility to maintain the high quality, integrity and timeliness of his work. The Owner's approval or acceptance of, or payment for, any services shall not be construed as a future waiver of any rights under this Contract, or of any cause of action arising out of performance under this Contract.
- 2.13. Change Order/Amendment:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All change orders/amendments to the contract shall be made in writing by the Owner Purchasing Division.
- 2.14. Assignment:** The Offeror shall not sell, assign, transfer or convey any contract resulting from this RFP, in whole or in part, without the prior written approval from the Owner.
- 2.15. Compliance with Laws:** Proposals must comply with all Federal, State, County and local laws governing or covering this type of service and the fulfillment of all ADA (Americans with Disabilities Act) requirements. Contractor hereby warrants that it is qualified to assume the responsibilities and render the services described herein and has all requisite corporate authority and professional licenses in good standing, required by law.
- 2.16. Debarment/Suspension:** The Contractor hereby certifies that the Contractor is not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Governmental department or agency.
- 2.17. Confidentiality:** All information disclosed by the Owner to the Contractor for the purpose of the work to be done or information that comes to the attention of the Contractor during the course of performing such work is to be kept strictly confidential.
- 2.18. Conflict of Interest:** No public official and/or Owner employee shall have interest in any contract resulting from this RFP.
- 2.19. Contract:** This Request for Proposal, submitted documents, and any negotiations, when properly accepted by the Owner, shall constitute a contract equally binding between the

Owner and Offeror. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral, including the Proposal documents. The contract may be amended or modified with Change Orders, Field Orders, or Amendment.

- 2.20. Project Manager/Administrator:** The Project Manager, on behalf of the Owner, shall render decisions in a timely manner pertaining to the work proposed or performed by the Offeror. The Project Manager shall be responsible for approval and/or acceptance of any related performance of the Scope of Work.
- 2.21. Cancellation of Solicitation:** Any solicitation may be canceled by the Owner or any solicitation response by a vendor may be rejected in whole or in part when it is in the best interest of the Owner.
- 2.22. Contract Termination:** This contract shall remain in effect until any of the following occurs: (1) contract expires; (2) completion of services; (3) acceptance of services or, (4) for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation at least thirty days past notification.
- 2.23. Employment Discrimination:** During the performance of any services per agreement with the Owner, the Offeror, by submitting a Proposal, agrees to the following conditions:
- 2.23.1.** The Offeror shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, disability, citizenship status, marital status, veteran status, sexual orientation, national origin, or any legally protected status except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Offeror. The Offeror agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
  - 2.23.2.** The Offeror, in all solicitations or advertisements for employees placed by or on behalf of the Offeror, shall state that such Offeror is an Equal Opportunity Employer.
  - 2.23.3.** Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
- 2.24. Immigration Reform and Control Act of 1986 and Immigration Compliance:** The Offeror certifies that it does not and will not during the performance of the contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or the immigration compliance requirements of State of Colorado C.R.S. § 8-17.5-101, *et.seq.* (House Bill 06-1343).
- 2.25. Ethics:** The Offeror shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official, or agent of the Owner.
- 2.26. Failure to Deliver:** In the event of failure of the Offeror to deliver services in accordance with the contract terms and conditions, the Owner, after due oral or written notice, may

procure the services from other sources and hold the Offeror responsible for any costs resulting in additional purchase and administrative services. This remedy shall be in addition to any other remedies that the Owner may have.

- 2.27. Failure to Enforce:** Failure by the Owner at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the contract or any part thereof or the right of the Owner to enforce any provision at any time in accordance with its terms.
- 2.28. Force Majeure:** The Offeror shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Offeror, unless otherwise specified in the contract.
- 2.29. Indemnification:** Offeror shall defend, indemnify and save harmless the Owner and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Offeror, or of any Offeror's agent, employee, subcontractor or supplier in the execution of, or performance under, any contract which may result from proposal award. Offeror shall pay any judgment with cost which may be obtained against the Owner growing out of such injury or damages.
- 2.30. Independent Firm:** The Offeror shall be legally considered an Independent Firm and neither the Firm nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Firm, its servants, or agents. The Owner shall not withhold from the contract payments to the Firm any federal or state unemployment taxes, federal or state income taxes, Social Security Tax or any other amounts for benefits to the Firm. Further, the Owner shall not provide to the Firm any insurance coverage or other benefits, including Workers' Compensation, normally provided by the Owner for its employees.
- 2.31. Ownership:** All plans, prints, designs, concepts, etc., shall become the property of the Owner.
- 2.32. Oral Statements:** No oral statement of any person shall modify or otherwise affect the terms, conditions, or specifications stated in this document and/or resulting agreement. All modifications to this request and any agreement must be made in writing by the Owner.
- 2.33. Patents/Copyrights:** The Offeror agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Offeror for any/all suits arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this RFP.
- 2.34. Remedies:** The Offeror and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

- 2.35. Venue:** Any agreement as a result of responding to this RFP shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.
- 2.36. Expenses:** Expenses incurred in preparation, submission and presentation of this RFP are the responsibility of the company and can not be charged to the Owner.
- 2.37. Sovereign Immunity:** The Owner specifically reserves its right to sovereign immunity pursuant to Colorado State Law as a defense to any action arising in conjunction to this agreement.
- 2.38. Public Funds/Non-Appropriation of Funds:** Funds for payment have been provided through the Owner's budget approved by the City Council/Board of County Commissioners for the stated fiscal year only. State of Colorado statutes prohibit the obligation and expenditure of public funds beyond the fiscal year for which a budget has been approved. Therefore, anticipated orders or other obligations that may arise past the end of the stated Owner's fiscal year shall be subject to budget approval. Any contract will be subject to and must contain a governmental non-appropriation of funds clause.
- 2.39. Collusion Clause:** Each Offeror by submitting a proposal certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all proposals shall be rejected if there is evidence or reason for believing that collusion exists among the proposers. The Owner may or may not, at the discretion of the Owner Purchasing Representative, accept future proposals for the same service or commodities for participants in such collusion.
- 2.40. Contingency/Force Account:** Contingency/Force Account work will be authorized by the Owner's Project Manager and is defined as minor expenses to cover miscellaneous or unforeseen expenses related to the project. The expenses are not included in the Drawings, Specifications, or Scope of Work and are necessary to accomplish the scope of this contract. Contingency/Force Account Authorization will be directed by the Owner through an approved form. Contingency/Force Account funds are the property of the Owner and any Contingency/Force Account funds, not required for project completion, shall remain the property of the Owner. Contractor is not entitled to any Contingency/Force Account funds that are not authorized by Owner.
- 2.41. Gratuities:** The Contractor certifies and agrees that no gratuities or kickbacks were paid in connection with this contract, nor were any fees, commissions, gifts or other considerations made contingent upon the award of this contract. If the Contractor breaches or violates this warranty, the Owner may, at their discretion, terminate this contract without liability to the Owner.
- 2.42. OSHA Standards:** All Offerors agree and warrant that services performed in response to this invitation shall conform to the standards declared by the US Department of Labor under the Occupational Safety and Health Act of 1970 (OSHA). In the event the services do not conform to OSHA Standards, the Owner may require the services to be redone at no additional expense to the Owner.

- 2.43. Performance of the Contract:** The Owner reserves the right to enforce the performance of the contract in any manner prescribed by law or deemed to be in the best interest of the Owner in the event of breach or default of resulting contract award.
- 2.44. Benefit Claims:** The Owner shall not provide to the Contractor any insurance coverage or other benefits, including Worker's Compensation, normally provided by the Owner for its employees.
- 2.45. Default:** The Owner reserves the right to terminate the contract immediately in the event the Contractor fails to meet delivery or completion schedules, or otherwise perform in accordance with the accepted proposal. Breach of contract or default authorizes the Owner to purchase like services elsewhere and charge the full increase in cost to the defaulting Contractor.
- 2.46. Multiple Offers:** Proposers must determine for themselves which product or service to offer. If said proposer chooses to submit more than one offer, THE ALTERNATE OFFER must be clearly marked "Alternate Proposal". The Owner reserves the right to make award in the best interest of the Owner.
- 2.47. Cooperative Purchasing:** Purchases as a result of this solicitation are primarily for the Owner. Other governmental entities may be extended the opportunity to utilize the resultant contract award with the agreement of the successful provider and the participating agencies. All participating entities will be required to abide by the specifications, terms, conditions and pricings established in this Proposal. The quantities furnished in this proposal document are for only the Owner. It does not include quantities for any other jurisdiction. The Owner will be responsible only for the award for our jurisdiction. Other participating entities will place their own awards on their respective Purchase Orders through their purchasing office or use their purchasing card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The Owner accepts no liability for payment of orders placed by other participating jurisdictions that choose to piggy-back on our solicitation. Orders placed by participating jurisdictions under the terms of this solicitation will indicate their specific delivery and invoicing instructions.
- 2.48. Definitions:**
- 2.48.1.** "Offeror" and/or "Proposer" refers to the person or persons legally authorized by the Consultant to make an offer and/or submit a response (fee) proposal in response to the Owner's RFP.
- 2.48.2.** The term "Work" includes all labor, materials, equipment, and/or services necessary to produce the requirements of the Contract Documents.
- 2.48.3.** "Contractor" is the person, organization, firm or consultant identified as such in the Agreement and is referred to throughout the Contract Documents. The term Contractor means the Contractor or his authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Work, Addenda and Modifications and shall at once report to the Owner any error, inconsistency or omission he may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies or omissions. The

Contractor shall not commence work without clarifying Drawings, Specifications, or Interpretations.

**2.48.4.** "Sub-Contractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term sub-contractor is referred to throughout the contract documents and means a sub-contractor or his authorized representative.

**2.49. Public Disclosure Record:** If the Proposer has knowledge of their employee(s) or sub-proposers having an immediate family relationship with an Owner employee or elected official, the proposer must provide the Purchasing Representative with the name(s) of these individuals. These individuals are required to file an acceptable "Public Disclosure Record", a statement of financial interest, before conducting business with the Owner.

**2.50. Keep Jobs in Colorado Act:** Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a). If Contractor claims it is entitled to a waiver pursuant to C.R.S. §8-17-101(1), Contractor shall state that there is insufficient Colorado labor to perform the work such that compliance with Article 17 would create an undue burden that would substantially prevent a project from proceeding to completion, and shall include evidence demonstrating the insufficiency and undue burden in its response.

Unless expressly granted a waiver by the Owner pursuant to C.R.S. §8-17-101(1), Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a).

**2.50.1.** "Public Works project" is defined as:

- (a) any construction, alteration, repair, demolition, or improvement of any land, building, structure, facility, road, highway, bridge, or other public improvement suitable for and intended for use in the promotion of the public health, welfare, or safety and any maintenance programs for the upkeep of such projects
- (b) for which appropriate or expenditure of moneys may be reasonably expected to be \$500,000.00 or more in the aggregate for any fiscal year
- (c) except any project that receives federal moneys.

### **SECTION 3.0: INSURANCE REQUIREMENTS**

**Insurance Requirements:** The selected Contractor agrees to procure and maintain, at its own cost, policy(s) of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by the Contractor pursuant to this Section. Such insurance shall be in addition to any other insurance requirements imposed by this Contract or by law. The Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to this Section by reason of its failure to procure or maintain insurance in sufficient

amounts, durations, or types. Contractor shall procure and maintain and, if applicable, shall cause any Subcontractor of the Contractor to procure and maintain insurance coverage listed below. Such coverage shall be procured and maintained with forms and insurers acceptable to the Owner. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage. Minimum coverage limits shall be as indicated below unless specified otherwise:

(a) Worker Compensation: Contractor shall comply with all State of Colorado Regulations concerning Workers' Compensation insurance coverage.

(b) General Liability insurance with minimum limits of:

ONE MILLION DOLLARS (\$1,000,000) each occurrence and  
ONE MILLION DOLLARS (\$1,000,000) per job aggregate.

The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground hazards. The policy shall contain a severability of interests provision.

(c) Comprehensive Automobile Liability insurance with minimum limits for bodily injury and property damage of not less than:

ONE MILLION DOLLARS (\$1,000,000) each occurrence and  
ONE MILLION DOLLARS (\$1,000,000) aggregate

With respect to each of Contractors owned, hired, or non-owned vehicles assigned to be used in performance of the Work. The policy shall contain a severability of interests provision. The policies required by paragraph (b) above shall be endorsed to include the Owner, and the Owner's officers and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the Owner, its officers, or its employees, or carried by or provided through any insurance pool of the Owner, shall be excess and not contributory insurance to that provided by Bidder. No additional insured endorsement to any required policy shall contain any exclusion for bodily injury or property damage arising from completed operations. The Bidder shall be solely responsible for any deductible losses under any policy required above.

## SECTION 4.0: SPECIFICATIONS/SCOPE OF SERVICES

**4.1. General/Background:** Juniata Reservoir is located at the base of the Grand Mesa on Purdy Mesa east of the town of Whitewater. The reservoir is part of the Grand Junction City water storage system.

Previously completed investigation:

Previous inspection of the valves was completed by Marine Diving Solutions, Denver, CO in 2018. This inspection provided video evidence that tuberculation of the valve stems has occurred on the mid-level and low-level outlet control valves that may be limiting travel of the valve disc, not allowing the valves to fully close. Full video of this inspection



is available to contractors submitting cost proposals for this scope of work. As-built drawings of the upstream outlet valve configuration and reservoir water depth are also available with this solicitation.

#### **4.2. Special Conditions/Provisions:**

**4.2.1 Licenses and Permits:** Contractor is responsible for obtaining all necessary licenses and permits required for Construction, at Contractors expense. See Section 2.3

**4.2.2 Freight/Shipping:** All freight/shipping shall be F.O.B. Destination – Freight Pre-paid and allowed to the project location.

**4.2.3 Price:** Project pricing shall be all inclusive, to include, but not be limited to: labor, materials, equipment, travel, design, drawings, engineer work, supplies, shipping/freight, licenses, permits, fees, etc.

All prices shall be “F.O.B. Destination Freight Pre-Paid and Allowed”. The Owner shall not pay nor be liable for any other additional costs including but not limited to: taxes, shipping charges, insurance, interest, penalties, termination payments, attorney fees, liquidated damages, etc.

**Contract shall be established as a “Lump Sum” for both mid-level valve investigation and/or low-level valve investigation, separately.**

**Pending the success of the mid-level investigation, the City, at it’s discretion, may choose not to award the low-level investigation, with no additional cost consideration to the Contractor, nor any additional fees to the City.**

**All fees will be considered by the Owner to be negotiable.**

**4.2.4 Warranty:** Contractor shall submit manufacturer warranty information for Owner’s approval, prior to product ordering. Additionally, Contractor shall provide a minimum 1 year Contractors warranty.

**4.2.5 Codes:** Contractor shall ensure that project meets all Federal, State, County, and City Codes.

**4.2.6 Working Schedule:** Time is of the essence with this project. Working schedule shall be Monday – Friday from 7:00am-5:00pm

**4.2.7 Time of Completion:** The scheduled time of Completion for the Project shall be no later than March 31, 2019.

**4.2.8 Contract:** A binding contract shall consist of: (1) the IFB and any amendments thereto, (2) the bidder’s response (bid) to the IFB, (3) clarification of the bid, if any, and (4) the City’s Purchasing Department’s acceptance of the bid by “Notice of Award” or by “Purchase Order”. All Exhibits and Attachments included in the IFB shall be incorporated into the contract by reference.

A. The contract expresses the complete agreement of the parties and, performance shall be governed solely by the specifications and requirements contained therein.

B. Any change to the contract, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the bidder and the City Purchasing Division or by a modified Purchase Order prior to the effective date of such modification. The bidder expressly and explicitly understands and agrees that no other method and/or no other document, including acts and oral communications by or from any person, shall be used or construed as an amendment or modification to the contract.

#### **4.3. Specifications/Scope of Services:**

The City is interested in contracting for a second investigation to determine if the valves may be capable of closing when tuberculated materials are removed from the stem and seat of the valves. The scope of this second investigation is anticipated to include the following:

- Removal of a section of the steel trash rack that is immediately ahead of the valves and provide a physical de-scaling of the tuberculated valve stems, and valve seat area. Upon completion of de-scaling the valve stems and seat area, the valves will be operated by the City to confirm full operation of the valves is possible.
- Replacement of the trash rack section will then be completed to allow protection of the outlet works under normal operation. The trash rack must be securely re-attached via; welding, bolting, stainless steel banding, or other permanent mechanical connection.
- This level of investigation will be required for both the mid-level, and low-level outlet valves.
- The investigation of the mid-level valves shall be completed first.
- At the Contractors option, if the Contractor can fully remove tuberculated materials from the valve stems and seats without removal of the trash rack, this approach may be presented.
- Video documentation of the descaling and operation of the valves shall be provided to the City upon completion of the work scope. Video documentation shall clearly show progress of the descaling measures and operation of the valves.

#### Information Provided by the City:

The City will provide the Contractor electronic copy of the previous video inspection of the mid-level and low-level valves (completed in July 2017), and as-built drawings (See attached and video links).

Low Level Outlet 2017-07-24: <https://youtu.be/KadXpIGUn0w>

Mid Level Outlet 2017-07-24: <https://youtu.be/aZa55NorIxE>

Water depth in the Reservoir at the time of inspection is anticipated to be approximately 49-feet at the mid-level valves, and 93-feet at the low-level valves.

**4.4. RFP Tentative Time Schedule:**

- |  |                       |
|--|-----------------------|
| • Request for Proposal available                 | December 21, 2018     |
| • Inquiry deadline, no questions after this date | January 4, 2019       |
| • Addendum Posted                                | January 9, 2019       |
| • Submittal deadline for proposals               | January 15, 2019      |
| • Owner evaluation of proposals                  | January 16 – 23, 2019 |
| • Final selection                                | January 29, 2019      |
| • Contract execution                             | January 31, 2019      |
| • Work begins no later than                      | February 4, 2019      |
| • Work completed no later than                   | March 31, 2019        |

**4.5. Questions Regarding Scope of Services:**

Duane Hoff Jr., Senior Buyer  
[duaneh@gjcity.org](mailto:duaneh@gjcity.org)

## SECTION 5.0: PREPARATION AND SUBMITTAL OF PROPOSALS

**Submission:** Each proposal shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing website (<https://www.rockymountainbidsystem.com/default.asp>). This site offers both “free” and “paying” registration options that allow for full access of the Owner’s documents and for electronic submission of proposals. (Note: “free” registration may take up to 24 hours to process. Please Plan accordingly.) Please view our “**Electronic Vendor Registration Guide**” at <http://www.gjcity.org/BidOpenings.aspx> for details. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline; **800-835-4603**). For proper comparison and evaluation, the City requests that proposals be formatted as directed. Offerors are required to indicate their interest in this Project, show their specific experience and address their capability to perform the Scope of Services in the Time Schedule as set forth herein. For proper comparison and evaluation, the Owner requires that proposals be formatted **A to F**.

- A. Cover Letter:** Cover letter shall be provided which explains the Firm’s interest in the project. The letter shall contain the name/address/phone number/email of the person who will serve as the firm’s principal contact person with Owner’s Contract Administrator and shall identify individual(s) who will be authorized to make presentations on behalf of the firm. The statement shall bear the signature of the person having proper authority to make formal commitments on behalf of the firm. By submitting a response to this solicitation the Contractor agrees to all requirements herein.
- B. Qualifications/Experience/Credentials:** Proposers shall provide at least five years, of at least 5 similar projects for their qualifications for consideration as a contract provider to the City of Grand Junction.
- C. Strategy and Implementation Plan:** Describe your (the firm’s) interpretation of the Owner’s objectives with regard to this RFP. Describe the proposed strategy and/or plan for achieving the objectives of this RFP. The Firm may utilize a written narrative or any other printed technique to demonstrate their ability to satisfy the Scope of Services. The narrative should describe a logical progression of tasks and efforts starting with the initial steps or tasks to be accomplished and continuing until all proposed tasks are fully described and the RFP objectives are accomplished. Include a **time schedule** for completion of your firm’s implementation plan and an estimate of time commitments from Owner staff.
- D. References:** A minimum of three (5) **references** with name, address, telephone number, and email address that can attest to your experience in projects of similar scope and size.
- E. Fee Proposal:** Provide a complete list of costs using Solicitation Response Form found in Section 7.

- F. **Additional Data (optional):** Provide any additional information that will aid in evaluation of your qualifications with respect to this project.

## SECTION 6.0: EVALUATION CRITERIA AND FACTORS

- 6.1 Evaluation:** An evaluation team shall review all responses and select the proposal or proposals that best demonstrate the capability in all aspects to perform the scope of services and possess the integrity and reliability that will ensure good faith performance.
- 6.2 Intent:** Only respondents who meet the qualification criteria will be considered. Therefore, it is imperative that the submitted proposal clearly indicate the firm's ability to provide the services described herein.

Submittal evaluations will be done in accordance with the criteria and procedure defined herein. The Owner reserves the right to reject any and all portions of proposals and take into consideration past performance. The following parameters will be used to evaluate the submittals (in no particular order of priority):

- Responsiveness of submittal to the RFP
- Understanding of the project and the objectives
- Experience/Required Skills
- Strategy & Implementation Plan
- Demonstrated capability
- References
- Fees

Owner also reserves the right to take into consideration past performance of previous awards/contracts with the Owner of any vendor, contractor, supplier, or service provider in determining final award(s).

The Owner will undertake negotiations with the top rated firm and will not negotiate with lower rated firms unless negotiations with higher rated firms have been unsuccessful and terminated.

- 6.3 Oral Interviews:** The Owner may invite the most qualified rated proposers to participate in oral interviews.
- 6.4 Award:** Firms shall be ranked or disqualified based on the criteria listed in Section 6.2. The Owner reserves the right to consider all of the information submitted and/or oral presentations, if required, in selecting the project Contractor.

**SECTION 7.0: SOLICITATION RESPONSE FORM**

**RFP-4591-19-DH "Investigation and Repair of Outlet Control Valves at Juniata Reservoir"**

*Offeror must submit entire Form completed, dated and signed.*

**1) Total cost to provide all labor, parts, supplies, equipment and installation necessary for the Investigation of the Mid-Level Valves per specifications:**

**TOTAL COST \$ \_\_\_\_\_**

**WRITTEN: \_\_\_\_\_ dollars.**

**2) Total cost to provide all labor, parts, supplies, equipment and installation necessary for the Investigation of the Low-Level Valves per specifications:**

**TOTAL COST \$ \_\_\_\_\_**

**WRITTEN: \_\_\_\_\_ dollars.**

-----  
*The Owner reserves the right to accept any portion of the work to be performed at its discretion*  
-----

The undersigned has thoroughly examined the entire Request for Proposals and therefore submits the proposal and schedule of fees and services attached hereto.

This offer is firm and irrevocable for sixty (60) days after the time and date set for receipt of proposals.

The undersigned Offeror agrees to provide services and products in accordance with the terms and conditions contained in this Request for Proposal and as described in the Offeror's proposal attached hereto; as accepted by the Owner.

Prices in the proposal have not knowingly been disclosed with another provider and will not be prior to award.

- Prices in this proposal have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.
- No attempt has been made nor will be to induce any other person or firm to submit a proposal for the purpose of restricting competition.
- The individual signing this proposal certifies they are a legal agent of the offeror, authorized to represent the offeror and is legally responsible for the offer with regard to supporting documentation and prices provided.
- Direct purchases by the City of Grand Junction are tax exempt from Colorado Sales or Use Tax. Tax exempt No. 98-903544. The undersigned certifies that no Federal, State, County or Municipal tax will be added to the above quoted prices.
- City of Grand Junction payment terms shall be Net 30 days.
- Prompt payment discount of \_\_\_\_\_ percent of the net dollar will be offered to the Owner if the invoice is paid within \_\_\_\_\_ days after the receipt of the invoice.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents.

State number of Addenda received: \_\_\_\_\_.

It is the responsibility of the Proposer to ensure all Addenda have been received and acknowledged.

\_\_\_\_\_  
Company Name – (Typed or Printed)

\_\_\_\_\_  
Authorized Agent – (Typed or Printed)

\_\_\_\_\_  
Authorized Agent Signature

\_\_\_\_\_  
Phone Number

\_\_\_\_\_  
Address of Offeror

\_\_\_\_\_  
E-mail Address of Agent

\_\_\_\_\_  
City, State, and Zip Code

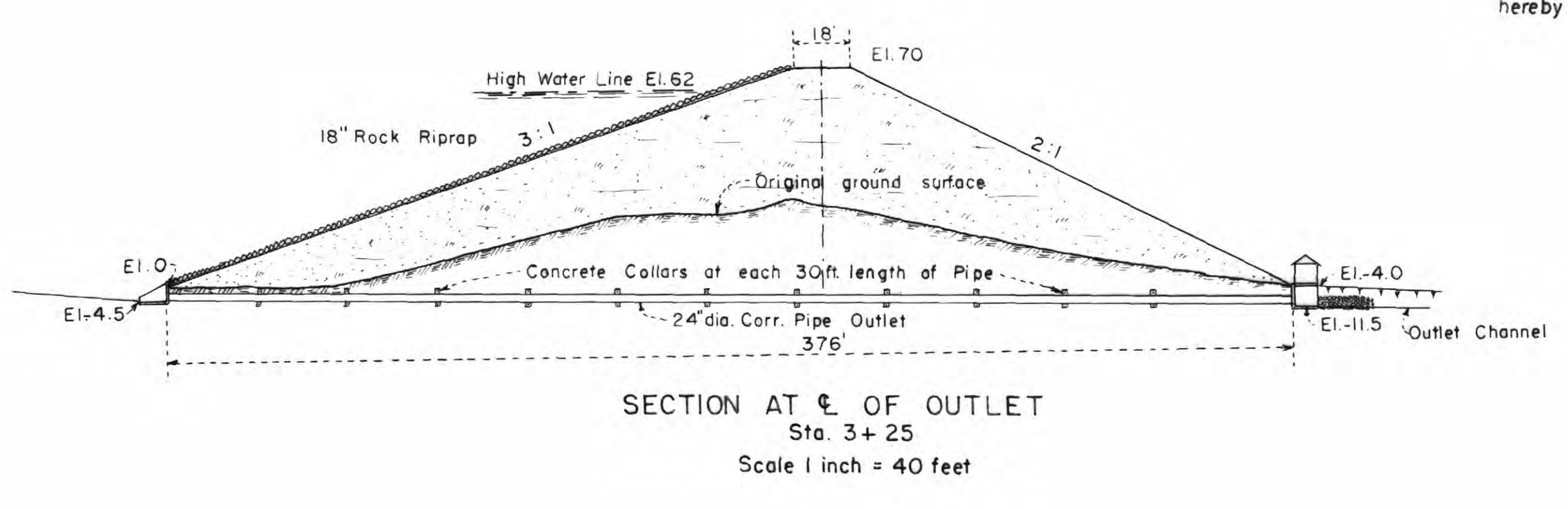
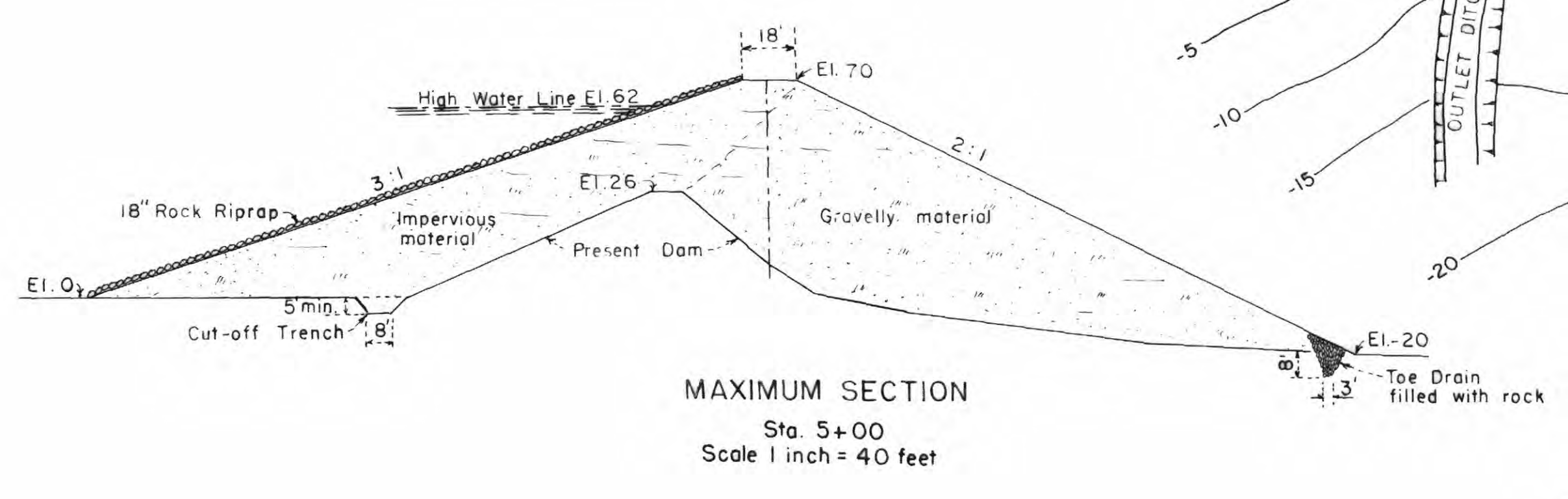
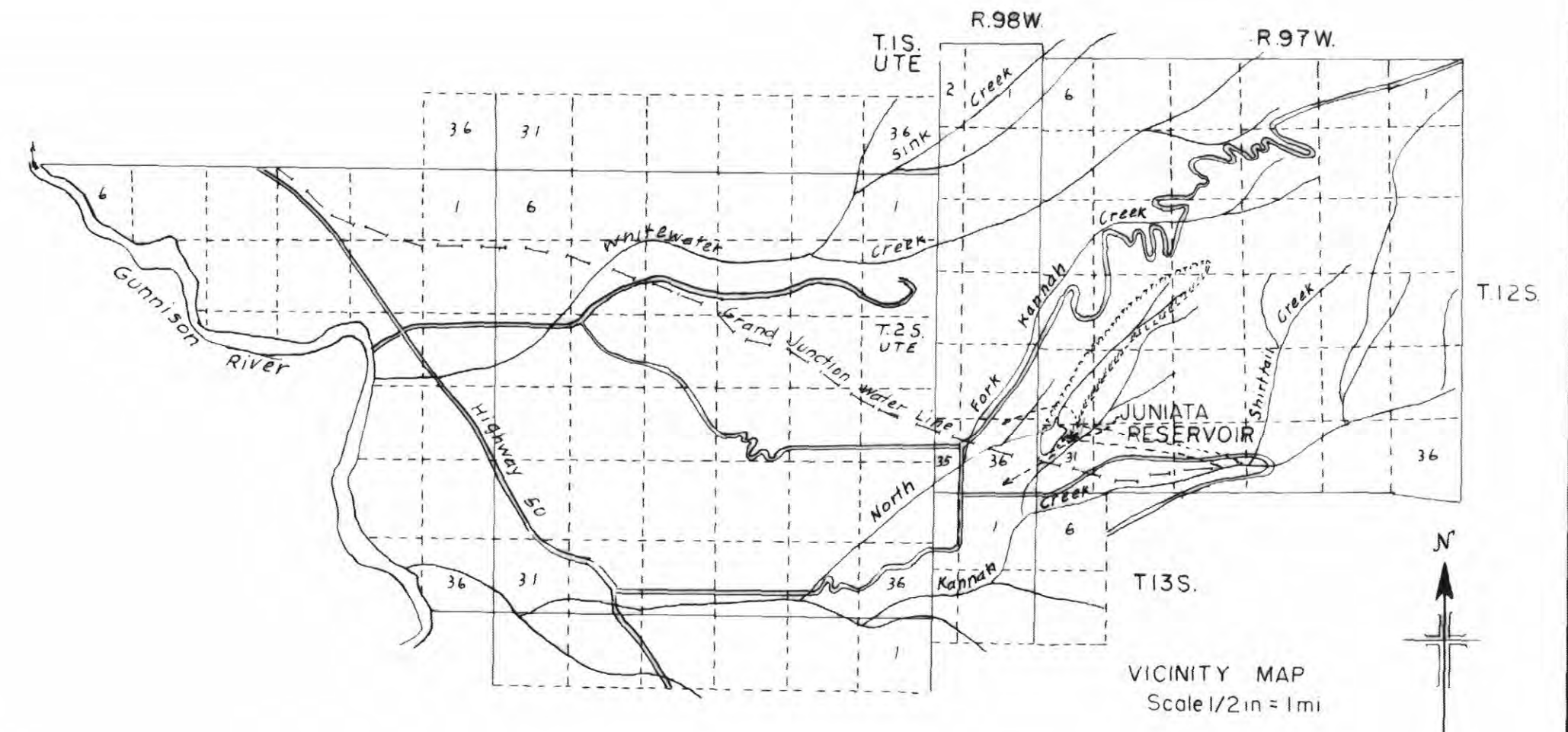
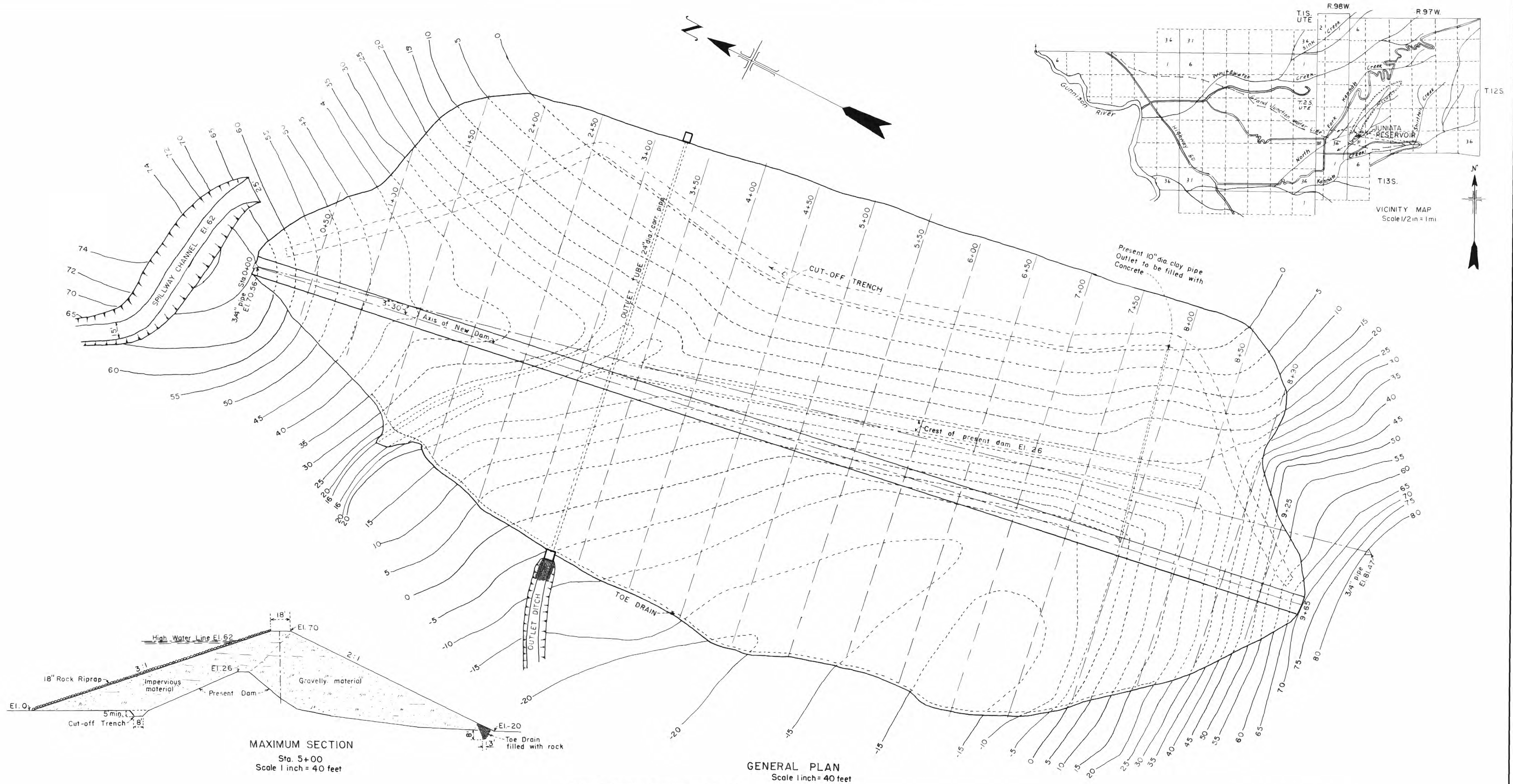
\_\_\_\_\_  
Date

# JUNIATA RESERVOIR - CITY OF GRAND JUNCTION



Date: 12/19/2018





These Plans for the construction of the Juniata Reservoir Dam Enlargement are hereby approved and accepted.

*W. Hallenbeck*  
Owner

*Lucas Cassel*  
Owner

*John P. Piker*  
By *William J. Piker*

*William J. Piker*

I hereby certify that these Plans for the construction of the Juniata Reservoir Dam Enlargement were prepared by me for the owners thereof.

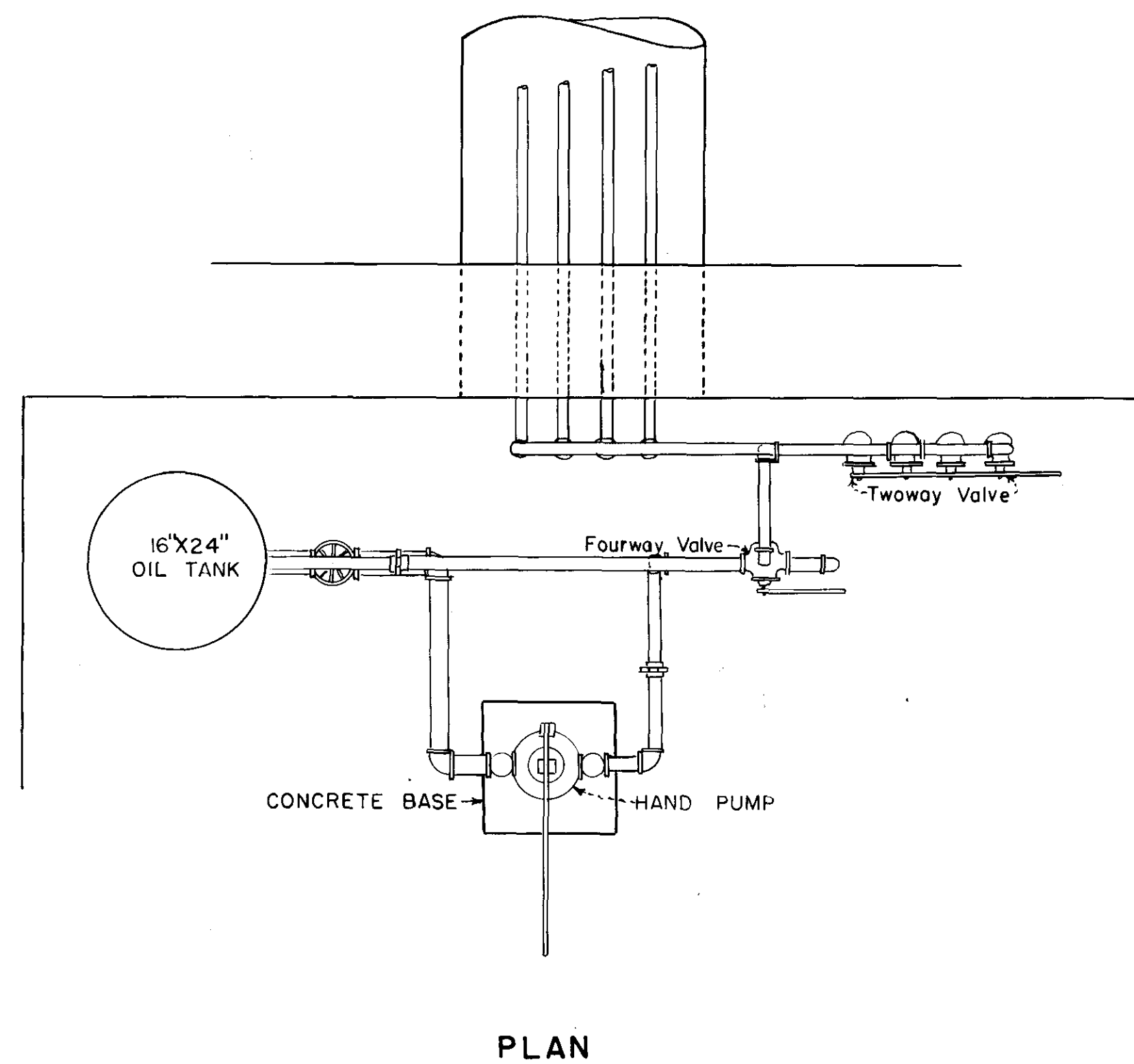
*Guy S. Newkirk*  
Registered Engineer

Subscribed and sworn to before me this 7<sup>th</sup> day of January 1954 *William J. Piker*  
My commission expires *Sept. 17, 1957*

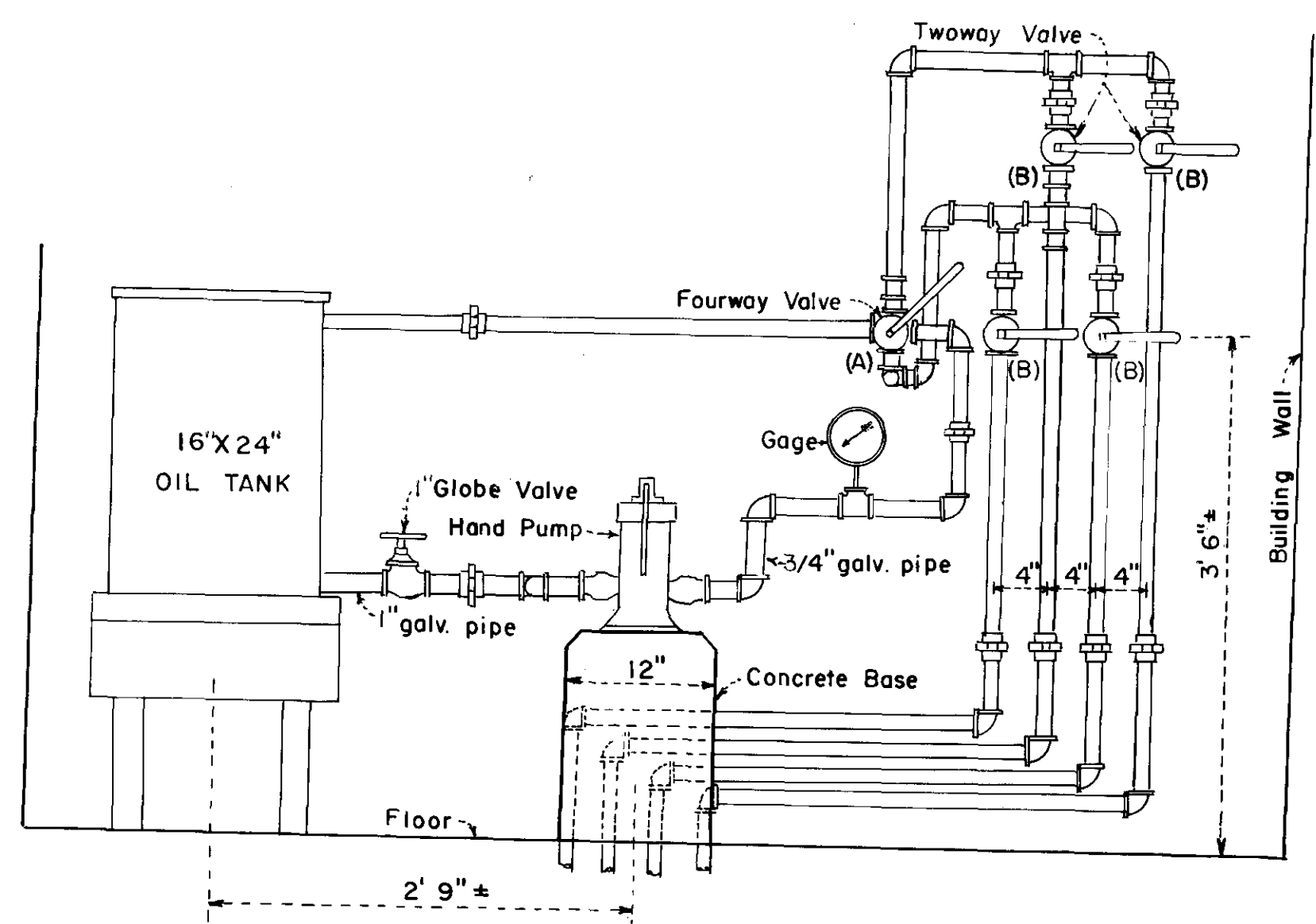
**PLANS FOR JUNIATA RESERVOIR DAM ENLARGEMENT**  
LOCATED IN SEC. 31, T. 12 S., R. 97 W., 6th P.M.  
MESA COUNTY, COLORADO  
IRRIGATION DIVISION No. 4 WATER DISTRICT No. 42  
**GENERAL PLAN & SECTIONS**  
SHEET 1 OF 2 SHEETS

Approved on the 15<sup>th</sup> day of February 1954  
*M. G. Spindel*  
State Engineer  
By *G. C. Spindel*  
Deputy

C-661  
103973



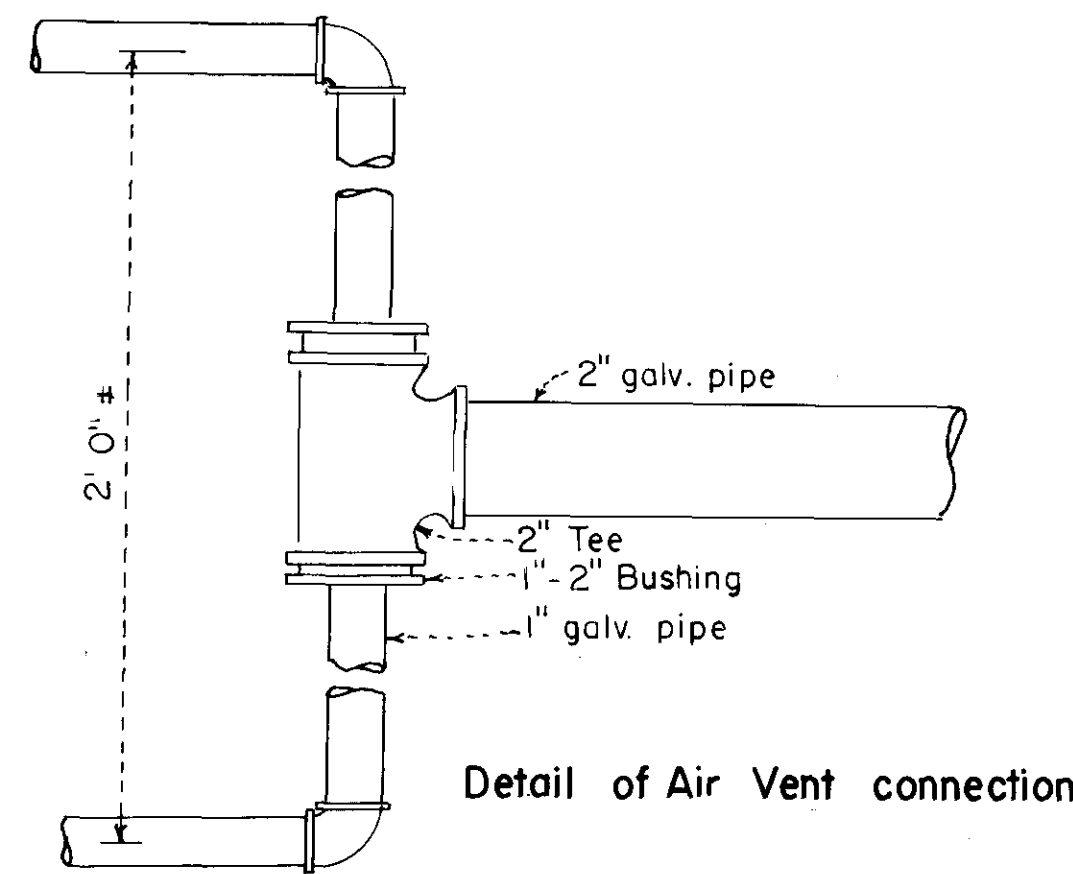
PLAN



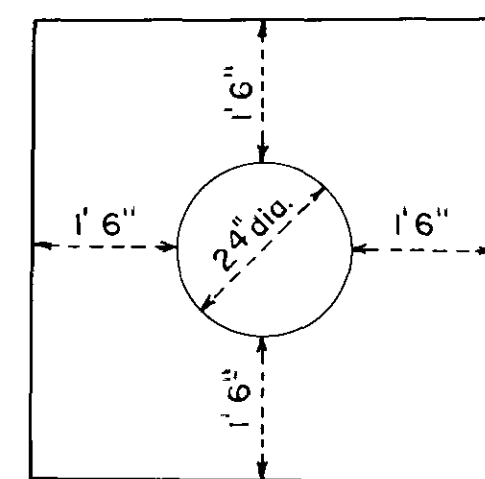
FRONT ELEVATION  
OUTLET VALVE CONTROL PIPING  
Scale 1 inch = 1 foot

INSTRUCTIONS FOR OPERATING GATE VALVES

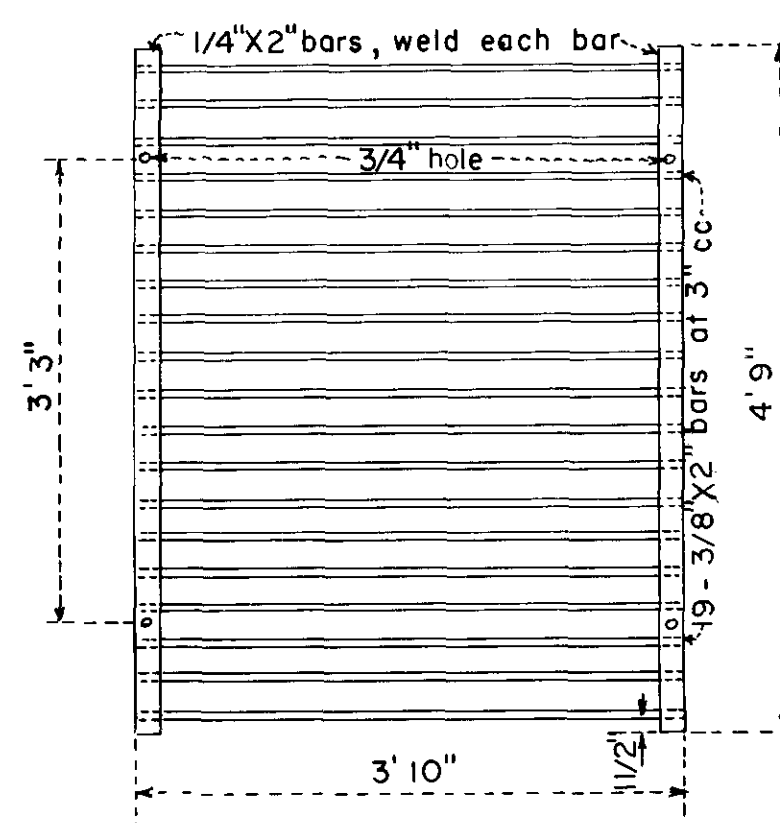
1. All valves are to be kept closed when gate valves are not to be moved. Fourway Valve (A) and Twoway Valves (B) are closed when handles are horizontal.
2. To raise a gate valve move handle of fourway valve (A) to extreme upper position. To close gate valve move handle to extreme lower position.
3. Open both twoway valves (B) of gate valve to be moved, valve is open when handle is parallel to pipe.
4. Operate hand pump until desired position of gate valve is obtained then close all valves.
5. The oil tank should be kept between 2/3 and 3/4 full of oil.



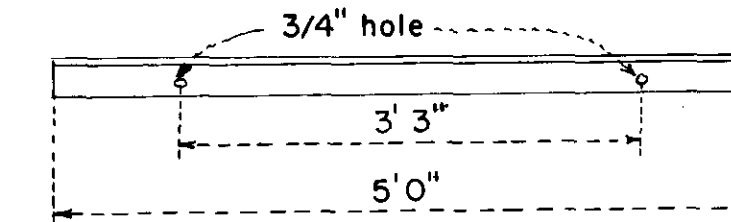
Detail of Air Vent connection



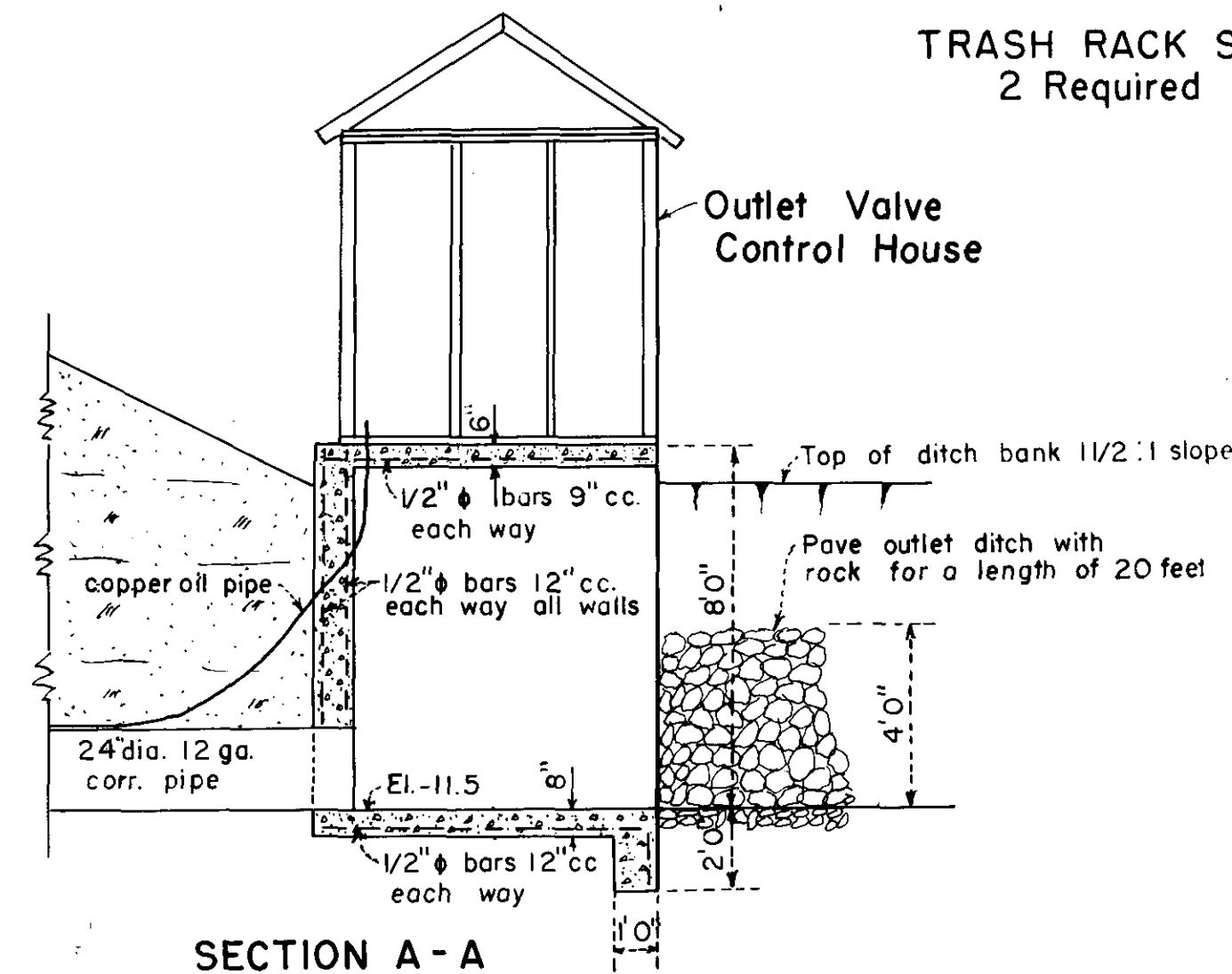
Concrete Collars 1' 6" thick at each 30' joint in pipe



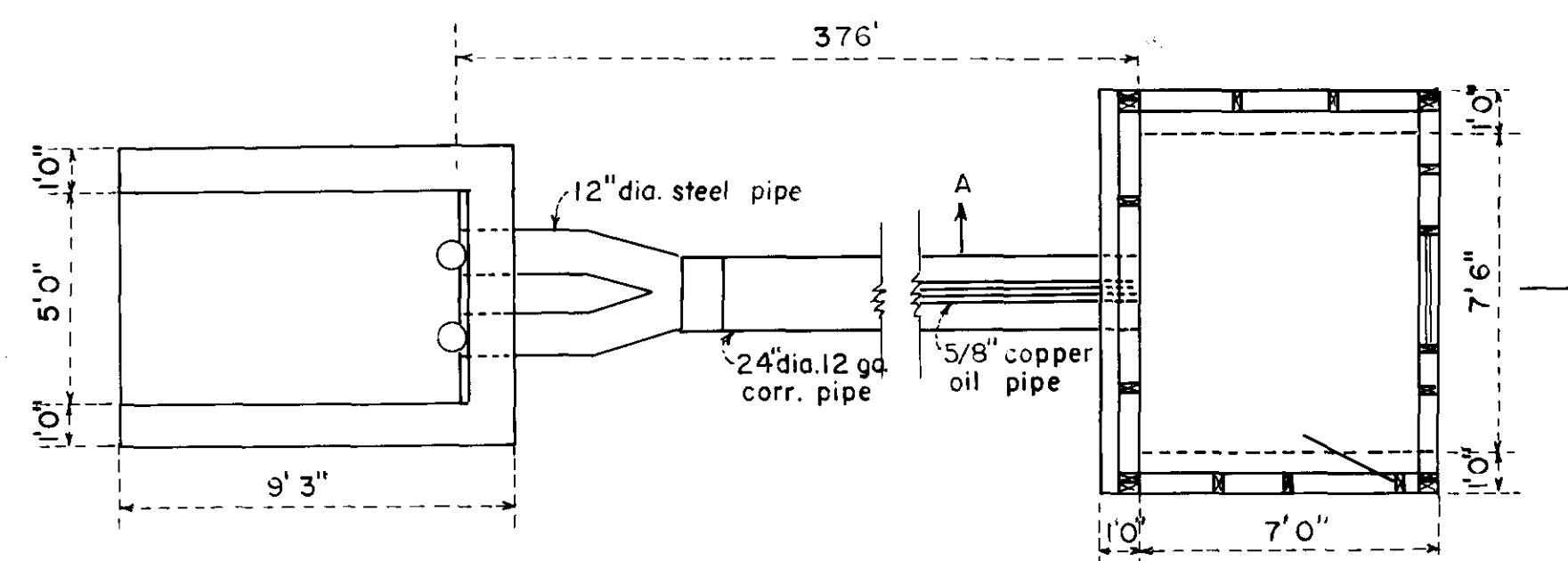
TRASH RACK SCREEN  
2 Required



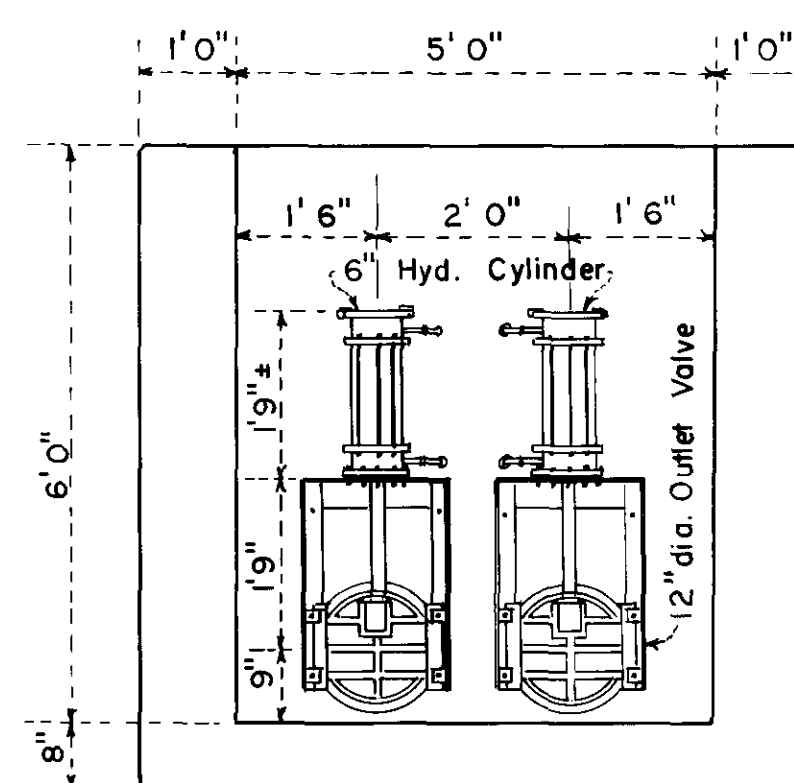
3"X3 1/4" Angle  
2 Required  
4 - 5/8"X12" Anchor Bolts  
1 - 6" H Beam 6' long with 4 - 5/8"X3 1/2" bolts



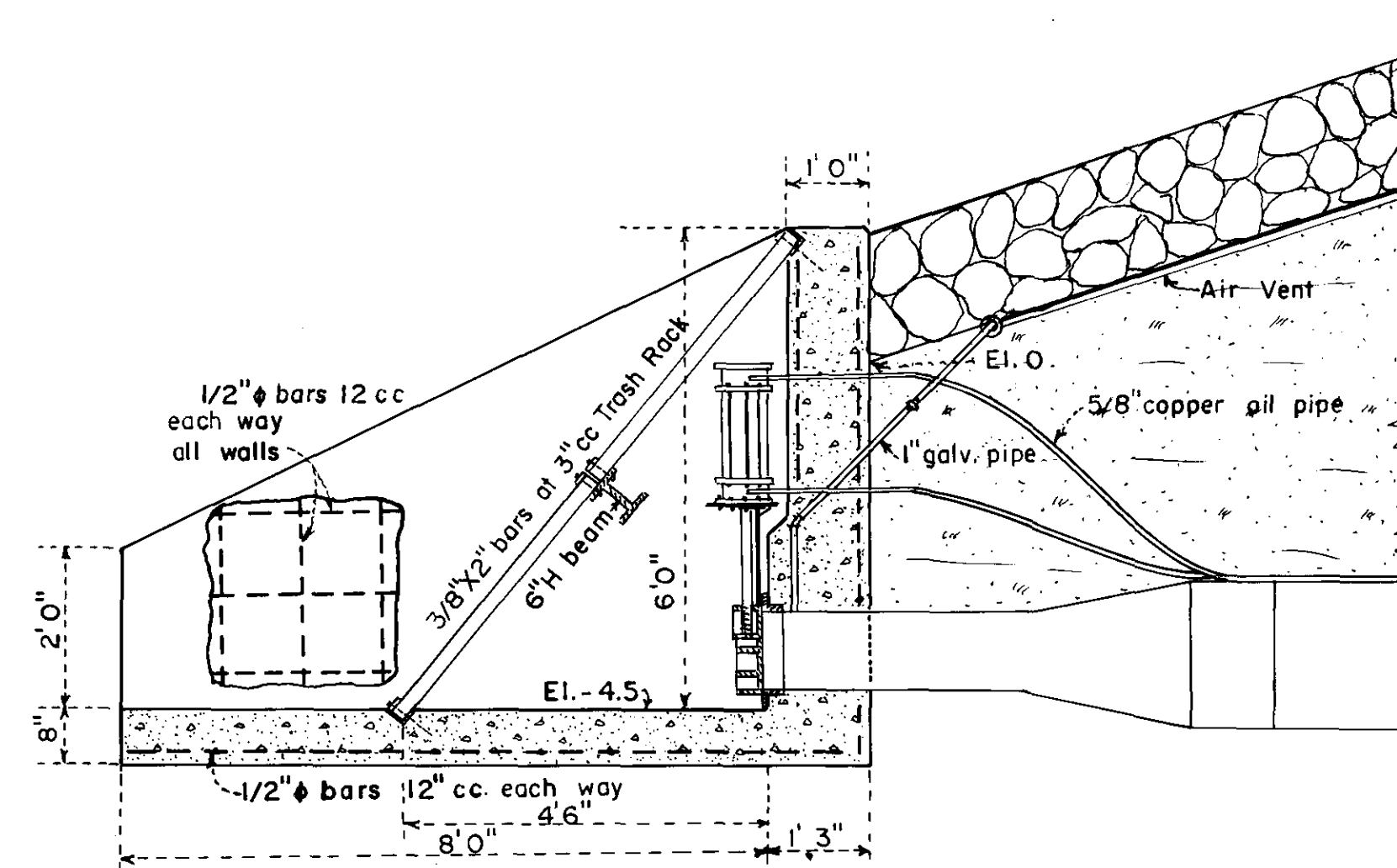
SECTION A - A



PLAN OF OUTLET  
Scale 1/4 inch = 1 foot



FRONT ELEVATION



OUTLET VALVES  
Scale 1/2" = 1'

LONGITUDINAL SECTION

PLANS FOR  
JUNIATA RESERVOIR DAM ENLARGEMENT

LOCATED IN SEC. 31, T. 12 S., R. 97 W., 6th P.M.  
MESA COUNTY, COLORADO  
IRRIGATION DIVISION No. 4 WATER DISTRICT No. 42

OUTLET DETAILS

SHEET 2 OF 2 SHEETS

Approved on the 15<sup>th</sup> day of February 1954

M. G. Hunsicker  
State Engineer

By C. B. Applegate  
Deputy

C-661

WATER DIVISION No. 4  
 WATER DISTRICT No. 42  
 MESA COUNTY  
 STATE OF COLORADO

OWNED BY CITY OF GRAND JUNCTION  
PLANS FOR PROPOSED SECOND ENLARGEMENT

# JUNIATA RESERVOIR DAM

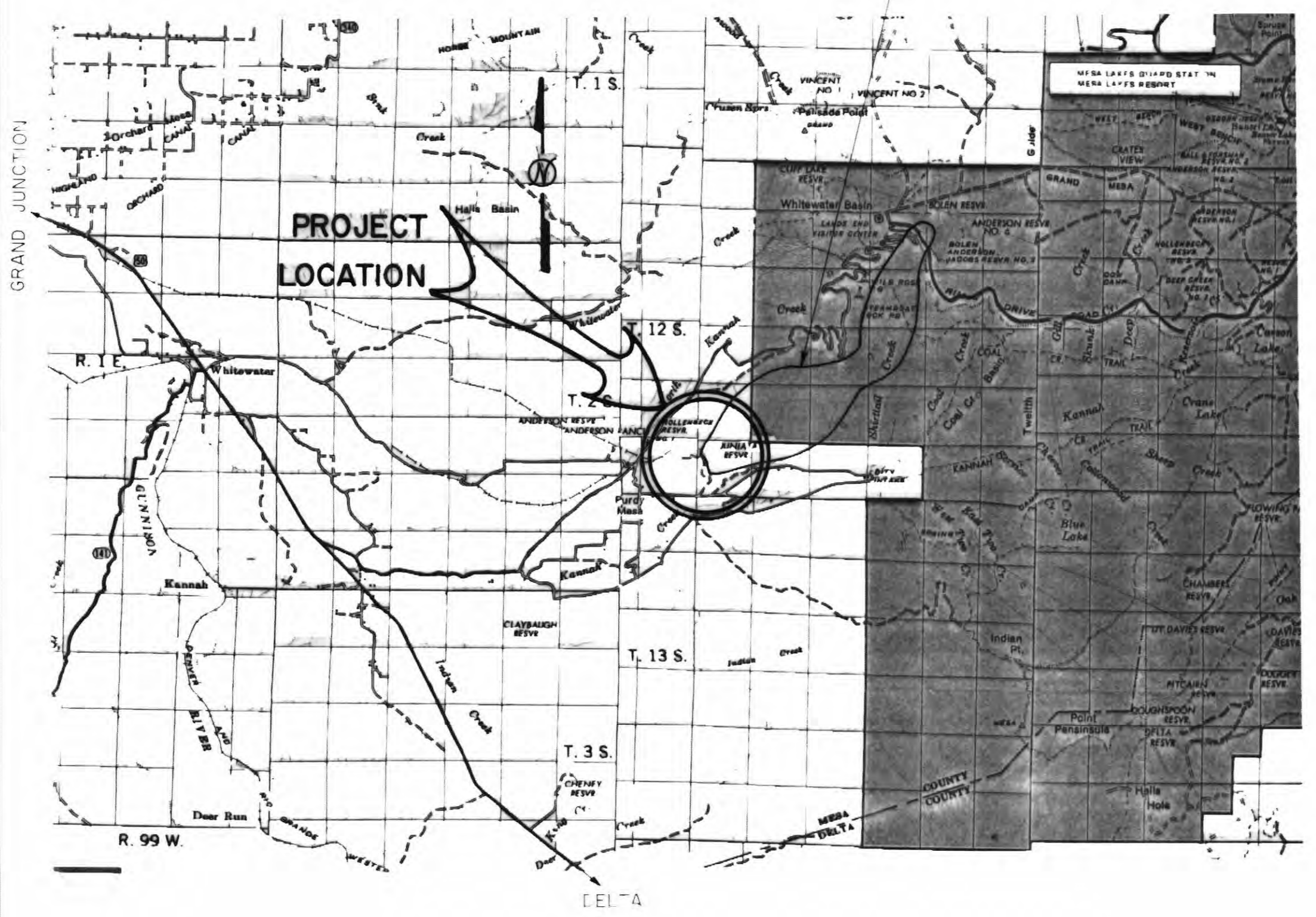
## INDEX OF SHEETS

SHEET 1	COVER SHEET
SHEET 2	TOPOGRAPHY
SHEET 3	TOPOGRAPHY
SHEET 4	TOPOGRAPHY, HIGH WATER TRAVERSE
SHEET 5	TYPICAL SECTIONS
SHEET 6	DAM PROFILE, SPILLWAY DISCHARGE CURVES, RESERVOIR CAPACITY DATA
SHEET 7	VALVE AND OUTLET DETAILS
SHEET 8	OPERATING MECHANISM DETAILS
SHEET 9	STILLING BASIN AND ASSORTED DETAILS
SHEET 10	SPILLWAY PLAN & PROFILE
SHEETS 11-17	EMBANKMENT CROSS-SECTIONS

DRAINAGE AREA TRIBUTARY TO JUNIATA  
 RESERVOIR AREA = 211 SQ MILES  
 PROPOSED CAPACITY AT SPILLWAY LEVEL  
 6659.5 AC FT

## SCALES

Topography 1" = 100'  
 Cross-Sections 1" = 50'  
 Details As Shown



SOUTHEAST SECTOR OF MESA COUNTY, COLORADO

Approved *James R. Jensen* Date *May 17, 1978*  
 CITY ENGINEER -  
 UTILITIES

PLANS PREPARED BY:  
 ARMSTRONG ENGINEERS & ASSOCIATES, INC.  
 GRAND JUNCTION, COLORADO

STATE OF COLORADO  
 DIVISION OF WATER RESOURCES  
 Plans Reviewed by *Stephen W. Sproun* 8/25, 1978  
 Design Review Unit  
 Approval Recommended by *J. Mark Davidson* 8/28, 1978  
 Supervisor - Dam Safety Branch

I hereby certify that these plans for the construction of the second enlargement of the Juniata Reservoir Dam, were prepared under my direct supervision for the owners thereof.



