JORDAN VALLEY WATER CONSERVANCY DISTRICT

REQUEST FOR STATEMENTS OF QUALIFICATIONS TO PROVIDE PROFESSIONAL ENGINEERING SERVICES FOR THE

5700 W 10200 South Booster Pump Station Upgrades

Project #4366

August 2024

Summary

Jordan Valley Water Conservancy District (JVWCD) invites you to submit a Statement of Qualifications (SOQ) as defined in this request. SOQs shall be submitted in a sealed envelope to JVWCD's project manager, Conor Tyson, at 8215 S.1300 W., West Jordan, UT 84088, no later than 5:00 p.m. on September 16, 2024, for consideration.

Introduction

JVWCD was created under the Water Conservancy Act as a political subdivision of the State of Utah. JVWCD was organized as a regional water supply agency to develop a water supply for rapidly growing areas outside of the Salt Lake City service area. JVWCD currently serves as a wholesale supplier to 17 member agencies and also operates a retail distribution system in several parts of Salt Lake County. In 2023, JVWCD delivered approximately 110,000 acre-feet of municipal and industrial water to its wholesale and retail customers.

Project Background

The 5700 West 10200 South booster pump station was built in 1981 to convey water into JVWCD's Zone C pressure zone; capacity upgrades were made to the booster pump station in 1997. The booster pump station is supplied by an existing 3 MG reservoir on site which receives water from another booster pump station located at 3600 West 10200 South and pumps water to another 3 MG reservoir located at 6900 West 10200 South. Pressure Zone C provides wholesale water at metered connections to South Jordan, West Jordan, Riverton, and Herriman cities. In 2023, a new booster pump station was constructed at the 3600 West 10200 South site to increase pumping capacity. With this new booster pump station, capacity upgrades are now required at the 5700 West site to meet the increasing demand in the Zone C pressure zone.

Specific Project Information

The existing booster pump station contains four pumps and motors, which are: one 400 hp motor, two 125 hp motors, and one 100 hp motor. The booster pump station is fed by a 3 MG reservoir on site with a floor elevation of 4931' and an overflow elevation of 4959'.

The pumps deliver water to a 3 MG reservoir with a floor elevation of 5128' and an overflow elevation of 5148'.

The existing 400 hp motor driven pump can deliver about 8.5 MGD of water to the higher zone, while the smaller pumps can each deliver about 2.5 MGD. It is desired to upgrade two of the smaller pumps and motors to be similarly sized to the 400 hp motor driven pump. JVWCD desires to increase the reliable capacity of this booster pump station to 18 MGD, being able to deliver sufficient water to the upper zone and still maintain one large pump as a reserve. One of the existing smaller pumps will remain to meet lower demands.

The existing power on-site is insufficient to meet these increased demands. The existing transformer is 750 KVA, 12.47kV primary, 480V secondary and will need to be replaced as part of this project. The metering enclosure was installed with the 1997 upgrades which included a 3,000-amp bus with a 1,200-amp breaker to feed the existing motor control center (MCC) for the pump station and additional space for a 1,600 amp breaker to feed a new MCC. JVWCD anticipates that no VFD drives will be installed with this project.

Although the transmission pipelines on both the downstream and upstream side of the booster pump station have been upgraded to 42" pipe to accommodate the growing demands, some of the piping on-site remains undersized. All on-site pipes insufficient to convey the anticipated increased flows must be upsized as part of this project.

Record drawings for the initial booster pump station construction, a small electrical modification in 1996, and the 1997 upgrades are provided in Appendixes A, B, and C. Relevant drawings from the pipeline projects upstream and downstream are also included in Appendixes D and E.

Project Objectives

1. Provide engineering analysis, design, and construction managements services for upgrades to the booster pump station at 5700 West 10200 South to ensure station can accommodate projected future growth.

2. Prepare engineered drawings to include any elements needed for a fully functioning system. The engineer shall prepare drawings and specifications of sufficient detail to minimize uncertainties during bidding of the construction contract and to minimize claims for construction change orders.

3. The upgraded booster pump station substantially complete and operational by May 1, 2027.

Scope of Work

The general scope of work for the 5700 West 10200 South Booster Pump Improvements includes providing expert design services for upgrading the booster pump station, including project management and coordination, quality control, identification of underground utilities, electrical load analysis, surge analysis, hydraulic analysis, preliminary and final design, cost estimating, and construction management and inspection.

1. Pre-Design Phase:

    A. Perform a hydraulic evaluation to determine the required sizes for the new pumps for the booster pump station to have a reliable pumping capacity of 18 MGD and the required pipeline sizes for the booster pump station site.

    B. Prepare base mapping utilizing an aerial photo background (minimum 1' resolution). This includes main roadway features, utilities, and other features, as necessary. Aerial photography should be no older than two years and be detailed enough to display road features.

    C. Perform a utility search of the project site, including but not limited to, water lines, sanitary sewer, storm drain, irrigation lines, gas, electrical, cable, fiber optics, telephone, etc.

    D. Evaluate the feasibility and cost of the following project options:

        1) Enlarging the roof access skylights to accommodate larger pumps and motors. Evaluate whether to maintain skylights or install hatches.

        2) Adding an on-site emergency power generator versus adding a connection for a portable power generator.

    E. Review JVWCD's design criteria applicable to this project including coatings for all indoor piping and pump heads.

    F. Identify additional design criteria as applicable.

    G. Meet with applicable entities affected by the project (e.g. municipalities, property owners, utility owners, regulatory agencies, etc.) during the preliminary and design phase to coordinate all aspects of the project. The

following list identifies some of the key affected entities but is not meant to be all inclusive:

1) South Jordan City

2) Rocky Mountain Power

3) Utah Division of Drinking Water

4) West Jordan City

H. Meet with applicable entities affected by the project (e.g. municipalities, utility owners, regulatory agencies, etc.) during the preliminary and design phase to coordinate all aspects of the project. Existing booster pump station is in South Jordan.

I. Provide for selected potholing of key utility crossings and conduct field measurements. The Engineer should identify utilities to be potholed and be on site during potholing to take field measurements.

J. Evaluate the sizing of inlet/outlet piping for the 3 MG reservoir for the new pumping capacity. The existing inlet/outlet piping for the reservoir is 16-inch and based off the hydraulic evaluation the design should include upsizing of the combined inlet/outlet piping.

K. A surge analysis for this booster pump station on both the suction and discharge sides must be completed and accounted for in the design.

L. Evaluate pump curves for the new pumps to determine anticipated flow rates and required pipe sizes on suction and discharge of booster pump station. Create a system curve for the upgrades booster pump station.

M. Perform electrical load analysis to determine the needed power requirements for the upgraded booster pump station.

N. Evaluate anticipated heat to be generated by new motors and determine the required level of HVAC for booster pump station.

O. Develop conceptual site and booster pump station layouts that include electrical.

P. Design changes to piping inside the booster pump building to accommodate higher flows and JVWCD standard practices and policies. This could include work on the lines for the new pumps and the existing pumps not replaced with this project.

Q. Prepare an estimated construction sequencing schedule for the pipeline project. Identify potential conflicts and/or critical path items in the schedule.

R. Prepare a preliminary design report which contains the findings of the preliminary design effort.

2. Design Phase:

A. Using the findings of the preliminary design report, prepare drawings and specifications for construction of the new facility.

B. Prepare mechanical, civil, structural, electrical, and instrumentation drawings for the booster pump station. The electrical design is to include the replacement of the existing MCC, and the addition of a MCC for the new motors, and the relocation of a mini-power center panel.

C. Prepare plan, profile, and detail drawings, technical specifications, and bid schedule(s) for the pipeline. Drawings shall be 11 x17 with a scale not to exceed 1" = 80'.

D. Include corrosion protection design as needed for new pipeline and associated facilities.

E. Attend and conduct design workshops with JVWCD at Preliminary Design, 60%, 90%, and 100% completion.

F. Provide an estimate of probable construction costs at the 60% and 100% submittal stage.

G. The Senior Reviewer shall attend at least two (2) design review meetings with JVWCD in person.

H. Review and become familiar with JVWCD’s bidding documents, General Conditions and Supplemental General Conditions.

I. Provide drawings and technical specifications to JVWCD for incorporation into the bidding documents. JVWCD will prepare the bidding documents using its standard front-end documents, General Conditions, and Supplemental General Conditions.

J. Meet with JVWCD personnel and Utah Division of Drinking Water (DDW) staff at the 90% design stage to verify compliance of the design with applicable water regulations. Respond as needed to comments from DDW staff and submit final drawings and specifications for plan approval.

K. Provide assistance during the bidding period including conducting a pre-bid side visit, responding to bidders' questions, issuing Addenda, as required, etc.

L. Assist in the bid opening, review the bids, and recommend an award of contract (within three working days).

M. Prepare a conformed set of drawings and specifications which will incorporate all addenda material into a conformed drawing set for use during construction.

3. Construction Management Phase:

A. Following an award of construction contract, fulfill the duties and responsibilities of the ENGINEER as defined in JVWCD's construction contract documents.

B. Administer the construction contract:

1) Conduct pre-construction meeting.

2) Review and recommend contractor submittals to JVWCD.

3) Review and recommend contractor progress payments to JVWCD.

4) Review contractor's claims.

5) Recommend change orders, if any, to JVWCD.

6) Conduct project close-out at completion of the work.

7) Conduct a comprehensive inspection with the contractor and JVWCD at substantial completion, final completion, and just prior to warranty expiration. Prepare and deliver to JVWCD a written list of observed deficiencies.

C. Perform field services

1) Coordinate all materials testing services to be completed by an independent testing firm.

2) Designate a representative to attend weekly progress meetings which are conducted by the Contractor, and document content of progress meetings with minutes.

3) Maintain a photograph history of the project and submit periodic photos to JVWCD during construction.

4) The Engineer shall commit a Project Representative to provide on-site inspection of construction activities to verify compliance with the drawings and specifications for an *estimated* 4 weeks of full-time and 40 weeks of part-time inspection.

D. Documentation and Project Close-out

1) Prepare final record drawings using the contractor's record drawings. Record drawings should be prepared according to JVWCD's Guidelines for Engineering Services (Attachment B).

2) Prepare a photographic history at the end of the project according to JVWCD's Guidelines for Engineering Services.

3) Prepare an Operation and Maintenance manual according to JVWCD's Guidelines for Engineering Services.

Sample Preliminary Schedule

Award of Consulting Contract: on or after October 9, 2024.

Contract Preparation: 28 calendar days

Preliminary Design Phase:	90 calendar days
Design Phase:	
60% Design:	60 calendar days
90% Design:	60 calendar days
100% Design:	30 calendar days
DDW Approval:	during bidding
Bidding through NTP:	60 calendar days
Construction Phase:	450 calendar days
Warranty Inspection:	11 months after final completion

Proposers may revise this schedule as necessary to match their work plan.

Statement of Qualification Evaluation

SOQs shall not exceed eight (8) pages in length with a maximum of two (2) 11x17 pages (excluding resumes, sample drawings, and references). Provide three (3) hard-copies and one digital copy of the SOQ for review by the evaluation committee.

The SOQ should include the following information:

- Qualifications: Identify the key members of the team listed by name including role and availability to the project in the format of a Project Team Chart. Indicate the education, experience, expertise, and location of each team member (it is acceptable to provide this in resume format in the appendix). Sample drawing(s) from applicable previous projects may be included in the appendix. Include evidence demonstrating compliance with the Minimum Qualifications section of this Request for SOQ.

- Work Plan: Include a detailed work plan which addresses the scope of the work and identifies key issues. A final agreed upon work plan will be incorporated into Schedule A of the Agreement. Include a project schedule

of the key tasks and note the availability of project team members with respect to current workload and project start and completion dates.

Include with the work plan a table showing the number of hours planned for the key positions for each major work task. Include subtotals of all labor hours for the preliminary design, design, and construction management phase. This information will be used to evaluate the work plan and the level of effort in each phase by the team and the key team members. **Do not include any billing rate or cost information in this work plan table**.

- Past Performance: Provide information about past completed projects which satisfy the Minimum Qualifications requirements. Information about additional completed projects which the Proposer feels would be relevant may also be submitted. The past project performance information shall include:

    1. Brief description of project and scope of services performed,
    2. Name of owner,
    3. Owner contact information (direct phone number preferred),
    4. Role which proposed Project Team member(s) fulfilled on past project,
    5. Original engineering fee amount,
    6. Final engineering fee amount,
    7. Original construction or equipment purchase contract amount,
    8. Final construction or equipment purchase contract amount,
    9. Completion date established in the original construction or equipment purchase contract and actual final completion date.

    Incomplete projects (on-going work) may be used but may result in a lower grade for this section in the evaluation phase.

Professional Consulting Services Agreement

Comment on the acceptability of the enclosed Professional Consulting Services Agreement (Agreement) (Attachment A) with attached Schedule B-Requirements for Engineering Services (Attachment B). Any suggested changes to the Agreement must be identified with the proposal (as an attachment), although JVWCD reserves the right to reject any suggestions. No changes will be considered after the proposal due date.

Selection Method

Selection of a consultant will be done in accordance with the State of Utah's Procurement Code for Design Professional Services (Utah Code Title 63G, Chapter 6a, Part 15).

Minimum Qualifications

Proposers are required to meet the following minimum experience requirements to be considered responsive to the Request for SOQs:

- The Project Manager shall have successfully functioned as a Project Manager on at least:
  - Two (2) booster pump stations.
  - The District's definition of a Project Manager is one who coordinated multiple disciplines on a project, IE civil, mechanical, electrical, structural, and instrumentation; one who managed legal and accounting efforts; and one who performed a quality control review of the project personally. The Project Manager shall have served as the engineer of record for the project, including stamping applicable drawings and specifications, unless this is not the policy of the engineering firm completing the project.

- The Project Engineer(s) shall have successfully functioned as a Project Engineer on at least:
  - One (1) booster pump station.
  - The District's definition of a Project Engineer is one who was directly responsible for one or more disciplines on a project, served as the engineer of record for those disciplines, and stamped applicable drawings and specifications for the project, unless this is not the policy of the engineering firm completing the project.

- The Senior Review Engineer(s) shall have successfully functioned as a Senior Review Engineer, a Project Manager, or a Project Engineer on at
  - Three (3) booster pump stations.

- The Project Manager, and Project Engineer(s) shall be licensed as professional engineers in Utah. The Senior Engineer shall be licensed as a professional engineer.

- The Project Representative shall have functioned in this role for at least:

- Three (3) booster pump station or well house projects.
- The Project Representative is the representative of the Engineer who is assigned to observe and inspect the performance of the construction work. The Project Representative shall be the chief authorized representative of the Owner and the Engineer at the site of the work in all onsite relations with the Contractor.

- The project team and proposed work plan are responsive to the needs of the project and include all the disciplines required by the request for SOQ.

Any proposals not meeting the minimum qualifications may be deemed non-responsive and removed from further consideration.

Evaluation Criteria

An evaluation committee appointed by JVWCD's Chief Engineer including representatives from JVWCD will convene to consider all responsive SOQs submitted and to rank the SOQs based on each criterion stated in this section.

Evaluation criteria are assigned a maximum number of points for evaluation purposes with a cumulative total of 100 points. Each SOQ will be evaluated based on the following evaluation criteria:

Evaluation Criteria	**Grade**	**Weight**	**Maximum Points**
1. Demonstrated Qualifications to meet the scope of work:			
a. Firm Resources that satisfy the defined minimum qualifications. Demonstrated availability of firm resources to the project team.	0-5	1	5
b. Project Manager and key team members with the education, expertise, and experience necessary as required for the project.	0-5	5	25
c. Availability of Project Manager and key team members to the project. Current workload with the District may be considered.	0-5	2	10
2. Responsiveness of Work Plan:			
a. Clearly written work plan responding to the requirements of this request which indicates an understanding of the key issues and deliverables required for this project. Higher scores may be given to SOQs which show familiarity with District facilities related to this project or which note suggested revisions to the scope of work which would lead to an enhanced outcome.	0-5	5	25
b. Project schedule which identifies completion dates for key milestones and a final completion date.	0-5	1	5
3. Past Performance:			
a. Positive verified past references for the Proposing Firm indicating successful past performance on similar projects, including projects for JVWCD.	0-5	3	15
b. Positive verified past references for the Project Manager and other key team members indicating successful past performance on similar projects, including projects for JVWCD.	0-5	3	15
Total:			100

Each criterion will be graded on a scale of 0-5 with 5 being the highest grade. The grades will be multiplied by the appropriate weight factor to determine the total score. SOQs shall have a level of effort appropriately matching the requirements, including efforts by key positions. SOQs falling short of an appropriate overall effort and/or effort by key positions may be considered non-responsive. JVWCD reserves the right to reject all SOQs.

Fee Proposal Instructions

A fee proposal will be requested from the firm receiving the highest score. The fee proposal will be due 2 days after it is requested by JVWCD. If JVWCD's procurement officer is unable to agree to a satisfactory contract with the highest scoring design professional, at a price the procurement officer determines to be fair and reasonable to the procurement unit, the procurement officer shall formally terminate discussions with that design professional, and undertake discussions with the second highest scoring, qualified design professional. For additional information, see Utah Code Title 63G, Chapter 6a, Part 15, Section 1505.

The fee proposal shall be provided in a spreadsheet format similar to the sample fee proposal template in Attachment C. If the required information is not present, the fee proposal may be considered non-responsive. The hourly billing rate for each position, number of hours per task by position, and any fees for reimbursable expenses and overhead factors shall be clearly indicated. Proposed hourly billing rate increases, if applicable for multi-year projects, should likewise be clearly indicated.

The total proposed fee for the preliminary design and design phases of the project will be considered a maximum not-to-exceed fee amount. The fees submitted for the construction management phase shall be subject to increase/decrease based upon the actual level of effort needed during construction. It has been JVWCD's experience that more detailed designs result in fewer change orders and issues during construction and thus fewer construction management hours.

Upon execution of the Agreement by both parties, the Engineer will receive authorization to proceed with only those services identified in the Agreement. The Engineer must receive prior written authorization before performing any services outside the scope and fee amount identified in the Agreement.

For purposes of preparing the fee proposal make the following assumptions:

1. Design Contingency Budget

a. Increase by 20% the number of hours to be spent on the Pre-design and Design Phases for the purpose of establishing a Design Contingency. The increase shall be proportional for each position.

b. This 20% increase shall be included as a separate task and released only with written authorization of the District's Engineering Department Manager in accordance with Schedule B – Requirements for Engineering Services.

2. Construction Phase Level of Effort

a. See Scope of Work, 3. Construction Management Phase. Please provide comments on the adequacy of the estimated inspection hours and suggest any modifications.

CONFIDENTIALITY: All information, documents, records and paperwork, including but not limited to SOQs, bids, exhibits, or brochures (collectively, the "Paperwork") submitted to the District shall not be regarded by the District as secret or submitted in confidence, except as otherwise provided in a writing signed by the District. Please do not mark your Paperwork with legends such as "confidential," or "proprietary," or "not to be disclosed to third parties." The District is a Utah local district and is subject to the provisions of the Utah Government Records and Management Act ("GRAMA," Utah Code Ann. (1953) §§63-2-101 et seq.). Paperwork submitted to the District may be subject to disclosure to third parties under the District's interpretation of the provisions of GRAMA.

Questions or Suggestions

Proposers may ask questions or make suggestions to JVWCD on any element of this Request for SOQs. Questions or suggestions should be submitted to JVWCD's Project Manager, Conor Tyson at 565-4300 or conort@jvwcd.org

ATTACHMENT A

PROFESSIONAL CONSULTING SERVICES AGREEMENT

PROFESSIONAL CONSULTING SERVICES AGREEMENT
FOR _____
(PROJECT NO. _____)

This Agreement is made as of _____, _____ ("Effective Date"), by and between the Jordan Valley Water Conservancy District, a Utah special district ("District"), and _____ a Utah corporation OPTIONAL WORDING: [a Utah _____/ a (State) _____ _____ authorized to do business and doing business in the State of Utah] ("Engineer").

RECITALS:

A. The District desires to obtain professional engineering services relating to the _____;

B. Engineer represents it has the necessary expertise and experience to perform the services requested by the District and that it is properly qualified and licensed in the State of Utah for this work; and,

C. Engineer has submitted a proposal outlining its proposed scope of activities for performance and completion of the services, and the Engineer is willing to perform the services requested by the District, consistent with the terms of this Agreement.

TERMS:

The parties agree as follows:

ARTICLE I
DEFINITIONS

1.1 Unless the context requires otherwise, the terms defined in this Article shall for all purposes of this Agreement and all schedules, have the following meanings:

1.1.1 Agreement: This Professional Consulting Services Agreement, including attachments.

1.1.2 Contract: The agreement between the District and the Contractor for the provision of labor, materials and equipment for the construction of the Project.

1.1.3 Contract Documents: All documents relating to construction of the Project, issued by or through the Engineer, on behalf of the District to the Contractor, or by the District, including the Notice Inviting Bids,

Instructions to Bidders, Bid, Information Required of Bidder, Bid Bond, Agreement Performance Bond, Payment Bond, General Conditions, Supplemental General Conditions, drawings, specifications, all addenda and change orders executed pursuant to the Contract.

1.1.4 Contractor: The party contracting with the District for the provision of labor, materials and equipment for the construction and quality control of the Project.

1.1.5 Contract Time: The projected date for substantial completion of the Contract.

1.1.6 Engineer's Fee: The Engineer's compensation for performing Services.

1.1.7 Phase: A logically separate aspect of the Engineer's Services on the Project which occurs in sequence or concurrently with other such aspects to allow for the orderly progress and management of the Engineer's Services for the Project.

1.1.8 Project: The Project is described on attached Schedule A.

1.1.9 Project Manager: The individual identified in Schedule D who will administer the performance of the Engineer's Services under this Agreement.

1.1.10 Project Representative: The individual identified in Schedule D who will provide observation and inspection of the construction of the Project. The Project Representative is the sole authorized representative of the District in all on-site relations with the Contractor, except as other properly authorized agents are designated by the Engineer and approved by the District.

1.1.11 Reimbursable Expenses: Non-salary expenditures made by the Engineer, its employees or its sub-consultants when performing services for the Project. Reimbursable Expenses include:

1.1.11.1 Reasonable expenses of transportation, subsistence and lodging when traveling in connection with the performance of services for the Project.

1.1.11.2 Reasonable expenses of long distance or toll telephone calls, telegrams, messenger service, field office expenses, and fees paid for securing approval of authorities having jurisdiction over the Project.

1.1.11.3 Reasonable expenses of all reproduction, postage and handling of drawings, specifications, reports or other Project-related instruments of service of the Engineer.

1.1.11.4 Reasonable expense of computer time as described on attached Schedule E.

1.1.11.5 Other reasonable reimbursable expenses to which the parties subsequently agree.

1.1.12 Hourly Billing Rate: The hourly fee which the Engineer charges for the time expended on the Project. The hourly billing rate shall be considered full compensation for time expended on the Project. Specific hourly billing rates for the Project are identified in Schedule E.

1.1.13 Services or Engineer's Services: The Engineer's duties and responsibilities to the District for professional consulting services as set forth in Article II.

1.1.14 Sub-Consultant: Any registered professional engineer, architect or other specialist engaged by the Engineer in connection with the Project.

1.1.15 Task: An independent and defined service or collection of services to be performed by the Engineer during a Phase(s) of the Project(s), such service or services being more particularly set forth in Schedule A.

1.2 Except where the context otherwise requires, words imparting the singular number shall include the plural and vice versa.

ARTICLE II
ENGINEER'S SERVICES

2.1 Basic Services: The Engineer shall provide the following Services on the Project, as more described and set out in Schedule A.

2.1.1 Pre-design Phase: Complete applicable investigations, evaluations, analyses, surveys, and reports.

2.1.2 Design Phase: Complete all necessary drawings and technical specifications for bidding the construction of the Project.

2.1.3 Construction Phase:

2.1.3.1 The Engineer shall assist the District during bidding and

contract execution, administer the Contract, provide field observation and inspection of the Project, and provide management and reporting during the construction phase of the Project.

2.1.3.2 The Engineer shall designate the individuals named in Article IV as Project Manager and Project Representative to be the representatives of the District in its relations with the Contractor, subject to the requirements and limitations set out in the Contract Documents and this Agreement. Other personnel of the Engineer shall be designated as needed to administer the Contract, as further set forth in Section 2.2 and this Agreement.

2.1.3.3 The Engineer shall provide Project representation at the site, as described in Schedule A, in order to provide experienced inspection and observation of the quality and progress of the Contract construction work to verify it complies with the requirements of the Contract Documents, and to advise the District of defects and deficiencies. The Engineer shall direct its efforts toward verifying that the means, methods, techniques or procedures that are specified in the Contract Documents are faithfully observed and followed by the Contractor during construction of the Project, and, except as hereafter provided, that the completed Project conforms to the Contract Documents. The Engineer shall not be responsible for any means, methods, techniques, or procedures of construction selected by the Contractor not specified in the Contract Documents, or for safety precautions and programs incident to the work of Contractor.

2.1.3.4 The Engineer shall have the following powers and is hereby directed to exercise them as in its professional judgment are required to accomplish the above tasks, objectives and responsibilities:

Examine, review and investigate all material, equipment, work and workmanship for compliance with the Contract Documents, including the examination and investigation of plant, mill and shop facilities; require that work done in the absence of observation and examination be removed and replaced under the proper observation and examination; make such examination

and tests, as in its professional judgment are required, to verify that the work is being accomplished in accordance with the Contract Documents; reject work which does not meet the specifications of the Contract Documents and require the Contractor remove and replace such work according to the Contract Documents.

2.1.3.5 If disputes between the Contractor and the District arise, and/or if the Contractor shall file a claim or protest against the District during construction of the Project, the Engineer shall investigate and analyze all such disputes, claims and protests, and attempt to resolve them to the mutual satisfaction of the parties, and failing such resolution, recommend a course of action for the District.

2.1.3.6 The Engineer's recommendation of any payment requested in an application for payment by the Contractor will constitute a representation by the Engineer to the District, based on the Engineer's on-site observations of the Contractor's work in progress as an experienced and qualified design professional and on the Engineer's review of the application for payment and the accompanying data and schedules, that the work has progressed to the point indicated, that to the best of the Engineer's knowledge, information and belief the performance and quality of the work is in accordance with the Contract Documents (subject to an evaluation of the work by the Engineer as a functioning Project upon Substantial Completion as defined in the Contract Documents, to the results of any subsequent tests called for in the Contract Documents, and to any qualifications stated in the recommendation), and that the Contractor is entitled to payment of the amount recommended. However, by recommending any such payment, the Engineer will not thereby be deemed to have represented that the Engineer acted or performed to a standard of care higher than that required of the Engineer under this Agreement and the Contract.

2.2 Guidelines for Basic Services: The Engineer shall perform the Services in conformance with the District's Guidelines for Engineering Services, as set forth in Schedule B, and in conformance with such other guidelines imposed by the District during the progress of the Services, so long as such guidelines are in conformance with standard professional consulting services.

2.3 Additional Services: The District and the Engineer recognize and agree that services not set forth in Schedule A are not covered by the Engineer's Fee and are considered to be additional services. No additional services may be provided by the Engineer, and no compensation shall be paid therefore by the District, except upon written confirmation by the District as an amendment to this Agreement.

Upon request by the District, the following additional services shall be provided by the Engineer:

2.3.1 Perform work resulting from changes in design criteria made in writing at the direction of the District, after acceptance of the criteria by the Engineer;

2.3.2 Prepare applications and supporting documents for government review or action, other than those which may be specified in Schedule A;

2.3.3 Provide additional services required as a result of delinquency or insolvency of one or more of the Contractors; or as a result of damage to the Project caused by fire, flood, earthquake, or other acts of God, wherein damage was not a direct or indirect result of Engineer's negligence or within Engineer's control;

2.3.4 Provide additional services required as a result of strikes, walkouts, or other acts of trade or labor unions;

2.3.5 Provide expert witness testimony or litigation support at depositions, trials, court appearances, and other similar judicial proceedings and cooperate in formulating and responding to interrogatories and other similar discovery methods; and,

2.3.6 Perform any other item of work not specifically mentioned above, and requested by the District in writing.

ARTICLE III
TIME TO COMPLETE

The Engineer's Services, as defined in Article II, shall be completed within the timeframe set forth in Schedule C. Notwithstanding any term or provision of this Agreement to the contrary, all of the Services shall be completed within ___ calendar days after the Effective Date of this Agreement.

ARTICLE IV
ENGINEER'S PERSONNEL

The key personnel identified in Schedule D shall perform the Engineer's Services in the assigned capacities, as shown. Any substitution of key personnel and/or changes in assignments from those shown must be approved by the District in writing before such substitution or change may be made by the Engineer.

ARTICLE V
DISTRICT-FURNISHED SERVICES

5.1 Information: Upon the Engineer's request, the District shall provide to the Engineer or make available for review all information and data contained in record drawings, record documents and other records routinely kept by the District pertaining to the design, construction or operation of its facilities. The District does not warrant the accuracy or completeness of such data and information originating from entities or persons other than the District.

5.2 Review of Documents: The District shall review and consider all sketches, drawings, reports, studies, model results, specifications, bids, proposals, contracts, and other documents submitted by the Engineer relative to Engineer's Services. Whenever prompt action is necessary, the District shall within a reasonable time inform the Engineer of its decision regarding the same so as to not unduly delay the Engineer in its performance according to the schedule set forth in this Agreement.

5.3 Engineer Access: The District shall, at its expense, arrange and make provision for the Engineer's entry and access to such property (public and/or private) as may be necessary to enable the Engineer to perform the Services.

5.4 District Representative: The District shall designate in writing an individual who shall be authorized by the District to act as the District's Representative. The Representative shall have authority to receive reports from the Engineer and give instructions to the Engineer.

OPTIONAL 5.4 District Representative: The District hereby designates and authorizes _____ to act as the District's Representative. The Representative shall have authority to receive reports from the Engineer and give instructions to the Engineer.

5.5 Notifications of Defects: The District shall give written notice to the Engineer whenever the District or its Representative becomes aware of any defect or deficiency in the Engineer's Services.

5.6 Construction Right-of-Way: Where, based upon the Engineer's design work, rights-of-way are required for construction, the District will, at its expense, obtain such rights-of-way, including appraisals and title searches, utilizing descriptions and maps provided by the Engineer.

5.7 Consultation with District: Employees of the District shall be available for consultation with the Engineer at all reasonable times.

5.8 Permit Fees: The District shall pay any required permit fees, charges for plan checking, and any other fees charged by any public agency having jurisdiction over any part of the Project, if such charges are made.

5.9 Legal Opinions: The District shall, at its expense, furnish legal opinions on laws and the interpretation thereof which may affect the Project, if such opinions are judged by the District to be necessary.

ARTICLE VI
COMPENSATION

6.1 Basic Services: The District shall pay to the Engineer as compensation for Services attributable to the Project, the hourly billing rates as set forth in Schedule E multiplied by the number of hours expended on the Project, together with reimbursable expenses attributable to the Project multiplied by ___.

6.1.1 Pre-design and Design Phases: In no event shall the total compensation due the Engineer for the Pre-design and Design Phases, including reimbursable expenses, exceed _____ and ___/100 Dollars ($_____).

6.1.2 Construction Phase: The budget authorized for the Engineer's Services and for reimbursable expenses in the Construction Phase is _____ and ___/100 Dollars ($_____). As work in this Phase reaches seventy-five percent (75%) of the authorized budget set forth in Schedule E, the Engineer shall notify the District, and the Engineer and the District shall thereafter mutually review the extent of work already accomplished, the extent of work remaining to be completed and the past and projected expenses related thereto. At that time, the scope of Services and corresponding compensation for Services for the Construction Phase may be adjusted by the District.

6.2 Additional Services: In the event this Agreement is amended to provide for additional services by the Engineer, the Engineer's compensation for additional services shall be the hourly billing rate multiplied by the hours expended for additional services, and reimbursable expenses attributable to the additional services multiplied by ___.

A summary showing estimated cost data for each additional service requested shall be submitted to the District for approval prior to commencement of work on that additional service. The District shall not be obligated to reimburse the Engineer for costs incurred in excess of the estimated cost set forth in that summary, and the Engineer shall not be obligated to continue work or to incur costs in excess of the estimated cost until the District notifies the Engineer in writing that the estimated cost therefore has been increased. Additional sets of Contract Documents and reduced scale drawings shall be charged at actual cost of printing and mailing.

6.3 Format for Invoices: Invoices for the Engineer's Services and expenses shall be reviewed and signed by the Engineer's Project Manager before being sent to the District. Each invoice shall include the following information:

a. Project Name.

b. Time period of Services (beginning of month to end of month).

c. Current invoice charges, separated into Pre-design, Design and Construction Phases, with the following breakdown:

(i) Charges for Services, further described by:

(1) Employee name.

(2) Hours worked.

(3) Rate charged.

(ii) Reimbursable Expenses:

(1) Description.

(2) Cost.

d. Account summary, including:

(i) Total amount authorized for the Pre-design and Design Phases under this Agreement.

(ii) Total invoiced to date for the Pre-design and Design Phases.

(iii) Total amount authorized for the Construction Phase under this agreement.

(iv) Total invoiced to date for the Construction Phase.

6.4 Progress Payments: The Engineer's invoices for Services performed and for reimbursable expenses shall be delivered to the District after the end of the first calendar month following the Effective Date of this Agreement, and monthly thereafter so long as the Engineer's Services shall continue. The compensation requested on any such invoice shall be itemized to show hourly billing rate multiplied by time charged to the Project and reimbursable expenses which actually were incurred in the month identified in the invoice.

6.5 Payment of Invoice: The amount shown on each invoice for the Engineer's Fee and expenses shall be due and payable by the District after its review and acceptance of the Services itemized in the invoice. The Engineer may levy a simple interest charge of eight percent (8%) per annum on invoice amounts accepted for payment by the District and not paid within forty-five (45) days of the date of delivery of the invoice. Late payments made by the District shall be credited first to accrued interest and then to principal.

6.6 Suspension; Termination: In the event the District fails to submit payment on an invoice within sixty (60) days of the date of delivery to the District of such invoice, the Engineer may, at its discretion and upon ten (10) days written notice to the District, suspend its services or terminate this Agreement.

ARTICLE VII
SPECIAL TERMS AND CONDITIONS

7.1 Documents: All completed original reproducible tracings, survey notes, plans, specifications, reports, engineering calculations, and other original documents prepared by the Engineer in the performance of the Engineer's Services shall be the property of the District, and the Engineer shall, upon the request of the District, deliver such documents to the District. The Engineer may retain and use copies of the documents. The District agrees to hold harmless, indemnify and defend the Engineer against all third party damages, claims, expenses and losses arising out of any reuse by the District of the plans, specifications and documents if the District does not obtain the written authorization of the Engineer for their reuse.

7.2 Governmental Immunity: Except for the District’s obligations of indemnification as set forth in paragraph 7.1, nothing in this Agreement shall adversely affect any immunity from suit, or any right, privilege, claim or defense, which the District or its employees, officers and trustees may assert under state or federal law, including but not limited to the Utah Governmental Immunity Act, Utah Code Ann. (1953)

§§ 63-30-1 et seq. (the “Act”). All claims against the District or its employees, officers and trustees are subject to the provisions of the Act, which Act controls all procedures and limitations in connection with any claim of liability.

7.3 Conflict of Interest: The Engineer shall not establish or otherwise continue any conflict of interest created by virtue of this Agreement, prohibited under state or local laws.

7.4 Termination Prior to Completion: This Agreement may be terminated at any time by the District prior to completion of the Engineer's Services upon written notice to the Engineer. Upon receipt of such notice, the Engineer shall immediately stop any further work in progress, and in such event, the Engineer shall be entitled to payment for all of its Services performed by the Engineer and accepted by the District, to the date of cancellation, and for all work required to organize and deliver to the District the materials developed in the course of the Engineer's Services. Payment shall be due to the Engineer within forty-five (45) days after delivery of such materials and receipt of a verified and itemized invoice therefore.

7.5 Construction Estimates: Estimates of contract time, construction costs and quantities prepared by the Engineer or its employees represent their best professional judgment as design professionals and are supplied for the general guidance of the District. The Engineer does not guarantee the accuracy of such estimates as the Engineer has no control over the cost of labor and material, competitive bidding, or market or other conditions.

7.6 Indemnity and Insurance: The Engineer shall indemnify, and hold the District harmless from any claims under the Workers’ Compensation Act, and from any claims, demands, suits, causes of action, costs, fees, judgments, liability for bodily injury and death, and damages to property, real or personal, to the extent caused by or resulting from breach of contract, negligence, recklessness or intentional misconduct by the Engineer or by the negligence of the Engineer’s subconsultants, in the performance of the Engineer's Services under this Agreement. During the course of this Agreement, and for a period of four (4) years following Substantial Completion of the Engineer’s Services under this Agreement, the Engineer shall maintain both professional errors and omissions liability insurance and general commercial liability insurance providing coverage for all liability arising out of the performance of Services in connection with the Project and this Agreement. The liability insurance required shall include "prior acts" coverage for all services rendered for the Project and shall be written with a limit of liability of $500,000.00 per claim and a Project aggregate of $1,000,000.00.

7.7 Interpretation: Except as otherwise noted, releases from liability, indemnification against liability, limitations on liability, assumptions of liability and limitations on remedies which may be expressed in this Agreement, shall apply to all possible claims and/or causes of action, including but not limited to those arising under common law, equity, statute, contract, tort or otherwise.

ARTICLE VIII
GENERAL TERMS AND CONDITIONS

8.1 Standards of Performance: The Engineer shall perform its Services in a manner consistent with the professional skill and care ordinarily provided by other design professionals with the same or similar professional license, providing the same or similar design professional service in the same or similar locality at the same or similar time under the same or similar circumstances.

8.2 Force Majeure: Neither party shall hold the other responsible for damages or delays in performance caused by acts of God, strikes, lockouts, accidents, acts of any governmental entity having jurisdiction over the parties and/or the subject matter of this Agreement (other than those governmental entities named as parties or beneficiaries to this Agreement), or other events beyond the reasonable control of the other or the other's employees and agents. In the event either party claims that performance of its obligation is prevented or delayed by such cause, that party shall promptly notify the other party of that fact and the circumstances preventing or delaying performance.

8.3 Assignment: Neither the District nor the Engineer shall delegate and/or assign their respective duties and/or rights under this Agreement without the prior written consent of the other. The Engineer may subcontract, however, portions of the Services as it deems necessary to efficiently accomplish the Basic Services. Nothing in this paragraph shall release the Engineer from full compliance with the terms and conditions of Article IV.

8.4 Severability; Waiver: In the event a court, governmental agency or regulatory agency with proper jurisdiction determines that any provision of this Agreement is unlawful, that provision shall terminate. If a provision is terminated, but the parties can legally, commercially and practicably continue to perform this Agreement without the terminated provision, the remainder of this Agreement shall continue in effect. One or more waivers by either party of any provision, term, condition or covenant shall not be construed by the other party as a waiver of any subsequent breach of the same by the other party.

8.5 Governing Law: This Agreement shall be governed by, construed and enforced according to the laws of the State of Utah.

8.6 Merger; Amendments: This Agreement and the Contract Documents, including all amendments, represents the entire and integrated agreement between the District and the Engineer, and supersedes all prior negotiations, representations or agreements, whether written or oral, regarding the subject matter contained in this Agreement. The Agreement may be amended only by written instrument executed by all parties.

8.7 Attorney's Fees: In the event of a default or breach of this Agreement, the defaulting party agrees to pay all costs incurred by the non-defaulting party in enforcing this Agreement or in obtaining damages, including reasonable attorney's fees, whether incurred through legal proceedings or otherwise.

8.8 Notice: Any formal notice required to be given under this Agreement shall be deemed given when hand-delivered or when sent by registered or certified mail, return receipt requested, to the parties at their respective addresses stated below or to any other address after notice of such change of address has been given to the parties.

8.9 Third Party Beneficiaries: Nothing contained in this Agreement shall create a contractual relationship with a cause of action in favor of a third party against either the District or the Engineer. The Engineer's Services under this Agreement are being performed solely for the District's benefit, and no other entity shall have any claim against the Engineer because of this Agreement or the performance or non-performance of Services hereunder. The District agrees to use reasonable efforts to include a provision in all contracts with other contractors and other entities involved in the Project to carry out the intent of this paragraph.

"District":	"Engineer":
Jordan Valley Water Conservancy District 8215 South 1300 West West Jordan, Utah 84088	_____ _____ _____
By: _____ Alan E. Packard Its General Manager/CEO	By: _____ [Name] Its _____

SCHEDULE A

SCOPE OF WORK

SCHEDULE B

GUIDELINES FOR ENGINEERING SERVICES

SCHEDULE C

TIME TO COMPLETE

SCHEDULE D

ENGINEER'S PERSONNEL

SCHEDULE E

COMPENSATION

ATTACHMENT B

SCHEDULE B - GUIDELINES FOR ENGINEERING SERVICES

SCHEDULE B
REQUIREMENTS FOR ENGINEERING SERVICES

1. CONTINGENCY FUNDS

A. Design Contingency funds shall not be utilized without prior authorization by the District. The use of Design Contingency funds shall be authorized in writing by District management on a task by task basis.

2. PRE-DESIGN/DESIGN PHASE

B. DRAWINGS

1.1 Computer-Aided Drafting (CAD) shall be used to prepare construction drawings. The drawings shall be delivered to the District in electronic form (AutoCAD 2016 or more recent) and hard copy on 11 x 17 paper.

1.2 Document Format:

a. Electronic documents shall be prepared in the following versions:

i. Spreadsheets in Excel version 2013

ii. Word processing in Word version 2013

iii. Presentations in PowerPoint version 2013

1.3 The cover sheet shall not include approval signatures from the District, although names of District officers may be printed.

1.4 The drawings shall be submitted to the District for its review and comment in accordance with paragraph E of this schedule, “Review of Contract Documents.”

1.5 All drawings shall show the District’s assigned Project number in the lower, right hand corner of the sheet.

2.1 Bidding and Contractual Documents: The Engineer shall provide Project-specific information to the District for completion of the District's standard bidding and contractual documents identified below. The Engineer shall provide the bid schedule to the District in hard copy and electronic format (Microsoft Word). The District shall print the documents. The following paper colors and format shall be used by the District when printing these documents:

2.1.1	Title Page	Single, Sided, White
2.1.2	Table of Contents	Double-Sided, Yellow
2.1.3	Notice Inviting Bids	Double-Sided, White
2.1.4	Instructions of Bidders	Double-Sided, White
2.1.5	Bid	Single-Sided, Blue
2.1.6	Bid Bond	Single-Sided, Blue
2.1.1	Information Required of Bidder	Single-Sided, Blue
2.1.2	Agreement	Double-Sided, White
2.1.3	Performance Bond	Single-Sided, White
2.1.4	Payment Bond	Single-Sided, White
2.1.5	Notice of Award	Single-Sided, White
2.1.6	Notice to Proceed	Single-Sided, White
2.1.7	Payment Application	Single-Sided, White
2.1.8	Change Order	Single-Sided, White
2.1.9	Contractor's Certificate of Substantial Completion	Single-Sided, Purple
2.1.10	Contractor's Certificate of Final Completion	Single-Sided, Purple
2.1.11	Consent of Surety for Final Payment	Single-Sided, Purple
2.1.12	Affidavit of Payment	Single-Sided, Purple

2.2 General and Supplemental Conditions: The District will provide General and Supplemental General Conditions; to be printed on green and yellow paper, respectively.

2.3 Technical Specifications:

2.3.1 The Engineer shall prepare technical specifications in electronic form (Microsoft Word). The technical specifications shall be delivered to the District prior to the bidding in electronic form and single-sided on 8 ½ x 11 white paper.

2.3.2 The draft sets of technical specifications shall be submitted to the District for its review and comment in accordance with paragraph E of this Schedule.

2.3.3 The technical specifications shall include, but not be limited to, the following General "Divisions."

2.3.3.1 General Requirements of the Work.

2.3.3.2 Contract Submittals – Include Submittal procedures requirements for equipment shop-drawings, record drawings, and submission of technical O&M manuals, spare parts lists, etc., prior to final payment.

2.3.3.3 Quality Control, Inspection, Testing.

2.3.3.4 Protection and Restoration of Existing Facilities.

2.3.3.5 Equipment Testing and Startup – Include requirements for testing, startup, certification of installation, and training of District personnel by manufacturer's representative for complex equipment.