*David M. Leonard*  
 Registered Engineer

I, James E. Mysocki, City Manager for the City of Grand Junction, Colorado, whose post office address is Grand Junction, Colorado, do hereby accept and approve these plans for the construction of the second enlargement of the Juniata Reservoir Dam.

*James E. Mysocki*  
 City Manager

Approved on the 1st day of September, 1978.

*C. J. Kuiper*  
 State Engineer

By: *Eric J. Hamilton*  
 Deputy



Revised by ADDENDUM #1

C-661A



NOTE:  
Shaded area denotes  
limits of Filter Blanket.

CONNECTS TO EXISTING PURDY  
MESA PIPELINE ROAD

BORROW SITE "B"

PROPOSED RELOCATED  
ACCESS ROAD

HAUL ROAD "B"

OUTLET WORKS

limits of riprap toe  
Type B

6" Drain Pipe  
Discharge to  
Outlet Works

EXISTING  
ACCESS ROAD

Permanent Control  
Movement Monument

EXISTING CONTOURS

PROPOSED CONTOURS

TOE DRAIN  
(FILTER BLANKET)

NW CORNER  
TRACT 39

SPILLWAY  
CURVE DATA  
 $\Delta = 73^{\circ}58'$   
 $T = 100.00'$   
 $R = 133.11'$   
 $LCh = 171.53'$

HAUL ROAD "A"

CITY  
LOT 9

DAM AXIS  
CURVE DATA:

$\Delta = 75^{\circ}37'05''$   
 $T = 250.0'$   
 $R = 322.19'$   
 $L = 425.22'$   
 $LCh = 395.03'$

SPILLWAY

Sta. 16+75=POR  
RIGHT WATER  
TRAVERSE

PROPOSED ACCESS  
ROAD RELOCATION

CITY  
LOT 8

HIGH WATER LEVEL

TRACT  
39

CITY  
LOT 7

EXISTING  
ACCESS ROAD

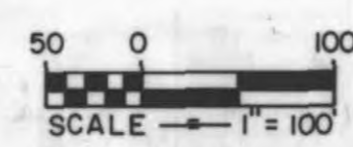
CITY  
LOT 12

NOTES:

1. Construction limits; Sta. 0+39 to Sta. 20+25.
2. Spillway  $\pm$  Sta. 18+00; 10' wide, variable depth (4' min.), 2:1 sides.
3. Grout Curtain Construction from Sta. 0+39 to Sta. 2+00, and from Sta. 8+50 to Sta. 20+25. Initial spacing for grout holes will be 40 feet.
4. Piezometer Depths (Approximate):  
P#1 & P#2 = 80'  
P#3 & P#4 = 50'
5. Existing ground water monitoring structures, if any, unearthed during construction, shall be raised to proposed grade in a manner acceptable to the Engineer, and shall be considered as incidental to embankment construction.
6. Tree and brush removal below the high water line shall conform to the Specifications. Payment shall be considered incidental to the various bid items.

LEGEND:

- P#1 - Piezometer Location (Typ.)
- M#1 - Movement Monument (Typ.)



CITY  
LOT 10

MATCH LINE SHEET 4  
(GRID LINE)

B.L.M.

B.L.M.

C-661A

		<b>ARMSTRONG ENGINEERS</b> ENGINEERING-SURVEYING CONCRETE & SOILS TESTING	
		<b>JUNIATA RESERVOIR</b> TOPOGRAPHY, PLAN VIEW OF DAM	
SCALE 1" = 100' DATE 4/25/78 DRAWN BY B.K.J. CHECKED BY D.M.L. DATE OF SURVEY JUN 1978	SHEET 2 of 17	JOB NUMBER 771511	

Revised 7/20/78 D.M.L. ADDENDUM #1.  
Revised 8/24/78 D.M.L.

TRACT 40

MATCH LINE-SHEET 3  
(GRID LINE)

CITY  
LOT 16

BORROW  
SITE "A"

CITY  
LOT 15

MATCH LINE SHEET 2  
(GRID LINE)

MATCH LINE-SHEET 4  
(GRID LINE)

EXISTING ACCESS ROAD TO BE  
ABANDONED AFTER CONSTRUCTION

BORROW SITE "A"

HIGH WATER LEVEL

HAUL ROAD "A"

PROPOSED  
RELOCATED ACCESS  
ROAD  
(CONNECTS TO RUDY  
MESA PIPELINE ROAD)

CITY  
LOT 16

CITY  
LOT 15

CITY  
LOT 14

ACCESS ROAD

TRACT 41

TRACT 40

NOTE:  
The Contractor shall take suitable  
precautions to maintain the structural  
integrity of ditch crossings during  
construction.

ACCESS ROAD

CITY  
LOT 17

CITY  
LOT 18

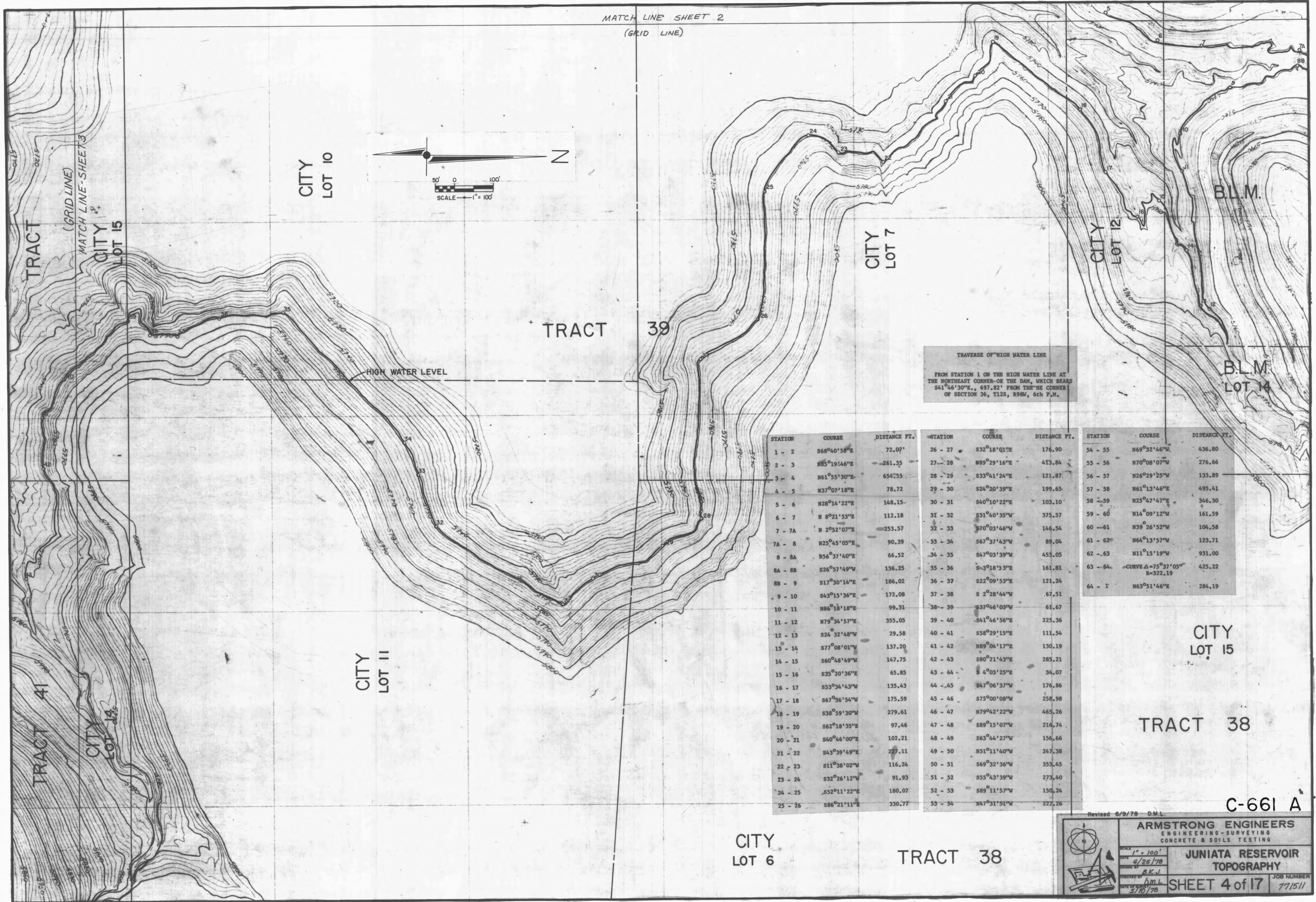
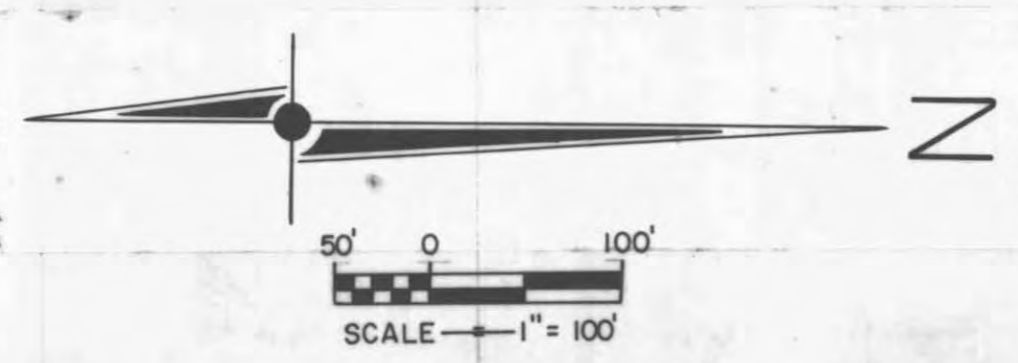
CITY  
LOT 19



C-661A

	<b>ARMSTRONG ENGINEERS</b> ENGINEERING - SURVEYING CONCRETE & SOILS TESTING	
	DATE 4/25/78	<b>JUNIATA RESERVOIR</b>
	DRAWN BY D.M.L.	TOPOGRAPHY - BORROW SITE A
	DATE OF SURVEY JAN. 1978	<b>SHEET 3 of 17</b>
		JOB NUMBER 771511

Revised 6/9/78 D.M.L.



TRAVERSE OF HIGH WATER LINE  
FROM STATION 1 ON THE HIGH WATER LINE AT THE NORTHEAST CORNER OF THE DAM, WHICH BEARS S41°46'30"E., 697.82' FROM THE NE CORNER OF SECTION 36, T12S, R9W, 6th P.M.

STATION	COURSE	DISTANCE FT.	STATION	COURSE	DISTANCE FT.	STATION	COURSE	DISTANCE FT.
1 - 2	S68°40'58"E	72.07'	26 - 27	S32°18'01"E	176.90	54 - 55	N69°32'46"W	436.80
2 - 3	N85°19'46"E	261.35	27 - 28	N89°29'16"E	413.84	55 - 56	N70°08'07"W	276.66
3 - 4	N61°55'30"E	654.55	28 - 29	S33°41'24"E	121.87	56 - 57	N26°29'25"W	133.89
4 - 5	N37°07'18"E	78.72	29 - 30	S24°20'39"E	199.65	57 - 58	N61°13'46"E	495.41
5 - 6	N28°14'22"E	148.15	30 - 31	S40°10'22"E	103.10	58 - 59	N25°47'47"E	346.30
6 - 7	N 8°21'53"E	112.18	31 - 32	S31°40'35"W	375.57	59 - 60	N14°09'12"W	161.59
7 - 7A	N 2°52'07"E	253.57	32 - 33	S70°03'46"W	146.54	60 - 61	N39°26'52"W	104.58
7A - 8	N25°45'05"E	90.39	33 - 34	S67°37'43"W	89.04	61 - 62	N64°13'57"W	123.71
8 - 8A	N56°37'40"E	66.52	34 - 35	S47°03'39"W	453.05	62 - 63	N11°15'19"W	931.00
8A - 8B	S26°57'49"W	136.25	35 - 36	S 3°18'33"E	161.81	63 - 64	CURVE Δ=75°37'05" R=322.19	425.22
8B - 9	S17°30'14"W	186.02	36 - 37	S22°09'53"E	121.24	64 - 1	N63°51'46"E	284.19
9 - 10	S43°15'36"E	172.08	37 - 38	S 2°28'44"W	67.51			
10 - 11	N86°18'18"E	99.31	38 - 39	S37°46'03"W	61.67			
11 - 12	N79°34'57"E	355.05	39 - 40	S41°46'56"E	225.36			
12 - 13	S24°32'48"W	29.58	40 - 41	S58°29'15"E	111.54			
13 - 14	S77°08'01"W	137.20	41 - 42	N89°04'17"E	130.19			
14 - 15	S60°48'49"W	147.75	42 - 43	S80°21'43"E	285.21			
15 - 16	S35°20'36"E	65.85	43 - 44	S 4°03'25"E	34.07			
16 - 17	S53°34'43"W	135.43	44 - 45	S47°06'37"W	176.86			
17 - 18	S67°36'54"W	175.59	45 - 46	S75°00'08"W	258.98			
18 - 19	S38°59'30"W	279.61	46 - 47	N79°42'22"W	465.26			
19 - 20	S62°18'35"E	97.46	47 - 48	S89°15'07"W	216.74			
20 - 21	S40°46'00"E	102.21	48 - 49	S63°44'27"W	156.66			
21 - 22	S43°39'49"E	237.11	49 - 50	N51°11'40"W	247.38			
22 - 23	S11°38'02"W	116.24	50 - 51	S69°32'36"W	353.45			
23 - 24	S32°26'12"W	91.93	51 - 52	S55°43'39"W	273.40			
24 - 25	S52°11'22"E	180.07	52 - 53	S89°11'57"W	150.24			
25 - 26	S86°21'11"W	330.77	53 - 54	N47°31'51"W	222.26			

Sheets B

Revised 6/9/78 - D.M.L.

**ARMSTRONG ENGINEERS**  
ENGINEERING - SURVEYING  
CONCRETE & SOILS TESTING

SCALE 1" = 100'  
DATE 4/25/78  
DRAWN BY A.K.J.  
CHECKED BY D.M.L.  
DATE OF WORK 5/18/78

**JUNIATA RESERVOIR TOPOGRAPHY**

SHEET 4 of 17

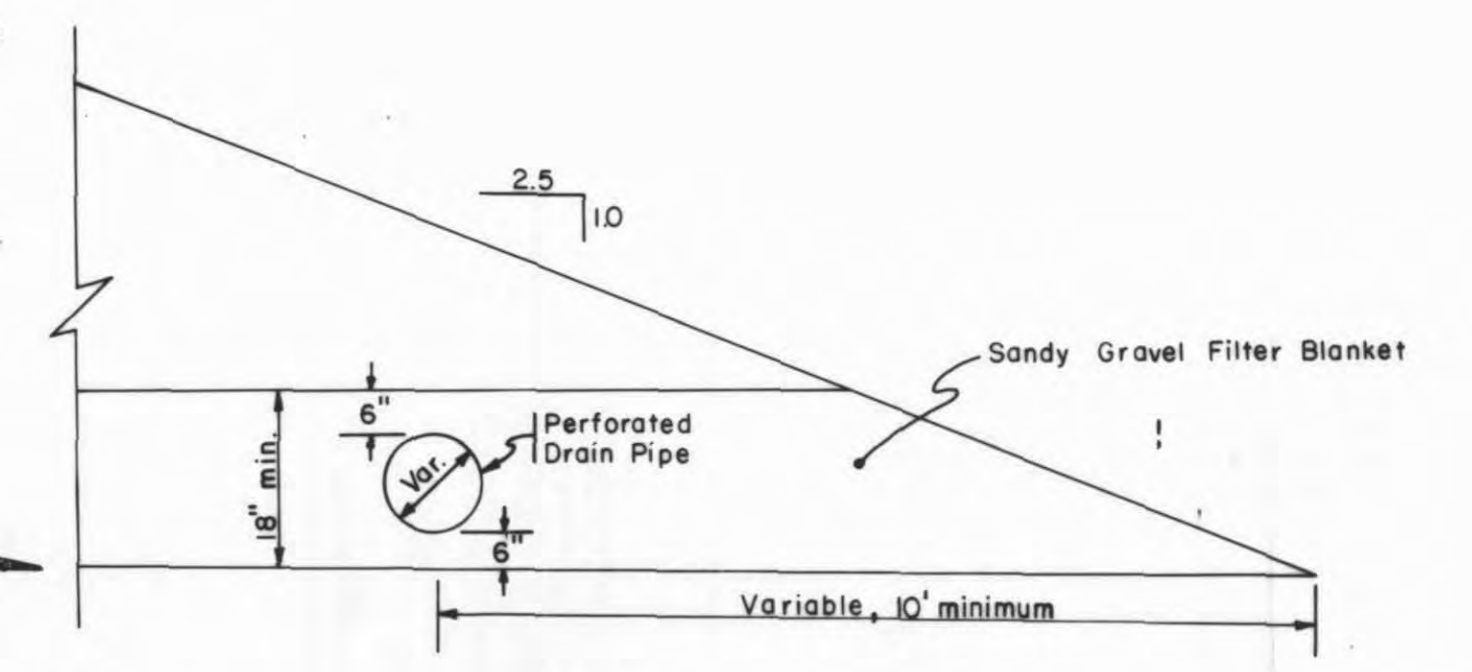
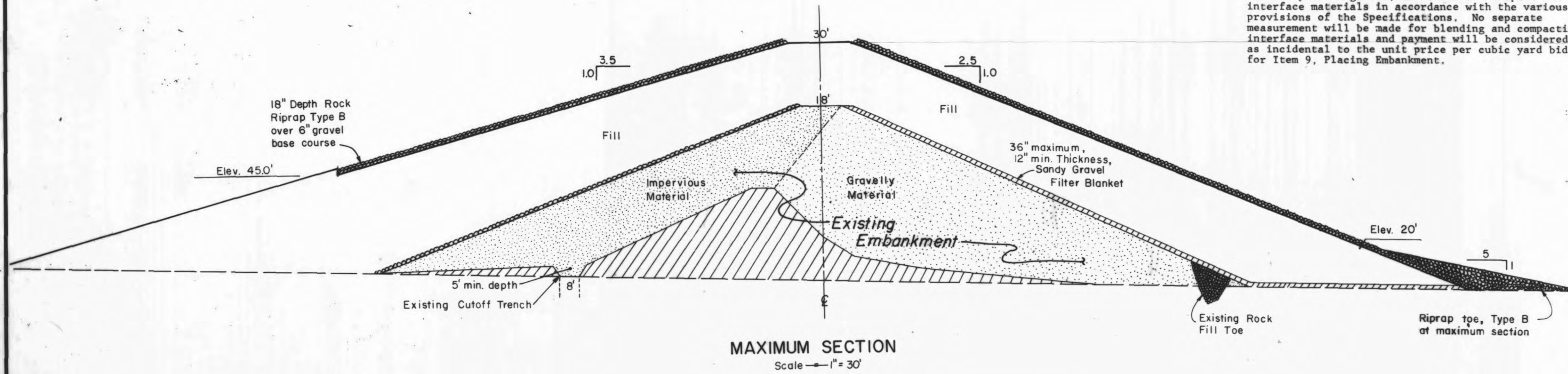
JOB NUMBER 771511

CITY LOT 6

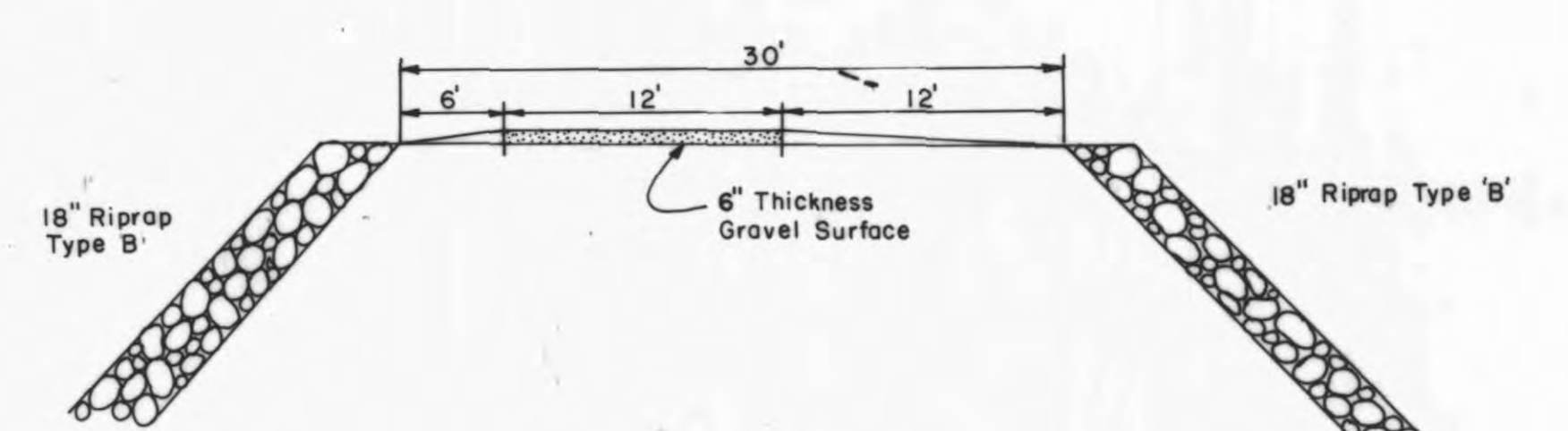
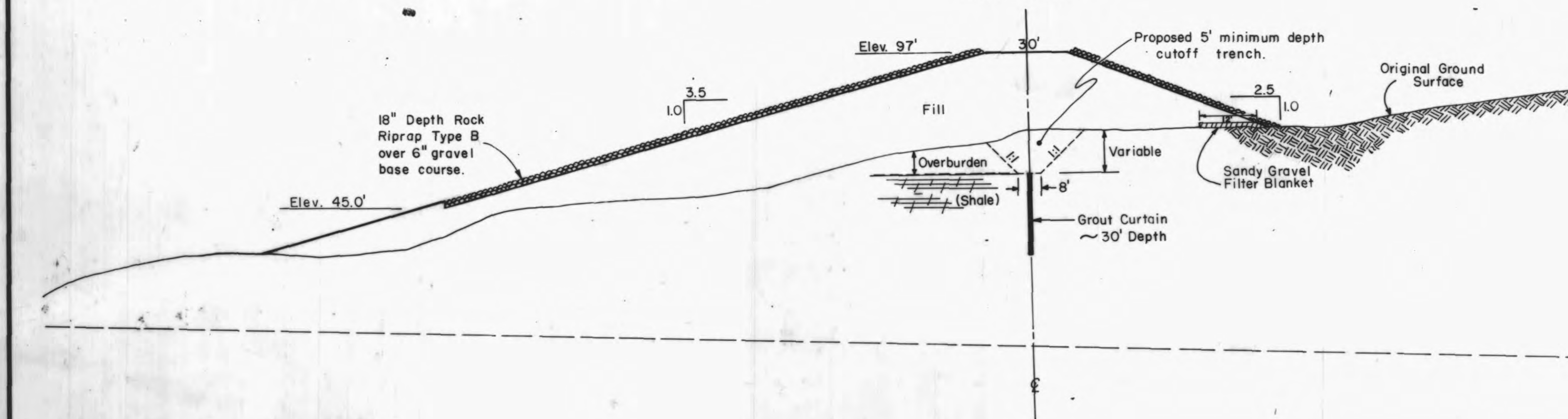
TRACT 38

C-661 A

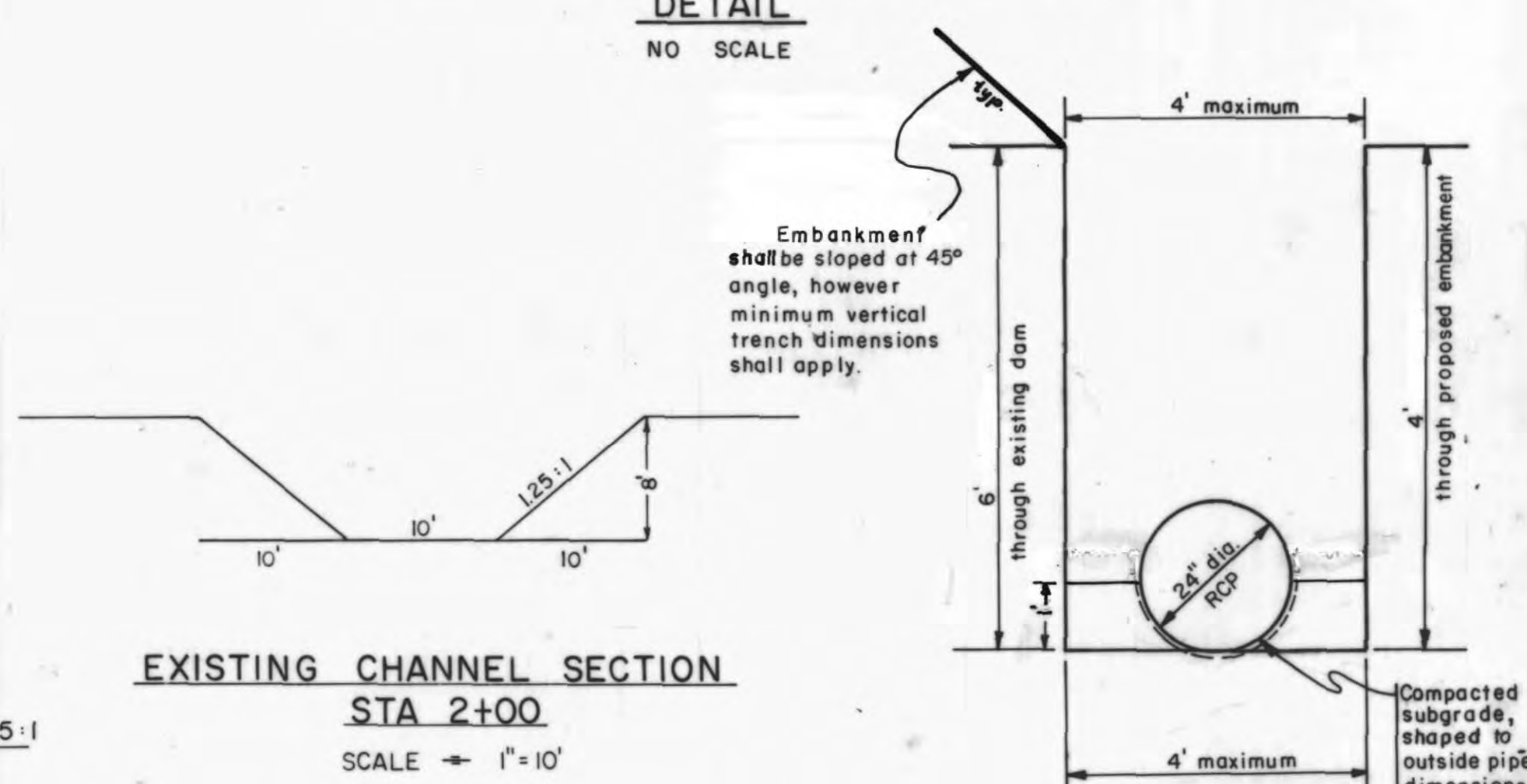
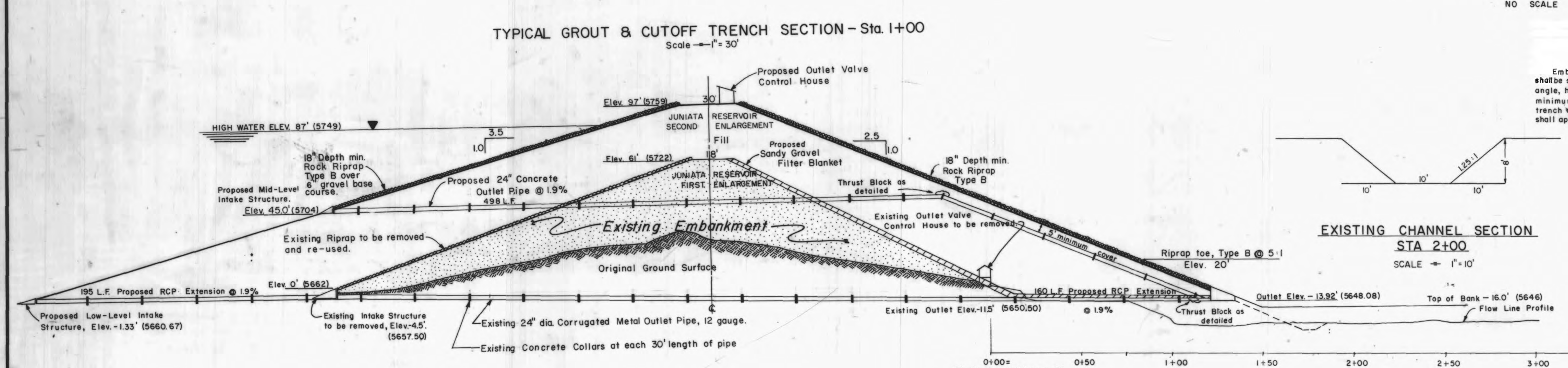
Note: Blending of proposed embankment construction into existing embankment shall be accomplished by use of fill dozer on upstream face and on downstream face in areas not receiving filter blankets. As each lift is placed, the fill dozer shall excavate into the existing embankment, to the limits established by the Engineer, and blend and compact the interface materials in accordance with the various provisions of the Specifications. No separate measurement will be made for blending and compacting interface materials and payment will be considered as incidental to the unit price per cubic yard bid for Item 9, Placing Embankment.



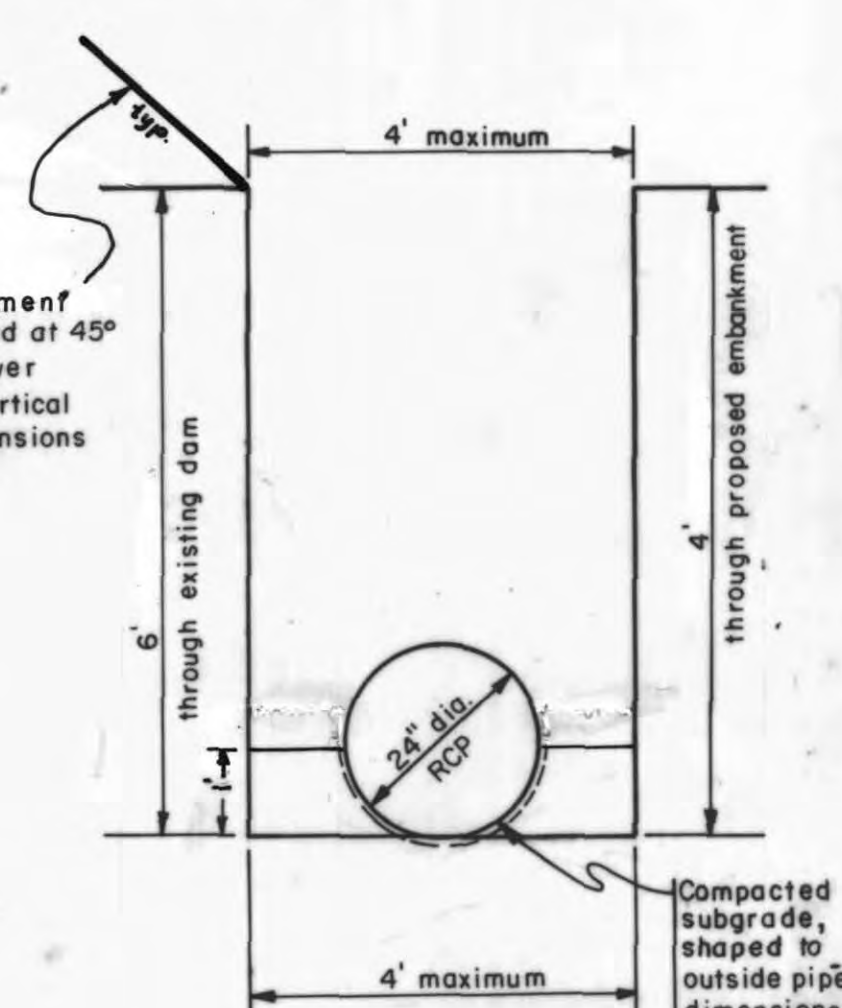
TYPICAL DRAIN PIPE INSTALLATION  
NO SCALE  
SEE SHEET 2 FOR LOCATION DETAILS



TYPICAL EMBANKMENT SURFACING  
DETAIL  
NO SCALE



EXISTING CHANNEL SECTION  
STA 2+00  
SCALE 1"=10'



TYPICAL R.C.P. INSTALLATION DETAIL  
SCALE 1"=2'

- NOTE:
1. Valve details on Sheet 7.
  2. Operating Mechanism details on Sheet 8.
  3. Stilling Basin details Sheet 9.
  4. Existing Corrugated Metal Pipe to be excavated to first joint, thoroughly cleaned, banded, and extended to the limits noted, with RCP as detailed in the Specifications. See sheet 9 for connection detail.
  5. Joints for reinforced concrete pipe shall conform to ASTM Specification 361 latest revision, for R-4 Bell and Spigot Joint.

SECTION AT OUTLET  
Scale 1"=30'

STATION	ELEV.
0+00 (W edge of control house wall)	-1.12 (5660.88)
0+50	-9.91 (5652.09)
1+00	-10.82 (5651.18)
1+50	-24.10 (5637.90)
2+00	-24.09 (5637.91)
2+50	-25.16 (5636.84)
3+00	-24.77 (5637.23)
	-24.96 (5636.05)

Revised 7/3/78 D.M.L. ADDENDUM #1

**ARMSTRONG ENGINEERS**  
ENGINEERING - SURVEYING  
CONCRETE & SOILS TESTING

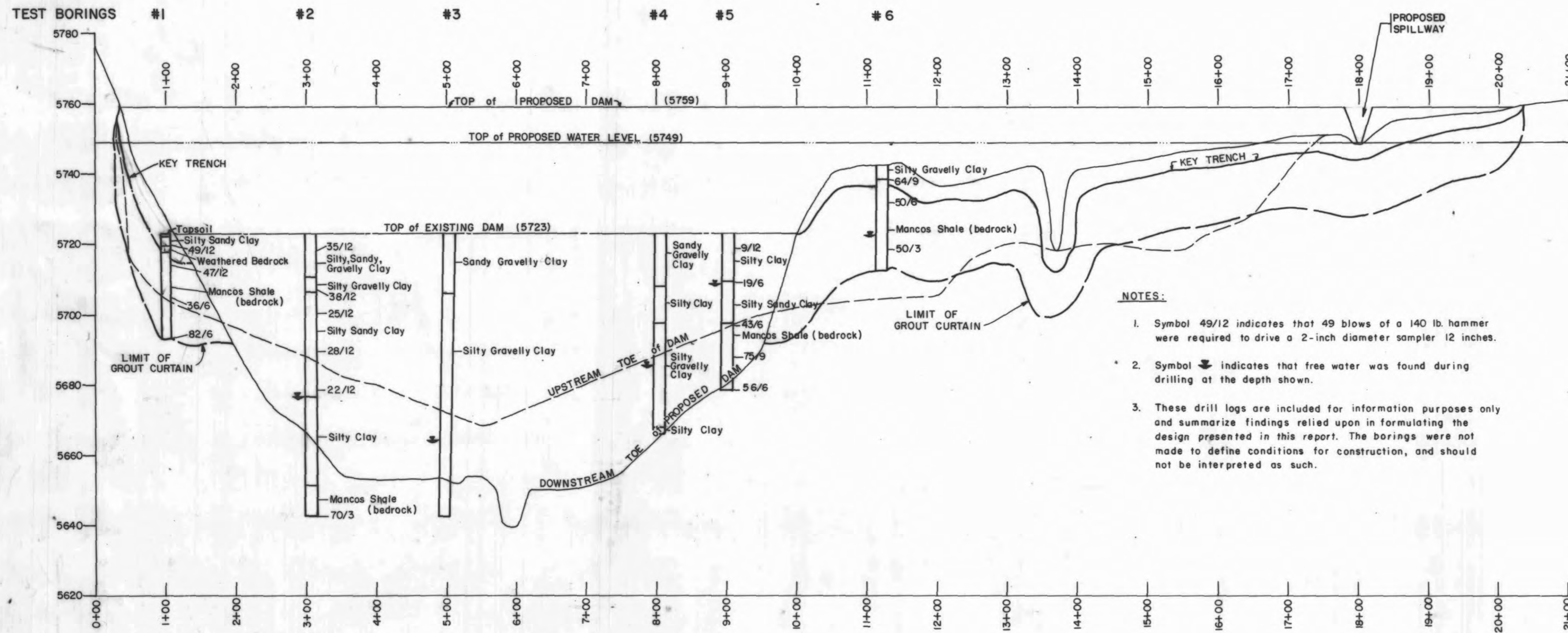
JUNIATA RESERVOIR  
TYPICAL SECTIONS

SHEET 5 of 17

DATE: 5/1/78  
DRAWN BY: B.K.J.  
CHECKED BY: D.M.L.  
DATE OF REVISION: AUG. 1978

JOB NUMBER: 7715/1

C-661 A



- NOTES:**
- Symbol 49/12 indicates that 49 blows of a 140 lb. hammer were required to drive a 2-inch diameter sampler 12 inches.
  - Symbol  $\downarrow$  indicates that free water was found during drilling at the depth shown.
  - These drill logs are included for information purposes only and summarize findings relied upon in formulating the design presented in this report. The borings were not made to define conditions for construction, and should not be interpreted as such.

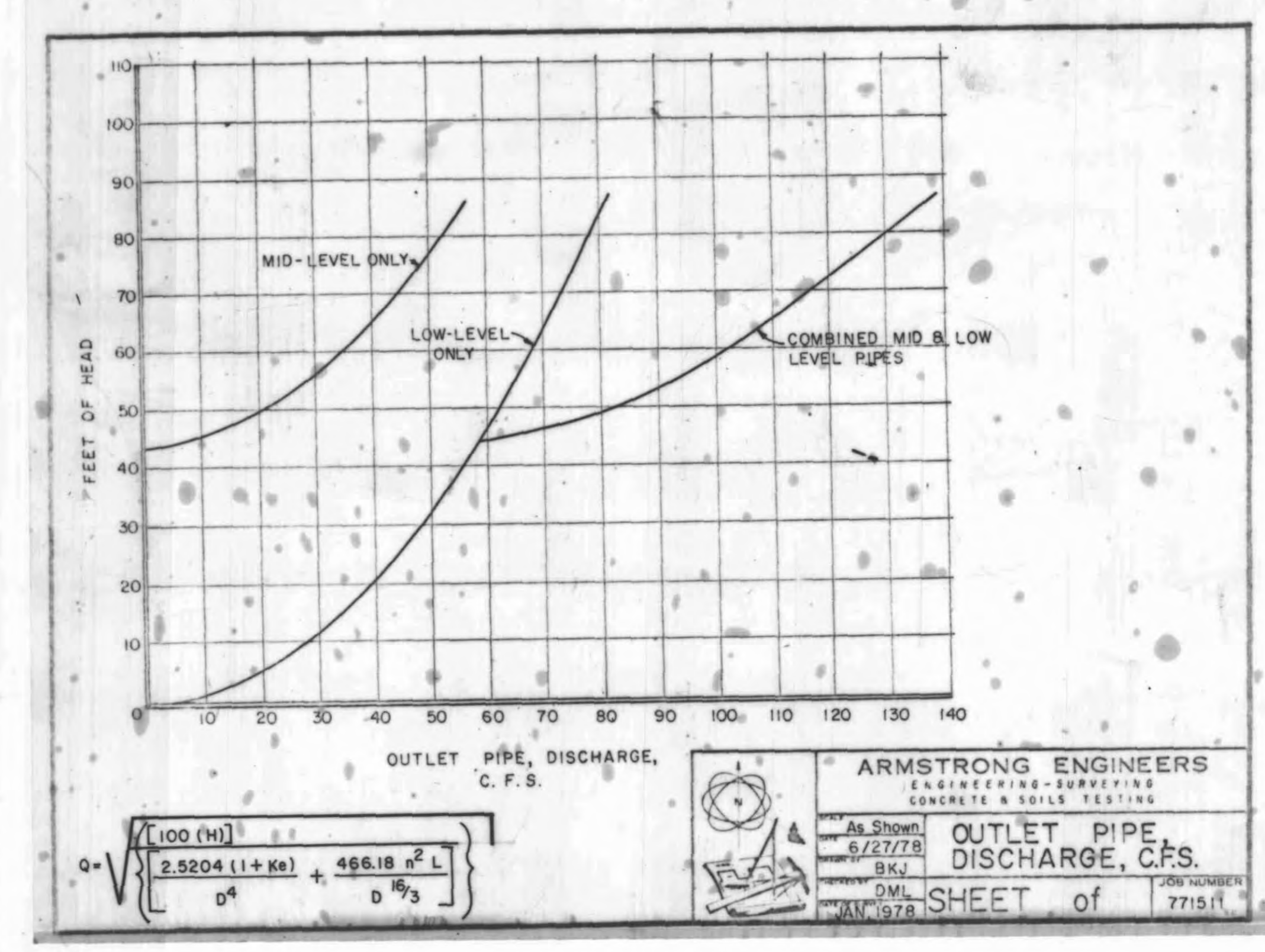
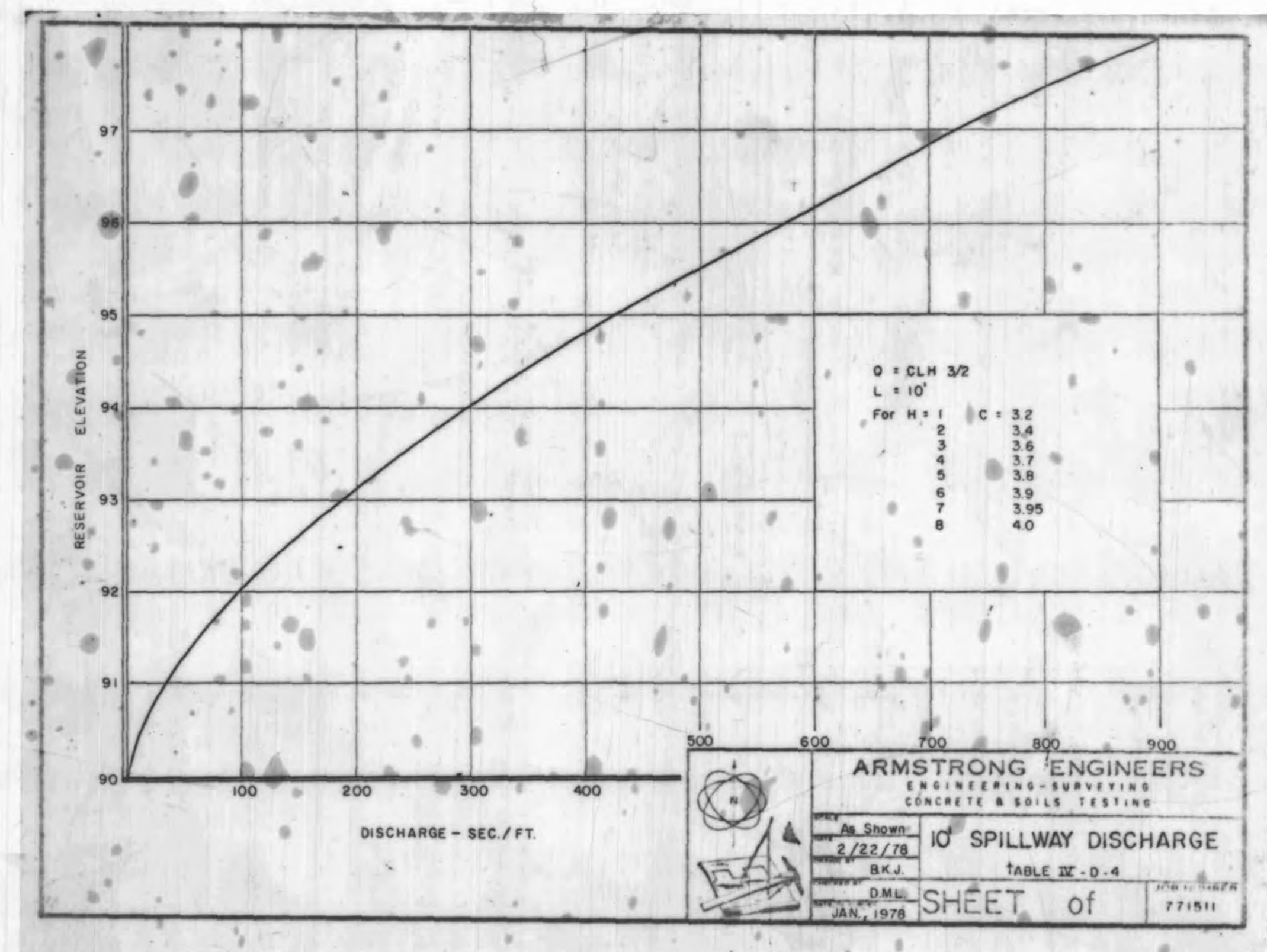
**JUNIATA RESERVOIR PROFILE**

SCALE:  
 HORIZ. — 1" = 100'  
 VERT. — 1" = 20'

**CAPACITY OF RESERVOIR**

From the Amended Map of Juniata Reservoir Enlarged, Filing No. 19918, dated October 7, 1954, the area at depth 40.8 feet is approximately the same as depth 43 feet of the reservoir of May 10, 1978. Depth 43 feet is the water surface at the time of the reservoir and is the gate height above the outlet pipe as constructed in 1955. Capacity is assumed as 73,915,650 cu. ft. or 1,696.9 Acre Feet.

DEPTH FT.	AREA SQ. FT.	CAPACITY CU. FT.	AREA ACRES	CAPACITY ACRE FT.	USGS ELEV.
43	3,596,400	73,915,650	82.56	1,696.9	5705
44	3,649,800	77,538,750	83.79	1,780.0	5706
45	3,703,200	81,215,250	85.01	1,864.4	5707
46	3,765,440	84,949,570	86.44	1,950.2	5708
47	3,827,680	88,746,130	87.86	2,037.3	5709
48	3,889,920	92,604,930	89.29	2,125.9	5710
49	3,952,160	96,525,970	90.71	2,215.9	5711
50	4,014,400	100,539,250	92.14	2,307.3	5712
51	4,076,400	104,653,650	93.52	2,400.1	5713
52	4,138,400	108,658,050	94.90	2,494.3	5714
53	4,194,400	112,822,450	96.28	2,589.9	5715
54	4,254,400	117,046,850	97.66	2,686.9	5716
55	4,314,400	121,381,250	99.04	2,785.3	5717
56	4,373,200	125,775,050	100.40	2,885.0	5718
57	4,432,000	130,077,650	101.74	2,986.1	5719
58	4,490,800	134,539,050	103.09	3,088.5	5720
59	4,549,600	139,059,250	104.44	3,192.2	5721
60	4,608,400	143,638,250	105.79	3,297.4	5722
61	4,669,000	148,376,950	107.18	3,403.8	5723
62	4,729,600	153,176,250	108.58	3,511.7	5724
63	4,790,200	157,736,150	109.97	3,621.0	5725
64	4,850,800	162,556,650	111.36	3,731.7	5726
65	4,911,400	167,437,750	112.75	3,843.7	5727
66	4,969,320	172,378,110	114.08	3,957.1	5728
67	5,027,240	177,378,390	115.41	4,071.9	5729
68	5,085,160	182,432,590	116.74	4,188.0	5730
69	5,143,080	187,546,710	118.07	4,305.4	5731
70	5,201,000	192,718,750	119.40	4,424.1	5732
71	5,258,920	197,946,570	120.63	4,544.1	5733
72	5,308,280	203,228,030	121.86	4,665.4	5734
73	5,361,920	208,563,130	123.09	4,787.8	5735
74	5,415,560	213,951,870	124.32	4,911.3	5736
75	5,469,200	219,394,250	125.56	5,036.5	5737
76	5,521,300	224,899,500	127.21	5,162.8	5738
77	5,573,400	230,476,850	128.86	5,290.9	5739
78	5,625,500	236,126,300	130.52	5,420.6	5740
79	5,677,600	241,847,850	132.18	5,551.9	5741
80	5,729,700	247,641,500	133.83	5,684.9	5742
81	5,781,800	253,508,100	135.48	5,819.5	5743
82	5,833,900	259,437,500	137.15	5,955.6	5744
83	5,886,000	265,429,700	138.82	6,093.2	5745
84	5,938,100	271,484,700	139.87	6,232.3	5746
85	5,990,200	277,612,500	141.38	6,373.0	5747
86	6,042,300	283,801,100	142.76	6,515.0	5748
87	6,094,400	290,049,500	144.13	6,658.5	5749
88	6,146,500	296,357,700	145.50	6,803.3	5750
89	6,198,600	302,725,700	146.88	6,959.5	5751
90	6,250,700	309,153,500	148.25	7,097.0	5752
91	6,302,800	315,641,500	149.84	7,246.2	5753
92	6,354,900	322,207,150	151.42	7,396.7	5754
93	6,407,000	328,837,750	153.01	7,548.9	5755
94	6,459,100	335,537,550	154.60	7,702.8	5756
95	6,511,200	342,306,550	156.19	7,858.1	5757
96	6,563,300	349,149,790	158.01	8,015.2	5758
97	6,615,400	356,072,310	159.83	8,174.2	5759



C-661A

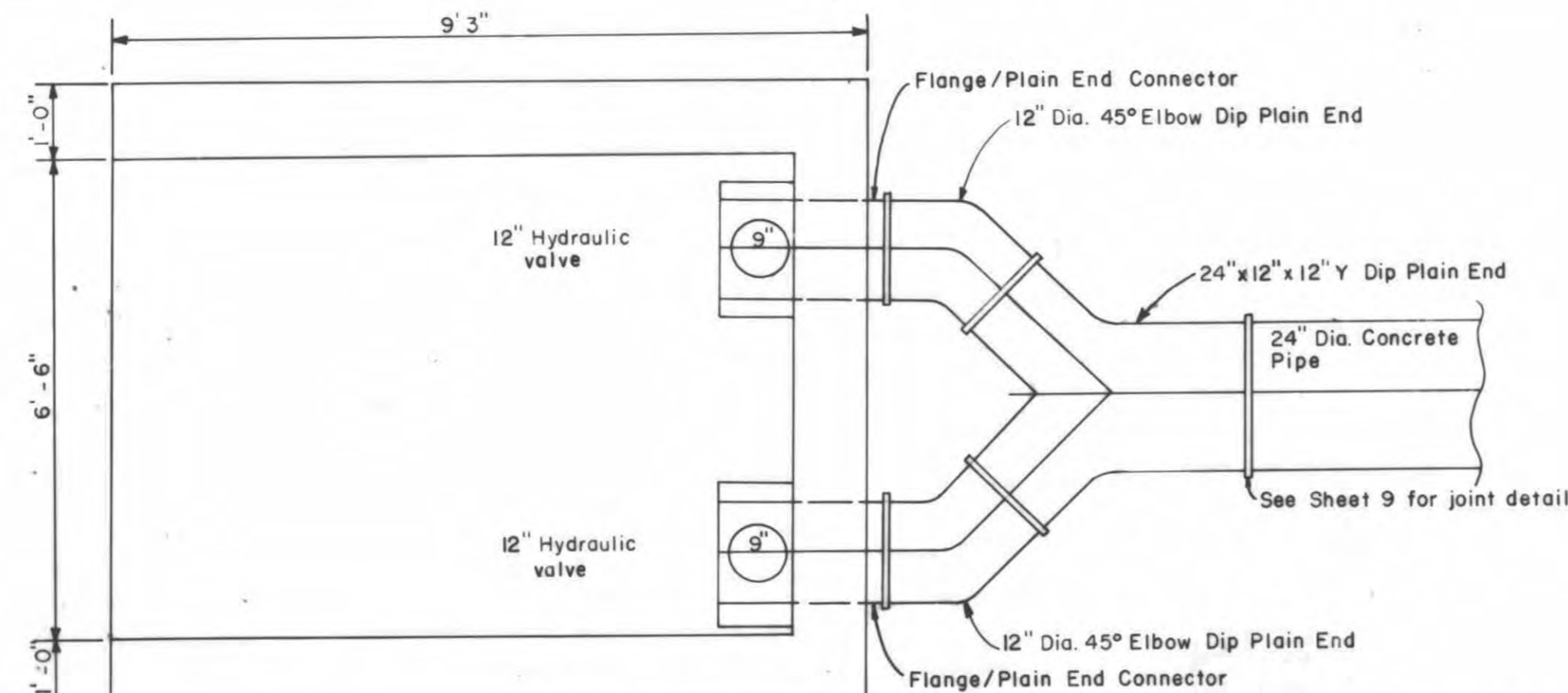
Revised 7/3/78 D.M.L. ADDENDUM #1.

**ARMSTRONG ENGINEERS**  
 ENGINEERING-SURVEYING  
 CONCRETE & SOILS TESTING

As Shown  
 DATE: 6/22/78  
 PROJECT: DAM PROFILE, SPILLWAY, DISCHARGE CURVE, CAPACITY DATA  
 CHECKED BY: BKJ  
 DATE OF SURVEY: DML  
**SHEET 6 of 17** JOB NUMBER 771511



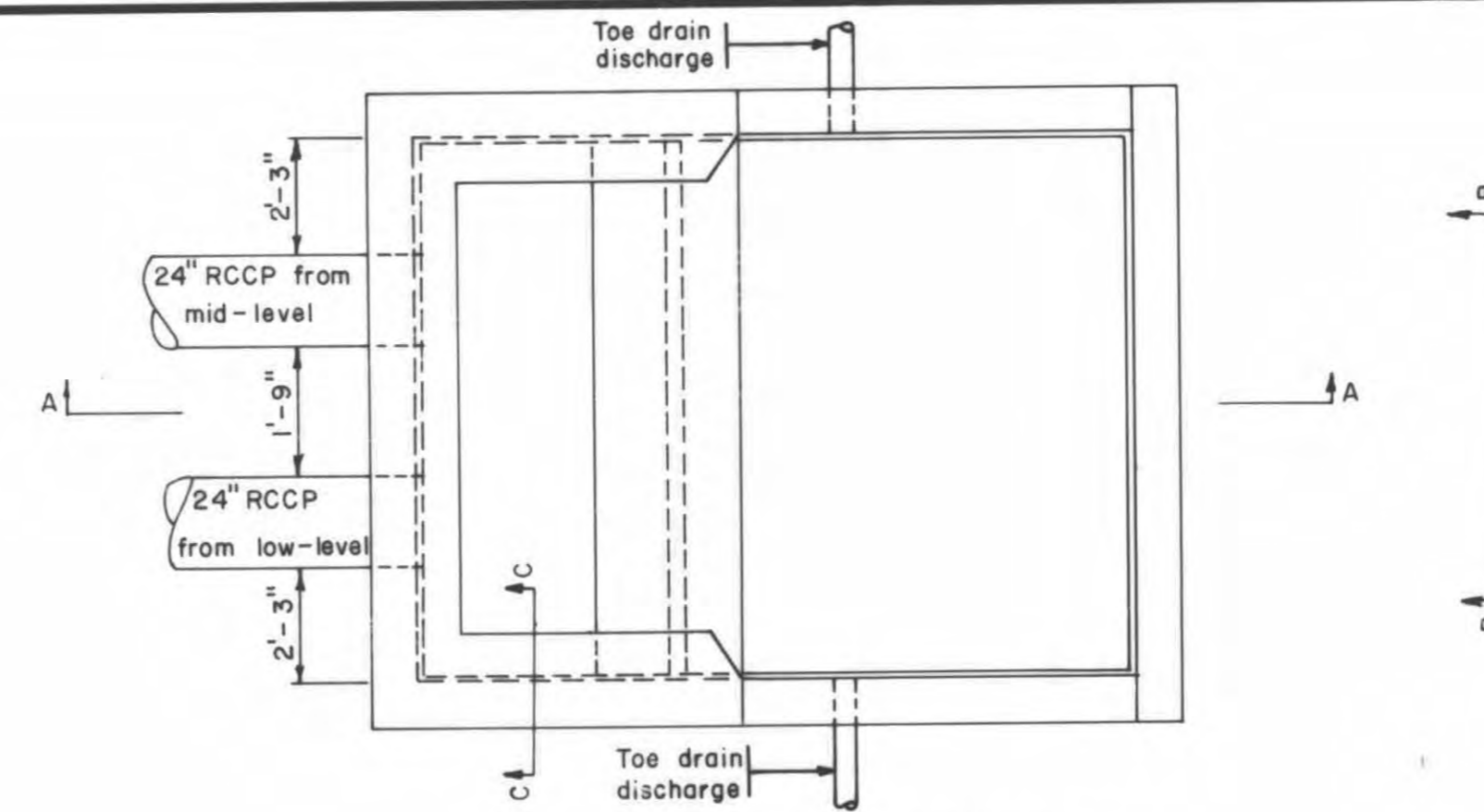
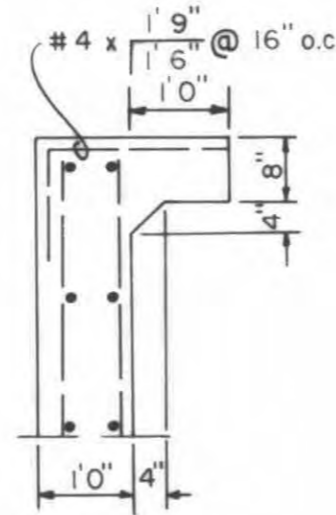
- NOTE:
1. Valves to be supplied by Owner.
  2. Ductile Iron Pipe Joints shall conform to the requirements of AWWA C-111 and AWWA C-600, latest revisions.
  3. Entire Ductile Iron Pipe Assembly shall be encased in unformed concrete mass. Minimum concrete cover shall be 3 inches.



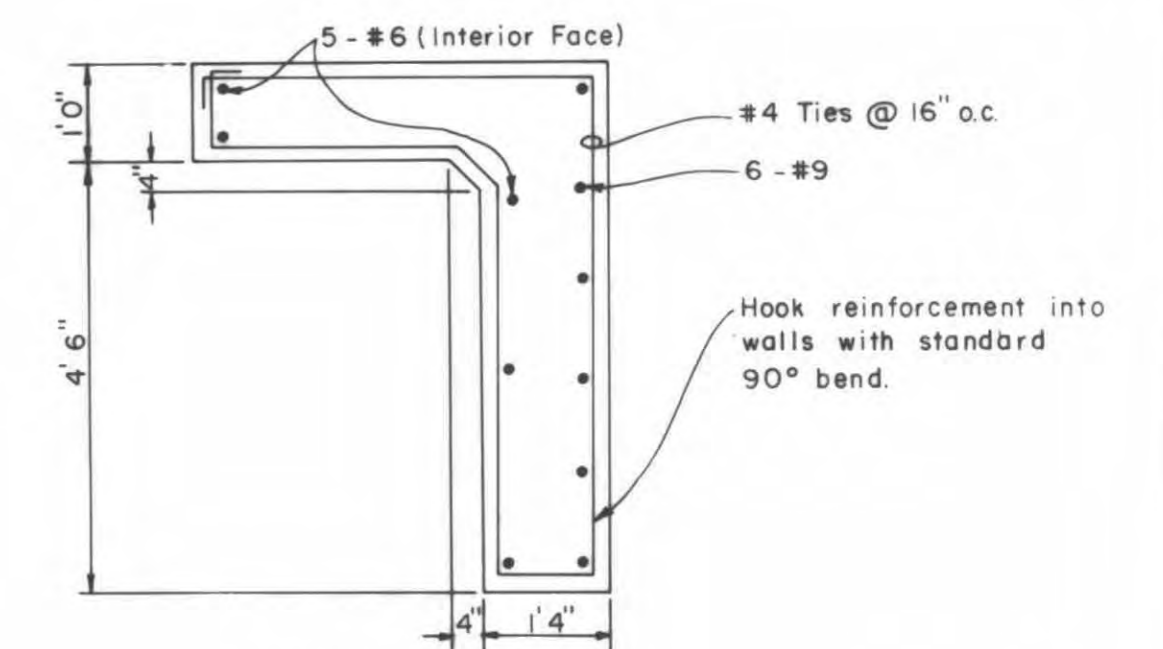
MID LEVEL AND LOW LEVEL  
INTAKE STRUCTURE & PIPING  
(2 Required)

SCALE -- 1/2" = 1'

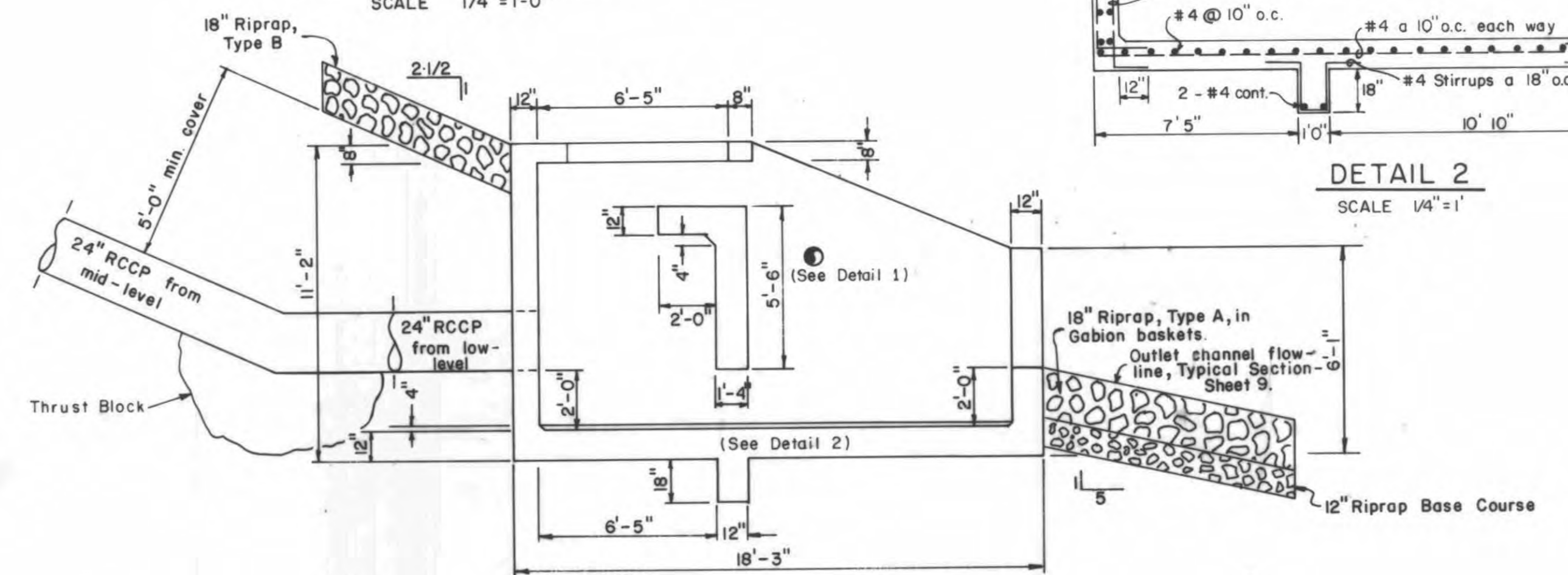
SECTION C-C  
SCALE 1/2" = 1'



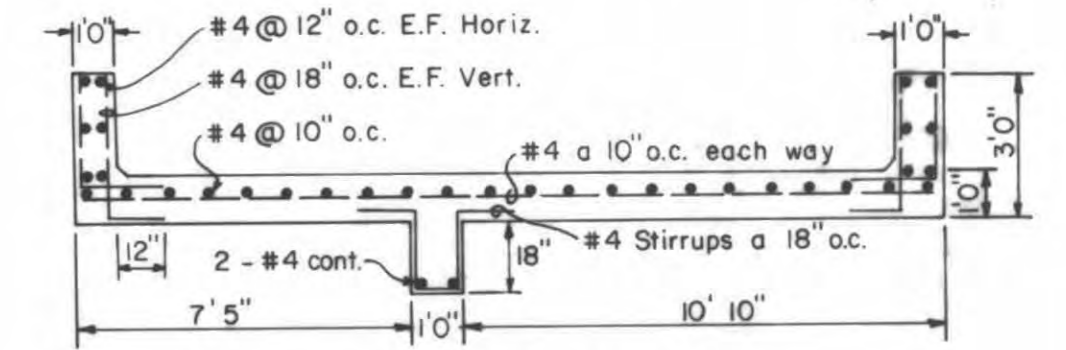
OUTLET STRUCTURE  
SCALE 1/4" = 1'-0"



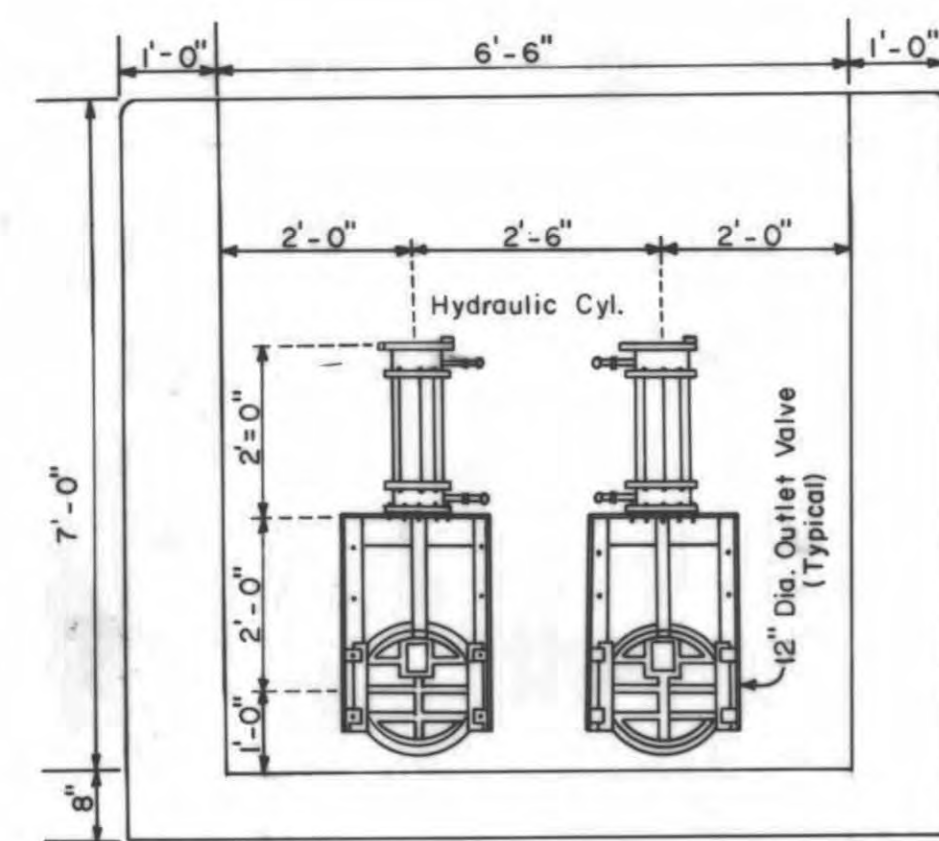
DETAIL 1  
SCALE 1/2" = 1'



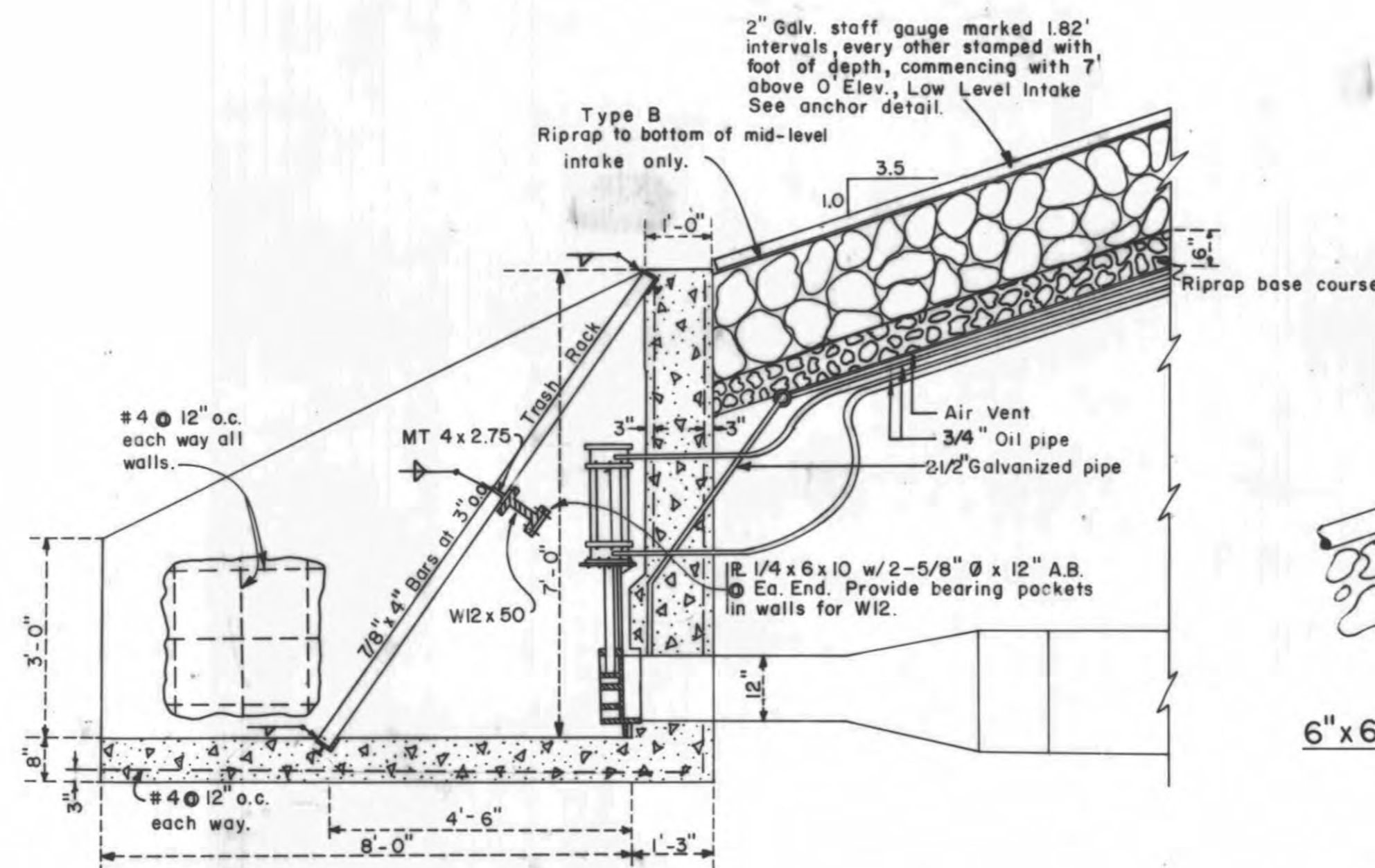
SECTION A-A  
SCALE 1/4" = 1'-0"



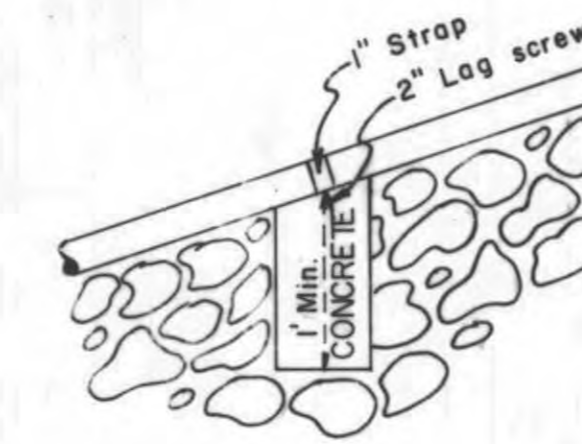
DETAIL 2  
SCALE 1/4" = 1'



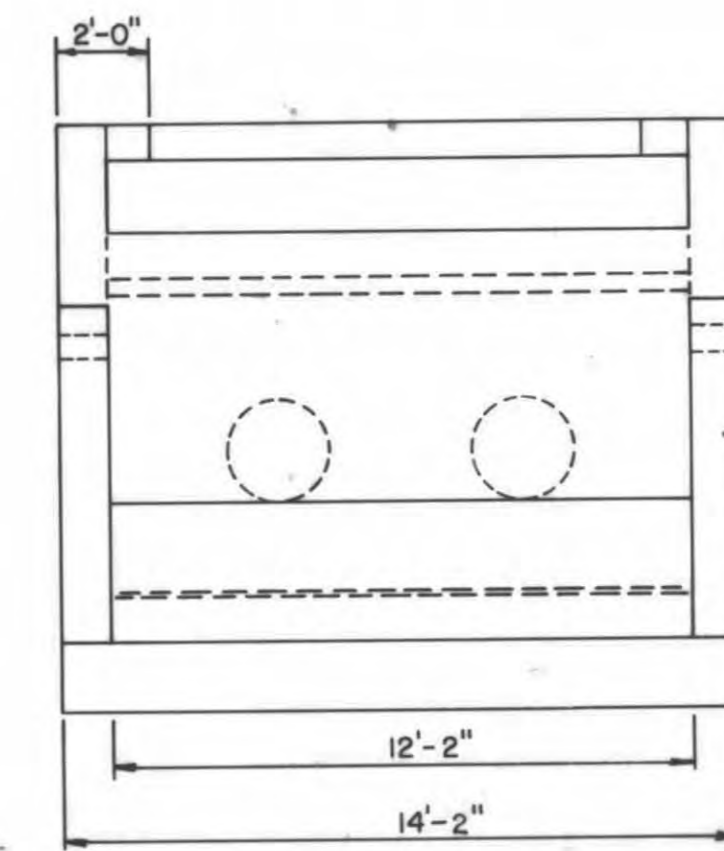
FRONT ELEVATION  
NO SCALE



INTAKE STRUCTURE & PIPING (TYP.)  
SCALE -- 1/2" = 1'



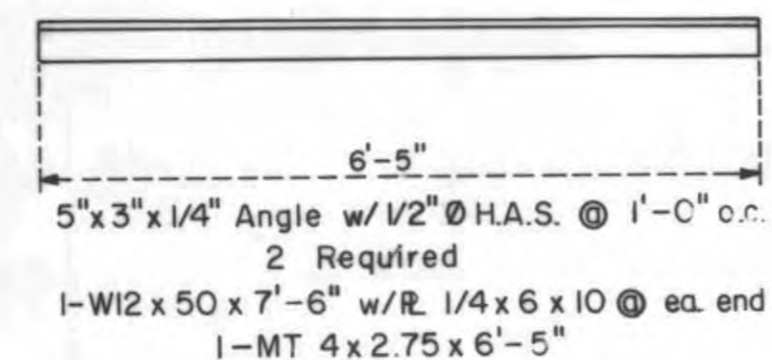
6" x 6" STAFF GAUGE ANCHOR  
(SPACED AT 10' INTERVALS)



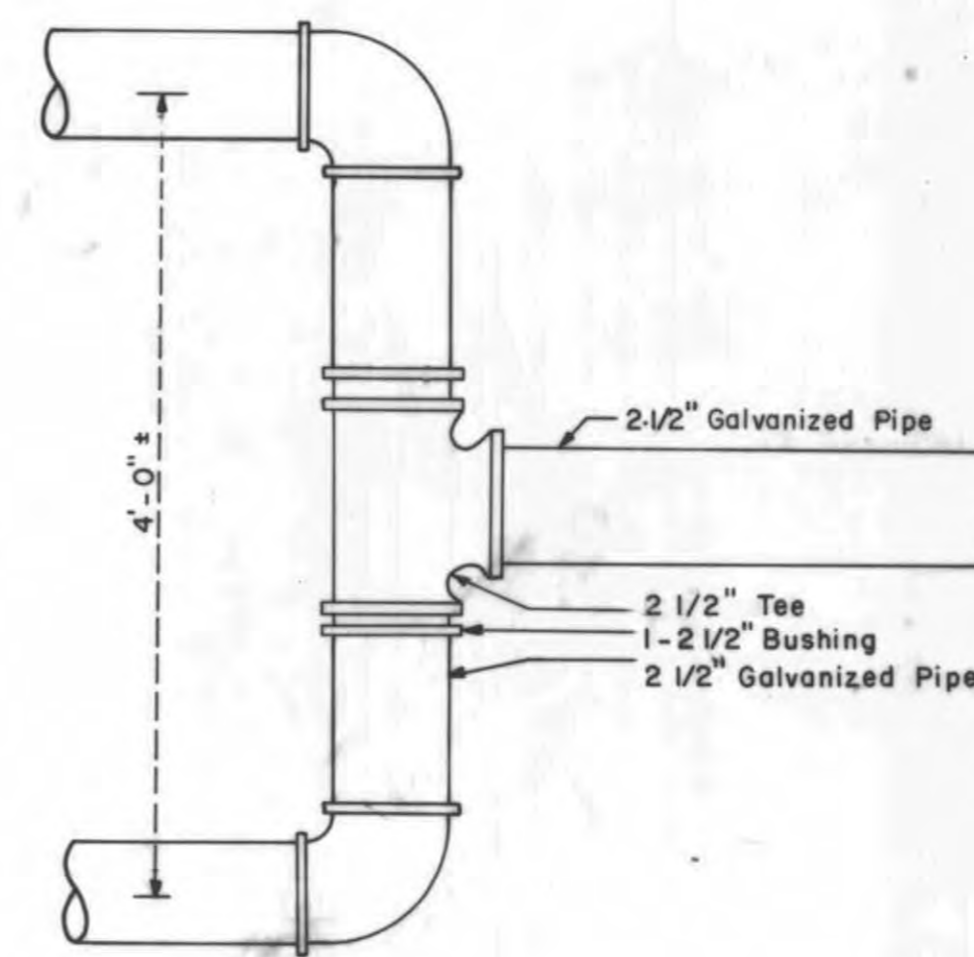
ELEVATION B  
SCALE 1/4" = 1'-0"

NOTE: Toe drains shall discharge into outlet structure.

- INTAKE PIPING NOTES
1. Fittings shall meet all requirements of AWWA C110 and AWWA C111.
  2. Pipe shall meet all requirements of AWWA C106 and AWWA C111.
  3. Payment for intake structure piping shall be considered as incidental to Item 29, Installing Gate Valves and Hydraulic Controls.



TRASH RACK GRATE  
(4 Required)  
NO SCALE



DETAIL OF AIR VENT CONNECTION  
AT VALVE STRUCTURE  
(2 Required)  
NO SCALE

C-661 A

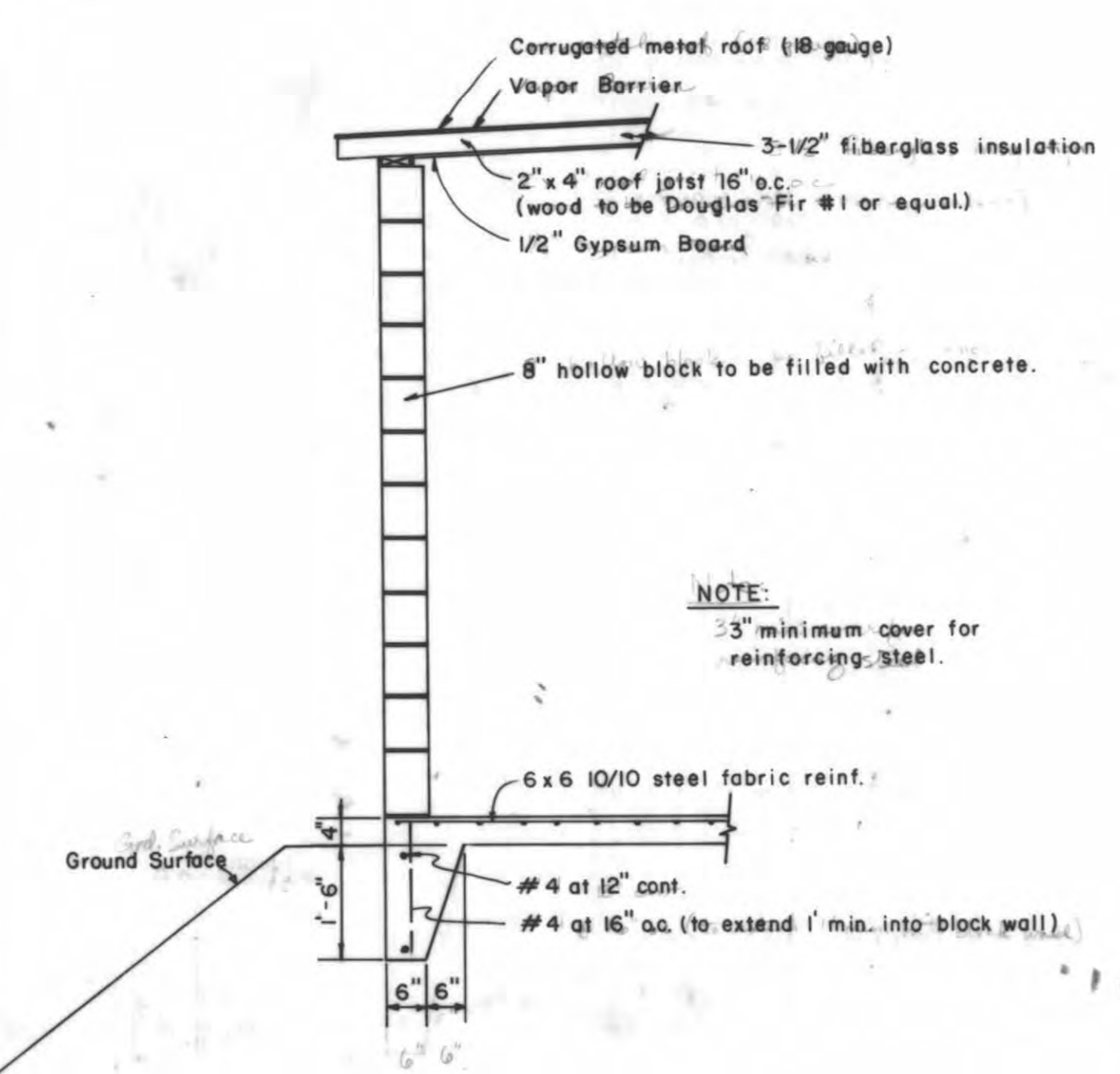
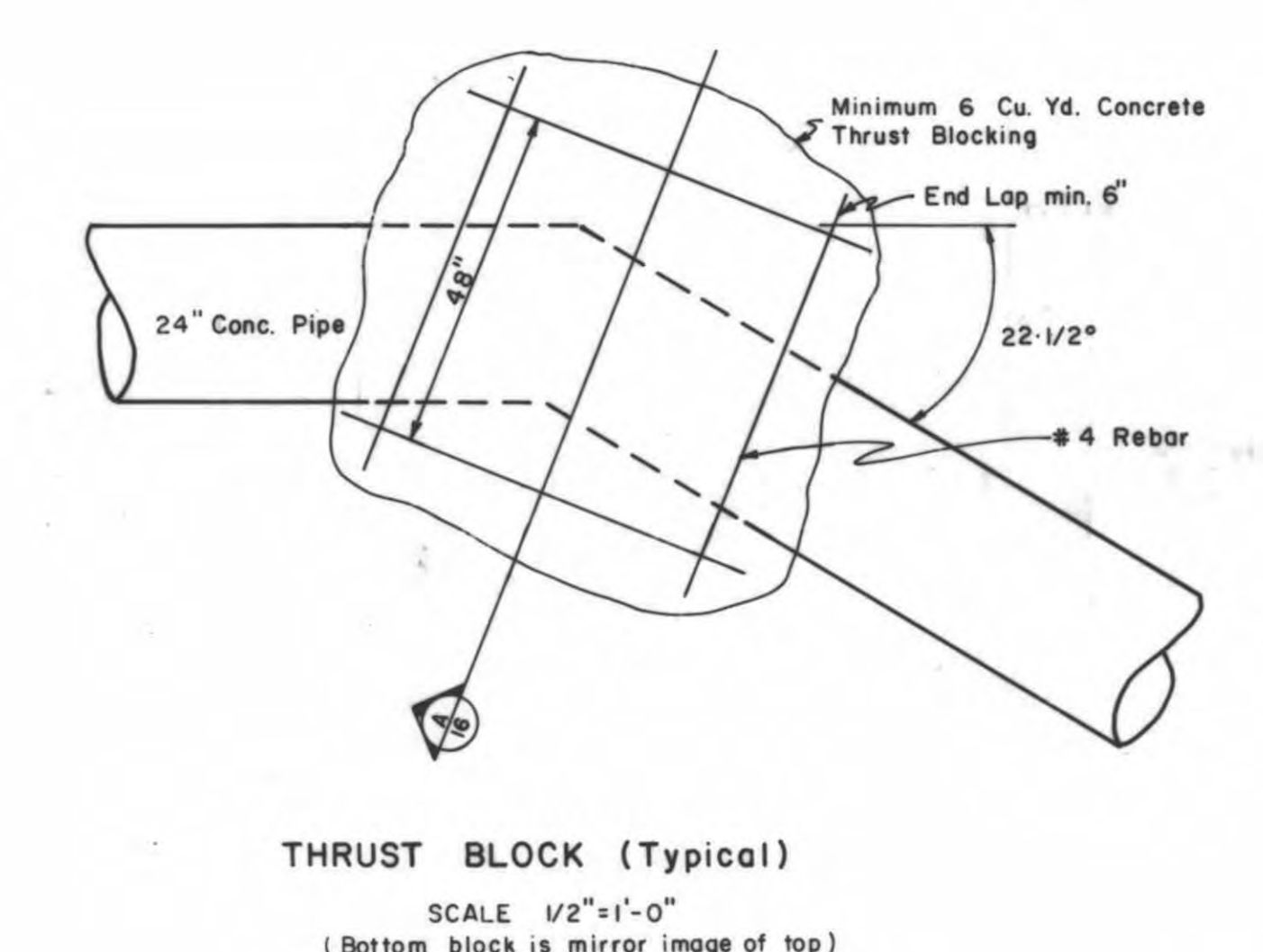
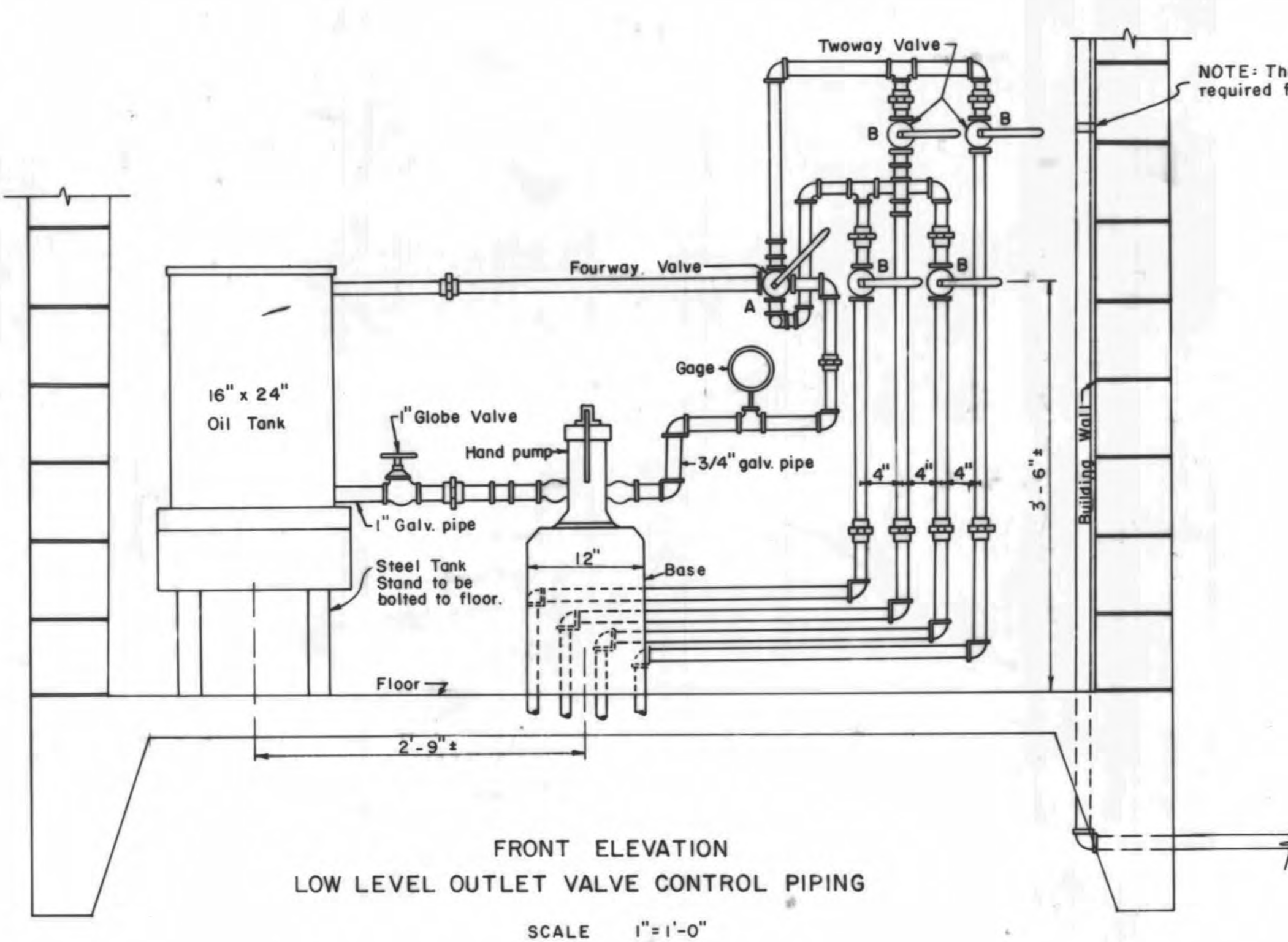
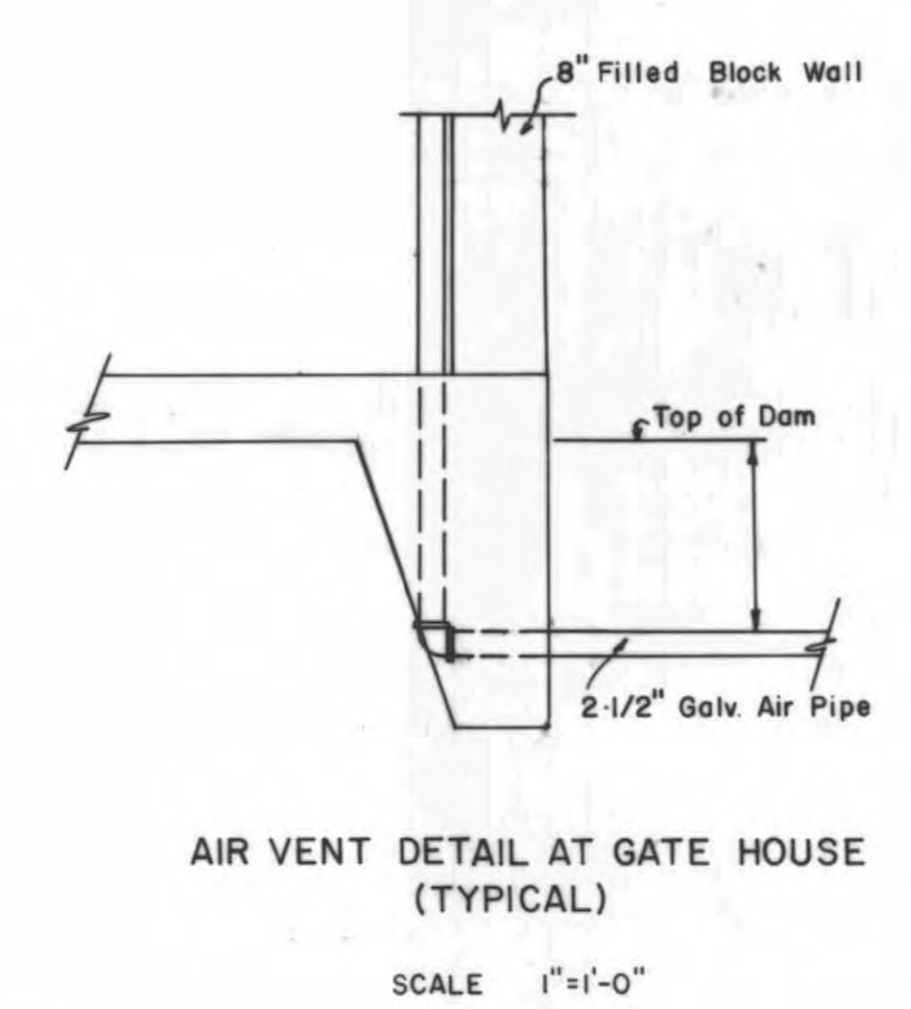
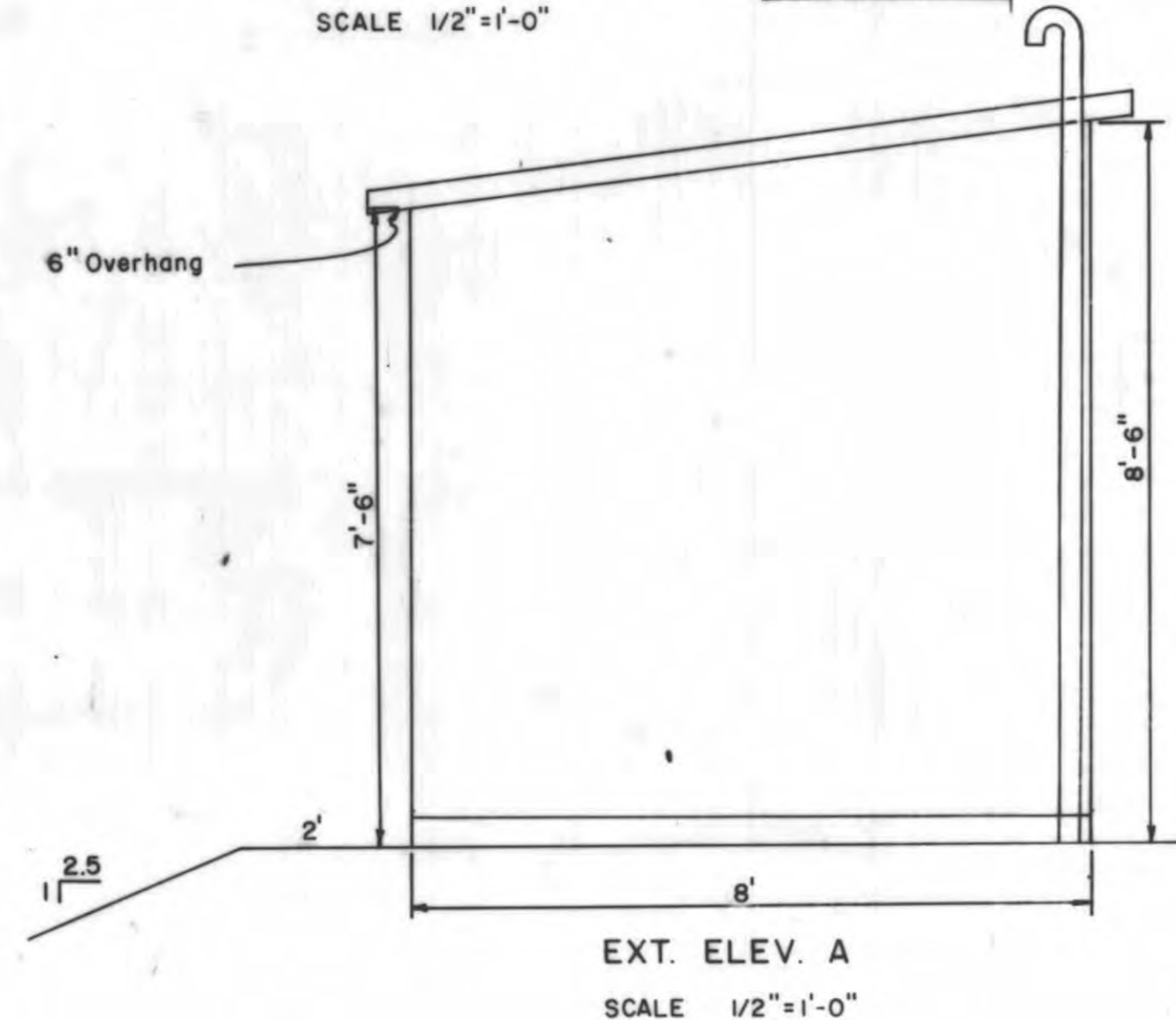
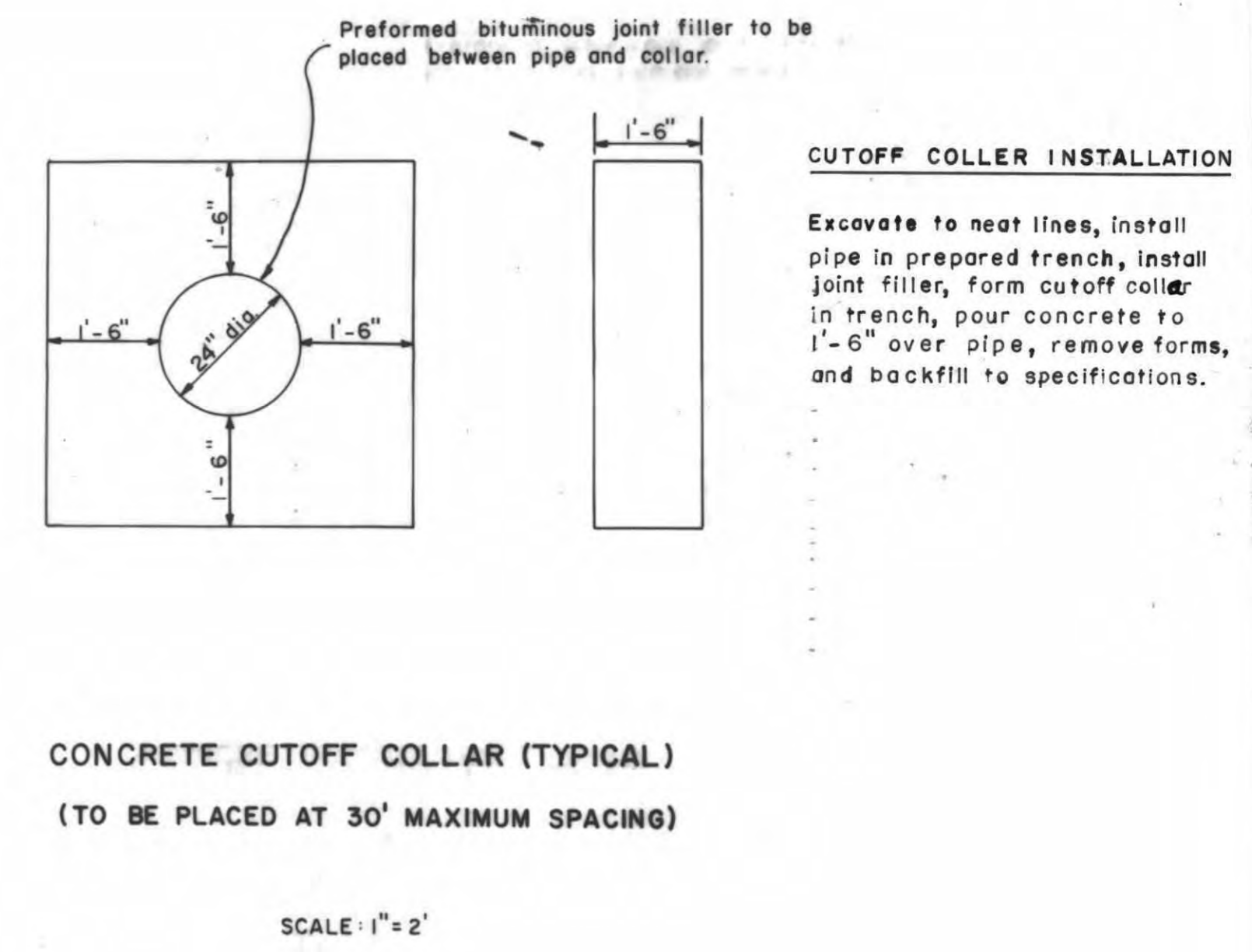
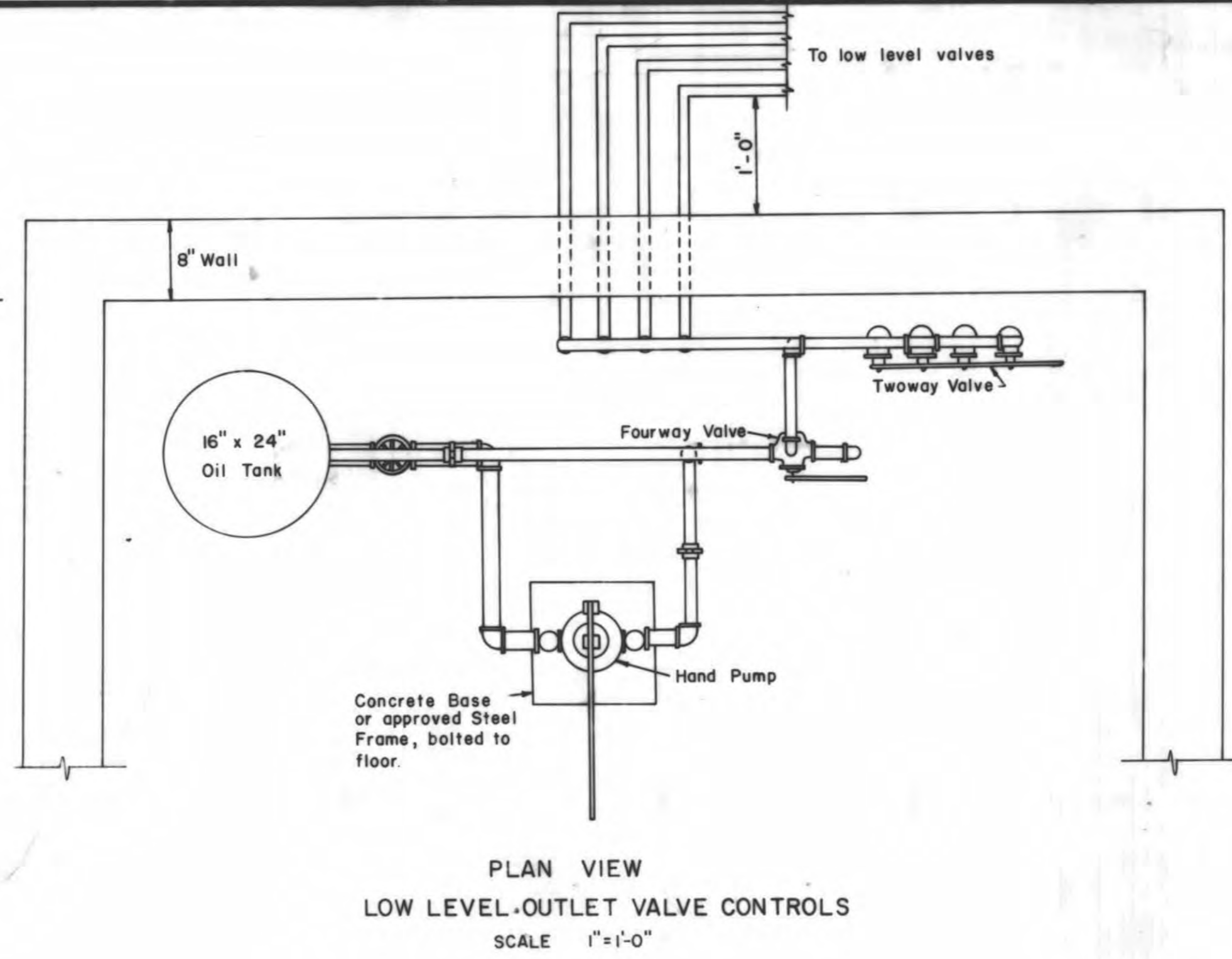
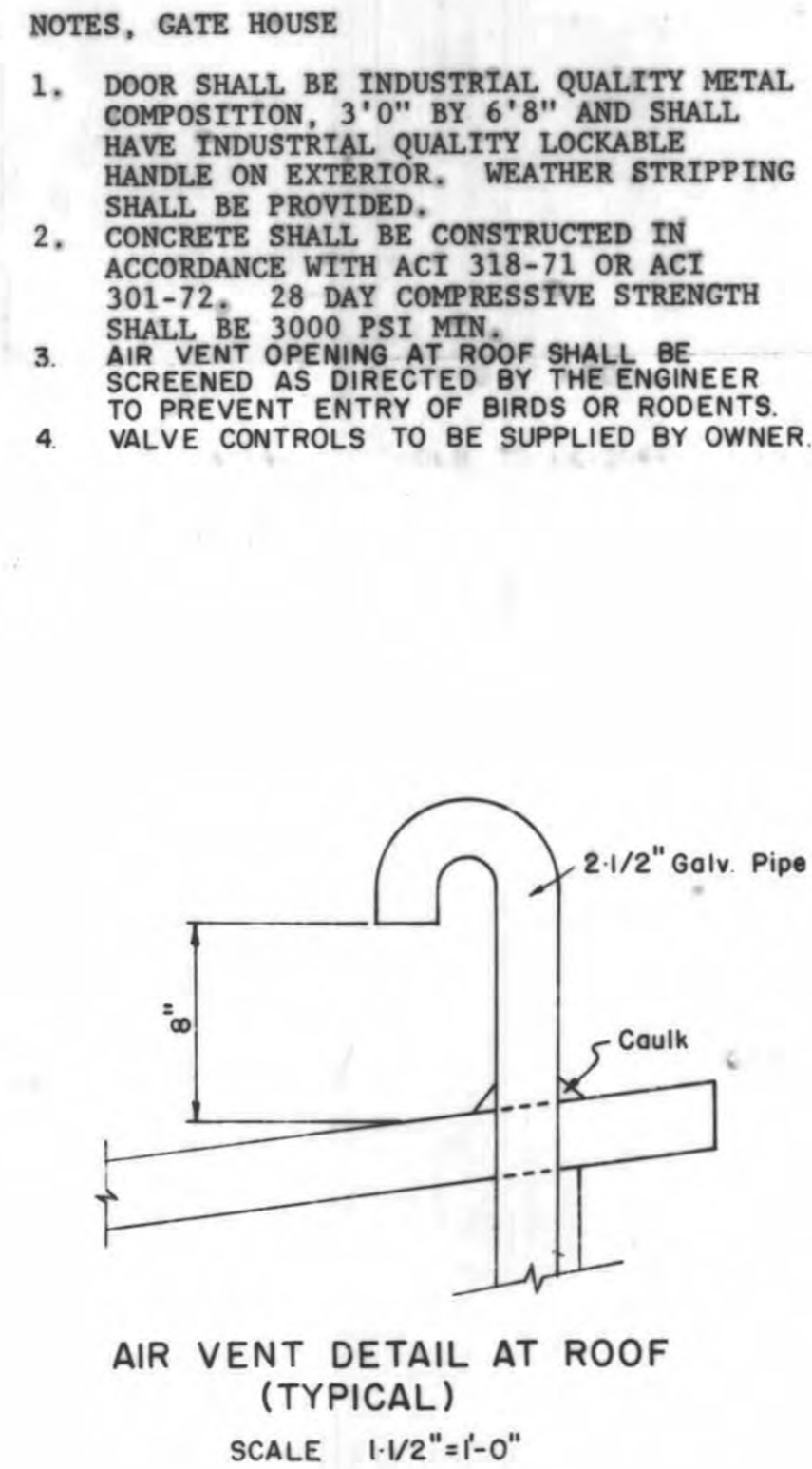
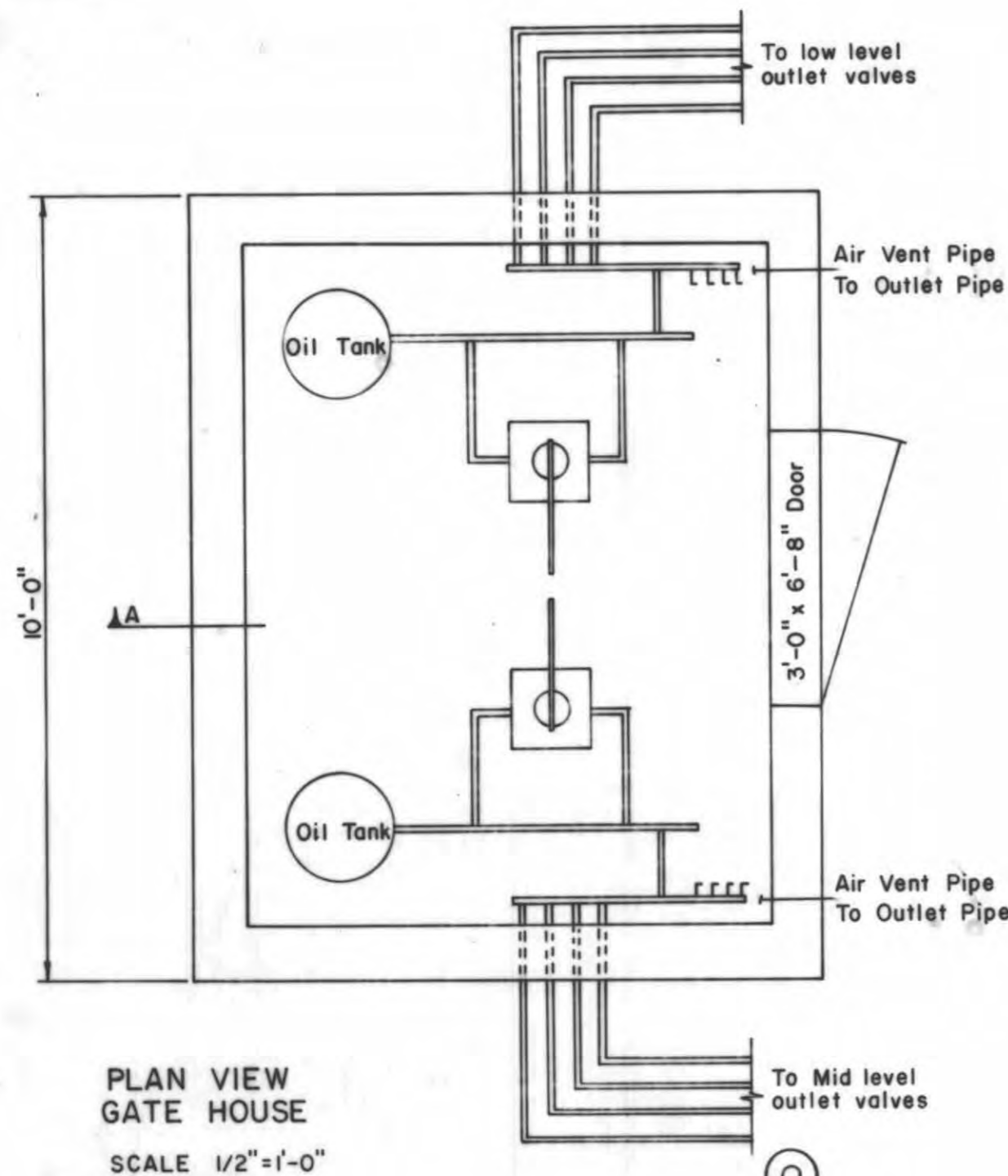
Revised 7/19/78 D.M.L. ADDENDUMS #1, #4.

**ARMSTRONG ENGINEERS**  
ENGINEERING - SURVEYING  
CONCRETE & SOILS TESTING

As Noted  
DATE 4/29/78  
DRAWN BY P.K.J.  
CHECKED BY D.M.L.  
DATE 7/27/78  
JAN 1978

**JUNIATA RESERVOIR**  
VALVE DETAILS  
OUTLET DETAILS

SHEET 7 of 17  
JOB NUMBER 771511



- INSTRUCTIONS FOR OPERATING GATE VALVES**
- All valves are to be kept closed when gate valves are not to be moved. Fourway Valve (A) and Twoway Valves (B) are closed when handles are horizontal.
  - To raise a gate valve move handle of fourway valve (A) to extreme upper position. To close gate valve move handle to extreme lower position.
  - Open both twoway valves (B) of gate valve to be moved, valve is open when handle is parallel to pipe.
  - Operate hand pump until desired position of gate valve is obtained then close all valves.
  - The oil tank should be kept between 2/3 and 3/4 full of oil.
  - Valves should be exercised periodically to insure operability.
  - Air vent must be unobstructed when operating valves.
  - Valves must be operated in fully opened or fully closed positions, only.

**NOTE:**  
Thrust Blocking shall be installed after conduit has been constructed and backfilled to springline in accordance with the detailed specifications. Thrust Blocking at bottom bend shall be poured upon compacted fill simultaneously with conduit construction.  
All reinforcing steel to be covered by 3" min. thickness P.C.C.  
All concrete shall be constructed in accordance with A.C.I. 318-71 and A.C.I. 301-72. Min. strength at 28 days shall be 3000 psi.

Revised 7/3/78 D.M.L. ADDENDUM #1

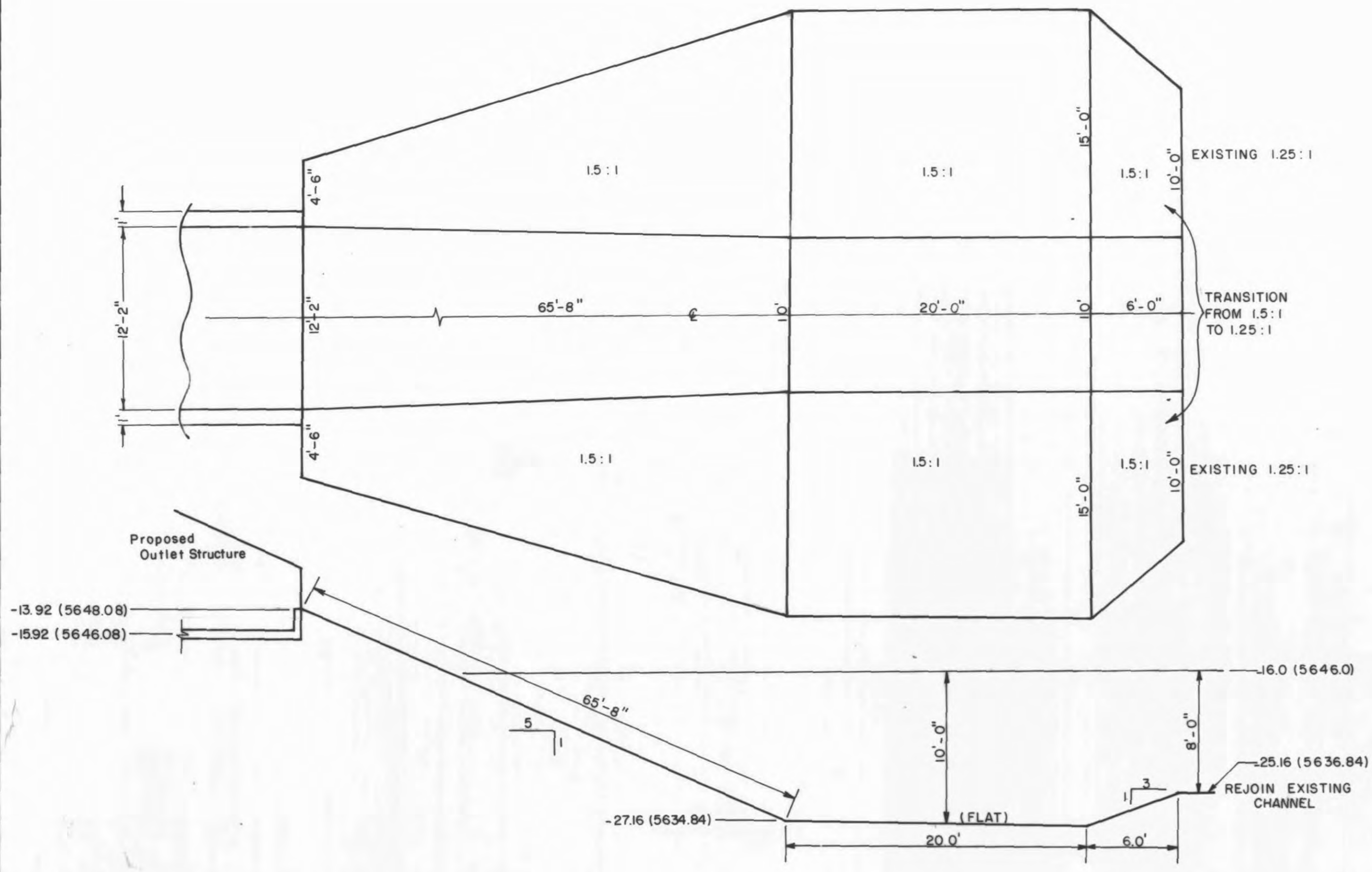
**ARMSTRONG ENGINEERS**  
ENGINEERING - SURVEYING  
CONCRETE & SOILS TESTING

JUNIATA RESERVOIR  
OPERATING MECHANISM DETAILS

DATE 4/19/78  
CHECKED BY K.L.F.  
DATE OF DRAWING N.R.

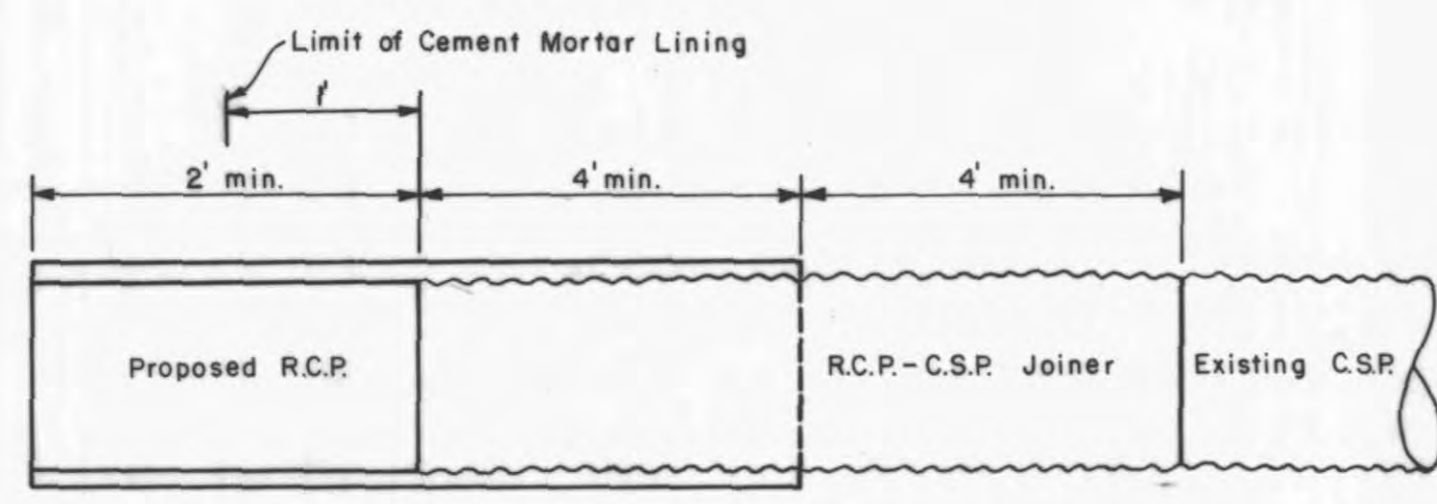
SHEET 8 of 17  
JOB NUMBER 771511

C-661 A



**OUTLET CHANNEL STILLING BASIN**  
SCALE: 1" = 6'

**NOTE:**  
OUTLET CHANNEL AND STILLING BASIN TO BE SURFACED WITH 18" RIPRAP TYPE A, GABION, PLACED OVER 12" RIPRAP BASE COURSE.

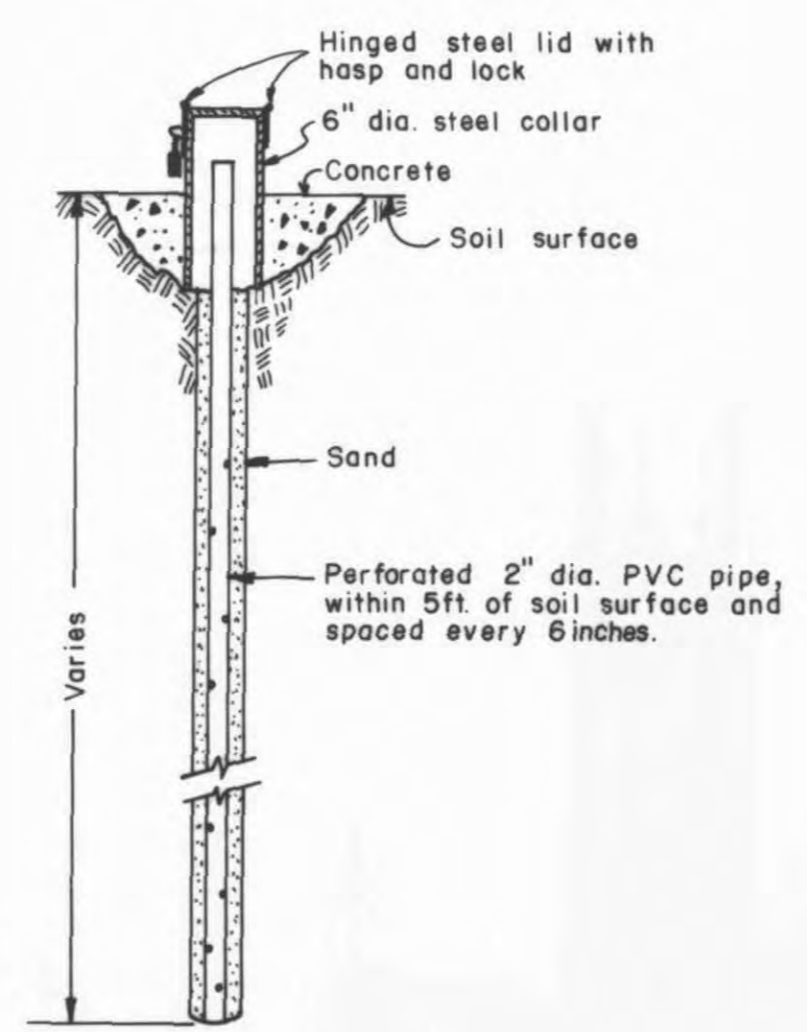
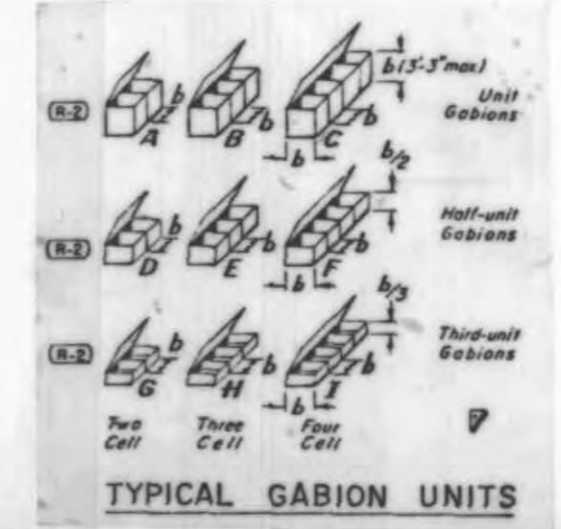
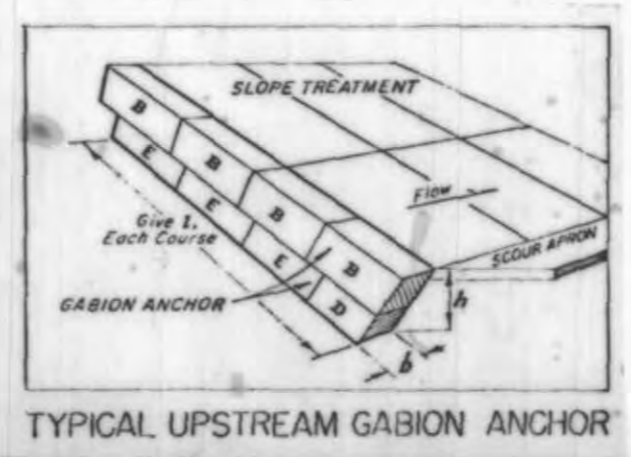
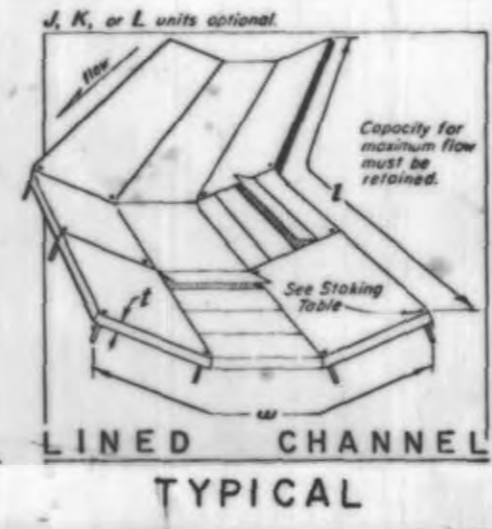
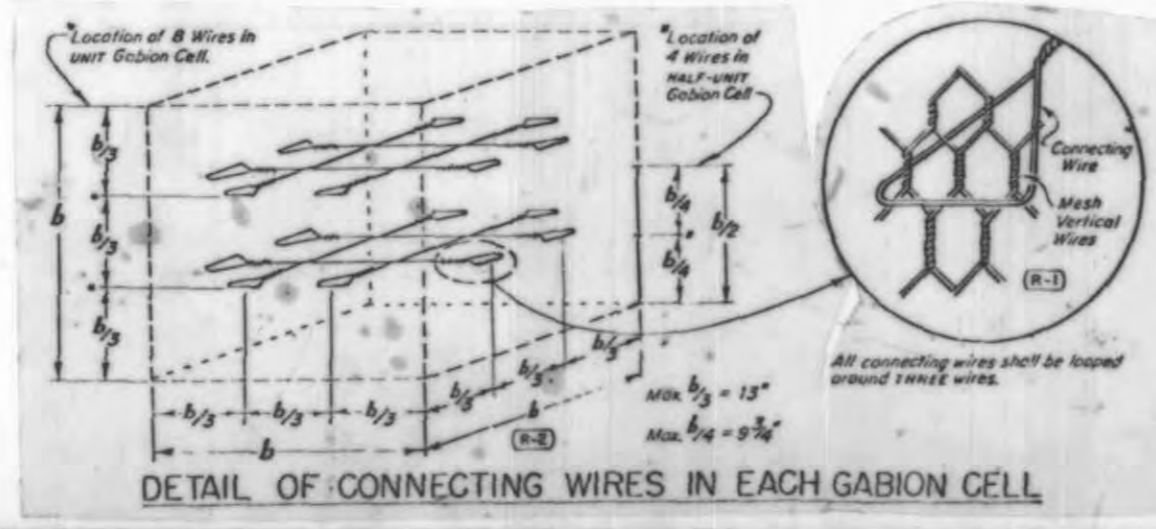


**RCP-CSP JOINER DETAIL**  
(NO SCALE)

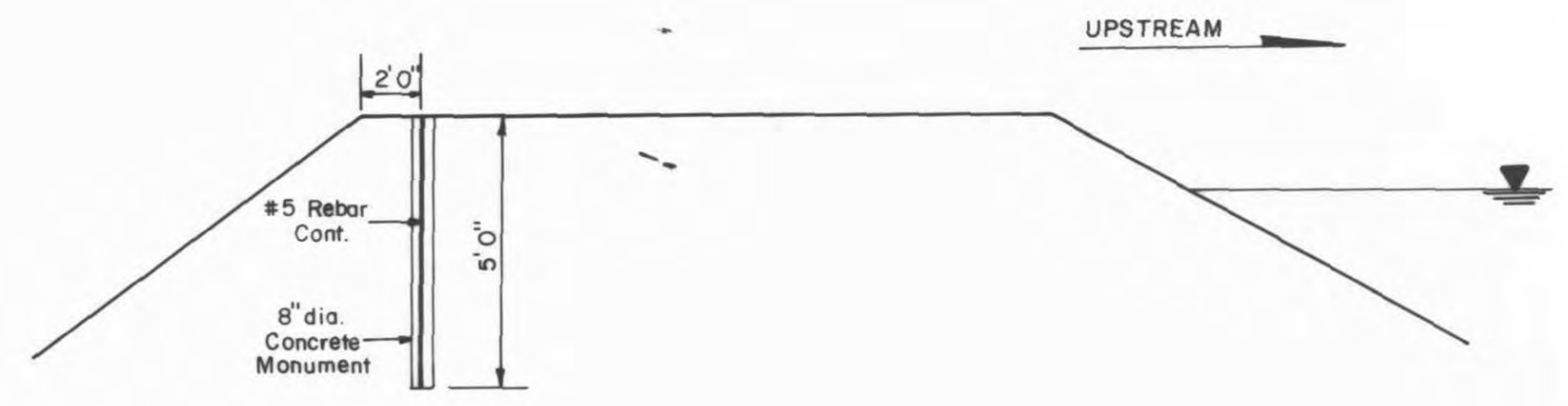
**LEGEND**  
b = Gabion Cell Dimension  
t = 18" Thickness  
w = Width, as detailed  
l = Length, as detailed

**GABION NOTES:**

- Slope Mattresses may be substituted for Gabion Baskets if approved by the Engineer. The Contractor shall submit material and construction details for approval.
- Stakes shall be placed at connection points of units when possible. Stakes shall be straight and shall not be wired to the basket. Minimum stake penetration shall be three (3) feet. Stakes shall be installed at ten (10) feet o.c. spacing.
- Slope Mattress or Gabion Cell thickness shall be eighteen (18) inches constructed over twelve (12) inches minimum thickness riprap base course.