2.3.3.6 Project Closeout Procedures and Requirements – These procedures and requirements must match the requirements, in the District's General Conditions.

2.3.3.7 Measurement and Payment – This should be explained in a separate section, or in each work item section of the technical specification.

2.3.3.8 Field Staking and Surveying – Include defining whether the Engineer or Contractor shall be responsible for field surveying and staking.

2.4 Addenda: If addenda are to be issued, each addendum will be prepared by the Engineer. The addendum will be approved, signed, and delivered by the District.

C. DOCUMENT BINDING REQUIREMENTS

3.1 With the exception of 11x17 drawings, all documents produced by the Engineer shall be bound in a three ring binder. This shall include pre-design reports, final reports, operation and maintenance manuals, etc. Drawings may be comb-bound during bidding and construction. As-constructed drawings shall be (1) comb-bound and (2) folded and included in three ring bound operation and maintenance manuals.

D. DESIGN REQUIREMENTS

4.1 All engineering designs shall include the following elements.

4.1.1 Adequate seismic bracing/anchorage of piping and equipment.

4.1.2 Provision of flexibility for differential settlement where buried piping and/or electrical conduit penetrates concrete vaults or basements.

4.1.3 All other standard engineering design issues shall be addressed.

E. REVIEW OF DRAWINGS AND TECHNICAL SPECIFICATIONS

5.1 The Engineer shall prepare one electronic set (PDF) and one photo copy ready paper set of drawings and technical specifications for review by the District.

5.1.1 Review documents shall be provided at the following minimum progress landmarks: ten percent (10%), thirty percent (30%), fifty percent (50%), ninety percent (90%) and one hundred percent (100%). If specified in the Scope of Work (Exhibit A) more landmarks may be required. A two-week minimum review period shall be allowed for review of the drawings and technical specifications at each progress landmark. At each progress landmark the Engineer shall

meet with the District for two to four hours to receive its comments and direction.

5.1.2 The Engineer shall return to the District, with each subsequent specification to be reviewed, all documents reviewed by the District during the previous submittal.

F. RIGHT-OF-WAY DESCRIPTIONS

Unless otherwise specified by the District, the Engineer will prepare legal descriptions for right-of-way to be acquired by the District from ownership plats and deeds, rather than by the actual survey. The District will prepare easement and other documents, utilizing legal descriptions prepared by the Engineer. Legal descriptions shall be in a metes and bounds format acceptable to the local County Recorder, which may record the document(s).

3. CONSTRUCTION SERVICES PHASE

A. PROJECT PERSONNEL

1.1 Engineer: The Engineer shall represent and perform Engineering Services for the District within the scope of authority delegated to it by the District as described in this Schedule B.

1.2 The Engineer will appoint, subject to the District's approval, the following personnel:

1.2.1 Project Manager: The individual designated by the Engineer and approved by the District to oversee and manage the administration of the Contract. The Project Manager shall supervise the Project Representative; alternatively, the Project Representative may also serve as the Project Manager as provided in Article IV of the Agreement.

1.2.2 Project Representative: The individual of the Engineer's firm appointed as Project Representative will be the Engineer's chief representative in all construction site relations with the Contractor and will have all authority and responsibility as set forth in the District's General Conditions of the Contract.

1.2.3 Other Personnel: The Project Manager may assign, and will supervise, such portions of contract administration

duties as he deems necessary, such as reviewing submittals, performing design changes, and substituting for the Project Representative on the construction site during brief absences of the appointed Project Representative. During brief absences of the assigned Project Representative the Project Manager will first send written notice to the Contractor and will notify the District.

B. CONTRACT EXECUTION ASSISTANCE

2.1 The District will issue the Notice of Award and Notice to Proceed to the Contractor.

2.2 Following Contract execution by the District, fully executed Contracts will be distributed by the District as follows:

District	One (1) Set
Contractor:	One (1) Set
Engineer:	One (1) Set

These three (3) sets will be bound in three-ring binders.

C. PRE-CONSTRUCTION CONFERENCE

3.1 The Project Manager and Project Representative shall familiarize themselves with the District's General Conditions of the Contract.

3.2 The Project Manager will prepare a Pre-Construction Conference agenda, and conduct such a conference with the Contractor and applicable third parties at the District's office or on-site. The Project Representative and District Representative shall be present. The agenda should cover the key points of the Contract Documents, including the General Conditions of the Contract, as well as other Project administration matters.

D. SUBMITTAL/SUBSTITUTIONS

4.1 The Project Manager shall review, process, and recommend approval/disapproval of Contractor submittals and substitution requests. Copies of each Contractor submittal and substitution request shall be sent to the District, together with the Project Manager's recommend action.

The District will direct the Engineer to approve/disapprove each submittal and substitution request.

E. INSPECTION/TESTING

5.1 The Project Representative will make all on-site inspections, with the general frequency and duration as directed by the District.

5.2 The Project Representative is authorized to order such tests as he deems necessary for proper administration and inspection of the Project, however, with respect to any such test to be performed by independent firms presently contracting directly with the District, the firm so contracting will be designated by the District to perform the tests. Reports of all test results, or test summaries, shall be submitted to the District by the Project Representative.

5.3 The Project Representative shall keep a daily written log of construction activities at the site during each visit. Copies of the daily log shall be sent to the District on a monthly basis.

5.4 The Project Representative's daily log shall include a comment of whether or not any event or circumstance has developed in the Contract or Project, which in the Project Representative's professional judgment may lead to a claim or protest from the Contractor. The Project Representative shall notify the District immediately of such an event or circumstance, receipt of a written claim or protest, or his becoming aware of events which may lead to such a claim, from the Contractor.

5.5 The Project Representative shall send to the District copies of notes from telephone calls or meetings with the Contractor that, in the opinion of the Project Manager, are significant.

5.6 The Project Representative shall take digital photographs of the construction in progress during each phase of the work. The Project Manager shall prepare a photographic history of the work as described in paragraph 10.3. The format of the digital photographs shall be in accordance with paragraph 10.3. Photographs shall be submitted periodically to the District during the construction phase of the work.

F. CHANGES IN THE WORK

6.1 Field Order: The Project Representative is authorized to, and shall issue all field orders in writing, as described in Article 1.14 of the General Conditions of the Contract. The Project Representative shall submit a copy of each field order to the District.

6.2 Change Orders: The Project Representative and Project Manager are not authorized to approve Change Orders. Change orders may be initiated by the District, by recommendation from the Project

Manager, or by claim of changed conditions by the Contractor. Change orders will be initially reviewed by the Project Manager, then forwarded with a recommendation to the District. The District shall consider if the recommendation is consistent with the Contract Documents, and if acceptable, the District will prepare the change order form for approval by the authorized District staff.

6.3 Emergencies: The District acknowledges that in emergencies immediately affecting the safety or protection of persons or property affected by the construction activities, the Contractor, without special instruction or authorization from the Project Representative or the District, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Project Representative prompt written notice of any significant changes in the Contract construction or deviations from the Contract Documents caused thereby.

G. PROGRESS MEETINGS

7.1 The Project Representative and/or the Project Manager shall attend progress meetings conducted by the Contractor, and shall document the content of the meetings with minutes. Progress meetings will be scheduled at a location and frequency suitable to the project needs. A District Representative will normally attend these meetings.

H. PROGRESS PAYMENTS

8.1 The Project Representative shall receive applications for payment from the Contractor, review and recommend the applications by signature. The Project Representative's signature recommending a progress payment shall constitute the verification of the representations required by the Agreement and the Contract.

8.2 The Project Manager will review the applications, approve them by signature, and submit them to the District within five business days of receipt from the Contractor.

8.3 Each application for payment shall contain the Contractor's certification and signature substantially in conformance with the following:

CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that: (1) all previous progress payments received from Owner on account of Work done under the

Contract referred to herein have been applied to discharge in full all obligations of Contractor incurred in connection with Work covered by prior Applications for Payment numbered 1 though ____ inclusive; and (2) title to all materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to Owner at time of payment free and clear of all liens, claims, security interests and encumbrances (except such as covered by bond acceptable to Owner).

_____

Contractor (Name of Sole Ownership, Corporation or Partnership)

_____

Signature of Authorized Representative

_____ _____

Title Date

8.4 In accordance with State Law, the District will retain 5% of progress payments until the final payment and final completion of the Project.

4. PROJECT CLOSEOUT

1.1 The Project Manager shall be responsible to see that closeout procedures and documents, as specified in the District's General Conditions, are carefully observed. The following standard District forms, or similar forms of the Engineer acceptable to the District, will be used.

1.1.1 Contractor's Certificate of Substantial Completion

1.1.2 Engineer's Notice of Substantial Completion

1.1.3 Contractor's Certificate of Final Completion

1.1.4 Engineer's Notice of Final Completion

1.1.5 Consent of Surety for Final Payment

1.1.6 Affidavit of Payment (from Contractor)

1.2 The Project Manager will submit original copies of the Contractor's Certificates of Substantial and Final Completion to the District.

1.3 The Project Manager shall prepare and sign the Engineer's Certificate of Substantial Completion, a copy of which is attached.

1.4 The Project Manager will prepare, sign and submit the Engineer's Notice of Final Completion, together with the Final Payment application and all submittals required from the Contractor, when he is satisfied the work is complete. A copy of the Engineer's Notice of Completion is attached. The District's acceptance, as Owner, of the Notice of Final Completion will be evidenced by its making final payment.

5. OPERATION AND MAINTENANCE MANUAL

1.1 The Project Manager shall prepare an Operation and Maintenance Manual ("O&M Manual") for the Project. The O&M Manual shall be completed within seven (7) calendar days of Substantial Completion of the work. The intent for the O&M Manual is to be a reference for unfamiliar users of the Project facilities to become familiar with the operation of the facilities, receive direction on how and when to maintain the facilities, and be able to locate technical support reference when necessary.

The District wishes to have the O&M Manual in electronic format as much as possible. Although certain formats of electronic documents are defined in this Agreement, the District recognizes that technology will change and improve over time and encourages the Project Manager to look for creative ways of providing O&M Manuals in electronic versions as much as possible. For example, the Project Manager could require the Contractor to submit O&M Manual information in HTML, PDF or another universal standard electronic format that could be easily accessed by the District in the future.

The format of the O&M Manual shall be as follows:

<u>Volume I (By Engineer)</u>:

Section 1: Description of Facilities, Typical Operating Conditions, Standard Operating Procedures
Section 2: Description of Proper Maintenance Activities
Section 3: List of Equipment and Suppliers
Section 4: Contract Documents and Specifications
Section 5: Record Drawings (see 10.2)
Section 6: Project Photo Log (see 10.3)
Section 7: Other Pertinent Documents
Section 8: Compact Disc

Volume II (By Contractor):

Section 7: Shop Drawings
Section 8: Manufacturer's Literature and Operations & Maintenance Manuals

All the information in Volume I shall be in an electronic format as well as in paper format.

Unless specifically identified in the request for proposal, the Project Manager shall supply four (4) copies of the O&M Manual complete with electronic versions of information contained in the O&M Manual and one (1) additional copy of the electronic information.

1.2 The Project Manager will revise the original drawings to reflect record conditions, from the Contractor's marked-up record drawings and the Project Representative's inspection notes, sign and stamp them as follows:

JVWCD RECORD DRAWINGS:

Revisions drawn by _____ Date: _____

This record drawing has been prepared to reflect conditions as actually constructed, from records compiled during construction by the Contractor and the Engineer.

_____ _____
Project Manager Date

The record drawings are not intended to show in detail the exact location of minor/latent detail of construction. Instead, they are intended to represent as-built conditions in as much detail as practical and available, and to document substantial changes from the original design. The District recognizes that much of the information required to prepare the record drawings is compiled by the Contractor or others during construction, and therefore holds the Engineer harmless from any errors or omissions which may be incorporated into the drawings as a result.

The record drawings will be delivered to the District following Project completion. The record drawings shall be submitted in electronic ((a) AutoCAD 2016 or more recent and (b) PDF format) and (c) paper (11x17) format.

1.3 The Project Manager shall submit the complete photo history of the Project compiled during construction. The photo history shall be in electronic and paper formats. Both versions shall contain all photographs in chronological order with a date and caption below each photo.

The electronic version shall contain 4” x 6” photos in a JPEG format with a resolution of 150 dots per inch (DPI) or higher. If compressed the compression must be a high quality compression.

The paper version shall contain thumbnail-size photographs with no more than twelve (12) photos per 8-1/2” x 11” page.

ENGINEER'S NOTICE OF SUBSTANTIAL COMPLETION

OWNER ENGINEER

TO: Jordan Valley Water
Conservancy District
8215 South 1300 West
P. O. Box 70
West Jordan, UT 84088-0070

PROJECT NAME: _____

Date of Notice to Proceed: _____ Contract Time: _____
Calendar Days _____

In response to Contractor's Certificate of Substantial Completion dated: _____

This Certification of Substantial Completion applies to all work under the Contract Documents or to the following specified parts thereof:

The work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor and Engineer, and that work is hereby declared to be substantially complete in accordance with the Contract Documents on:

Date of Substantial Completion: _____, 20___.

A list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of the Contractor to complete all the work in accordance with the Contract Documents. In accordance with the General Conditions, the items in the list shall be completed or corrected by the Contractor within 45 days of the above date of Substantial Completion.

Marked-up record drawings and operation and Maintenance technical information has been received from the Contractor.

The recommended responsibilities between the Owner and the Contractor for security, operation, safety, maintenance, heat, utilities and insurance, if any, shall be as follows:

Owner: _____
_____
_____

Contractor: _____
_____

ENGINEER'S NOTICE OF SUBSTANTIAL COMPLETION (Continued)

The following documents are attached to and made a part of this Certificate:

_____

_____

Execution of this Certificate by the Engineer extends the Contractor's release of claims against the Owner to the date of execution hereof, in accordance with Article 14.08 of the General Conditions, except for written claims filed prior to date of execution, of which the following, if any, are known to the Engineer:

_____

_____

Executed by the Engineer on _____, 20___.

_____	_____
Project Representative	Signature
_____	_____
Project Manager	Signature

The Contractor hereby acknowledges receiving this Certificate of Substantial Completion.

_____

Contractor (Name of Sole Ownership, Corporation or Partnership)

_____

Signature of Authorized Representative

_____	_____
Title	Date

(Engineer shall submit to the Owner a copy with the Contractor's signature following the Contractor's receipt.)

JORDAN VALLEY WATER CONSERVANCY DISTRICT

ENGINEER'S NOTICE OF FINAL COMPLETION

OWNER ENGINEER

TO: Jordan Valley Water
Conservancy District
8215 South 1300 West
West Jordan, UT 84088

PROJECT NAME: _____

Date of Notice to Proceed: _____

In response to Contractor's Certificate of Final Completion dated: _____

On the basis of our observation of the work during construction and final inspection, and on our review of the Contractor's application for final payment and accompanying documentation, we are satisfied that the Contractor has fulfilled all his obligations under the Contract Documents requisite to final payment.

The following remaining minor deficiencies in the work are recommended to be exempt from final payment, in accordance with Article 14.09 of the General Conditions of the Contract. Recommended completion time limits, extended warranty requirements, and the value of these exempt deficiencies are listed below:

DEFICIENCY	COMPLETION TIME	VALUE

The Contractor's application for final payment together with the following contractor submittals, which comprise all final submittal requirements under the Contract Documents, are submitted herewith:

1. Affidavit of Payment from the Contractor.

2. Consent of Surety for final payment.

The date of our satisfactory final inspection was _____, 20___. This date marks the beginning of the one-year Maintenance and Guarantee period, in accordance with Article 13.01(B) of the General Conditions of the Contract.

Acceptance of final payment by the Contractor shall be a release of claims against the Owner in accordance with Article 14.12 of the General Conditions of the Contract. Acceptance of this Notice of Completion by the Owner makes the Contractor's release effective on the date of execution hereof by the Engineer, excepting written claims filed by the Contractor prior to said date of execution of which the following are known to the Engineer:

_____

_____

Is the Engineer aware of any unresolved liens against the Contractor from suppliers or subcontractors?

☐ Yes ☐ No

Unresolved Liens (If Applicable):

_____

_____

_____

Executed by the Engineer on _____, 20___.

_____	_____
Project Representative	Signature
_____	_____
Project Manager	Signature

ATTACHMENT C

SAMPLE FEE PROPOSAL

Project Name
Fee Proposal Template Example

Client: Jordan Valley Water Conservancy District ***Firm Name:***

Date:

Tasks	Project Manager (Name)	Project Engineer (Name)	Project Rep. (Name)				Total Hours	Cost By Task
Team Member	$_____/hr	$_____/hr	$_____hr	$_____/hr	$_____/hr	$_____/hr		
Pre-Design Phase								
1.								
2.								
							Subtotal:	
Design Phase								
1.								
2.								
							Subtotal:	
Total Hours by Team Member								
							TOTAL PRE-DESIGN/DESIGN COST	$
							20% CONTINGENCY	$
Construction Phase								
1. Bidding Support								
2. Construction Management								
3. Documentation								
							Subtotal:	
Total Hours by Team Member								
							TOTAL CONSTRUCTION MANAGEMENT COST	$
Direct Charges:								
							TOTAL DIRECT CHARGES	$
							TOTAL FEE	$

_____
Principal's Name

_____
Principal's Signature

_____
Date

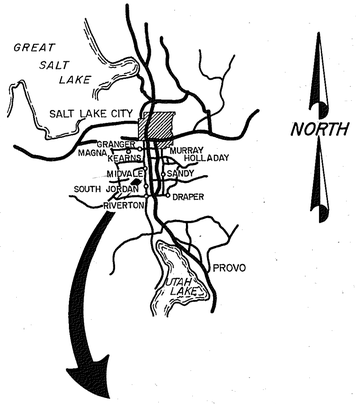
APPENDIX A

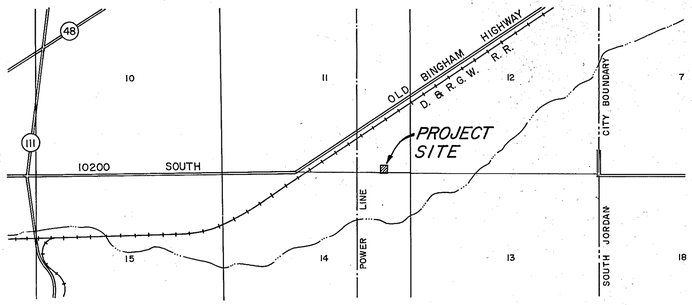
5700 West Pump Station Original Drawings

5700 WEST PUMPING STATION

SALT LAKE COUNTY

WATER CONSERVANCY DISTRICT





VICINITY MAP

SCALE: 1" = 2000'

DISTRICT APPROVALS

ROBERT B. HILBERT
GENERAL MANAGER

MATTHEW R. MARSHALL
STAFF ENGINEER

JAMES W. CARBINE
ENGINEERING DEPARTMENT

INDEX TO DRAWINGS

SHEET NO.	TITLE
Y-1	SITE PLAN AND YARD PIPING DETAILS
S-1	ELEVATIONS
S-2	PLAN VIEWS
S-3	SECTION AND DETAILS
S-4	SECTION AND DETAILS
S-5	MISC. DETAILS
M-1	MAIN FLOOR PIPING PLAN
M-2	BASEMENT PIPING PLAN
M-3	MECHANICAL SECTIONS AND DETAILS
M-4	DRAIN PIPING AND MECHANICAL DETAILS
E-1	ELECTRICAL SITE PLAN AND DETAILS
E-2	CONTROL DIAGRAMS
E-3	LIGHTING AND POWER DETAILS

Coon, King and Knowlton
Engineers · Planners · Land Surveyors
1055 East 3900 South · Salt Lake City, Utah 84117 · (801) 262-2951

REGISTERED PROFESSIONAL ENGINEER No. 1925 Charles V. King STATE of UTAH

CHARLES V. KING, P.E.

REGISTERED PROFESSIONAL ENGINEER No. 3770 S. WALLACE JACKSON STATE OF UTAH

1-15-81

S. WALLACE JACKSON, P.E.

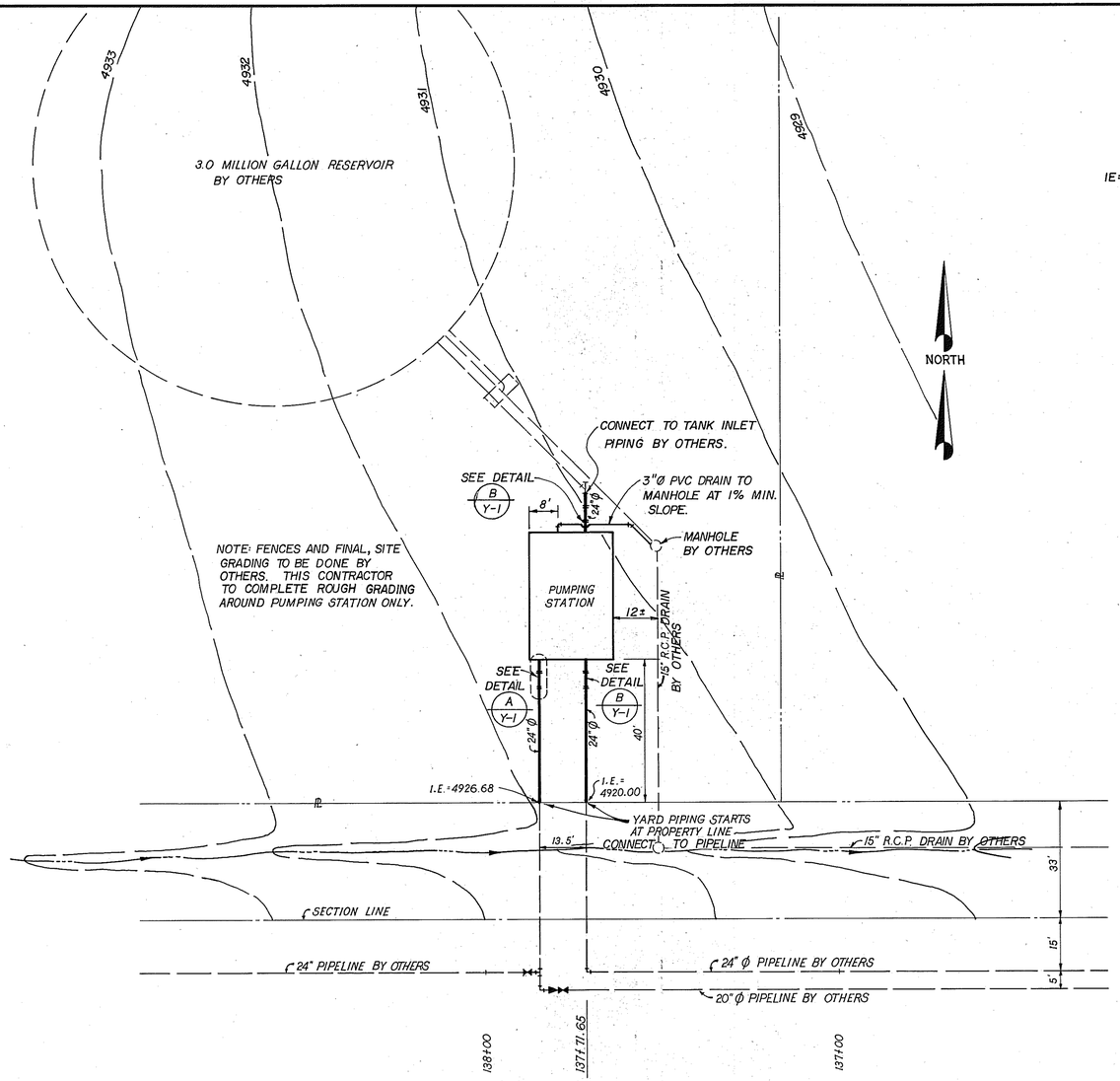
REGISTERED PROFESSIONAL ENGINEER No. 4789 DEAN L. WEBB State of Utah

1-14-81

DEAN L. WEBB, P.E.

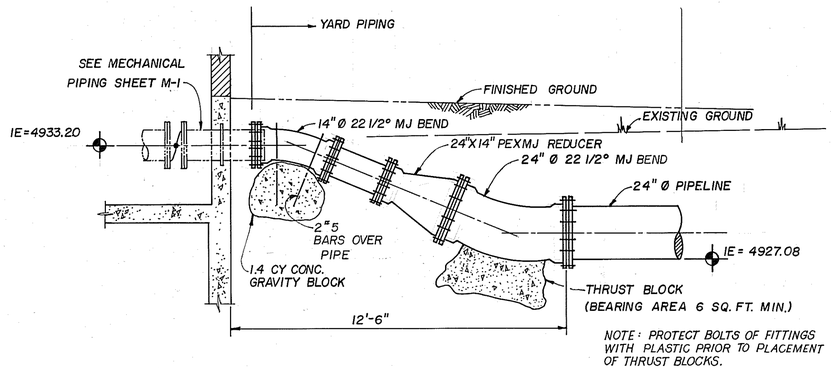
0987.220

81 CI 3 14



SITE PLAN

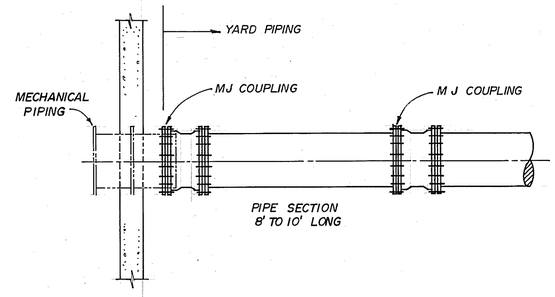
SCALE: 1"= 20'



NOTE: PROTECT BOLTS OF FITTINGS WITH PLASTIC PRIOR TO PLACEMENT OF THRUST BLOCKS.

DISCHARGE PIPING DETAIL (A Y-1)

SCALE: 3/8" = 1'-0"



TYPICAL CONNECTION TO STRUCTURAL PIPING DETAIL (B Y-1)

SCALE: 3/8"= 1'-0"

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DATE	REVISIONS	BY

DESIGNED S.W.J. | DRAWN D.B. | CHECKED S.W.J.

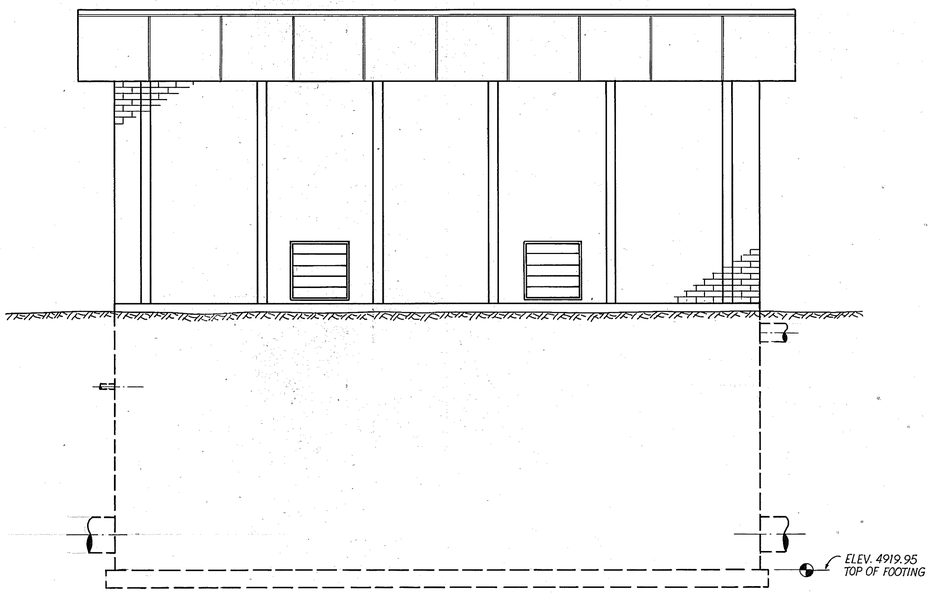
5700 WEST PUMPING STATION

SITE PLAN AND YARD PIPING DETAILS

DATE: DEC., 1980
JOB NO.: 0987.220
SHEET: Y-1

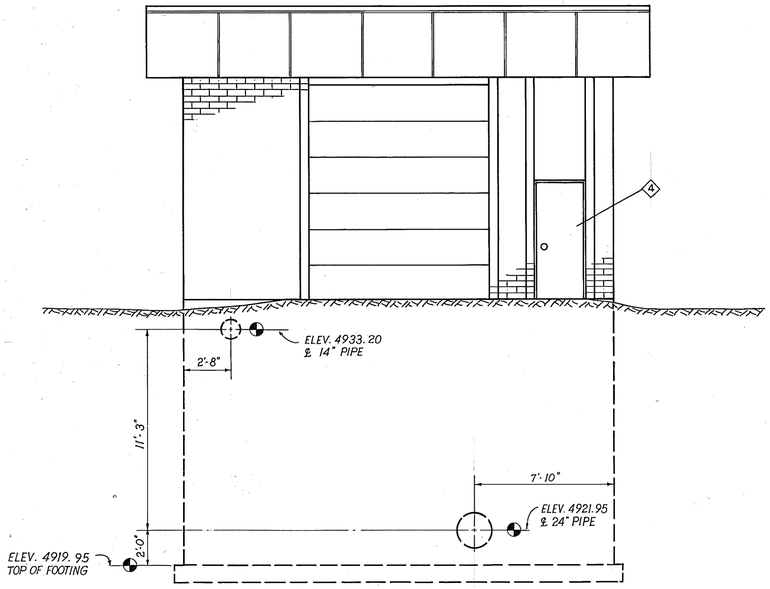
CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

81 CI 3 A



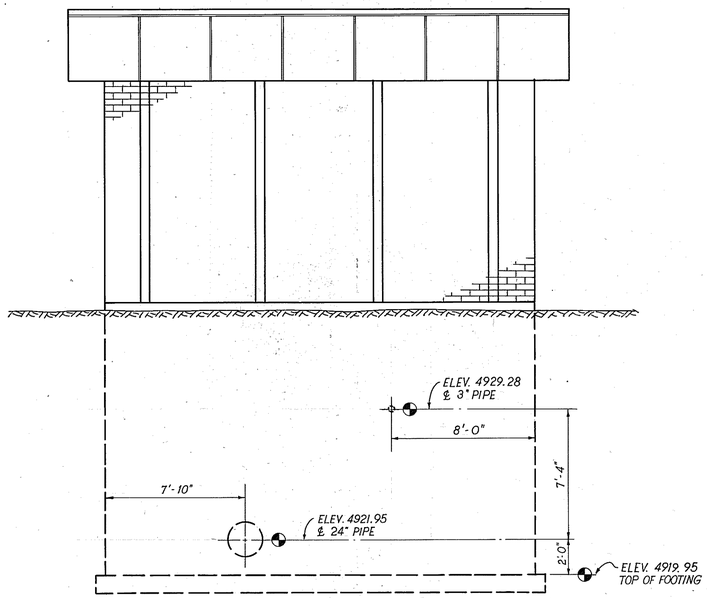
WEST ELEVATION

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



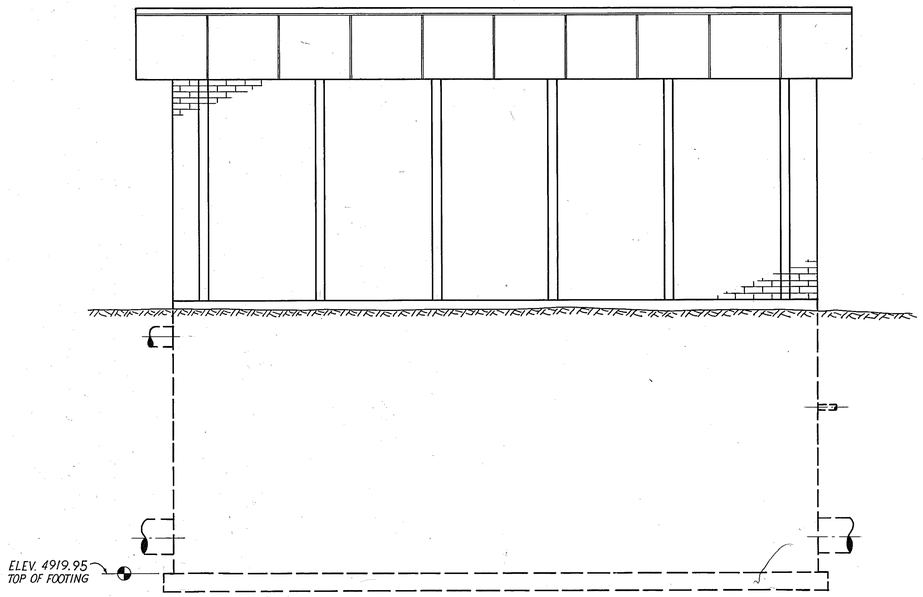
SOUTH ELEVATION

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



NORTH ELEVATION

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



EAST ELEVATION

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

REGISTERED PROFESSIONAL ENGINEER
No. 4769
DEAN L. WEST
State of Utah
1-14-81

Coon, King and Knowlton
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1055 East 3900 South · Salt Lake City, Utah 84117 · (801)262-2951

DATE	REVISIONS	BY

DESIGNED D.W.D. | DRAWN D.B. | CHECKED D.W.D.

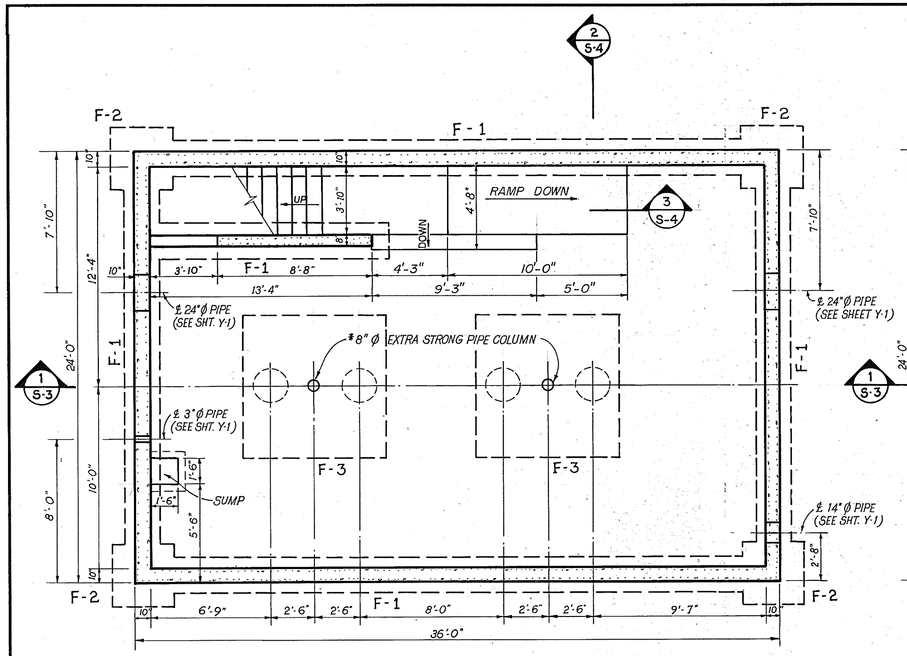
5700 WEST PUMPING STATION

ELEVATIONS

CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

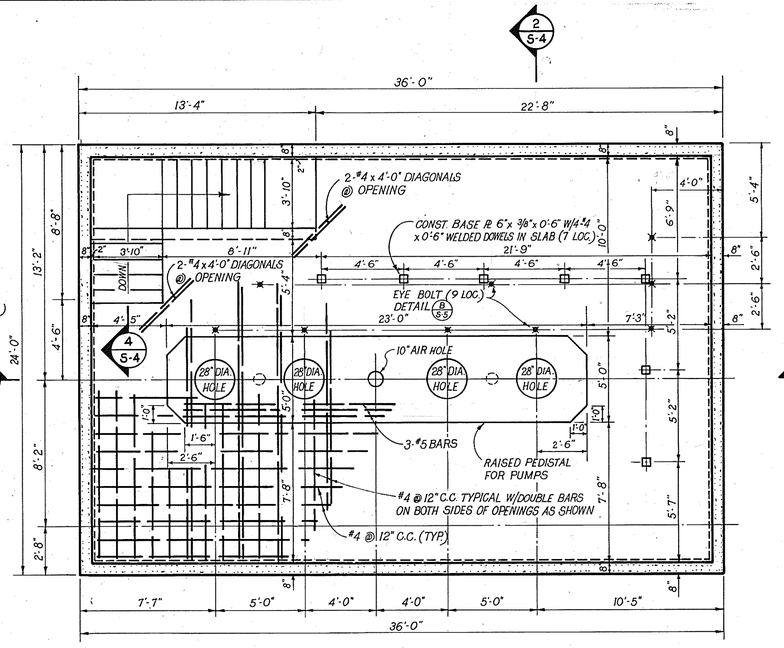
DATE: DEC., 1980
JOB NO.: 0987.220
SHEET: S-1

81CI3A



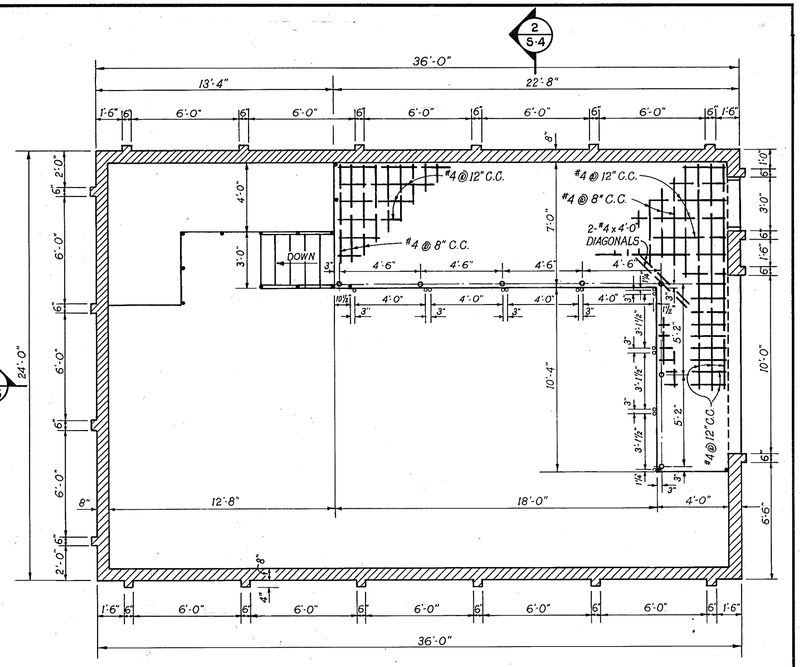
FOOTING & FOUNDATION PLAN

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



MAIN FLOOR PLAN

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



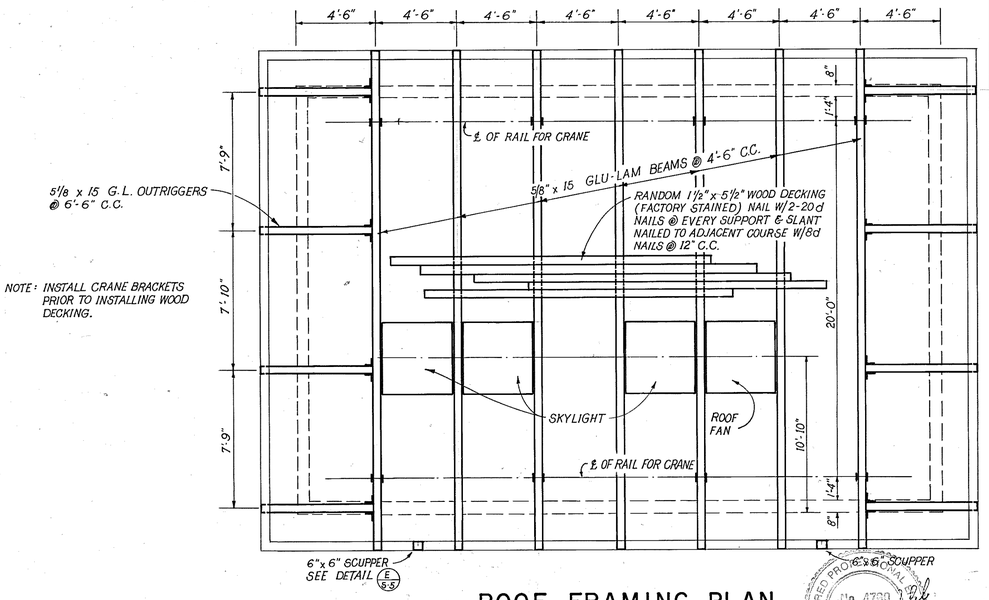
MEZZANINE PLAN

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

FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICK.	CROSSWISE REINFORCEMENT NO.	SIZE	LENGTH	TYPE	SPA.	LENGTHWISE REINFORCEMENT NO.	SIZE	LENGTH	TYPE	SPA.	NOTES
F-1	2'-0"	CONT.	12"						3	#4	CONT.	—	EQUAL	
F-2	3'-6"	3'-6"	12"	6	#4	3'-0"	—	EQUAL	6	#4	3'-0"	—	EQUAL	
F-3	8'-0"	8'-0"	21"	17	#6	7'-6"	—	EQUAL	17	#6	7'-6"	—	EQUAL	

MAXIMUM SOIL PRESSURE = 3000 p.s.f.



NOTE : INSTALL CRANE BRACKETS PRIOR TO INSTALLING WOOD DECKING.

ROOF FRAMING PLAN

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

REGISTERED PROFESSIONAL ENGINEER No. 4709 DEAN L. WILDE State of Utah 1-14-81

Coon, King and Knowlton
Engineers · Planners · Land Surveyors
1055 East 3900 South · Salt Lake City, Utah 84117 · (801)262-2951

DATE	REVISIONS	BY

DESIGNED D.W. DRAWN D. B. CHECKED L.W.