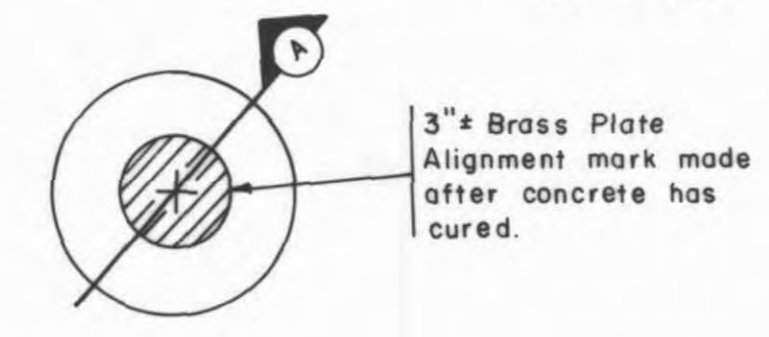


**OPEN WELL PIEZOMETER SECTION-TYP**  
NO SCALE

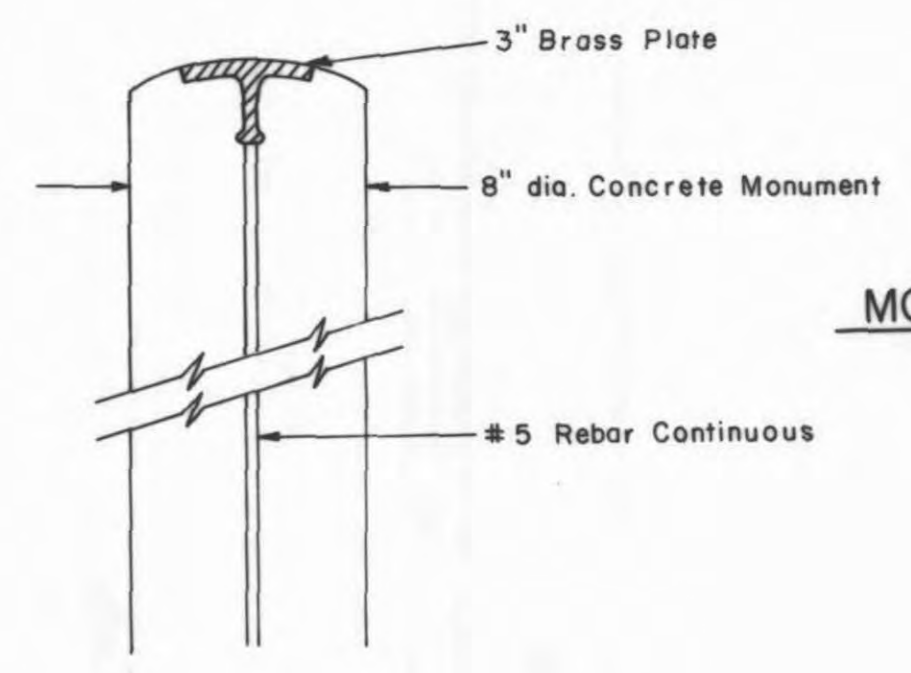


**MOVEMENT MONUMENT-TYP**

9 Required - See Sheet 2 for locations  
NO SCALE



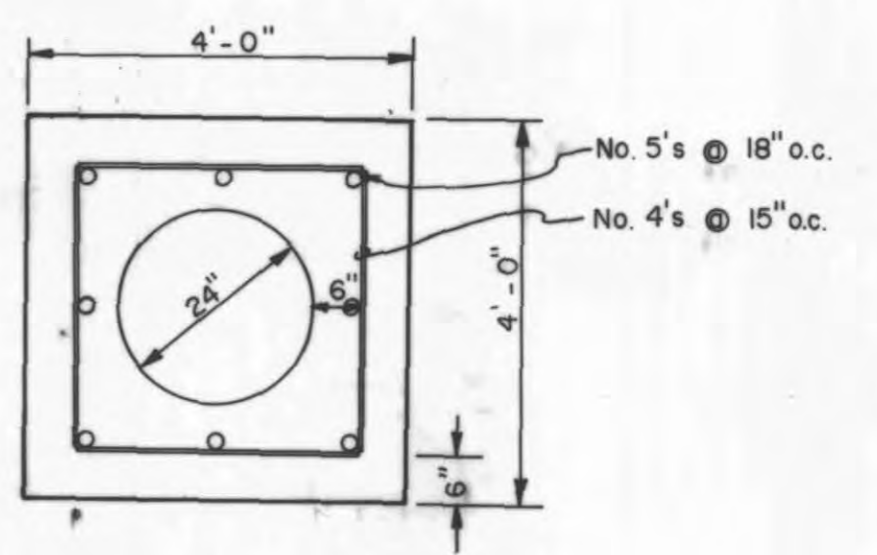
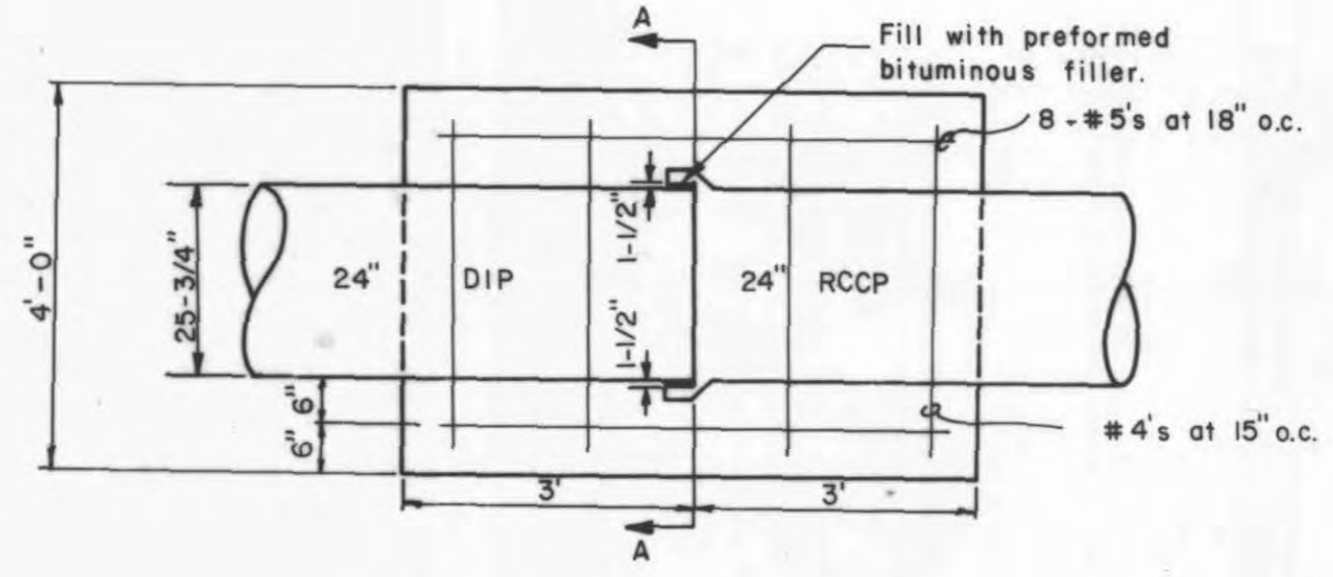
**MOVEMENT MONUMENT-PLAN**  
NO SCALE



**MOVEMENT MONUMENT-PROFILE SECTION 'A'**  
NO SCALE

**NOTES:**

- If add-alternate, Cement Mortar Lining is elected, the following notes shall apply:
- Prior to mortar lining operations, the Contractor shall inspect the existing CSP in order to locate holes in the CSP and voids under and around the CSP which have been caused by deterioration of the CSP. The Contractor shall fill all existing voids under and around bottom of CSP with cement mortar. This shall include a cement mortar fill in bottom of CSP as necessary to fill voids and provide support to bottom of CSP.
- The Contractor shall take adequate steps to handle any run-off, due to rain storms or any other reason, during the curing period.
- Unless otherwise specified, all incidental work and materials required in connection with providing access to the pipe, shall be considered as included in the contract price paid per linear foot for pipe lining (cement mortar) and no additional compensation will be allowed.



**RCP-DIP JOINT DETAIL**  
SCALE: 1" = 2'

REVISED 7/19/78-DML. ADDENDUM #1. **C-661A**

**ARMSTRONG ENGINEERS**  
ENGINEERING-SURVEYING  
CONCRETE & SOILS TESTING

As Shown  
DATE: May 9, 1978  
DRAWN BY: BKJ  
CHECKED BY: DML  
DATE OF SURVEY: \_\_\_\_\_

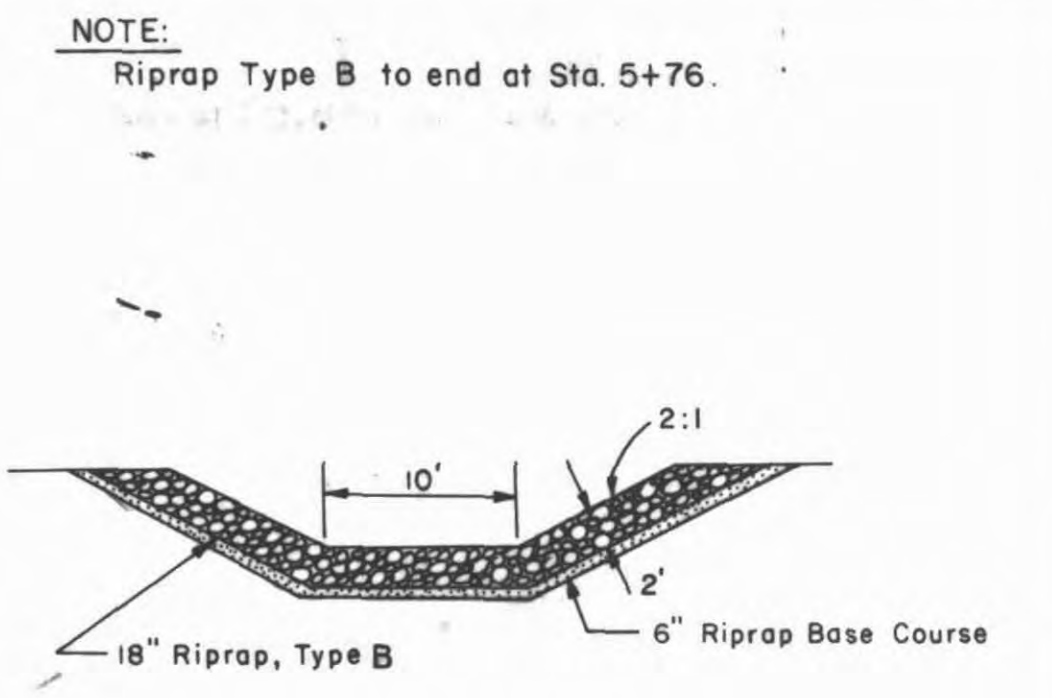
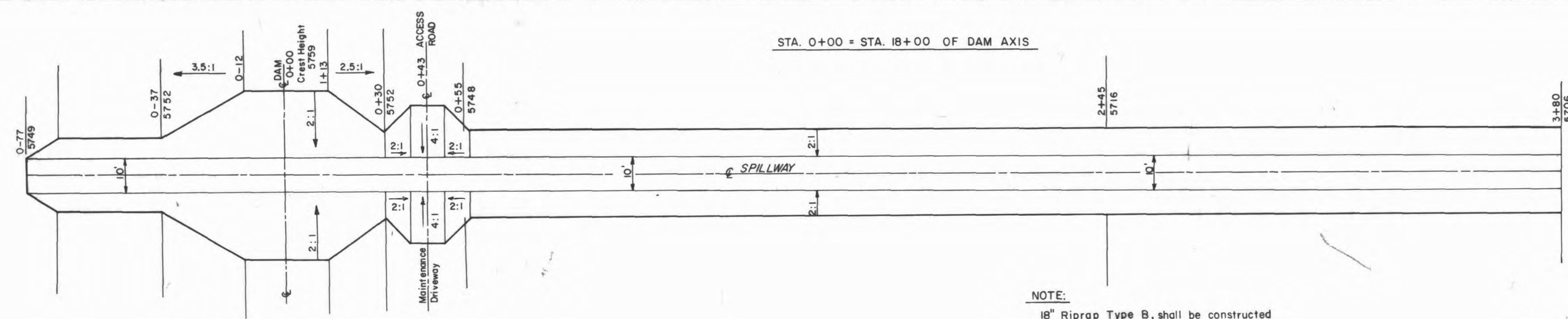
**STILLING BASIN AND ASSORTED DETAILS**

**SHEET 9 of 17** JOB NUMBER 771511

DATE  
BY  
SURVEYOR  
NOTE BOOK  
No.

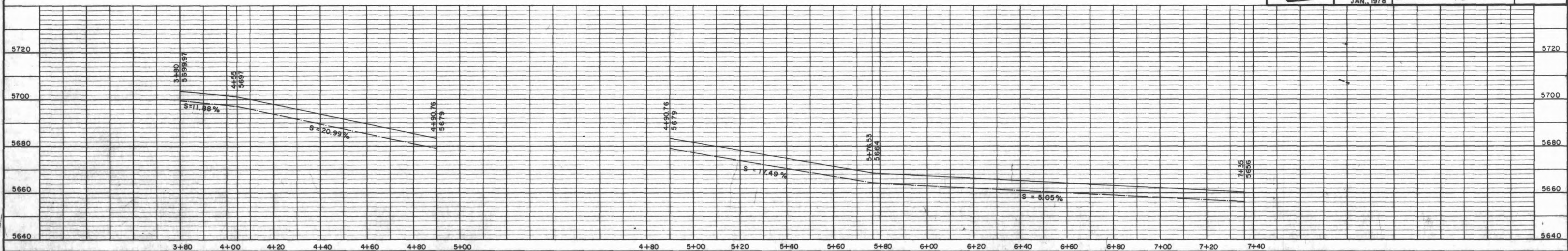
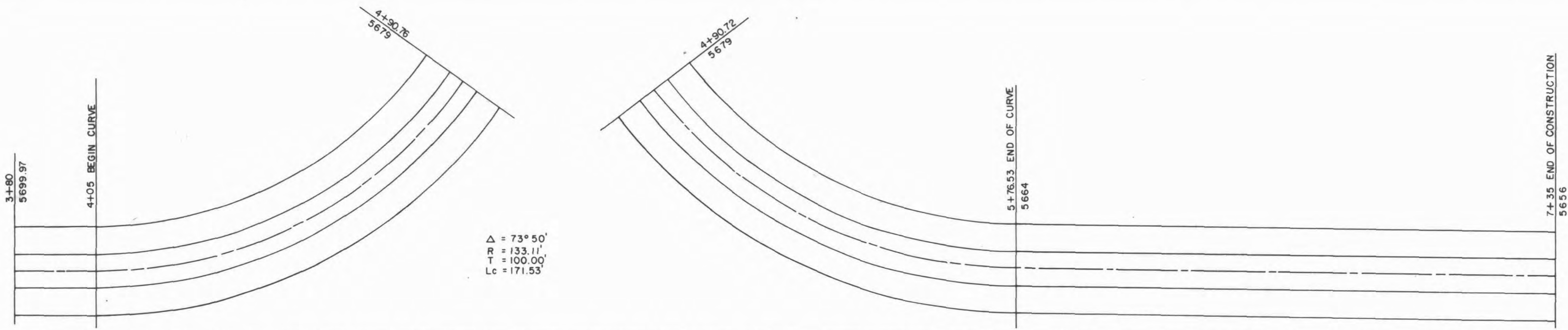
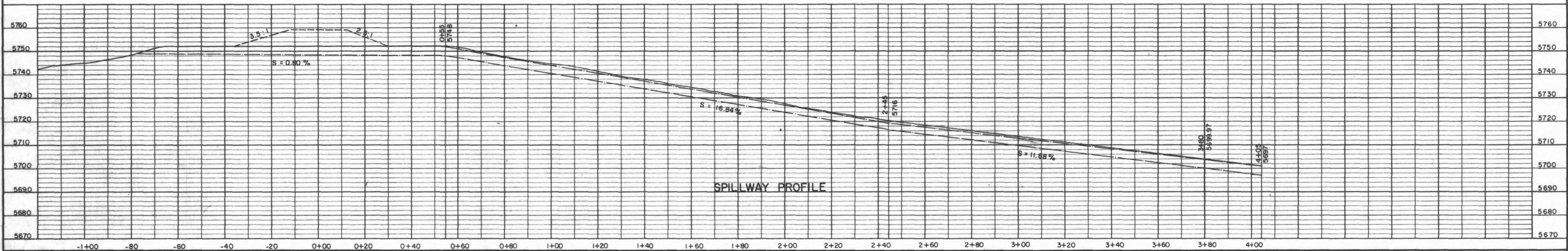
DATE  
BY  
SURVEYOR  
NOTE BOOK  
No.

STA. 0+00 = STA. 18+00 OF DAM AXIS



NOTE:  
18" Riprap Type B, shall be constructed over 6" Riprap Base Course.

SCALE → 1" = 20'



ADDENDUM # 1  
Revised 7/3/78-DML

**ARMSTRONG ENGINEERS**  
ENGINEERING - SURVEYING  
CONCRETE & SOILS TESTING

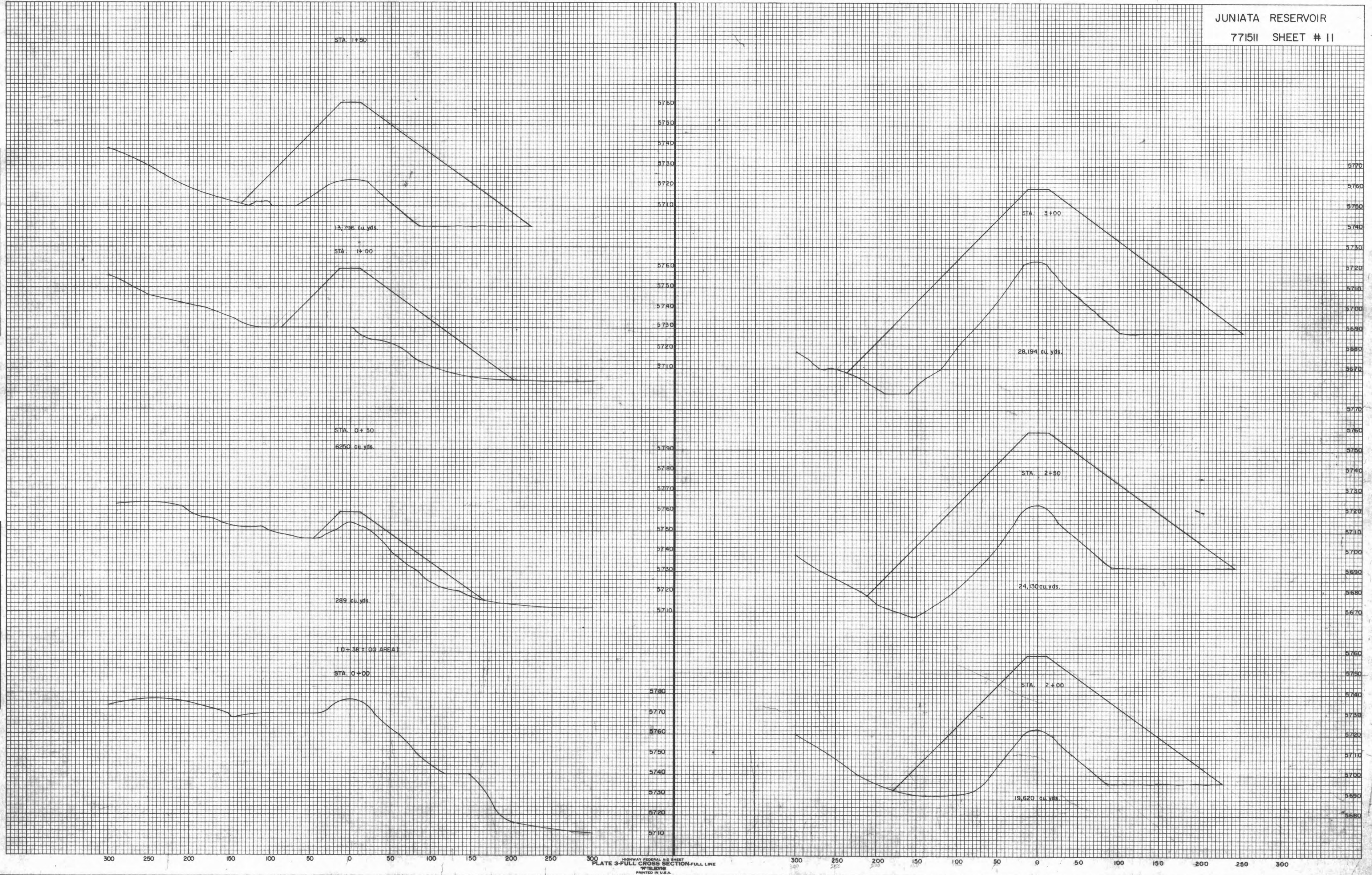
JUNIATA RESERVOIR  
SPILLWAY PLAN - PROFILE

CHECKED BY: DML  
DATE OF SURVEY: JAN., 1978

SHEET 10 of 17  
JOB NUMBER: 771511

FINAL SURVEY  
BY \_\_\_\_\_ DATE \_\_\_\_\_  
SURVEYED \_\_\_\_\_  
NOTED \_\_\_\_\_  
NO. \_\_\_\_\_

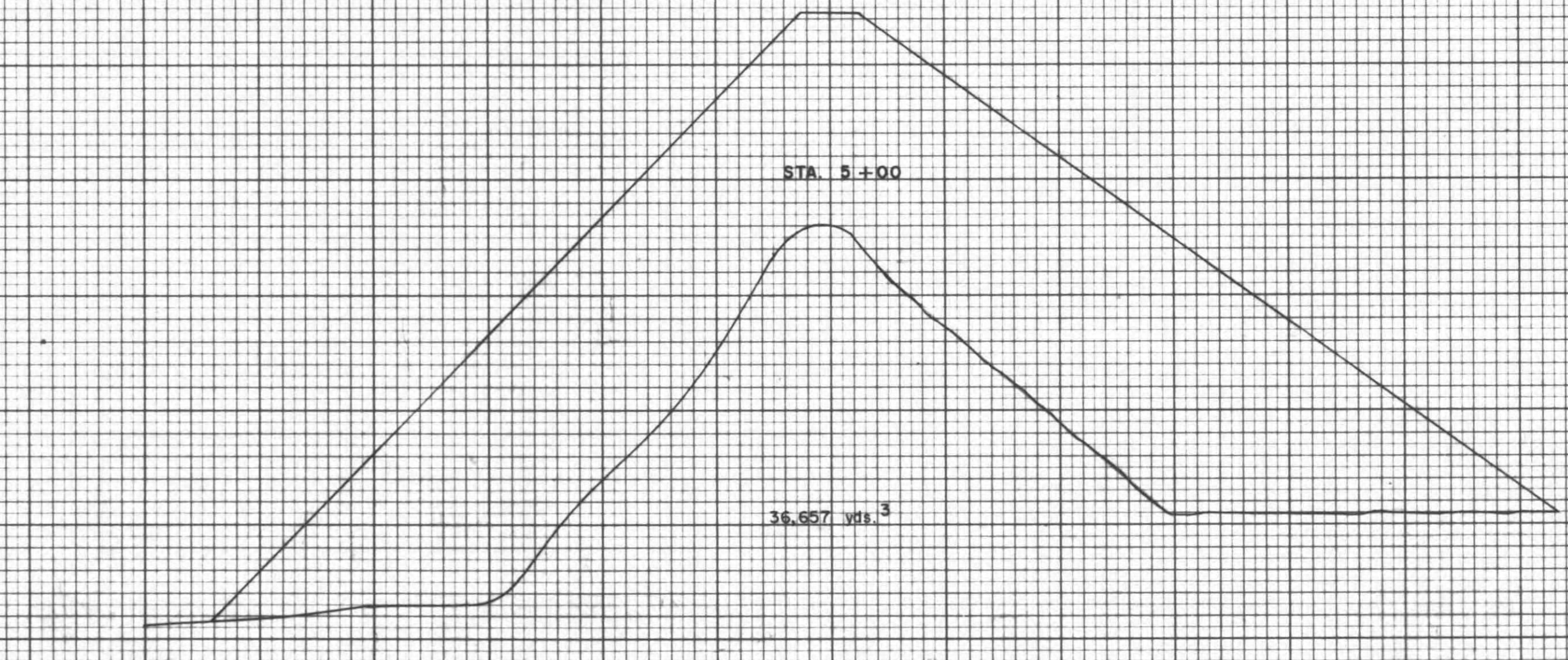
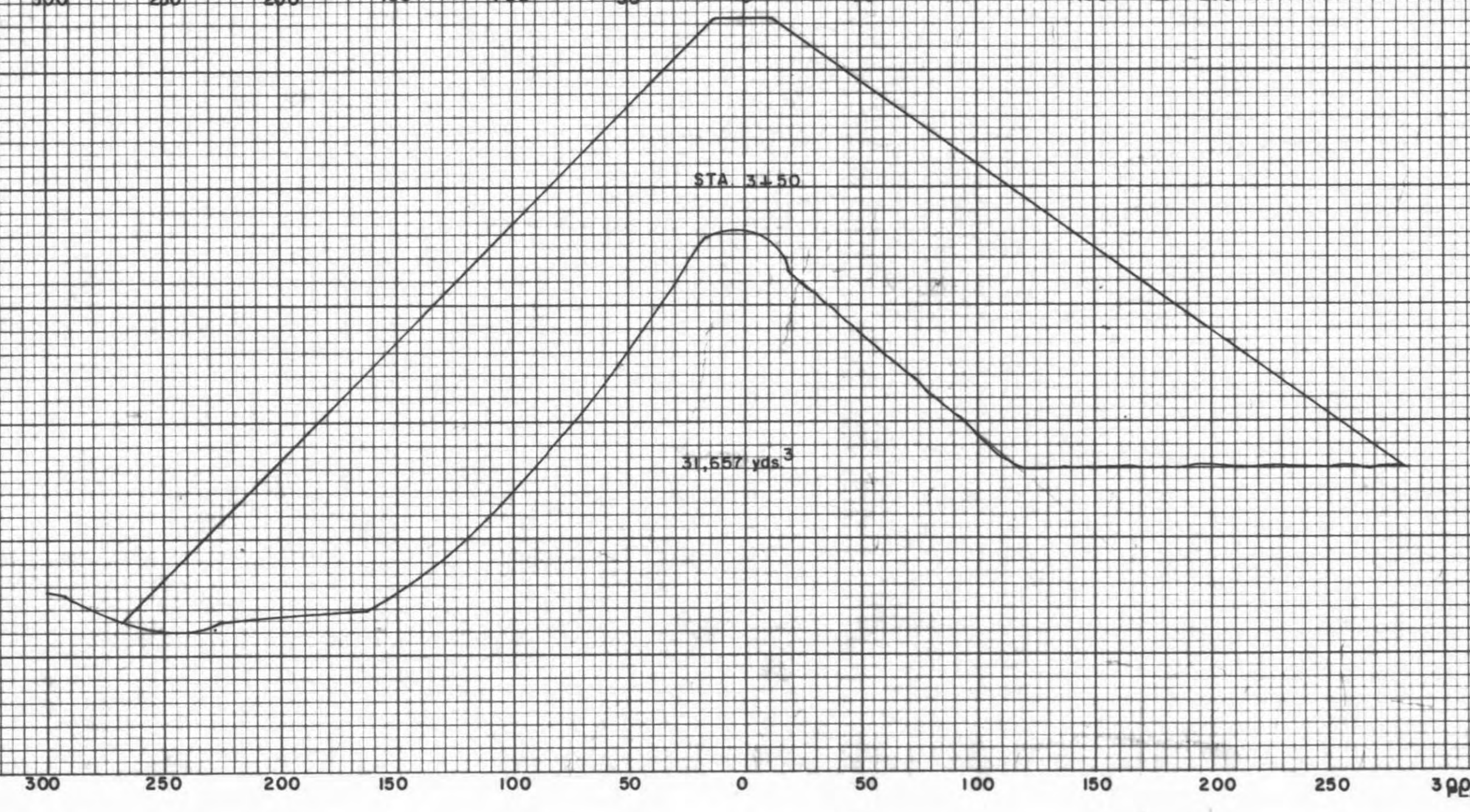
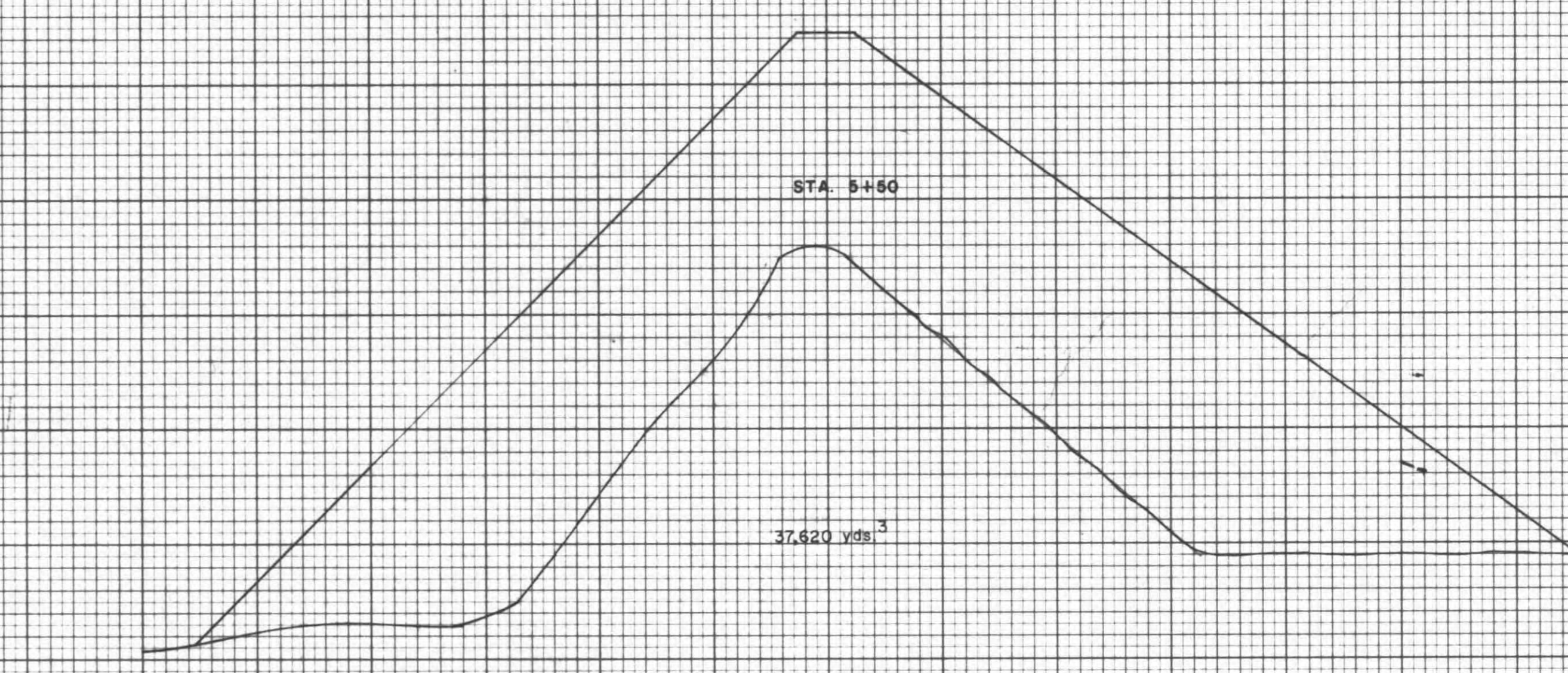
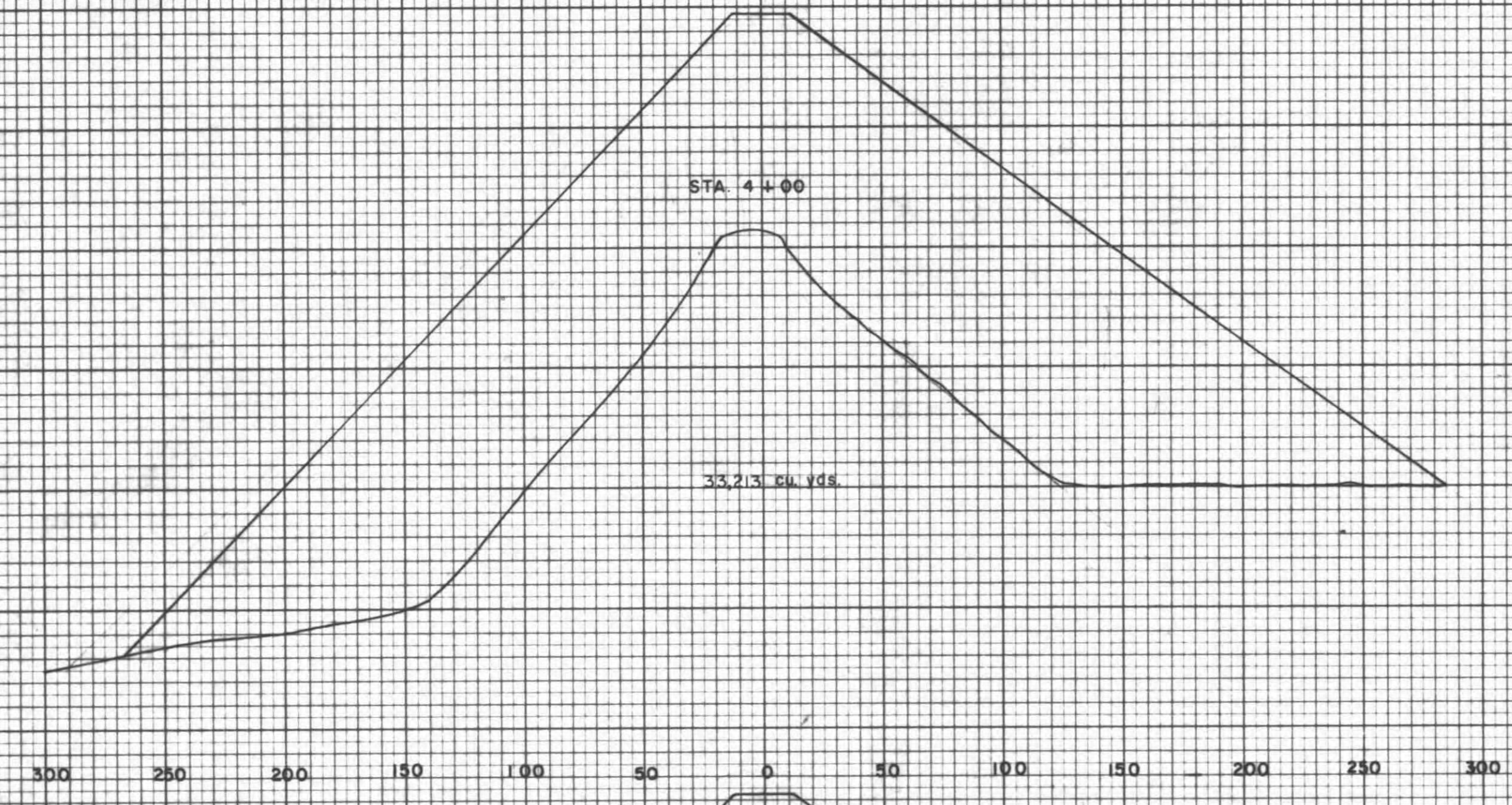
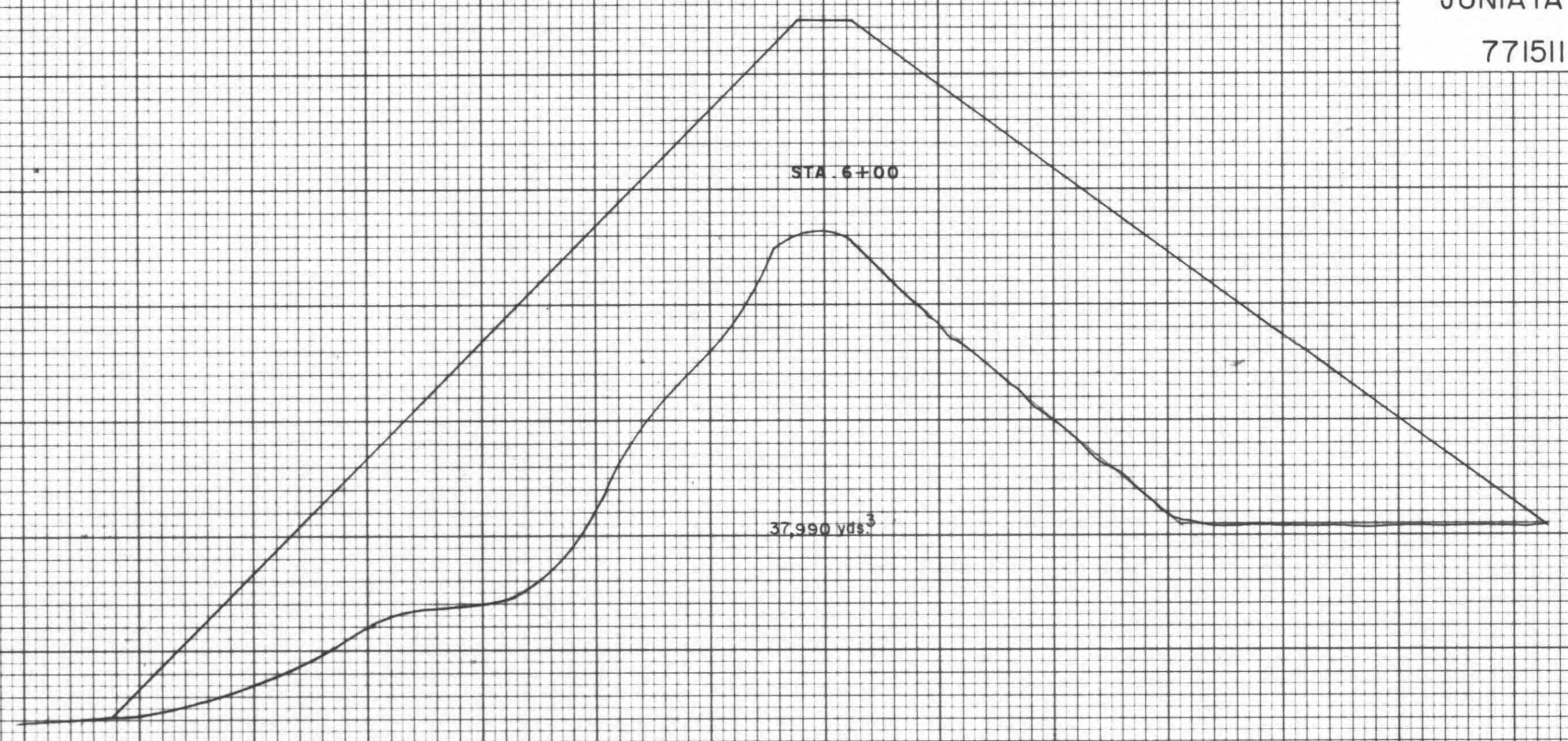
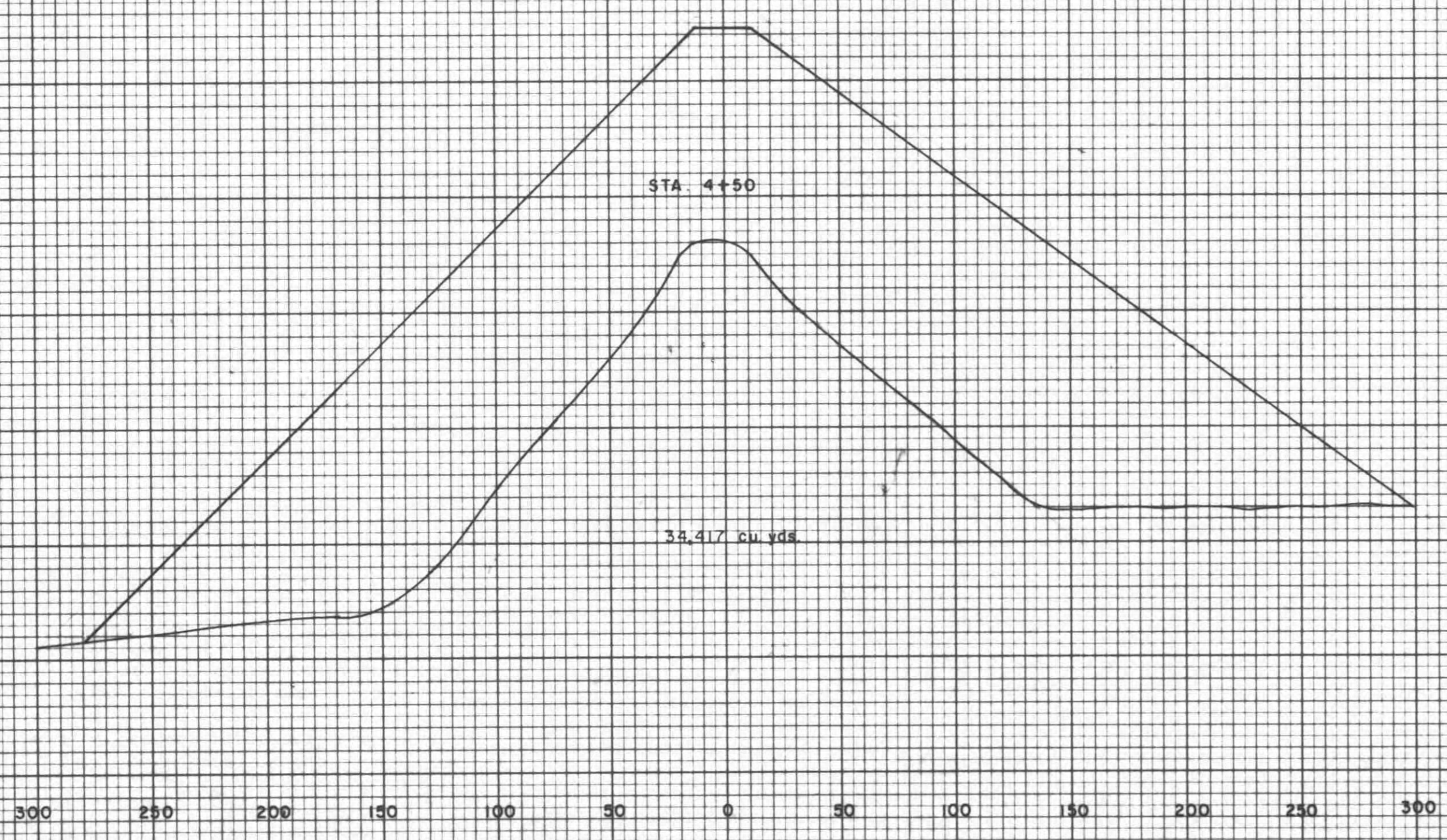
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BY \_\_\_\_\_ DATE \_\_\_\_\_  
SURVEYED \_\_\_\_\_  
NOTED \_\_\_\_\_  
NO. \_\_\_\_\_



HIGHWAY FEDERAL AID SHEET  
PLATE 3-FULL CROSS SECTION-FULL LINE  
PRINTED IN U.S.A.

DATE \_\_\_\_\_  
BY \_\_\_\_\_  
SURVEYED \_\_\_\_\_  
FINAL SURVEY \_\_\_\_\_  
NOTE BOOK \_\_\_\_\_  
NO. \_\_\_\_\_  
AREAS CHECKED \_\_\_\_\_

DATE \_\_\_\_\_  
BY \_\_\_\_\_  
SURVEYED \_\_\_\_\_  
ORIGINAL SURVEY \_\_\_\_\_  
NOTE BOOK \_\_\_\_\_  
NO. \_\_\_\_\_  
AREAS CHECKED \_\_\_\_\_



DATE 3-20-60  
HIGHWAY FEDERAL AID SHEET  
3-FULL CROSS SECTION-FULL LINE  
PRINTED IN U.S.A.

FINAL SURVEY  
BY \_\_\_\_\_ DATE \_\_\_\_\_  
SURVEYED \_\_\_\_\_ PLOTTED \_\_\_\_\_  
NOTE BOOK \_\_\_\_\_ TEMPLATE \_\_\_\_\_  
NO. \_\_\_\_\_ AREA CHECKED \_\_\_\_\_

ORIGINAL SURVEY  
BY \_\_\_\_\_ DATE \_\_\_\_\_  
SURVEYED \_\_\_\_\_ PLOTTED \_\_\_\_\_  
NOTE BOOK \_\_\_\_\_ TEMPLATE \_\_\_\_\_  
NO. \_\_\_\_\_ AREA CHECKED \_\_\_\_\_

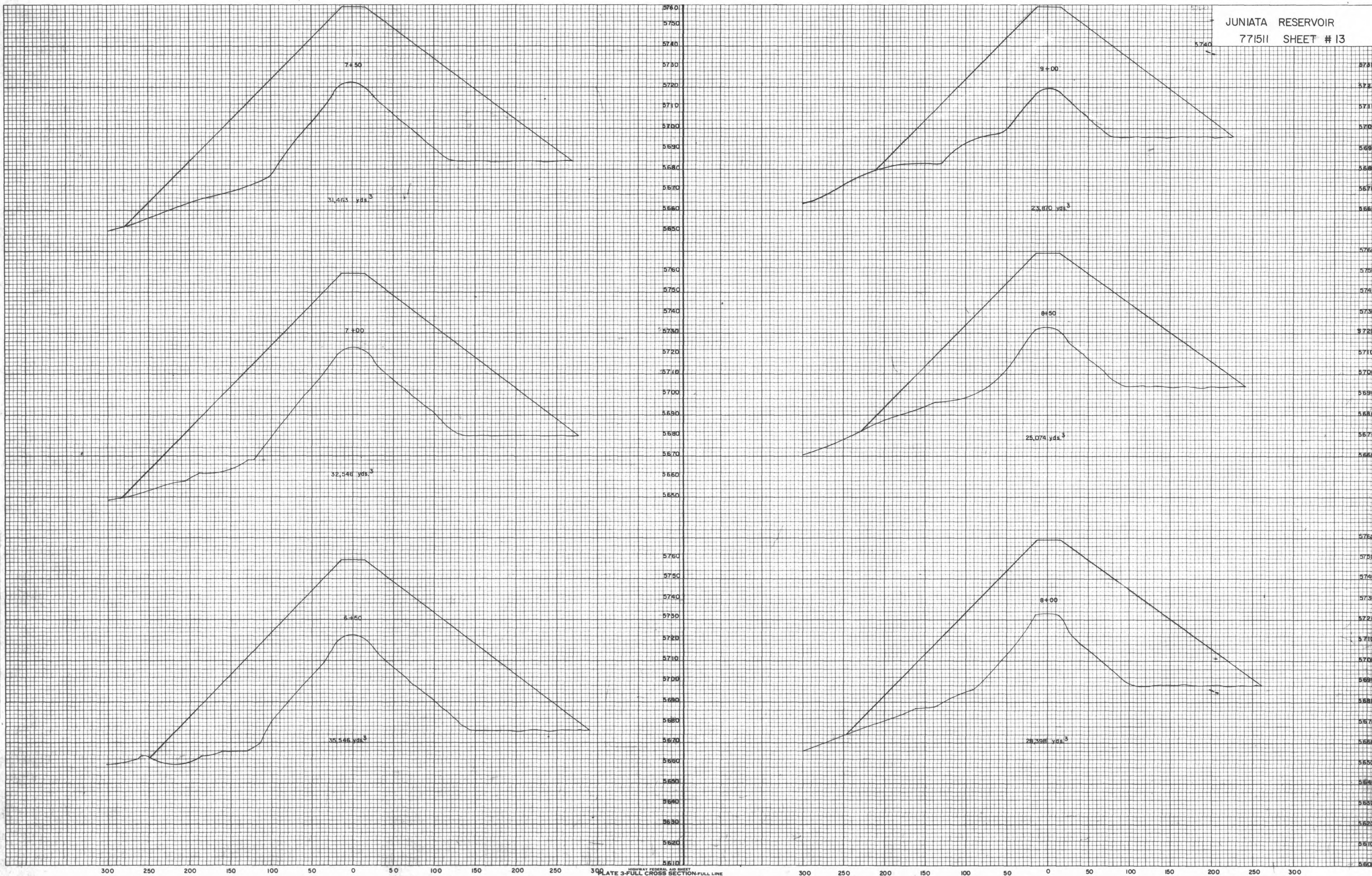


PLATE 3-FULL CROSS SECTION-FULL LINE  
PRINTED IN U.S.A.

DATE	
BY	
REVIEWED	
APPROVED	
NO. OF SHEETS	
NO. OF AREAS CHECKED	
NOTE BOOK	
NO.	

DATE	
BY	
REVIEWED	
APPROVED	
NO. OF SHEETS	
NO. OF AREAS CHECKED	
NOTE BOOK	
NO.	

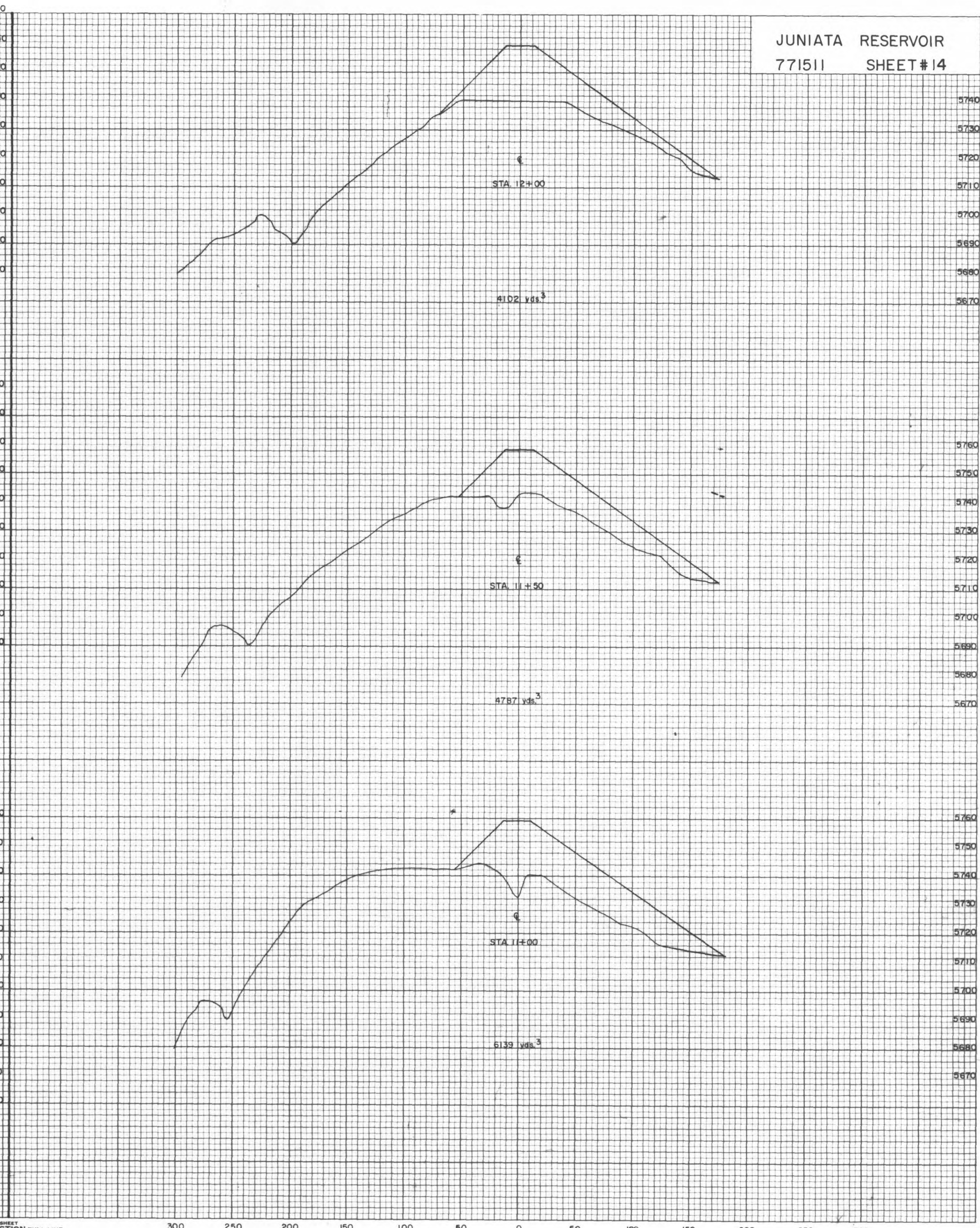
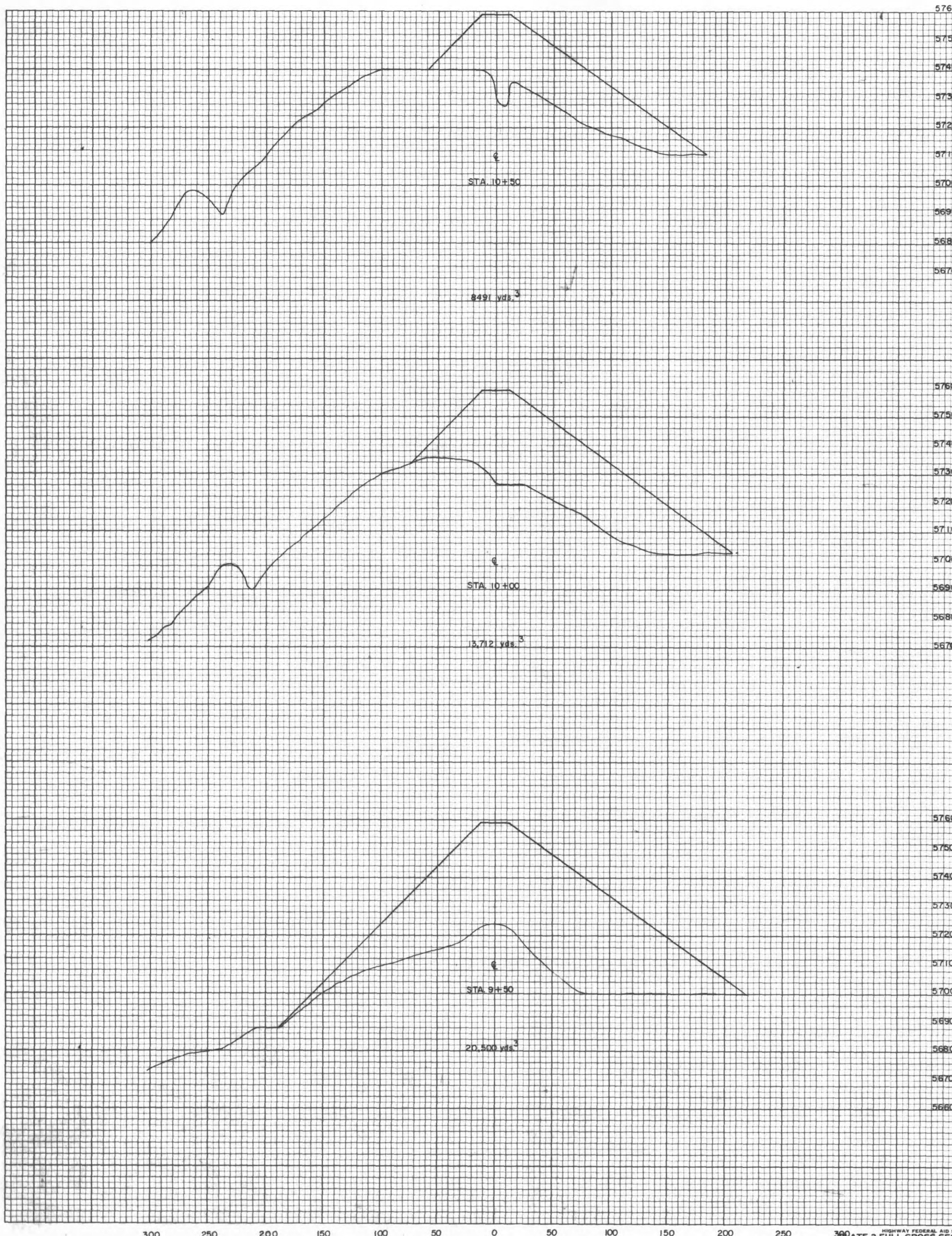
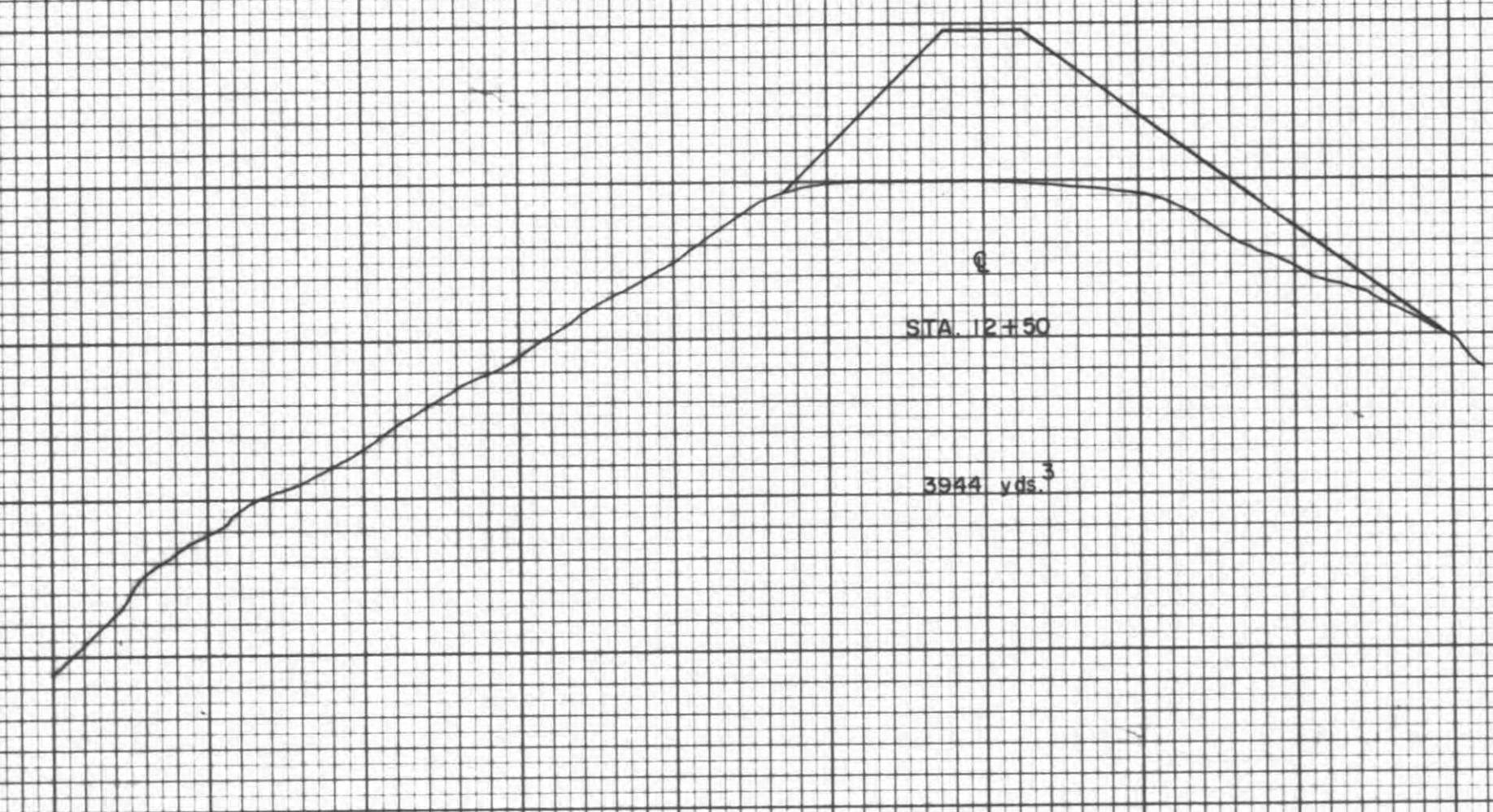
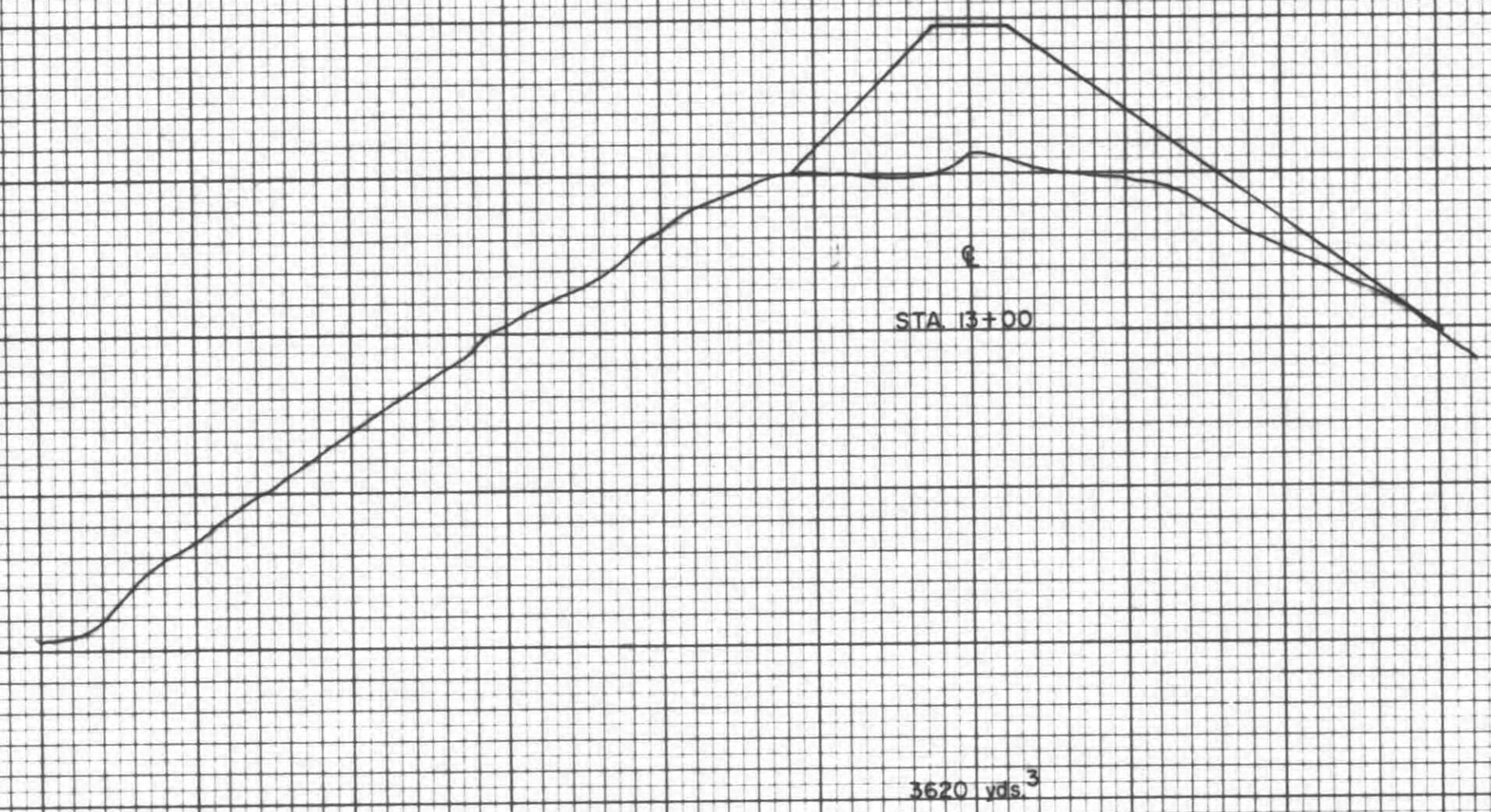
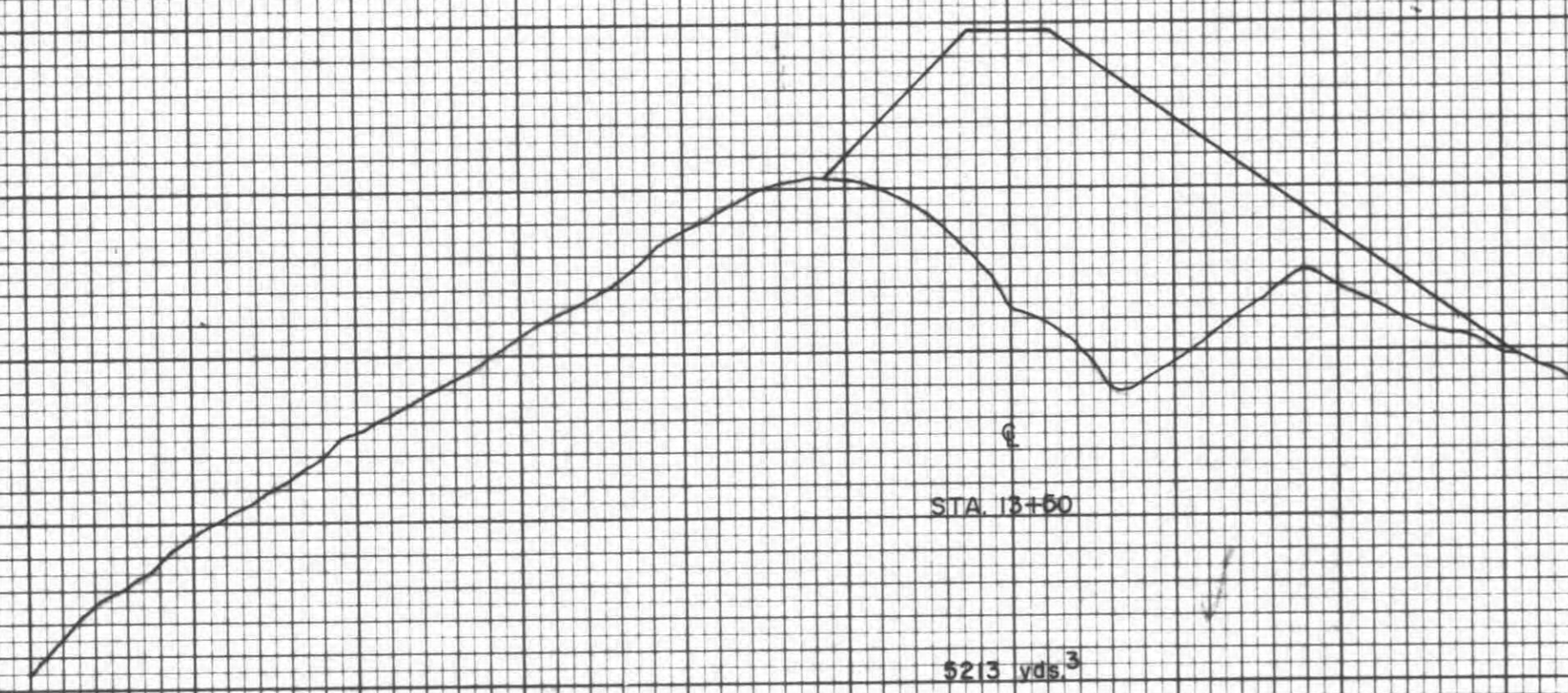


PLATE 3-FULL CROSS SECTION-FULL LINE  
PRINTED IN U.S.A.



FINAL SURVEY	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
	TEMPERATURE	
	AREAS	
	CHECKED	

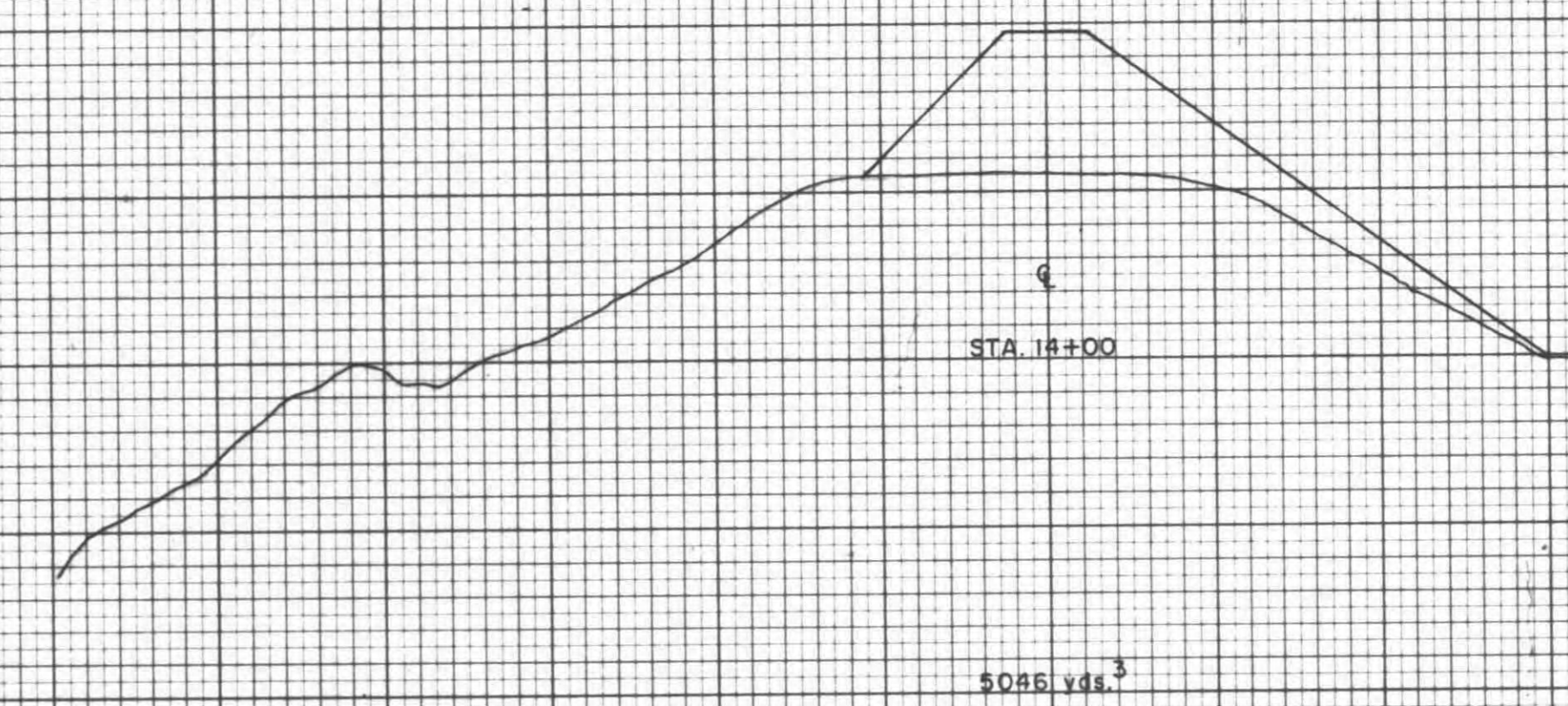
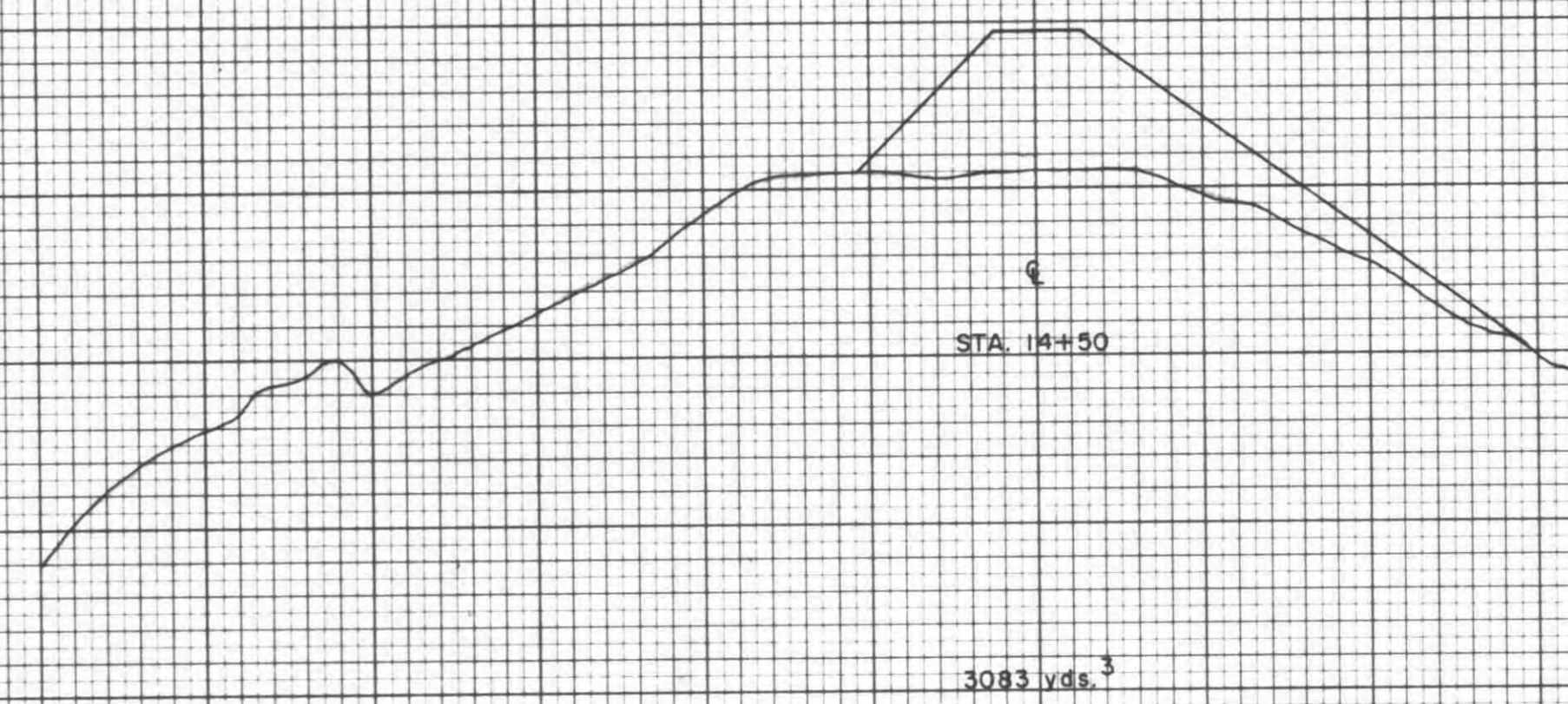
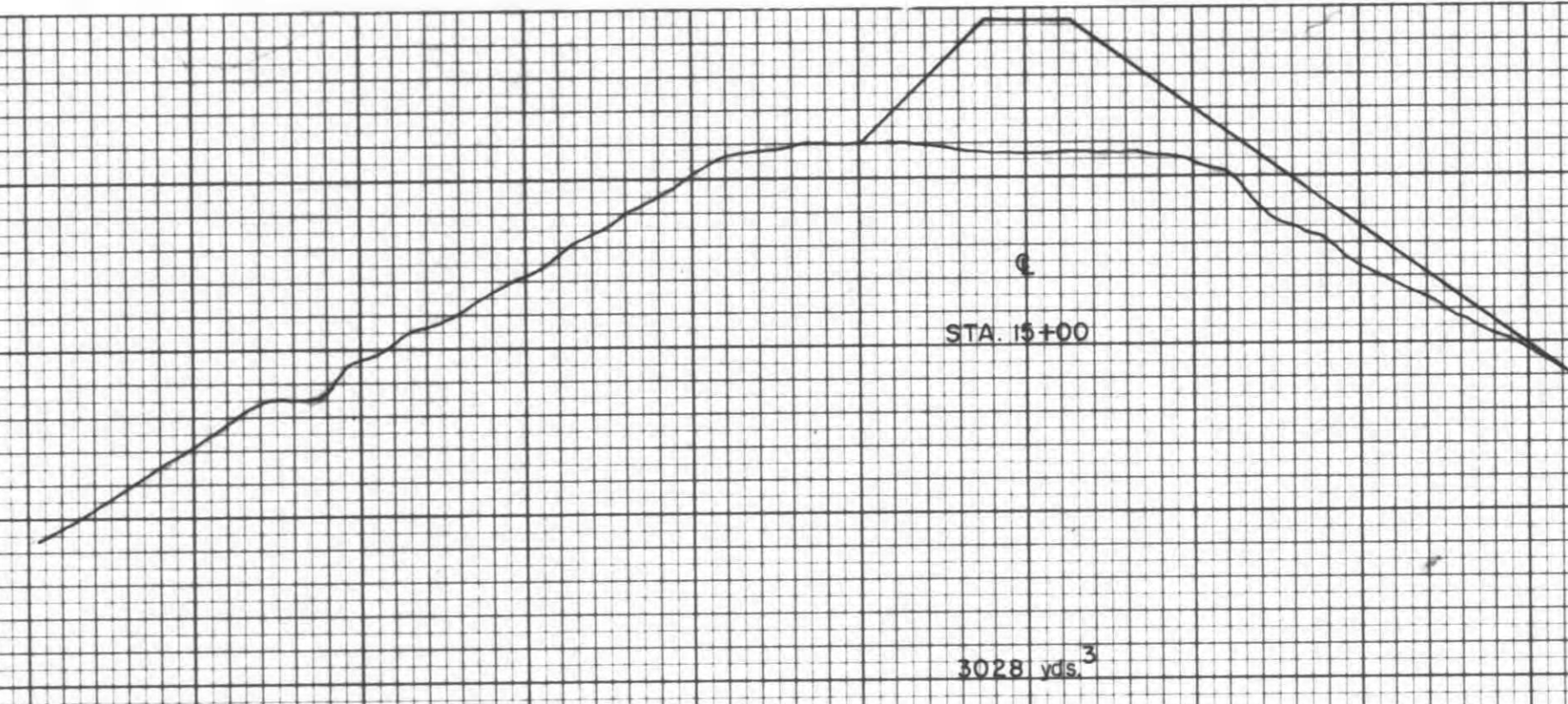
ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK NO.	PLOTTED	
	TEMPERATURE	
	AREAS	
	CHECKED	



5760  
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5740  
5730  
5720  
5710  
5700  
5690  
5680

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5690  
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5690  
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5670



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5700  
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5720  
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5700  
5690  
5680  
5670

300 250 200 150 100 50 0 50 100 150 200 250 300

300 LATE 3-FULL CROSS SECTION-FULL LINE  
HIGHWAY FEDERAL AID SHEET  
TELETYPE  
PRINTED IN U.S.A.

FINAL SURVEY  
BY \_\_\_\_\_ DATE \_\_\_\_\_  
SURVEYED \_\_\_\_\_  
PLOTTED \_\_\_\_\_  
NOTE BOOK \_\_\_\_\_  
NO. \_\_\_\_\_  
AREAS CHECKED \_\_\_\_\_

ORIGINAL SURVEY  
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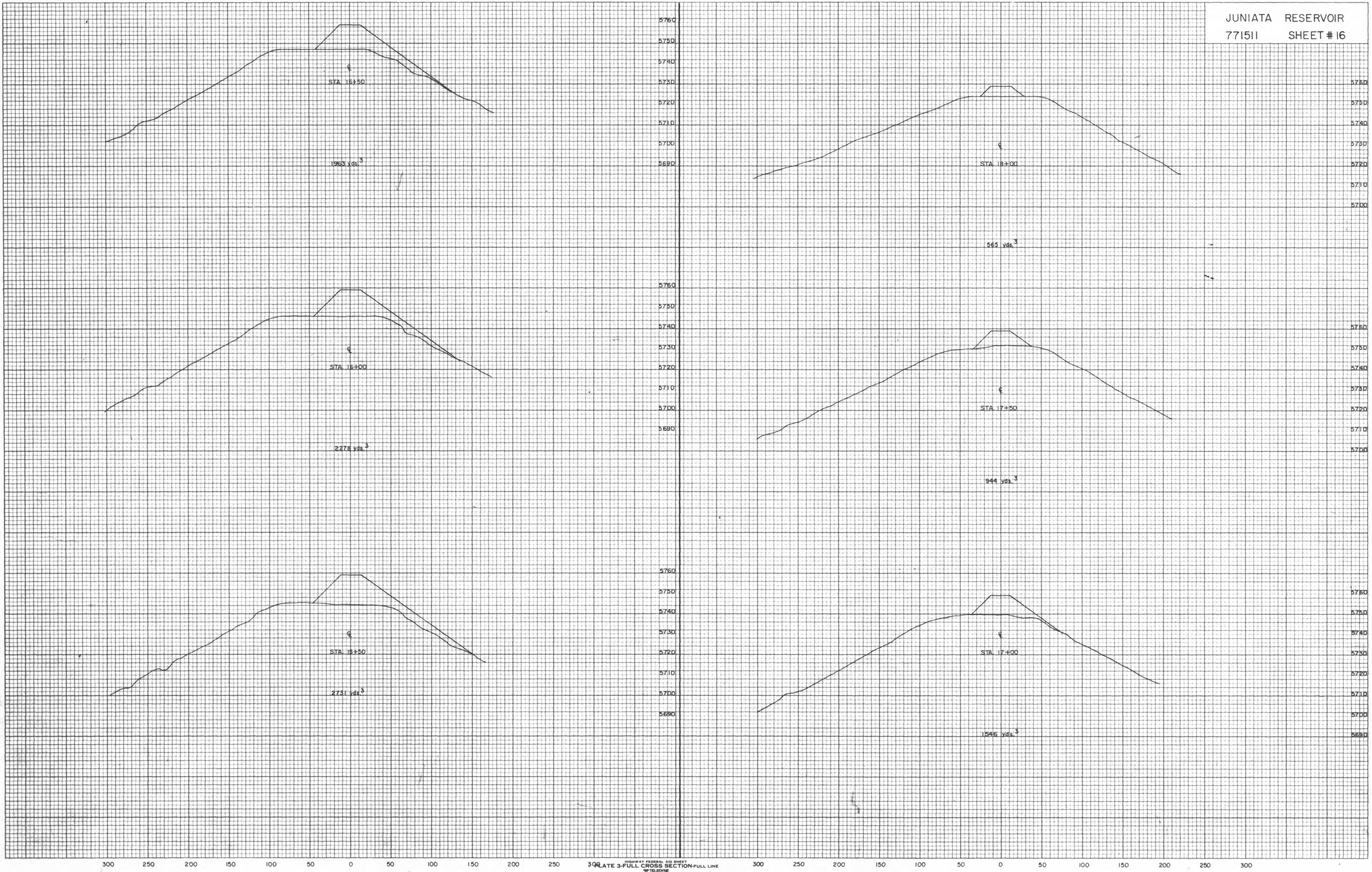
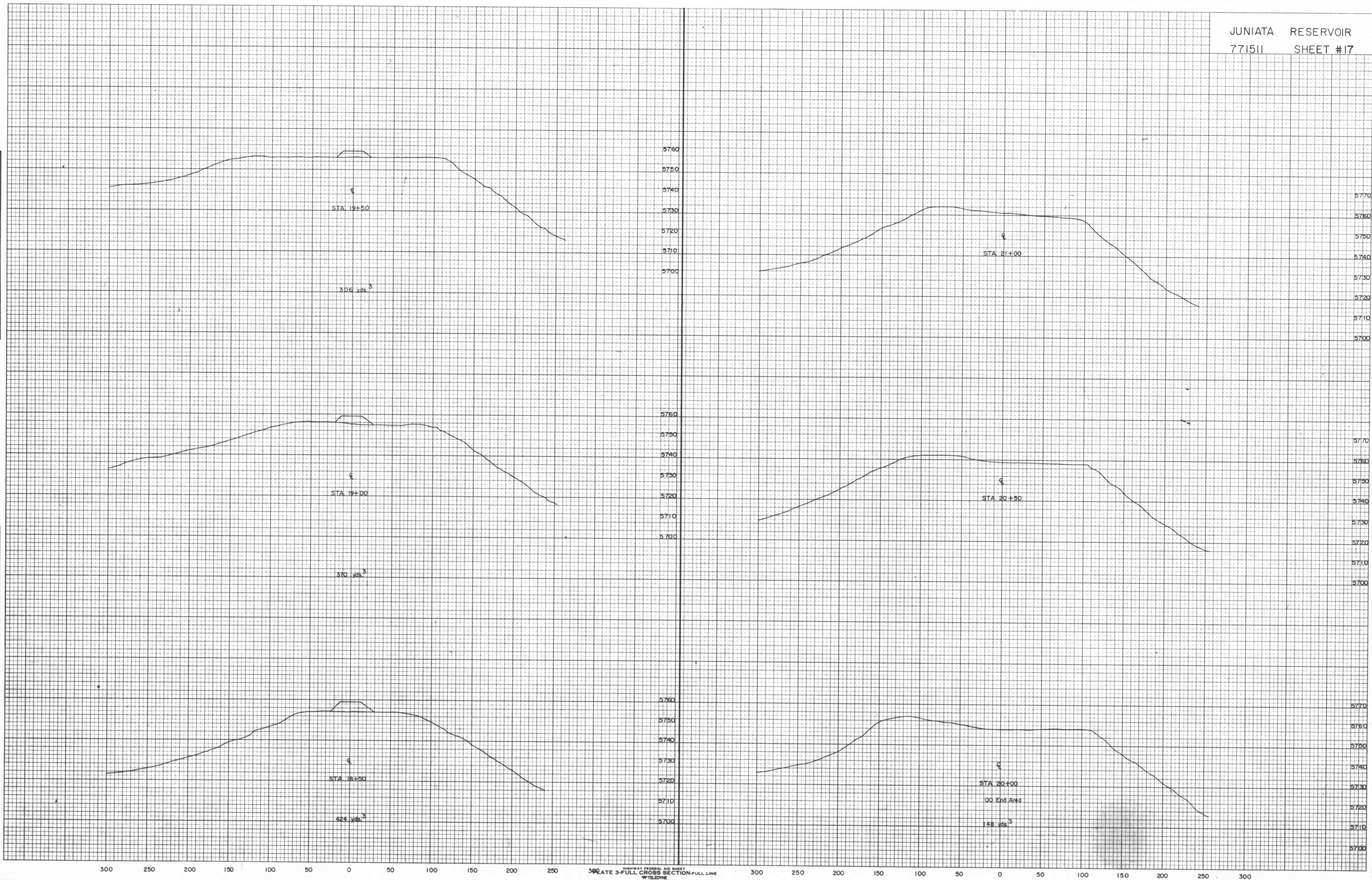


PLATE 3-FULL CROSS SECTION-FULL LINE  
PRINTED IN U.S.A.

FINAL SURVEY BY DATE  
 SURVEY PLOTTED  
 NOTE BOOK NO.  
 AREA CHECKED

ORIGINAL SURVEY BY DATE  
 SURVEY PLOTTED  
 NOTE BOOK NO.  
 AREA CHECKED



Drawings  
For



# North Fork Diversion Pipeline and Juniata Outlet Works Modifications

City of Grand Junction, Colorado  
1986

Job No's. 73-75-50 / 73-77-50

Water Division 4, Water District 42  
Mesa County, Colorado

HDR Infrastructure, Inc.  
A Centerra Company

CONSTRUCTION DRAWINGS OF RECORD FOR  
NORTH FORK DIVERSION PIPELINE PROJECT

*Kenneth B. Burt*  
REGISTERED ENGINEER, BANNER ASSOCIATES INC.



I hereby certify that these plans for the repair of the  
Juniata Dam Outlet Works were prepared under my direct  
supervision for the owners thereof.  
*James R. Roberts*  
Registered Engineer, HDR Infrastructure, Inc.

I, on behalf of the City of Grand Junction, owner, hereby  
accept and approve these plans for the repairs thereto of  
the Juniata Dam Outlet Works.  
*Gregory O. Trammor* 1/25/86  
Owner's Agent

Accepted for filing 2/26/90  
*[Signature]*  
**C-661B**

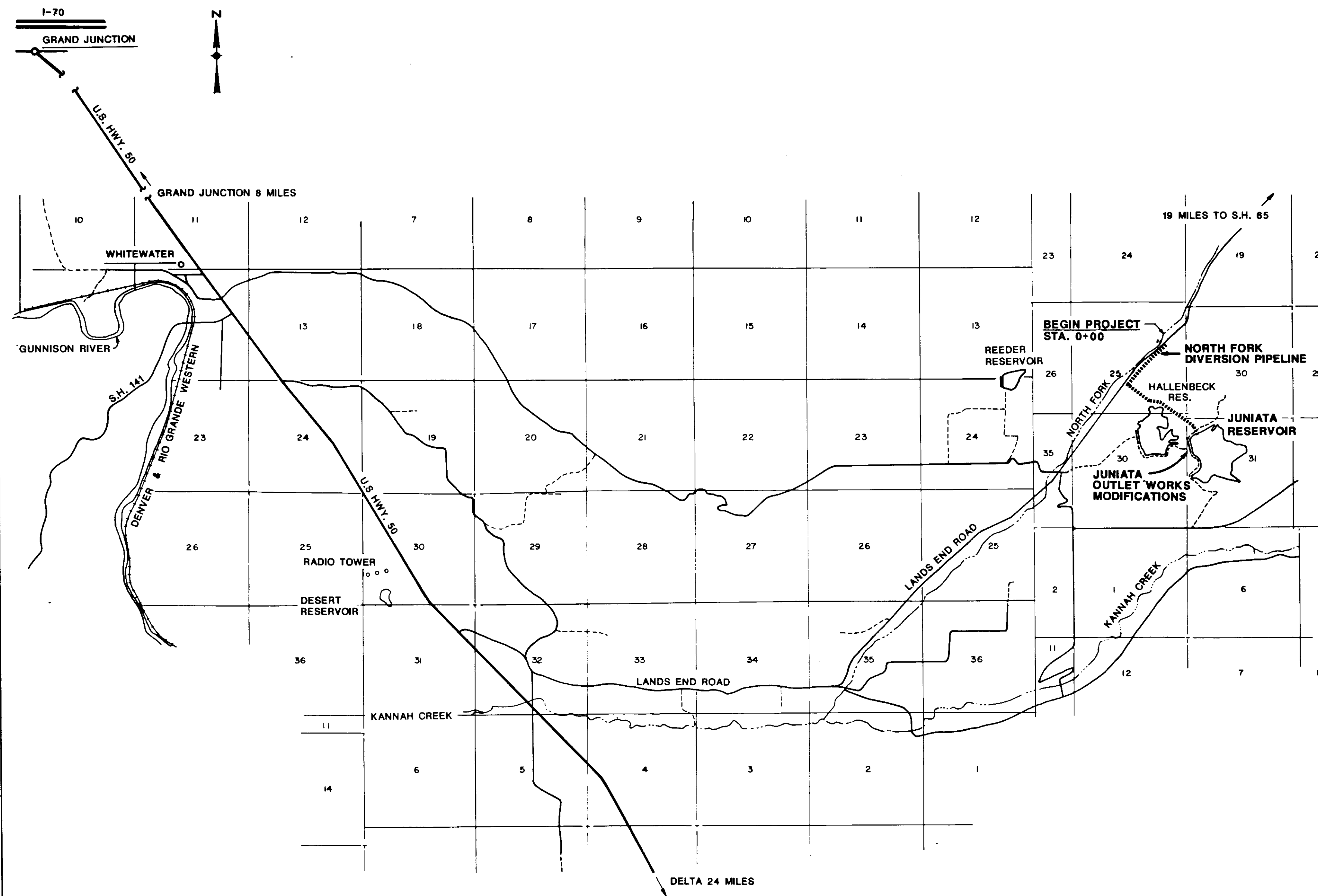
STATE OF COLORADO  
DIVISION OF WATER RESOURCES  
Plans Reviewed by *[Signature]* 20 Jan 1987  
Design Review Unit  
Approval Recommended by *[Signature]* 1/22, 1987  
Supervisor - Dam Safety Branch

Approved on the 23rd day of January, 1987.

*Teris A. Danielson*  
State Engineer  
By: *[Signature]*  
Deputy

**C-661B**





**VICINITY MAP**  
NO SCALE

**DRAWING INDEX**

- 1. COVER SHEET
- 2. VICINITY MAP / DRAWING INDEX
- ~~3. PLAN / PROFILE~~
- ~~4. PLAN / PROFILE~~
- ~~5. PLAN / PROFILE~~
- 6. PLAN / PROFILE
- 7. DETAILS
- 8. DETAILS
- 9. OUTLET WORKS PLAN & RESERVOIR CAPACITIES
- 10. MISCELLANEOUS MODIFICATIONS

**SCHEDULE I**

**SCHEDULE II**  
(Not In Contract)



**North Fork  
Diversion  
Pipeline**



**City of  
Grand  
Junction**

Vicinity Map /  
Drawing Index

Project Number	73-77-50
Date	October, 1986
Project Manager	J. Roberts
Design	J. Roberts
Architectural	
Structural	C. Nyman
Mechanical	
Electrical	
Drawn By	R. Bredsnajder

**C-661B**



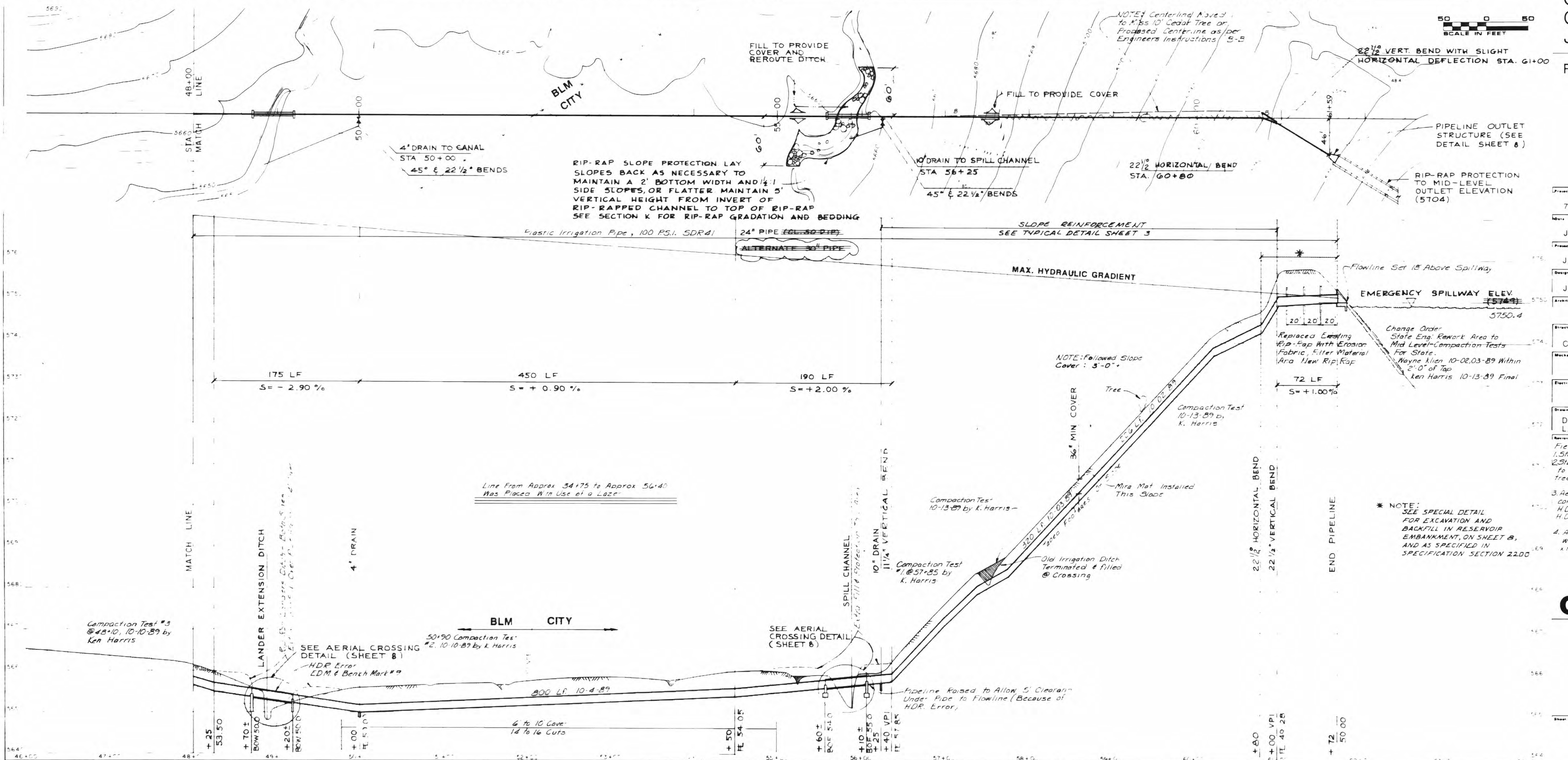
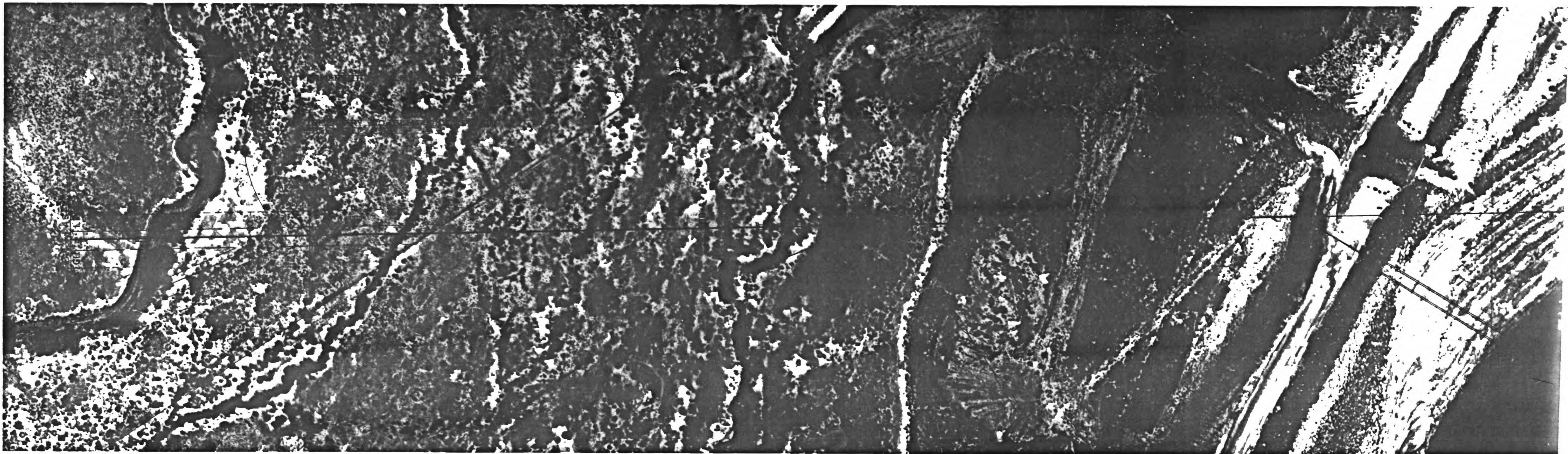
**SCHEDULE 1**

North Fork  
Diversion  
Pipeline



City of  
Grand  
Junction

PLAN / PROFILE



Project Number:	73-75-50
Date:	July, 1986
Project Manager:	J. Roberts
Design:	J. Roberts
Architect:	C. Nyman
Structure:	
Message:	
Electric:	
Drawn By:	D. Walker L. Armstrong

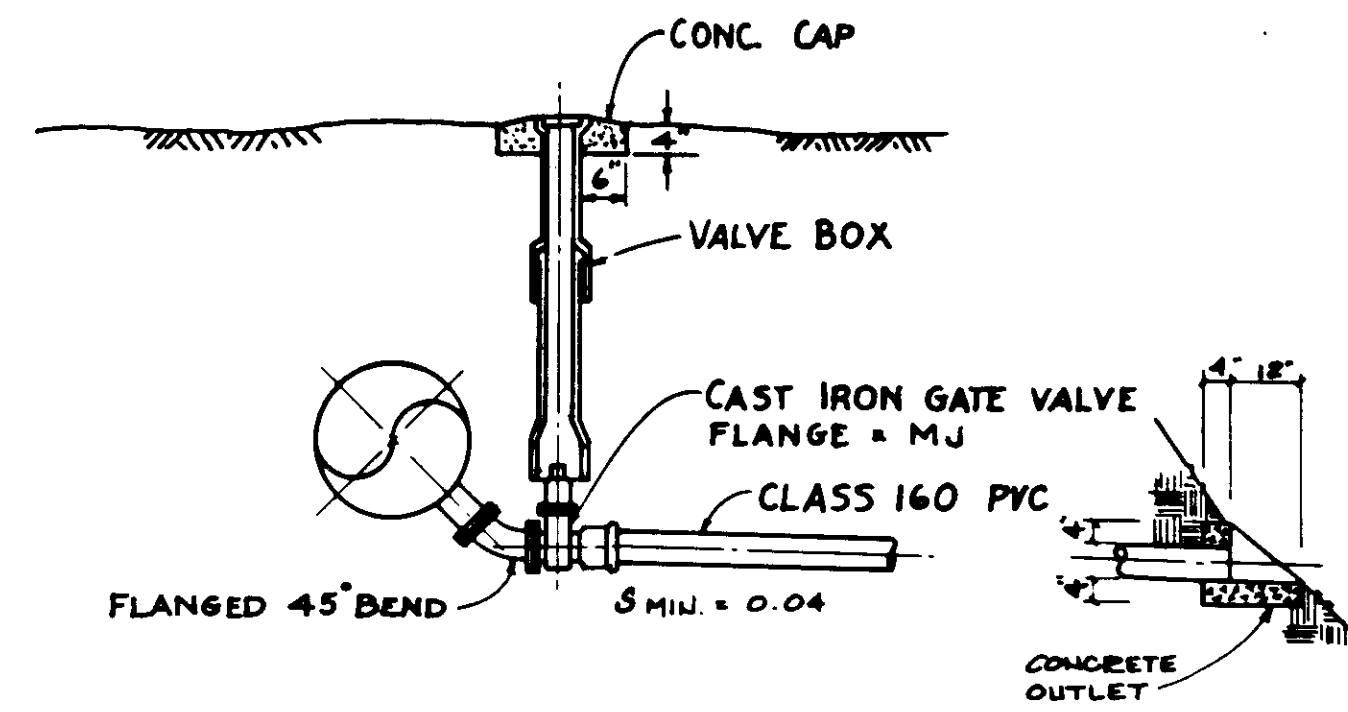
Field Chg. Bill Cheney  
1 Sta 61+59 raised pipe 1.7'  
2 Sta 61+00 deflect pipe 6"  
to the north to save Pinon  
tree, Only 1 in area

3. Aerial crossing were  
corrected for Elev. from  
H.D.R. 1" to 5-6" clearance  
H.D.R. Error

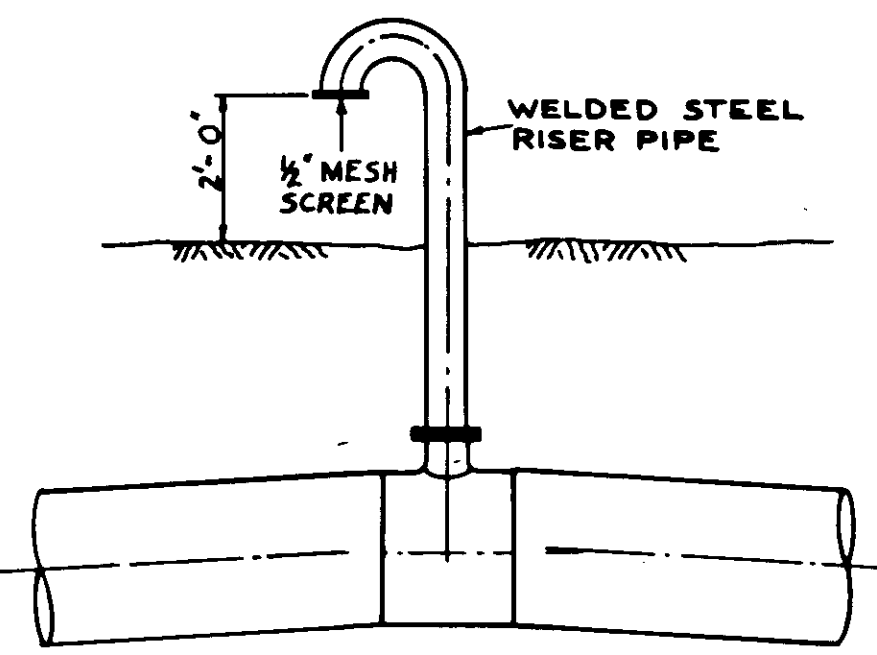
4. Aerial crossing steel pipe  
welds tested by NRS  
1/14/10-14-86

**C-661B**

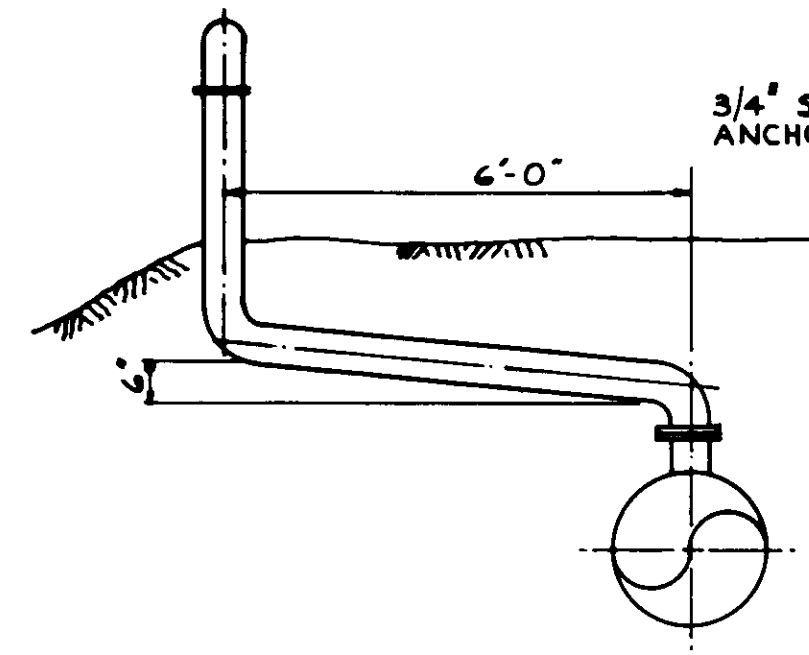




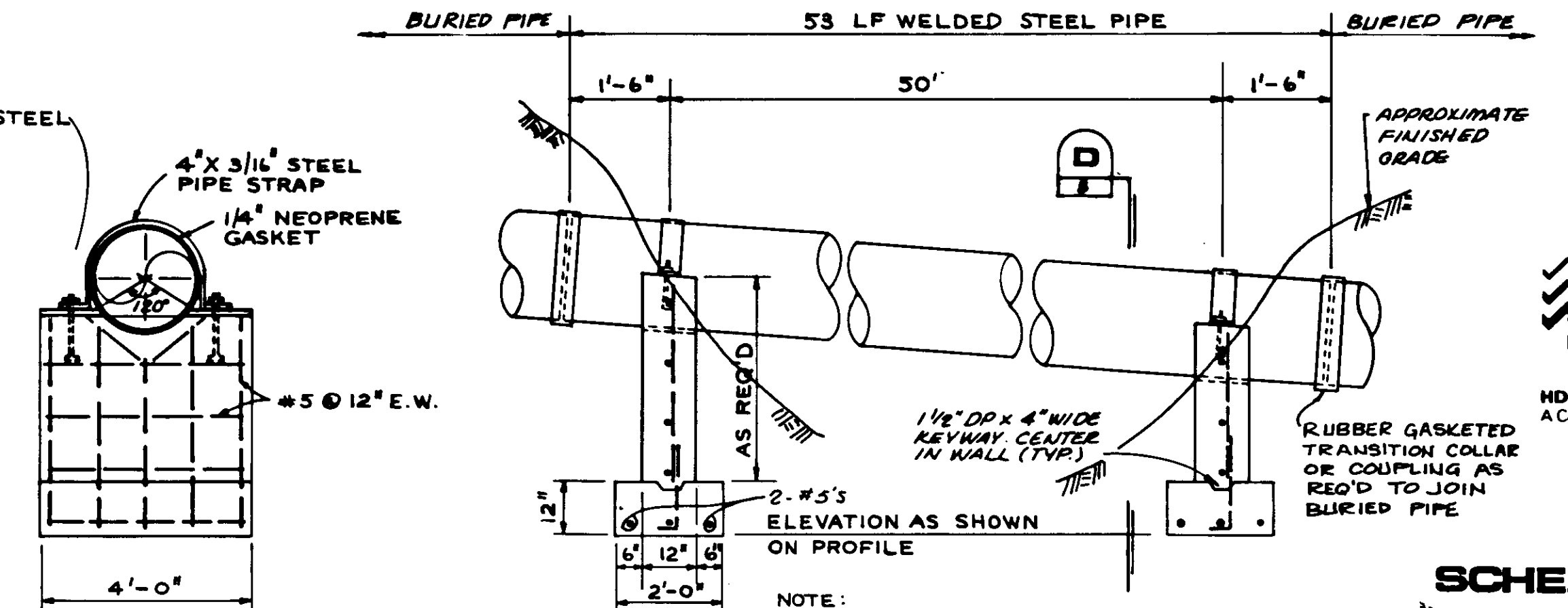
**TYPICAL DRAIN DETAIL**  
NTS



**TYPICAL AIR VENT DETAIL**  
NTS



**AIR VENT OFFSET DETAIL**  
NTS



**AERIAL CROSSING DETAIL**

1/2" = 1'-0"

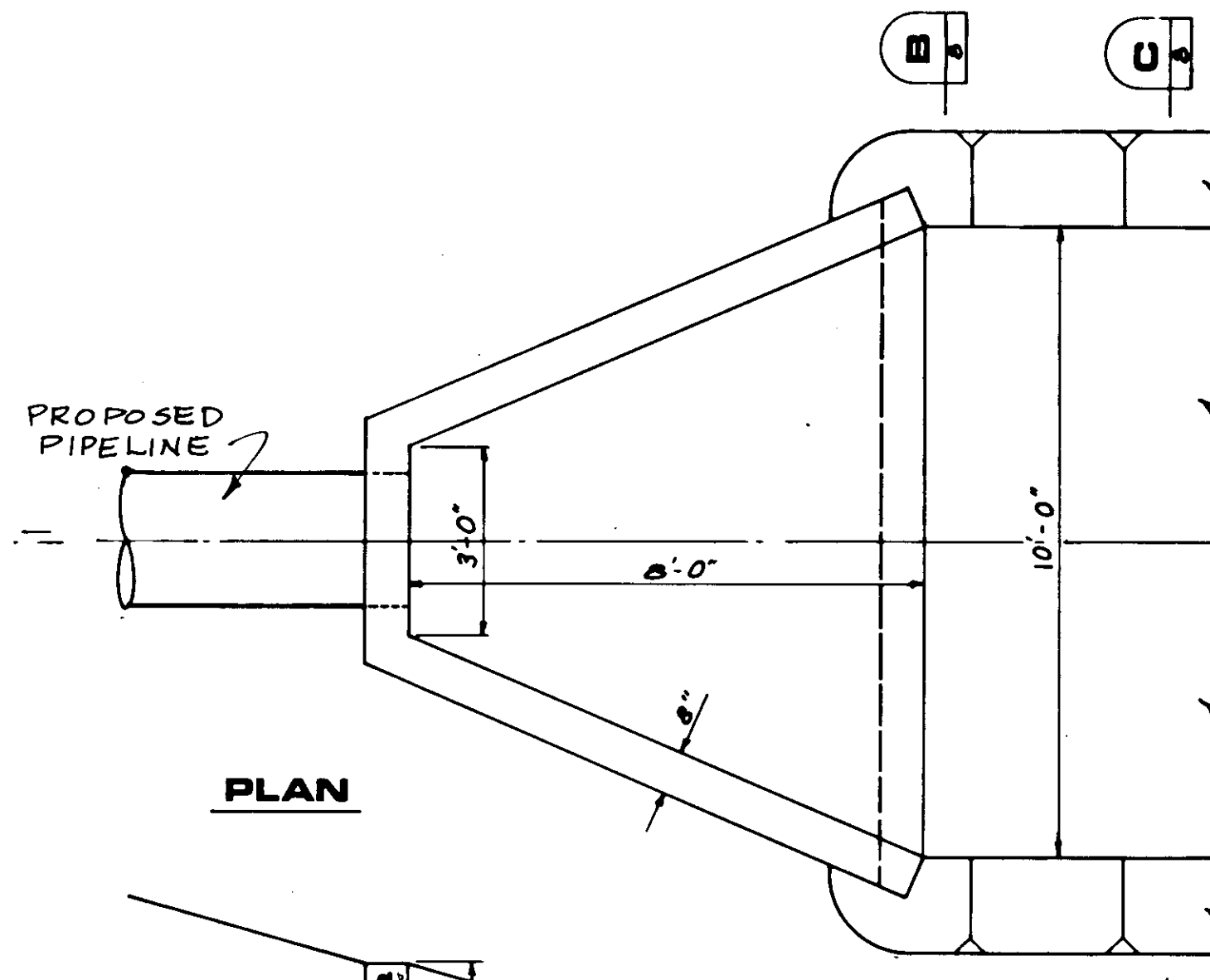
SCALE 1/2" = 1'-0"



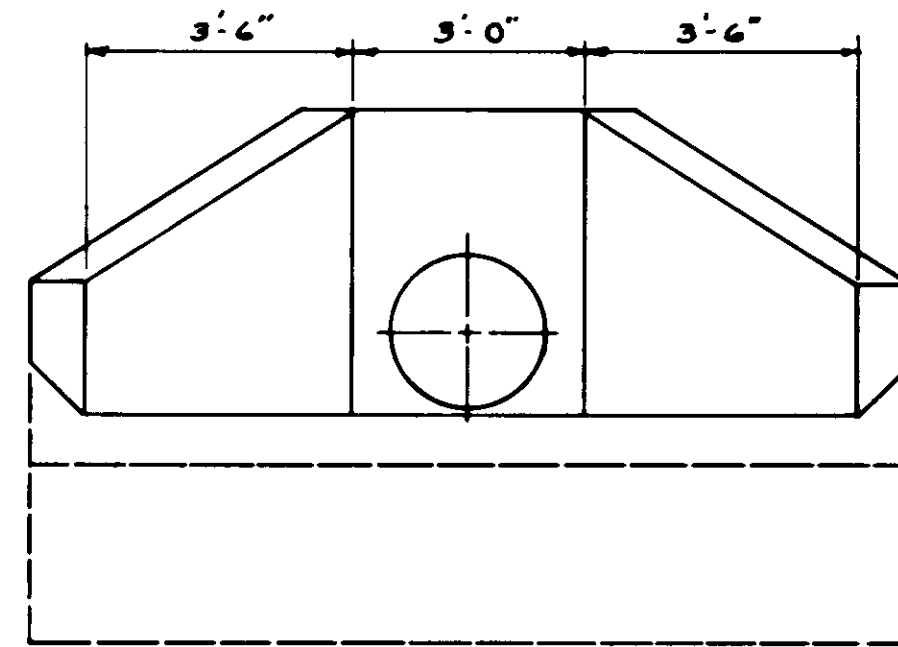
HDR Infrastructure, Inc.  
A Centerra Company

**SCHEDULE I**

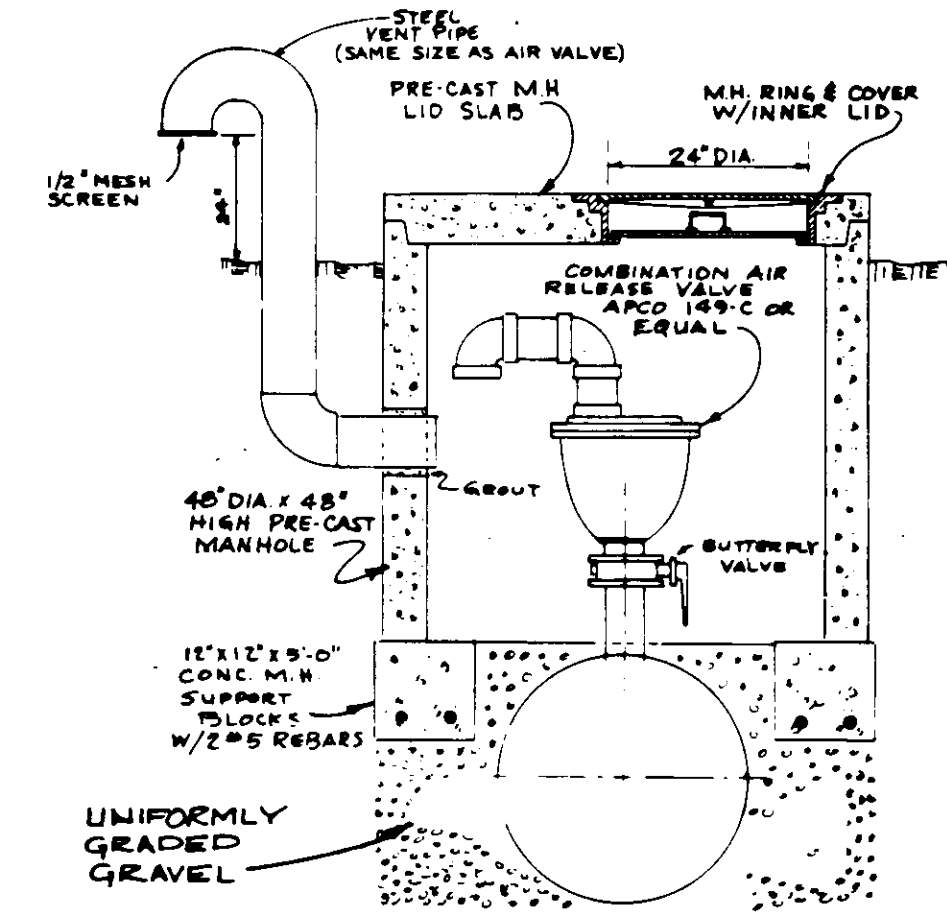
NOTE: FOOTINGS ARE FOR SOUTH CROSSING ONLY. (RESERVOIR SPILL CHANNEL) WALL BEARS DIRECTLY ON SOIL AT NORTH CROSSING. (LANDER EXTENSION DITCH)



**PLAN**



**SECTION B**



**AIR RELEASE MANHOLE**

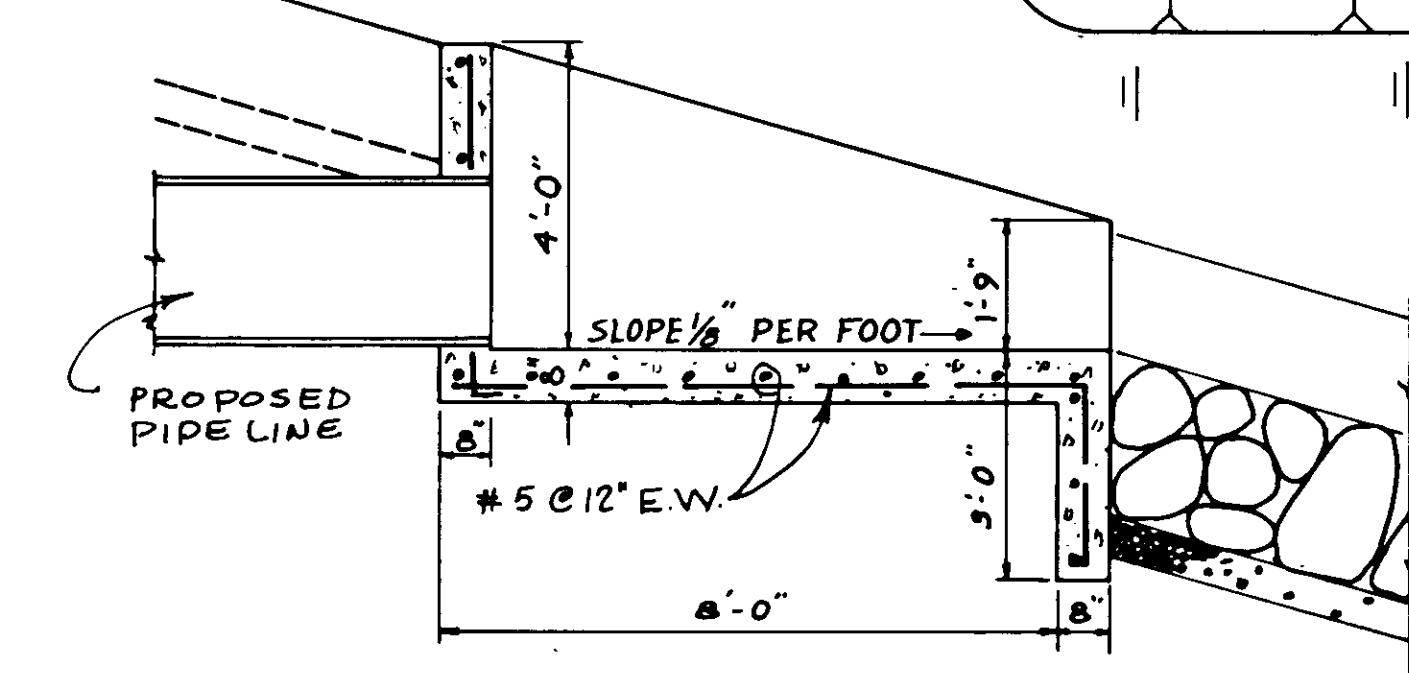
NO SCALE

NO.	REQ'D 90° STD. HOOK LENGTH
3	6"
4	8"
5	10"
6	1'-0"
7	1'-2"
8	1'-4"
9	1'-7"
10	1'-10"
11	2'-0"

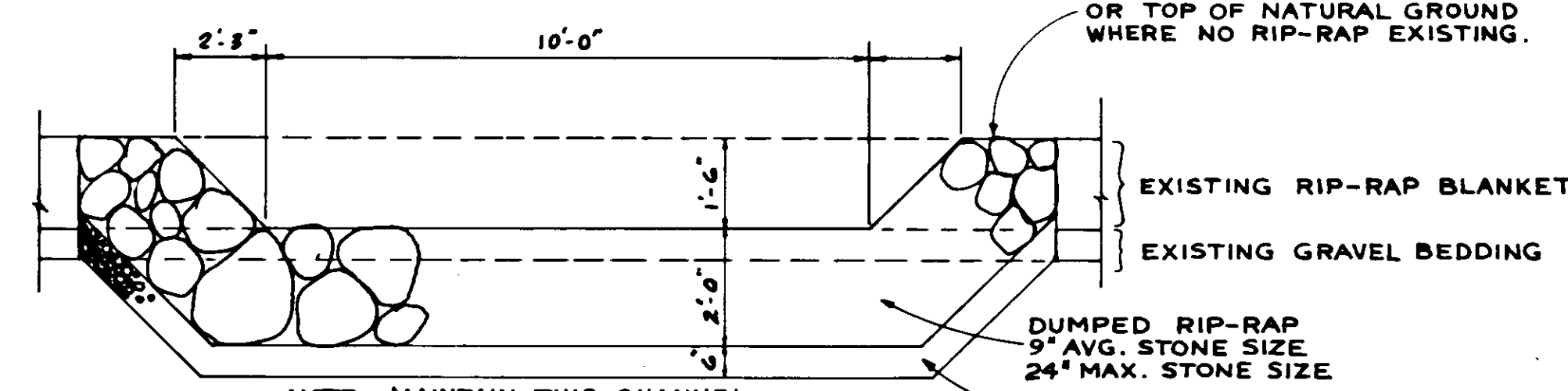
NO.	MIN. SPLICE LAP LENGTH	
	VERTICAL	OTHER *
3	1'-8"	1'-8"
4	1'-8"	2'-5"
5	2'-2"	3'-0"
6	2'-7"	3'-7"
7	3'-3"	4'-6"
8	4'-3"	5'-11"
9	5'-5"	7'-6"
10	7'-0"	9'-7"
11	8'-5"	11'-9"

**REBAR DETAIL**  
NO SCALE

- REBAR NOTES:**
- ALL REBAR SPLICE LAP LENGTHS SHALL BE PROVIDED AS SHOWN UNDER HEADING MARKED "OTHER" UNLESS SPLICED BARS ARE VERTICAL BARS.
  - COLUMN BAR SPLICE LAP LENGTHS SHALL BE PROVIDED AS SHOWN UNDER HEADING MARKED "VERTICAL" UNLESS NOTED OTHERWISE ON DRAWINGS.
  - ALL SPLICES SHALL BE CONTACT SPLICES & WIRED TOGETHER.



**SECTION A**

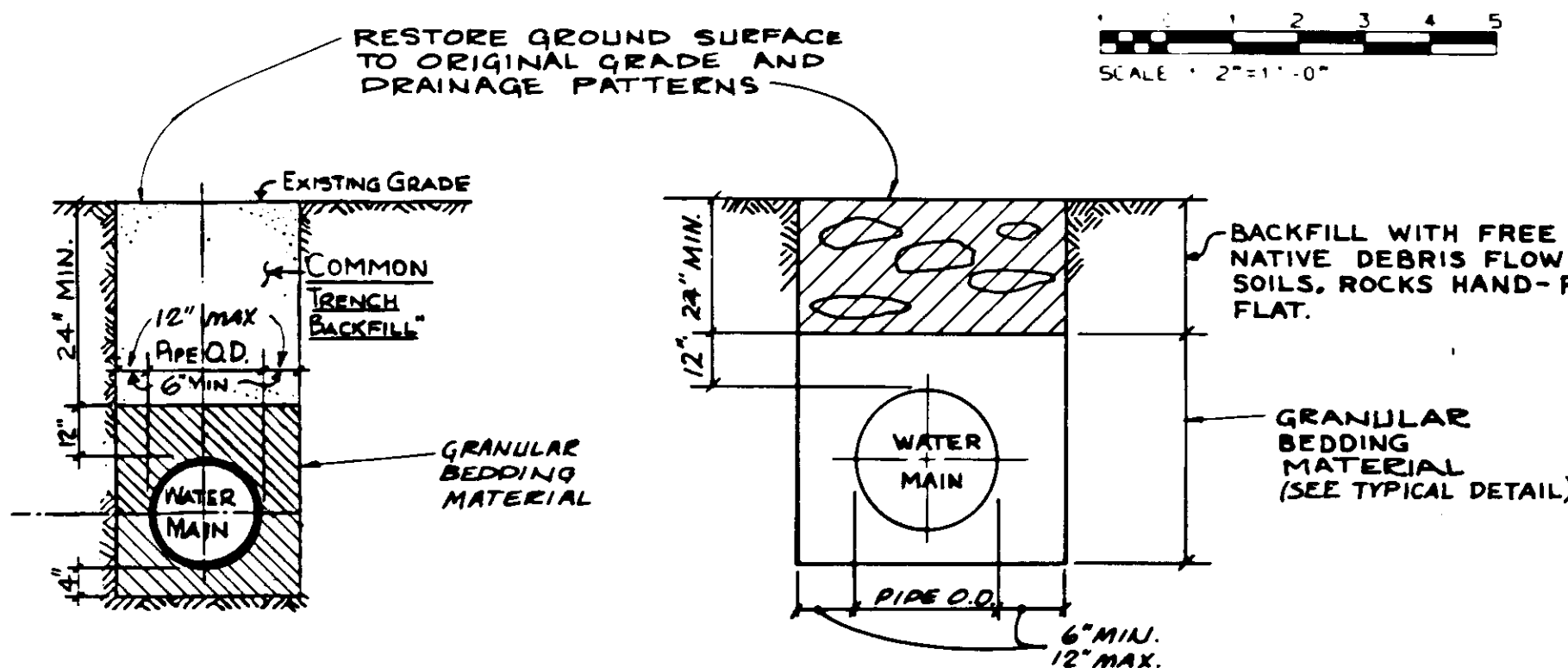


**SECTION C**

**PIPELINE OUTLET STRUCTURE**

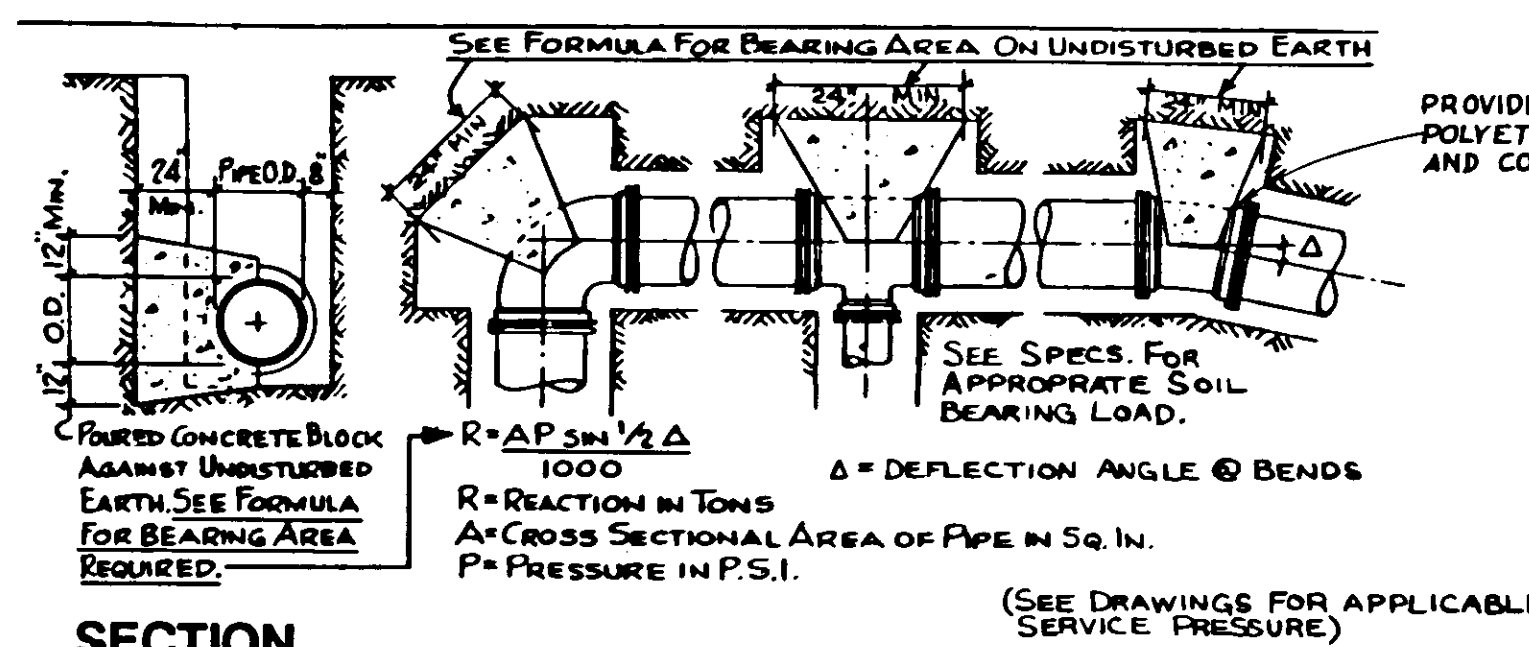
SCALE: 1/2" = 1'-0"

SCALE 1/2" = 1'-0"



**TYPICAL PIPE BEDDING DETAIL**  
NO SCALE

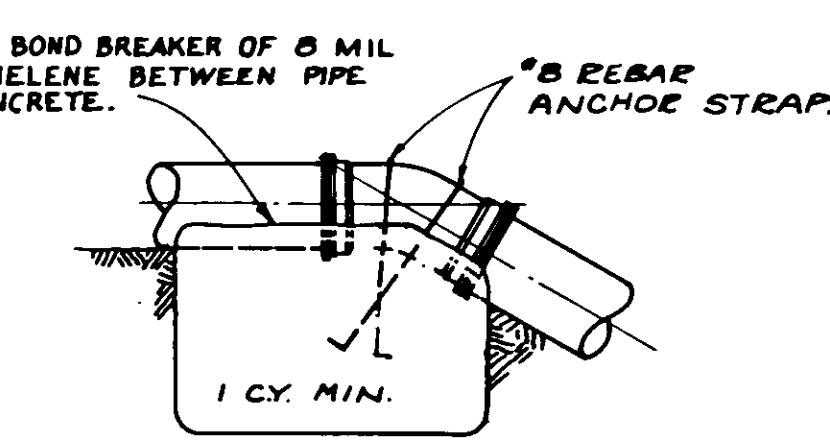
**SPECIAL TRENCH BACKFILL**  
NO SCALE  
STA 38+75 TO 38+00, 43+50 TO 44+25



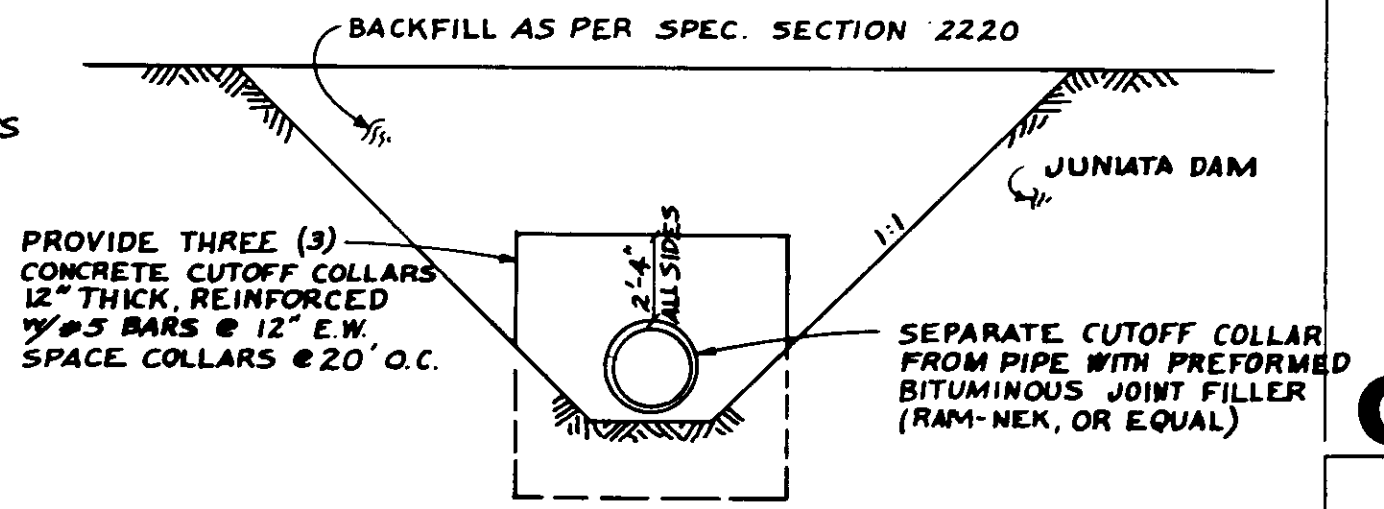
**SECTION**

**PLANS**

**TYPICAL THRUST BLOCK DETAILS**  
NO SCALE



**VERTICAL BEND**  
NO SCALE



**INSTALLATION OF DIVERSION PIPELINE THROUGH JUNIATA DAM EMBANKMENT**

North Fork Diversion Pipeline



City of Grand Junction

DETAILS

Project Number  
73-75-50

Date  
July, 1986

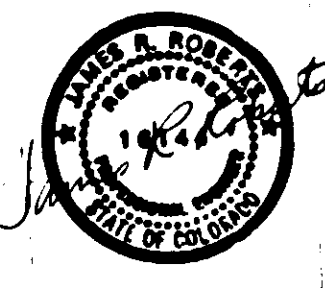
Project Manager  
J. Roberts

Design  
J. Roberts

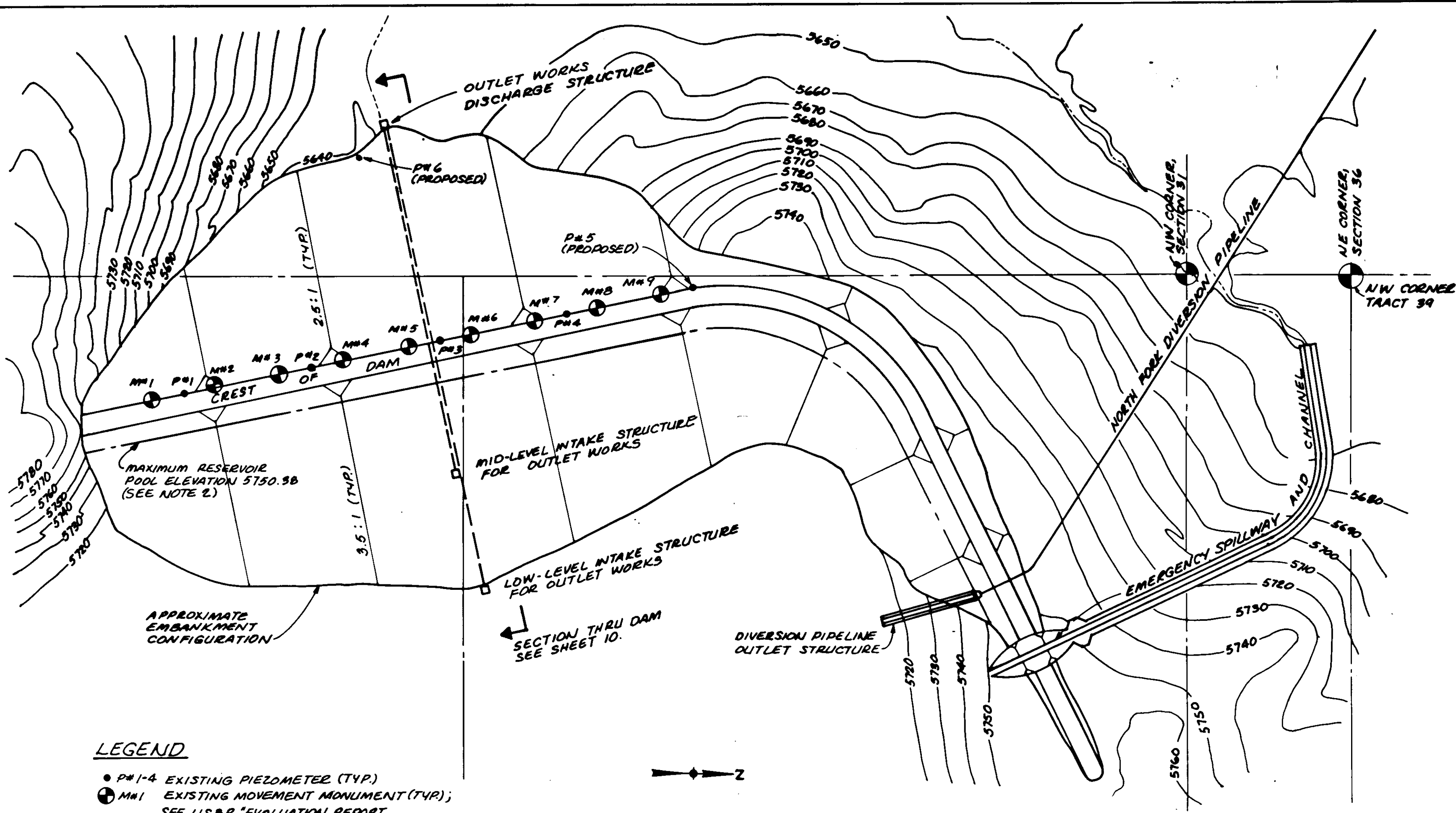
Reviewed  
C. Nyman

Drawn By  
D. Walker  
L. Armstrong

**C-661B**

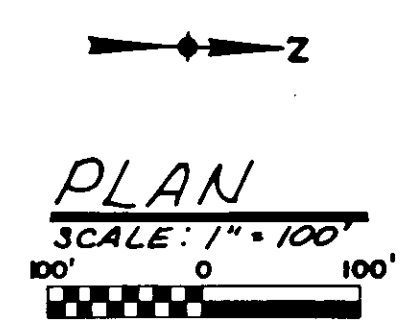


Sheet Number



**LEGEND**

- P#1-4 EXISTING PIEZOMETER (TYP.)
  - ⊙ M#1 EXISTING MOVEMENT MONUMENT (TYP.)
- SEE US BR "EVALUATION REPORT FOR JUNIATA DAM" (OCTOBER 6, 1986) FOR DISCUSSION OF PROPOSED ADDITIONAL SURVEY MEASUREMENT POINTS.