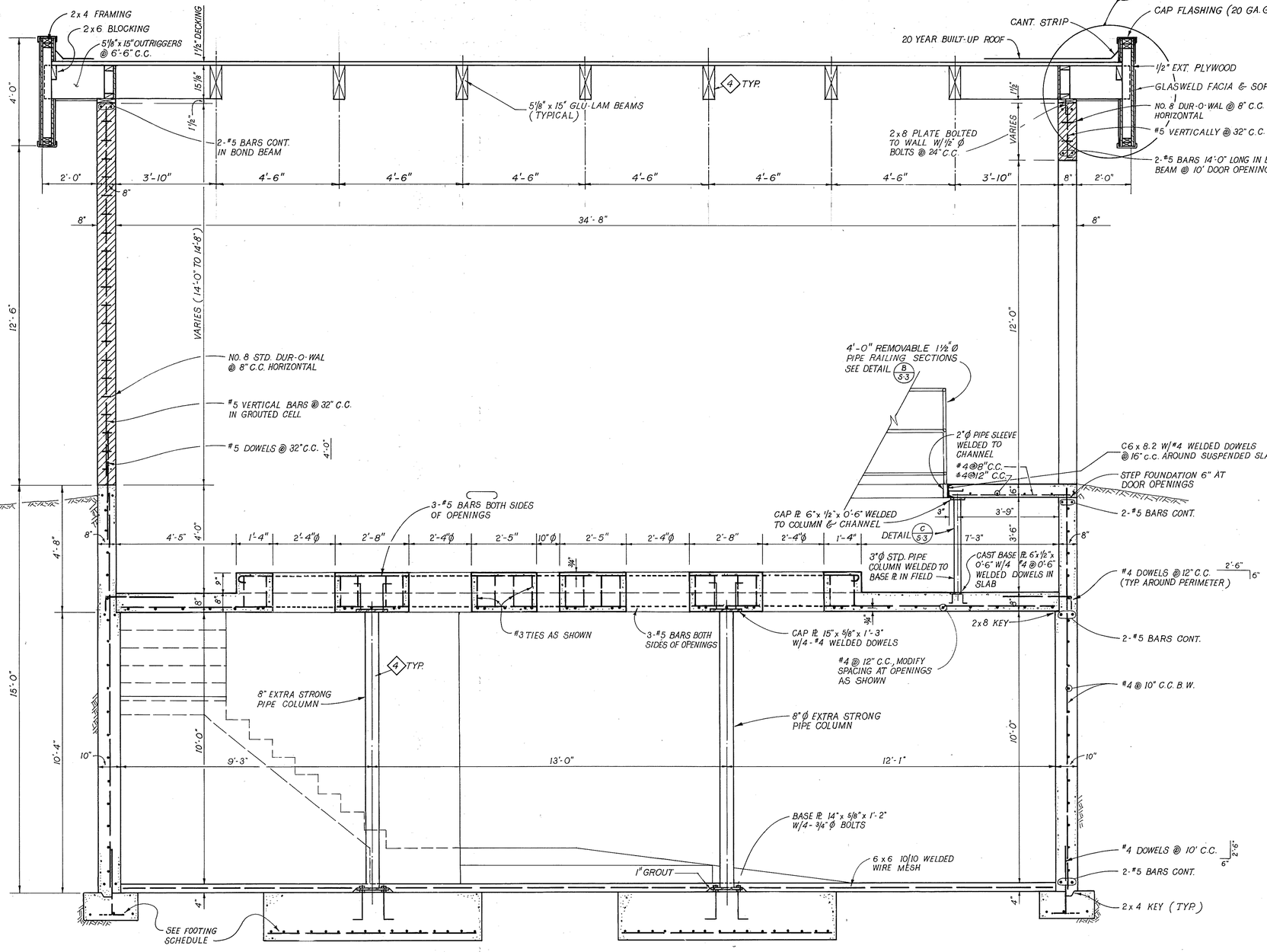
5700 WEST PUMPING STATION

PLAN VIEWS

CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

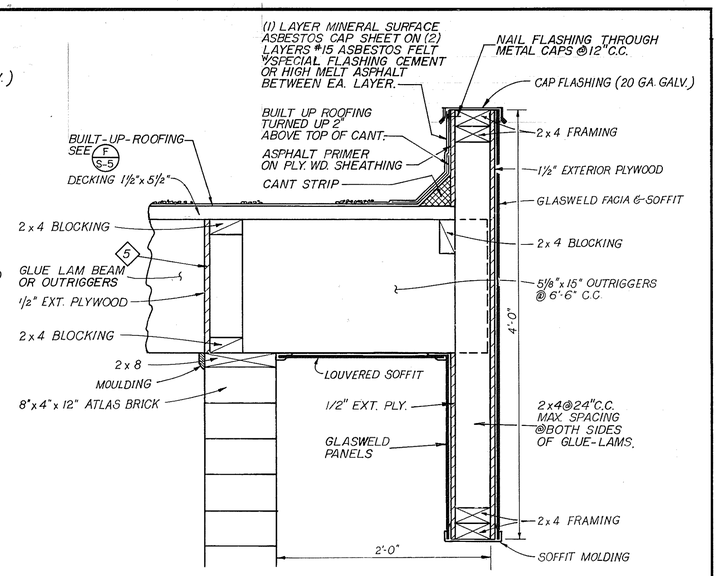
DATE DEC., 1980
JOB NO. 0987.220
SHEET S-2

81CI3A



SECTION

SCALE : 1/2" = 1'-0" (1 S-3)



EAVE DETAIL

SCALE : 1 1/2" = 1'-0" (A S-3)

HANDRAIL DETAIL

SCALE : 1 1/2" = 1'-0" (B S-3)

SUPPORT DETAIL

SCALE : 1 1/2" = 1'-0" (C S-3)

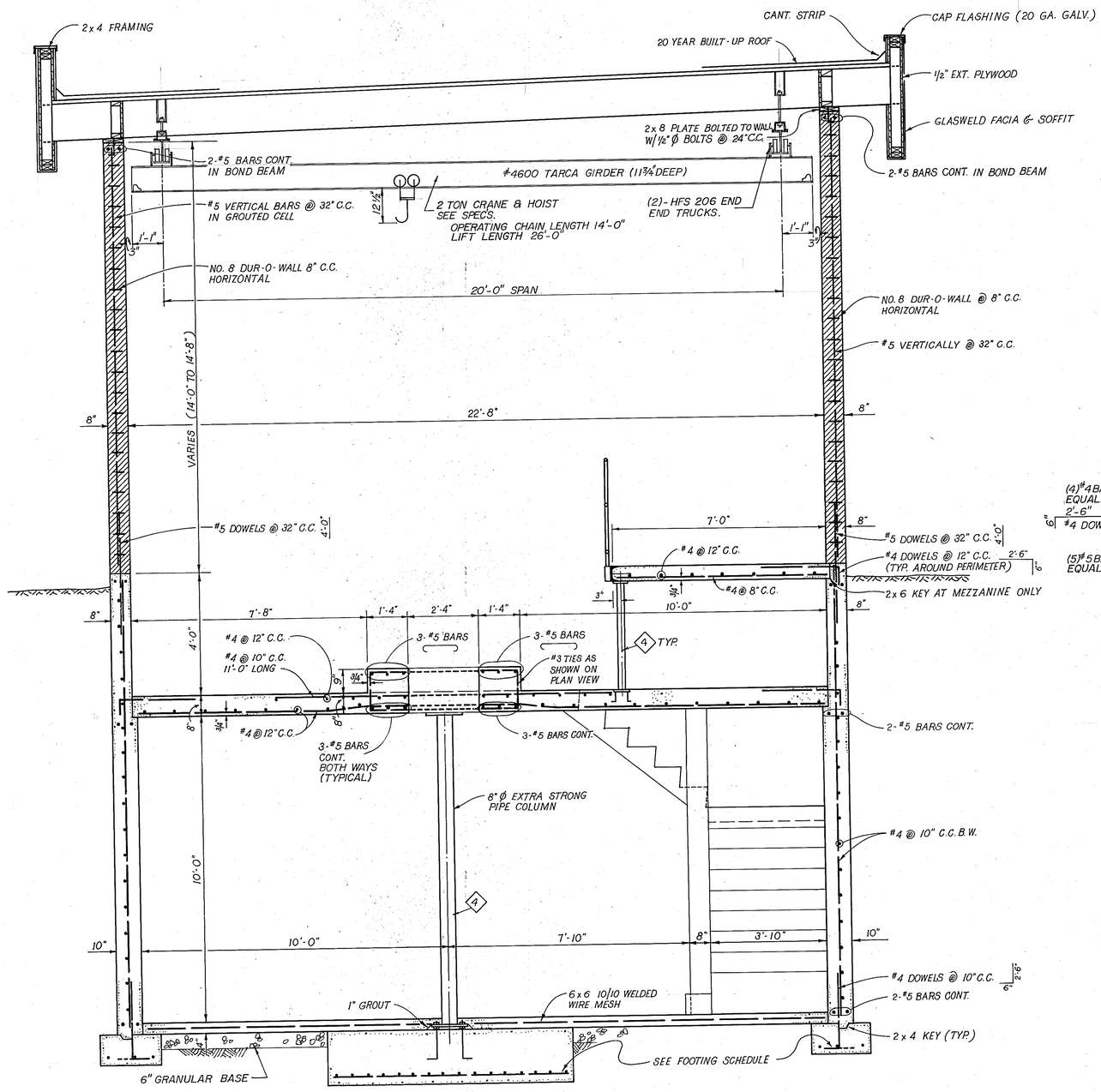
NOTE:

◇ SEE SHEET M-1 FOR COATING SCHEDULE.

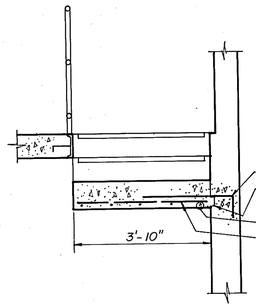
REGISTERED PROFESSIONAL ENGINEER No. 4708 DEAN L. WEBB State of Utah 1-14-81

Coon, King and Knowlton Engineers · Planners · Land Surveyors 1055 East 3900 South · Salt Lake City, Utah 84117 · (801) 262-2951	5700 WEST PUMPING STATION	DATE DEC., 1980
DATE / REVISIONS / BY	SECTION AND DETAILS	JOB NO. 0987.220
DESIGNED D.W. DRAWN D.B. CHECKED D.L.W.	CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT	SHEET S-3

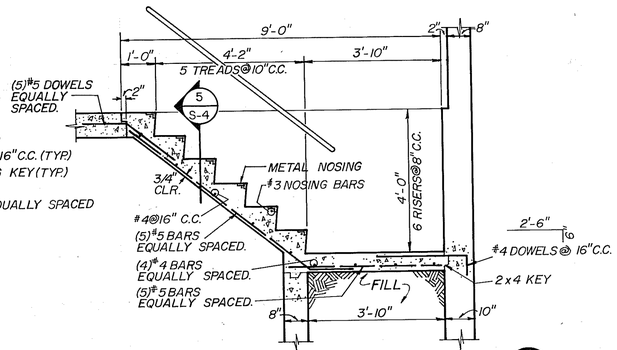
81 CIB-A



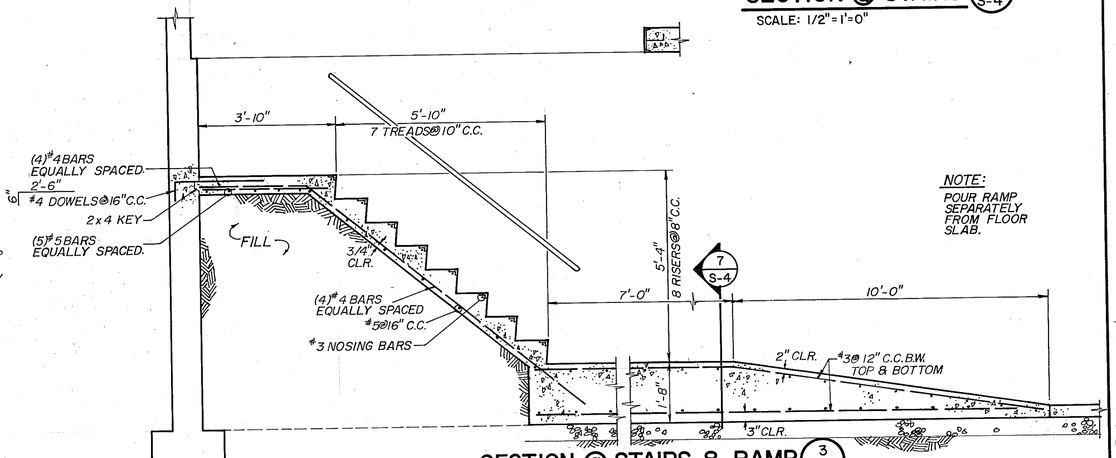
SECTION (2 / S-4)
SCALE 1/2" = 1'=0"



SECTION (5 / S-4)
SCALE: 1/2" = 1'-0"

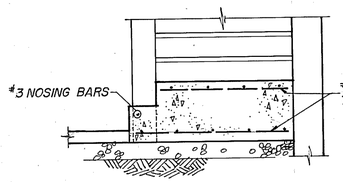


SECTION @ STAIRS (4 / S-4)
SCALE: 1/2" = 1'-0"

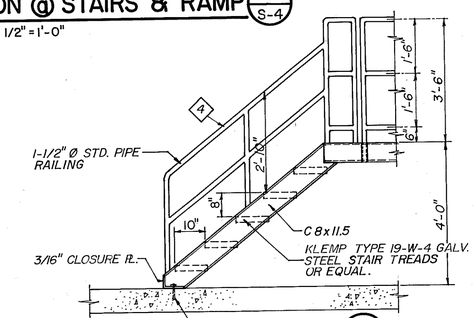


SECTION @ STAIRS & RAMP (3 / S-4)
SCALE: 1/2" = 1'-0"

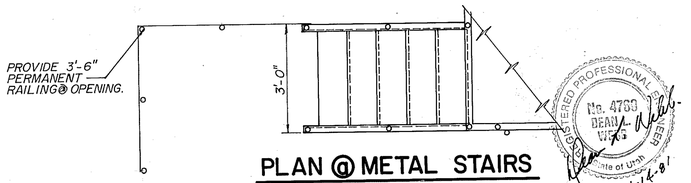
NOTE:
POUR RAMP SEPARATELY FROM FLOOR SLAB.



SECTION (7 / S-4)
SCALE: 1/2" = 1'-0"



SECTION (6 / S-4)
SCALE: 1/2" = 1'-0"



PLAN @ METAL STAIRS
SCALE: 1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER No. 4750 BRENT W. WILKS State of Utah
1-14-81

NOTE:
◇ SEE SHEET M-1 FOR COATING SCHEDULE

Coon, King and Knowlton
Engineers · Planners · Land Surveyors
1055 East 3900 South · Salt Lake City, Utah 84117 · (801)262-2951

DATE	REVISIONS	BY

DESIGNED | DRAWN D.B. | CHECKED

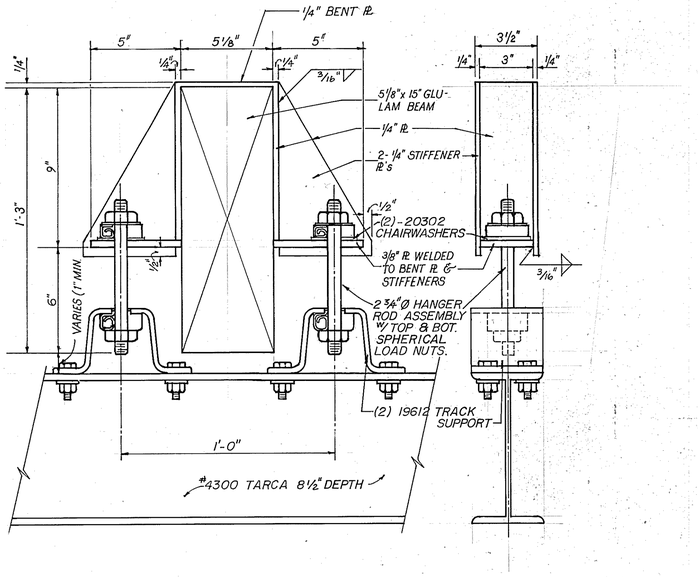
5700 WEST PUMPING STATION

SECTION AND DETAILS

CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

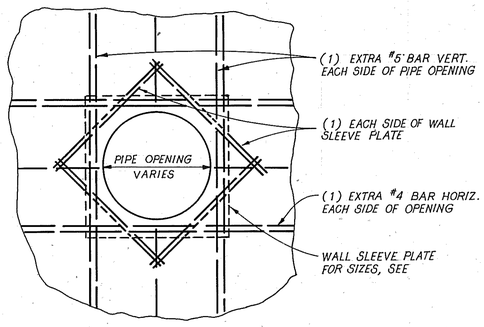
DATE: DEC, 1980
JOB NO.: 0987.220
SHEET: S-4

81 CI3 A



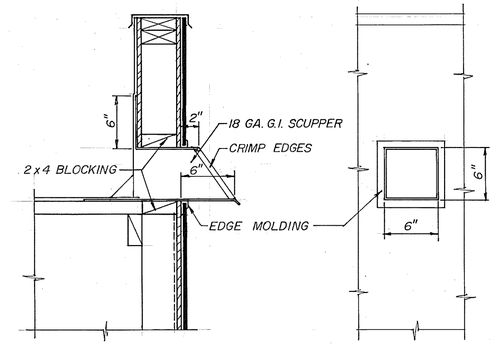
CRANE SUPPORT DETAIL (A / S-5)

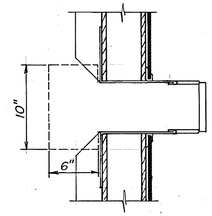
SCALE: 3" = 1'-0"



TYPICAL PIPE OPENING IN WALL (C / S-5)

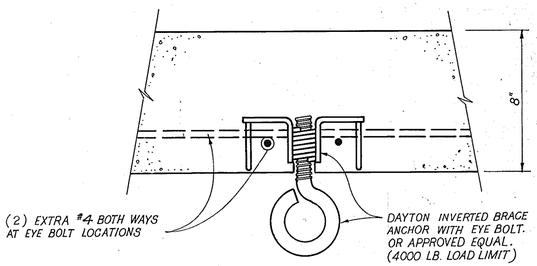
N. T. S.





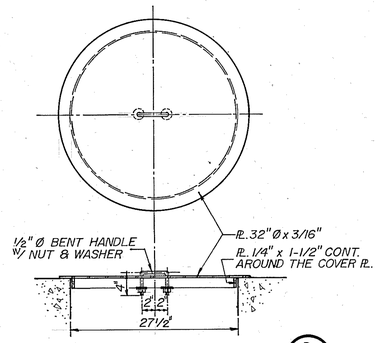
SCUPPER DETAILS (E / S-5)

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



EYE BOLT DETAIL (B / S-5)

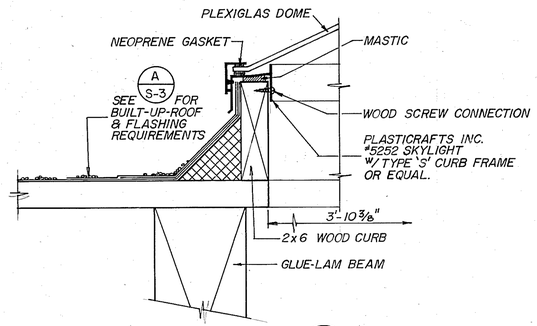
SCALE: 3" = 1'-0"



COVER PLATE DETAIL (D / S-5)

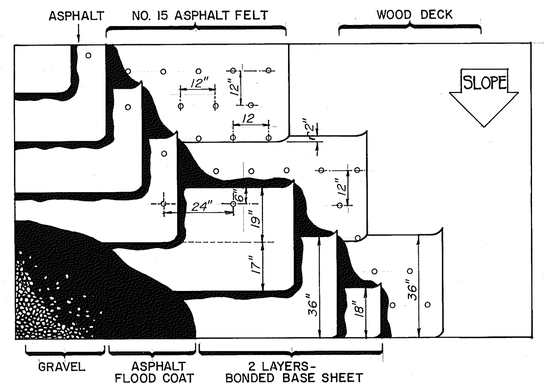
2 REQUIRED

SCALE: 1" = 1'-0"



SKYLIGHT DETAIL (G / S-5)

SCALE: 3" = 1'-0"



MATERIALS PER SQ. FT.

SLOPES 1/2" - 3" PER FOOT	APPROX. WTS.
(1) LAYER NO. 15 ASPHALT FELT	15 LBS.
(2) LAYERS BONDED BASE SHEET	80 LBS.
STEEP (HIGH MELT) ASPHALT - 2 MOPPINGS	50 LBS.
STEEP (HIGH MELT) ASPHALT - 60 LB. FLOOD COAT	60 LBS.
ROOFING GRAVEL 1/4" TO 5/8" SIZE (SLAG 300 LBS.)	400 LBS.
TOTAL:	605 LBS.

ROOF DETAIL (F / S-5)

N.T.S.

20 YEAR BONDABLE ROOF
(BIRD NO. W-15R-2-BB OR EQUAL)

REGISTERED PROFESSIONAL ENGINEER — No. 4763 — DEAN L. WEBB — State of Utah — 1-14-81

Coon, King and Knowlton
Engineers · Land Surveyors · Planners
5330 South 900 East - Salt Lake City, Utah 84117 - (801) 262-2951
491 Cedar Plaza - Cedar City, Utah 84720 - (801) 586-9474
92 West Main Street - Mt. Pleasant, Utah 84647 - (801) 462-2140
835 Colorado Ave. - Grand Junction, Colorado 81501 - (303) 245-9430

DATE	REVISIONS	BY

DESIGNED [illegible] DRAWN D.B. CHECKED [illegible]

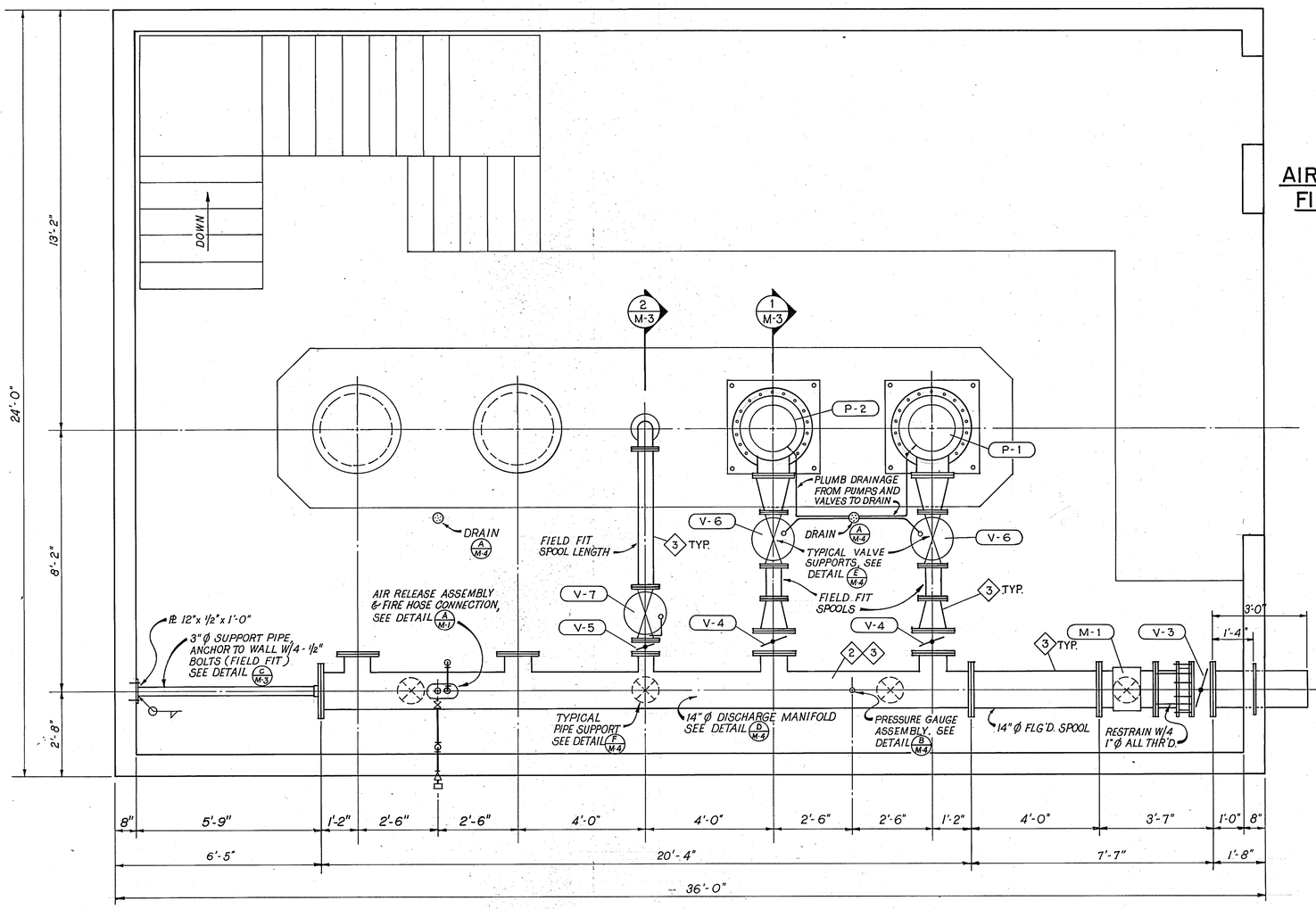
5700 WEST PUMPING STATION

MISC. DETAILS

DATE DEC., 1980 | JOB NO. 0987.220 | SHEET S-5

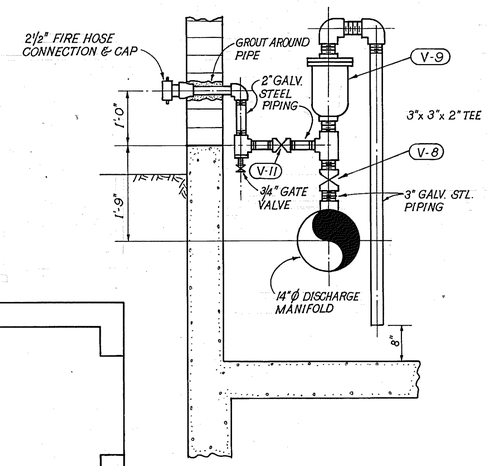
CLIENT SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

81C13A



MAIN FLOOR PIPING PLAN

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



AIR RELEASE ASSEMBLY & FIRE HOSE CONNECTION DETAIL (A M-1)

SCALE: 3/4=1'-0"

VALVE SCHEDULE

MARK	SIZE	CLASS	DESCRIPTION	QTY.
V-1	24"	150 B	FLG'D. BUTTERFLY VALVE W/ HANDWHEEL	2
V-2	18"	150 B	FLG'D. BUTTERFLY VALVE W/ HANDWHEEL	2
V-3	14"	150-B	FLG'D. BUTTERFLY VALVE W/ HANDWHEEL	1
V-4	10"	150-B	FLG'D. BUTTERFLY VALVE W/ HANDWHEEL	2
V-5	6"	150-B	FLG'D. BUTTERFLY VALVE W/ HANDWHEEL	2
V-6	6"	150	FLG'D. PUMP CONTROL VALVE, CLAYTON 60P-1A	2
V-7	6"	150	FLG'D PRESSURE RELIEF VALVE, CLAYTON 50G	1
V-8	3"	150	THD. FNPT GATE VALVE - SEE DETAIL (C M-4) (A M-1)	2
V-9	3"	125	THD. AIR RELEASE VALVE - SEE DETAIL (C M-4) (A M-1)	2
V-10	1½"	125	THD. CHECK VALVE	1
V-11	2"	125	THD. FNPT GATE VALVE - SEE DETAIL (A M-1)	1

METER SCHEDULE

MARK	SIZE	CLASS	DESCRIPTION	QTY.
M-1	14"	150	MAGNETIC TYPE MAIN LINE FLOW METER	1

PUMP SCHEDULE

MARK	FLOW G.P.M.	T.D.H. FEET	DESCRIPTION	QTY.
P-1 (1)	1800	201	VERTICAL TURBINE POT TYPE PUMP - COMPLETE REFER TO DETAIL	1
P-2 (1)	1800	201	VERTICAL TURBINE POT TYPE PUMP - COMPLETE	1
P-3	—	—	1/3 H.P SUBMERSIBLE SUMP PUMP LITTLE GIANT 3P641 OR EQUAL	1

(1) OWNER SUPPLIED ITEMS - SEE STRUCTURAL DETAILS SHEET M-3

◇ COATING SCHEDULE

◇ MARK	PAINT (2) SYSTEM	COLOR	SURFACE
1	CLEAN ONLY	—	STEEL IN CONTACT W/ CONCRETE
2	M-1	LIGHT BLUE	FABRICATED STEEL PIPE INTERIORS & SUBMERGED PIPING
3	M-2	BLUE	EXPOSED PIPING
4	M-3	BROWN	EXPOSED STRUCTURAL STEEL
5	W-1	DARK BROWN	WOODEN LAM-BEAMS
6	W-2	BROWN	EXPOSED WOOD TRIM
7	W-3	OFF WHITE	GYPSUM WALLBOARD, INTERIOR

(2) SEE ATTACHMENT "A", SECTION 09900 OF SPECIFICATIONS

REGISTERED PROFESSIONAL ENGINEER
No. 3770
S. WALLACE JACKSON
STATE OF UTAH
1-15-81

Coon, King and Knowlton
Engineers · Planners · Land Surveyors
1055 East 3900 South · Salt Lake City, Utah 84117 · (801) 262-2951

DATE	REVISIONS	BY

DESIGNED S.W.J. DRAWN D.B. CHECKED S.W.J.

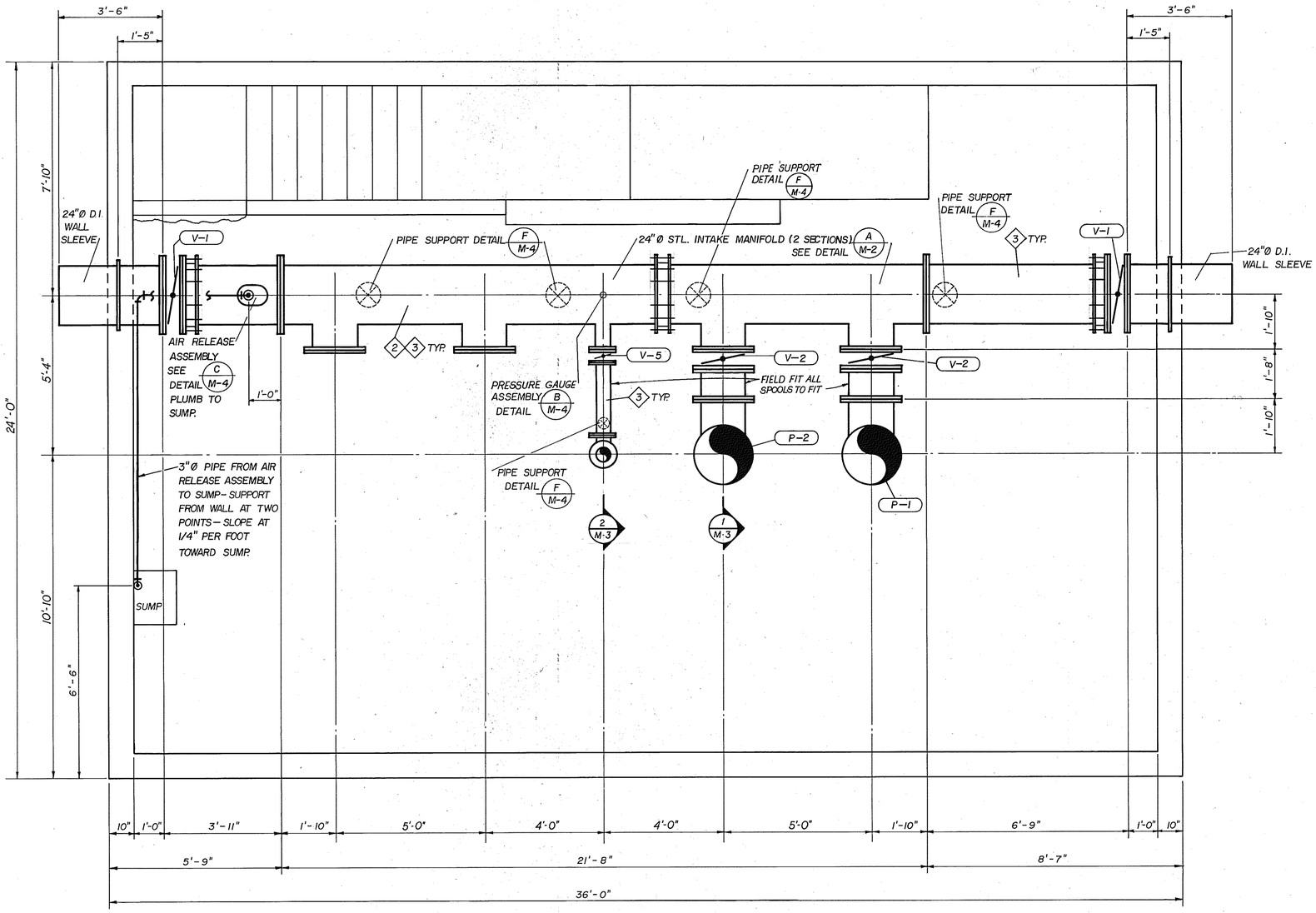
5700 WEST PUMPING STATION

MAIN FLOOR PIPING PLAN

DATE DEC., 1980
JOB NO. 0987.220
SHEET M-1

CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

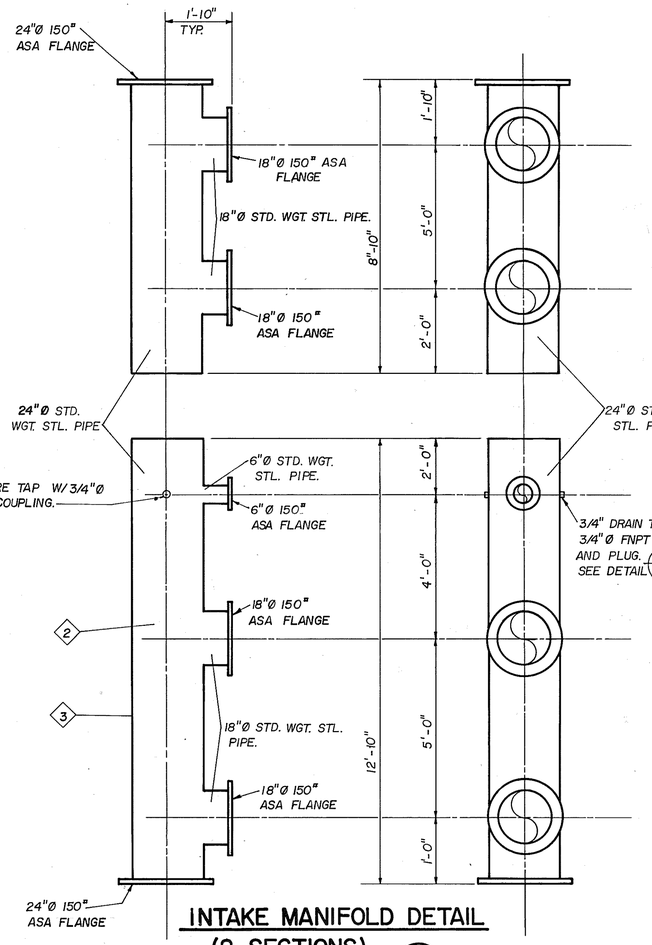
81C13A



BASEMENT PIPING PLAN

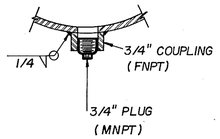
SCALE: 1/2"= 1'-0"

NOTE:
◇ SEE SHEET M-1 FOR COATING SCHEDULE.



INTAKE MANIFOLD DETAIL (2 SECTIONS) A M-2

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



DRAIN TAP DETAIL (TYP.) B M-2

NO SCALE

REGISTERED PROFESSIONAL ENGINEER
No. 3770
S. WALLACE JAYSON
STATE OF UTAH
S. Wallace Jayson
1-15-81

Coon, King and Knowlton
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1055 East 3900 South · Salt Lake City, Utah 84117 · (801)262-2951

DATE	REVISIONS	BY

DESIGNED S. W. J. | DRAWN D. B. | CHECKED S. W. J.

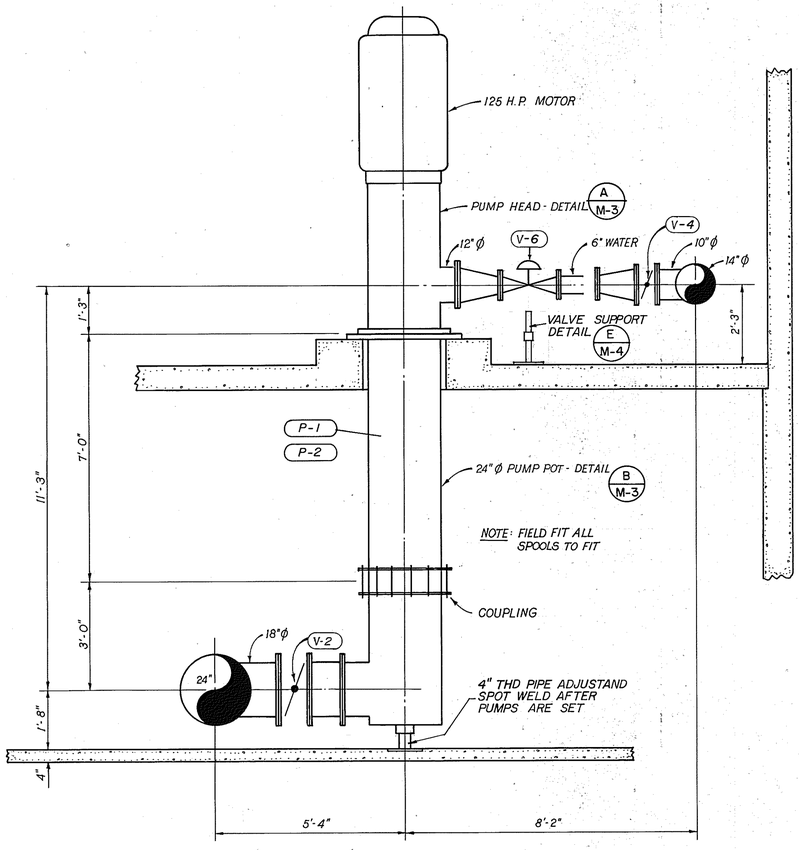
5700 WEST PUMPING STATION

BASEMENT PIPING PLAN

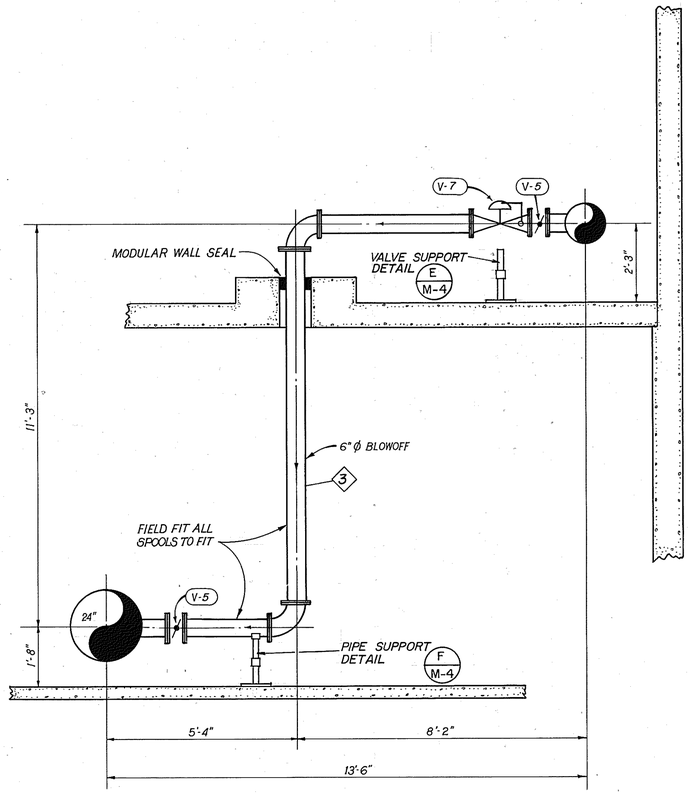
DATE: DEC., 1980
JOB NO.: 0987.220
SHEET: M-2

CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

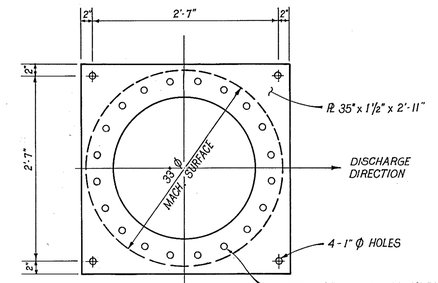
81CT3A

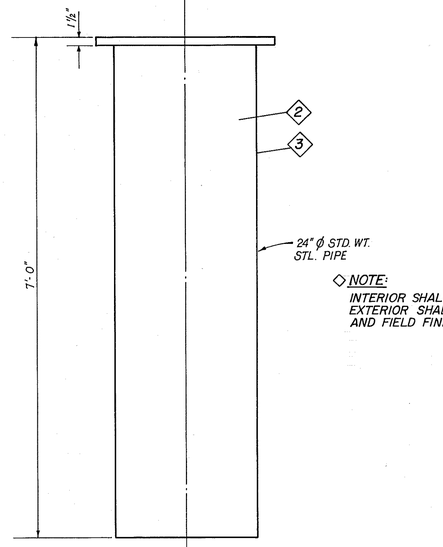


SECTION 1 M-3
SCALE: 1/2"= 1'-0"

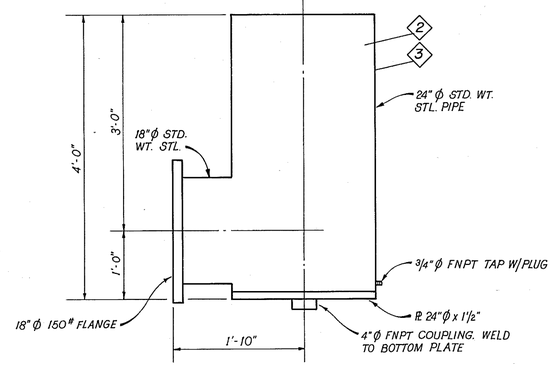


SECTION 2 M-3
SCALE: 1/2"= 1'-0"

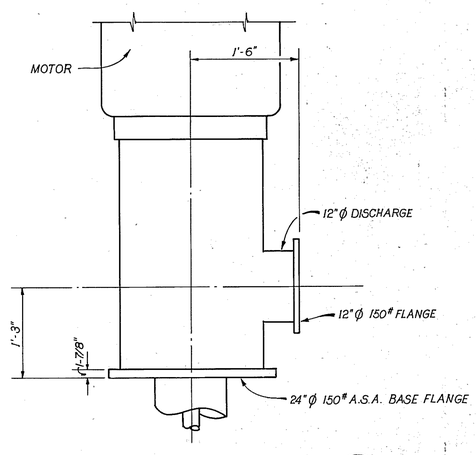




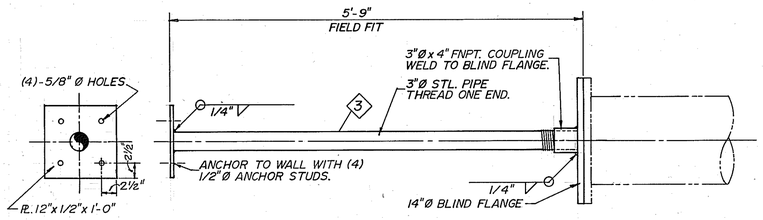
◇ NOTE:
INTERIOR SHALL BE SHOP PAINTED. EXTERIOR SHALL BE SHOP PRIMED AND FIELD FINISHED.



PUMP POT DETAIL B M-3
SCALE: 1"= 1'-0"



PUMP HEAD DETAIL A M-3
SCALE: 1"= 1'-0"



WALL SUPPORT DETAIL C M-3
SCALE: 1"= 1'-0"

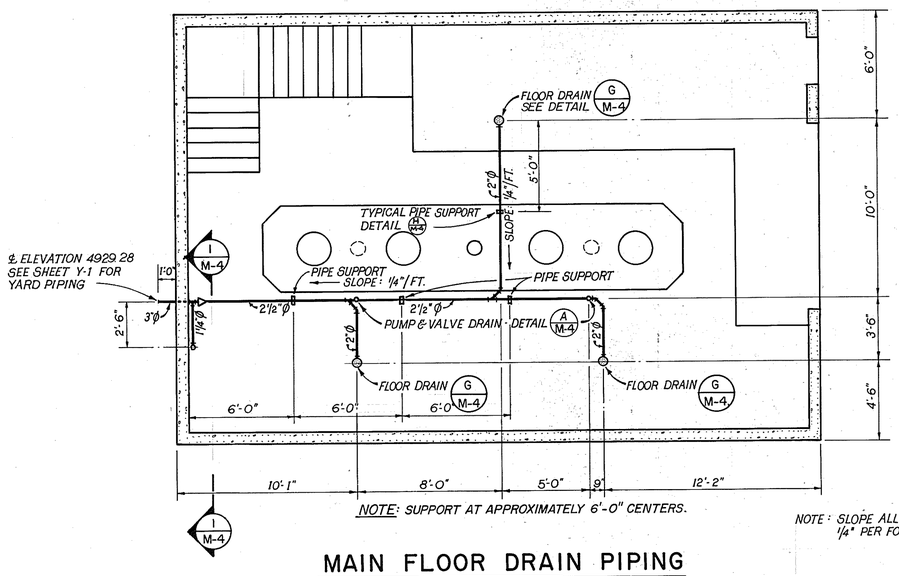
NOTE:
◇ SEE SHEET M-1 FOR COATING SCHEDULE

REGISTERED PROFESSIONAL ENGINEER No. 3770 S. WALLACE JAMESON STATE OF UTAH
S. Wallace Jameson
1-15-81

Coon, King and Knowlton Engineers · Planners · Land Surveyors 1055 East 3900 South · Salt Lake City, Utah 84117 · (801) 262-2951	5700 WEST PUMPING STATION
DESIGNED S.W.J. DRAWN D.B. CHECKED S.W.J.	MECHANICAL SECTIONS AND DETAILS
CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT	DATE: DEC., 1980 · JOB NO. 0987.220 · SHEET M-3

DATE	REVISIONS	BY

81C13-A

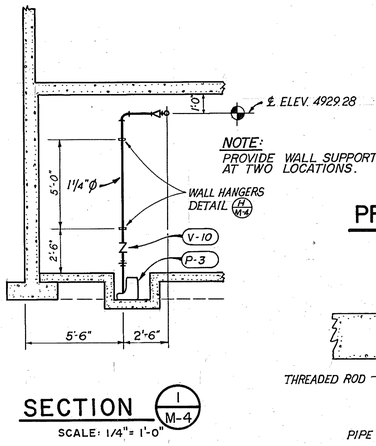


NOTE: SUPPORT AT APPROXIMATELY 6'-0" CENTERS.

NOTE: SLOPE ALL DRAIN PIPING 1/4" PER FOOT.

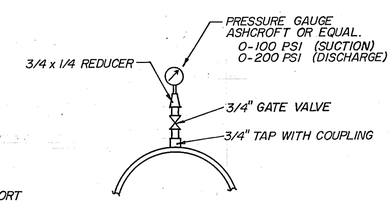
MAIN FLOOR DRAIN PIPING (UNDER FLOOR)

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



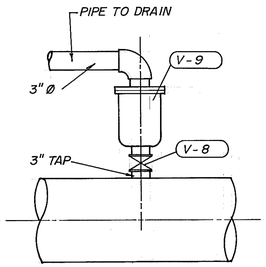
SECTION I M-4

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



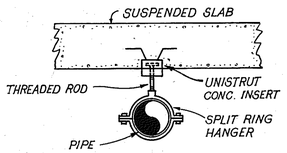
PRESSURE GAUGE ASSEMBLY DETAIL B M-4

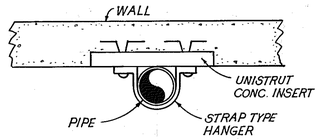
SCALE: 1-1/2"=1'-0"



AIR RELEASE ASSEMBLY DETAIL C M-4

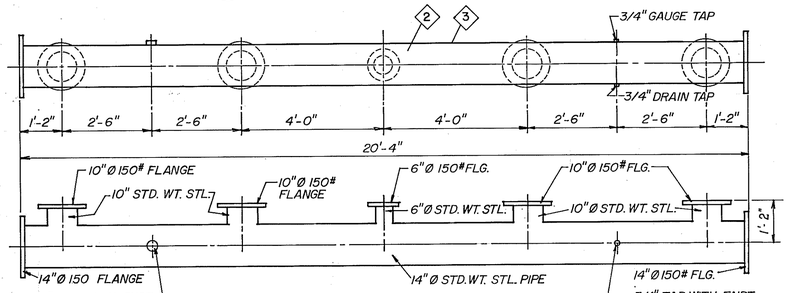
SCALE: 1"=1'-0"





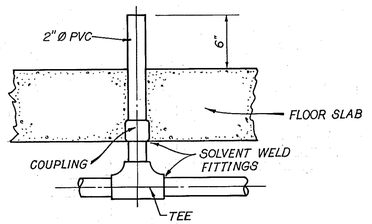
TYPICAL PIPE SUPPORT DETAIL H M-4

N.T.S.



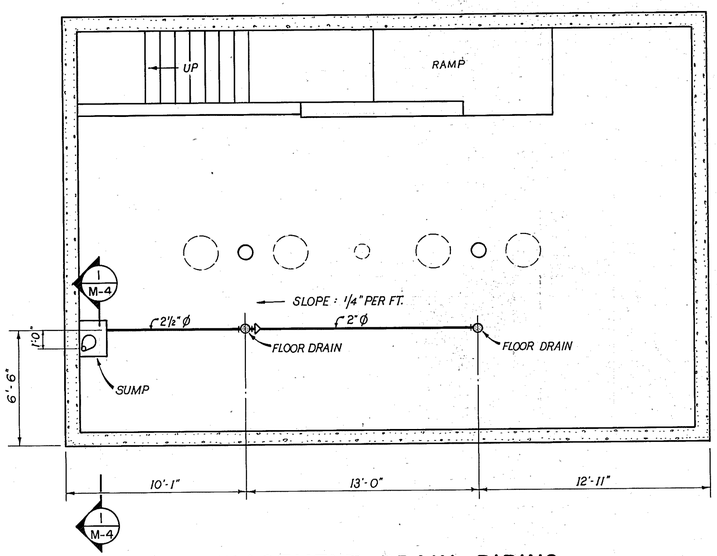
DISCHARGE MANIFOLD DETAIL D M-4

SCALE 1/2"=1'-0"



PUMP & VALVE DRAIN DETAIL A M-4

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

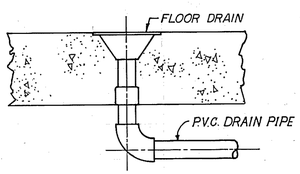


BASEMENT DRAIN PIPING (UNDER FLOOR)

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

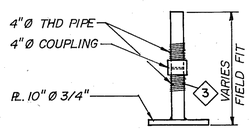
NOTE:

◇ SEE SHEET M-1 FOR COATING SCHEDULE.



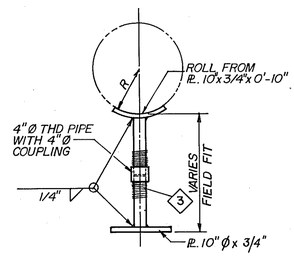
FLOOR DRAIN DETAIL G M-4

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



VALVE SUPPORT DETAIL E M-4

SCALE: 1"=1'-0"



PIPE SUPPORT DETAIL F M-4

SCALE: 1'-0"

PIPE SIZE	PIPE TYPE	R INCHES
24"	STEEL	12.00
24"	DUCTILE	12.87
14"	STEEL	7.00
14"	DUCTILE	7.65
6"	STEEL	3.31
6"	DUCTILE	3.45

REGISTERED PROFESSIONAL ENGINEER No. 3770 S. WALLACE JACKSON STATE OF UTAH

1-15-81

Coon, King and Knowlton
Engineers · Planners · Land Surveyors
1055 East 3900 South · Salt Lake City, Utah 84117 · (801)262-2951

DATE	REVISIONS	BY

DESIGNED S.W.J. DRAWN D.B. CHECKED S.W.J.

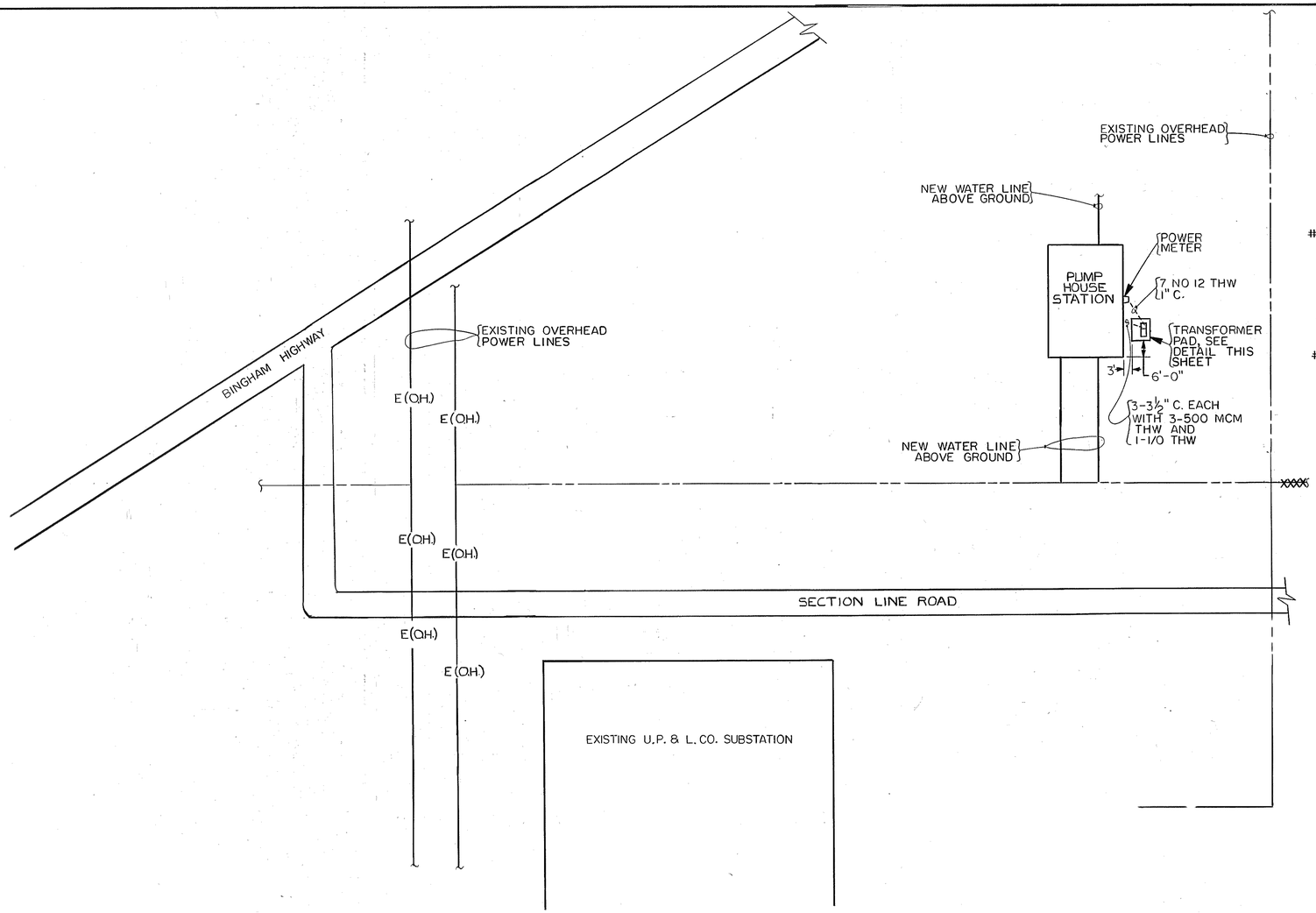
5700 WEST PUMPING STATION

DRAIN PIPING AND MECHANICAL DETAILS

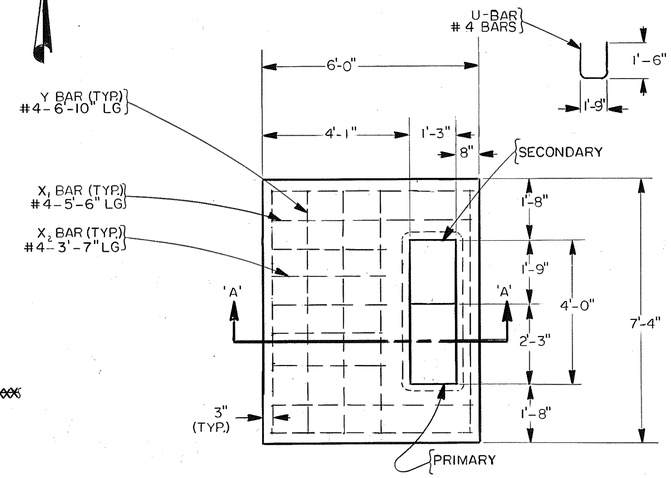
CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

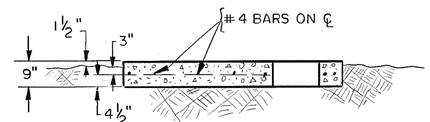
DATE DEC., 1980
JOB NO. 0987.220
SHEET M-4

81C13A



SITE PLAN





SECTION 'A-A'

TRANSFORMER PAD DETAILS
(N.T.S)

REGISTERED PROFESSIONAL ENGINEER
No. 3231
FREDERICK G. KIDSTON
STATE OF UTAH

Coon, King and Knowlton
Engineers · Planners · Land Surveyors
1055 East 3900 South · Salt Lake City, Utah 84117 · (801)262-2951

DATE	REVISIONS	BY
11 MAR 82	AS BUILT	

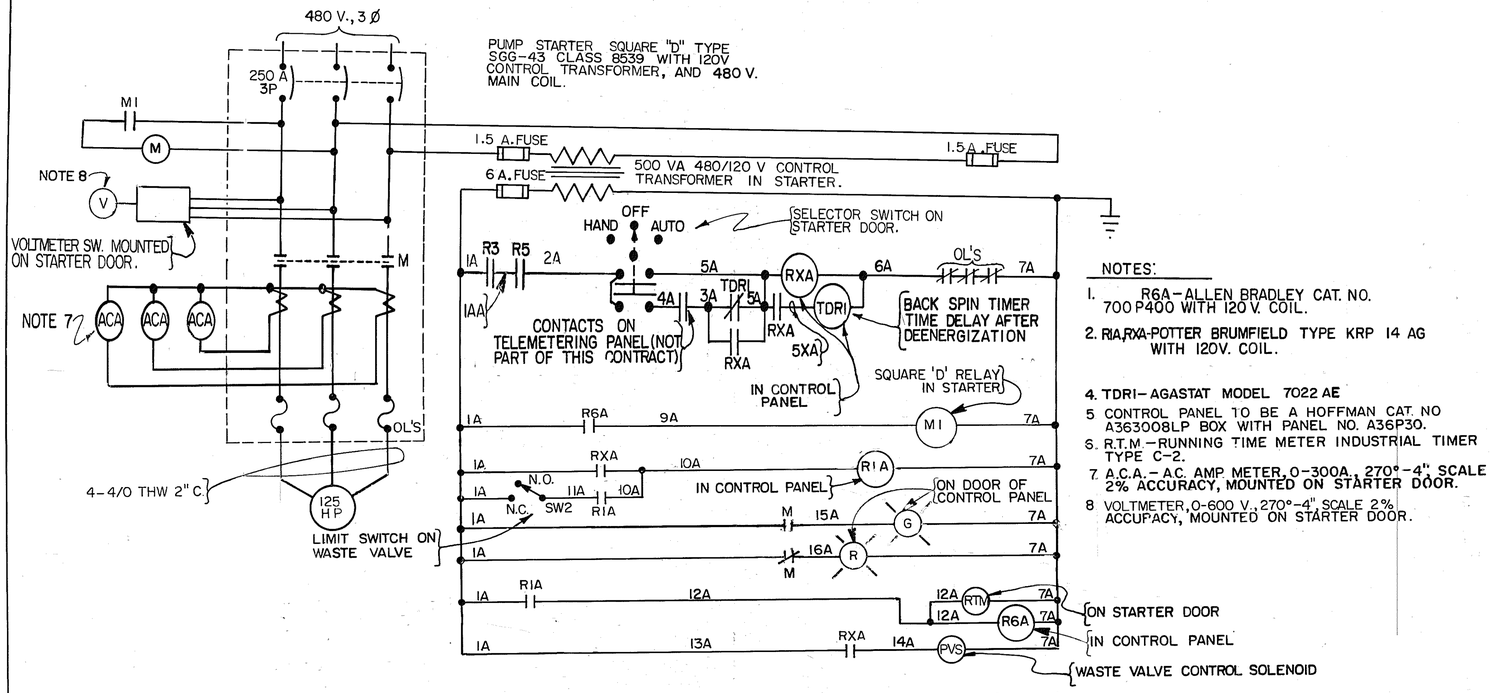
DESIGNED | DRAWN | CHECKED

5700 WEST PUMPING STATION

ELECTRICAL SITE PLAN AND DETAILS

CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

DATE: JAN., 1981
JOB NO.: 0987.220
SHEET: E-1

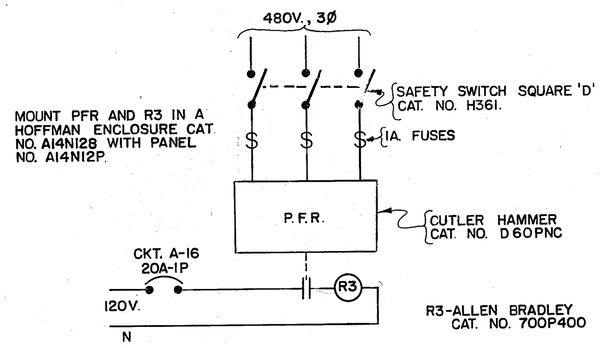


NOTES:

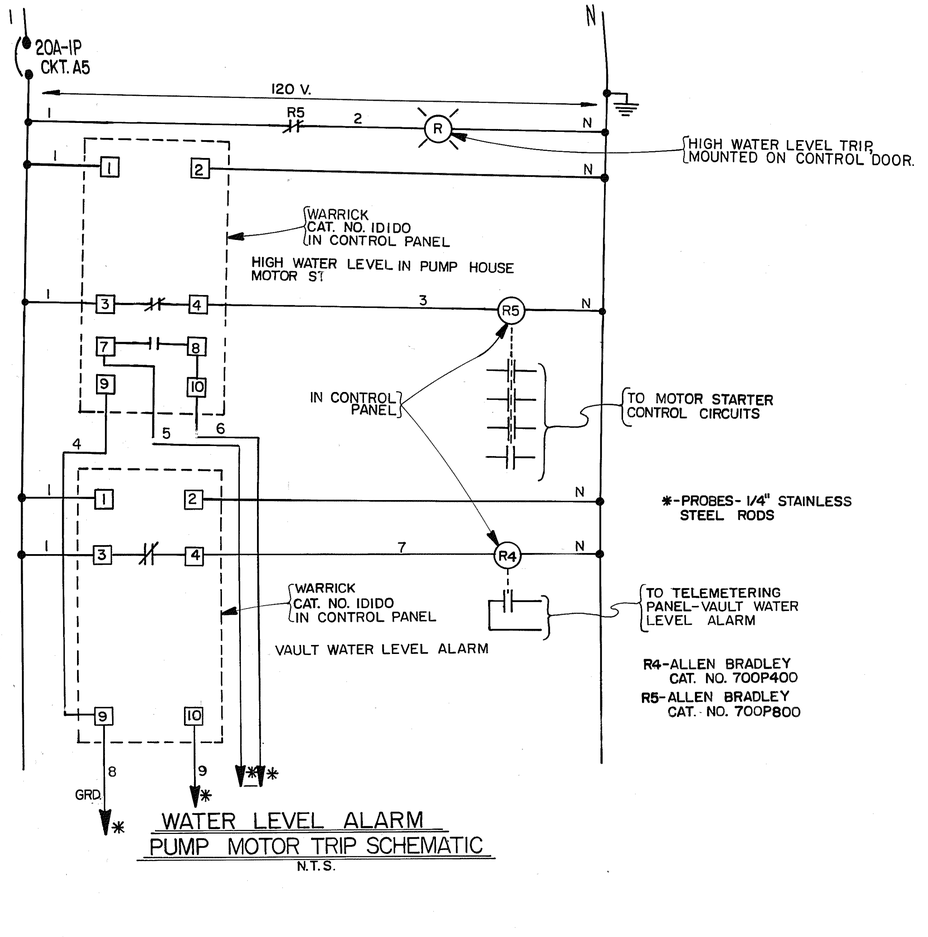
1. R6A-ALLEN BRADLEY CAT. NO. 700 P400 WITH 120 V. COIL.
2. R1A,RXA-POTTER BRUMFIELD TYPE KRP 14 AG WITH 120V. COIL.
4. TDRI-AGASTAT MODEL 7022 AE
5. CONTROL PANEL TO BE A HOFFMAN CAT. NO A363008LP BOX WITH PANEL NO. A36P30.
6. R.T.M.-RUNNING TIME METER INDUSTRIAL TIMER TYPE C-2.
7. A.C.A.-A.C. AMP METER, 0-300A., 270°-4" SCALE 2% ACCURACY, MOUNTED ON STARTER DOOR.
8. VOLTMETER, 0-600 V., 270°-4" SCALE 2% ACCUPACY, MOUNTED ON STARTER DOOR.

TYPICAL MOTOR CONTROL DIAGRAM (2-REQ'D.)

BOOSTER PUMP NO. 1 WITH SUFFIX "A" SHOWN, FOR BOOSTER PUMP NO. 2 CHANGE SUFFIX TO "B" (EXAMPLE: 1A, CHANGE TO 1B).

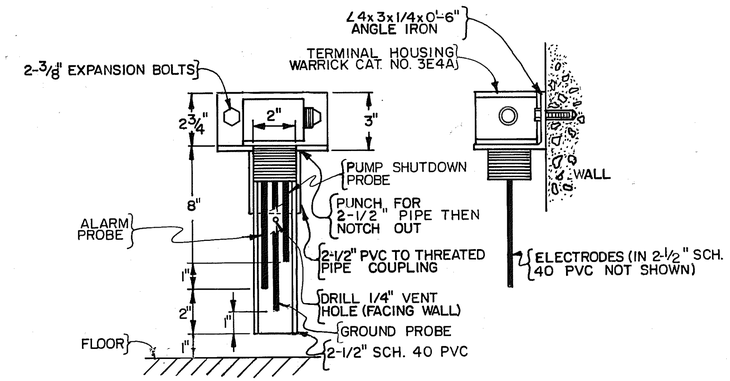


PHASE FAILURE RELAY WIRING DIAGRAM



WATER LEVEL ALARM PUMP MOTOR TRIP SCHEMATIC

N.T.S.



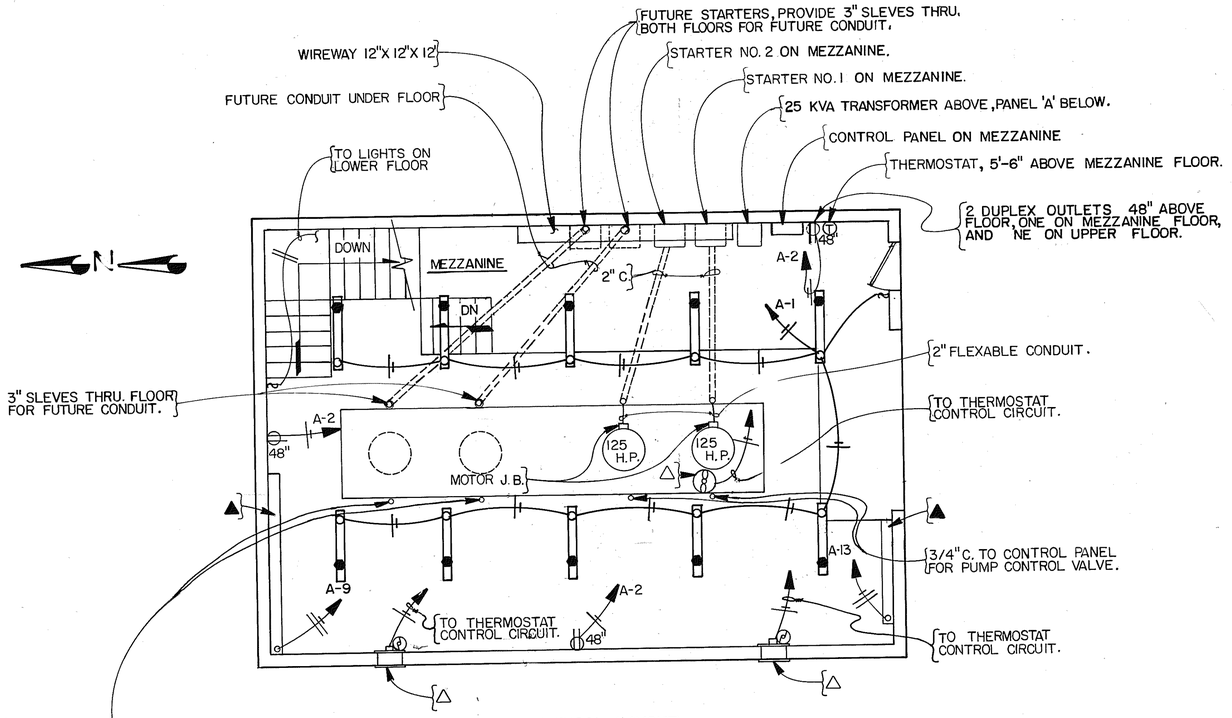
TYPICAL PROBE ASSEMBLY DETAILS

N.T.S.

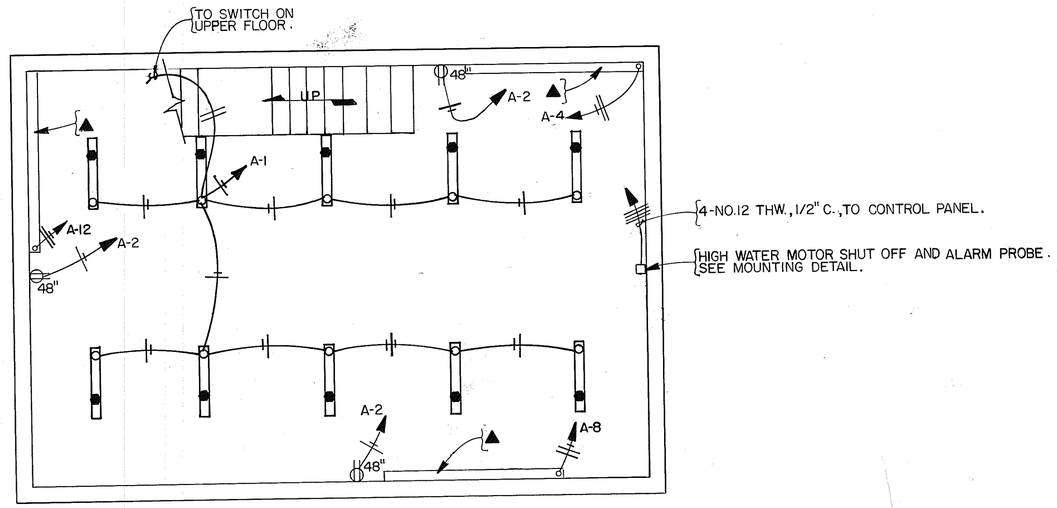
REGISTERED PROFESSIONAL ENGINEER No. 3231 FREDERICK G. KIDSTON STATE OF UTAH

Coon, King and Knowlton Engineers · Planners · Land Surveyors 1055 East 3900 South · Salt Lake City, Utah 84117 · (801)262-2951	REVISIONS DATE 11 MAR 82 AS BUILT — BY BFM	5700 WEST PUMPING STATION CONTROL DIAGRAMS CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT
DESIGNED · DRAWN · CHECKED		DATE JAN., 1981 JOB NO. 0987.220 SHEET E-2

81C13A



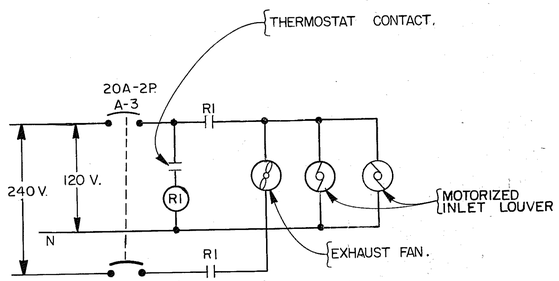
UPPER FLOOR ELECTRICAL LAYOUT
SCALE: 1/4" = 1'-0"



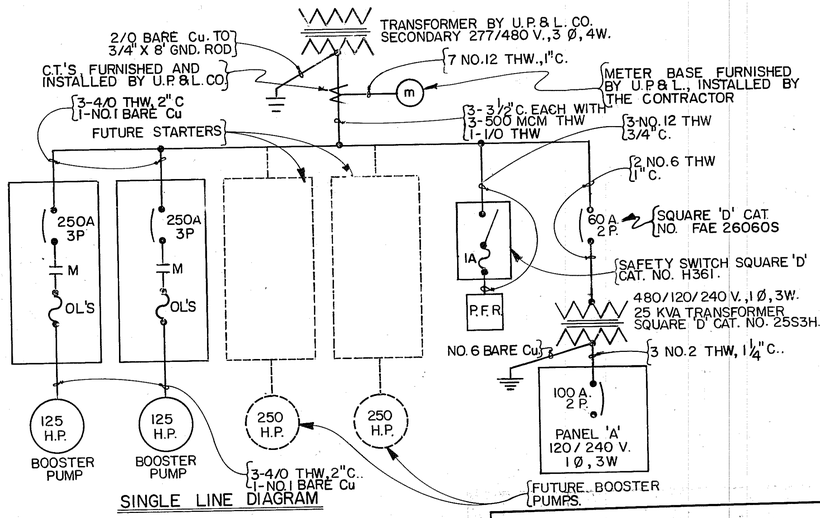
LOWER FLOOR ELECTRICAL LAYOUT
SCALE: 1/4" = 1'-0"

NOTES

1- ● LITHONIA CAT. NO. C 240-120 WITH 2-40W FLUORESCENT LAMPS.
2- △ SEE MECHANICAL DRAWINGS FOR MOUNTING DETAILS.
3- ALL WIRING TO BE NO. 12 THW UNLESS OTHERWISE NOTED.
4- (T) THERMOSTAT GRAINGER STOCK NO. 2E206 CLOSE ON RISING TEMPERATURE.
5- ▲ HEATER SUNWARM CAT. NO. BC2D25 WITH THERMOSTAT, MOUNT 2'-0" FROM FLOOR ON WALL.
6- RI - SQUARE 'D' CLASS 8502 TYPE SCG-5, NEMA 1 ENCLOSURE MOUNTED NEXT TO THERMOSTAT.



EXHAUST FAN CONTROL DIAGRAM



SINGLE LINE DIAGRAM

PANEL 'A'

SQUARE 'D' CAT. NO. Q020-40 MW 200 WITH COVER QOC 20 MW 225 S

120/240 V. 1 Ø 3W

WATTS PER PHASE A	WATTS PER PHASE B	CIRCUIT FUNCTION	CKT. NO.	A	B	CKT. NO.	CIRCUIT FUNCTION	WATTS PER PHASE A	WATTS PER PHASE B
1600		LIGHTING	1	20A	100A 2P	2	OUTLETS	250	
	500	INTAKE AND EXHAUST FAN	3	20A	20A	4	BASEBOARD HEATER		1250
500		↓	5				↓	1250	
	500	CONTROL PANEL	7	20A	20A	8	BASEBOARD HEATER		1250
1250		BASEBOARD HEATER	9	20A			↓	1250	
	1250	↓			20A	12	BASEBOARD HEATER		1250
1250		BASEBOARD HEATER	13	20A			↓	1250	
	1250	↓			20A	16	P.F.R. CIRCUIT		250
500		TELEMETERING PANEL	17	20A		18	SPACE	1000	
	1000	SPACE	19			20	↓		1000
5100	4500	SUBTOTAL					SUBTOTAL	5000	5000
5000	5000	SUBTOTAL							
10 100	9500	TOTAL							

REGISTERED PROFESSIONAL ENGINEER
No. 3231
FREDERICK G. KIDSTON
STATE OF UTAH

Coon, King and Knowlton
Engineers · Planners · Land Surveyors
1055 East 3900 South · Salt Lake City, Utah 84117 · (801) 262-2951

DATE	REVISIONS	BY
11 MAR 82	AS BUILT	BFM

DESIGNED | DRAWN | CHECKED

5700 WEST PUMPING STATION

LIGHTING AND POWER DETAILS

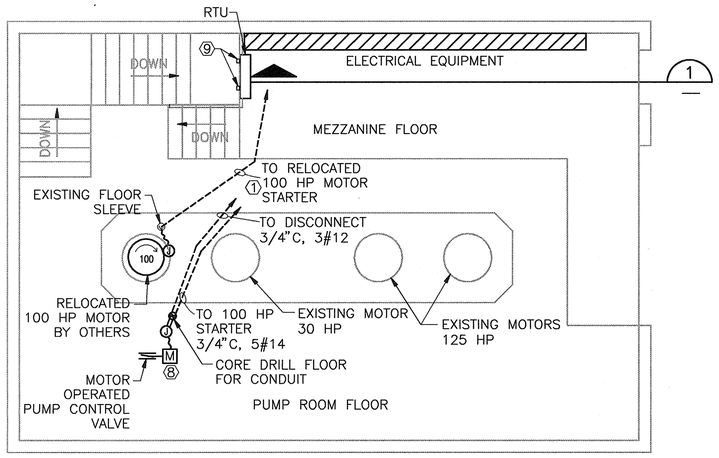
CLIENT: SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

DATE: JAN., 1981
JOB NO.: 0987.220
SHEET: E-3

81C13A

APPENDIX B

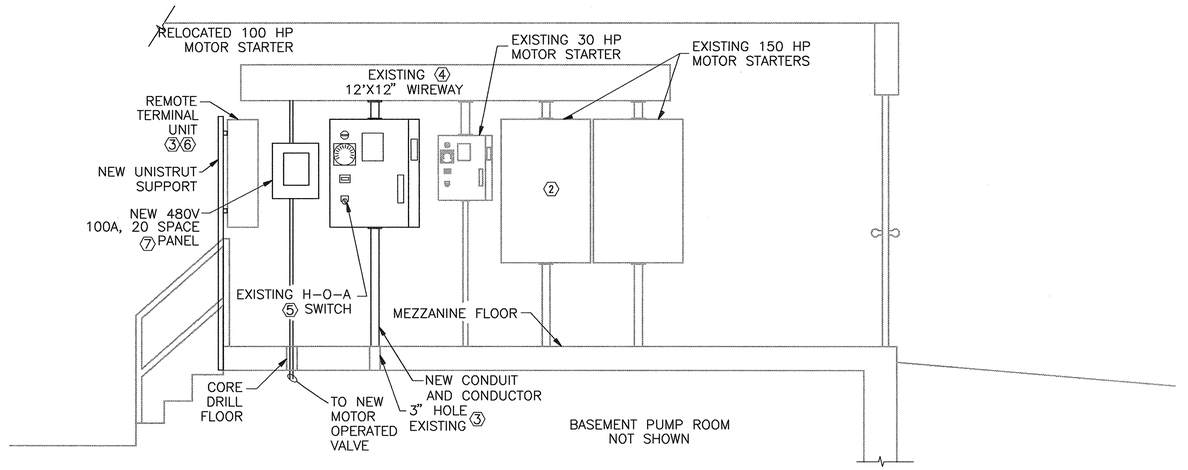
1996 - 5700 West Pump Station Electrical Modifications



MAIN LEVEL ELECTRICAL PLAN

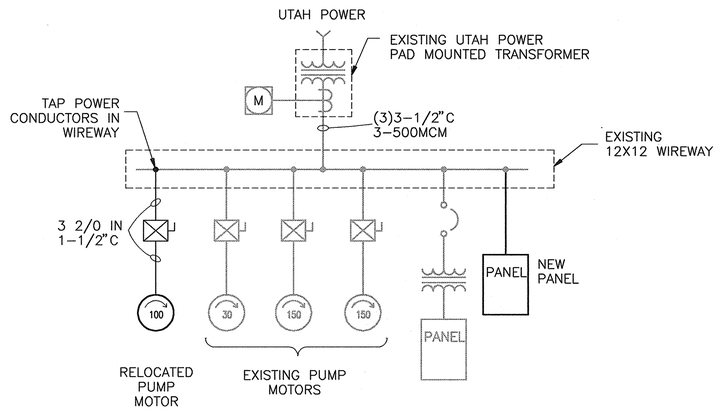
SCALE: 1/4"=1'-0"

N



EQUIPMENT ELEVATION 1

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



ONE LINE DIAGRAM

NOTES

1. ROUTE NEW CONDUIT TO MOTOR UNDER MAIN FLOOR ON CEILING OF BASEMENT PUMP ROOM.
2. STARTER HAS EXPERIENCED SMOKE DAMAGE. COMPONENTS HAVE BEEN REPAIRED BY OWNER AND ARE OPERATIONAL. CONTRACTOR SHALL CLEAN INTERIOR OF ENCLOSURE AND REMOVE SMOKE AND CARBON.
3. THE EXISTING TANK PRESSURE TRANSMITTER SIGNAL CONDUIT IS CURRENTLY ROUTED THROUGH THE 3" FLOOR SLEEVE BELOW THE LOCATION FOR THE 100 HP MOTOR STARTER. RELOCATE THE CONDUIT/CONDUCTOR BY ROUTING FROM THE PRESSURE TRANSMITTER AROUND THE MEZZANINE WALL TO THE RTU. THE PRESSURE TRANSMITTER IS LOCATED ABOUT 5-FEET BELOW THE SLEEVE.
4. EXISTING WIREWAY HAS (3) 500MCM CONDUCTORS PER PHASE FROM UTILITY TRANSFORMER. TAP CONDUCTORS FOR NEW 100 HP MOTOR STARTER FEEDER AS REQUIRED.
5. WIRE NEW PUMP FOR HAND-OFF-AUTO CONTROL USING H-O-A SWITCH IN DOOR. IN HAND, THE PUMP SHALL OPERATE MANUALLY. IN OFF, NO CONTROL SHALL BE ALLOWED. IN AUTO, PUMP OPERATION SHALL BE DETERMINED BY A CONTACT CLOSURE IN THE RTU.

   PUMP STATION HAS EXISTING PHASE FAILURE PROTECTION AND HIGH WATER LEVEL SHUTDOWN. WIRE PUMP MOTOR TO STOP ON EITHER ALARM WHEN IN HAND OR AUTO.
6. INSTALL 4#14 CONDUCTORS IN 3/4"C FROM STARTER TO RTU. ONE PAIR IS FOR CONTROL (START/STOP) SECOND PAIR FOR PUMP STATUS TO RTU.
7. CONTRACTOR SHALL PROVIDE A NEW PANEL FOR EXISTING 480 VAC LOADS (HVAC, TRANSFORMER, ETC.). TAP 480V IN WIREWAY. PROVIDE THE FOLLOWING CIRCUIT BREAKERS
   - (4) 20A/1P
   - (1) 20A/3P
   - (1) 60A/3P (MAIN CB)

   INSTALL 4 NO. 6 IN 1"C TO WIREWAY.
8. A MOTOR OPERATED PUMP CONTROL VALVE (BUTTERFLY VALVE) SUPPLIED AND INSTALLED BY OTHERS. THE CONTRACTOR SHALL INSTALL NEW CONDUIT AND WIRE AND PROVIDE ELECTRICAL CONNECTIONS TO THE VALVE. VALVE WILL HAVE A HAND-OFF-REMOTE SWITCH FOR LOCAL OPERATION. IN REMOTE, THE VALVE SHALL OPEN TO 5% BEFORE THE PUMP MOTOR SHALL START, AND SHALL CLOSE TO 4% OPEN BEFORE THE PUMP MOTOR SHALL STOP. COORDINATE WITH THE OWNER FOR THE EXACT VALVE POSITION DURING CONSTRUCTION FOR VALVE OPERATION.
9. RELOCATE EXISTING REMOTE TERMINAL UNIT FROM WALL. INSTALL UNISTRUT SUPPORTS ANCHORED TO MEZZANINE FLOOR. INSTALL RTU ABOVE HANDRAIL.

HPE INCORPORATED
HEGERHORST POWER ENGINEERING COMPANY
92 SOUTH STATE ROAD
LINDON, UTAH 84042
(801) 785-7455
FAX (801) 785-2415

REGISTERED PROFESSIONAL ENGINEER
No. 86-171214-2202
KEITH B. HEGERHORST
STATE OF UTAH
3/25/96

F:\96009\96009E1

REV.	BY	DATE	DESCRIPTION			HORZ. SCALE
				DESIGN	KBH	SEE ABOVE
				DRAWING	KBH	VERT. SCALE
				REVIEW	KBH	SEE ABOVE

SALT LAKE COUNTY
WATER CONSERVANCY DISTRICT
8215 SOUTH 1300 WEST
WEST JORDAN, UTAH 84084-0070
PHONE (801) 565-8903

3600 S 10200 S AND 5700 W 10200 S
PUMPING STATION ELECTRICAL MODIFICATIONS

5700 W 10200 S PUMP STATION
ELECTRICAL PLAN AND ONE-LINE

DATE: 3/26/96
DWG. NO. 2 OF 2
PROJECT NO. 96CI023D

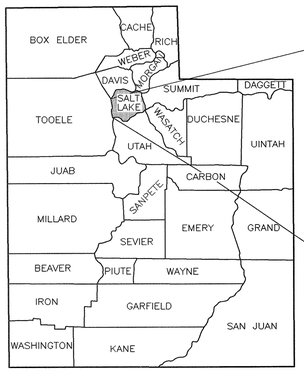
F:\96009\96009E1 Mon Mar 25 13:44:26 1996

APPENDIX C

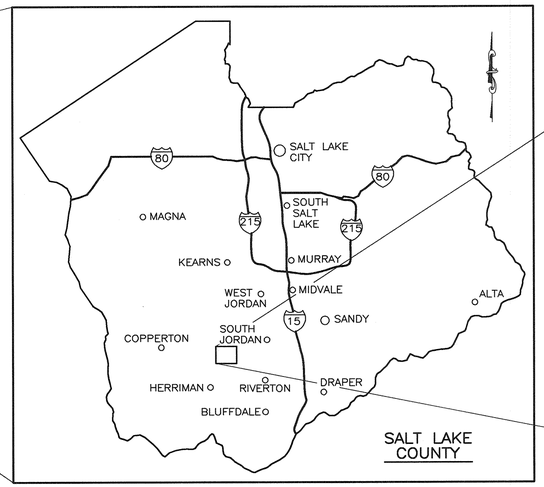
1997 - 5700 West Pump Station Improvements

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

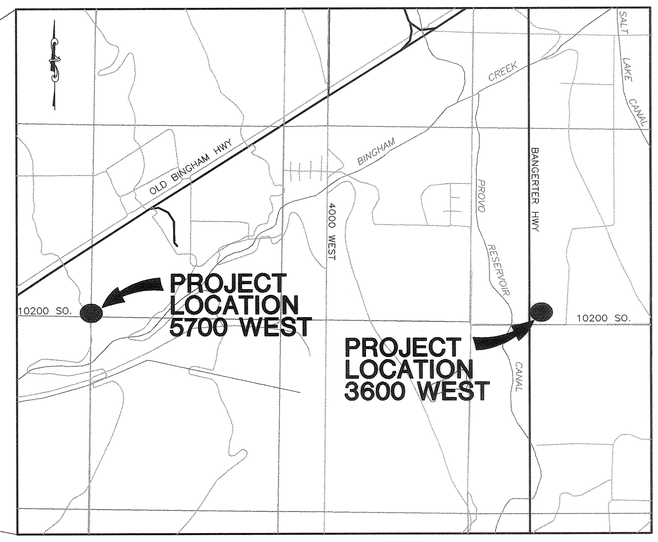
3600 WEST 10200 SOUTH & 5700 WEST 10200 SOUTH
PUMP STATIONS IMPROVEMENTS



STATE OF UTAH



VICINITY MAP



LOCATION MAP

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

DAVID G. OVARD, GENERAL MANAGER, SECRETARY-TREASURER
BARTON A. FORSYTH, P.E., SENIOR STAFF ENGINEER

BOARD OF DIRECTORS

GERALD K. MALONEY, CHAIR
GARY C. SWENSEN, VICE CHAIR
THOMAS W. FORSGREN
ROYCE A. GIBSON
PAUL D. HENDERSON
THERON B. HUTCHINGS
MARGARET K. PETERSON
B. JEFF RASMUSSEN

HANSEN ALLEN & LUCE

CONSULTANTS
ENGINEERS

Salt Lake City
Utah

REGISTERED PROFESSIONAL ENGINEER
NO. 186689
VERN G. CONDER
10-7-97
STATE OF UTAH

HANSEN, ALLEN & LUCE DESIGN TEAM

DAVID E. HANSEN, P.E. – PRINCIPAL–IN–CHARGE / PROJECT MANAGER
VERN G. CONDER, P.E. – DESIGN ENGINEER
GREGORY J. POOLE, P.E. – HYDRAULICS/SURGE ANALYSIS

IVAN KENISON, P.E. – ELECTRICAL
(PRECISION SYSTEMS ENGINEERING, INC.)