**ESTIMATED CAPACITY OF RESERVOIR**

From the Amended Map of Juniata Reservoir Enlarged, Filing No. 19918, dated October 7, 1964, the area at depth 40.8 feet is approximately the same as depth 43 feet of the survey of May 10, 1978. Depth 43 feet is the water surface at the time of the survey and is the gate height above the outlet pipe as constructed in 1966. Capacity is assumed as 73,915,650 cu. ft. or 1,696.9 acre feet.

Depth Ft.	Area Sq. Ft.	Capacity Cu. Ft.	Area Acres	Capacity Acre Ft.	USGS Elev.
43	3,596,400	73,515,650	82.56	1,696.9	5705
44	3,649,800	77,538,750	83.79	1,780.0	5706
45	3,703,200	81,015,250	85.01	1,864.4	5707
46	3,765,440	84,949,570	86.44	1,950.2	5708
47	3,827,680	88,746,130	87.86	2,037.3	5709
48	3,889,920	92,604,930	89.29	2,125.9	5710
49	3,952,160	96,525,970	90.71	2,215.9	5711
50	4,014,400	100,539,250	92.14	2,307.3	5712
51	4,076,640	104,553,650	93.52	2,400.1	5713
52	4,138,880	108,658,050	94.90	2,494.3	5714
53	4,194,400	112,822,450	96.28	2,589.9	5715
54	4,254,400	117,046,850	97.66	2,686.9	5716
55	4,314,400	121,381,250	99.04	2,785.3	5717
56	4,373,200	125,775,050	100.40	2,885.0	5718
57	4,432,000	130,077,650	101.74	2,986.1	5719
58	4,490,800	134,539,050	103.09	3,088.5	5720
59	4,549,600	139,059,250	104.44	3,192.2	5721
60	4,608,400	143,638,250	105.79	3,297.4	5722
61	4,669,000	148,376,950	107.18	3,403.8	5723
62	4,729,600	153,176,250	108.58	3,511.7	5724
63	4,790,200	157,936,150	109.97	3,621.0	5725
64	4,850,800	162,556,650	111.36	3,731.7	5726
65	4,911,400	167,337,750	112.75	3,843.7	5727
66	4,969,200	172,378,110	114.08	3,957.1	5728
67	5,027,240	177,376,390	115.41	4,071.9	5729
68	5,085,360	182,432,590	116.74	4,188.0	5730
69	5,143,080	187,546,710	118.07	4,305.4	5731
70	5,201,000	192,718,750	119.40	4,424.1	5732
71	5,258,640	197,946,570	120.63	4,544.1	5733
72	5,308,280	203,228,030	121.86	4,665.4	5734
73	5,361,920	208,563,130	123.09	4,787.8	5735
74	5,415,560	213,951,870	124.32	4,911.5	5736
75	5,469,200	219,394,250	125.56	5,036.5	5737
76	5,541,300	224,899,500	127.21	5,162.8	5738
77	5,613,400	230,476,850	128.86	5,290.9	5739
78	5,685,500	236,126,300	130.52	5,420.6	5740
79	5,757,600	241,847,850	132.18	5,551.9	5741
80	5,829,700	247,641,500	133.83	5,684.9	5742
81	5,895,500	253,504,100	135.34	5,819.5	5743
82	5,961,300	259,432,500	136.85	5,955.6	5744
83	6,027,100	265,426,700	138.36	6,093.2	5745
84	6,092,900	271,486,700	139.87	6,232.3	5746
85	6,158,700	277,612,500	141.38	6,373.0	5747
86	6,224,500	283,801,100	142.76	6,515.0	5748
87	6,290,300	289,954,500	144.15	6,658.5	5749
88	6,356,100	296,357,700	145.50	6,803.3	5750
89	6,397,900	302,725,700	146.88	6,955.5	5751
90	6,457,700	309,153,500	148.25	7,097.0	5752
91	6,506,800	315,645,750	149.64	7,246.2	5753
92	6,596,000	322,207,150	151.42	7,396.7	5754
93	6,665,200	328,837,750	153.01	7,584.9	5755
94	6,734,400	335,537,550	154.60	7,702.8	5756
95	6,803,600	342,306,550	156.19	7,858.1	5757
96	6,882,880	349,149,790	158.01	8,015.2	5758
97	6,962,160	356,072,310	159.83	8,174.2	5759

NOTES: 1. AREA-CAPACITY CHART IS REPRODUCED FROM JUNIATA DAM AS-BUILT DRAWINGS PREPARED BY ARMSTRONG ENGINEERS, DATED JULY 14, 1978.  
 2. THE MAXIMUM RESERVOIR POOL ELEVATION IS 5750.38 FEET, CONTROLLED BY A CONCRETE RETAINING WALL CONSTRUCTED ACROSS THE SPILLWAY. THE MAXIMUM RESERVOIR CAPACITY IS 6867.7 AC-FT (PER ARMSTRONG ENGINEERS FIELD SURVEY ON AUGUST 31, 1985).

**OUTLET WORKS DISCHARGE EQUATION**

$$Q = \frac{a\sqrt{2gh}}{\sqrt{K_f + K_e + K_b + K_{exp} + K_{con} + K_{ex} + \left(\frac{5087n^2L}{d^{4/3}}\right)}}$$

WHERE:  
 a = FLOW CROSS-SECTIONAL AREA OF PIPE, IN SQ. FT.  
 g = GRAVITATIONAL ACCELERATION CONSTANT, 32 FT/SEC.<sup>2</sup>  
 H = TOTAL HEAD LOSS THROUGH SYSTEM, IN FEET  
 K<sub>f</sub> = TRASHRACK LOSS COEFFICIENT  
 K<sub>e</sub> = PIPE ENTRANCE LOSS COEFFICIENT  
 K<sub>b</sub> = PIPE BEND LOSS COEFFICIENT  
 K<sub>exp</sub> = PIPE EXPANSION LOSS COEFFICIENT  
 K<sub>con</sub> = PIPE CONTRACTION LOSS COEFFICIENT  
 K<sub>ex</sub> = PIPE EXIT LOSS COEFFICIENT  
 n = MANNING'S ROUGHNESS COEFFICIENT  
 L = LENGTH OF PIPE, IN FEET  
 d = PIPE LINER DIAMETER, IN INCHES  
 Q = OUTLET WORKS DISCHARGE, IN CFS.

NOTE: GATES TO BOTH THE LOW-LEVEL AND MID-LEVEL INTAKES ARE ASSUMED TO BE FULLY OPEN FOR MAXIMUM RELEASE.

**RESERVOIR EVACUATION RATES**

Steel-liner Alternative

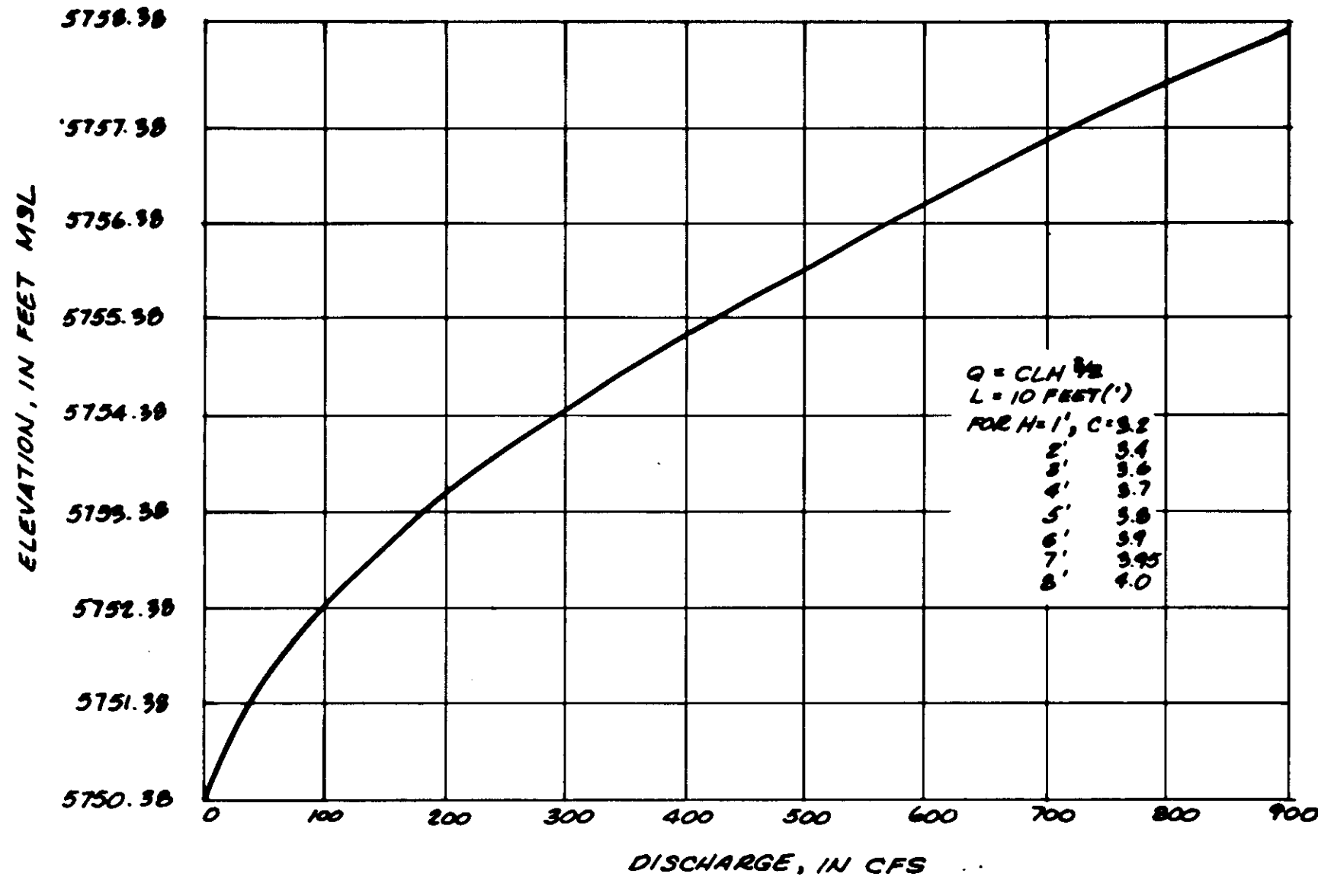
Reservoir Water Withdrawal in Days	in ac-ft/day from low-level outlet	in ac-ft/day from mid-level outlet	Total ac-ft/day from combined system Incre. Accum.
1	72.61	81.30	153.91 153.91
2	72.25	80.51	152.76 306.67
3	71.89	79.71	151.60 458.27
4	71.53	78.90	150.43 608.70
5	71.17	78.08	149.25 757.95

4.76 days evacuation time for maximum five feet of storage. 721.4 ac-ft in upper five feet of reservoir storage.

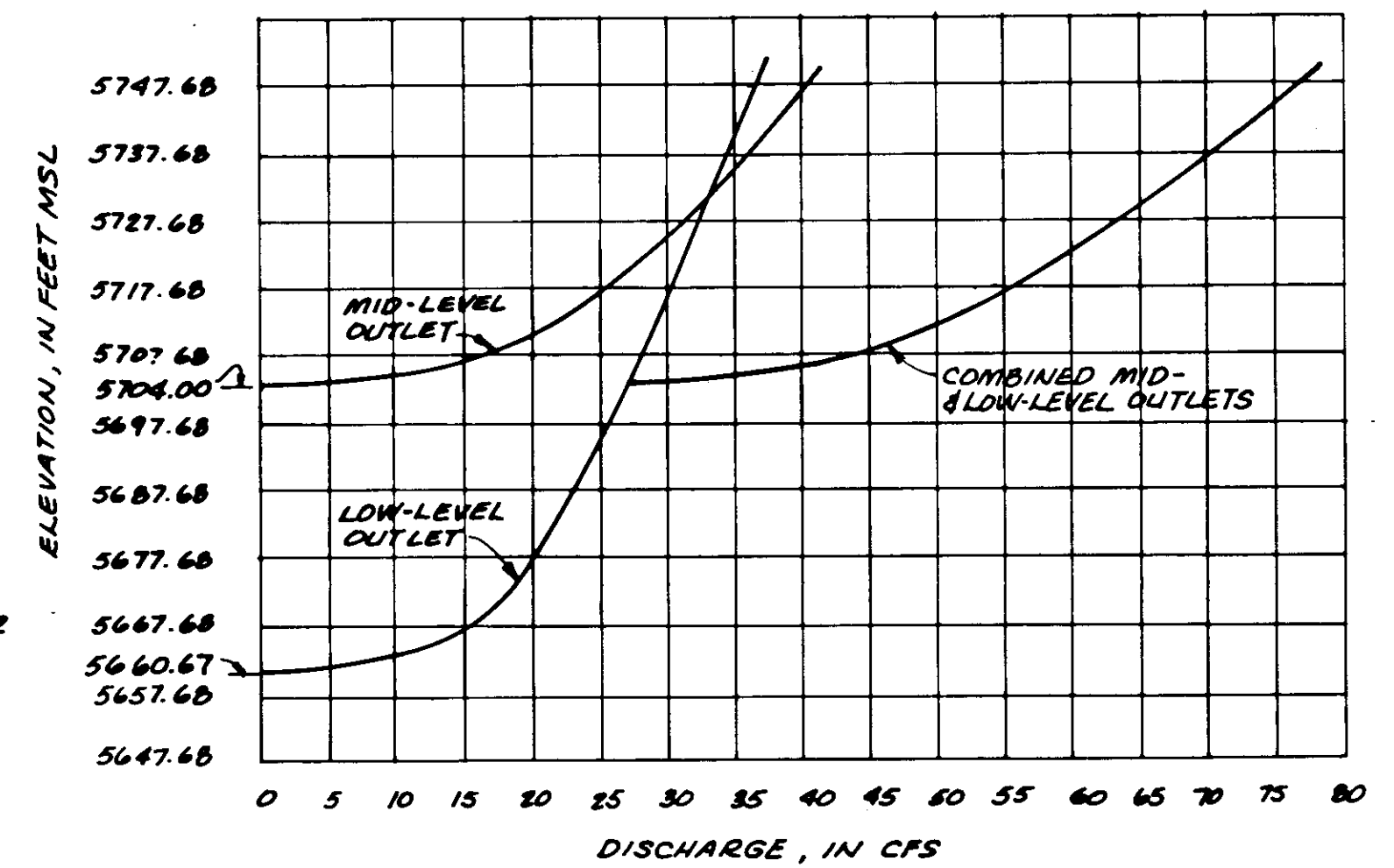
Polyethylene-liner Alternative

Reservoir Water Withdrawal in Days	in ac-ft/day from low-level outlet	in ac-ft/day from mid-level outlet	Total ac-ft/day from combined system Incre. Accum.
1	49.94	73.75	123.69 123.69
2	49.70	73.03	122.73 246.42
3	48.45	72.31	121.76 368.18
4	49.21	71.57	120.78 488.96
5	48.96	70.83	119.79 608.75
6	48.71	70.08	118.79 727.54

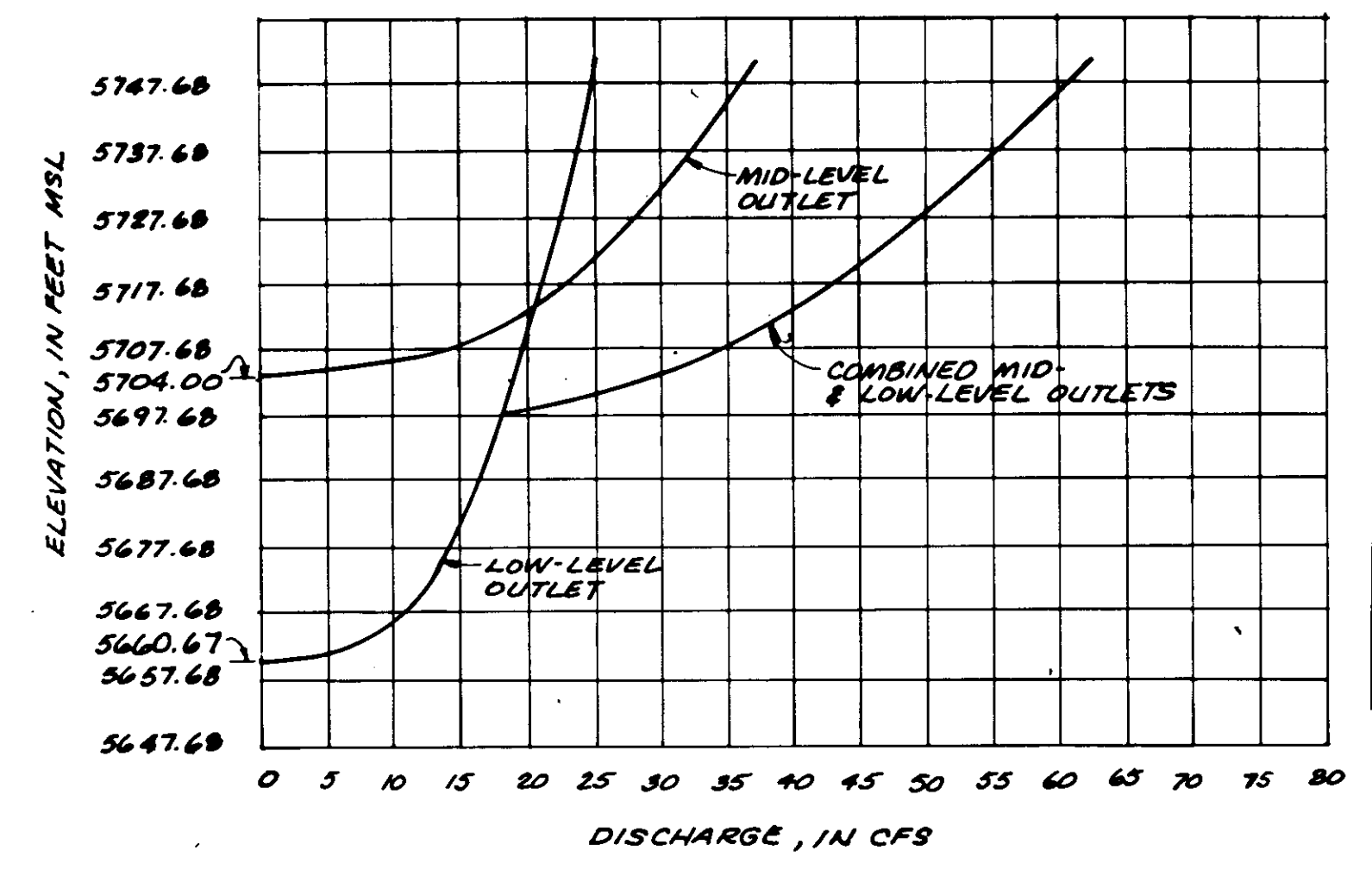
5.95 days evacuation time for maximum five feet of storage. 721.4 ac-ft in upper five feet of reservoir storage.



NOTE: SPILLWAY DISCHARGE CURVE IS REPRODUCED FROM JUNIATA DAM AS-BUILT DRAWINGS PREPARED BY ARMSTRONG ENGINEERS DATED JULY 14, 1978.



**OUTLET RATING CURVE WITH STEEL LINER**



**OUTLET RATING CURVE WITH POLYETHYLENE LINER**

"AS RECORDED" FROM INFORMATION PROVIDED BY THE CONTRACTORS DATE: JUN-1987



**SCHEDULE II**

**Juniata Outlet Works Modifications**

**Outlet Works Plan & Reservoir Capacities**

Project Number: 73-77-50  
 Date: October, 1986  
 Project Manager: J. Roberts  
 Designer: G. Lake  
 Architectural: C. Nyman  
 Designer: R. Brednsneider

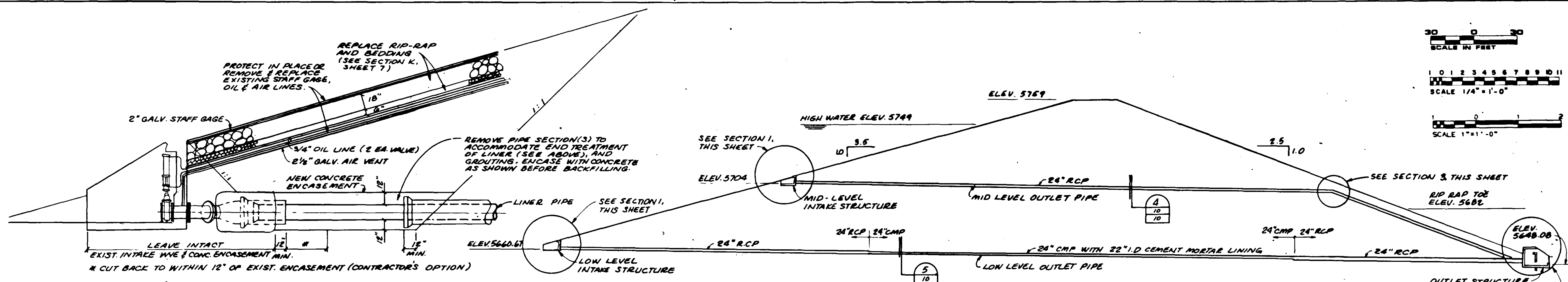
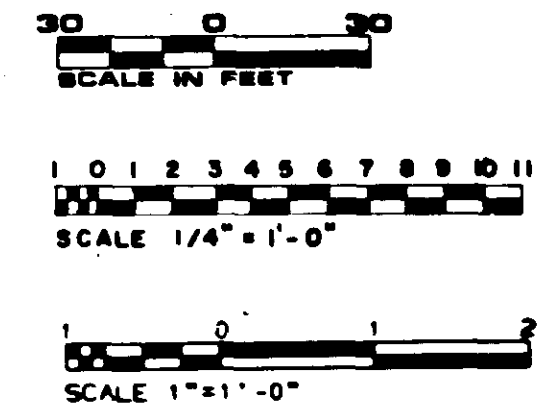
**C-661B**



NOT IN CONTRACT.



J05-158-10



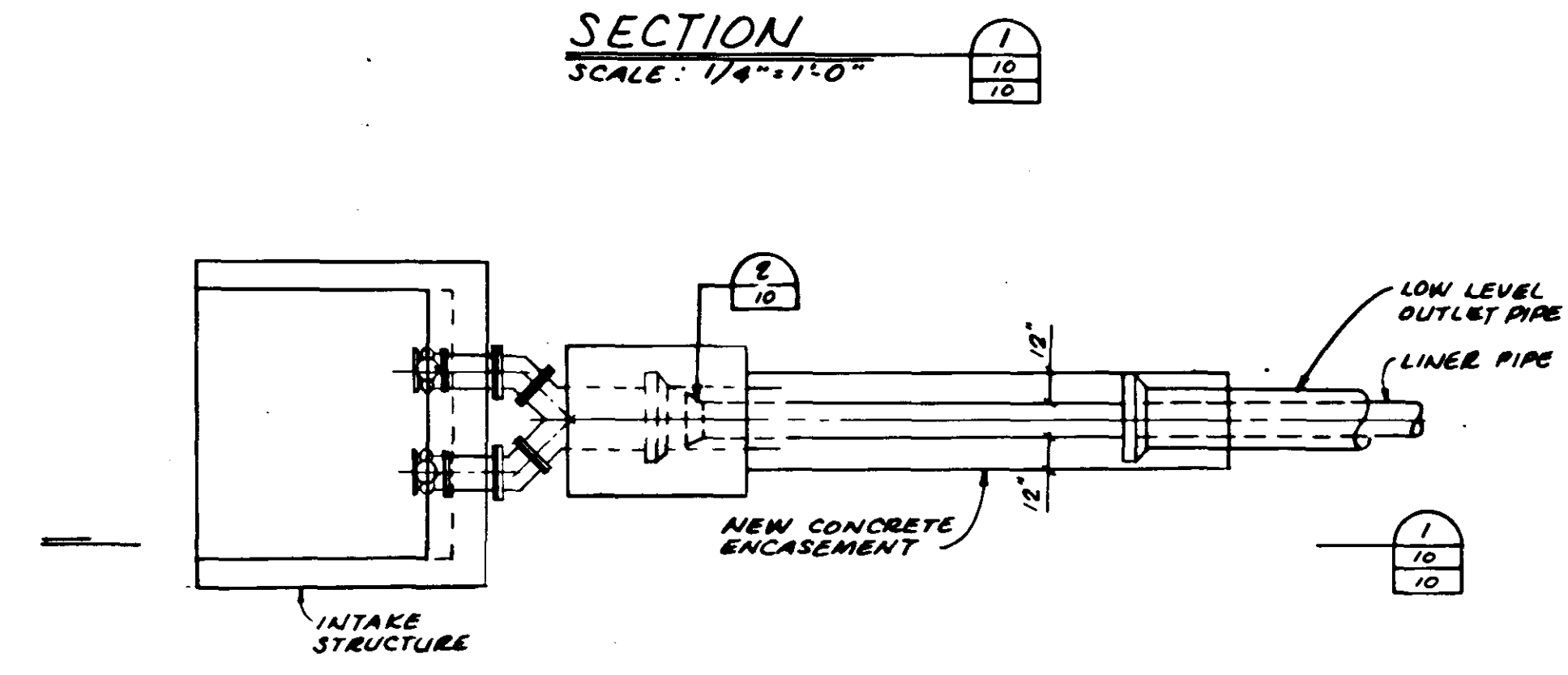
**SCHEDULE II**

**Junjata Outlet Works Modifications**

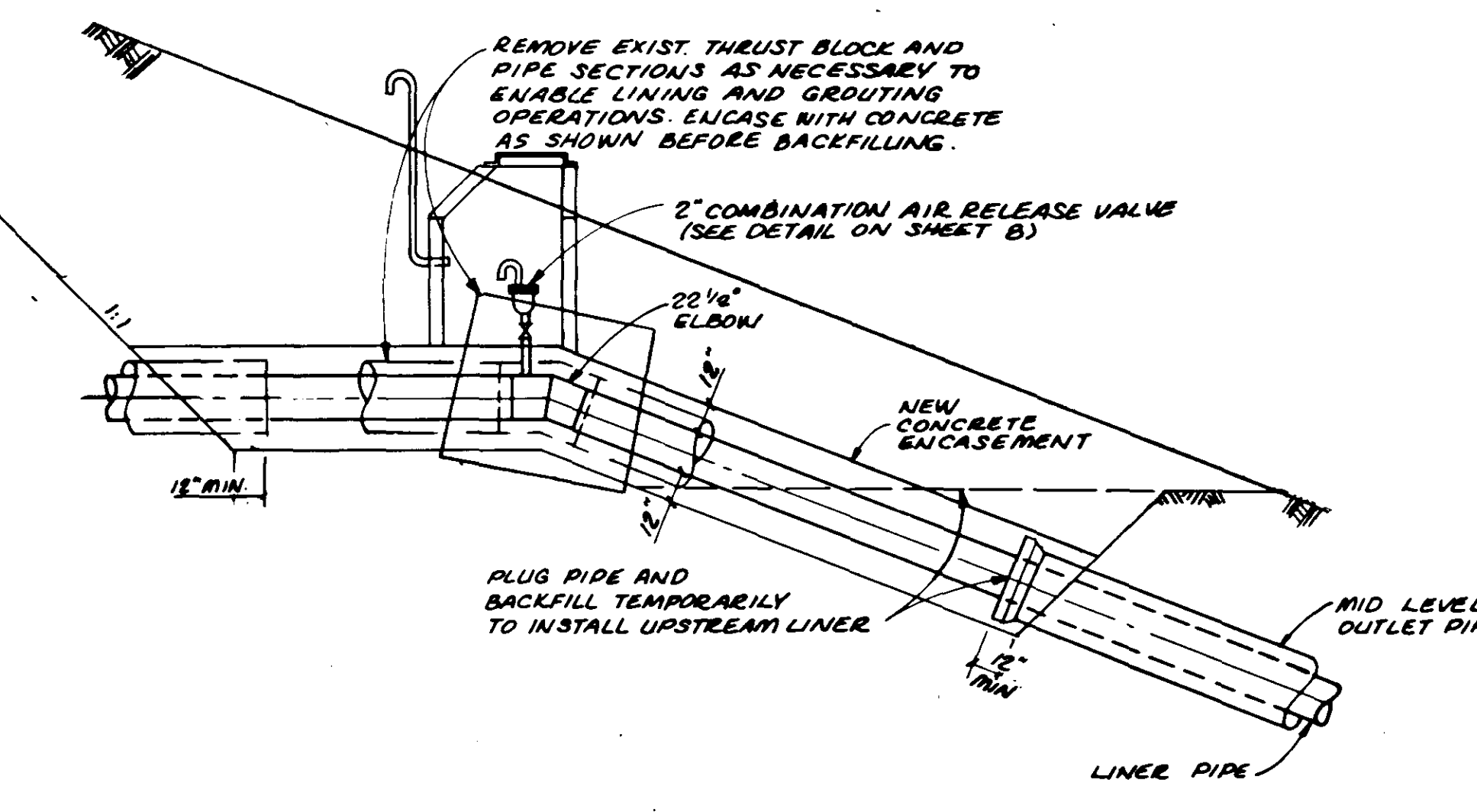
**Miscellaneous Modifications**

Project Number	73-77-50
Date	October, 1986
Project Manager	J. Roberts
Designer	J. Roberts
Architect	C. Nyman
Checked By	R. Bredenaider

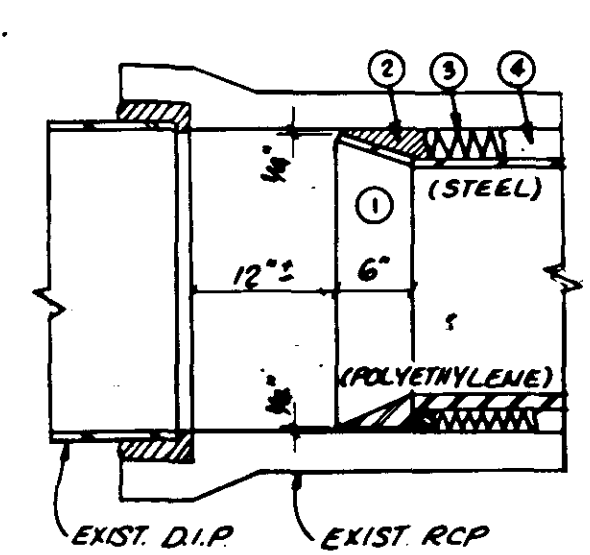
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**INTAKE STRUCTURE PLAN**  
SCALE: 1/4" = 1'-0"



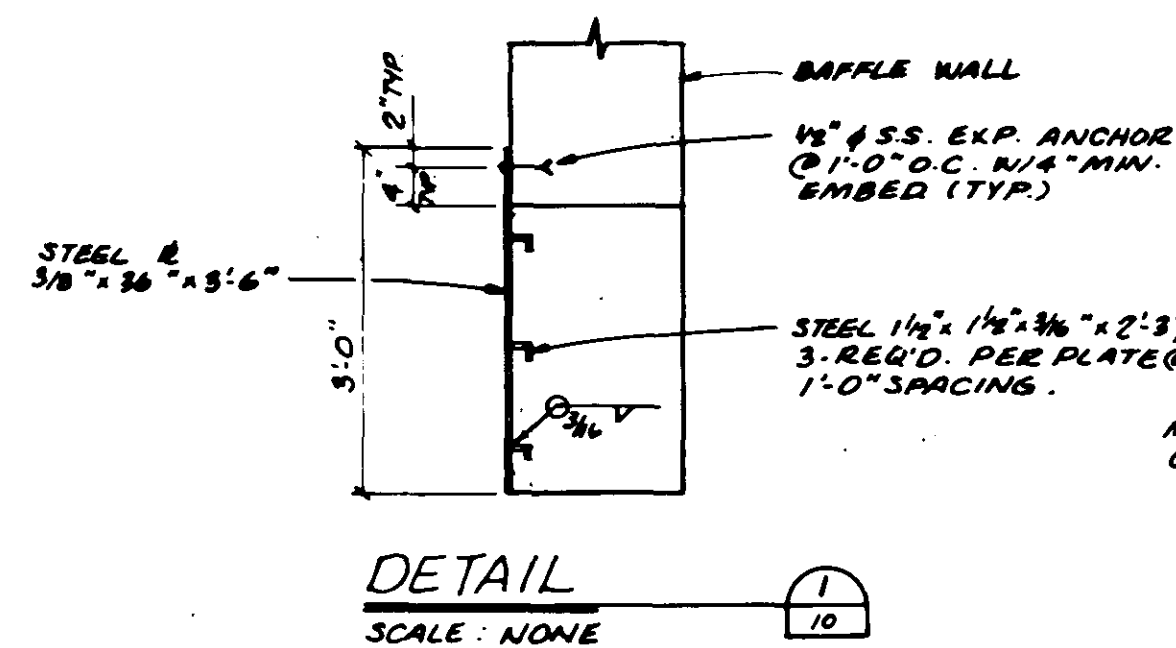
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**END TREATMENT DETAIL**  
SCALE: 1" = 1'-0"

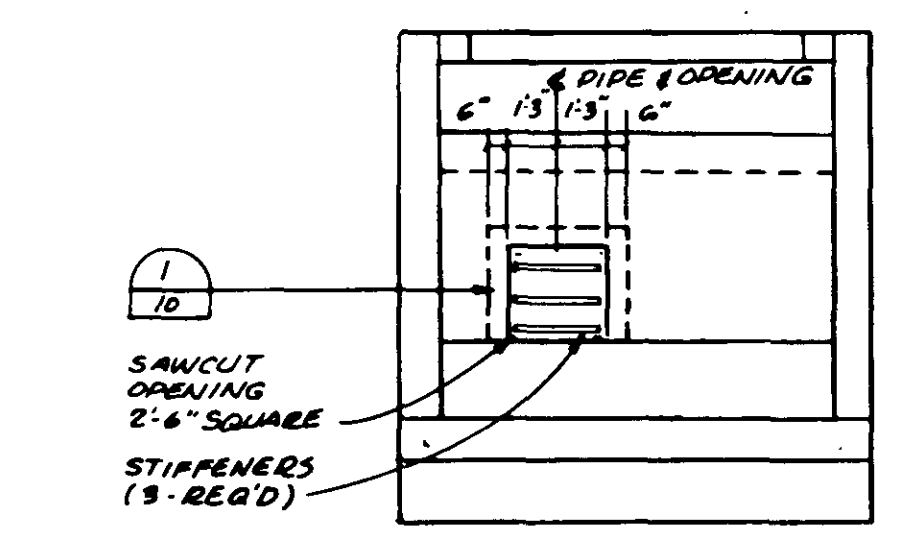
- FABRICATED BELL WELDED TO END OF LINER PIPE PRIOR TO INSERTION INTO FINAL JOINT.
- WRAP WITH OAKUM OR PRE-FORMED GASKET MATERIAL AND TAMP TIGHTLY AFTER INSERTION.
- LOW DENSITY COMPRESSIBLE MATERIAL TO ALLOW A MINIMUM CONTRACTION OF 2" FOR STEEL LINER OR 6" FOR POLYETHYLENE LINER.
- GROUT

**SECTION THRU DAM**  
SCALE: 1" = 30"

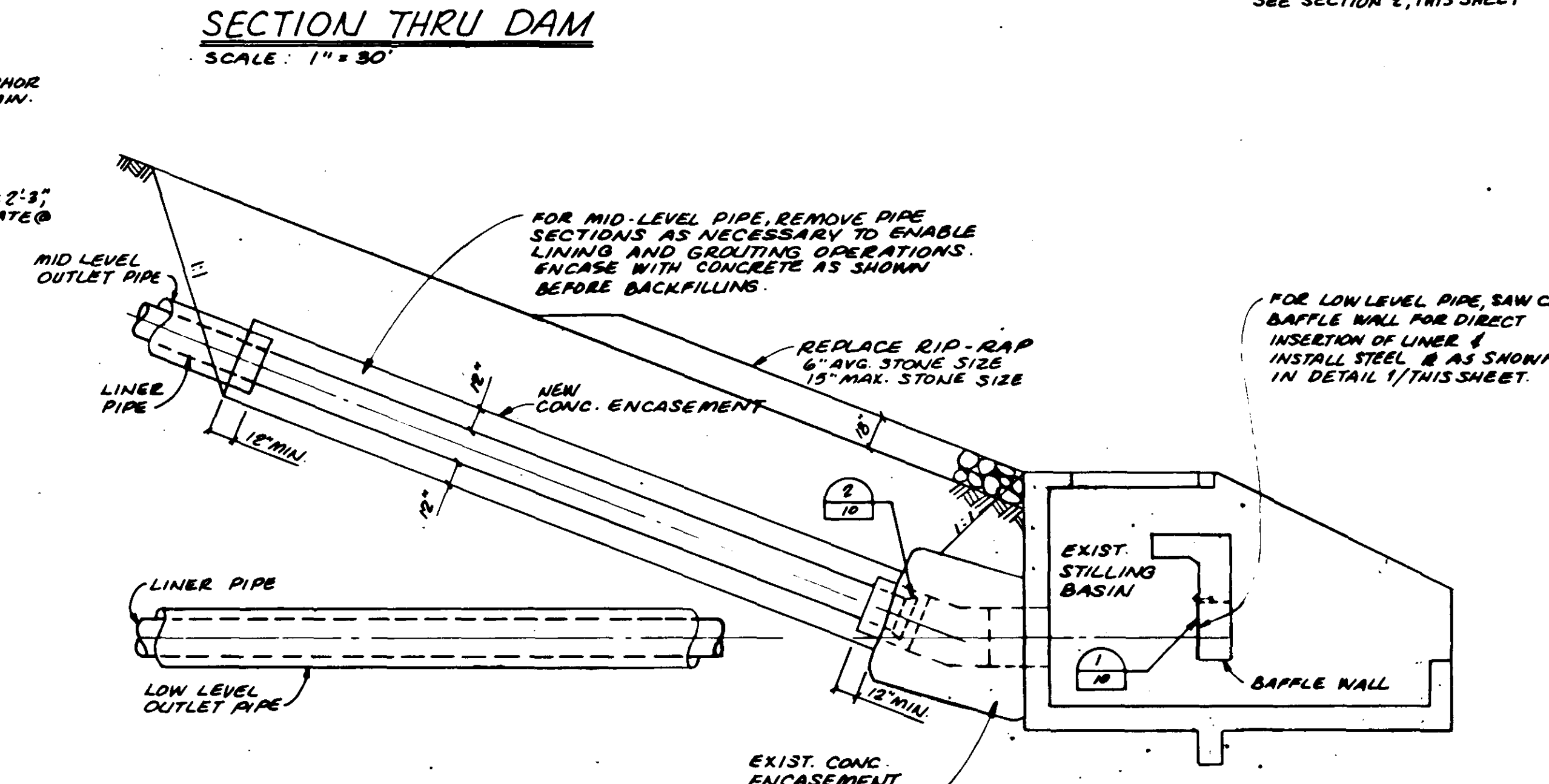


**DETAIL**  
SCALE: NONE

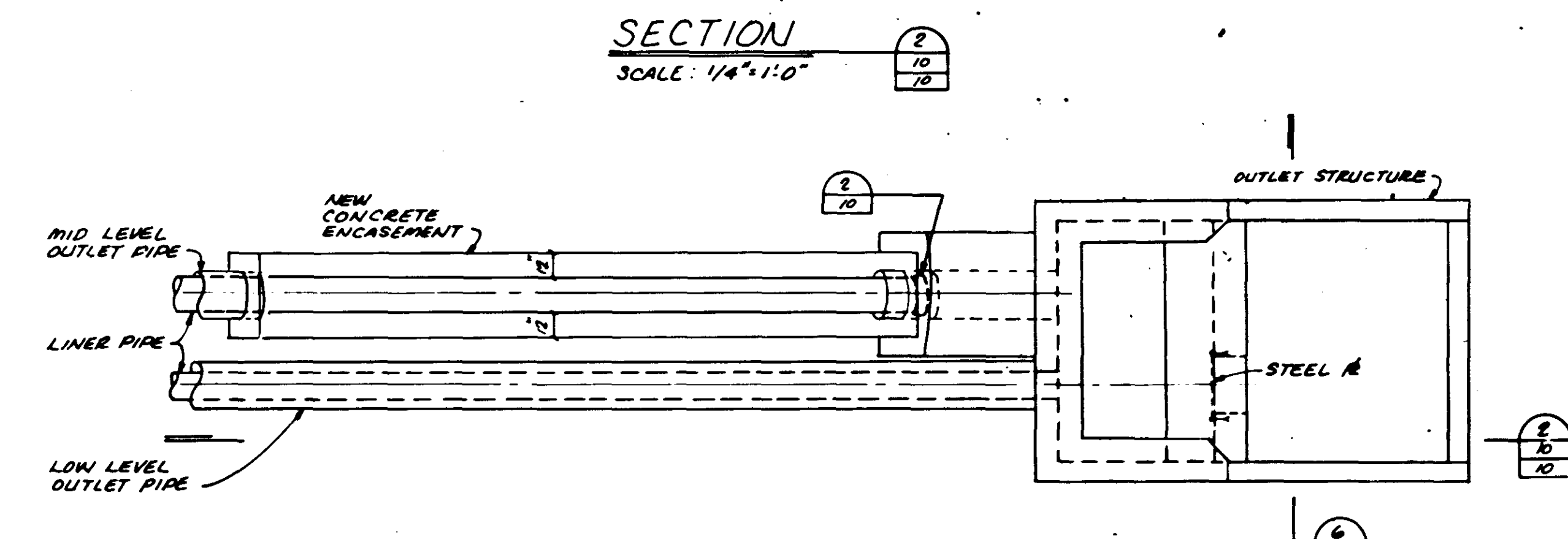
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**SECTION THRU DAM**  
SCALE: 1" = 30"

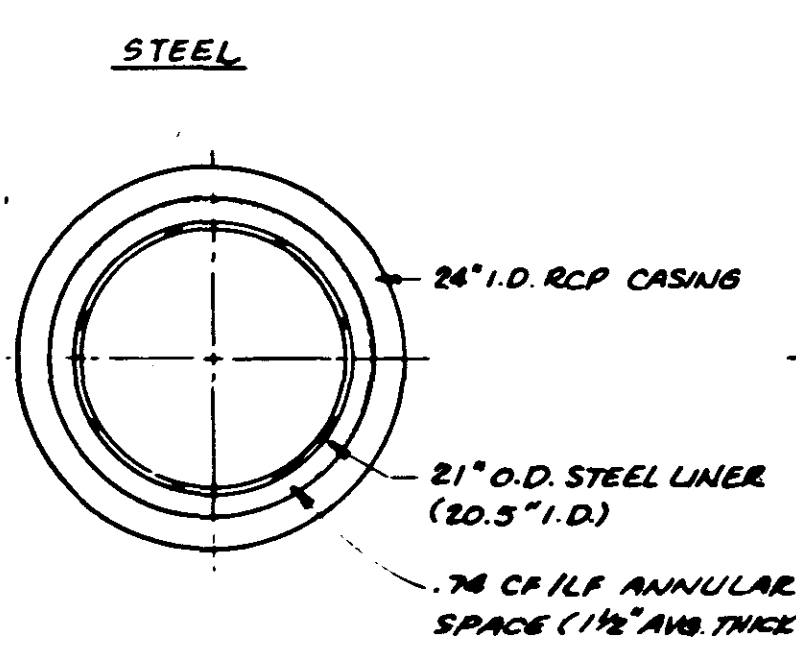


**SECTION**  
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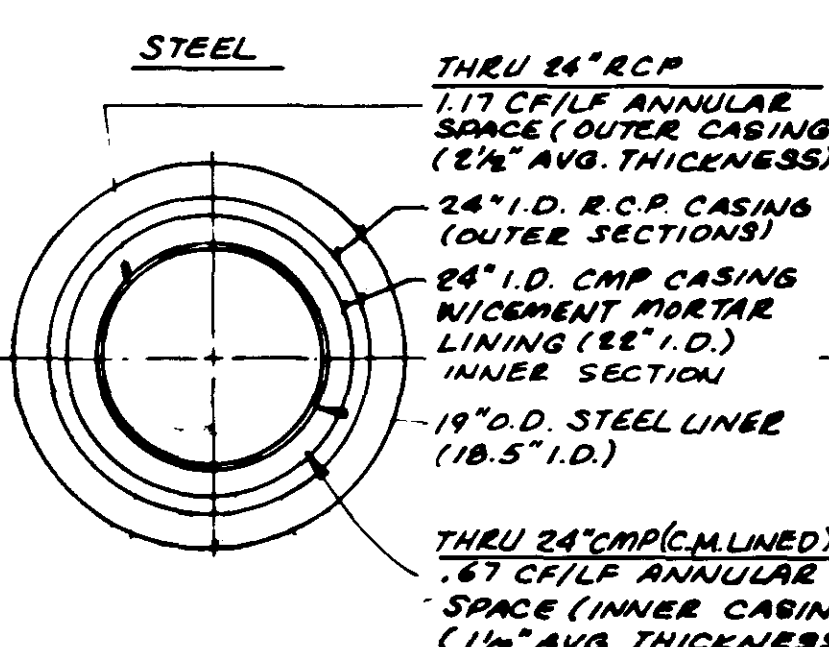
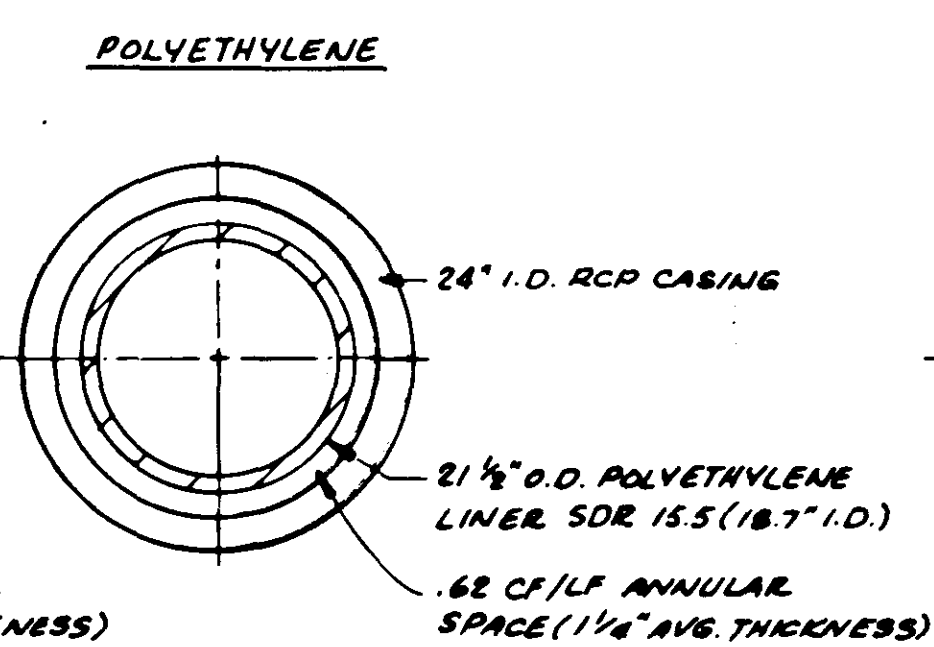


**OUTLET STRUCTURE PLAN**  
SCALE: 1/4" = 1'-0"

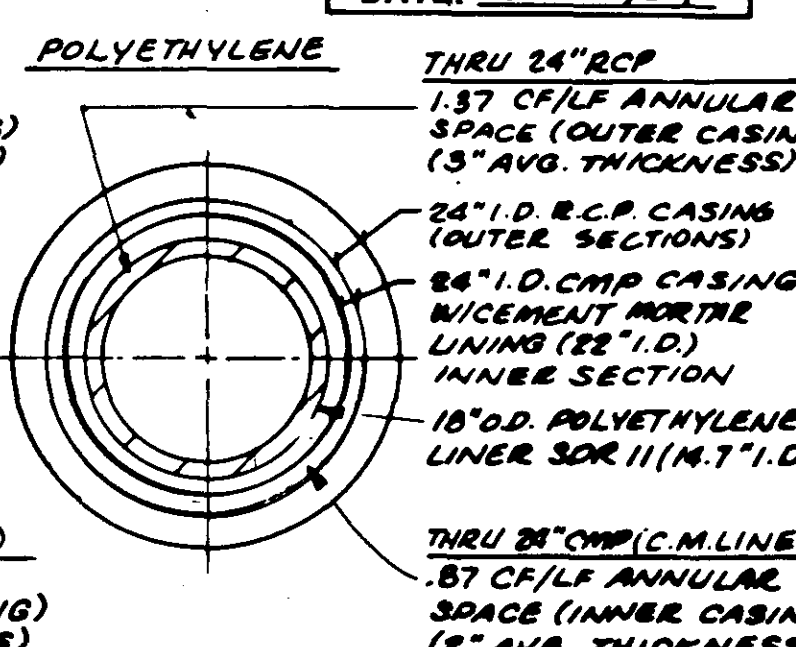
"AS RECORDED" FROM INFORMATION PROVIDED BY THE CONTRACTORS DATE: JUN 1987



**SECTION THRU MID LEVEL OUTLET PIPE**  
SCALE: 1" = 1'-0"

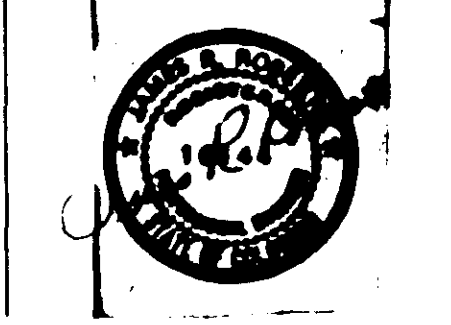


**SECTION THRU LOW LEVEL OUTLET PIPE**  
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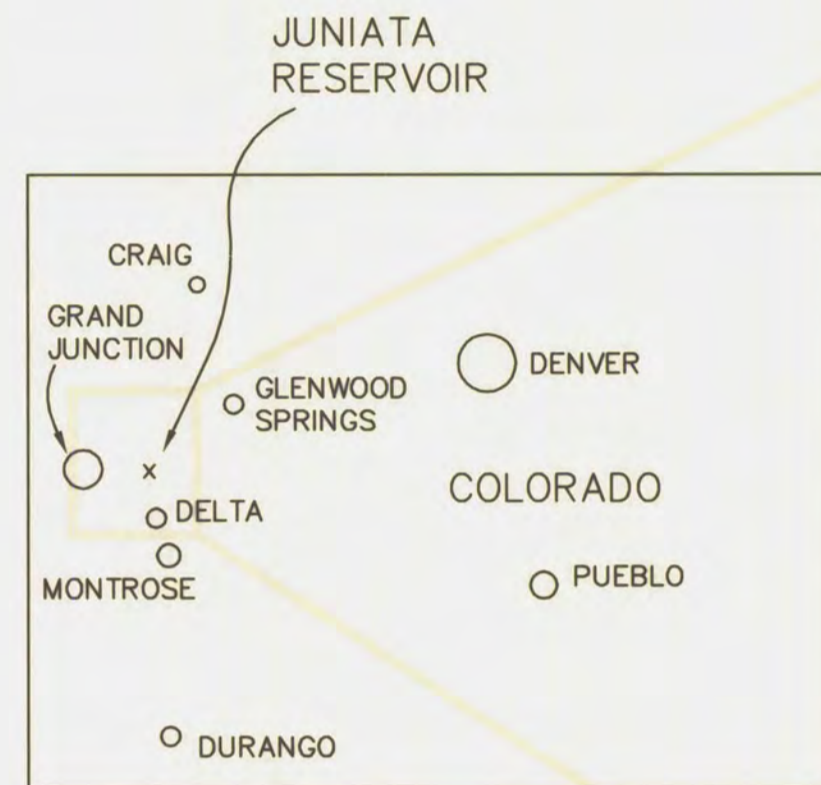


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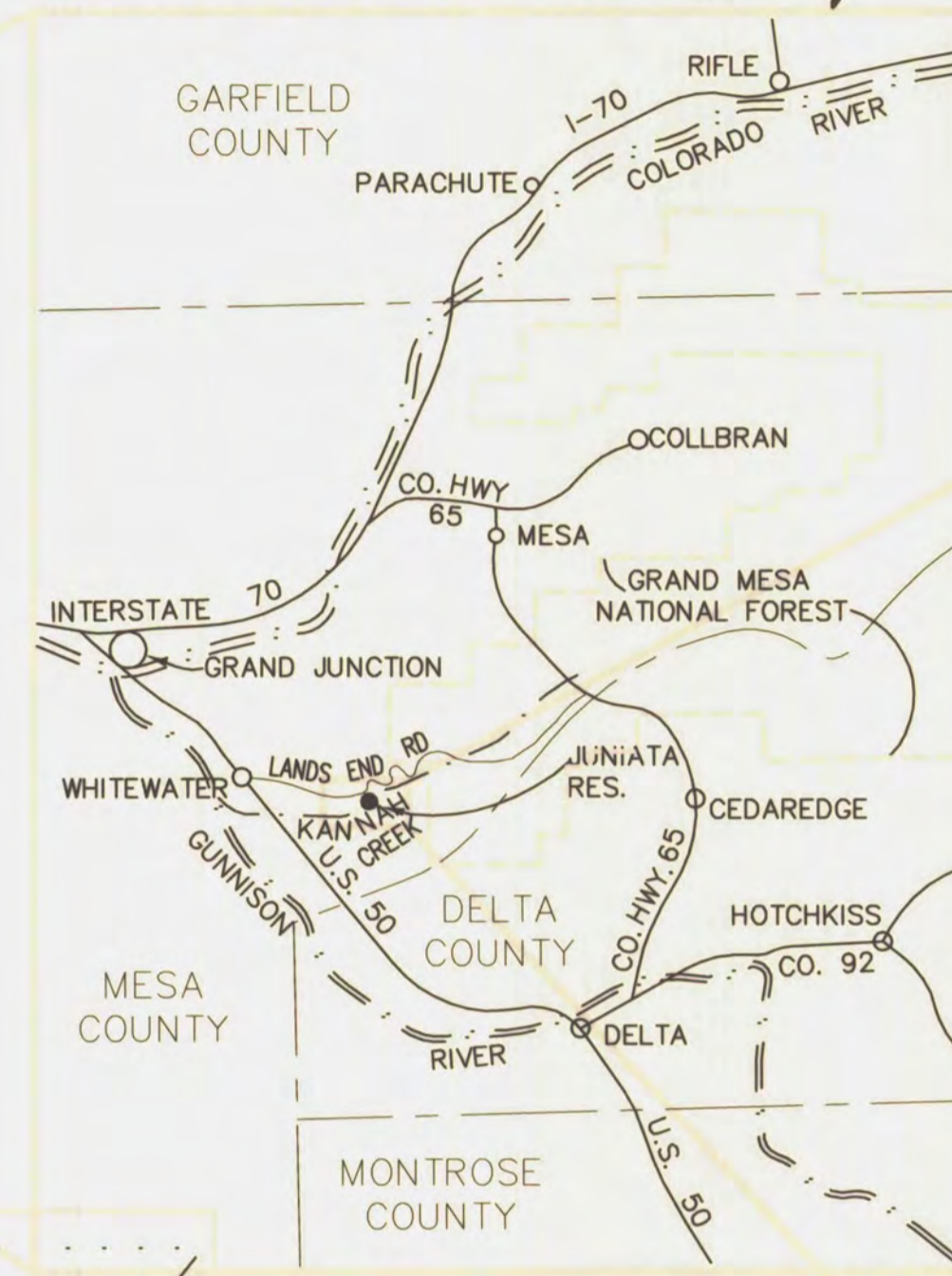
**C-661B**



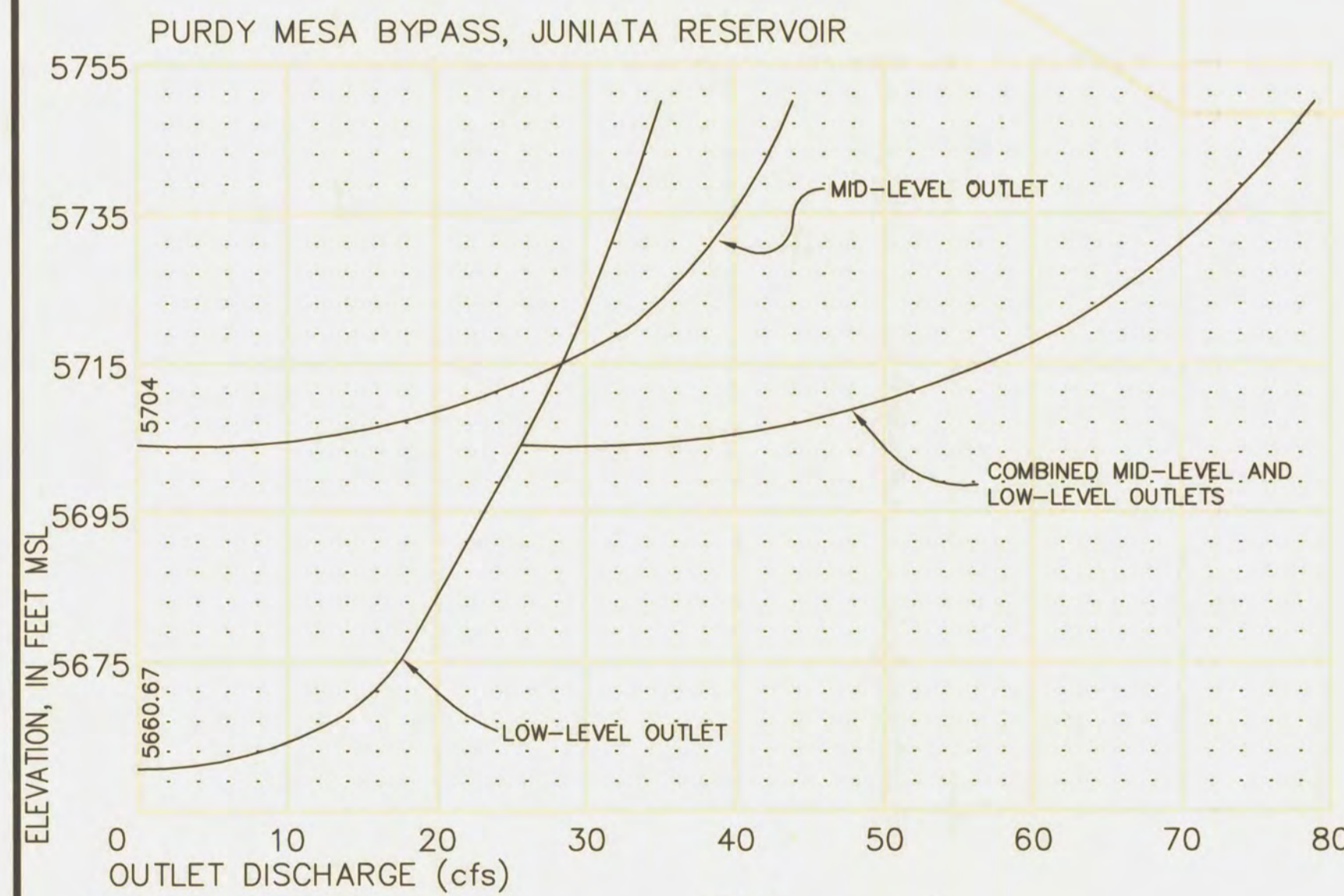
# PURDY MESA BYPASS, JUNIATA RESERVOIR OUTLET WORKS REHABILITATION MESA COUNTY, W. DIV. 4, DAMID: 420128 MAY, 2002



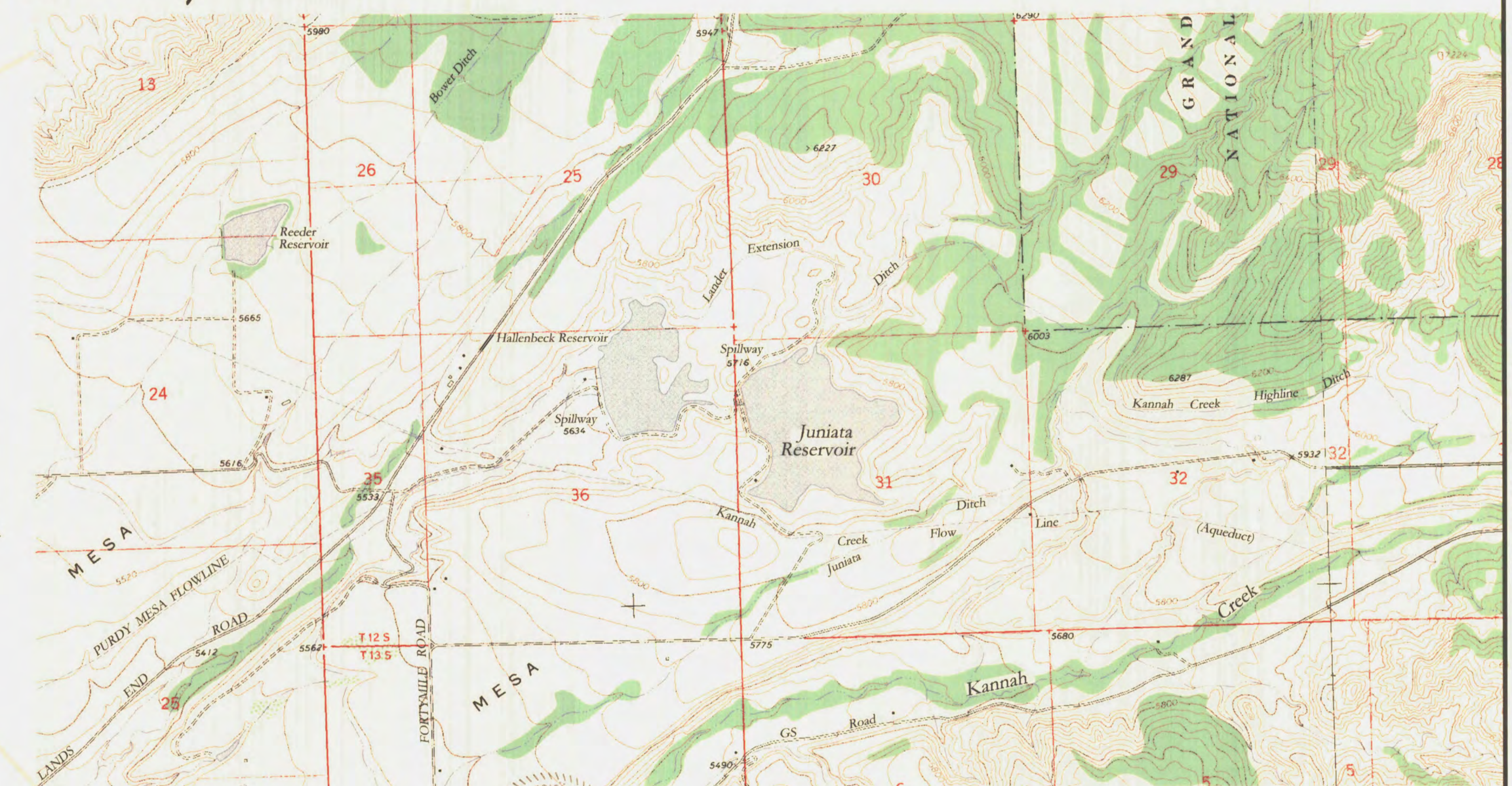
LOCATION MAP  
N.T.S.