These Record Documents have been prepared based on information provided by others. Hansen, Allen & Luce, Inc. has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

FILE NAME 127\05-200\CAD\COVER SHEET.DWG
FILE DATE JANUARY 20, 1997 (DRB)
PLOT OPTIONS
PLOT IN = DWG UNITS: 1=1
PLOT AREA: 33,22.5
ORIGIN:
DVIEW:
XREF FILE NAME(S)

1/93

Proj#96CI098F

GENERAL NOTES

1. THE CONTRACTOR SHALL MEET ALL UTAH STATE DEPARTMENT OF ENVIRONMENTAL QUALITY AND U.S. EPA REQUIREMENTS WITH RESPECT TO THEIR MINIMUM RULES AND REGULATIONS.
2. STATIONING, CURVE DATA, AND STRAIGHT SECTIONS AS LISTED ARE GROUND DISTANCES. HORIZONTAL AND VERTICAL CONTROL IS BASED ON LOCAL MONUMENTATION AND DATUM.
3. CONSTRUCTION OPERATIONS SHALL BE CONDUCTED, AND SIGNS, BARRICADES, AND FLASHERS SHALL BE PLACED, SO AS TO COMPLY WITH OSHA, UTAH STATE INDUSTRIAL COMMISSION, LOCAL SAFETY STANDARDS, AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES, INCLUDING WATER LINES, IRRIGATION DRAIN LINES, TELEPHONE CABLES, AND ANY OTHER OBSTRUCTION DURING THE COURSE OF CONSTRUCTION AND INSTALLATION OF THE PIPELINES. SAID UTILITIES SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THEIR ORIGINAL CONDITION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN RIGHT OF INGRESS AND EGRESS SHOULD HE VENTURE ONTO PRIVATE PROPERTY WHICH IS NOT INCLUDED IN DISTRICT ACQUIRED RIGHTS-OF-WAY AND EASEMENTS.
6. UNLESS DETAILED, SPECIFIED OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NOT REINFORCED AT SPECIFIC LOCATIONS OR IN SPECIFIC DRAWINGS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING IMPROVEMENTS DURING CONSTRUCTION AND SHALL REPLACE OR RESTORE ANY IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION ACTIVITY AS DIRECTED BY THE ENGINEER.

AGENCIES

1. BLUE STAKES 532-5000
   A. UTAH POWER & LIGHT
   B. US WEST DIRECT
   C; MTN. FUEL SUPPLY
2. SALT LAKE COUNTY WATER CONSERVANCY DISTRICT
   BARTON A. FORSYTH 565-8903
3. SOUTH JORDAN CITY
   STEVE BOWEN 253-0616

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INDEX OF DRAWINGS

SECTION & DETAIL IDENTIFICATION

SECTION IDENTIFICATION

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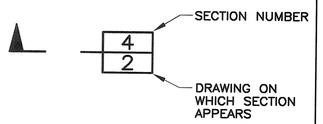

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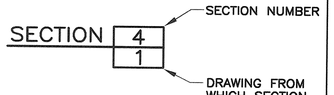

DETAIL IDENTIFICATION

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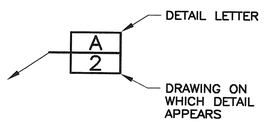

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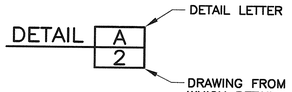

NOTES:
1. IF SECTION CUT AND SECTION OR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACED BY A LINE.
2. DETAIL LETTERS "I" AND "O" NOT USED.

ABBREVIATIONS

ABANDON	ABDN	CUBIC YARD	CU YD	GALVANIZED STEEL PIPE	GSP	NOT IN CONTRACT	NIC
ANCHOR	AHR	CULVERT	CULV	GRADE	GR	NOT TO SCALE	NTS
ANCHOR BOLT	AB	CURVE	CRV	GRATING	GRTG	NOVEMBER	NOV
APPROVED	APVD	DECEMBER	DEC	GRAVEL	GVL	NUMBER	NO
APPROXIMATE	APPROX	DIAMETER	DIA.	GROUT	GT	OCTOBER	OCT
APRIL	APR	DISCHARGE	DISCH	HEAVY-DUTY	HD	OPEN END	OE
AT	@	DISTANCE	DIST	HEIGHT	HGT	OPENING	OPNG
AUGUST	AUG	DOWEL	DWL	HIGH-WATER LINE	HWL	ORIGINAL	ORIG
AUTHORIZE	AUTH	DOWNSPOUT	DS	HIGHWAY	HWY	OUTLET	OUT
AVERAGE	AVG	DROP INLET	DI	HORIZONTAL	HORIZ	OUTSIDE RADIUS	OR
BASE LINE	BL	DROP MANHOLE	DMH	INCH	"	OVERFLOW	OVFL
BEGINNING OF VERTICAL CURVE	BVC	DUCTILE IRON MECHANICAL JOINT	DIMJ	INLET	INL	PARALLEL	PRL
BELL AND FLANGE	B&F	DUCTILE IRON PIPE	DIP.	INLET AND OUTLET	I&O	PAVEMENT	PVMT
BELL AND SPIGOT	B&S	EACH	EA	INSIDE DIAMETER	ID	PERCENT	PCT
BELL END	BE.	EACH FACE	EF	INSIDE RADIUS	IR	PERPENDICULAR	PERP
BENCH MARK	BM	EACH WAY	EW	INSTALL	INSTL	PLAIN END	PE
BETWEEN	BETW	EAST	E	INTAKE	INTK	PLAN VIEW	PV
BOLT	BLT	EDGE OF PAVEMENT	EDP	INTERSECT	INTSCT	PLATE	PL
BOLT CIRCLE	BC	ELEVATION	EL	INVERT	INVT	POINT	PT
BOUNDARY	BDY	EMERGENCY OVERFLOW	EO	IRON PIPE	IP	POINT OF CURVE	PC
BULKHEAD	BHD	END OF VERTICAL CURVE	EVC	JANUARY	JAN	POINT OF INTERSECTION	PI
CASING	CSG	EQUAL	EQL	JULY	JUL	POINT OF REVERSE CURVE	PRC
CAST-IN-PLACE CONCRETE	CIPC	EQUALLY SPACED	EQL SP	JUNE	JUN	POINT OF TANGENCY	PT
CAST IRON	CI	EXPANSION JOINT	EXP JT	KEYWAY	KWY	POUND	LB
CAST-IRON PIPE	CIP	FEBRUARY	FEB	LEVEL	LVL	PRELIMINARY	PRELIM
CENTER	CTR	FINISH GRADE	FG	LINEAR FEET	LF	PROFILE	PF
CENTER LINE	CL &	FIRE HYDRANT	FHY	LOCATE	LCT	PROPERTY LINE	PL
CENTER TO CENTER	CC	FLANGED COUPLING ADAPTER	FCA	LONG RADIUS	LR	QUALITY	QUAL
CHAMFER	CHAM	FLAT BAR	FB	LOW-WATER LINE	LWL	RADIUS	RAD
CLEANOUT	CO	FLEXIBLE COUPLING	FC	MANHOLE	MH	RAILROAD	RR
CONNECT	CONN	FLOOR DRAIN	FD	MANHOLE COVER	MC	RAILWAY	RY
CONSTRUCTION JOINT	CJ	FLOOR LINE	FL	MARCH	MAR	RATE	RT
CONTINUE	CONT	FLOW	FL	MAXIMUM	MAX	RECOMMEND	RECM
CONTINUOUS	CONT	FLOW LINE	FLL	MEAN SEA LEVEL	MSL	RECTANGULAR	RECT
COORDINATE	COORD	FOUNDATION	FDN	MECHANICAL JOINT	MJ	REFERENCE LINE	REFL
CORRUGATED METAL PIPE	CMP	FROM	FR	MISCELLANEOUS	MISC	REINFORCE	REINF
CROSS SECTION	XSECT	GAGE	GA	NORMAL	NORM	SLOPE	S
CUBIC FOOT	CU FT	GALLON PER MINUTE	GPM	NORTH	N.	SOUTH	SO.
CUBIC FOOT PER SECOND	CF S	GALVANIZED (HOT DIP)	GALV	NOT APPLICABLE	NA	STATION	STA.
						UNTREATED BASE COARSE	UBC

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PLOT AREA:
ORIGIN:
DVIEW:
XREF FILE NAME(S): Y:\127\02-500\STEEL PIPE ALTERNATIVE\SLCWCDTB.DWG

HANSEN ALLEN & LUCE INC.
CONSULTANTS ENGINEERS
Salt Lake City Utah

REGISTERED PROFESSIONAL ENGINEER
NO. 186689
VERN G. CONDER
10-7-97
STATE OF UTAH
PROJECT ENGINEER

DESIGNED	VGC	3				
DRAFTED	JVH	2				
CHECKED	VGC	1	9/1/97	AS BUILT		
DATE	JAN. 1997	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

VERIFY SCALE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SOUTH PUMP STATIONS IMPROVEMENTS

INDEX, ABBREVIATIONS & GENERAL NOTES

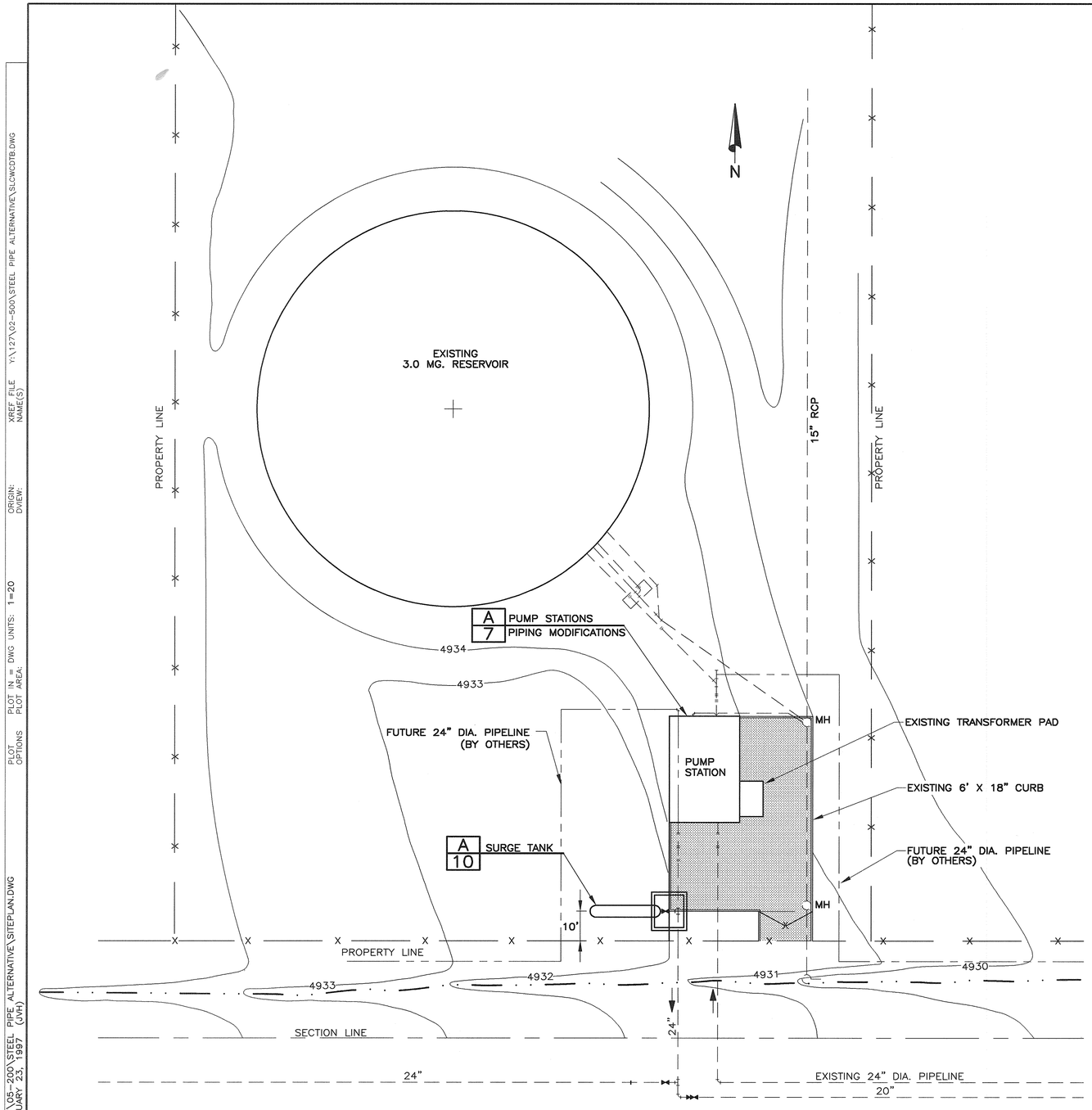
SHEET NO. 2 OF 25

127-05-200

12/96

127.05.200.002

Proj#96CI098F



5700 WEST SITE PLAN
1"=20'

5600 West Pump Station
Mechanical Modifications

Inlet manifold modifications:

Remove existing pump @ position No. 3 (P–3) along with 4–inch valve and 18–inch blind flange, and install new 18–inch BFV for P–3 manifold outlet.

Paint Manifold and Pump Barrels.

Install new outlet manifold:

Install manifold with valving – 24 x 14 reducer to existing line, 16–inch isolation valves, reducers, and modified connections to the pump discharge head; add pipe supports and thrust restraints, reconnect existing piping and pump control valves for P–1, P–2 and P–4.

Reinstall air release valve and miscellaneous piping.

Yard piping:

Flush, disinfect and make tie–in connections for surge tank.

Install surge tank, valve and vault.

Install new curb wall and replace asphalt that is disturbed during installation of the surge tank.

Install new 400HP pump in P–3 location:

Install new 30" pump barrel with 18–inch inlet valve, 16–inch isolation valve, check valve, electric motor operated pump control butterfly valve; and discharge head.

Building Modification:

Add HVAC fan above pump P–3

Paint all exposed piping.

FILE NAME: 127\05-200\STEEL PIPE ALTERNATIVE\SITEPLAN.DWG
FILE DATE: JANUARY 23, 1997 (JVH)
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ORIGIN:
DVIEW:
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HANSEN ALLEN & LUCE INC.
CONSULTANTS ENGINEERS
Salt Lake City Utah

REGISTERED PROFESSIONAL ENGINEER — No. 136689 — STATE OF UTAH — STEPHEN G. CONDER — 10-7-97
PROJECT ENGINEER

DESIGNED	VGC	3		
DRAFTED	SDM	2		
CHECKED	VGC	1	9/1/97	AS BUILT
DATE	JAN. 1997	NO.	DATE	REVISIONS

BY APVD.

SCALE: AS SHOWN

VERIFY SCALE: 0" 1" BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

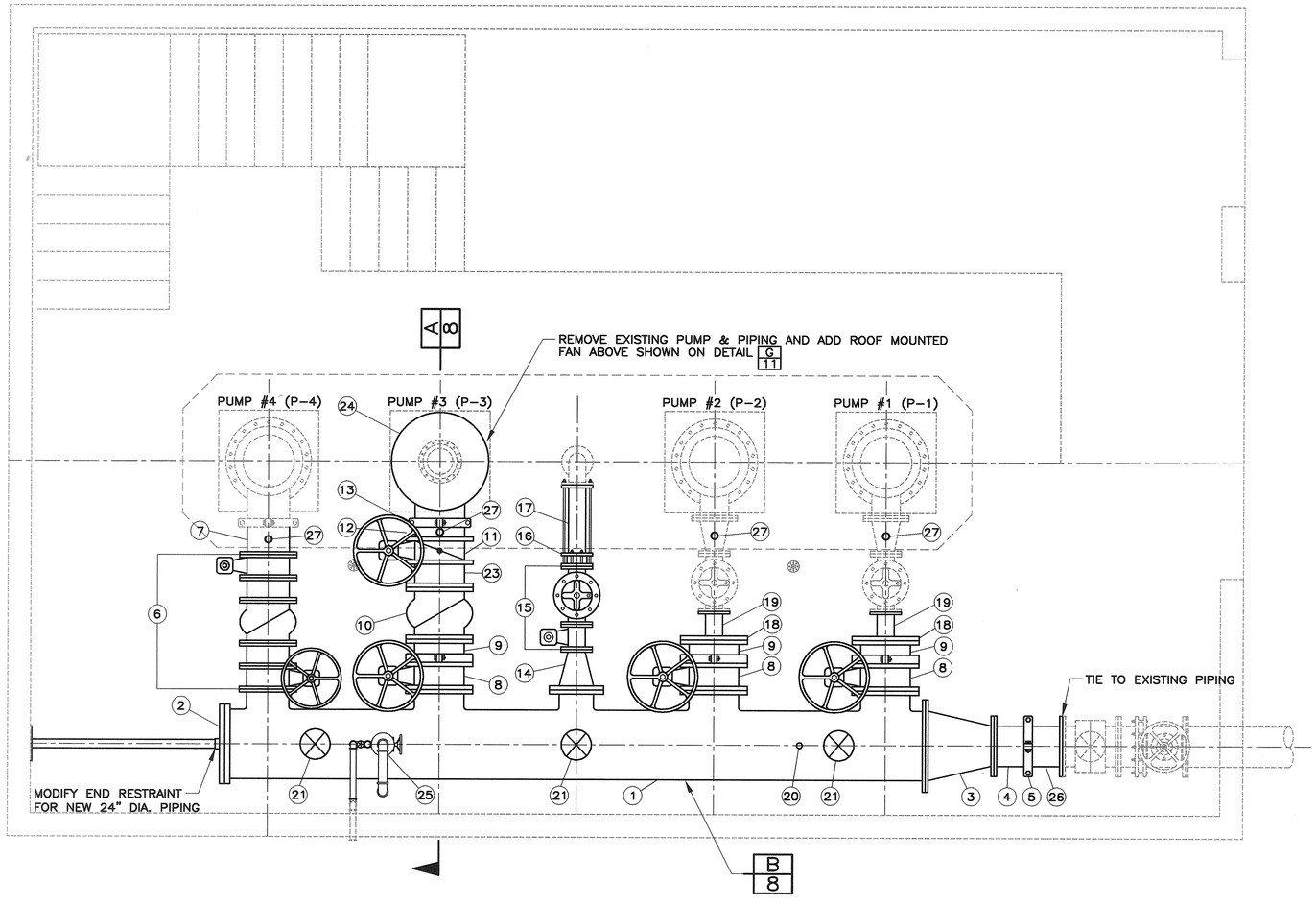
SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SOUTH PUMP STATIONS IMPROVEMENTS
5700 WEST SITE PLAN

SHEET NO. 6 OF 25
127-05-200

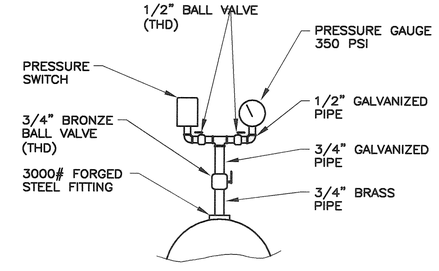
12/96

Proj#96CI098F



5700 WEST PUMP STATION FLOOR PLAN A 6

EQUIPMENT, VALVE AND FITTING SCHEDULE				
NO.	DESCRIPTION	SIZE	JOINT	REMARKS
1.	OUTLET MANIFOLD	24"	FLG	SEE DETAIL B ON SHEET 8
2.	BLIND FLANGE	24"	FLG	WITH 3" COUPLING
3.	REDUCER	24" X 14"	PE	
4.	FLANGED ADAPTER NIPPLE	14"	FLG X GE	STEEL FIELD VERIFY LENGTH
5.	COUPLING	14"	GE	VICTAULIC #77 OR EQUAL
6.	EXISTING BUTTERFLY VALVE, SPOOLS, SILENT CHECK, MOTOR OPERATED BUTTERFLY VALVE	14"	FLG	REMOVE AND REINSTALL
7.	EXISTING FLANGE ADAPTER NIPPLE	14"	FLG X GE	MODIFY TO FIT
8.	BUTTERFLY VALVE	16"	FLG	OWNER ORDERED
9.	FLANGED ADAPTER NIPPLE W/ FLANGE ADAPTER	16"	FLG X GE	STEEL (VIC #741, OR EQUAL)
10.	SILENT CHECK	16"	FLG	OWNER ORDERED
11.	MOTOR OPERATED BUTTERFLY VALVE	16"	WAFER	OWNER ORDERED
12.	FLANGED ADAPTER NIPPLE	16"	FLG X GE	LENGTH TO FIT
13.	COUPLING	16"	GE	VICTAULIC #77 OR EQUAL
14.	REDUCER	12" X 6"	FLG	
15.	EXISTING BUTTERFLY VALVE & PRESSURE REDUCING VALVE	6"	FLG	REMOVE & REINSTALL
16.	EXISTING FLANGE COUPLING ADAPTER	6"	FLG X PE	REMOVE & REINSTALL
17.	NIPPLE	6"	FLG X PE	MODIFY EXISTING AS REQUIRED
18.	REDUCING FLANGE	6" x 23 1/2"	FLG	
19.	NIPPLE	6"	FLG X PE	FIELD FIT
20.	PRESSURE GAUGE & SENSOR	3/4"	THD	RELOCATE
21.	PIPE SUPPORT			SEE DETAIL E ON SHEET 11
22.	SUCTION BARREL	30"		SEE DETAIL A ON SHEET 8
23.	SPOOL	16"	FLG	STEEL
24.	PUMP/MOTOR/DISCHARGE HEAD	400 HP		OWNER ORDERED
25.	AIR RELEASE VALVE & PIPING	3"	THD	RELOCATE & MODIFY AS REQ'D
26.	NIPPLE	14"	FLG X GE	MODIFY EXISTING AS REQUIRED
27.	PRESSURE SWITCH, GAUGE, VALVE & PIPING			SEE DETAIL C THIS SHEET



PRESSURE SWITCH & GAUGE DETAIL C — C 4

HANSEN ALLEN & LUCE inc. CONSULTANTS ENGINEERS Salt Lake City Utah

REGISTERED PROFESSIONAL ENGINEER NO. 186689 VERN G. CONDER 10-7-97 STATE OF UTAH

PROJECT ENGINEER

DESIGNED VGC | DRAFTED RGA | CHECKED VGC | DATE JAN. 1997

NO.	DATE	REVISIONS	BY	APVD.
3				
2				
1	9/1/97	AS BUILT		

SCALE 1/2'=1'-0"

VERIFY SCALE 0" 1" BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SOUTH PUMP STATIONS IMPROVEMENTS

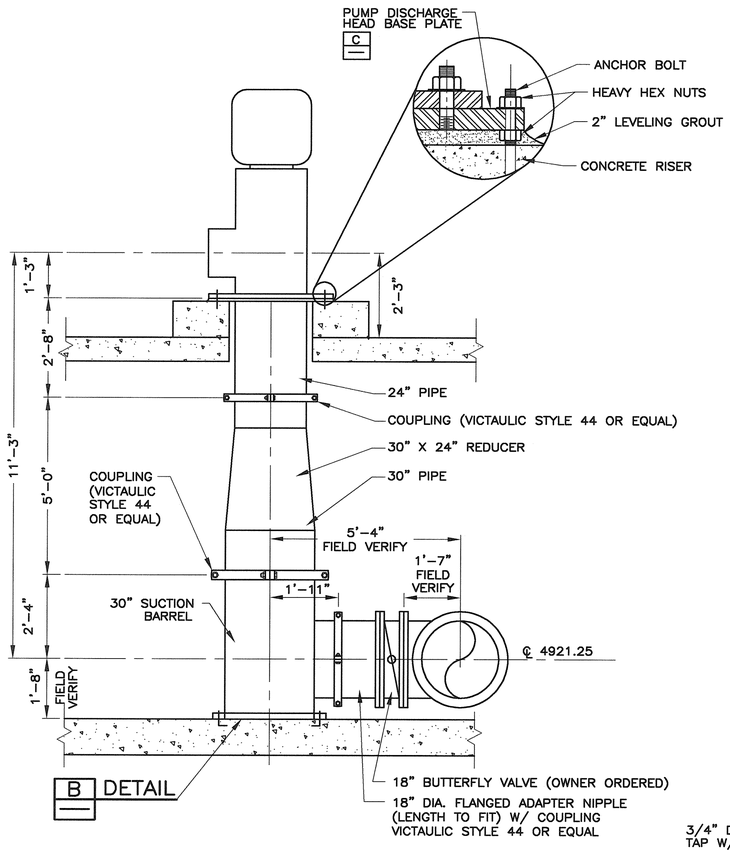
5700 WEST FLOOR PLAN & PIPING SCHEDULE

SHEET NO. 7 OF 25

127-05-200

12/96

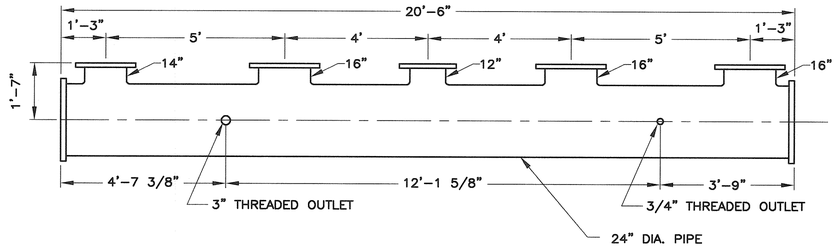
Proj#96CI098F



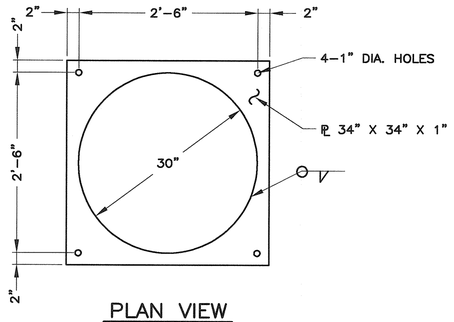
B DETAIL

SUCTION BARREL PUMP 3 — A / 7

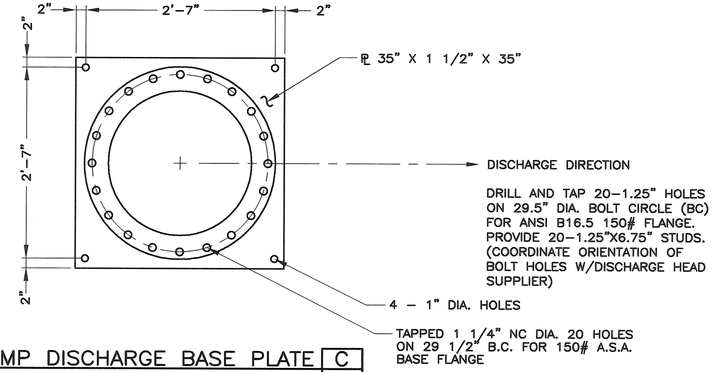
PUMP No. 3 (P-3) BARREL FOR 3600 WEST PUMP STATION SIMILAR. FIELD VERIFY HEIGHT & USE 20" OWNER ORDERED BUTTERFLY VALVE & NEW 20" FLANGED ADAPTER NIPPLE & COUPLING – USE EXISTING PUMP DISCHARGE PLATE & MODIFY BARREL FOR GE COUPLING.



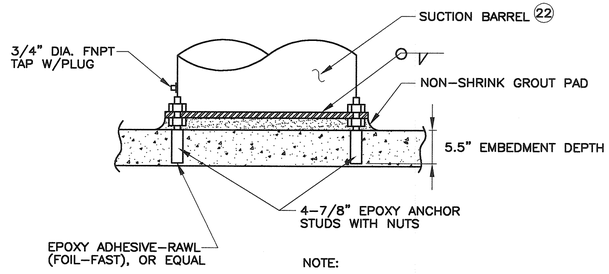
OUTLET MANIFOLD B / 7



PLAN VIEW



PUMP DISCHARGE BASE PLATE C / —



NOTE:

MODIFY EXISTING PUMP BASES TO INCLUDE NEW BASE PLATES, ANCHOR BOLTS, DRAINS AND GROUT PAD.

SECTION VIEW

PUMP BARREL BASE DETAIL B / —

NOTES:

1. 3/8" (0.375) MIN. WALL THICKNESS WITH ADDITIONAL THICKNESS AT SUPPORTS AND FITTINGS AS NEEDED FOR DESIGN PRESSURES. THINNER WALLED PIPE MAY BE USED IF RING ADAPTERS ARE USED.
2. MANIFOLD TO BE FABRICATED BY A MANUFACTURE WITH A MINIMUM OF 5 YEARS EXPERIENCE AT DESIGNING AND FABRICATING PRESSURE VESSELS.
3. FABRICATOR SHALL SUBMIT SHOP DRAWINGS AND STAMPED CALCULATIONS PREPARED BY A QUALIFIED ENGINEER FOR APPROVAL BEFORE FABRICATION.
4. FIELD VERIFY ALL DIMENSIONS PRIOR TO SUBMISSION OF SHOP DRAWINGS AND FABRICATION.
5. SUPPLY AND INSTALL ALL NUTS, BOLTS AND GASKETS REQUIRED FOR THE WORK.
6. FULL WEIGHT OF PUMP BARREL SHALL BE SUPPORTED ON BOTTOM FLOOR.
7. PAINT INTERIOR OF ALL FABRICATED PIPING WITH EPOXY COATING.
8. PAINT EXTERIOR WITH RED OXIDE PRIMER & 2 COATS FINISH.
9. DESIGN PRESSURE: PUMP BARREL 100PSI, OUTLET MAIFOLD 250PSI.
10. DELIVER SALVAGED EQUIPMENT TO OWNERS SHOP.

FILE NAME: 127\05-200\STEEL PIPE\SHEET 8 - 5700 WEST SECTIONS.DWG
FILE DATE: JANUARY 23, 1997 (SDW)
ORIGIN: DVIEW:
XREF FILE NAME(S): Y:\127\02-500\STEEL PIPE ALTERNATIVE\SLCWCDTB.DWG
PLOT OPTIONS
PLOT IN = DWG UNITS: 1=24
PLOT AREA:
12/96

HANSEN ALLEN & LUCE INC.
CONSULTANTS ENGINEERS
Salt Lake City Utah

REGISTERED PROFESSIONAL ENGINEER — NO. 186689 — VERN G. CONDER — 12-7-97 — STATE OF UTAH
PROJECT ENGINEER

DESIGNED	VGC	3			
DRAFTED	LDT	2			
CHECKED	VGC	1	9/1/97	AS BUILT	
DATE	JAN. 1997	NO.	DATE	REVISIONS	BY / APVD.

SCALE: 1" = 2'-0"

VERIFY SCALE: 0" 1" — BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

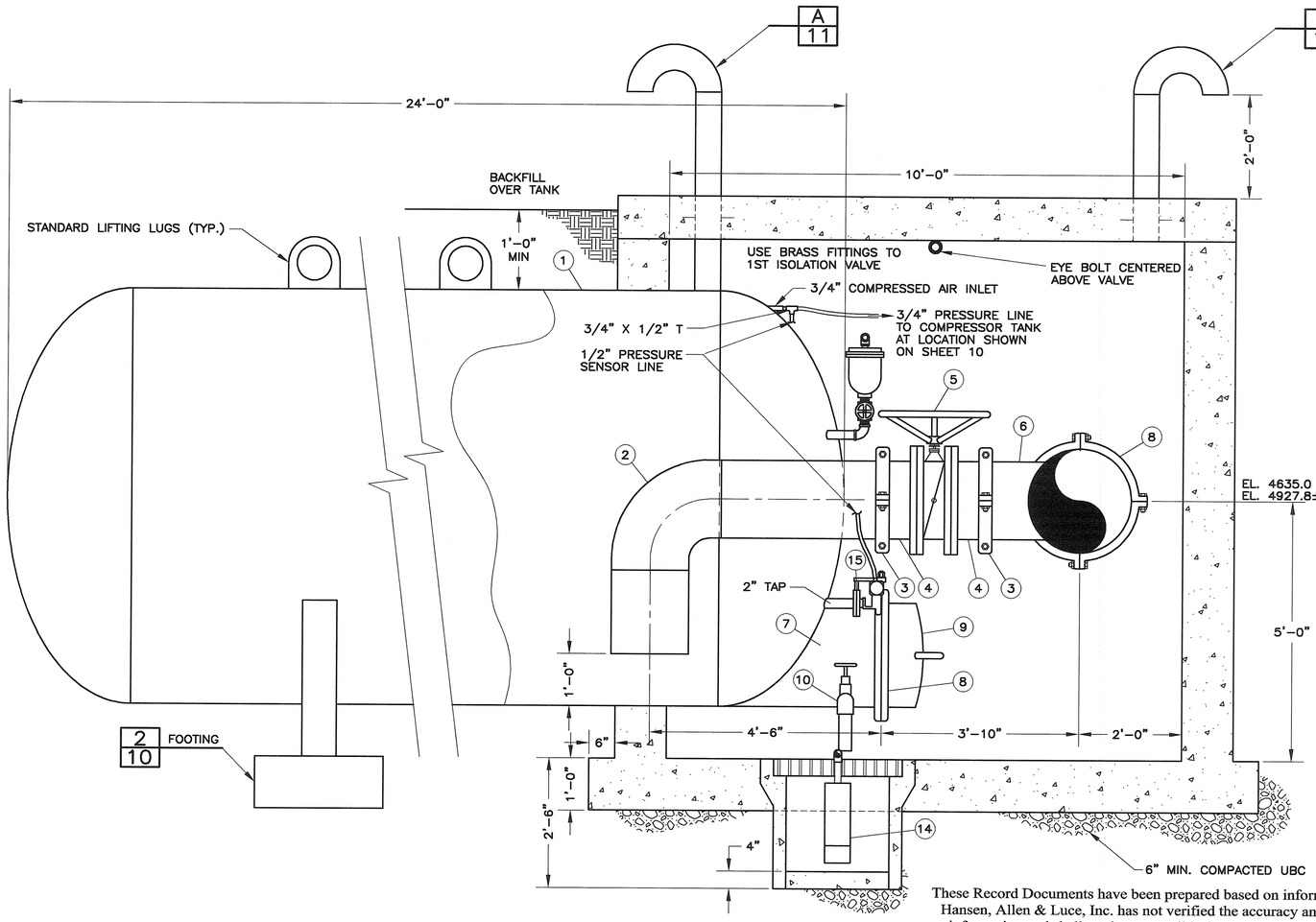
3600 WEST AND 5700 WEST, 10200 SOUTH PUMP STATIONS IMPROVEMENTS

5700 WEST SECTIONS

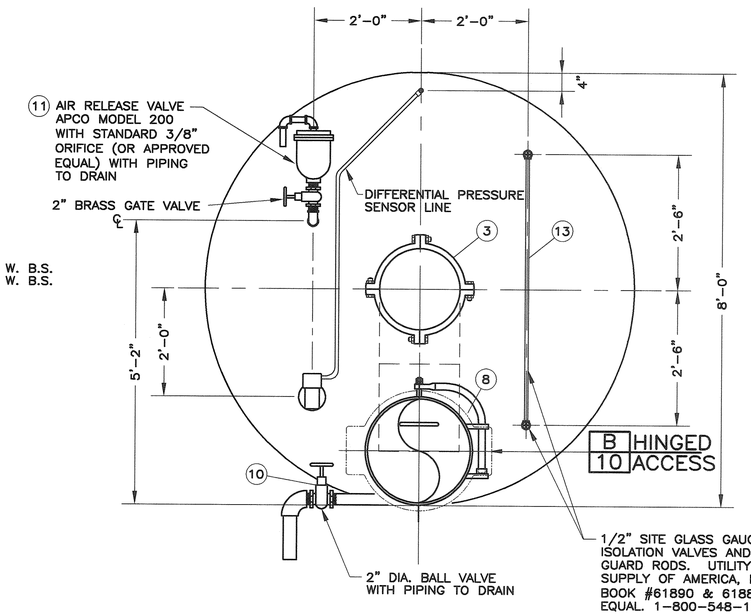
SHEET NO. 8 OF 25

127-05-200

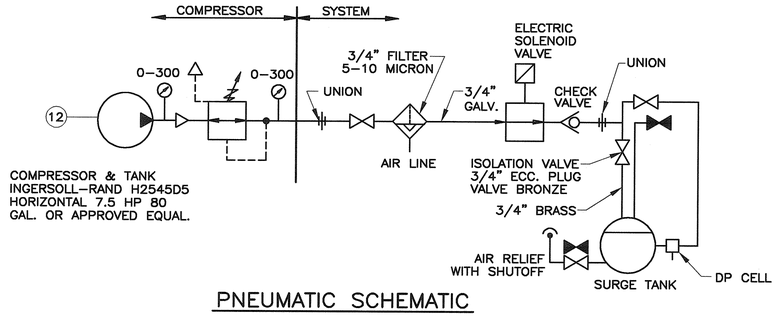
Proj#96CI098F



ELEVATION VIEW



END VIEW OF SURGE TANK



PNEUMATIC SCHEMATIC

CONTROL ELEVATIONS

ALARM	LOCATION	
	3600 W.	5700 W.
UPPER ALARM	+74"	+74"
AIR ON	+68"	+68"
AIR OFF	+65"	+65"
LOWER ALARM	+60"	+60"
TANK BOTTOM	0"	0"

NOTES:
1. TANK VOLUME SHALL BE 1150 CF± (8,600 GAL±).
2. ASME INSPECTED, STAMPED AND TESTED. WORKING PRESSURE 200 PSI – DESIGN TESTED @ 250 PSI
3. PAINT INTERIOR WITH EPOXY COATING 10-12 MIL MIN.
4. PAINT EXPOSED EXTERIOR WITH RED OXIDE. BURIED SURFACES COATED W/ TAR WRAP OR APPROVED COATING
5. SURGE TANK TO BE FABRICATED BY A MANUFACTURER WITH A MINIMUM OF 5 YEARS EXPERIENCE DESIGNING AND FABRICATING PRESSURE VESSELS.
6. FABRICATOR SHALL SUBMIT SHOP DRAWINGS AND STAMPED CALCULATIONS PREPARED BY A PROFESSIONAL ENGINEER FOR APPROVAL BEFORE FABRICATION.

EQUIPMENT, VALVE AND FITTING SCHEDULE

NO.	DESCRIPTION	SIZE	JOINT	REMARKS
1.	SURGE TANK			SEE NOTES
2.	PIPE & 90° BEND	18"	PE X GE	STEEL
3.	COUPLING	18"	GE	VICTAULIC #77 OR EQUAL
4.	FLANGED ADAPTER NIPPLE	18"	FLG X GE	
5.	BUTTERFLY VALVE	18"	FLG	OWNER ORDERED
6.	TEE	24" X 18"	GE	SEE SHEET NO. 10
7.	PIPE WITH TAP FOR DRAIN	24"	GE	ACCESS MANWAY
8.	COUPLING	24"	GE	VICTAULIC #77 OR EQUAL
9.	END CAP W/HANDLE	24"	GE	
10.	DRAIN LINE & BALL VALVE (200 PSI)	2"	THD	WITH FITTINGS TO DRAIN
11.	AIR RELEASE VALVE & PIPING	2"	THD	APCO 200 – 3/8" ORIFICE
12.	COMPRESSOR & AIR LINE			SEE PNEUMATIC SCHEMATIC
13.	SITE GLASS GAUGE	1/2"		
14.	SUMP PUMP W/PIPING (PVC)	2"		GRAINGER #3P579 OR EQ.
15.	2" DIFFERENTIAL PRESSURE TAP, SENSOR AND 1/2" PRESSURE LINE		FLG	

HANSEN ALLEN & LUCE INC.
CONSULTANTS ENGINEERS
Salt Lake City Utah

REGISTERED PROFESSIONAL ENGINEER
NO. 186689
VERN G. CONDER
6-7-97
STATE OF UTAH
PROFESSIONAL ENGINEER

DESIGNED	VGC	3		
DRAFTED	JVH	2		
CHECKED	VGC	1	9/1/97	AS BUILT
DATE	JAN. 1997	NO.	DATE	REVISIONS

BY | APVD.

SCALE: N.T.S.

VERIFY SCALE: 0" 1" BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SOUTH PUMP STATIONS IMPROVEMENTS

SURGE TANK

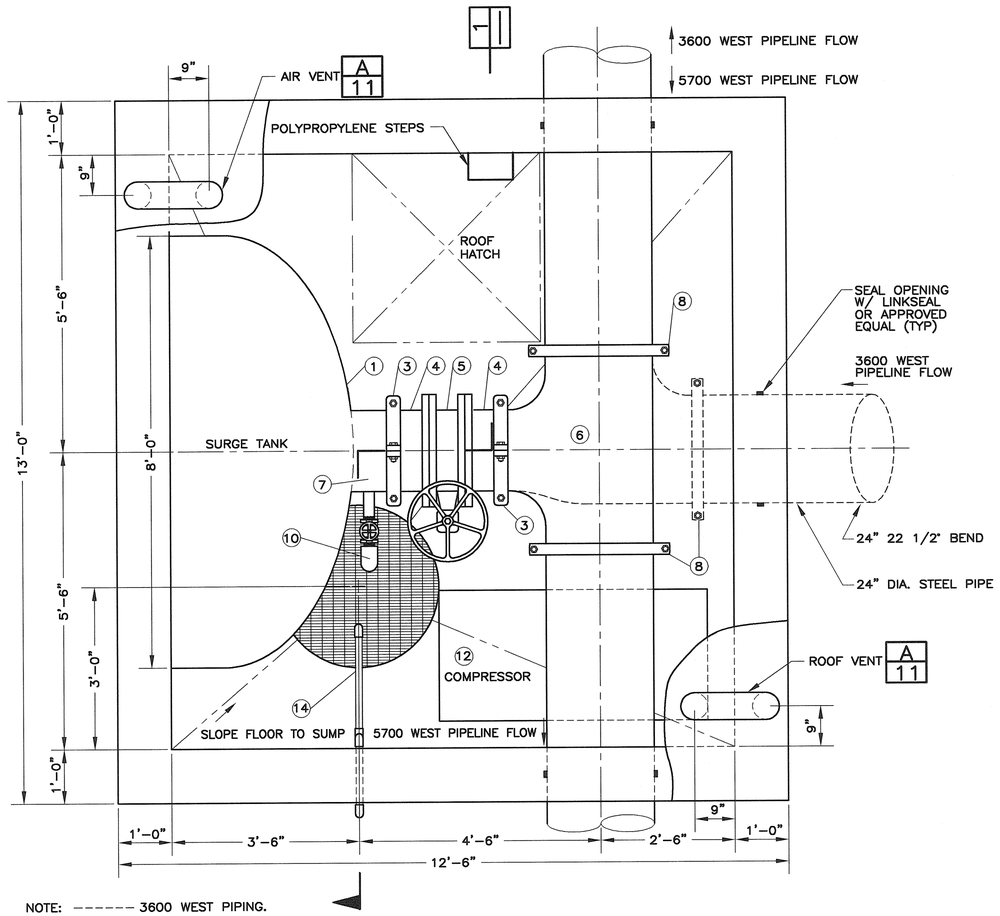
SHEET NO. 9 OF 25

127-05-200

12/96

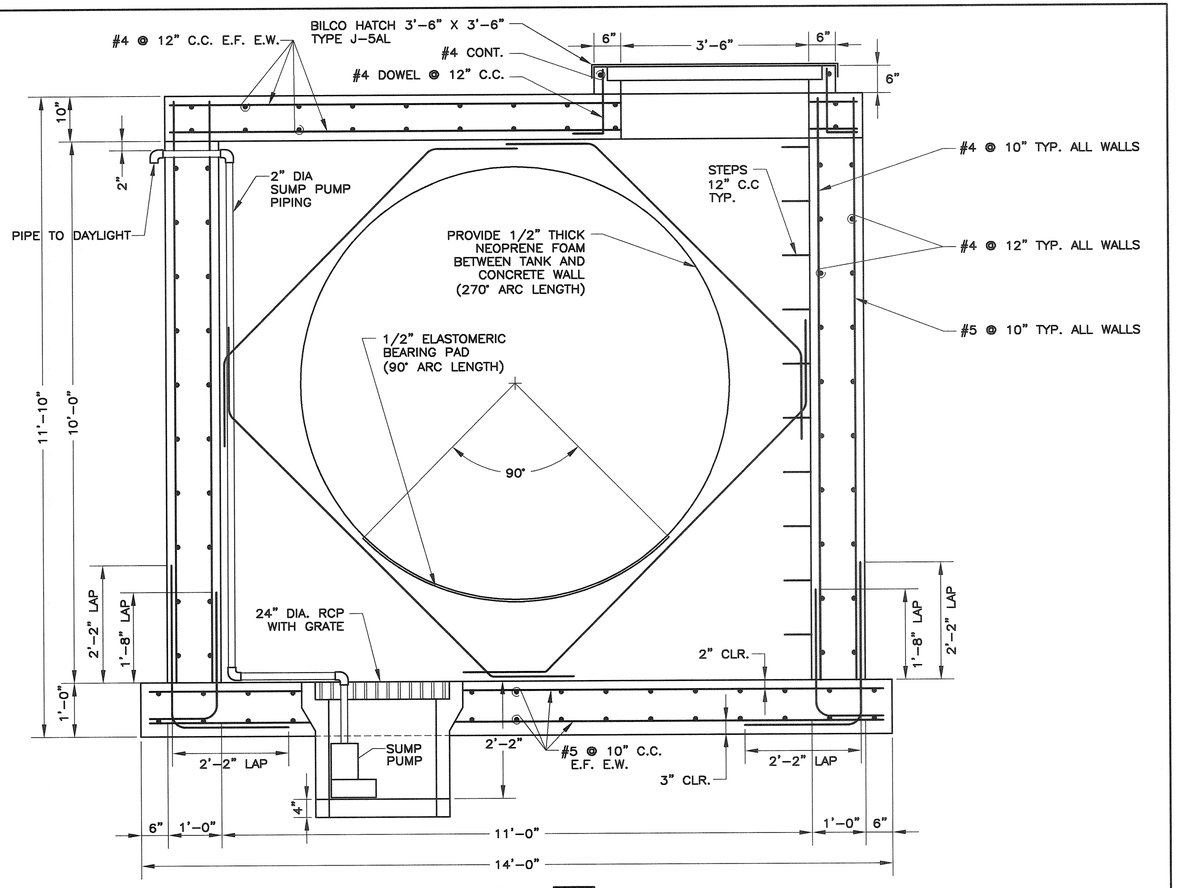
Proj#96CI098F

FILE NAME: 127\05-200\STEEL PIPE ALTERNATIVE\SURGE TANK.DWG
FILE DATE: JANUARY 23, 1997 (JVH)
PLOT OPTIONS
PLOT IN = DWG UNITS: 1=16
PLOT AREA:
ORIGIN:
DVIEW:
XREF FILE NAME(S): Y:\127\02-500\STEEL PIPE ALTERNATIVE\SLCWCDTB.DWG



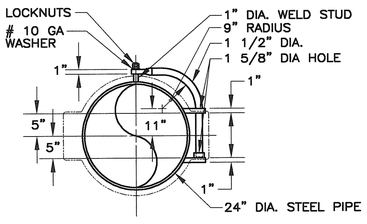
NOTE: ------ 3600 WEST PIPING.

PLAN VIEW A 3 | A 6

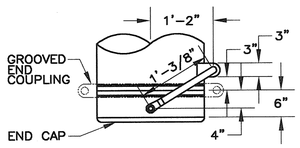


SECTION 1

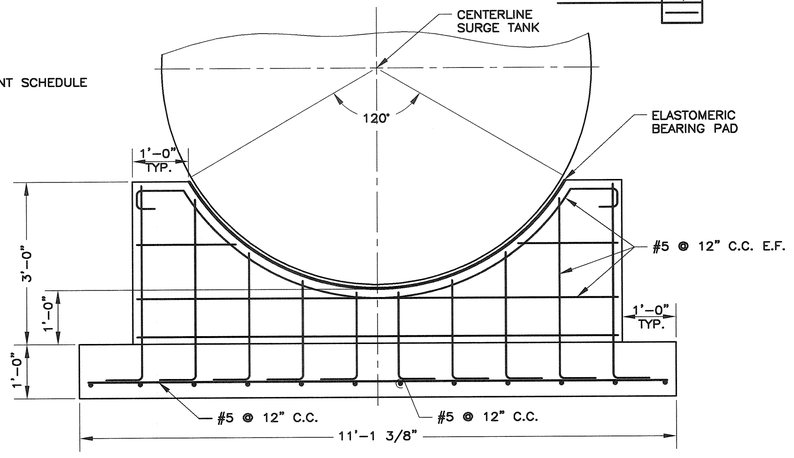
NOTE:
1. SEE SHEET 9 FOR PIPING & EQUIPMENT SCHEDULE
2. CONCRETE SHALL BE CLASS 4000 PSI



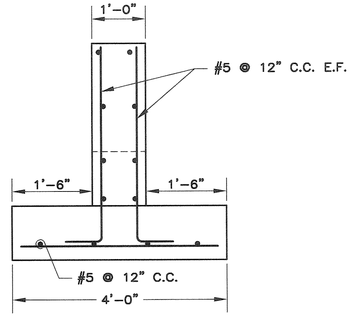
SECTION



PLAN



FRONT SECTION



END SECTION

24" HINGED ACCESS B 9
N.T.S.

FOOTING DETAIL 2

These Record Documents have been prepared based on information provided by others. Hansen, Allen & Luce, Inc. has not verified the accuracy and/or completeness of this information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

REGISTERED PROFESSIONAL ENGINEER — NO. 186689 — STATE OF UTAH — 12-7-97

DESIGNED	VGC	3					
DRAFTED	JVH	2					
CHECKED	VGC	1	9/1/97	AS BUILT			
DATE	JAN. 1997	NO.	DATE	REVISIONS	BY	APVD.	

HANSEN ALLEN & LUCE INC. — CONSULTANTS ENGINEERS — Salt Lake City Utah — PROJECT ENGINEER

SCALE 3/4"=1'-0"

VERIFY SCALE 0" 1" BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SOUTH PUMP STATIONS IMPROVEMENTS

SURGE TANK VAULT

SHEET NO. 10 OF 25

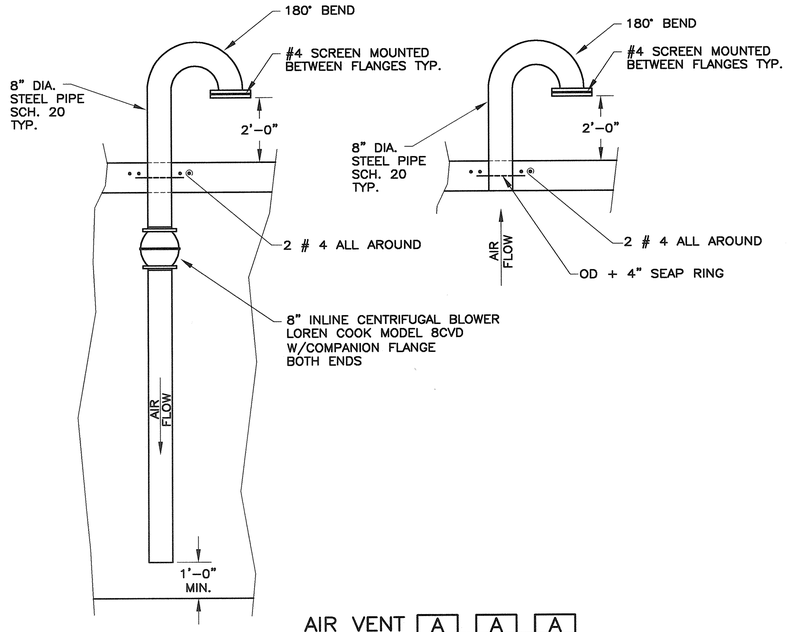
127-05-200

127.05.200.010

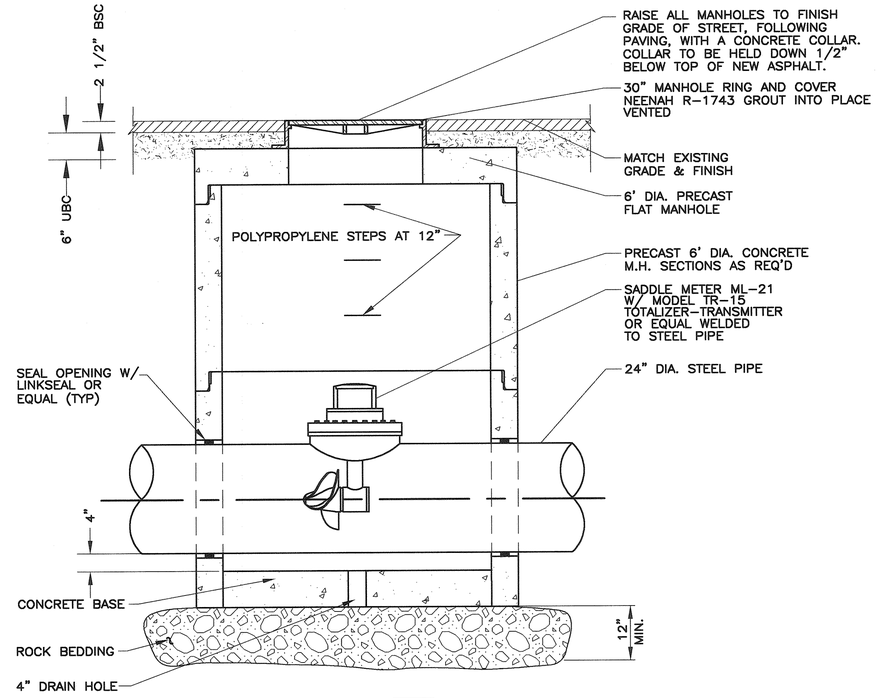
Proj#96CI098F

FILE NAME: 127\05-200\STEEL PIPE ALTERNATIVE\SURGE TANK VAULT.DWG
FILE DATE: JANUARY 20, 1997 (LDT)
PLOT OPTIONS
PLOT IN = DWG UNITS: 1=16
PLOT AREA:
ORIGIN:
DVIEW:
XREF FILE NAME(S): Y:\127\02-500\STEEL PIPE ALTERNATIVE\SLCWCDTB.DWG

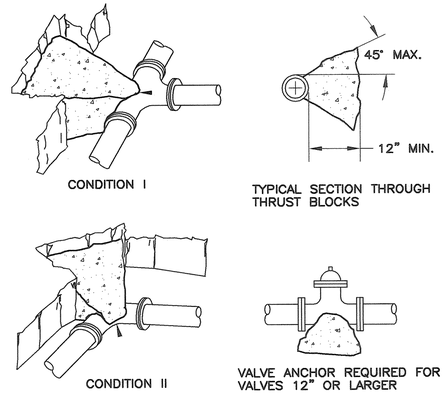
12/96



AIR VENT DETAILS [A 3] [A 9] [A 10]



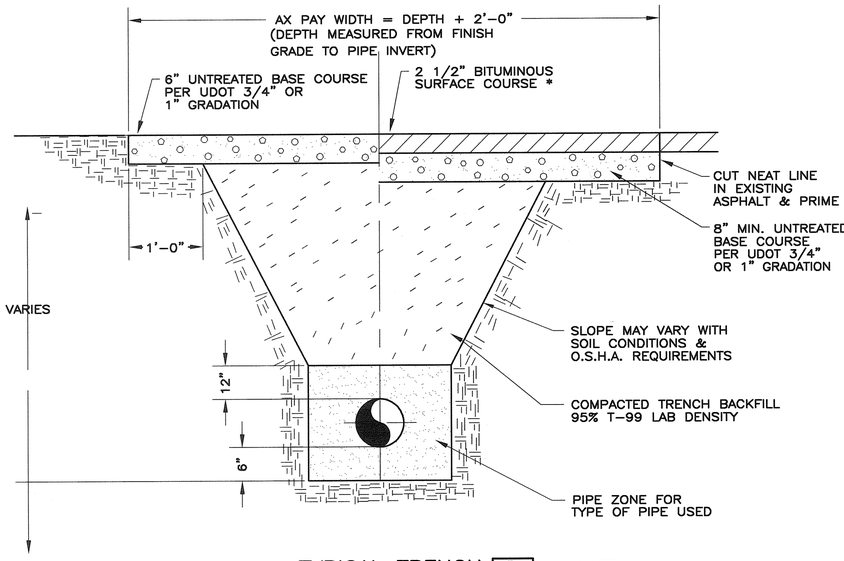
METER DETAILS [B 3]



THRUST BLOCK BEARING AREA IN SQ. FEET

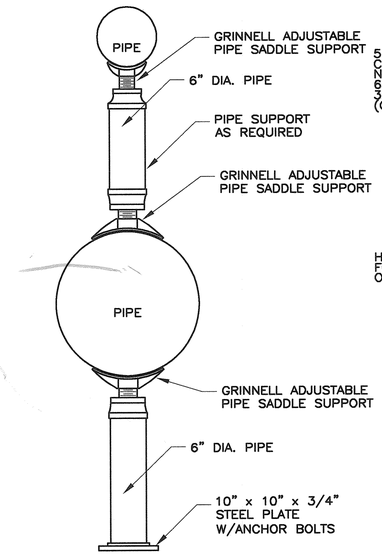
PIPE SIZE (IN.)	CONDITION							
	I	II	III	IV	V	VI	VII	VIII
4	2.6	3.3	2.6	1.3	1.3	2.0	3.3	2.6
6	4.6	6.5	3.9	2.0	2.6	3.3	6.5	4.6
8	7.8	11.0	5.9	3.3	3.9	5.9	11.0	7.8
10	12.4	17.5	9.8	5.2	6.5	9.1	17.5	12.4
12	17.5	24.8	13.6	7.8	9.1	12.3	24.8	17.5
14	24.0	33.8	18.2	9.7	12.3	16.9	33.8	24.0
16	31.1	44.0	23.8	12.7	15.5	23.2	44.0	31.1
20	48.6	68.8	37.2	19.8	24.2	36.6	68.8	48.6
24	89.8	90.1	48.8	24.9	–	–	–	–

NOTE:
EPOXY LINE & COAT STEEL PIPE

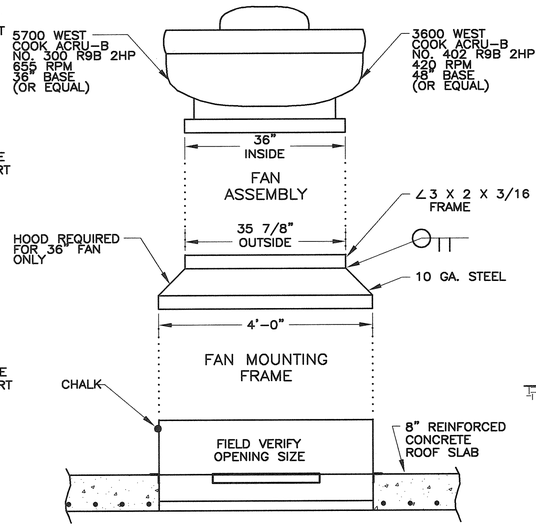


TYPICAL TRENCH SECTION [D —]

*NOTE:
1 1/2" OVERLAY REQ'D AT 3600 W. PUMP STA. FOR ENTIRE PARKING AREA



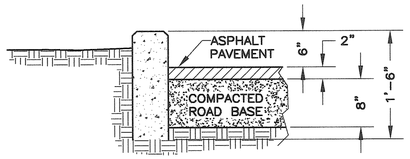
PIPE SUPPORT DETAILS [E TYP]



EXISTING HATCH FRAME [G 4] [G 7]

NOTES:
1. ALL THRUST BLOCK BEARING FACES SHALL BE POURED AGAINST UNDISTURBED SOIL OR APPROVED COMPACTED BACKFILL.
2. CONCRETE SHALL BE CLASS 6.0-B-3000.
3. ALL THRUST BLOCK SIDES SHALL BE FORMED.
4. CALCULATED ON 225 LB. TEST PRESSURE AND ALLOWABLE BEARING PRESSURE OF 2000 LBS. PER SQUARE FOOT.
5. IN POORER SOILS SPECIAL DESIGN IS REQUIRED.

TYPICAL THRUST BLOCKING [C 3]



CURB & PAVEMENT DETAILS [F 3] [F 6]

PIPE SUPPORT DETAILS [E TYP]

FILE NAME: 127\05-200\STEEL PIPE ALTERNATIVE\MISCELLANOUS DETAILS.DWG PLOT OPTIONS PLOT IN = DWG UNITS: 1=1 PLOT AREA: 33.22.5
FILE DATE: JANUARY 23, 1997 (SDM) ORIGIN: DVIEW: XREF FILE NAME(S): Y:\127\02-500\STEEL PIPE ALTERNATIVE\SLCWCDTB.DWG

HANSEN ALLEN & LUCE INC.
CONSULTANTS ENGINEERS
Salt Lake City Utah
REGISTERED PROFESSIONAL ENGINEER NO. 186689 VERN G. CONDER 1-7-97 STATE OF UTAH
PROJECT ENGINEER

DESIGNED VGC	3				
DRAFTED DRB	2				
CHECKED VGC	1	9/1/97	AS BUILT		
DATE JAN. 1997	NO.	DATE	REVISIONS	BY	APVD.

SCALE NOT TO SCALE

VERIFY SCALE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

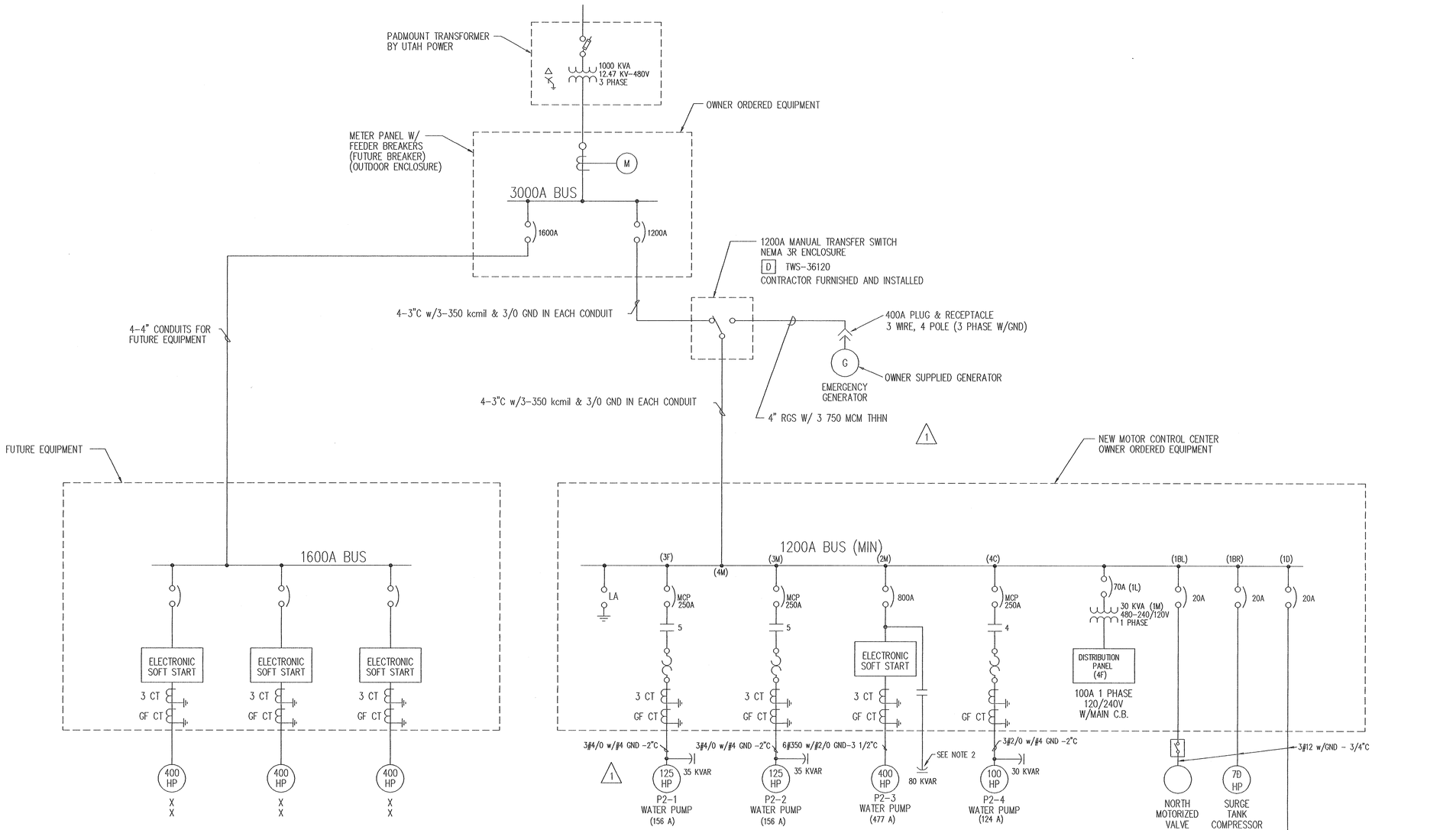
SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SOUTH PUMP STATIONS IMPROVEMENTS
MISCELLANEOUS DETAILS

SHEET NO. 11 OF 25
127-05-200

12/96

Proj#96CI098F



NOTES:

1. POWER FACTOR CORRECTION CAPACITORS TO BE SELF–HEALING, INTERNALLY PROTECTED, w/DISCHARGE RESSISTORS & NEMA 12 ENCLOSURES ABB or EQUAL.
2. POWER CABLES TO 80KVAR CAPACITOR TO BE 10FT. MINIMUM IN LENGTH.

REGISTERED PROFESSIONAL ENGINEER #124615 IVAN KENISON STATE OF UTAH

PLOT OPTIONS: PLOT IN = DWG UNITS; PLOT AREA:
ORIGIN: XREF FILE
DIVIEW: NAME(S)
FILE NAME: 96154E13
FILE DATE: 12/24/96

PRECISION SYSTEMS ENGINEERING INC. SALT LAKE CITY, UTAH — PROJECT # 96154

HANSEN ALLEN & LUCE INC. — CONSULTANTS ENGINEERS — Salt Lake City Utah

PROJECT ENGINEER

DESIGNED FDS
DRAFTED
CHECKED
DATE 24 DEC 96

NO.	DATE	REVISIONS	BY	APVD.
2	9/1/97	AS BUILT	R.C.	
1	2/4/97	2" WAS 3", ADDED CALLOUT FOR CONDUIT AND WIRE TO PLUG		
0	1–14–97	RELEASED FOR CONSTRUCTION		
A	12–31–96	GENERAL REVISION		

SCALE AS SHOWN

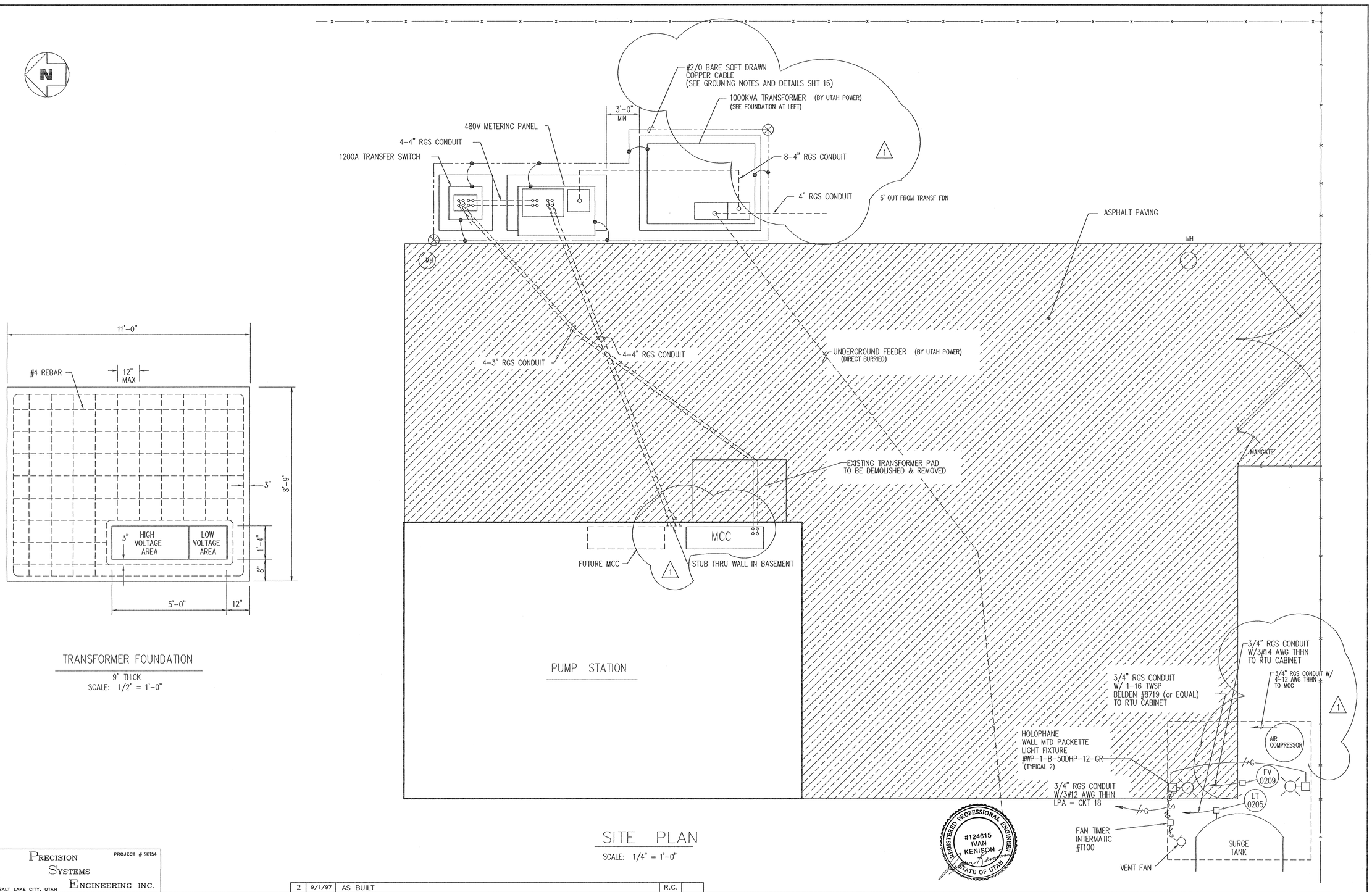
VERIFY SCALE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SO.
PUMP STATION IMPROVEMENTS
5700 W. ONE LINE DIAGRAM

SHEET NO. 13 OF 25
127–05–200

Proj#96CI098F



SITE PLAN

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

TRANSFORMER FOUNDATION

9" THICK

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

REGISTERED PROFESSIONAL ENGINEER #124615 IVAN KENISON STATE OF UTAH

PRECISION SYSTEMS ENGINEERING INC. SALT LAKE CITY, UTAH PROJECT # 96154

HANSEN ALLEN & LUCE INC. CONSULTANTS ENGINEERS Salt Lake City Utah

PROJECT ENGINEER

DESIGNED FDS
DRAFTED
CHECKED
DATE 10 JAN 97

NO.	DATE	REVISIONS	BY	APVD.
2	9/1/97	AS BUILT	R.C.	
1	2/4/97	CHANGED CONDUIT SIZES, ADDED COMPRESSOR AND FV-0209, AND GROUNDING		
0	1-21-97	RELEASED FOR CONSTRUCTION		
A	1-14-97	RELEASED FOR REVIEW		

SCALE AS SHOWN

VERIFY SCALE 0" 1" BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

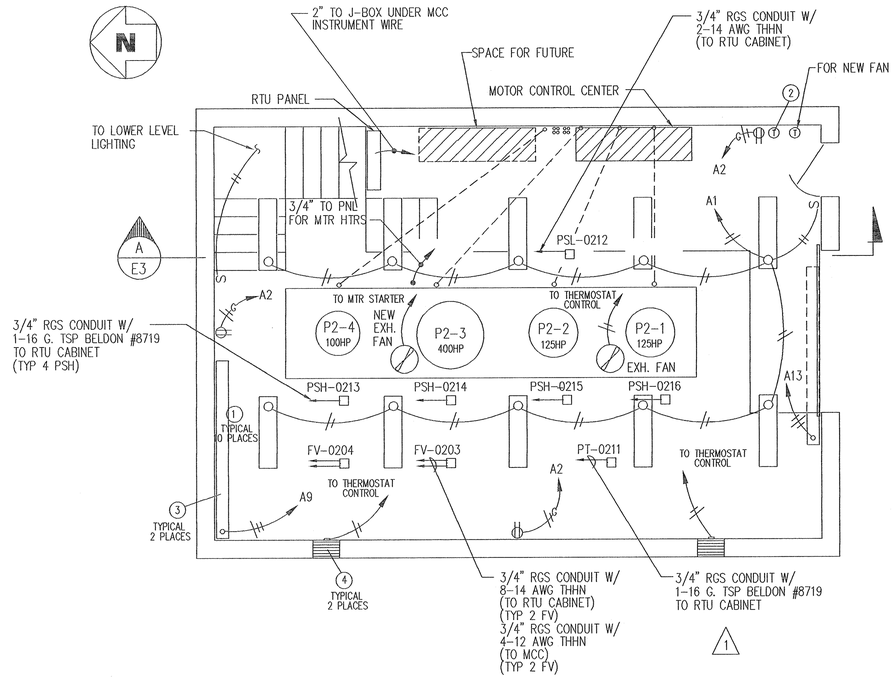
3600 WEST AND 5700 WEST, 10200 SO. PUMP STATION IMPROVEMENTS 5700 WEST SITE PLAN

SHEET NO. 21 OF 25

127-05-200

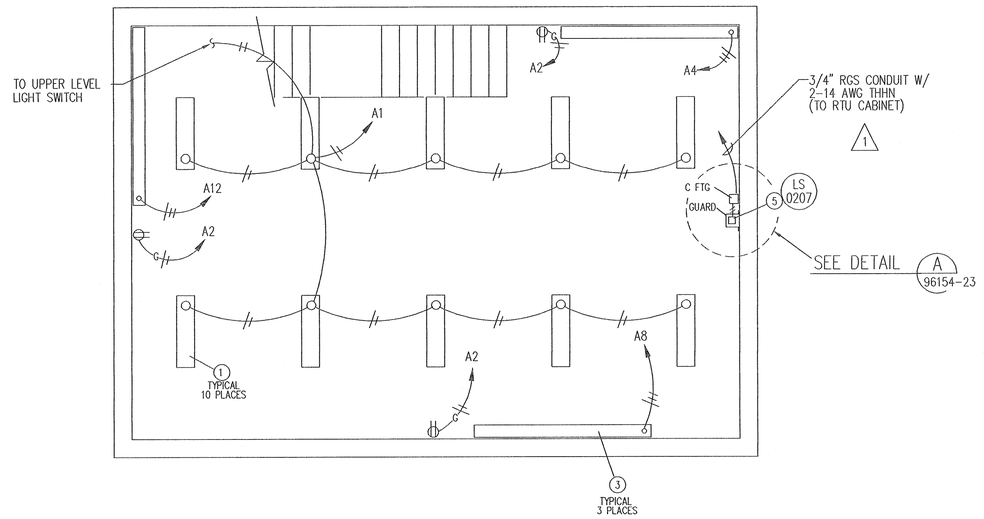
Proj#96CI098F

FILE NAME: 96154E21
FILE DATE: 1/10/97
PLOT OPTIONS
PLOT IN = DWG UNITS:
PLOT AREA:
ORIGIN:
DVIEW:
XREF FILE NAME(S)



UPPER FLOOR ELECTRICAL LAYOUT

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



LOWER FLOOR ELECTRICAL LAYOUT

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

NOTES:

1. MOTOR CONTROL CENTER, MOTORS, EXHAUST FAN OVER MOTOR P2-3 AND FLOOD LEVEL PROBE ARE NEW AS ARE INSTRUMENTS, PSL-0212,PSH-0213,PSH0214, PSH0215, PSH-0216,FV-0203, AND PT-0211. WIRING TO AND FROM ALL OF THESE DEVICES WILL BE NEW. FV-0204 IS EXISTING BUT NEEDS TO BE REWIRED FOR PLC CONTROL.

2. ALL OTHER ELECTRICAL EQUIPMENT IS EXISTING.

LIST of EQUIPMENT

ITEM	QTY	DESCRIPTION
1	20	LITHONIA #C240-120 W/2-120 FLOURESCENT LAMPS (EXISTING)
2	1	GRANGER #2E206 THERMOSTAT, CLOSE ON RISING TEMPERATURE (EXISTING)
3	5	SUNWARM #BC2D25 HEATER w/THERMOSTAT WALL MTD, 2' ABOVE FLOOR (EXISTING)
4	2	MOTORIZED INLET LOUVER (120V) (EXISTING)
5	1	HIGH WATER LEVEL PROBE McMASTER CARR 4767K21

REGISTERED PROFESSIONAL ENGINEER #124615 IVAN KENISON STATE OF UTAH

FILE NAME: 96154E22
FILE DATE: 12/24/96
PLOT OPTIONS
PLOT IN = DWG UNITS:
PLOT AREA:
ORIGIN:
DWIEW:
XREF FILE NAME(S)

PRECISION SYSTEMS ENGINEERING INC. SALT LAKE CITY, UTAH — PROJECT # 96154

HANSEN ALLEN & LUCE INC. — CONSULTANTS ENGINEERS, Salt Lake City Utah

PROJECT ENGINEER

DESIGNED	FDS
DRAFTED	
CHECKED	
DATE	24 DEC 96

NO.	DATE	REVISIONS	BY	APVD.
2	9-1-97	AS BUILT	R.C.	
1	1-27-97	ADDED INSTRUMENTS, REVISED NOTE 1		
0	1-21-97	RELEASED FOR CONSTRUCTION		
A	1-14-97	RELEASED FOR REVIEW		

SCALE AS SHOWN

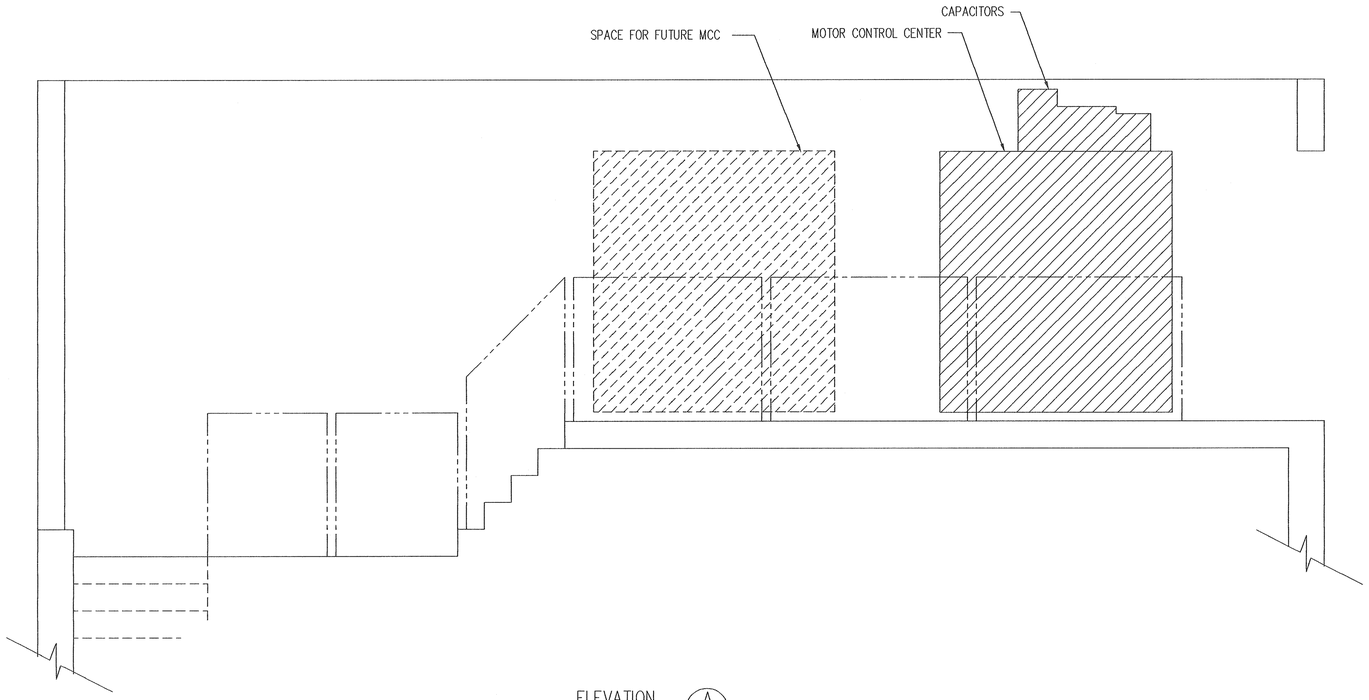
VERIFY SCALE 0" 1" BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SO.
PUMP STATION IMPROVEMENTS
5700 W. PLAN – ELECTRICAL LAYOUT

SHEET NO. 22 OF 25
127-05-200

Proj#96CI098F



ELEVATION A / E2
SCALE: 1/2"=1'-0"

WEST ELEVATION – ELECTRICAL EQUIPMENT
LOOKING EAST

PANEL A

120/240V 1 Φ 3W

D PANELBOARD
#QOC20MW225

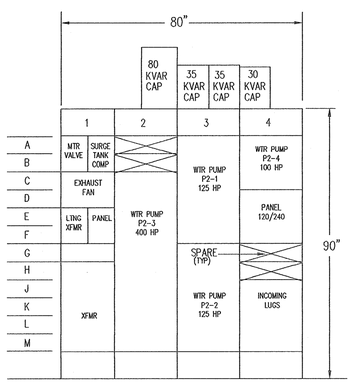
REPLACE EXISTING BREAKER WITH 1POLE, 20A GFI BREAKER

100A 2P

CIRCUIT FUNCTION	WATTS	CK	CK	WATTS	CIRCUIT FUNCTION
LIGHTING	1600	1	2	250	OUTLETS
INTAKE & EXHAUST FANS	500	3	4	1250	BASEBOARD HEATER
	500			1250	
CONTROL POWER	500	7	8	1250	BASEBOARD HEATER
BASEBOARD HEATER	1250	9		1250	
	1250		12	1250	BASEBOARD HEATER
BASEBOARD HEATER	1250	13		1250	
	1250		16	250	P.F.R. CIRCUIT
TELEMETERING PANEL	500	17	18	350	VAULT LIGHTING & VAULT VENT MOTOR
SPACE	1000	19	20	1000	SPACE

A WATTS = 9,450
B WATTS = 9,500
TOTAL WATTS = 18,950 TOTAL AMPS / Φ = 79.0A

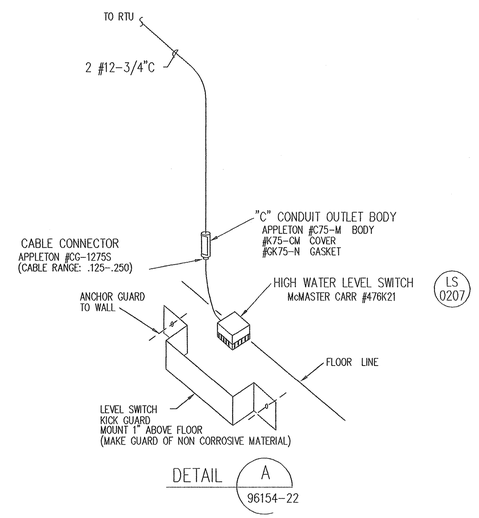
UNIT	NAMEPLATE	DESCRIPTION	CLASS SIZE HP CPT SIZE	BKR/SW POLES TRIP	UNIT FEATURES
1BL	NORTH MOTORIZED VALVE	HFD TWIN BREAKER		HFD 3 20	
1BR	SURGE TANK COMPRESSOR 7DHP	HFD TWIN BREAKER		HFD 3 20	
1D	EXHAUST FAN F2-1 2HP	HFD BREAKER		HFD 3 20	
1FL	LIGHTING TRANSFORMER	HFD TWIN BREAKER		HFD 3 70	
1FR	PANELBOARD	HFD TWIN BREAKER		HFD 3 100	
1M	TRANSFORMER	30 KVA 1 ph			
2M	WATER PUMP P2-3 400HP	EASY START EA08... W/80 KVAR CAPACITOR	510 0	3	2 Pilot Light (On, Run, Fast,Fwd) 1 2 Unit PB (Start/Stop) 1 3 Position Sel Sw (H-O-A) 1 ACM – Metering Module 1 Panel Elapsed Time Meter
3F	WATER PUMP P2-1 125HP	ADV. FVNR STARTER W/35 KVAR CAPACITOR	200 150 VA CPT	HMCP 3 400	1 Panel Elapsed Time Meter 2 Pilot Light (On, Run, Fast,Fwd) 1 2 Unit PB (Start/Stop) 1 3 Position Sel Sw (H-O-A) 1 ACM – Metering Module 2 N.C. Starter Aux Contacts 2 N.O. Starter Aux Contacts



480V MOTOR CONTROL CENTER
FRONT VIEW
SCALE: 1/2" = 1'-0"

UNIT	NAMEPLATE	DESCRIPTION	CLASS SIZE HP CPT SIZE	BKR/SW POLES TRIP	UNIT FEATURES
3M	WATER PUMP P2-2 125HP	ADV. FVNR STARTER W/35 KVAR CAPACITOR	125 150 VA CPT	HMCP 3 400	1 Panel Elapsed Time Meter 2 Pilot Light (On, Run, Fast,Fwd) 1 2 Unit PB (Start/Stop) 1 3 Position Sel Sw (H-O-A) 1 ACM – Metering Module 2 N.C. Starter Aux Contacts 2 N.O. Starter Aux Contacts
4C	WATER PUMP P2-4 100HP	ADV. FVNR STARTER W/30 KVAR CAPACITOR	100 200 VA CPT	HMCP 3 150	1 Panel Elapsed Time Meter 2 Pilot Light (On, Run, Fast,Fwd) 1 2 Unit PB (Start/Stop) 1 3 Position Sel Sw (H-O-A) 1 ACM – Metering Module 2 N.C. Starter Aux Contacts 2 N.O. Starter Aux Contacts
4F	PANELBOARD 100A 120/240V	PL1 PANELBOARD 10...			
4M	INCOMING MAIN LUGS	600MCM 4/PHASE Via			

REGISTERED PROFESSIONAL ENGINEER
#124615
IVAN KENISON
STATE OF UTAH



DETAIL A / 96154-22
WATER LEVEL SWITCH

PLOT OPTIONS
PLOT IN = DWG UNITS:
PLOT AREA:
XREF FILE NAME(S)
ORIGIN:
DVIEW:
FILE NAME: 96154E23
FILE DATE: 12/26/96

PRECISION SYSTEMS ENGINEERING INC.
SALT LAKE CITY, UTAH
PROJECT # 96154

CONSULTANTS ENGINEERS
Salt Lake City Utah

PROJECT ENGINEER

DESIGNED	FDS	1	9/1/97	AS BUILT
DRAFTED		0	1-21-97	RELEASED FOR CONSTRUCTION
CHECKED		A	1-14-97	RELEASED FOR REVIEW
DATE	26DEC96	NO.	DATE	REVISIONS

R.C.		BY	APVD.

SCALE AS SHOWN

VERIFY SCALE
0" 1"
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SO.
PUMP STATION IMPROVEMENTS
5700 W. ELECTRICAL EQUIP. ELEVS.