REGIONAL MAP  
N.T.S.



- 1 — Cover Sheet
- 2 — Outlet Works Reconfiguration, Plan, Profile, and Sections
- 3 — Purdy Mesa Bypass Plan and Profile



VICINITY MAP

ENGINEER CERTIFICATION

I, BRET GUILLORY CERTIFY THAT THESE PLANS AND ACCOMPANYING SPECIFICATIONS WERE PROVIDED BY ME OR UNDER MY DIRECT SUPERVISION.  
 SIGNATURE: *[Signature]* LICENSE NO. CO 31675 DATE 5/14/02

OWNER ACCEPTANCE

AS OWNER OF PURDY MESA BYPASS, JUNIATA RESERVOIR WE ACKNOWLEDGE THAT THESE PLANS AND ACCOMPANYING SPECIFICATIONS HAVE BEEN REVIEWED AND ACCEPTED BY US, AND WE REQUEST CONSIDERATION FOR APPROVAL BY THE OFFICE OF THE STATE ENGINEER.  
 SIGNATURE: *[Signature]* TITLE: UTILITY MANAGER DATE: 11/5/03

STATE ENGINEER APPROVAL

APPROVED ON THE 23rd DAY OF May 2002  
 H.D. SIMPSON  
 STATE ENGINEER

BY:

DEPUTY: *[Signature]* PE 16900

AS-BUILT CERTIFICATION

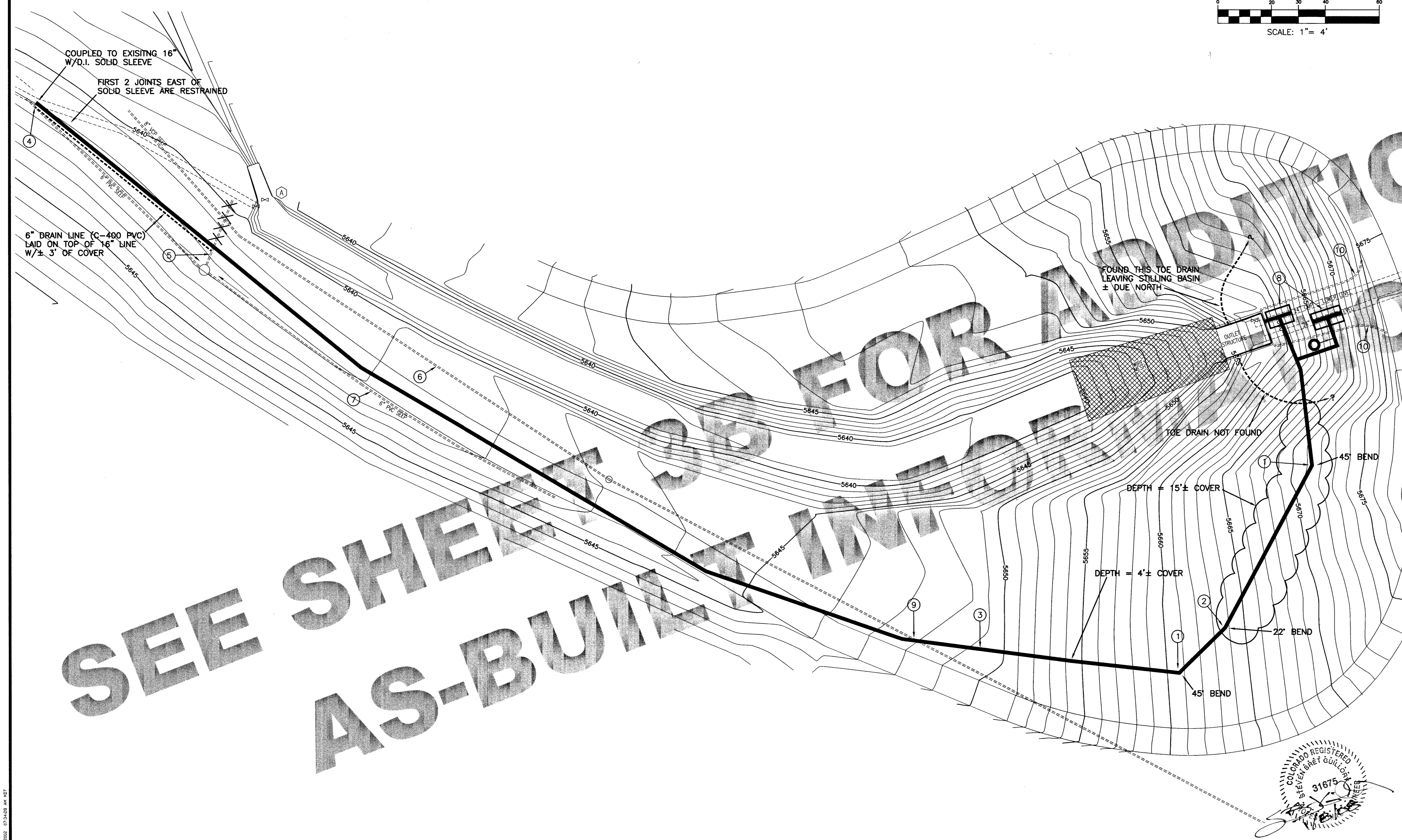
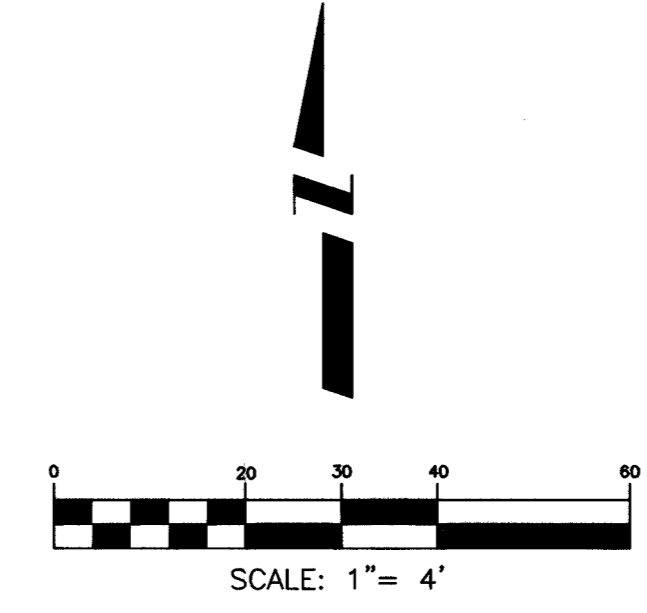
THESE PLANS REPRESENT THE AS-CONSTRUCTED CONDITIONS OF PURDY MESA BYPASS, JUNIATA RESERVOIR OUTLET WORKS TO THE BEST OF OUR KNOWLEDGE AND JUDGEMENT, BASED IN PART ON INFORMATION FURNISHED BY OTHERS AS OF THE 5th DAY OF November 2002.  
 STEVEN BRET GUILLORY  
 ENGINEERS PRINTED NAME SIGNATURE: *[Signature]*

City of Grand Junction, Colorado  
 Department of Public Works & Utilities  
 Engineering Division  
**C-661C**

PURDY MESA BYPASS, JUNIATA RESERVOIR, OUTLET WORKS REHABILITATION

**CONSTRUCTION NOTES**

- ① 102/104 - INSTALL 16" D.I. 45° BEND W/MEGA-LUG RESTRAINT.
- ② 102/104 - INSTALL 16" D.I. 22.5° BEND W/MEGA LUG RESTRAINT.
- ③ 102/104 - INSTALL 16" C-905 PVC DR-25. CITY OF GRAND JUNCTION WILL FURNISH 16" C-905 PVC. MAINTAIN MINIMUM 4' COVER OVER PIPE.
- ④ CONNECT TO EXISTING 16" C-905 PVC. THE EXISTING 16" PVC HAS BEEN TEMPORARILY CONNECTED TO THE 30" CMP USING A CONCRETE COLLAR. THE CONTRACTOR SHALL DIG BACK TO THE FIRST JOINT ON THE 16" PVC WEST OF THE TEMPORARY TIE-IN. REMOVE THE +/- 10' LENGTH OF 16" PVC STUBBED INTO THE CMP AND START NEW INSTALLATION OF THE 16" PVC BY-PASS LINE.
- ⑤ THE CONTRACTOR SHALL POTHOLE THE EXISTING 6" PVC DRAIN AND DEFLECT 16" PVC AS NEEDED TO INSTALL THE NEW PVC UNDER THE EXISTING DRAIN.
- ⑥ EXISTING 8" VCP SEEP LINE. LOCATION OF THE LINE IS APPROXIMATE.
- ⑦ EXISTING 6" PVC SEEP LINE. LOCATION OF THE LINE IS APPROXIMATE.
- ⑧ CONSTRUCT NEW JUNIATA REEVOIR OUTLET WORKS CONFIGURATION. SEE SHEET 3, THIS PLAN SET.
- ⑨ CONTRACTOR SHALL POTHOLE EXISTING 8" CLAY TILE DRAINAGE LINE TO VERIFY DEPTH. 16" PVC LINE MAY NEED TO BE DEFLECTED TO ALLOW INSTALLATION BELOW DRAIN IF 4' COVER CANNOT BE MAINTAINED.
- ⑩ APPROXIMATE LOCATION OF EXISTING TOE DRAIN. SEE SPECIAL PROVISIONS FOR PROJECT.



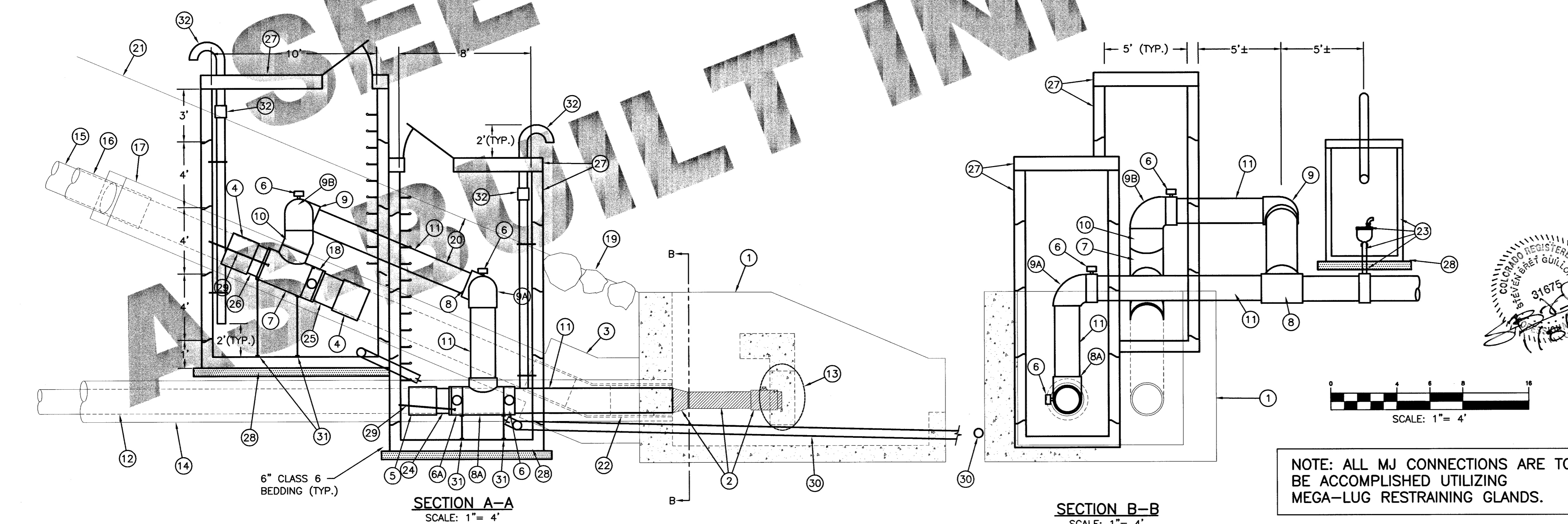
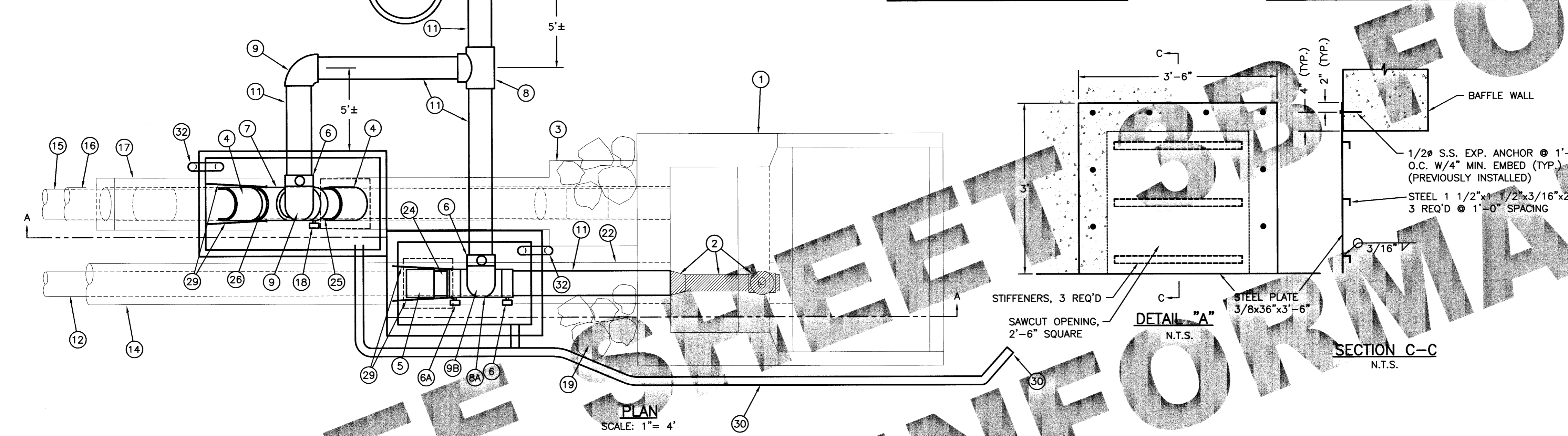
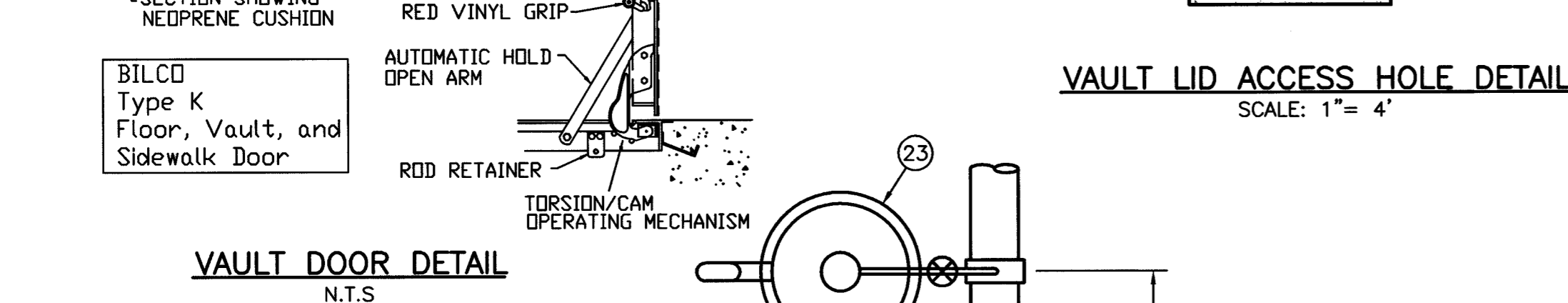
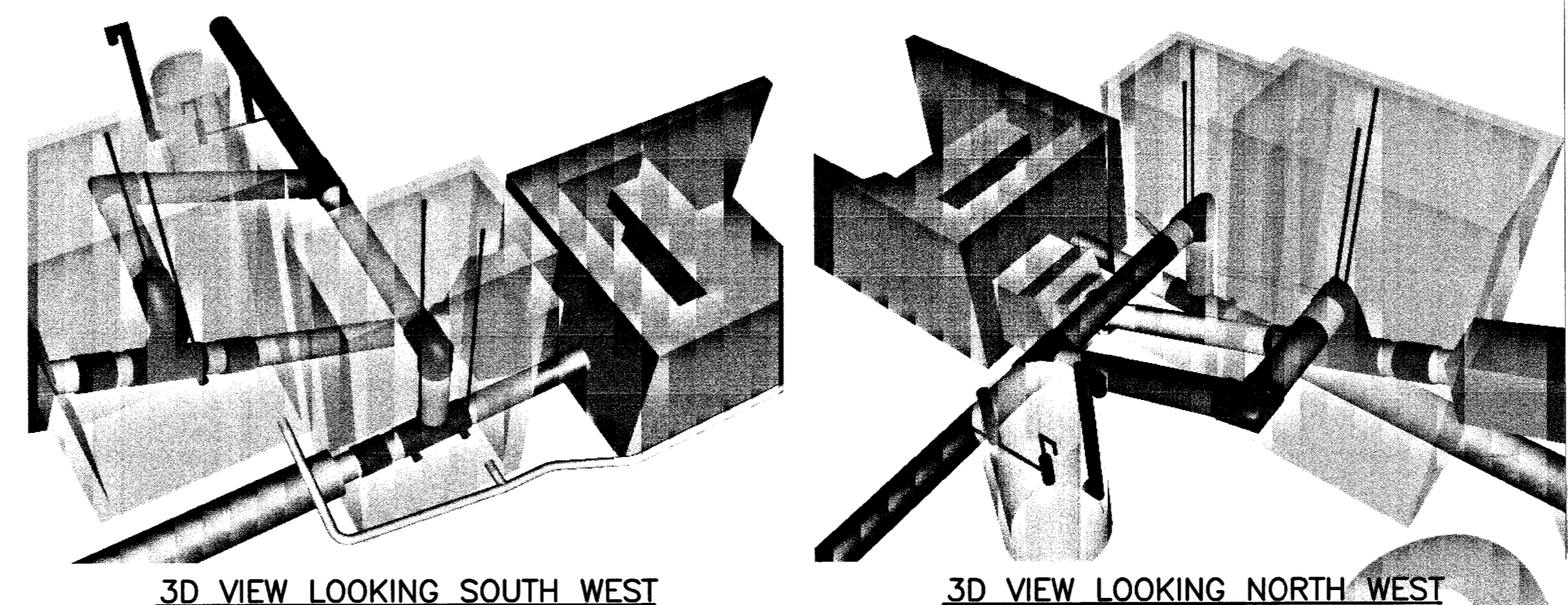
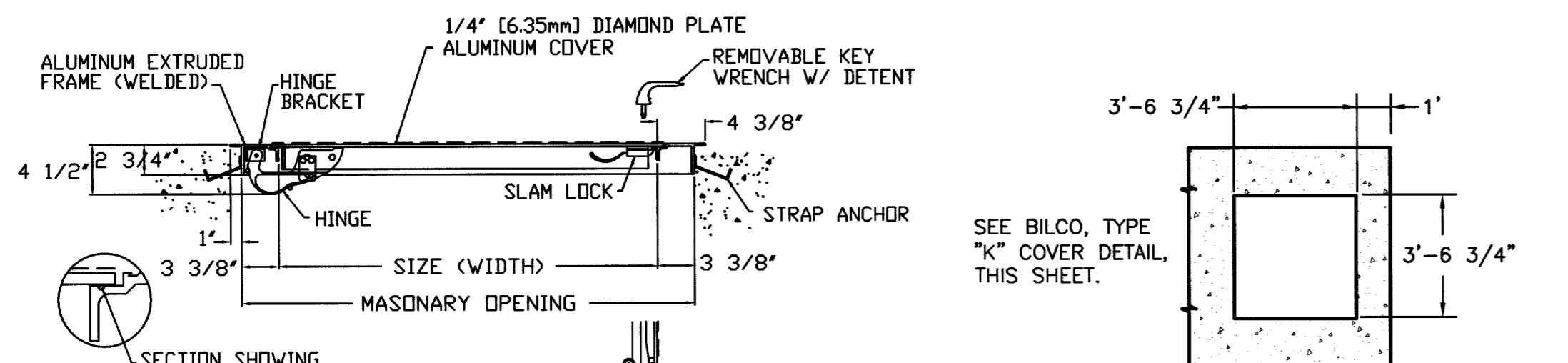
AS CONSTRUCTED  
12-2002

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	SCALE
REVISION			DW	3-02	PLAN
REVISION			SBG	3-02	PROFILE
REVISION			SBG	3-02	HORIZ. 1"=20'
REVISION					VERT.

DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO

PURDY MESA BYPASS  
PLAN  
2 OF 3

NOTE: EXISTING PIPE CONFIGURATION IS APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO INSTALLATION OF NEW VALVES AND APPURTENANCES



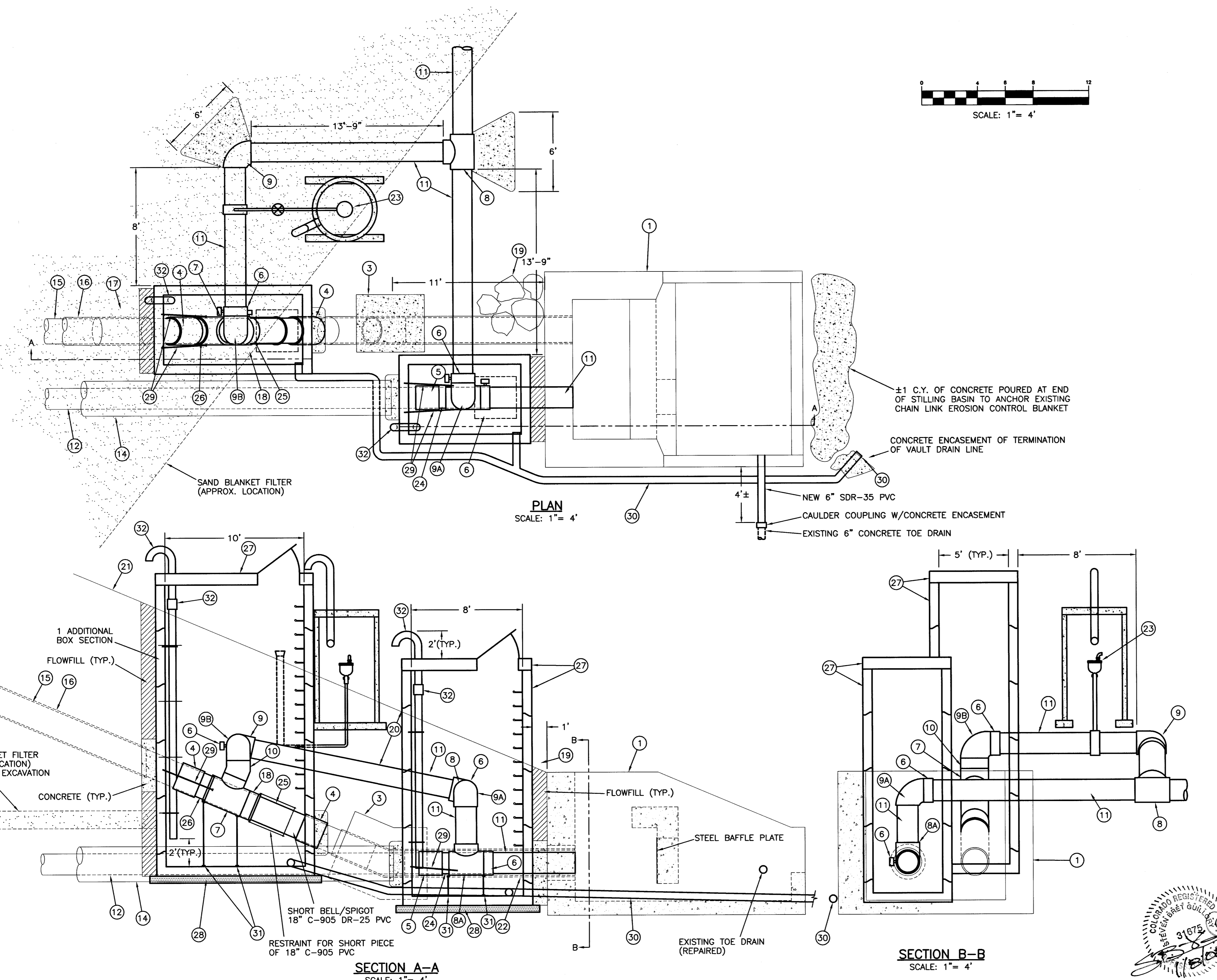
- 107.12 - PROTECT EXISTING CONCRETE STILLING BASIN.
- 202 - REMOVE EXISTING REDUCER, PIPE AND VALVE AS SHOWN.
- 307.12 - EXISTING CONCRETE ENCASMENT/KICKER FOR MID-LEVEL OUTLET TO BE LEFT IN PLACE.
- 4 INSTALL SMITH-BLAIR TRANSITION COUPLING OR ENGINEER APPROVED EQUAL. 21.5" O.D. (HDPE) TO 19.5" O.D. (18" DR-25 C-905). COUPLING TO BE 16" WIDTH. WITH ALL HARDWARE 304 STAINLESS STEEL. STIFFENERS SHALL BE 304 STAINLESS STEEL. CONTRACTOR SHALL FIELD VERIFY O.D. OF HDPE (MID-LEVEL OUTLET) PRIOR TO ORDERING COUPLING. APPROXIMATELY 12 WORKING DAYS NEEDED FOR MANUFACTURER TO PROVIDE COUPLINGS.
- 5 INSTALL SMITH-BLAIR TRANSITION COUPLING OR ENGINEER APPROVED EQUAL. 18" O.D. (HDPE) TO 17.4" O.D. (16" DR-25 C-905). COUPLING TO BE 16" WIDTH WITH ALL HARDWARE 304 STAINLESS STEEL. STIFFENERS SHALL BE 304 STAINLESS STEEL. CONTRACTOR SHALL FIELD VERIFY O.D. OF HDPE (MID-LEVEL OUTLET) PRIOR TO ORDERING COUPLING. APPROXIMATELY 12 WORKING DAYS NEEDED FOR MANUFACTURER TO PROVIDE COUPLINGS.
- 6 104 - INSTALL MUELLER LINESEAL III BUTTERFLY VALVE AND VALVE KEY EXTENSION, MODEL 75B, 16" FLxMJ, OR ENGINEER APPROVED EQUAL.
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- 7 104 - INSTALL 18"x18"x16" FLxFLxFL D.I. C110 TEE.
- 8 INSTALL 16" MJxMJxMJ D.I. C110 TEE.
- 8A 104 - INSTALL 16" FLxFLxMJ D.I. C110 TEE.
- 9 104 - INSTALL 16" MJ D.I. C110 90° BEND.
- 9A 104 - INSTALL 16" MJxFL D.I. C110 90° BEND.
- 9B 104 - INSTALL 16" FLxFL D.I. C110 90° BEND.
- 10 104 - INSTALL 16" FLxFL D.I. C110 22 1/2° BEND.
- 11 104 - 16" C-905 PVC, DR-25.
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- 13 INSTALL STEEL PLATE PER DETAIL THIS SHEET.
- 14 24" I.D. RCP CASING. ANNUAL SPACE BETWEEN HDPE AND RCP IS GROUTED. AVERAGE THICKNESS OF GROUT = +/- 3". CAREFULLY REMOVE CASING PIPE AND GROUT TO EXPOSE HDPE LINER AS NEEDED TO INSTALL NEW TRANSITION COUPLING FITTINGS.
- 15 21.5" O.D. (TO BE FIELD VERIFIED BY CONTRACTOR) SDR 15.5 HDPE LINER.
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- 17 CONCRETE ENCASMENT AROUND HDPE LINER EXTENDS APPROXIMATELY 12" BEYOND O.D. OF HDPE. CAREFULLY REMOVE CONCRETE ENCASMENT TO EXPOSE HDPE LINER AS NEEDED TO INSTALL NEW FITTINGS.
- 18 104 - INSTALL MUELLER LINESEAL III BUTTERFLY VALVE AND VALVE BOX, MODEL 75B, 18" FLxMJ, OR ENGINEER APPROVED EQUAL.
- 19 CONTRACTOR SHALL REMOVE AND REPLACE EXISTING RIP-RAP. SIZE OF EXISTING RIP-RAP VARIES FROM APPROXIMATELY 12" DIA. TO 48" DIA. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF RIP-RAP SIZE AND AMOUNT TO BE MOVED PRIOR TO BID.
- 20 MAINTAIN 3' COVER OVER NEW PIPE AND FITTINGS.
- 21 APPROXIMATE EXISTING GRADE.
- 22 REMOVE EXISTING HDPE LINER AND REPLACE WITH NEW 16" C-905 PVC. CONTRACTOR MAY NEED TO JACKHAMMER CONCRETE ENCASMENT FROM AROUND THE EXISTING HDPE TO ALLOW REMOVAL. GROUT ANNUAL SPACE BETWEEN OUTLET STRUCTURE AND C-905 PVC WITH NON SHRINK GROUT MEETING CITY OF GRAND JUNCTION SPECIFICATIONS, SECTION 102.15, CONCRETE AND MORTAR.
- 23 104 - INSTALL COMBINATION AIR VAC/RELIEF ASSEMBLY, CLOW MODEL E, STYLE 5403, 4" X 4", COMBINATION AIR RELEASE AND APPURTENANCES OR ENGINEER APPROVED EQUAL PER CITY OF GRAND JUNCTION STANDARD DETAIL W-11.
- 24 INSTALL 16" DR-25 C-905 PVC SPOOL, FL X PE, 1'-8" LENGTH. CONTRACTOR MAY ADJUST LENGTH TO FACILITATE CONSTRUCTION.
- 25 INSTALL 18" DR-25 C-905 PVC SPOOL, FL X PE, 2'-2" LENGTH. CONTRACTOR MAY ADJUST LENGTH TO FACILITATE CONSTRUCTION.
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- 27 INSTALL VAULT AND VAULT LID SUPPLIED BY CITY OF GRAND JUNCTION WITH OPENING DIMENSIONS AS SHOWN. INSTALL BILCO, TYPE K, SINGLE LEAF FLOOR DOOR OR ENGINEER APPROVED EQUAL. (SEE DETAIL THIS SHEET). LID WILL HAVE LIFTING EYES TO ALLOW FOR FUTURE REMOVAL. EYES TO BE LOCATED AT EACH CORNER (4) OF THE LID.
- 28 PROVIDE 6" DEPTH OF CL-6 BASE MATERIAL AS LEVELING COURSE COMPACTED TO 95 % MEETING AASHTO T-99
- 29 INSTALL 1/2" DIAMETER STAINLESS STEEL ALL-THREAD, RAWL, MODEL 620B, DROP-IN ANCHOR AND EYE BOLT PER MANUFACTURERS RECOMMENDATION.
- 30 INSTALL 6" SDR-35 PVC DRAIN LINE AS SHOWN ON PLANS. PROVIDE 9" DIAMETER CORE AT ALL CONCRETE PENETRATIONS TO ALLOW ROOM FOR NON-SHRINK GROUT OF ANNUAL SPACE. INSTALL FRESNO SERIES 3800, TYPE R, MODEL 38B FLAP VALVE AT TERMINATION OF PIPE IN RIP-RAP DOWNSTREAM OF STILLING BASIN.
- 31 INSTALL PIPE SUPPORT STANDON MODEL S89, PER MANUFACTURERS RECOMMENDATION OR ENGINEER APPROVED EQUAL AND SS ANCHORS TO FLOOR OF VAULT.
- 32 CONTRACTOR SHALL PROVIDE AND INSTALL 4" DIAMETER, SCH-80 (INSIDE VAULT), 4" DIAMETER GALVANIZED PIPE (OUTSIDE VAULT) AND VENT PIPE. PIPE SHALL STOP 2 FEET OFF THE FLOOR OF THE VAULT AND SHALL EXTEND 2 FEET ABOVE THE LID OF THE VAULT. A 4" GALVANIZED COUPLING SHALL BE INSTALLED 1 FOOT± BELOW THE LID OF THE VAULT TO ALLOW FOR FUTURE REMOVAL OF THE LID. THE VENT PIPE SHALL BE ANCHORED TO THE VAULT WALL AT TWO LOCATIONS, AS SHOWN, UTILIZING STAINLESS STEEL ANCHORS, ALL-THREAD AND STRAP (MIN. 2" WIDE x 1/8" THICK). ANCHOR AND ALL-THREAD SHALL BE 3/8" DIAMETER.

NOTE: ALL MJ CONNECTIONS ARE TO BE ACCOMPLISHED UTILIZING MEGA-LUG RESTRAINING GLANDS.

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	SCALE
REVISION			DW	3-02	PLAN
REVISION			SBG	3-02	PROFILE
REVISION			SBG	3-02	HORIZ AS SHOWN
REVISION					VERT.

DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
 ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
 CITY OF GRAND JUNCTION, COLORADO

PURDY MESA BYPASS  
 JUNIATA OUTLET WORKS RECONSTRUCTION  
 DETAILS



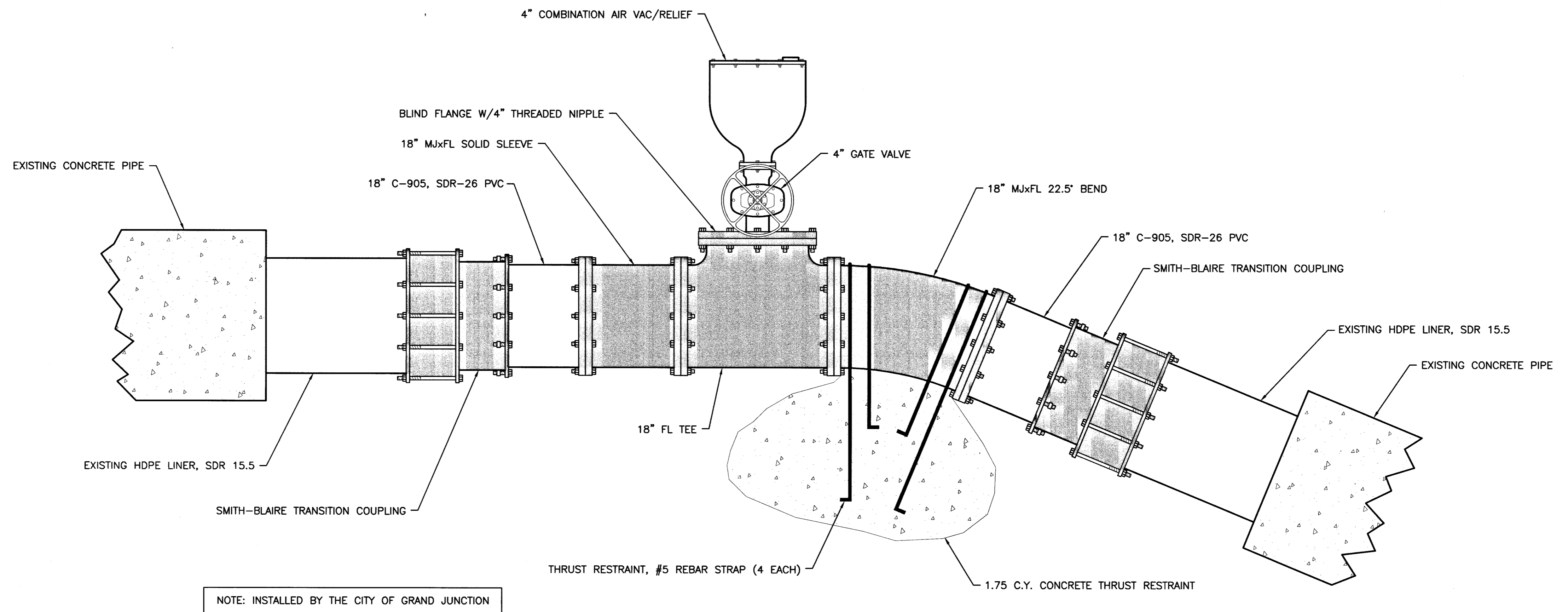
AS CONSTRUCTED

- 1 107.12 - PROTECT EXISTING CONCRETE STILLING BASIN.
- 2 202 - REMOVE EXISTING REDUCER, PIPE AND VALVE AS SHOWN. COMPLETED
- 3 107.12 - EXISTING CONCRETE ENCASMENT/KICKER FOR MID-LEVEL OUTLET TO BE LEFT IN PLACE.
- 4 INSTALL SMITH-BLAIR TRANSITION COUPLING OR ENGINEER APPROVED EQUAL 2.1.5" O.D. (HDPE) TO 19.5" O.D. (18" DR-25 C-905), COUPLING TO BE 16" WIDTH, WITH ALL HARDWARE 304 STAINLESS STEEL. STIFFENERS SHALL BE 304 STAINLESS STEEL. CONTRACTOR SHALL FIELD VERIFY O.D. OF HDPE (MID-LEVEL OUTLET) PRIOR TO ORDERING COUPLING. APPROXIMATELY 12 WORKING DAYS NEEDED FOR MANUFACTURER TO PROVIDE COUPLINGS.
- 5 INSTALL SMITH-BLAIR TRANSITION COUPLING OR ENGINEER APPROVED EQUAL 18" O.D. (HDPE) TO 17.4" O.D. (16" DR-25 C-905), COUPLING TO BE 16" WIDTH WITH ALL HARDWARE 304 STAINLESS STEEL. STIFFENERS SHALL BE 304 STAINLESS STEEL. CONTRACTOR SHALL FIELD VERIFY O.D. OF HDPE (MID-LEVEL OUTLET) PRIOR TO ORDERING COUPLING. APPROXIMATELY 12 WORKING DAYS NEEDED FOR MANUFACTURER TO PROVIDE COUPLINGS.
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- 14 24" I.D. RCP CASING. ANNULAR SPACE BETWEEN HDPE AND RCP IS GROUTED. AVERAGE THICKNESS OF GROUT = +/- 3". CAREFULLY REMOVE CASING PIPE AND GROUT TO EXPOSE HDPE LINER AS NEEDED TO INSTALL NEW TRANSITION COUPLING FITTINGS.
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REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	SCALE
REVISION A			DW	3-02	
REVISION B			SBG	3-02	PLAN
REVISION C			SBG	3-02	HORIZ AS SHOWN
REVISION D					VERT.

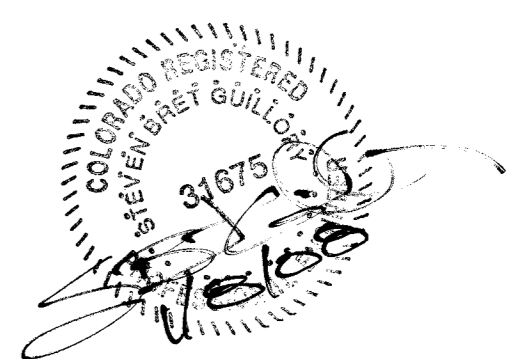
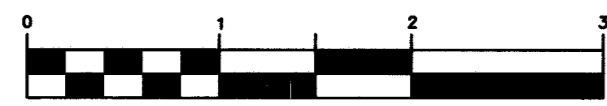
DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
 ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
 CITY OF GRAND JUNCTION, COLORADO

PURDY MESA BYPASS  
 JUNIATA OUTLET WORKS RECONSTRUCTION  
 DETAILS



JUNIATA RESERVOIR  
MID-LEVEL OUTLET REPAIR

SCALE: 1" = 1'



AS CONSTRUCTED

10-2003

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	SCALE
REVISION A			DW	10-03	PLAN
REVISION B			SBG	10-03	PROFILE
REVISION C			SBG	10-03	HORIZ. 1" = 1'
REVISION D					VERT.

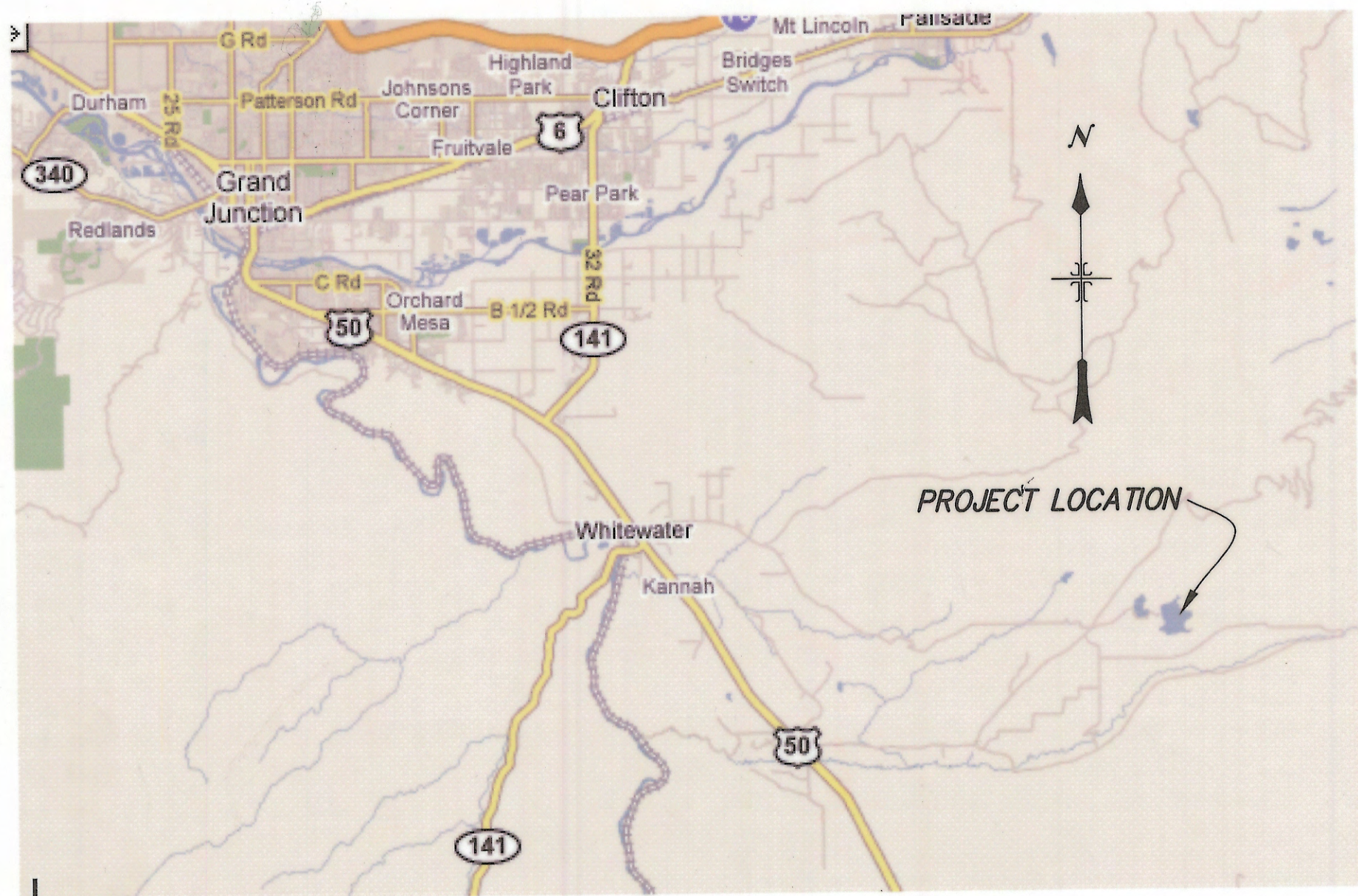
DEPARTMENT OF PUBLIC WORKS AND UTILITIES  
ENGINEERING AND TECHNICAL SERVICES DIVISIONS  
CITY OF GRAND JUNCTION, COLORADO

JUNIATA RESERVOIR  
MID-LEVEL OUTLET REPAIR

**CITY OF GRAND JUNCTION  
 JUNIATA RESERVOIR  
 SPILLWAY MODIFICATION PROJECT  
 WATER DIVISION 4, WATER DISTRICT 42  
 MESA COUNTY, COLORADO**

**DAM I.D. NUMBER 420128**

**BUCKHORN GEOTECH PROJECT #08-088-CIV**



LOCATION MAP

**OWNER**

**CITY OF GRAND JUNCTION  
 250 NORTH 5TH STREET  
 GRAND JUNCTION, CO 81501**

I HEREBY DECLARE THAT THESE PLANS FOR CONSTRUCTION OF THE JUNIATA RESERVOIR WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION FOR THE COLORADO DEPARTMENT OF WATER RESOURCES AS OF THE

19 DAY OF June, 2008.

*Eric L. Krch*  
 ERIC L. KRCH, P.E.  
 COLORADO P.E. No. 28583



ON BEHALF OF THE COLORADO DEPARTMENT OF WATER RESOURCES, THE UNDERSIGNED DOES HEREBY ACCEPT AND APPROVE THESE PLANS FOR CONSTRUCTION FOR THE JUNIATA DAM.

APPROVED ON THE 14<sup>th</sup> DAY OF July, 2008.

BY:  
*Dick Wolfe*  
 STATE ENGINEER

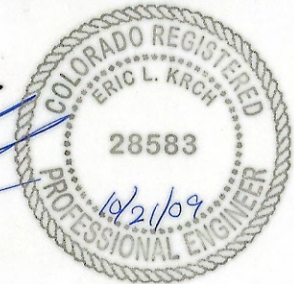


*Mark R. Haynes* Chief, Safety of Dams Program  
 DEPUTY STATE ENGINEER  
 MARK R. HAYNES  
 P.E. # 16457

THESE PLANS REPRESENT THE AS-CONSTRUCTED CONDITIONS OF JUNIATA RESERVOIR TO THE BEST OF OUR KNOWLEDGE AND JUDGMENT, BASED IN PART ON INFORMATION FURNISHED BY OTHERS AS OF THE

21 DAY OF October, 2007.

*Eric L. Krch*  
 ERIC L. KRCH, P.E.  
 COLORADO P.E. No. 28583

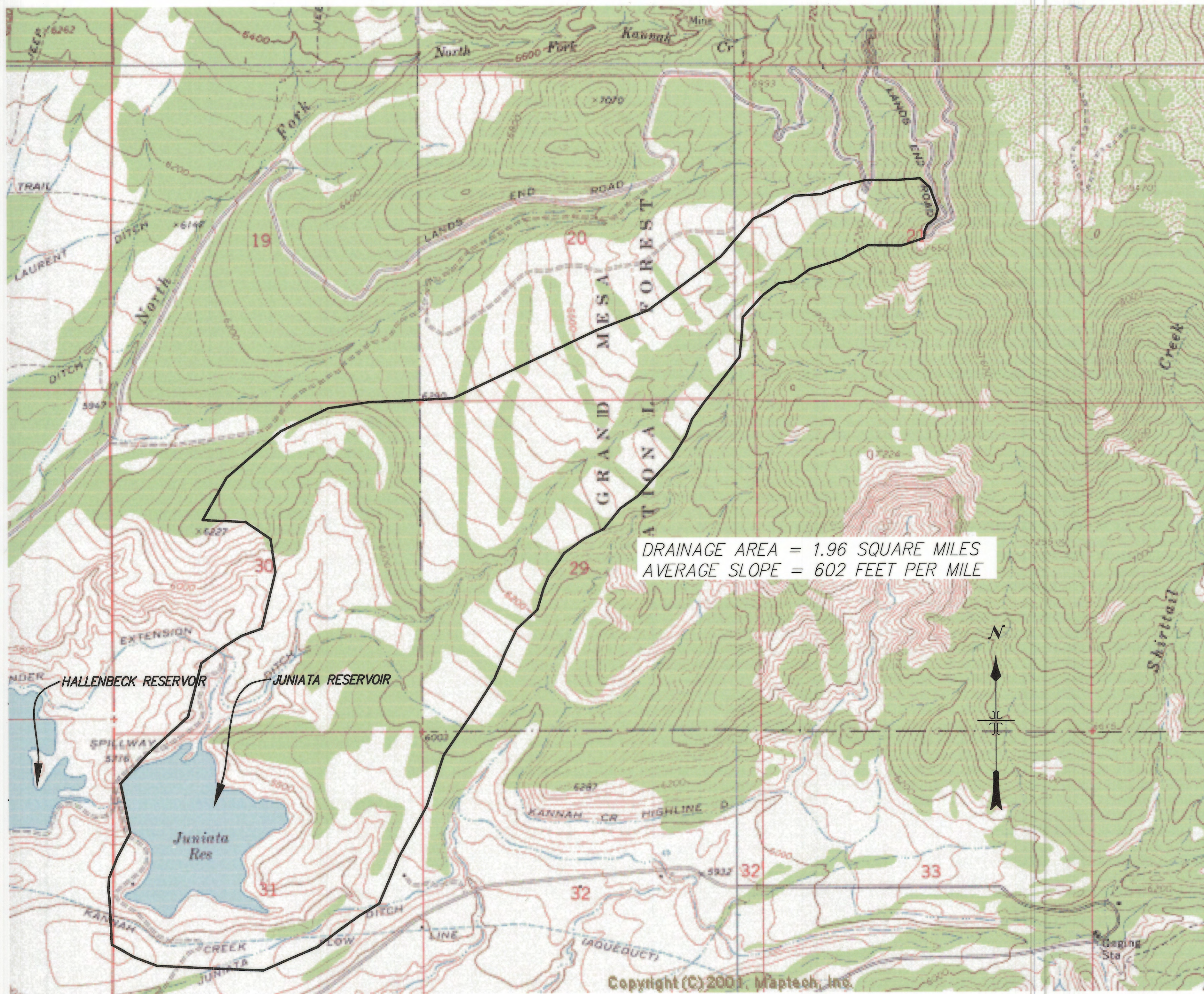


Civil, Structural & Geotechnical Engineers  
 222 So. Park Ave. Montrose, Colorado 81401  
 970-249-6828 Fax. No. 970-249-0945  
 www.buckhorngeo.com

FOR A LIST OF DRAWINGS, SEE NEXT SHEET

COLORADO STATE ENGINEER FILE NUMBER  
 CONST FILE NO. C-0661D

SHEET C-1  
 OF 7 SHEETS



VICINITY MAP  
APPROX SCALE: 1" = 0.2 MILES

## INDEX TO DRAWINGS

- C-1 COVER SHEET
- C-2 VICINITY MAP AND GENERAL NOTES
- C-3 SPILLWAY, OUTLET AND CAPACITY CURVES
- C-4 SITE PLAN
- C-5 SPILLWAY PLAN AND PROFILE
- C-6 SPILLWAY AND TOE WALL DETAILS
- C-7 WEIR WALL DETAILS

## GENERAL NOTES

1. THESE CONSTRUCTION DRAWINGS ARE SUPPLEMENTED WITH THE BOUND TECHNICAL SPECIFICATIONS FOR JUNIATA RESERVOIR. AN ENGINEER SEALED COPY OF BOTH DOCUMENTS MUST BE MAINTAINED AT THE JOBSITE DURING ALL PHASES OF CONSTRUCTION.
2. THIS PROJECT FALLS UNDER THE COLORADO STATE ENGINEER'S OFFICE RULE 5 FOR DAM SAFETY RULES AND REGULATIONS FOR JURISDICTIONAL EMBANKMENT DAMS. THE CONTRACTOR, BY STARTING THIS PROJECT, ACKNOWLEDGES THAT THEY ARE FULLY AWARE OF THE CURRENTLY ADOPTED RULES AND REGULATIONS AND HOW THEY PERTAIN TO THEIR CONSTRUCTION PRACTICES AND SCHEDULING.
3. THE OWNER WILL PROVIDE MATERIAL TESTING, FULL TIME CONSTRUCTION, ENGINEERING OVERSIGHT, INSPECTION, AND CONTROL SURVEYING. THE CONTRACTOR SHALL DEVELOP A SURVEYING NEEDS/SCHEDULE AND PROVIDE IT TO THE OWNER/ENGINEER AT OR PRIOR TO THE PRECONSTRUCTION CONFERENCE.
4. ALL CHANGE ORDERS MUST BE APPROVED BY THE STATE ENGINEER'S OFFICE OF COLORADO AS WELL AS THE PROJECT ENGINEER. THIS WILL NECESSITATE A LONGER PERIOD FOR REVIEW AND APPROVALS.

## EMBANKMENT MATERIAL SCHEDULE

ZONE	MATERIAL*	PLACEMENT REQUIREMENTS	TESTING FREQ.
SPILLWAY GROUDED RIPRAP	ANGULAR IGNEOUS ROCK	DUMPED, MACHINE ADJUSTED, THEN SOME GROUDED IN-PLACE	EVERY 500 TONS
SAND UNDER GROUDED RIPRAP	ASTM C-33 CONCRETE SAND	65-75% RELATIVE DENSITY AT OPT MOISTURE	EVERY 5 TONS

\* SEE BOUND SPECIFICATIONS FOR DETAILED MATERIAL DESCRIPTIONS

COLORADO STATE ENGINEER FILE NUMBER  
CONST FILE NO. C-0661D

**BUCKHORN**GEOTECH

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REVISIONS	DATE

CITY OF GRAND JUNCTION  
JUNIATA RESERVOIR - SPILLWAY MODIFICATION PROJECT  
VICINITY MAP AND GENERAL NOTES

DESIGNED	ELK
DRAWN	BMB
DATE	05-23-08
PROJ. NO.	08-088
DRAWING NUMBER	C-2
OF	7 DWCS.





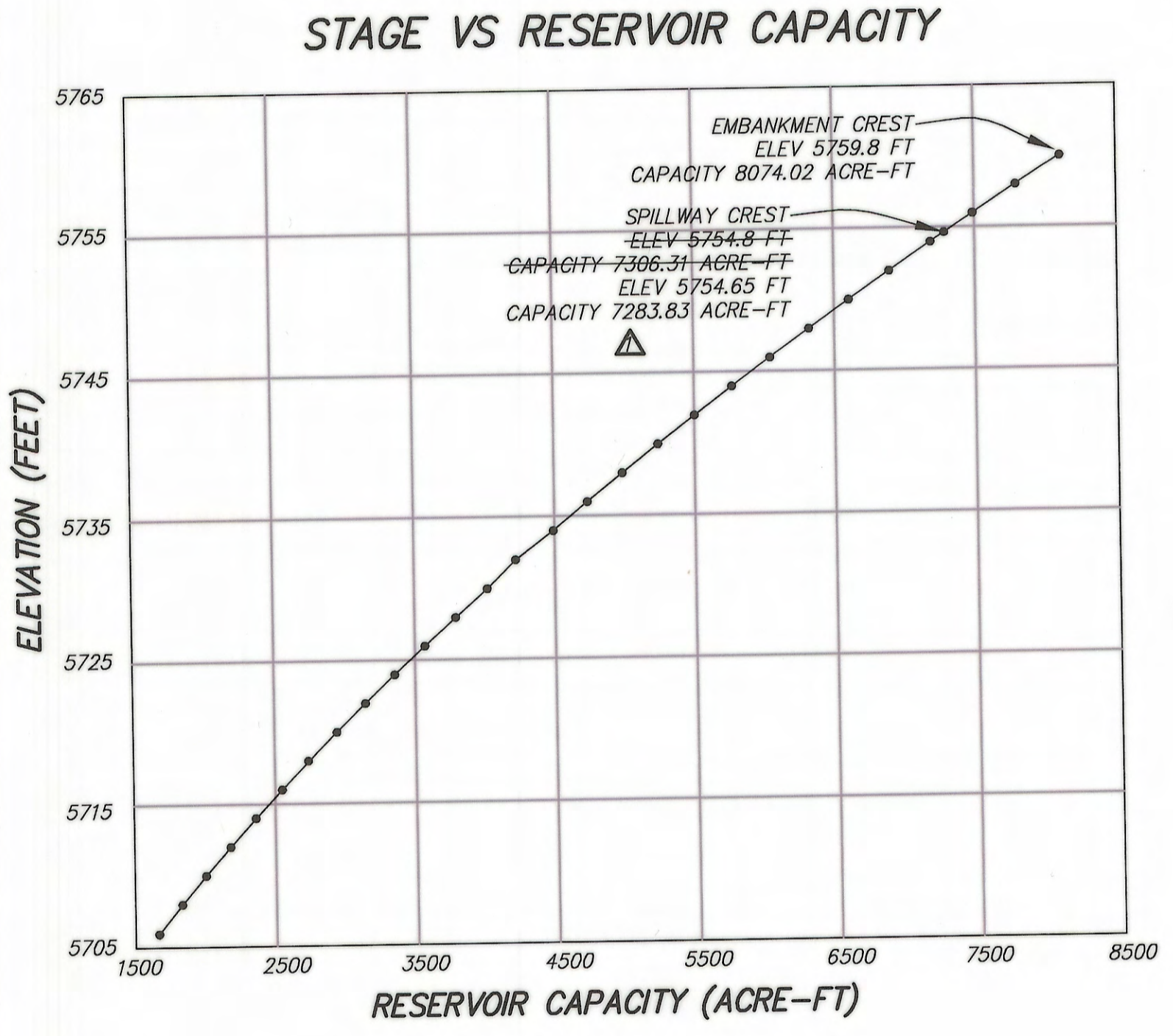
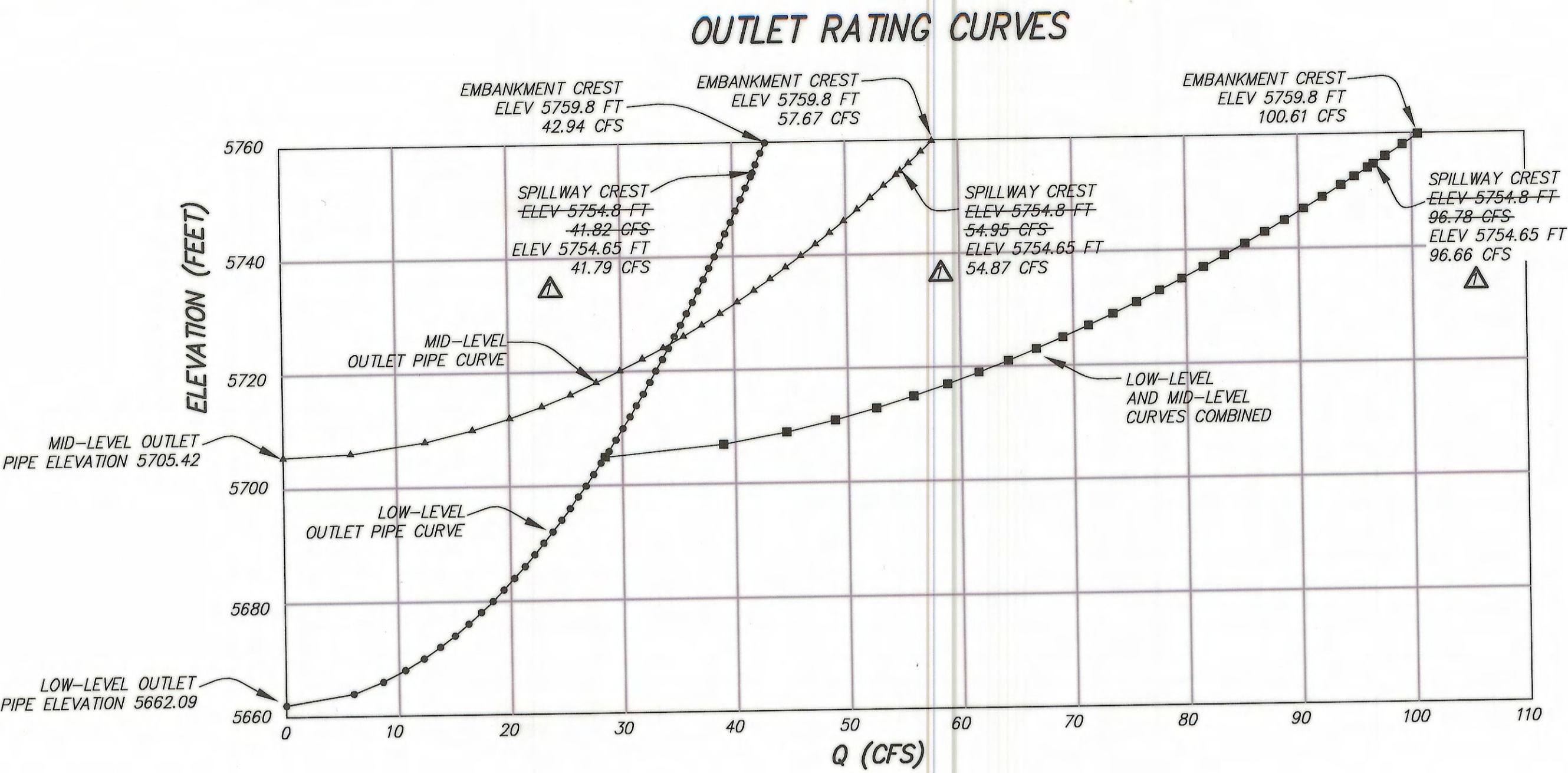
DATE	REVISIONS
10-7-08	AS-BUILT'S

**CITY OF GRAND JUNCTION  
 JUNIATA RESERVOIR - SPILLWAY MODIFICATION PROJECT  
 SPILLWAY, OUTLET AND CAPACITY CURVES**

DESIGNED	ELK
DRAWN	BMB
DATE	05-23-08
PROJ. NO.	08-088
DRAWING NUMBER	C-3
OF	7 DWGS.