SHEET NO. 23 OF 25
127-05-200

Proj#96CI098F

XREF FILE NAME(S):

ORIGIN: DVIEW:

PLOT OPTIONS

PLOT IN = DWG UNITS:
PLOT AREA:

FILE NAME: 96154E25
FILE DATE: 1/2/97

POWER SUPPLY 24V 1.3A

F1 2A

TB3 3 +24 -24 4 TB3

MICRO 612

TB2 PUMP P2-1 RUN TB2 DI01 IN1
PUMP P2-1 FAIL DI02 IN2
PUMP P2-2 RUN DI03 IN3
PUMP P2-2 FAIL DI04 IN4
PUMP P2-3 RUN DI05 IN5
PUMP P2-3 FAIL DI06 IN6
PUMP P2-4 RUN DI07 IN7
PUMP P2-4 FAIL DI08 IN8
COM A
LS-0207 FLOOD ALARM DI09 IN9
PSL-0212 LOW SUCT. PRESS DI010 IN10
FUTURE DI011 IN11
RESET DI011 IN15
POWER FAILURE DI016 IN16
COM B

OUT 1A DO01 CR1
OUT 1B
OUT 2A DO02 CR2
OUT 2B
OUT 3A DO03 CR3
OUT 3B
OUT 4A DO04 CR4
OUT 4B
OUT 5 DO05 CR5
OUT 6
OUT 7
OUT 8
OUT 9
OUT 10
OUT 11
OUT 12

CR1 TB1 5 9 PUMP P2-1 CALL
CR2 PUMP P2-2 CALL
CR3 PUMP P2-3 CALL
CR4 PUMP P2-4 CALL
CR5 TB2 49 FV-0209

1

TO SOUTH JORDAN FT 0210 J5 J1 J1 J4 4-20 AI01
FLOW RATE & TOTALIZER DISPLAY
SYSTEM DISCHARGE PRESSURE PT 0211 AI02
J5 SYSTEM DISCHARGE PRESSURE DISPLAY
TANK T2-1 LEVEL SIGNAL LT 0205 AI03
TANK T2-1 LEVEL DISPLAY
SURGE TANK LEVEL LT 0208 AI04

TB1 IN18

1

DISCRETE MODULE BDAP-220

P2-1 START TB2 34 TB2 33 IN 1
P2-2 START 36 35 IN 2
P2-3 START 38 37 IN 3
P2-4 START 40 39 IN 4
PSH-0213 42 41 IN 5
PSH-0214 44 43 IN 6
PSH-0215 46 45 IN 7
PSH-0216 48 47 IN 8

TB3 .16 A .16 A

OUT 1A LOW SUCTION PRESS ALARM
OUT 1B SURGE TANK OUT OF RANGE ALARM
OUT 2A DISCHARGE HI PRESS ALARM
OUT 2B
OUT 3A CR6
OUT 3B CR7
OUT 4A CR8
OUT 4B CR9

FLOOD ALARM
CR6 FV-0203 OPEN
CR7 FV-0203 CLOSE
FV-0203 MOV ENC
CR8 FV-0204 OPEN
CR9 FV-0204 CLOSE
FV-0204 MOV ENC

OUTLET BOX

CB1 15 AMP

L1 13 R1 POWER FAILURE RELAY 14
TB3 120 VAC 60 Hz
N
G

MODICON PLC
G +24 -24
MICRO 612

PLC POWER SUPPLY 24 VDC
I/O POWER SUPPLY 24 VDC
RADIO POWER SUPPLY 12 VDC

TB3 F3 2A
TB3 F1 2A
TB3 F2 3A

GND NEUT AC

250 VA 120 VAC UPS

120 V POWER WIRING DIAGRAM

SEE DRAWINGS ASSOCIATED WITH VOLUME 3 OF THE OPERATIONS AND MAINTENANCE MANUAL

REGISTERED PROFESSIONAL ENGINEER 176615 KENISON STATE OF UTAH

PRECISION SYSTEMS ENGINEERING INC. SALT LAKE CITY, UTAH PROJECT # 95156

HANSEN ALLEN & LUCE INC. CONSULTANTS ENGINEERS Salt Lake City Utah

DESIGNED FDS
DRAFTED
CHECKED
PROJECT ENGINEER
DATE 2 JAN 97

NO.	DATE	REVISIONS	BY	APVD.
2	9-1-97	AS BUILT	R.C.	
1	1-27-97	ADDED DISCETE MODULE, LT-0208, AND FV-0209		
0	1-21-97	RELEASED FOR CONSTRUCTION		
A	1-14-97	RELEASED FOR REVIEW		

SCALE NONE

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SALT LAKE COUNTY WATER CONSERVANCY DISTRICT

3600 WEST AND 5700 WEST, 10200 SO.
PUMP STATION IMPROVEMENTS
5700 W. RTU I/O & WIRING DIAGRAM

SHEET NO. 25 OF 25
127-05-200

Proj#96CI098F

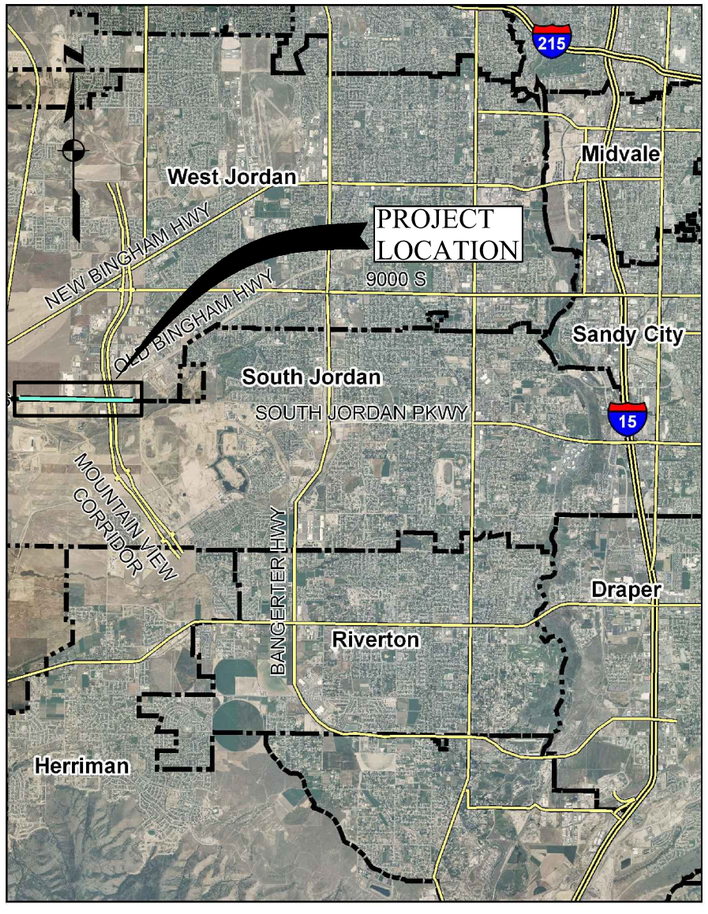
APPENDIX D

2012 – 10200 South Pipeline (Upstream)
Applicable Drawings

DRAWINGS FOR CONSTRUCTION OF

10200 SOUTH PIPELINE PROJECT

Jordan Valley Water Conservancy District



INDEX OF DRAWINGS			
SHT NO.	DWG NO.	DESCRIPTION	CAD FILE NAME
		GENERAL	
1	G-1	PROJECT LOCATION MAP AND INDEX OF DRAWINGS	100805.01_G-01.dwg
2	G-2	DRAWING INDEX MAP AND SURVEY CONTROL	100805.01_G-02.dwg
3	G-3	OVERALL HYDRAULIC PROFILE AND DESIGN CRITERIA	100805.01_G-03.dwg
4	G-4	GENERAL NOTES AND SYMBOLS	100805.01_G-04.dwg
5	G-5	ABBREVIATIONS	100805.01_G-05.dwg
6	G-6	SYMBOLS	100805.01_G-06.dwg
		PLAN & PROFILES	
7	PP-1	10200 SOUTH PLAN & PROFILE – 1	100805.01_PP-01.dwg
8	PP-2	10200 SOUTH PLAN & PROFILE – 2	100805.01_PP-02.dwg
9	PP-3	10200 SOUTH PLAN & PROFILE – 3	100805.01_PP-03.dwg
10	PP-4	10200 SOUTH PLAN & PROFILE – 4	100805.01_PP-04.dwg
11	PP-5	10200 SOUTH PLAN & PROFILE – 5	100805.01_PP-05.dwg
12	PP-6	10200 SOUTH PLAN & PROFILE – 6	100805.01_PP-06.dwg
13	PP-7	10200 SOUTH PLAN & PROFILE – 7	100805.01_PP-07.dwg
14	PP-8	10200 SOUTH PLAN & PROFILE – 8	100805.01_PP-08.dwg
15	PP-9	10200 SOUTH PLAN & PROFILE – 9	100805.01_PP-09.dwg
		CIVIL	
16	C-1	ENLARGED CIVIL PLANS – 1	100805.01_C-01.dwg
17	C-2	ENLARGED CIVIL PLANS – 2	100805.01_C-02.dwg
18	C-3	ENLARGED CIVIL PLANS – 3	100805.01_C-03.dwg
19	C-4	ZONE "C" PUMP STATION BLOWOFF DETAILS	100805.01_C-04.dwg
20	C-5	CROSS SECTIONS – 1	100805.01_C-05.dwg
21	C-6	POTHOLE DATA	100805.01_C-06.dwg
22	C-7	CATHODIC PROTECTION DETAILS Not included	100805.01_C-07.dwg
23	C-8	CATHODIC PROTECTION DETAILS Not included	100805.01_C-08.dwg
24	C-9	CATHODIC PROTECTION DETAILS Not included	100805.01_C-09.dwg
25	GC-1	CIVIL DETAILS – 1	100805.01_GC-01.dwg
26	GC-2	CIVIL DETAILS – 2	100805.01_GC-02.dwg
27	GC-3	CIVIL DETAILS – 3	100805.01_GC-03.dwg
28	GC-4	CIVIL DETAILS – 4	100805.01_GC-04.dwg

INDEX OF DRAWINGS			
SHT NO.	DWG NO.	DESCRIPTION	CAD FILE NAME
		STRUCTURAL/MECHANICAL DRAWINGS	
29	SM-1	ZONE "D" PUMP STATION CONNECTION VAULT PLAN	100805.01_SM-1.dwg
30	SM-2	ZONE "D" PUMP STATION CONNECTION VAULT SECTIONS AND DETAILS	100805.01_SM-2.dwg
31	SM-3	6000 WEST INTERCONNECTION VAULT PLAN AND SECTIONS	100805.01_SM-3.dwg
32	SM-4	6000 WEST INTERCONNECTION VAULT ROOF PLAN & SECTIONS	100805.01_SM-4.dwg
33	SM-5	6000 WEST INTERCONNECTION VAULT SECTION	100805.01_SM-5.dwg
34	SM-6	329+80 MAIN LINE VALVE VAULT	100805.01_SM-6.dwg
35	SM-7	329+80 MAIN LINE VALVE VAULT SECTIONS AND DETAILS	100805.01_SM-7.dwg
36	SM-8	ZONE "C" PUMP STATION CONNECTION VAULT PLAN	100805.01_SM-8.dwg
37	SM-9	ZONE "C" VALVE PUMP STATION CONNECTION SECTIONS AND DETAILS	100805.01_SM-9.dwg
38	GM-1	EQUIPMENT SCHEDULE	100805.01_GM-1.dwg
39	GM-2	GENERAL MECHANICAL DETAILS – 1	100805.01_GM-2.dwg
40	GM-3	GENERAL MECHANICAL DETAILS – 2	100805.01_GM-3.dwg
41	GM-4	GENERAL MECHANICAL DETAILS – 3	100805.01_GM-4.dwg
42	GS-1	GENERAL STRUCTURAL NOTES	100805.01_GS-1.dwg
43	GS-2	GENERAL STRUCTURAL DETAILS – 1	100805.01_GS-1.dwg
44	GS-3	GENERAL STRUCTURAL DETAILS – 2	100805.01_GS-3.dwg
45	GS-4	GENERAL STRUCTURAL DETAILS – 3	100805.01_GS-4.dwg
46	GS-5	GENERAL STRUCTURAL DETAILS – 4	100805.01_GS-5.dwg
47	GS-6	GENERAL STRUCTURAL DETAILS – 5	100805.01_GS-6.dwg
48	GS-7	GENERAL STRUCTURAL DETAILS – 6	100805.01_GS-7.dwg
		ELECTRICAL	
49	E-1	ELECTRICAL LEGENDS, SCHEDULES, AND NOTES	100805.01_E-01.dwg
50	E-2	ZONE "D" PUMP STATION CONNECTION VAULT ELECTRICAL SITE PLAN	100805.01_E-02.dwg
51	E-3	6000 WEST INTERCONNECTION VAULT ELECTRICAL SITE PLAN	100805.01_E-03.dwg
52	E-4	ZONE "C" PUMP STATION CONNECTION VAULT ELECTRICAL SITE PLAN	100805.01_E-04.dwg
53	E-5	ZONE "D" PUMP STATION CONNECTION VAULT ELECT/INSTRUMENT PLAN	100805.01_E-05.dwg
54	E-6	329+80 MAIN LINE VALVE VAULT ELECT/INSTRUMENT PLAN	100805.01_E-06.dwg
55	E-7	6000 W. INTERCONNECTION VAULT ELECT/INSTRUMENT PLAN	100805.01_E-07.dwg
56	E-8	ZONE "C" PUMP STATION CONNECTION VAULT ELECT/INSTRUMENT PLAN	100805.01_E-08.dwg
57	E-9	POWER ONE-LINE DIAGRAMS	100805.01_E-09.dwg
58	E-10	CONTROL ONE-LINE DIAGRAMS-1	100805.01_E-10.dwg
59	E-11	CONTROL ONE-LINE DIAGRAMS-2	100805.01_E-11.dwg
60	E-12	CONTROL ONE-LINE DIAGRAMS-3	100805.01_E-12.dwg
61	E-13	PANEL SCHEDULES	100805.01_E-13.dwg
62	E-CD-1	CONTROL DETAILS-1	100805.01_E-CD-1.dwg
63	E-SD-1	ELECTRICAL DETAILS-1	100805.01_E-SD-1.dwg
64	E-SD-2	ELECTRICAL DETAILS-2	100805.01_E-SD-2.dwg

RECORD DRAWINGS

Revisions Drawn by D. Lamph Date April 2012

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

CIVIL/MECHANICAL STRUCTURAL ELECTRICAL

Bowen Collins & Associates, Inc. Consulting Engineers

REVISIONS

NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVATION DISTRICT

10200 SOUTH PIPELINE PROJECT

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW CHECKED J. LUETTINGER APPROVED J. LUETTINGER

DESIGN DESIGN M. STAYNER DRAWN P. COLOSIMO

GENERAL

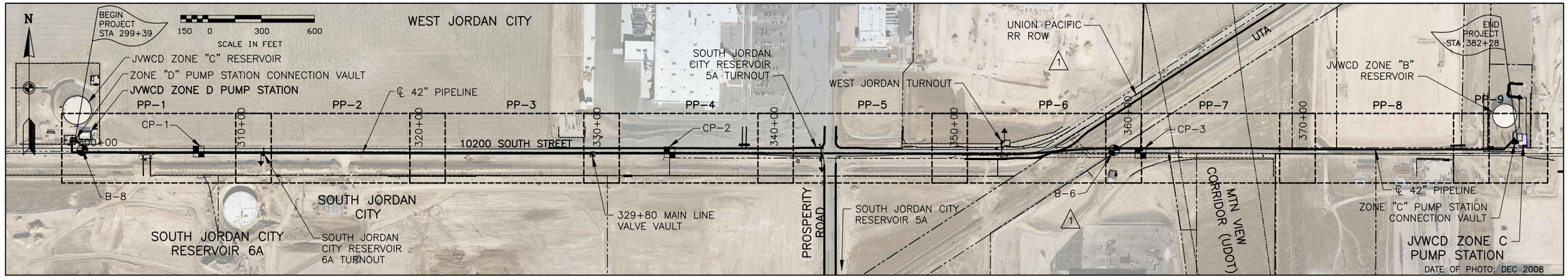
PROJECT LOCATION MAP AND INDEX OF DRAWINGS

DATE: NOVEMBER 2010 PROJECT NUMBER 010-08-05.01

DRAWING NO. G-1

SHEET 1 OF 64

P:\Jordan Valley WCD\10200 South Pipeline\2.0 - Design Phase\2.10 Drawings\Record drawings\R0100805_10200_G-01.dwg Apr17,2012 - 11:44am



10200 SOUTH PIPELINE HORIZONTAL ALIGNMENT

NUMBER	DESCRIPTION	STATION	NORTHING	EASTING	PI NORTHING	PI EASTING	DELTA	RADIUS	TANGENT	LENGTH
L1	POB	299+39.11	61977.83	34533.18						24.97
L2	PI	299+64.08	61977.87	34508.21						78.19
L3	PI	300+42.27	61899.68	34508.10						5300.30
C1	PC	353+42.57	61892.19	39808.39	61891.99	39945.50	006.2783	2500.00	N86° 56' 30.58"E	273.94
C2	PRC	356+16.51	61906.79	40081.81	61921.61	40218.23	006.2836	2500.00	N86° 56' 40.14"E	274.17
L4	PT	358+90.68	61921.40	40355.45						59.32
C3	PC	359+50.00	61921.31	40414.77	61921.27	40439.98	001.1557	2500.00	S89° 20' 09.15"E	50.43
C4	PRC	360+00.43	61920.73	40465.19	61920.16	40491.53	001.2076	2500.00	S89° 21' 42.65"E	52.69
L5	PT	360+53.12	61920.14	40517.88						22.00
C6	PC	360+75.12	61920.13	40539.88	61920.10	40579.42	001.8122	2500.00	N89° 07' 41.74"E	79.07
C7	PRC	361+54.19	61921.33	40618.94	61922.56	40658.46	001.8122	2500.00	N89° 07' 41.74"E	79.07
L6	PT	362+53.41	61922.53	40698.00						477.79
C8	PC	367+31.20	61922.25	41175.79	61922.21	41232.97	002.6207	2500.00	S88° 39' 19.04"E	114.35
C9	PRC	368+45.55	61919.56	41290.10	61916.96	41346.13	002.5707	2500.00	S88° 37' 49.05"E	112.17
L7	PT	369+57.72	61916.88	41402.23						1172.56
L8	PI	381+30.28	61915.16	42574.78						59.94
L9	PI	381+90.22	61957.48	42617.23						37.59

NOTE: C5 IS NOT USED

PROJECT SURVEY CONTROL

HORIZONTAL CONTROL: LOCAL
VERTICAL CONTROL: NAVD 88
SURVEY CONTROL AND TOPOGRAPHIC MAP ARE BASED ON INFORMATION PROVIDED BY: ROBINSON, BIEHN, AND BIEHN, INC. PROFESSIONAL LAND SURVEYORS. SALT LAKE CITY, UTAH 84117. (801) 266-1118
CONTACT: TED BIEHN, PLS

= SURVEY CONTROL MONUMENT

= GEOTECHNICAL BORING LOCATION

10200 SOUTH PIPELINE SURVEY CONTROL TABLE

NUMBER	NORTHING	EASTING	NAVD 88 ELEV	DESCRIPTION BC = BRASS CAP R&L = RING AND LID
CP1	61903.82	35221.87	5116.84	N ¼ SEC 15 MON R&L
CP2	61899.94	37874.08	5043.54	NW COR SEC 14 MON R&L
CP3	61896.17	40527.61	4976.58	N ¼ SEC 14 BC MON

GENERAL NOTES:

1. SEE PP SHEETS FOR UTILITY POTHOLE LOCATIONS.
2. GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY:
   GEOSTRATA
   781 WEST 14600 SOUTH
   BLUFFDALE, UT 84065
   (801) 501-0583
   CONTACT: HIRAM ALBA, P.E., P.G

RECORD DRAWINGS
Revisions Drawn by D. Lamph Date April 2012
THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

Bowen Collins & Associates, Inc. Consulting Engineers

REVISIONS: NO. | DATE | REV. BY | DESCRIPTION

JORDAN VALLEY WATER CONSERVATION DISTRICT
10200 SOUTH PIPELINE PROJECT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN M. STAYNER DRAWN B. ABEL
REVIEW CHECKED J. LUETTINGER APPROVED J. LUETTINGER

GENERAL
DRAWING INDEX MAP, AND SURVEY CONTROL
DATE: NOVEMBER 2010 PROJECT NUMBER 010-08-05.01

DRAWING NO. G-2
SHEET 2 OF 64

10200 SOUTH PIPELINE PROJECT
OVERALL PROFILE & HYDROSTATIC TEST DATA

RECORD DRAWINGS
Revisions Drawn by D. Lamph Date April 2012
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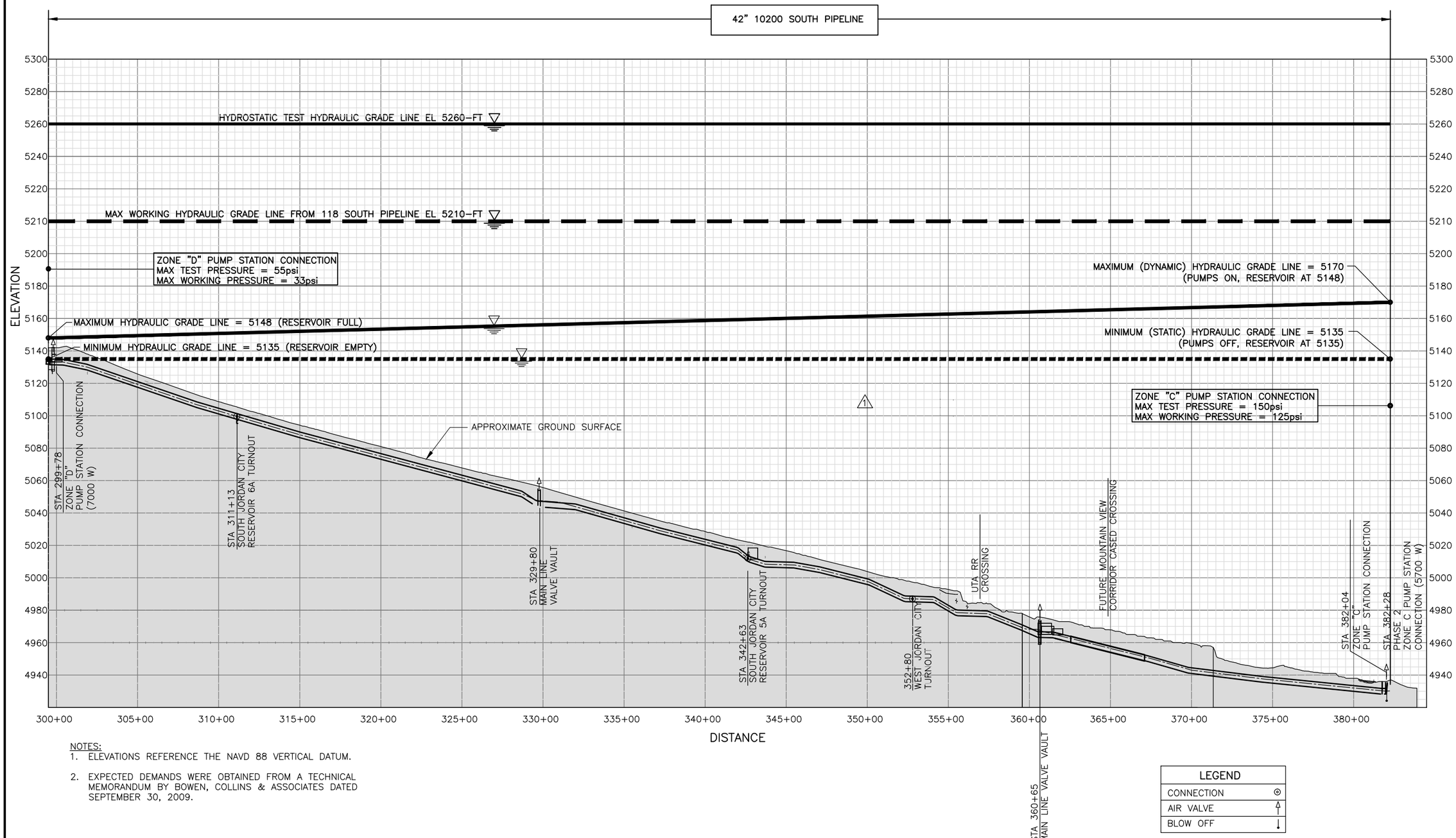


NOTES:
1. ELEVATIONS REFERENCE THE NAVD 88 VERTICAL DATUM.
2. EXPECTED DEMANDS WERE OBTAINED FROM A TECHNICAL MEMORANDUM BY BOWEN, COLLINS & ASSOCIATES DATED SEPTEMBER 30, 2009.

LEGEND	
CONNECTION	⊙
AIR VALVE	⇧
BLOW OFF	⇩

Bowen Collins & Associates, Inc. Consulting Engineers

REVISIONS

NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVATION DISTRICT
10200 SOUTH PIPELINE PROJECT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

REVIEW
CHECKED J. LEUTTINGER
APPROVED J. LEUTTINGER

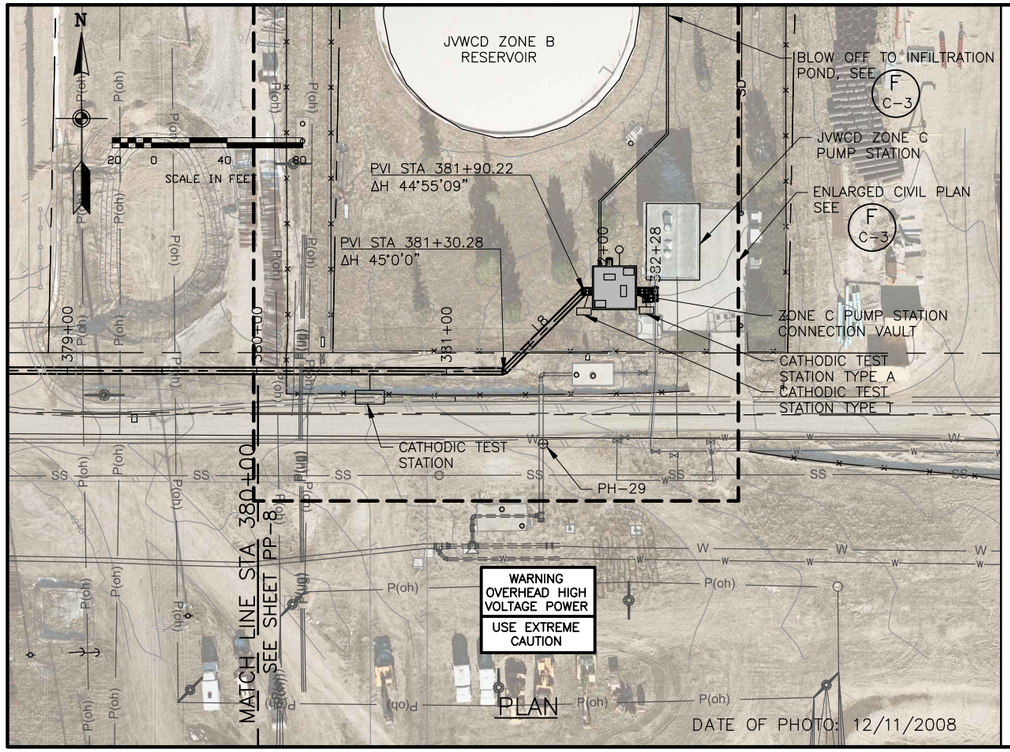
DESIGN
DESIGN M. STAYNER
DRAWN P. COLOSIMO

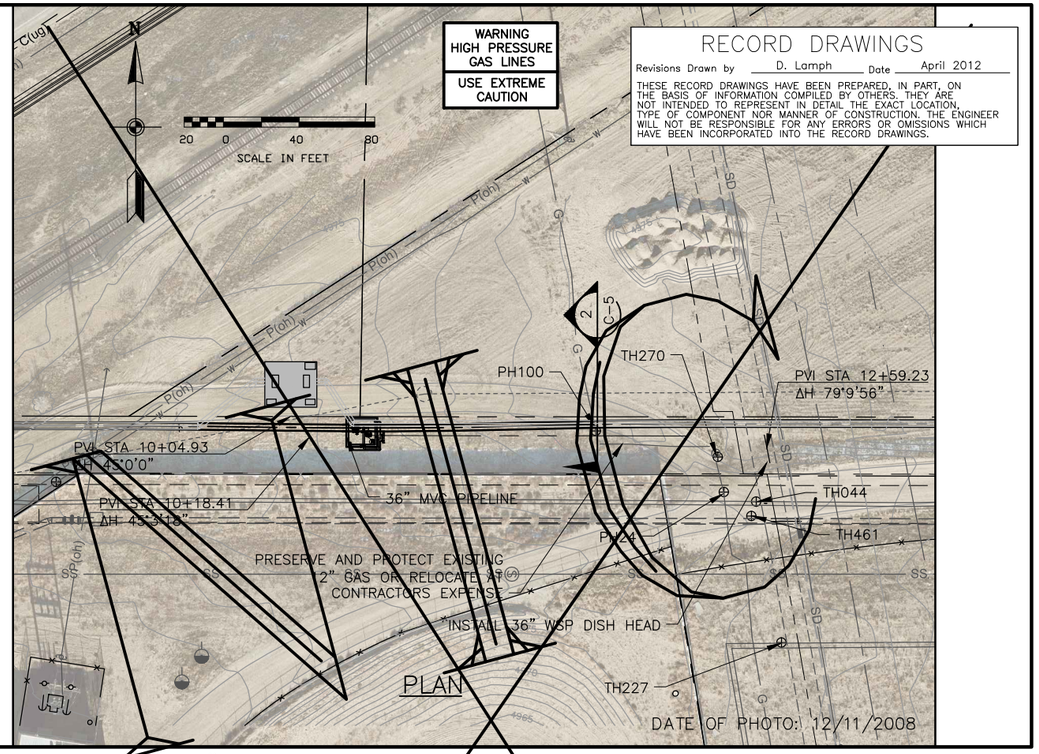
GENERAL
OVERALL HYDRAULIC PROFILE AND DESIGN CRITERIA

DATE: NOVEMBER 2010
PROJECT NUMBER 010-08-05.01

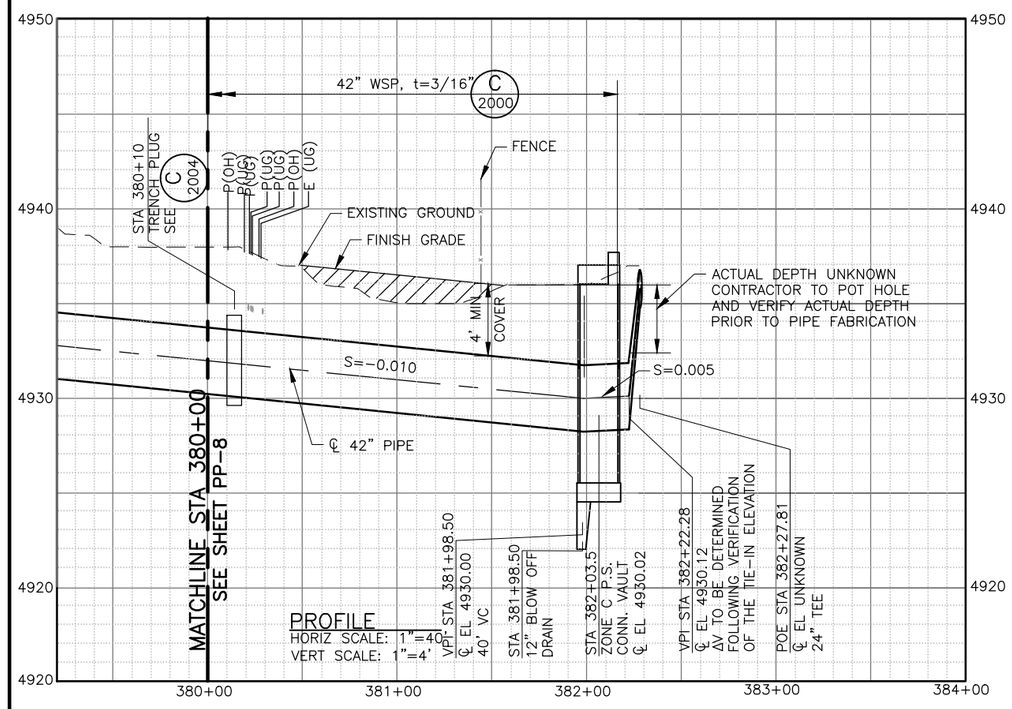
DRAWING NO. G-3
SHEET 3 OF 64

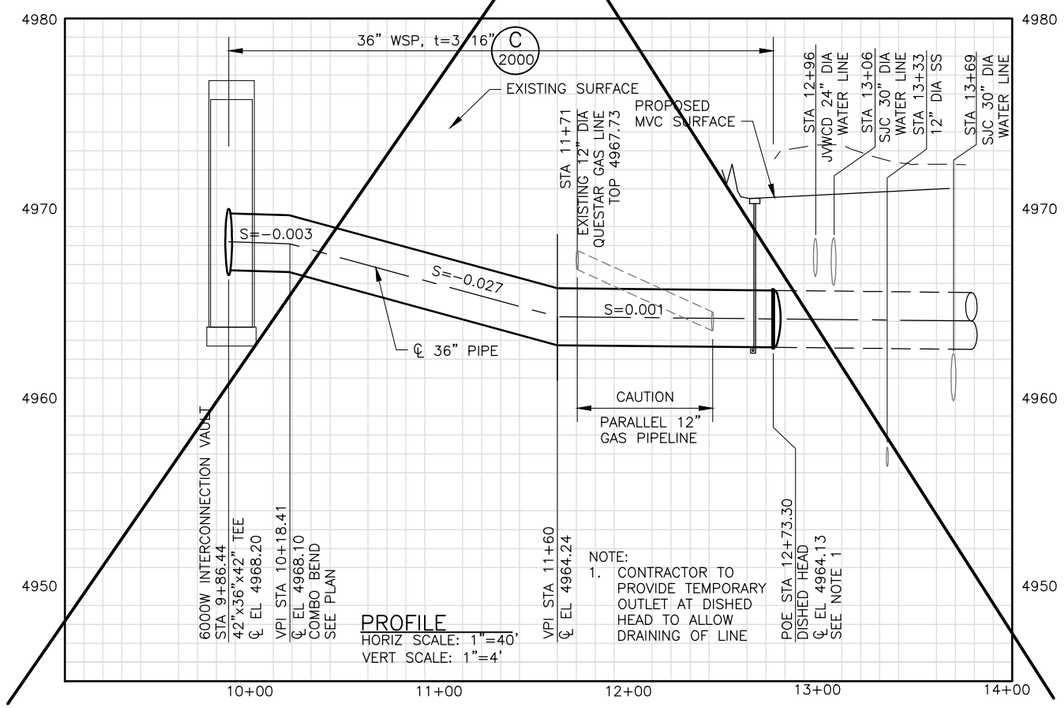
P:\Jordan Valley WCD\10200 South Pipeline\2.0 - Design Phase\2.10 Drawings\Record drawings\R0100805_10200_G-03.dwg Apr17,2012 - 11:50am





36" MOUNTAIN VIEW COORDOR PIPELINE





Bowen Collins & Associates, Inc. Consulting Engineers

NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVATION DISTRICT

10200 SOUTH PIPELINE PROJECT

DESIGN M. STAYNER

REVIEW CHECKED M. STAYNER

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING

CIVIL

10200 SOUTH PLAN AND PROFILE-9

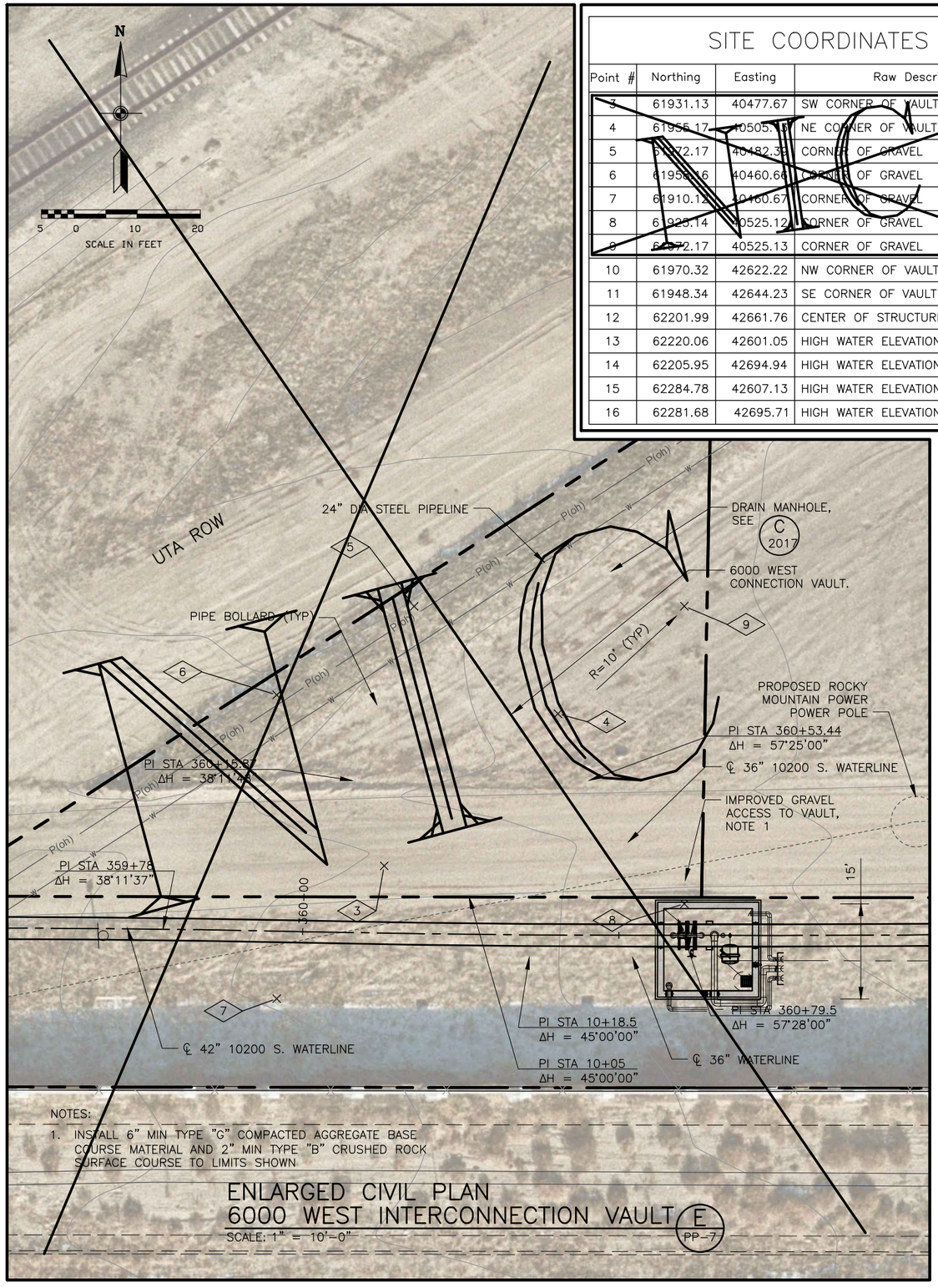
DRAWING NO. PP-9

SHEET 15 OF 64

P:\Jordan Valley WCD\10200 South Pipeline\2.0 - Design Phase\2.10 Drawings\Record drawings\R0100805_10200_PP-09.dwg Apr20,2012 - 10:32am

SITE COORDINATES

Point #	Northing	Easting	Raw Description
3	61931.13	40477.67	SW CORNER OF VAULT
4	61955.17	40505.51	NE CORNER OF VAULT
5	61972.17	40482.32	CORNER OF GRAVEL
6	61955.16	40460.66	CORNER OF GRAVEL
7	61910.12	40460.67	CORNER OF GRAVEL
8	61925.14	40525.12	CORNER OF GRAVEL
9	61972.17	40525.13	CORNER OF GRAVEL
10	61970.32	42622.22	NW CORNER OF VAULT
11	61948.34	42644.23	SE CORNER OF VAULT
12	62201.99	42661.76	CENTER OF STRUCTURE
13	62220.06	42601.05	HIGH WATER ELEVATION 4933.0
14	62205.95	42694.94	HIGH WATER ELEVATION 4933.0
15	62284.78	42607.13	HIGH WATER ELEVATION 4933.0
16	62281.68	42695.71	HIGH WATER ELEVATION 4933.0



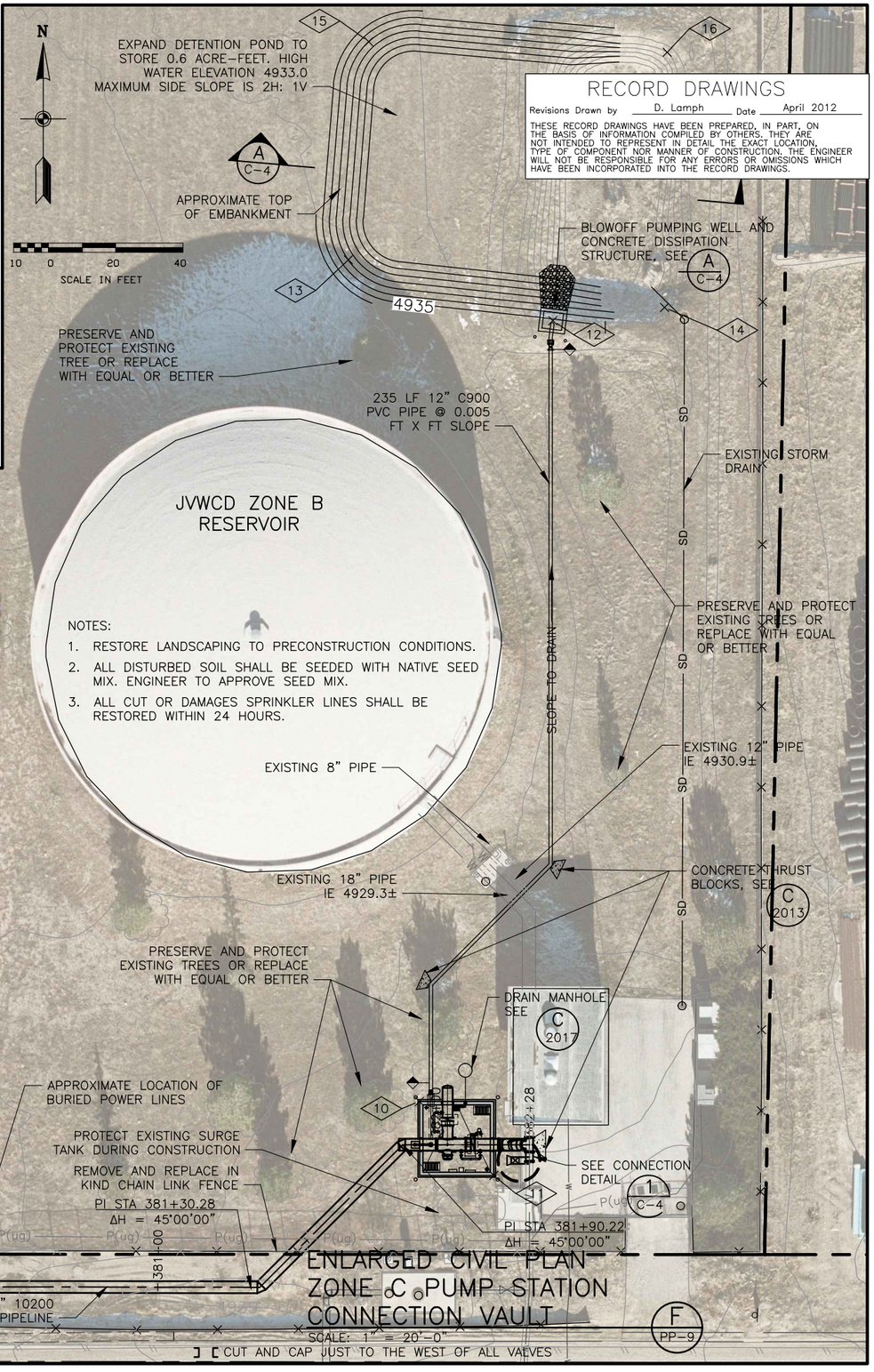
NOTES:

1. INSTALL 6" MIN TYPE "G" COMPACTED AGGREGATE BASE COURSE MATERIAL AND 2" MIN TYPE "B" CRUSHED ROCK SURFACE COURSE TO LIMITS SHOWN

ENLARGED CIVIL PLAN
6000 WEST INTERCONNECTION VAULT

SCALE: 1" = 10'-0"

E PP-7



ENLARGED CIVIL PLAN
ZONE C PUMP STATION CONNECTION VAULT

SCALE: 1" = 20'-0"