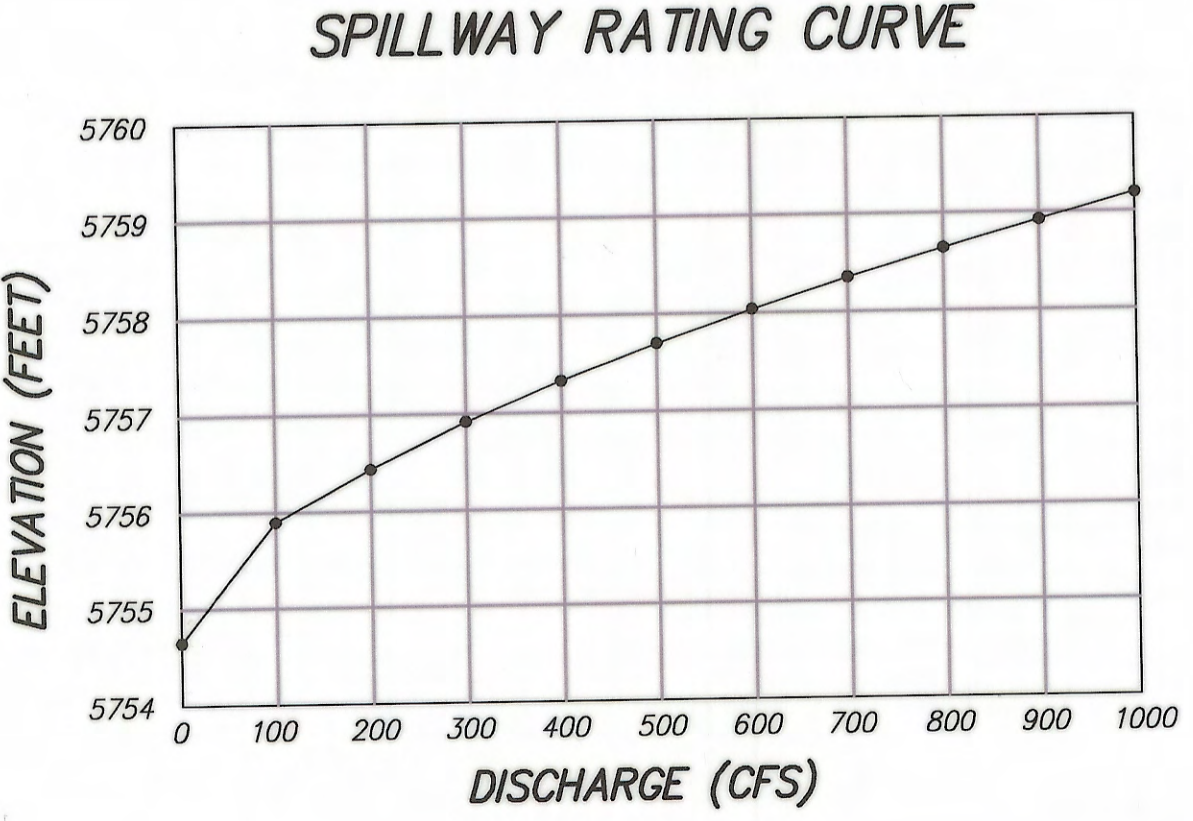
COLORADO STATE ENGINEER FILE NUMBER  
**CONST FILE NO. C-0661D**

Water Level	Low-level pipe	Mid-level pipe	Combined
	Adjusted Elevation = 5662.09	Adjusted Elevation = 5705.42	
	Q (cfs)	Q (cfs)	Q (cfs)
5759.8	42.94	57.67	100.61 (Crest)
5759	42.76	57.24	100.00
5758	42.54	56.71	99.25
5757	42.32	56.16	98.48
5756	42.09	55.62	97.71
5755	41.87	55.06	96.93
5754.8-5754.65	41.82-41.79	54.95-54.87	96.66-96.78 (Spillway) ▲
5754	41.64	54.51	96.15
5753	41.42	53.94	95.36
5752	41.19	53.37	94.56
5751	40.96	52.80	93.76
5750	40.73	52.21	92.94
5749	40.50	51.63	92.12
5748	40.26	51.03	91.29
5747	40.03	50.43	90.45
5746	39.79	49.82	89.61
5745	39.55	49.20	88.75
5744	39.31	48.57	87.89
5743	39.07	47.94	87.01
5742	38.83	47.30	86.13
5741	38.59	46.65	85.23
5740	38.34	45.99	84.33
5739	38.09	45.32	83.41
5738	37.85	44.64	82.48
5737	37.60	43.95	81.54
5736	37.34	43.25	80.59
5735	37.09	42.53	79.62
5734	36.84	41.81	78.64
5733	36.58	41.07	77.65
5732	36.32	40.32	76.64
5731	36.06	39.55	75.61
5730	35.80	38.77	74.57
5729	35.53	37.97	73.51
5728	35.27	37.16	72.43
5727	35.00	36.33	71.32
5726	34.73	35.48	70.20
5725	34.45	34.60	69.06
5724	34.18	33.71	67.89
5723	33.90	32.79	66.69
5722	33.62	31.84	65.46
5721	33.34	30.87	64.21
5720	33.06	29.86	62.92
5719	32.77	28.82	61.59
5718	32.48	27.74	60.22
5717	32.19	26.61	58.80
5716	31.89	25.44	57.33
5715	31.60	24.20	55.80
5714	31.30	22.91	54.20
5713	30.99	21.53	52.52
5712	30.69	20.06	50.75
5711	30.38	18.47	48.85
5710	30.07	16.74	46.80
5709	29.75	14.80	44.55
5708	29.43	12.56	41.99
5707	29.11	9.83	38.94
5706	28.78	5.96	34.74
5705	28.45		28.45
5704	28.12		
5703	27.78		
5702	27.44		
5701	27.10		
5700	26.75		
5699	26.39		
5698	26.03		
5697	25.67		
5696	25.29		
5695	24.92		
5694	24.54		
5693	24.15		
5692	23.76		
5691	23.36		
5690	22.95		
5689	22.53		
5688	22.11		
5687	21.68		
5686	21.24		
5685	20.79		
5684	20.33		
5683	19.86		
5682	19.38		
5681	18.89		
5680	18.38		
5679	17.86		
5678	17.33		
5677	16.77		
5676	16.20		
5675	15.61		
5674	14.99		
5673	14.35		
5672	13.67		
5671	12.97		
5670	12.22		
5669	11.42		
5668	10.56		
5667	9.63		
5666	8.59		
5665	7.41		
5664	6.00		
5663	4.14		



### CAPACITY TABLE

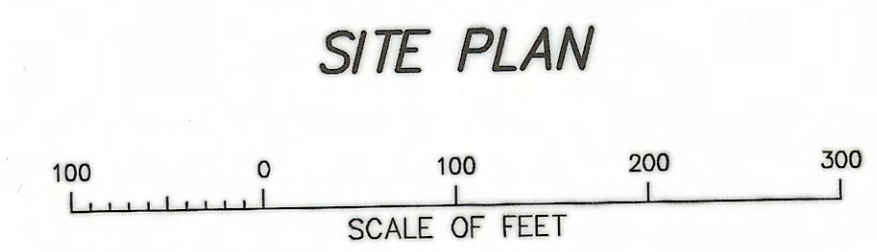
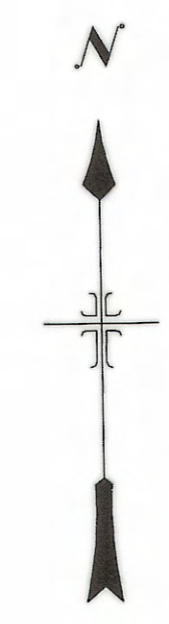
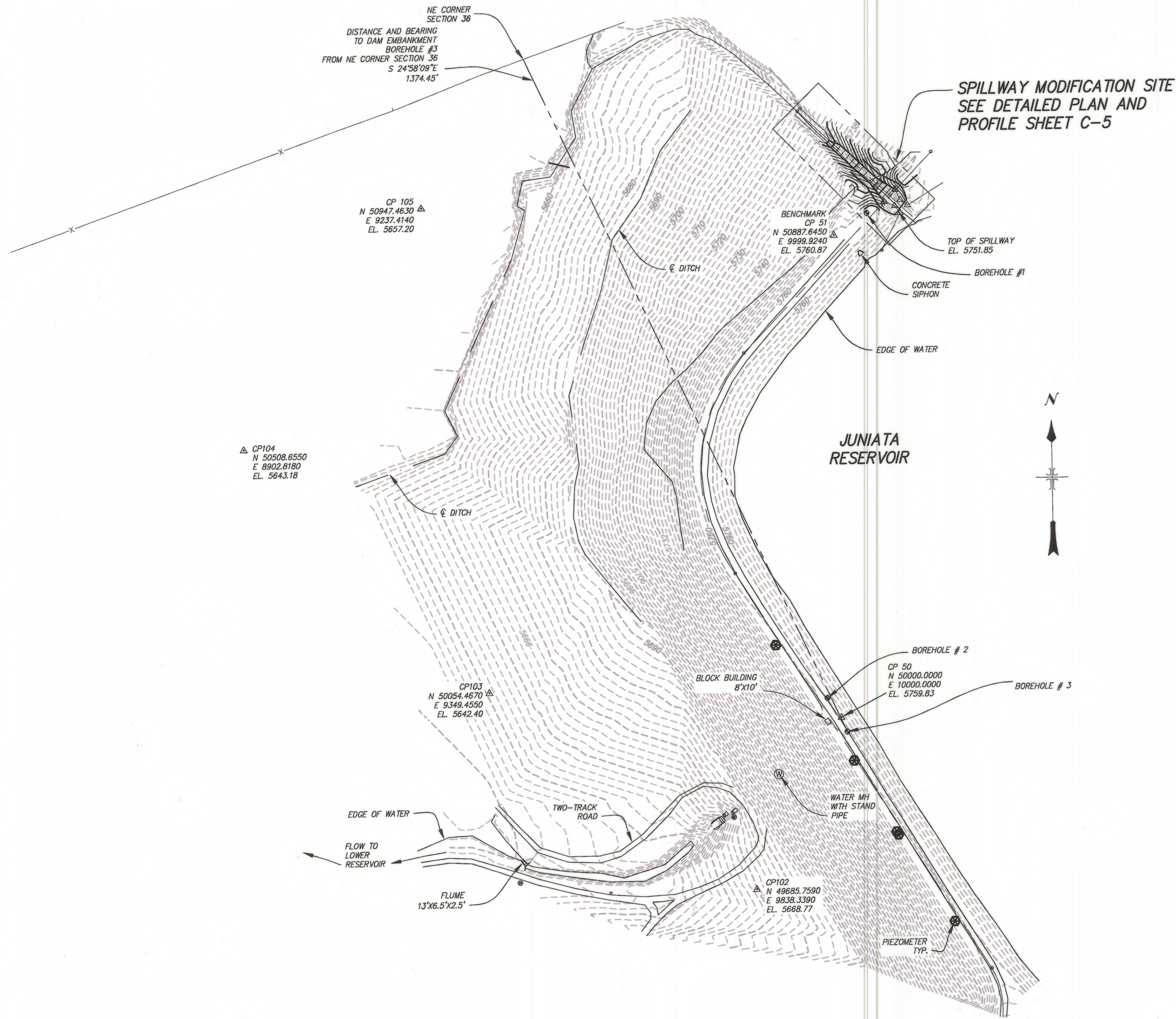
ELEVATION (FEET)	CAPACITY (ACRE-FT)
5706.42	1701.22
5708	1832.84
5710	2002.75
5712	2179.09
5714	2361.07
5716	2548.70
5718	2741.98
5720	2940.91
5722	3145.48
5724	3355.71
5726	3571.57
5728	3793.09
5730	4020.26
5732	4253.07
5734	4491.53
5736	4735.64
5738	4985.39
5740	5240.80
5742	5501.85
5744	5768.55
5746	6040.89
5748	6318.89
5750	6602.53
5752	6891.82
5754	7186.76
5754.80-5754.65	7283.83-7306.31 ▲
5756	7487.34
5758	7793.58
5759.80	8074.02



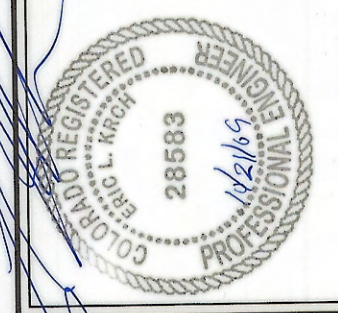
### SPILLWAY RATING TABLE

ELEVATION (FEET)	DISCHARGE (CFS)
5754.80-5754.65	0
5755.00	100
5756.44	200
5756.92	300
5757.33	400
5757.70	500
5758.04	600
5758.36	700
5758.65	800
5758.93	900
5759.20	1000





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 Structural & Geotechnical Engineers  
 2201 Park Ave. Montrose, Colorado 81401  
 970-246-8928 Fax. No. 970-246-0945  
 www.buckhorngeo.com

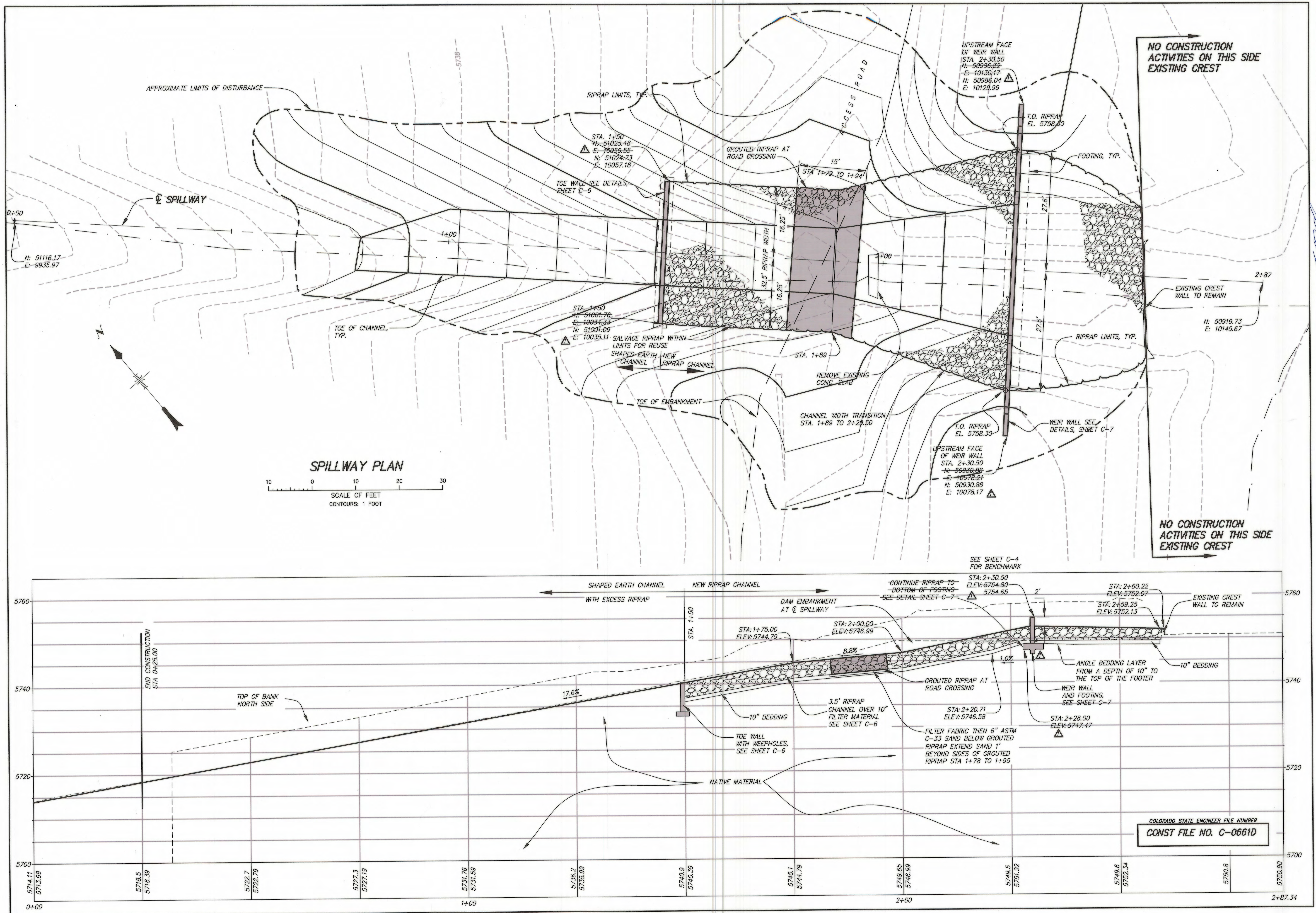


DATE	REVISIONS

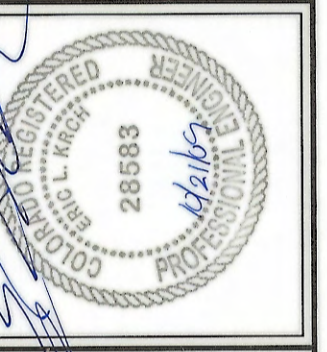
**CITY OF GRAND JUNCTION  
 JUNIATA RESERVOIR - SPILLWAY MODIFICATION PROJECT  
 SITE PLAN**

DESIGNED	ELK
DRAWN	BMB
DATE	05-23-08
PROJ. NO.	08-088
DRAWING NUMBER	C-4
OF	7 DWGS.

COLORADO STATE ENGINEER FILE NUMBER  
**CONST FILE NO. C-0661D**



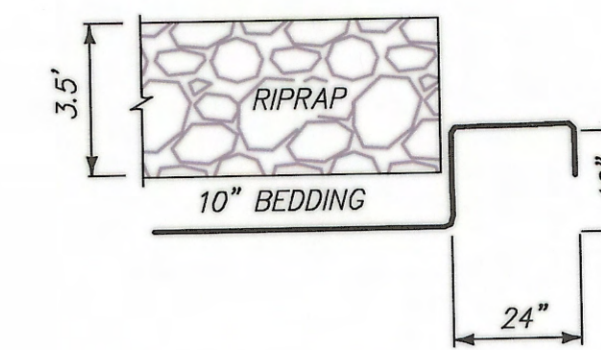
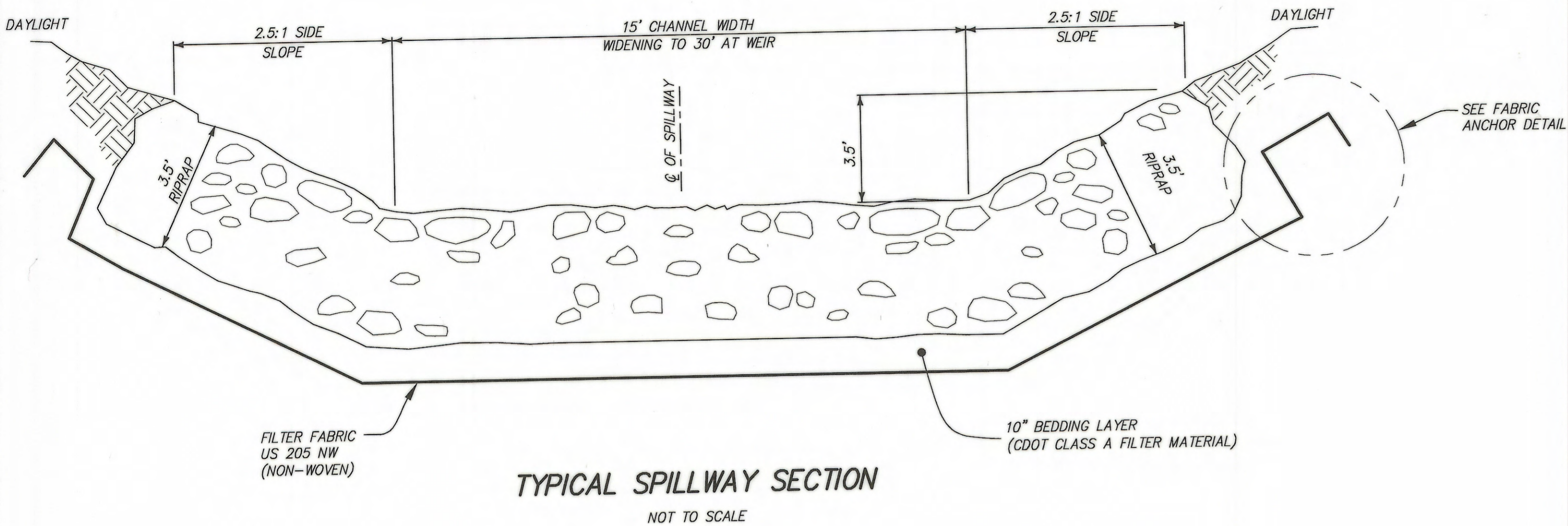
**BUCKHORNGEOTECH**  
Civil, Structural & Geotechnical Engineers  
222 So. Park Ave., Montrose, Colorado 81401  
970-249-3946  
www.buckhorngeo.com



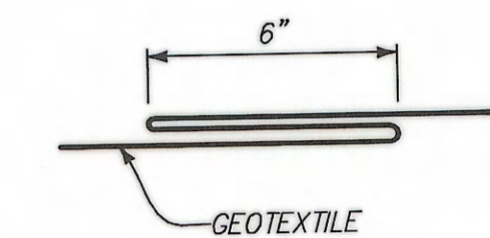
NO.	DATE	REVISIONS
1	10-7-09	AS-BUILTS

**CITY OF GRAND JUNCTION**  
**JUNJATA RESERVOIR - SPILLWAY MODIFICATION PROJECT**  
SPILLWAY PLAN AND PROFILE

DESIGNED	ELK
DRAWN	BMB
DATE	05-23-08
PROJ. NO.	08-088
DRAWING NUMBER	C-5
OF	7 DWGS.

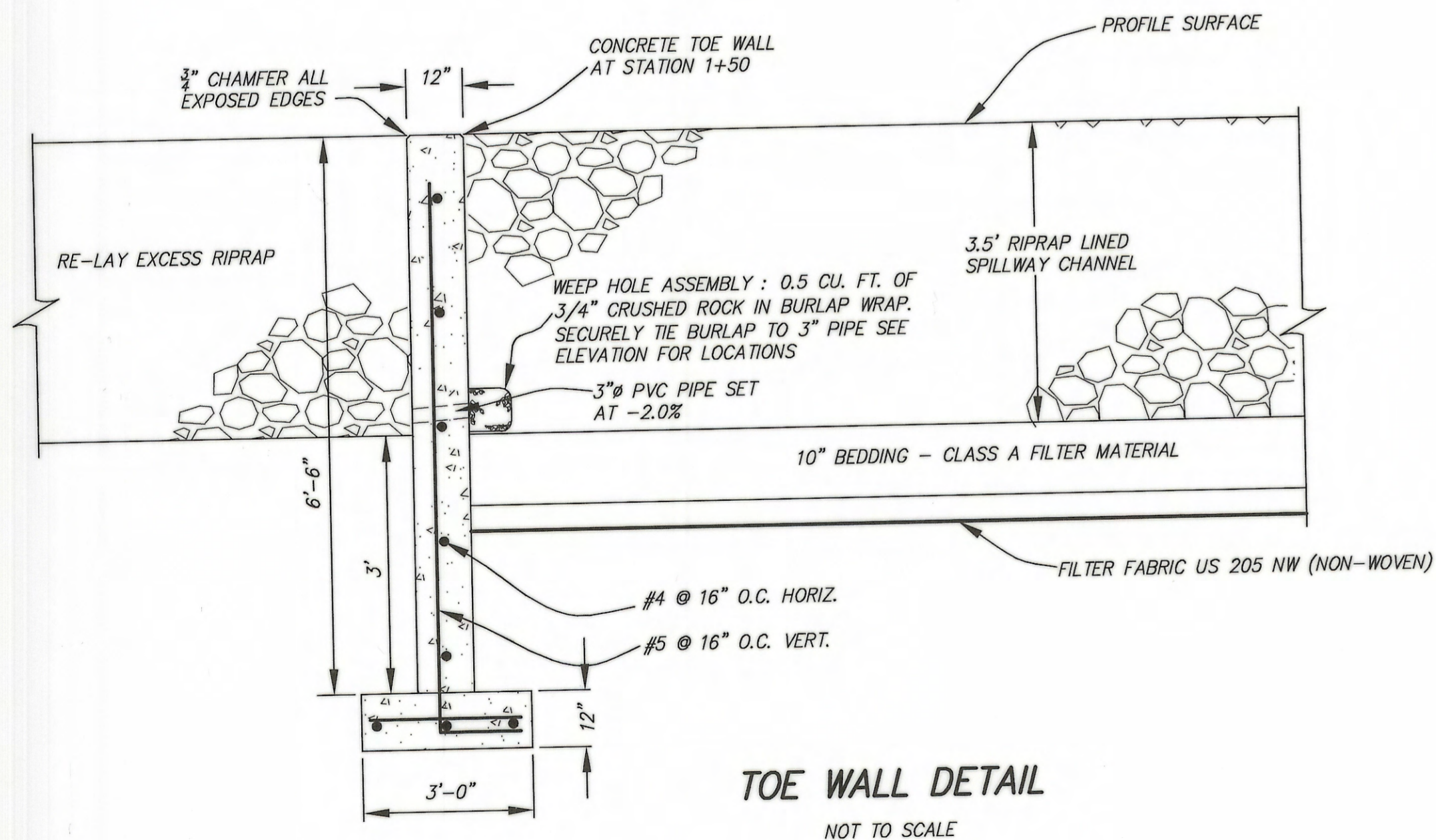


FABRIC ANCHOR DETAIL

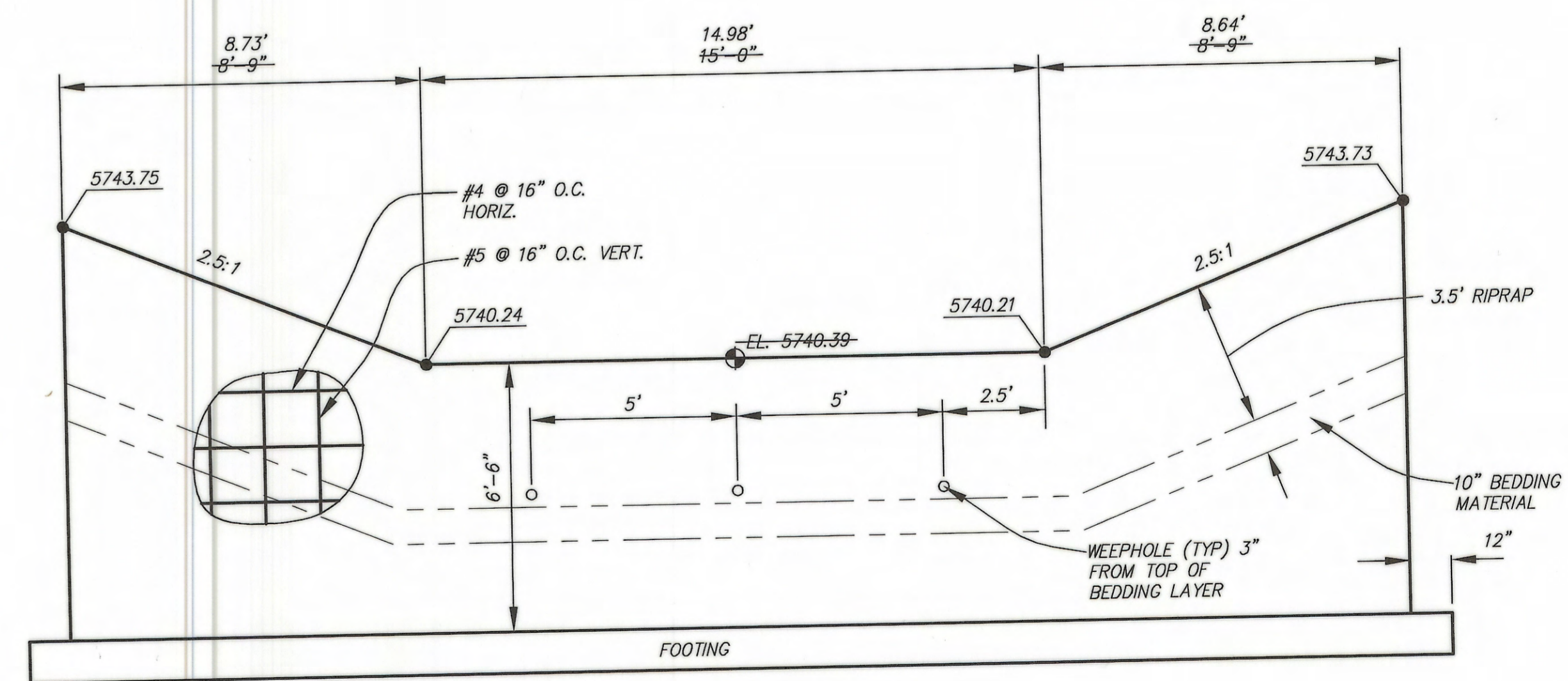


FABRIC FOLD DETAIL

RIPRAP GRADATION		CLASS A GRADATION	
D30	1.95 FEET	W15	346-818 LBS
D50	2.12 FEET	W50	1106-1637 LBS
D90	2.82 FEET	W100	2212-5529 LBS
		PERCENT PASSING	SIZE
		100%	3"
		20-90%	3/4"
		0-20%	#4
		0-3%	#200



TOE WALL DETAIL  
NOT TO SCALE



TOE WALL ELEVATION  
NOT TO SCALE

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970-249-6828 Fax. No. 970-249-0945  
www.buckhorngeo.com



DATE	REVISIONS
10-7-09	1 AS-BUILTS

CITY OF GRAND JUNCTION  
JUNIATA RESERVOIR - SPILLWAY MODIFICATION PROJECT  
SPILLWAY AND TOE WALL DETAILS

DESIGNED	ELK
DRAWN	BMB
DATE	05-23-08
PROJ. NO.	08-088
DRAWING NUMBER	C-6
OF	7 DWGS.

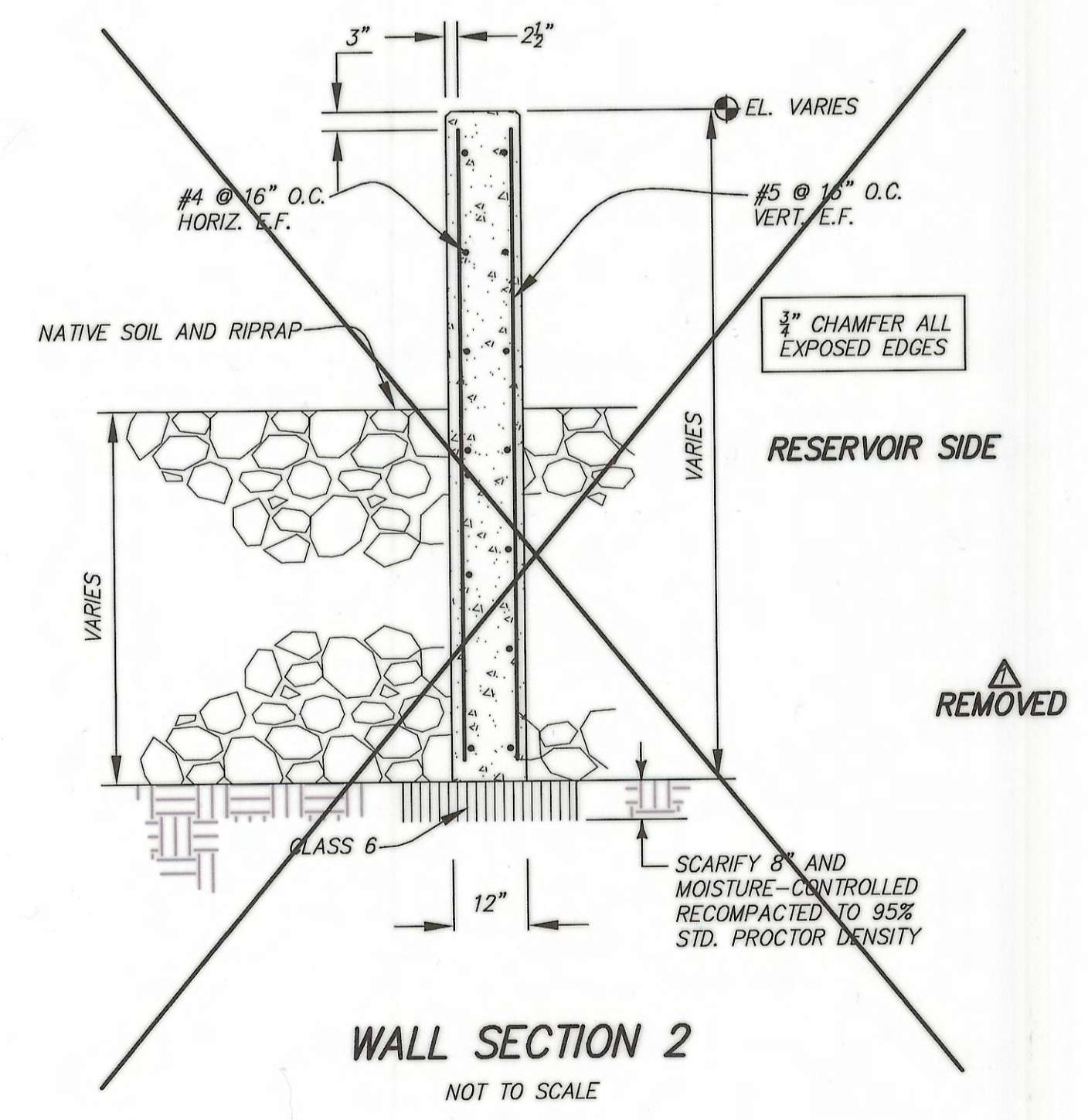
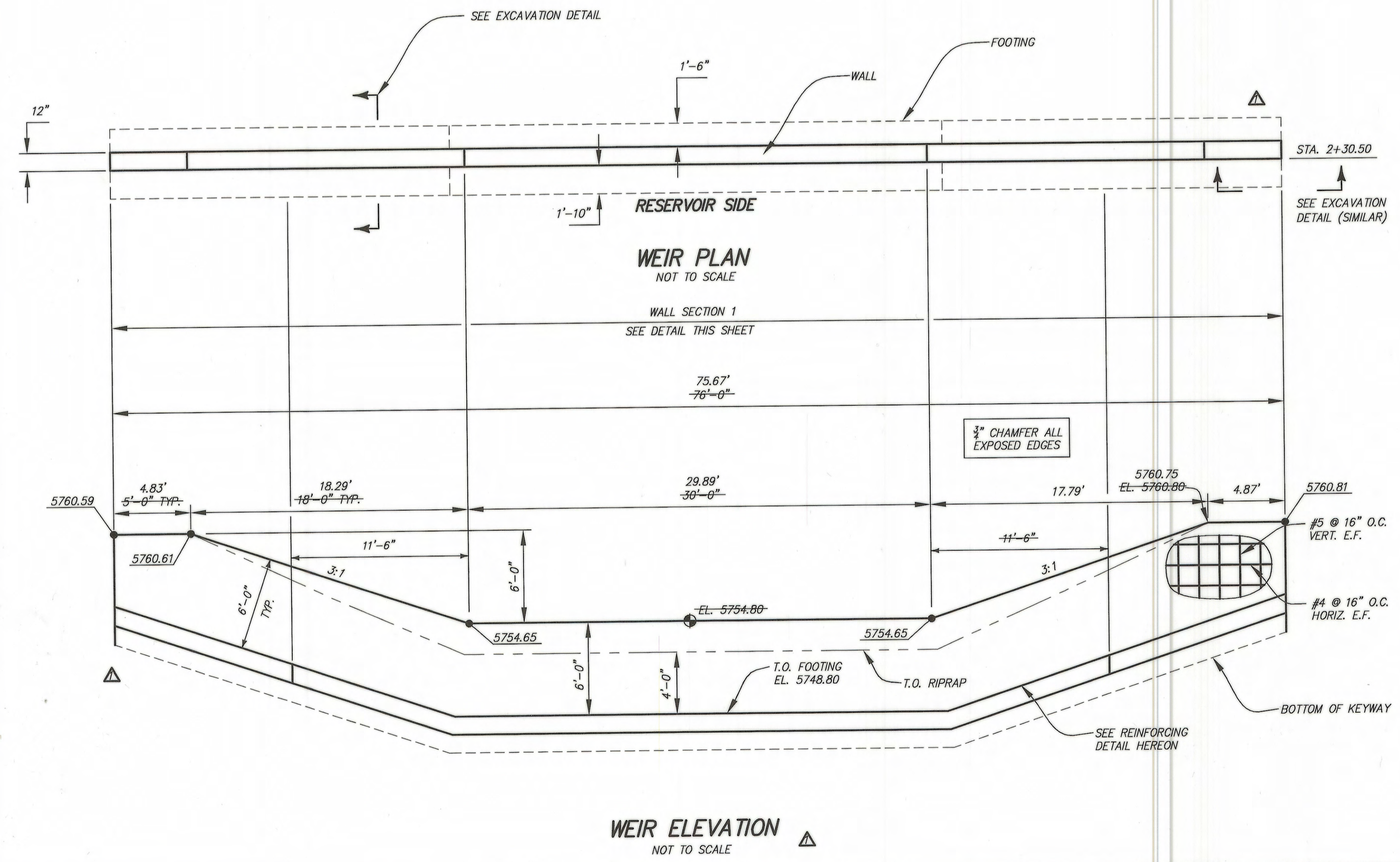
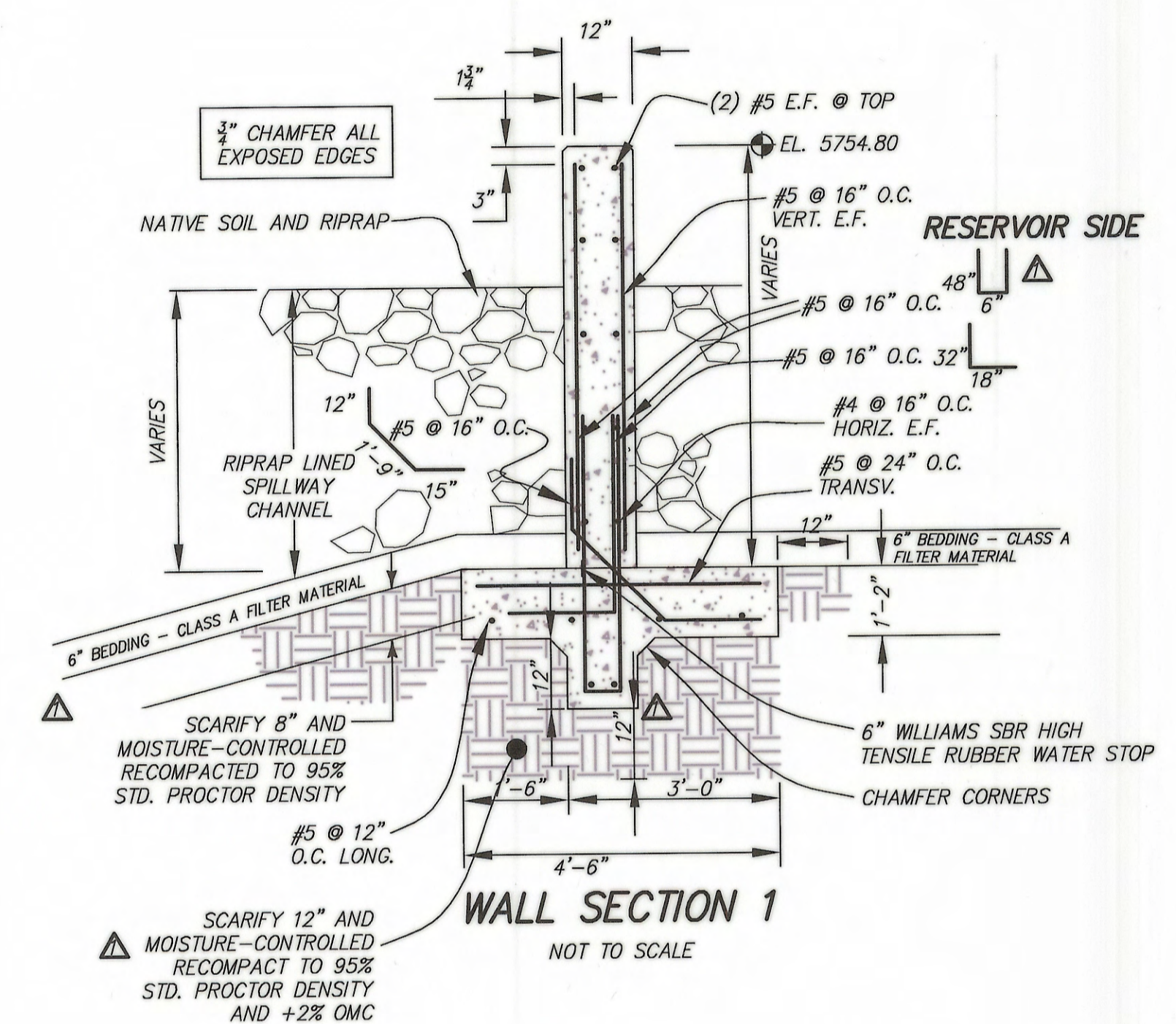
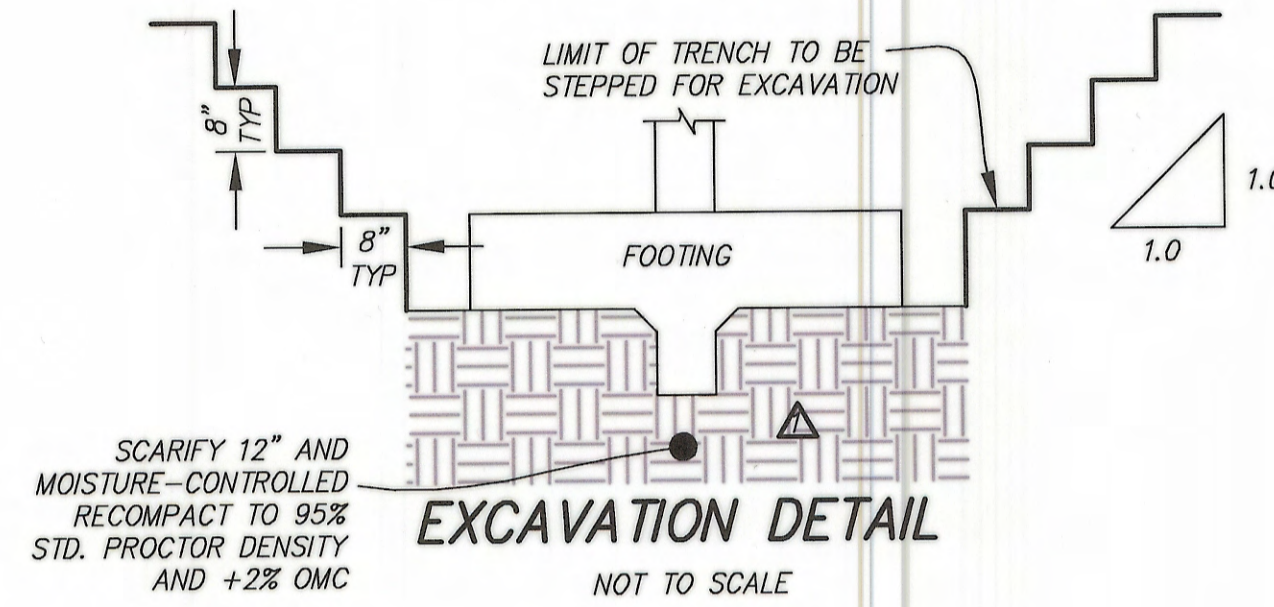
COLORADO STATE ENGINEER FILE NUMBER  
CONST FILE NO. C-0661D

**CONCRETE NOTES:**

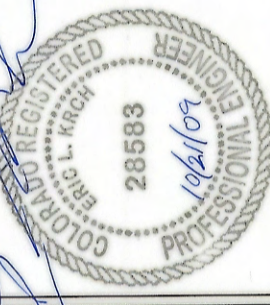
- A. ALL CEMENT SHALL BE TYPE II SULFATE RESISTANT (ASTM C 150).
- B. PROVIDE CONCRETE HAVING THE FOLLOWING GENERAL CHARACTERISTICS:

28-DAY STRENGTH	MAX SLUMP	AGGREGATE SIZE (MAX)	WATER/CEMENT RATIO	AIR CONTENT	USAGE
4500 PSI	4 IN.	0.75 IN.	0.49	5% TO 8%	FOOTINGS
4500 PSI	4 IN.	0.75 IN.	0.45	5% TO 8%	WALLS

- C. WHERE FLY ASH IS PERMITTED, THE QUANTITY OF FLY ASH IS INCLUDED WITHIN THE SCHEDULED WATER/CEMENT (CEMENTITIOUS) RATIO ABOVE.
- D. ALL REINFORCING STEEL SHALL BE NEW HIGH STRENGTH DOMESTIC DEFORMED BARS, GRADE 60, ASTM 1615-89 WITH 60,000 PSI MINIMUM YIELD STRENGTH.
- E. CORNER BARS SHALL BE PROVIDED TO MATCH AND LAP ALL HORIZONTAL REINFORCING. CARE SHOULD BE TAKEN DURING THE PLACEMENT OF LAPPED BARS TO INSURE THAT THERE IS ADEQUATE SPACE REMAINING FOR PROPER CONCRETE PLACEMENT AND COVER.
- F. SPLICES IN REINFORCING STEEL SHALL BE MADE USING A MINIMUM OF 40 BAR DIAMETER LAPS.
- G. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT ALL POSITIONS SHOWN ON THE STRUCTURAL DRAWINGS.
- H. REINFORCEMENT CONCRETE COVER PROTECTION MINIMUMS:
  - H.A. CONCRETE PLACED AGAINST EARTH - 3 INCHES
  - H.B. CONCRETE PLACED IN FORMS BUT EXPOSED TO WEATHER OR EARTH:
    - H.B.A. IF BARS ARE LARGER THAN NO. 5 - 2 INCHES
    - H.B.B. IF BARS ARE NO. 5 OR SMALLER - 1.5 INCHES
  - H.C. COLUMNS, GIRDERS AND BEAMS - 1.5 INCHES
  - H.D. SLABS AND WALLS - 0.75 INCHES



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DATE	REVISIONS
10-7-09	1 AS-BUILTS

CITY OF GRAND JUNCTION  
 JUNIATA RESERVOIR - SPILLWAY MODIFICATION PROJECT  
 WEIR WALL DETAILS

DESIGNED	ELK
DRAWN	BMB
DATE	05-23-08
PROJ. NO.	08-088
DRAWING NUMBER	C-7
OF	7 DWGS.

COLORADO STATE ENGINEER FILE NUMBER  
 CONST FILE NO. C-0661D

- e. Work Change Requests (directing that changed work be performed);
- f. Field Orders
- g. Change Orders.

## ARTICLE 2

Definitions: The clauses provided in the Solicitation apply to the terms used in the Contract and all the Contract Documents.

## ARTICLE 3

Contract Work: The Contractor agrees to furnish all labor, tools, supplies, equipment, materials, and all that is necessary and required to complete the tasks associated with the Work described, set forth, shown, and included in the Contract Documents as indicated in the Solicitation Document.

## ARTICLE 4

Contract Time: Time is of the essence with respect to this Contract. The Contractor hereby agrees to commence Work under the Contract on or before the date specified in the Solicitation from the Owner, and to achieve

## ARTICLE 5

Contract Price and Payment Procedures: The Contractor shall accept as full and complete compensation for the performance and completion of all of the Work specified in the Contract Documents, the sum of **Ninety-Four Thousand Seven Hundred Ninety Two and 50/100 Dollars (\$94,792.50)**. **This amount includes the 1% prompt payment discount for Net 10 Day Terms for invoicing.** If this Contract contains unit price pay items, the Contract Price shall be adjusted in accordance with the actual quantities of items completed and accepted by the Owner at the unit prices quoted in the Solicitation Response. The amount of the Contract Price is and has heretofore been appropriated by the Grand Junction City Council for the use and benefit of this Project. The Contract Price shall not be modified except by Change Order or other written directive of the Owner. The Owner shall not issue a Change Order or other written directive which requires additional work to be performed, which work causes the aggregate amount payable under this Contract to exceed the amount appropriated for this Project, unless and until the Owner provides Contractor written assurance that lawful appropriations to cover the costs of the additional work have been made.

Unless otherwise provided in the Solicitation, monthly partial payments shall be made as the Work progresses. Applications for partial and Final Payment shall be prepared by the Contractor and approved by the Owner in accordance with the Solicitation.

## ARTICLE 6

Contract Binding: The Owner and the Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto in respect to all covenants, agreements and obligations contained in the Contract Documents. The

Contract Documents constitute the entire agreement between the Owner and Contractor and may only be altered, amended or repealed by a duly executed written instrument. Neither the Owner nor the Contractor shall, without the prior written consent of the other, assign or sublet in whole or in part its interest under any of the Contract Documents and specifically, the Contractor shall not assign any moneys due or to become due without the prior written consent of the Owner.

ARTICLE 7

Severability: If any part, portion or provision of the Contract shall be found or declared null, void or unenforceable for any reason whatsoever by any court of competent jurisdiction or any governmental agency having the authority thereover, only such part, portion or provision shall be effected thereby and all other parts, portions and provisions of the Contract shall remain in full force and effect.

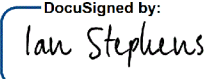
IN WITNESS WHEREOF, City of Grand Junction, Colorado, has caused this Contract to be subscribed and sealed and attested in its behalf; and the Contractor has signed this Contract the day and the year first mentioned herein.

The Contract is executed in two counterparts.

**CITY OF GRAND JUNCTION, COLORADO**

By:  Duane Hoff Jr., Senior Buyer - City of Grand Junction 2/14/2019 | 16:26 MST  
Duane Hoff Jr., Senior Buyer Date

**Marine Diving Solutions, LLC**

By:  Ian Stephens 2/14/2019 | 13:52 PST  
Ian Stephens Owner Date



Purchasing Division

## ADDENDUM NO. 1

**DATE:** January 8, 2019  
**FROM:** City of Grand Junction Purchasing Division  
**TO:** All Offerors  
**RE:** Investigation and Repair of Outlet Control Valves at Juniata Reservoir  
RFP-4591-19-DH

Offerors responding to the above referenced solicitation are hereby instructed that the requirements have been clarified, modified, superseded and supplemented as to this date as hereinafter described.

Please make note of the following clarifications:

1. Q. The scope of services described in RFP section 4.3 calls for a "physical de-scaling of the tuberculated valve stems, and valve seat area". In order to quantify task times for the cost estimate, can the City define the cleaning criteria (such as a Rubert gauge of roughness)? This will allow bidding contractors to more competitively develop the bid price.

A. The Contractor is required to remove the existing tuberculation from the mid-level and low-level valve stems and valve seat areas. The City's criteria is to have the Contractor remove the tuberculation and expose a clean steel surface. The City is not requiring a certain Rubert Gauge of Roughness be achieved. Once tuberculation is removed and a clean steel surface is achieved, the City will operate the valve(s) to see if removal of the tuberculation has improved the valves operation and sealing capabilities.

2. Q. Can you advise if there a secondary valve downstream of the inlet valves at the outlet structure or somewhere in between?

A. Yes, there are existing butterfly valves (secondary valves) located downstream of the outlet control valves that are to be worked on as part of this investigation and repair project. These secondary butterfly valves were installed in 2002 and are in good working condition. These secondary butterfly valves are located on the downstream face of the Juniata dam and are within concrete vault structures.

3. Q. Are there any pictures of the outlet control structure?

A. No.

The original solicitation for the project noted above is amended as noted.

All other conditions of subject remain the same.

Respectfully,

A handwritten signature in black ink, appearing to read "Duane Hoff Jr.", is written over a white background.

Duane Hoff Jr., Senior Buyer  
City of Grand Junction, Colorado



# MARINE DIVING SOLUTIONS

## REQUEST FOR PROPOSALS (RFP) RFP-4591-19-DH

### Investigation and Repair of Outlet Control Valves at Juniata Reservoir

By submitting this proposal, we agree to all requirements herein.

Ian Stephens, Owner of Marine Diving Solutions

21670 E Geddes Pl

Centennial, CO 80016

303-309-0091





## Table of Contents

- **Cover Letter (Introduction)**
- **Qualifications/Experience/Credentials**
- **References/List of Governmental Agencies Worked in Colorado in Past Five Years**
- **Strategy and Implementation Plan**
- **Fee Proposal**

## Introduction

**CVE-verified SDVOSB** Marine Diving Solutions (MDS) utilizes an established management plan to ensure comprehensive, responsive, and flexible service. Our focus is on providing premium construction with a notable emphasis on client service. Marine Diving Solutions has been in business since 2013 with 6 years of experience. As an individual, the owner, Ian Stephens has 15 years of experience as a commercial diver starting in the US military. MDS is located in Centennial, CO and has two diving teams with eight full time certified commercial divers on staff at all times. All divers live within a 1-hr drive from MDS's home office to be readily accessible for emergency work.

With commercial diving and marine construction, it is crucial that the construction team demonstrate a high level of knowledge and ability to complete the project on schedule. At MDS, we know what we are doing with regard to dams and marine construction. We will keep your concerns at the forefront of our approach, and our combination of a labor force, previous experience, and dedication to service will protect budget and schedule. With MDS you can rely on not just on getting the job done, but with a low incident record and a safety EMR rating of 0.85 we cannot only get the job done, but get it done safely.

### **Point of Contact:**

Ian Stephens (Owner)  
303-309-0091 ph.  
303-309-0097 fax



[ian@marinedivingsolutions.com](mailto:ian@marinedivingsolutions.com)

### **Company Information:**

Marine Diving Solutions, LLC.  
21670 E Geddes Pl, Centennial, Colorado 80016  
303-309-0091

[ian@marinedivingsolutions.com](mailto:ian@marinedivingsolutions.com)

[www.marinedivingsolutions.com](http://www.marinedivingsolutions.com)

Limited Liability Company, filled as an S-Corporation

# Qualifications / Experience / Credentials / References

## **PROJECT 1: City of Grand Junction**

**Reference/Contact:** Anthony Lee Cooper, P.E.

City of Grand Junction Project Engineer

Ph. (970) 256-1455

Cell (970) 589-4985

[leec@gicity.org](mailto:leec@gicity.org)

Key Personnel: Ian Stephens – Foreman/Diver;

Brandon Erickson, Samuel Jones, and Keegan Nace– Construction Crew/Divers

Project Timeline: July 2017

Size: Inspection of Mid and Lower Valves at Juniata Reservoir

Facility Type: Reservoirs

Project Description: Marine Diving Solutions provided a commercial dive inspection of outlet valves at Juniata Reservoir.

- Commercial diving operations at elevation.
- Video inspection and recording.
- Inspection of intake trash rakes.
- Inspection of outlet works valves.
- Diving operations over 100' deep with altitude correction.

# Qualifications / Experience / Credentials / References

## PROJECT 2: Centennial Water & Sanitation District

**Reference/Contact:** Tony Miller  
Field Operation Lead  
Ph. (303) 791-2185  
Cell (303) 241-8127  
[tmiller@cwsdhrmd.org](mailto:tmiller@cwsdhrmd.org)

Key Personnel: Ian Stephens - Foreman;  
Keegan Nace, Brandon Erickson, Samuel Jones and Dustin Morton– Construction Crew/Divers

Project Timeline: 2014 to Present

Size: Dive contractor for multiple city owned reservoirs.

Facility Type: South Platte Reservoir, McLellan Reservoir and Treatment Plant Reservoir

Project Description: Marine Diving Solutions provided dive inspection of reservoirs intakes, 3 gates and hydraulic cylinders, hydraulic line replacement, outlet pipeline inspection and repairs, and ROV crawler CCTV inspections.

### Services included:

- Commercial diving in reservoirs
- Intake inspection
- 800' of 1½" hydraulic line replacement
- Hydraulic cylinder leak inspection
- Hydraulic cylinder leak repair
- Inspection of (3) 48" sluice gates
- Adjustment of (1) 48" leaking sluice gate
- 60' dives plus altitude
- PACP ROV crawler CCTV pipeline inspections
- Aeration line replacement
- Outlet pipeline inspection and repairs
- Underwater HD video inspections with audio



# Qualifications / Experience / Credentials / References

## PROJECT 3: Colorado Parks and Wildlife

**Reference/Contact:** John Clark  
Dam Operations Engineer  
Ph. (303) 291-7396  
Cell (720) 218-7780  
[john.clark@state.co.us](mailto:john.clark@state.co.us)

Key Personnel: Ian Stephens - Foreman;  
Keegan Nace, Brandon Erickson, Samuel Jones, and Jake McElwee– Construction Crew/Divers

Project Timeline: 2016 to Present

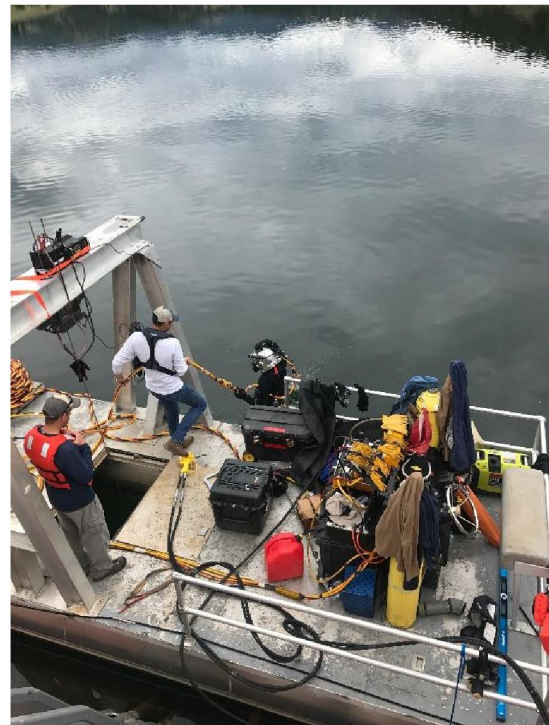
Size: Dive contractor for multiple state-owned reservoirs.

Facility Type: Various Colorado State-Owned Dams

Project Description: Marine Diving Solutions provided dive inspection of reservoirs intakes, ROV crawler CCTV inspections, custom stem guide fabrication and replacement.

### Services included:

- Commercial diving in reservoirs
- Intake inspections
- Stem guide fabrication and replacement
- Stem replacement
- Sluice gate replacement
- Slide gate inspections
- UP to 80' dives plus altitude
- PACP ROV crawler CCTV pipeline inspections
- Outlet pipeline inspections
- Underwater HD video inspections with audio



# Qualifications / Experience / Credentials / References

## PROJECT 4: Catamount Metro District

**Reference/Contact:** Joel Anderson  
Dam Operations Engineer  
Ph. (970) 871-6989  
Cell (970) 846-3211  
[joel@catamountmetro.org](mailto:joel@catamountmetro.org)

Key Personnel: Ian Stephens - Foreman;  
Keegan Nace, Brandon Erickson, Samuel Jones– Construction Crew/Divers

Project Timeline: 2017 & 2018

Size: Dive contractor for Lake Catamount

Facility Type: Lake Catamount

Project Description: Marine Diving Solutions provided dive inspection of reservoir intake, trash rack inspection, custom stem guide fabrication and replacement, outlet inspection and epoxy repairs, sluice gates inspections and adjustments, and debris survey inspection.

### Services included:

- Commercial diving in reservoirs
- Intake inspection
- Stem guide fabrication and replacement
- Trash rack inspection and debris removal
- Outlet pipeline inspection
- Epoxy coating repairs to outlet pipe
- Underwater HD video inspections with audio



# Qualifications / Experience / Credentials / References

## PROJECT 5: New Mexico Department of Game and Fish

**Reference/Contact:** Russell Benjamin  
Construction Manager  
Ph. (505) 476-8165  
Cell (505) 252-5989  
[russell.benjamin@state.nm.us](mailto:russell.benjamin@state.nm.us)

**Key Personnel:** Ian Stephens – Foreman/Diver;  
Keegan Nace, Brandon Erickson, Samuel Jones, Jake McElwee– Construction Crew/Divers

**Project Timeline:** 2015 to Present

**Size:** Inspection and Repair of New Mexico State Owned Dams

**Bid Amount:** Negotiated diving price agreement for various New Mexico State Dams.

**Facility Type:** Various Reservoirs in New Mexico

**Project Description:** Marine Diving Solutions provides a commercial dive team for any dam repair for New Mexico Game and Fish owned Dams.

- Commercial diving of reservoirs
- Outlet pipeline inspections with ROV CCTV crawlers
- Inspection of intake structure and sedimentary investigation
- Sluice gate replacement
- Operating gate stem and stem guide replacement
- Operator replacement





## References

1. U.S. Army Corps of Engineers, Omaha  
J. Scott Franklin, P.E. or Dean Matuszewski, Contract Specialist  
Scott Franklin Ph. (303) 507-1368  
Dean Matuszewski (402) 995-2850  
J.Scott.Franklin@usace.army.mil or [dean.p.matuszewski@usace.army.mil](mailto:dean.p.matuszewski@usace.army.mil)
2. Colorado Parks and Wildlife  
John Clark, Dam Operations Engineer  
Ph. (303) 291-7396  
Cell (720) 218-7780  
[john.clark@state.co.us](mailto:john.clark@state.co.us)
3. New Mexico Department of Game and Fish  
Russell Benjamin, Construction Manager  
Ph. (505) 476-8165  
Cell (505) 252-5989  
russell.benjamin@state.nm.us
4. Catamount Metro District  
Joel Anderson, Dam Operations Engineer  
Ph. (970) 871-6989  
Cell (970) 846-3211  
[joel@catamountmetro.org](mailto:joel@catamountmetro.org)
5. Centennial Water & Sanitation District  
Tony Miller  
Field Operation Lead  
Ph. (303) 791-2185  
Cell (303) 241-8127  
tmiller@cwsdhrmd.org
6. City of Grand Junction  
Anthony Lee Cooper, P.E.  
City of Grand Junction Project Engineer  
Ph. (970) 256-1455  
Cell (970) 589-4985  
leec@gjcity.org

## Colorado Dam/Reservoir Relevant Experience Past 5 Years

- 1) Bessemer Irrigation and Ditch Company
- 2) Castle Pines MD
- 3) Conifer High School
- 4) Arapahoe County Water and Waste Water
- 5) Left Hand Water District
- 6) Norther Colorado Water Conservancy District
- 7) Town of Palisade
- 8) Town of Cripple Creek
- 9) Colorado City
- 10) USACE Omaha District- Tri Lakes – Bear Creek, Chatfield, Cheery Creek Reservoirs
- 11) Town of Frederick
- 12) City of Aurora
- 13) Round Up River Ranch
- 14) Town of Superior
- 15) Harris Park Metro District
- 16) Old Dillion Water Authority
- 17) The Pinery Water and Wastewater
- 18) United States Air Force Academy
- 19) Parker Water and Sanitation District
- 20) Saint Michaels Reservoir, Privately Owned
- 21) Catamount Metro District
- 22) Department of Veteran Affairs – Fort Logan National Cemetery Lower Reservoir
- 23) W.W. Wheel & Associates
- 24) Colorado Parks and Wildlife
- 25) Colorado River Water Conservation District
- 26) Aleut Management Services
- 27) Town of Silverton
- 28) City of Grand Junction
- 29) Rio Blanco Water Conservancy District
- 30) Kissing Camels Golf Course
- 31) The Navigators
- 32) Town of Breckenridge
- 33) Heeter Geotechnical Construction
- 34) Denver Water
- 35) U.S. Air Force
- 36) Byers Group
- 37) Trinchera Irrigation Company
- 38) Ramey Environmental
- 39) RJH Consultants
- 40) Denver Water – Multiple Reservoirs
- 41) More Upon Request

## **Strategy and Implementation Plan**

Marine Diving Solutions (MDS) has an understanding that the intent of this project is for a second investigation to determine if the valves in Juniata Reservoir are capable of closing when tuberculated materials are removed from the stem and the seat of the valves.

We were the company that previously inspected the valves in 2017 and have first hand knowledge of the valve conditions. We understand this project involves the removal of a section of the steel trash rack that is immediately ahead of the valves and to provide a physical de-scaling of the tuberculated valve stems and valve seat area. The tuberculated materials can be taken off via hand tools or a pneumatic wire wheel grinder or a combination of both.

Taking our past experience into account, we would like to present our option of completely removing the whole trash rack and replacing with a new stainless-steel version with a hinged entrance for ease of future entry and repair projects and will not corrode for potentially lasting a lifetime. This option will ensure that the trash rack is structurally intact and will be stamped by a CO Professional Engineer.

The City will then operate the valves to confirm if full operation of the valves is possible at this point. The trash rack replacement will then be completed to allow protection of the outlet works under normal operation. We will conduct these investigations at both the mid-level and low-level outlet valves, starting at the mid-level location.

Marine Diving Solutions will provide the City of Grand Junction with a USB containing all video documentation of the de-scaling and the underwater operations of the valves for their records.

Marine Diving Solutions understands that the water depth of Juniata Reservoir is anticipated to be at 49' for the mid-level and 93' for the low-level valves at the time of inspections, which is planned for February-March 2019. MDS plans to start within 2 weeks of award and complete all work in a four-week time frame.

**SECTION 7.0: SOLICITATION RESPONSE FORM**

**RFP-4591-19-DH "Investigation and Repair of Outlet Control Valves at Juniata Reservoir"**

*Offeror must submit entire Form completed, dated and signed.*

**1) Total cost to provide all labor, parts, supplies, equipment and installation necessary for the Investigation of the Mid-Level Valves per specifications:**

**TOTAL COST \$** 45,750.00

**WRITTEN:** Fourty Five Thousand Seven Hundered and Fifty **dollars.**

**2) Total cost to provide all labor, parts, supplies, equipment and installation necessary for the Investigation of the Low-Level Valves per specifications:**

**TOTAL COST \$** 50,000.00

**WRITTEN:** Fifty Thousand **dollars.**

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*The Owner reserves the right to accept any portion of the work to be performed at its discretion*  
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The undersigned has thoroughly examined the entire Request for Proposals and therefore submits the proposal and schedule of fees and services attached hereto.

This offer is firm and irrevocable for sixty (60) days after the time and date set for receipt of proposals.

The undersigned Offeror agrees to provide services and products in accordance with the terms and conditions contained in this Request for Proposal and as described in the Offeror's proposal attached hereto; as accepted by the Owner.

Prices in the proposal have not knowingly been disclosed with another provider and will not be prior to award.

- Prices in this proposal have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.
- No attempt has been made nor will be to induce any other person or firm to submit a proposal for the purpose of restricting competition.
- The individual signing this proposal certifies they are a legal agent of the offeror, authorized to represent the offeror and is legally responsible for the offer with regard to supporting documentation and prices provided.
- Direct purchases by the City of Grand Junction are tax exempt from Colorado Sales or Use Tax. Tax exempt No. 98-903544. The undersigned certifies that no Federal, State, County or Municipal tax will be added to the above quoted prices.
- City of Grand Junction payment terms shall be Net 30 days.
- Prompt payment discount of 1 percent of the net dollar will be offered to the Owner if the invoice is paid within 10 days after the receipt of the invoice.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents.

State number of Addenda received: 1.

It is the responsibility of the Proposer to ensure all Addenda have been received and acknowledged.

Marine Diving Solutions, LLC.  
Company Name – (Typed or Printed)

\_\_\_\_\_  
Authorized Agent Signature

21670 E Geddes Pl  
Address of Offeror

Centennial, Colorado, 80016  
City, State, and Zip Code

Ian T. Stephens  
Authorized Agent – (Typed or Printed)

303-309-0091  
Phone Number

ian@marinedivingsolutions.com  
E-mail Address of Agent

January 15th, 2019  
Date



**MARINE DIVING SOLUTIONS**

21670 E Geddes Pl, Centennial, Colorado 80016 • Phone: 800.637.1322 • Fax: 303.309.0097  
ian@marinedivingsolutions.com • www.marinedivingsolutions.com



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

02/14/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> Denver Agency 210 University Blvd, Suite 600  Denver CO 80206-4661		<b>CONTACT NAME:</b> Valerie Khaletskaya <b>PHONE (A/C, No, Ext):</b> (303) 892-6900 <b>E-MAIL ADDRESS:</b> valerie@denveragency.com		<b>FAX (A/C, No):</b>
<b>INSURED</b> Marine Diving Solutions LLC 21670 E Geddes Pl  Centennial CO 80016		<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
		<b>INSURER A:</b> Lloyds of London Underwriter		
		<b>INSURER B:</b> Artisan & Truckers Casualty Co		
		<b>INSURER C:</b> Pinnacol Assurance		41190
		<b>INSURER D:</b> Atlantic Specialty Ins Co		
		<b>INSURER E:</b>		
		<b>INSURER F:</b>		

**COVERAGES****CERTIFICATE NUMBER:** CL1911820728**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY			19AEARK083338	01/14/2019	01/14/2020	EACH OCCURRENCE	\$ 2,000,000	
	<input checked="" type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	\$ 100,000	
	GEN'L AGGREGATE LIMIT APPLIES PER:							MED EXP (Any one person)	\$ Excluded
	<input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC						PERSONAL & ADV INJURY	\$ 2,000,000	
	OTHER:						GENERAL AGGREGATE	\$ 4,000,000	
							PRODUCTS - COMP/OP AGG	\$ 4,000,000	
								\$	
B	<b>AUTOMOBILE LIABILITY</b>			00310417-0	01/15/2019	01/15/2020	COMBINED SINGLE LIMIT (Ea accident)	\$ 1,000,000	
	<input checked="" type="checkbox"/> ANY AUTO						BODILY INJURY (Per person)	\$	
	<input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS						BODILY INJURY (Per accident)	\$	
	<input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	\$	
							Medical payments	\$ 5,000	
	<b>UMBRELLA LIAB</b>						EACH OCCURRENCE	\$	
	<b>EXCESS LIAB</b>						AGGREGATE	\$	
	DED							\$	
	RETENTION \$							\$	
C	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b>			4170578	01/01/2019	01/01/2020	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER		
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	Y/N	N/A				E.L. EACH ACCIDENT	\$ 1,000,000	
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	\$ 1,000,000	
							E.L. DISEASE - POLICY LIMIT	\$ 1,000,000	
D	Inland Marine			790021330-0001	01/14/2019	01/14/2020	Leased/Rental Limit:	\$700,000	
							Install Floater:	\$1,000,000	
							Deductible:	\$1,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**CERTIFICATE HOLDER****CANCELLATION**

City of Grand Junction and its employees 250 N. 5th Street  Grand Junction CO 81501	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE  
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