F PP-9

RECORD DRAWINGS

Revisions Drawn by D. Lamph Date April 2012

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

Bowen Collins & Associates, Inc. Consulting Engineers

REVISIONS

NO.	DATE	REV. BY	DESCRIPTION
1	4/18/11	MHS	CHANGE ORDER 1

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

JORDAN VALLEY WATER CONSERVATION DISTRICT

10200 SOUTH PIPELINE PROJECT

REVIEW CHECKED M. STAYNER APPROVED J. LUETTINGER

DESIGN M. STAYNER DRAWN B. ABEL

CIVIL

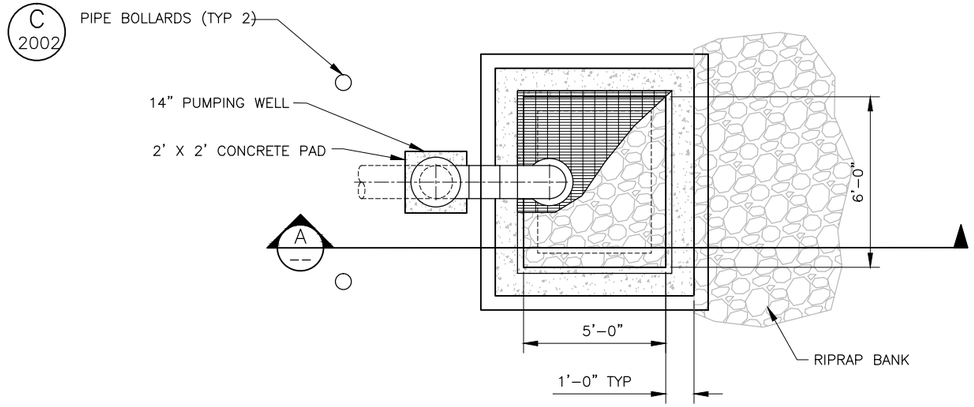
ENLARGED CIVIL PLANS-3

DATE: NOVEMBER 2010 PROJECT NUMBER 010-08-05.01

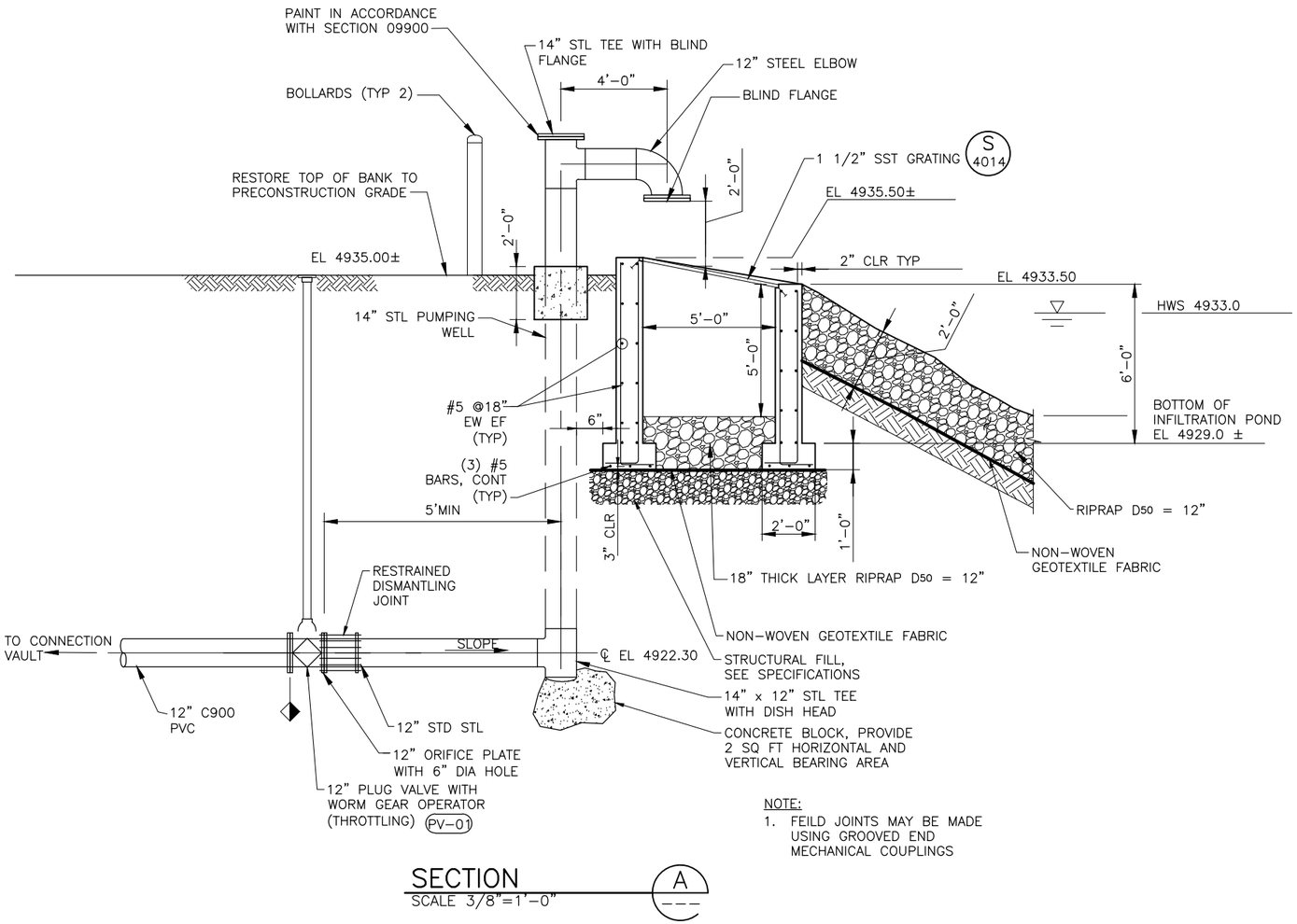
DRAWING NO. C-3

SHEET 18 OF 64

P:\Jordan Valley WCD\10200 South Pipeline\2.0 - Design Phase\2.10 Drawings\Record drawings\R0100805_10200_C-03.dwg Apr20,2012 - 3:18pm

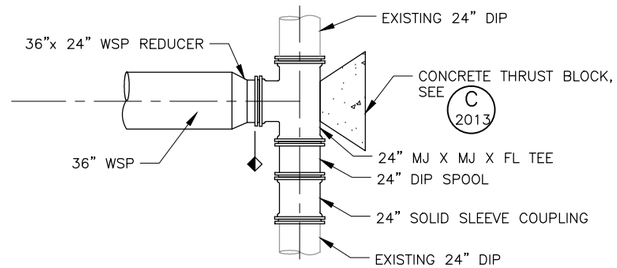


PLAN DETAIL
SCALE: 3/8"=1'-0"



NOTE:
1. FEILD JOINTS MAY BE MADE USING GROOVED END MECHANICAL COUPLINGS

SECTION
SCALE 3/8"=1'-0"
A



NOTE:
1. CONNECTIONWILL REQUIRE SHUTDOWN OF ZONE C PUMP STATION. COORDINATE IN ACCORDANCE WITH SCHEDULE CONSTRAINTS IN SECTION 01010-SUMMARY OF WORK

ZONE "C" PUMP STATION CONNECTION DETAIL
NTS
1
C-3

RECORD DRAWINGS
Revisions Drawn by D. Lamph Date April 2012
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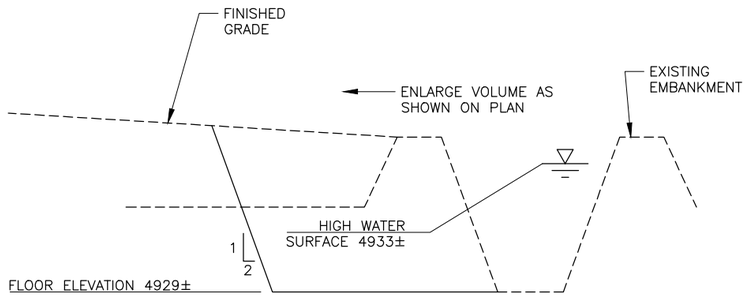

INFILTRATION POND
NTS
A
C-3

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REVISIONS

NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVATION DISTRICT
10200 SOUTH PIPELINE PROJECT

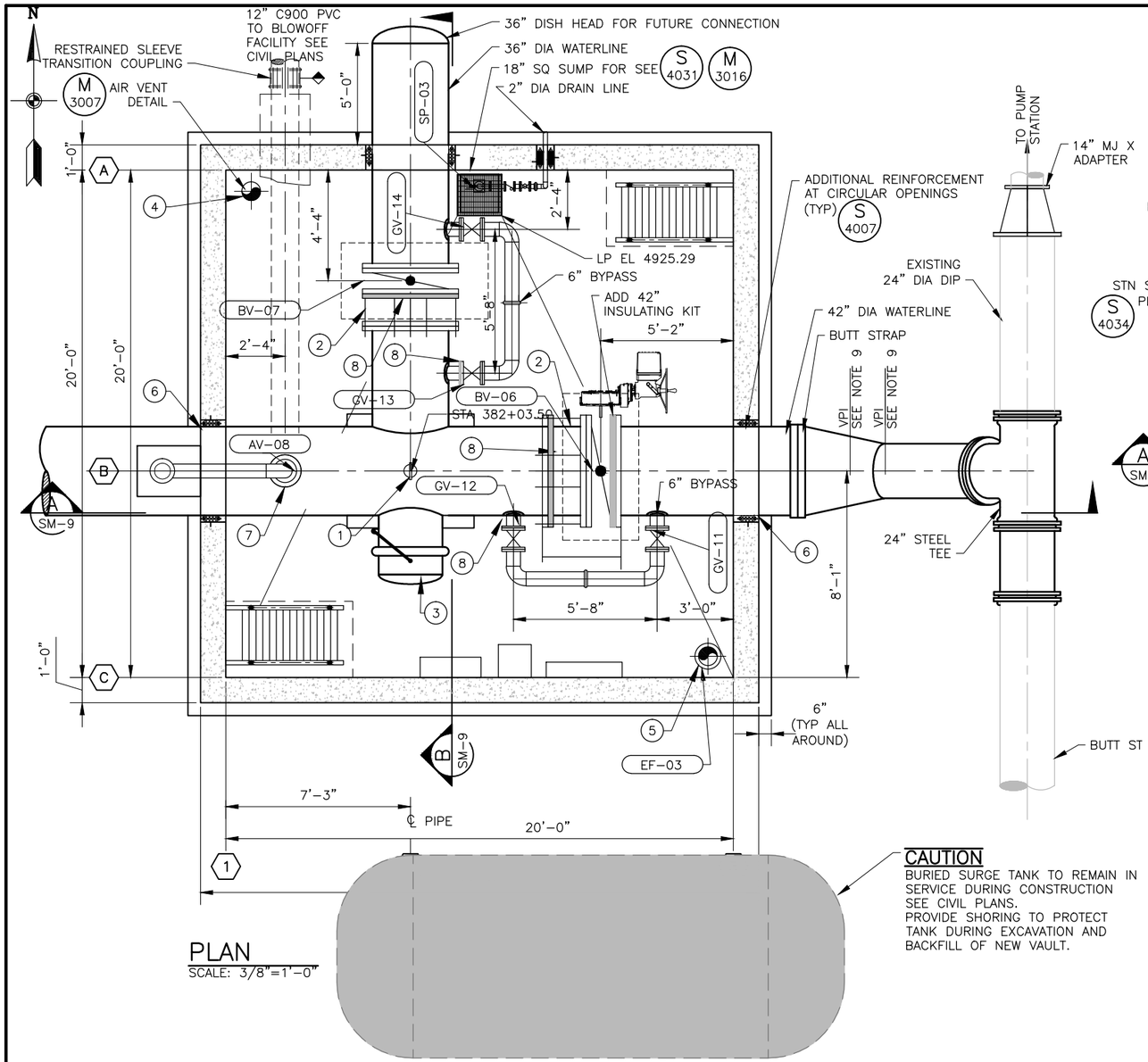
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN M. STAYNER
DRAWN B. ABEL
REVIEW
CHECKED M. STAYNER
APPROVED J. LUETTINGER

CIVIL
ZONE "C" PUMP STATION BLOWOFF DETAILS
DATE: NOVEMBER 2010
PROJECT NUMBER 010-08-05.01

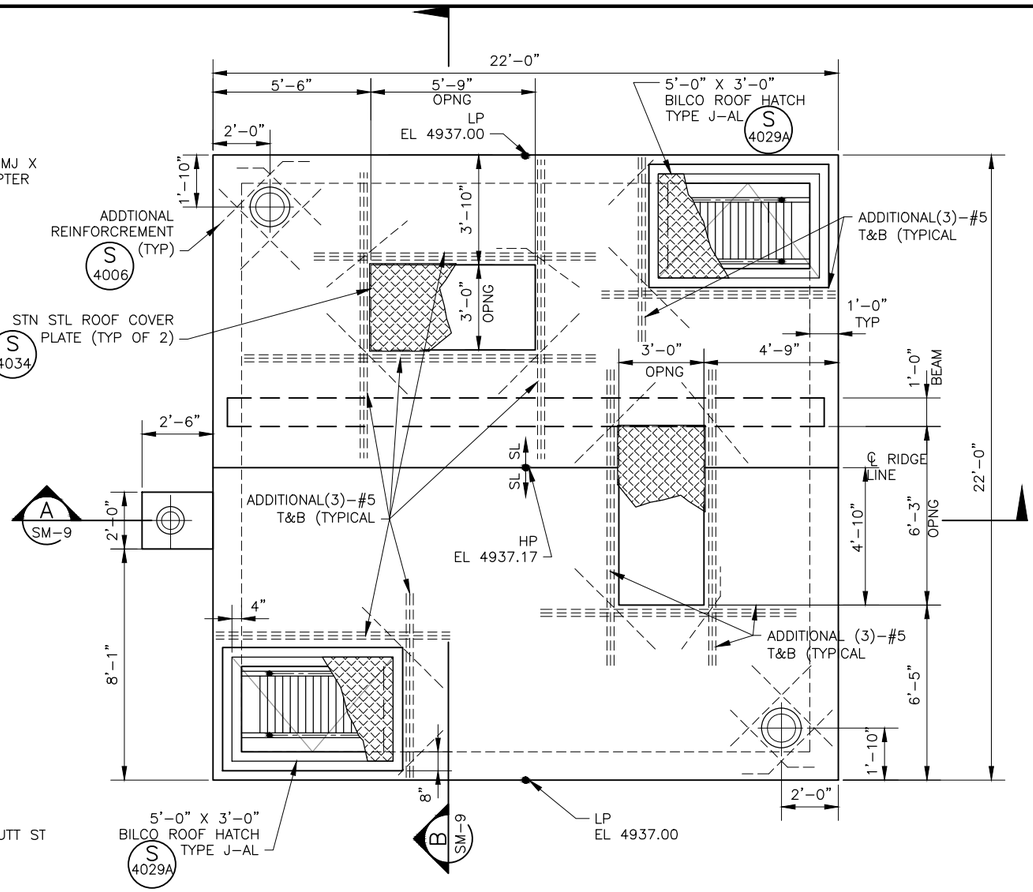
DRAWING NO.
C-4
SHEET 19 OF 64

P:\Jordan Valley WCD\10200 South Pipeline\2.0 - Design Phase\2.10 Drawings\Record drawings\R0100805_10200_C-04.dwg Apr17,2012 - 11:57am



PLAN
SCALE: 3/8"=1'-0"

CAUTION
BURIED SURGE TANK TO REMAIN IN SERVICE DURING CONSTRUCTION SEE CIVIL PLANS.
PROVIDE SHORING TO PROTECT TANK DURING EXCAVATION AND BACKFILL OF NEW VAULT.



ROOF PLAN
SCALE: 3/8"=1'-0"

NOTES:

1. ALL INTERIOR VAULT PIPE AND FITTINGS SHALL BE CEMENT MORTAR LINED STEEL PIPE, AND COATED IN ACCORDANCE WITH SECTION 09900 – PAINTING UNLESS OTHER WISE NOTED.
2. PROVIDE MINIMUM OF 1'–0" CLR SPACE BETWEEN ALL FLANGES AND PIPE SUPPORTS, WALLS, FITTINGS, ETC. TO ALLOW UNRESTRICTED REMOVAL OF FLANGE BOLTS. NOTIFY ENGINEER OF POTENTIAL CONFLICTS TO ALLOW FOR FIELD ADJUSTMENT PRIOR TO FABRICATION.
3. COAT INTERIOR FLOOR OF VAULT WITH NON–SKID PROTECTIVE COATING IN ACCORDANCE WITH SECTION 09900 – COATING AND PAINTING. EXTEND COATING ON WALLS TO AN ELEVATION OF 1'–6" ABOVE FLOOR.
4. REFER TO ELECTRICAL DWGS FOR LIGHTING PLAN AND POWER AND CONTROL PLANS FOR VAULT.
5. REFER TO STRUCTURAL DWGS FOR DETAILS RELATED TO MISCELLANEOUS METALS FABRICATION.
6. ALL CRACKS IN FLOOR, WALL OR ROOF SLAB SHALL BE REPAIRED AS PER DETAIL. S 4012
7. SEE DRAWING GS–1 FOR GENERAL STRUCTURAL NOTES.
8. SLOPE FLOOR OF VAULT AS SHOWN ON PLAN TO ENSURE FREE DRAINAGE FROM ENTIRE FLOOR AREA, DRAINAGE PROBLEMS CAUSED BY HIGH POINTS IN FLOOR SLAB SHALL BE CORRECTED AT CONTRACTOR'S EXPANSE.
9. CONTRACTOR TO FIELD VERIFY LOCATION AND ELEVATION OF EXISTING DIP CONNECTION PRIOR TO FABRICATION OF WSP TRANSITION. ASSUME 1 VPI MITERED SPECIAL REQUIRED.
10. ALL FABRICATION FROM VAULT TO PUMP STSTION IS STEEL EPOXY LINED AND COATED.

MATERIAL SCHEDULE

1	PRESSURE GAUGE ASSEMBLY	M 3012
2	42" DIA RESTRAINED DISMANTLING JOINT	
3	30" DIA MANWAY ACCESS	M 3013
4	8" DIA PVC EXHAUST PIPE	M 3007
5	8" DIA SCH 40 STEEL PIPE WITH END CUT AT 45°	M 3008
6	SLEEVE PIPE OPENING	S 4005 METHOD "A"
7	4" SCH 80 VENT PIPE	
8	INSULATING FLANGE	4 C–8
9	12" GROOVED END COUPLING	

RECORD DRAWINGS
Revisions Drawn by D. Lamph Date April 2012
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Bowen Collins & Associates, Inc. Consulting Engineers

NO.	DATE	REV. BY	DESCRIPTION
			REVISIONS

JORDAN VALLEY WATER CONSERVATION DISTRICT
10200 SOUTH PIPELINE PROJECT

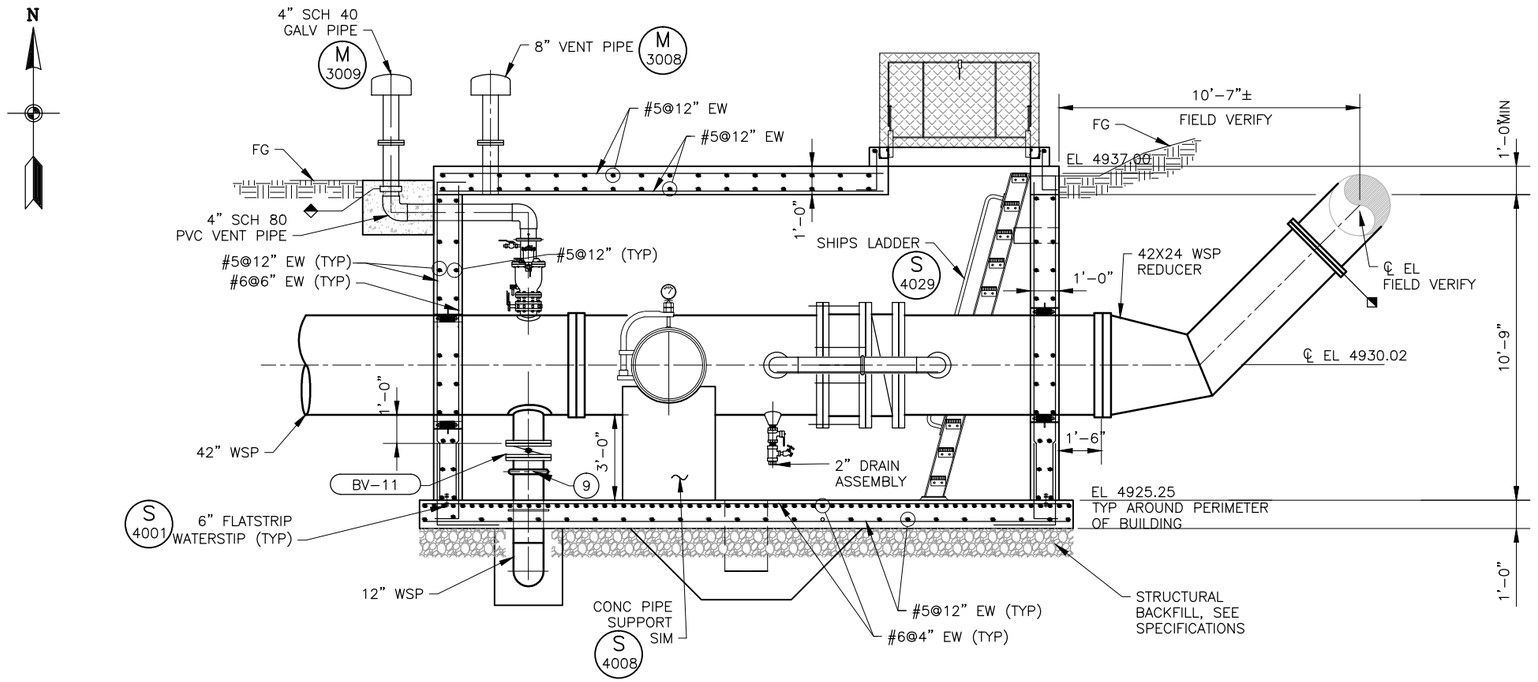
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN MS/RG/MR
DRAWN R. GARCIA
REVIEW D. LOWE
CHECKED B. MAYERS
APPROVED

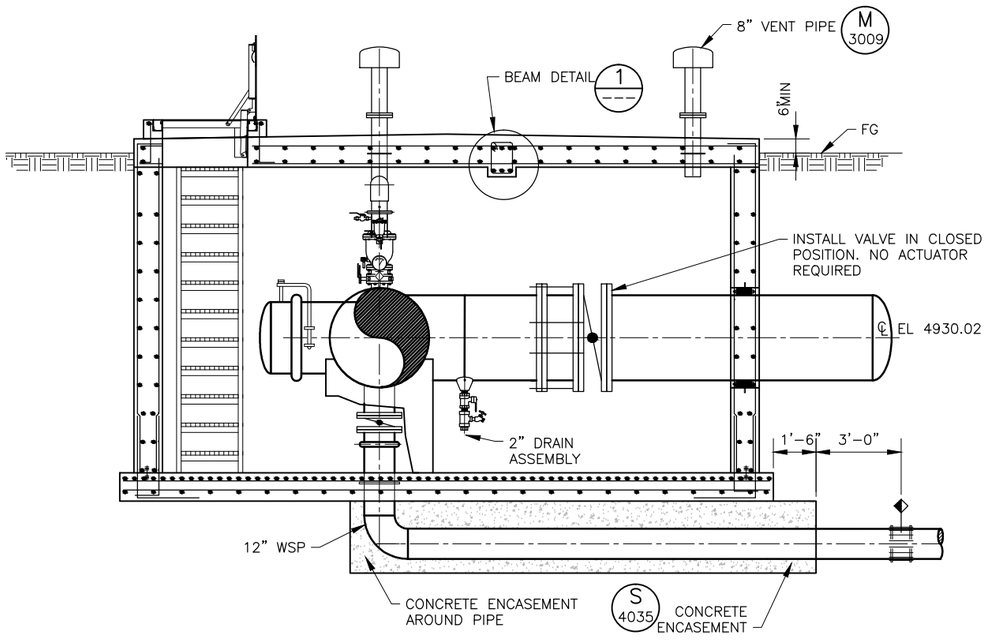
STRUCTURAL–MECHANICAL
ZONE "C" PUMP STATION CONNECTION VAULT PLAN
DATE: NOVEMBER 2010
PROJECT NUMBER 010–08–05.01

DRAWING NO. SM–8
SHEET 36 OF 64

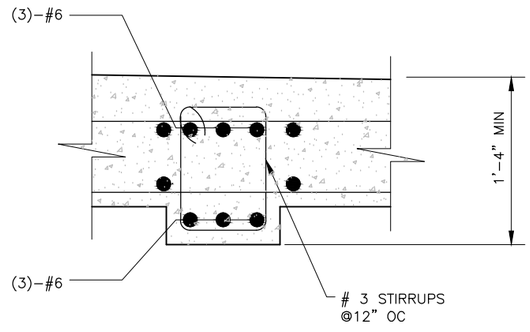
P:\Jordan Valley WCD\10200 South Pipeline\2.0 – Design Phase\2.10 Drawings\Record drawings\R0100805_10200_SM-08.dwg Apr20,2012 – 2:55pm



SECTION A
SCALE: 3/8"=1'-0" SM-8



SECTION B
SCALE: 3/8"=1'-0" SM-8



BEAM DETAIL 1
SCALE: 3/8"=1'-0"

RECORD DRAWINGS

Revisions Drawn by D. Lamph Date April 2012

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Bowen Collins & Associates, Inc. Consulting Engineers

REVISIONS

NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVATION DISTRICT

10200 SOUTH PIPELINE PROJECT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN MS/RG/MR
DRAWN R. GARCIA
REVIEW
CHECKED D. LOWE
APPROVED B. MAYERS

STRUCTURAL-MECHANICAL

ZONE "C" PUMP STATION
CONNECTION VALVE VAULT
SECTIONS AND DETAILS

DATE: NOVEMBER 2010
PROJECT NUMBER 010-08-05.01

DRAWING NO. SM-9

SHEET 37 OF 64

P:\Jordan Valley WCD\10200 South Pipeline\2.0 - Design Phase\2.10 Drawings\Record drawings\R0100805_10200_SM-09.dwg Apr20,2012 - 2:22pm

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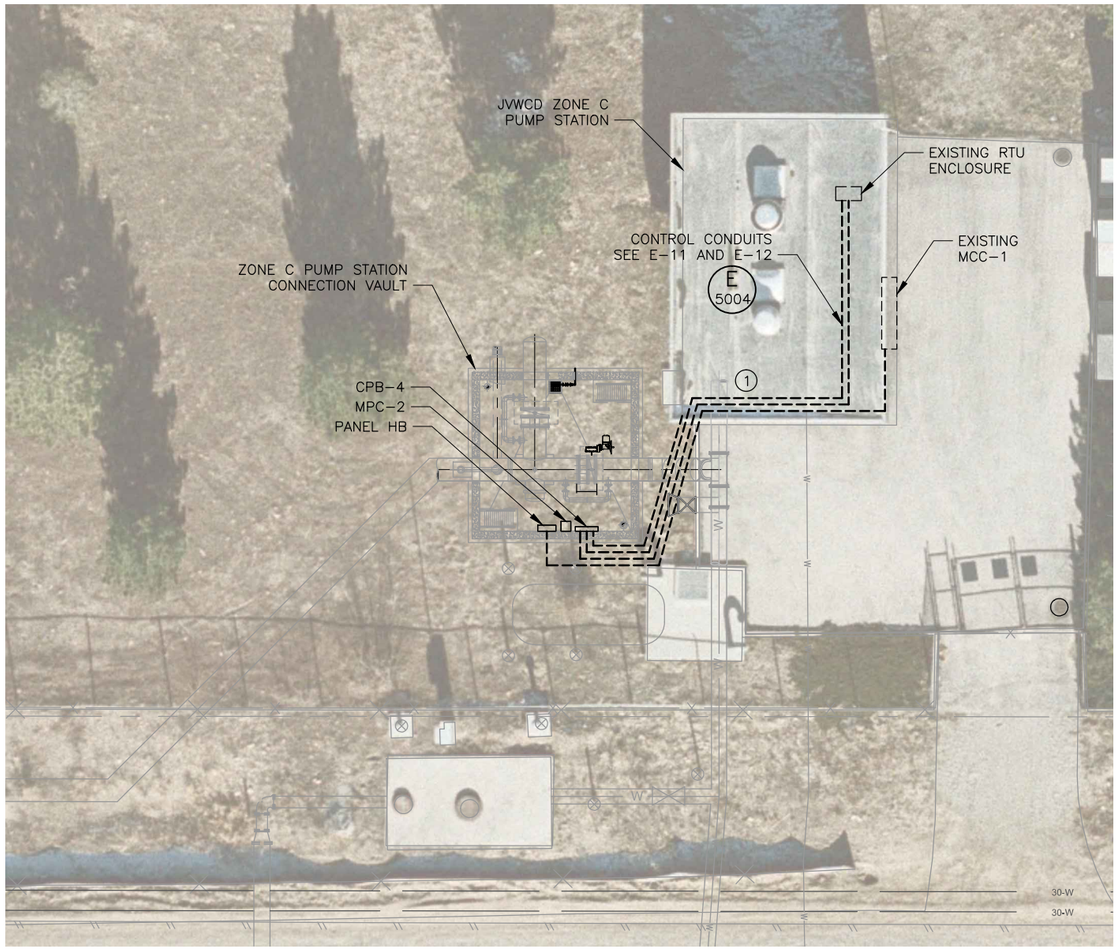
5 0 10 20

SCALE IN FEET

KEY NOTES:

1. INSTALL CONDUITS BELOW GRADE INTO SOUTHWEST CORNER OF ZONE C PUMP STATION. CONDUITS WILL THEN BE ROUTED TO MCC-1 AND THE RTU ENCLOSURE AS SHOWN ON POWER AND CONTROL ONE-LINE DIAGRAMS DRAWINGS E-9, E-11 AND E-12.



RECORD DRAWINGS

Revisions Drawn by D. Lamph Date April 2012

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ZONE "C" PUMP STATION CONNECTION VAULT ELECTRICAL SITE PLAN

SCALE: 1" = 10'-0"

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REVISIONS

NO.	DATE	REV. BY	DESCRIPTION
1	1/18/11	MHS	CHANGE ORDER 1

JORDAN VALLEY WATER CONSERVATION DISTRICT

10200 SOUTH PIPELINE PROJECT

DESIGN D. MAXWELL DRAWN D. LAMPH

REVIEW CHECKED D. STEWART APPROVED B. MAYERS

VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING

ELECTRICAL

ZONE "C" PUMP STATION CONNECTION VAULT ELECTRICAL SITE PLAN

DATE: NOVEMBER 2010 PROJECT NUMBER 010-08-05.01

DRAWING NO. E-4

SHEET 52 OF 64

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N

PLAN SYMBOLS

GROUNDING	
⊙	GROUND ROD
⊡	GROUND ROD IN GROUND WELL
○	GROUND RISER FROM THE GROUND PLATE (REBAR)
■ ●	BOLTED AND WELDED GROUND CONNECTIONS, RESPECTIVELY
	GROUND CABLE: • EMBEDDED IN CONCRETE • BURIED IN EARTH • EXPOSED

GENERAL NOTES:

1. MOUNT LIGHT FIXTURES ABOUT 9' ABOVE FINISHED FLOOR.
2. SEE SHEET E-9 FOR POWER ONE-LINE DIAGRAMS AND PANELBOARD LAYOUTS.
3. SEE SHEET E-12 FOR CONTROL ONE-LINE DIAGRAM.
4. 2/0 AWG BARE COPPER GROUND RING SHALL BE BURIED NOT LESS THAN 30" BELOW THE EARTH'S SURFACE. CONNECT REBAR TO THE GROUND RING VIA 2/0 AWG BARE COPPER GROUND CABLE (GROUND RISERS). EQUIPMENT AND MISCELLANEOUS METALWORK SHALL BE CONNECTED TO THE GROUND RING WITH #2 AWG BARE COPPER GROUND CABLE. THE GROUND RING SHALL BE A MINIMUM OF 2 FEET FROM BUILDING FOUNDATION.
5. DRAWING SHOWS TYPICAL LOCATIONS OF GROUNDING SYSTEM COMPONENTS.
6. DRAWING SHOWS APPROXIMATE LOCATIONS AND MINIMUM NUMBER OF RISERS AND GROUNDING CONNECTIONS TO BE INSTALLED.

KEY NOTES:

1. MAINTAIN WORKING CLEARANCES AROUND PANELS PER NEC.
2. MOUNT THE SWITCH IN NEMA 4X FIBERGLASS ENCLOSURE.
3. SEE MECHANICAL EQUIPMENT SCHEDULE ON SHEET GM-1 FOR FAN TYPE AND SIZE.
4. SUMP PUMP OUTLET SHALL BE A 20 AMP SIMPLEX RECEPTACLE (NON-GFCI).
5. SEE POWER ONE-LINE ON SHEET E-9, PANELBOARD SCHEDULE LP-C ON SHEET E-13 AND CONTROL ONE-LINE DIAGRAM ON SHEET E-12 FOR SIZE AND QUANTITY OF CONDUITS AND CONDUCTORS.

RECORD DRAWINGS
Revisions Drawn by D. Lamph Date April 2012
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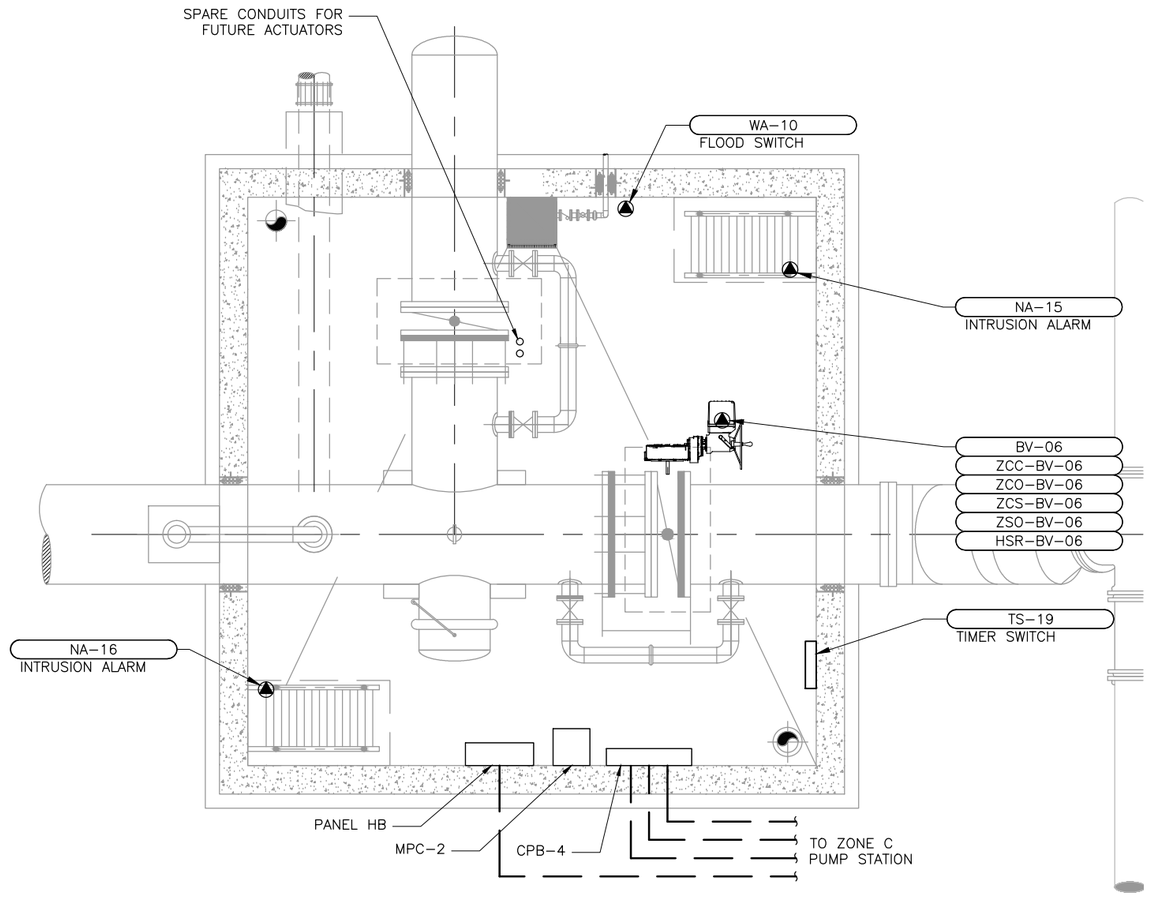
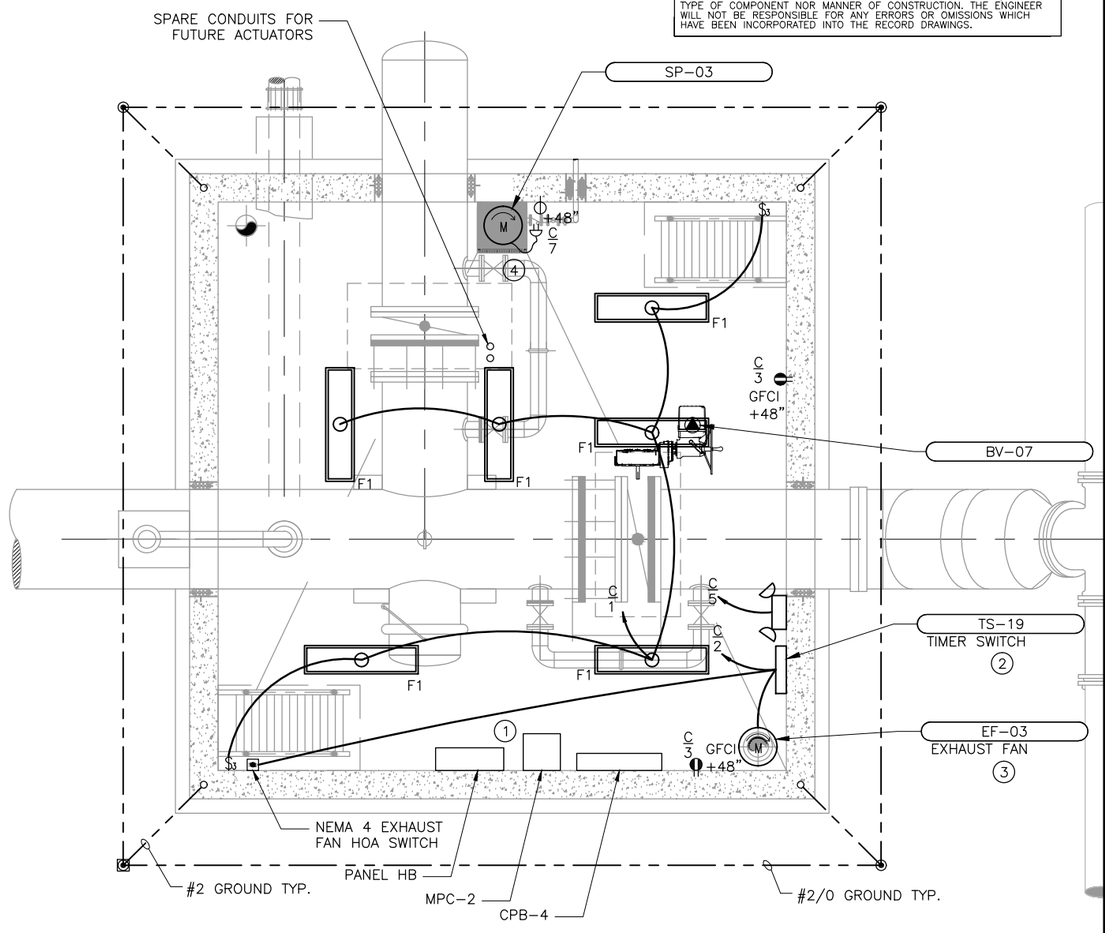


ZONE "C" PUMP STATION CONNECTION VAULT INSTRUMENTATION PLAN

SCALE: ⅜"=1'-0"



ZONE "C" PUMP STATION CONNECTION VAULT ELECTRICAL PLAN

SCALE: ⅜"=1'-0"

Bowen Collins & Associates, Inc. Consulting Engineers

REVISIONS

NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVATION DISTRICT
10200 SOUTH PIPELINE PROJECT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN D. MAXWELL
DRAWN D. LAMPH
REVIEW
CHECKED D. STEWART
APPROVED B. MAYERS

ELECTRICAL
ZONE "C" PUMP STATION
INTERCONNECT VAULT
ELECT/INSTRUMENT PLAN

DATE: NOVEMBER 2010
PROJECT NUMBER 010-08-05.01

DRAWING NO. E-8
SHEET 56 OF 64

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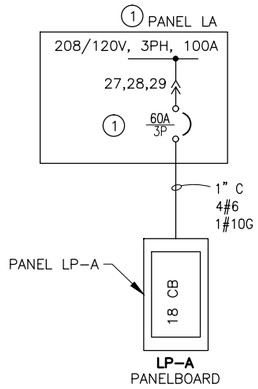
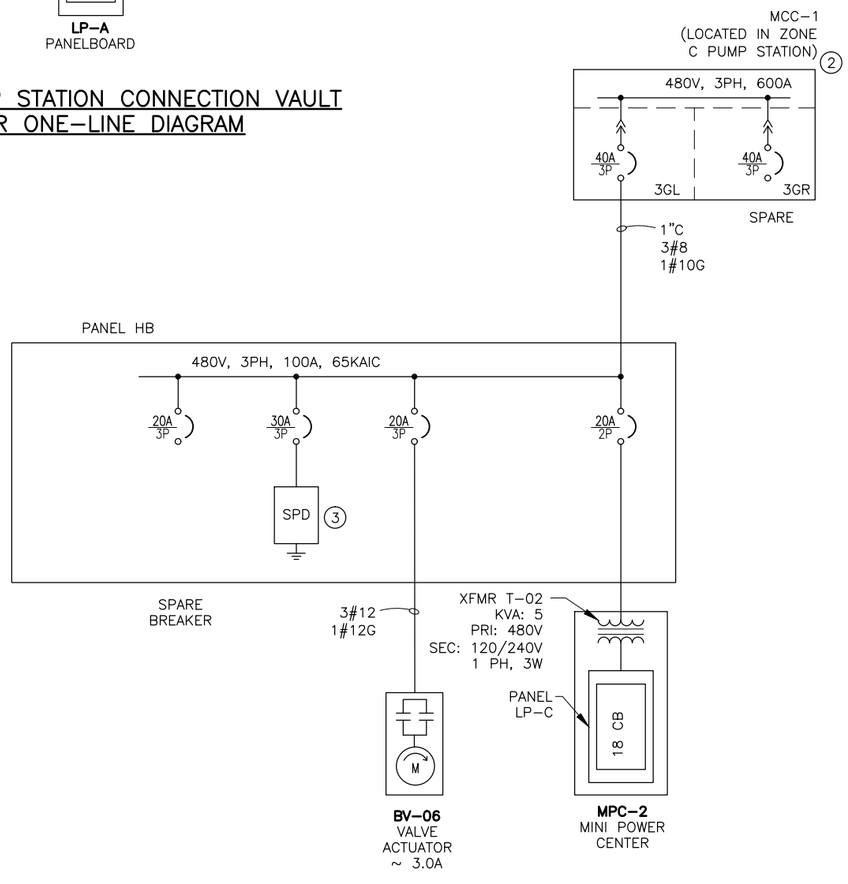


ZONE D PUMP STATION CONNECTION VAULT POWER ONE-LINE DIAGRAM



ZONE C PUMP STATION CONNECTION VAULT POWER ONE-LINE DIAGRAM

GENERAL NOTES:

1 SEE SHEETS E-5, E-7 AND E-8 FOR EQUIPMENT LOCATIONS.

KEY NOTES:

1. 3 POLE 60A BREAKER IN PANEL LA IN PUMP STATION FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A NEW DUAL BREAKER BUCKET WITH TWO THERMAL MAGNETIC BREAKERS IN MCC-1 IN LOCATION SHOWN ON DRAWING. THE NEW BUCKET WILL FIT INTO EXISTING 18" SPACE. ELECTRICAL CONTRACTOR SHALL PROVIDE 6" DOOR AS REQUIRED TO ENCLOSE 6" SPARE SPACE. SERIAL NUMBER OF CUTLER HAMMER MCC-1 IS HSL27736-002 MANUFACTURED IN MARCH OF 1997.
3. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL PANEL SURGE PROTECTIVE DEVICE (SPD). SIZE OF CIRCUIT BREAKERS AND CONDUCTORS MAY VARY WITH DIFFERENT SPD MANUFACTURER REQUIREMENTS.

RECORD DRAWINGS

Revisions Drawn by D. Lamph Date April 2012

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JORDAN VALLEY WATER CONSERVATION DISTRICT

10200 SOUTH PIPELINE PROJECT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN D. MAXWELL
DRAWN D. LAMPH
REVIEW
CHECKED D. STEWART
APPROVED B. MAYERS

ELECTRICAL

POWER ONE-LINE DIAGRAMS

PROJECT NUMBER 010-08-05.01

DATE: NOVEMBER 2010

DRAWING NO. E-9

SHEET 57 OF 64

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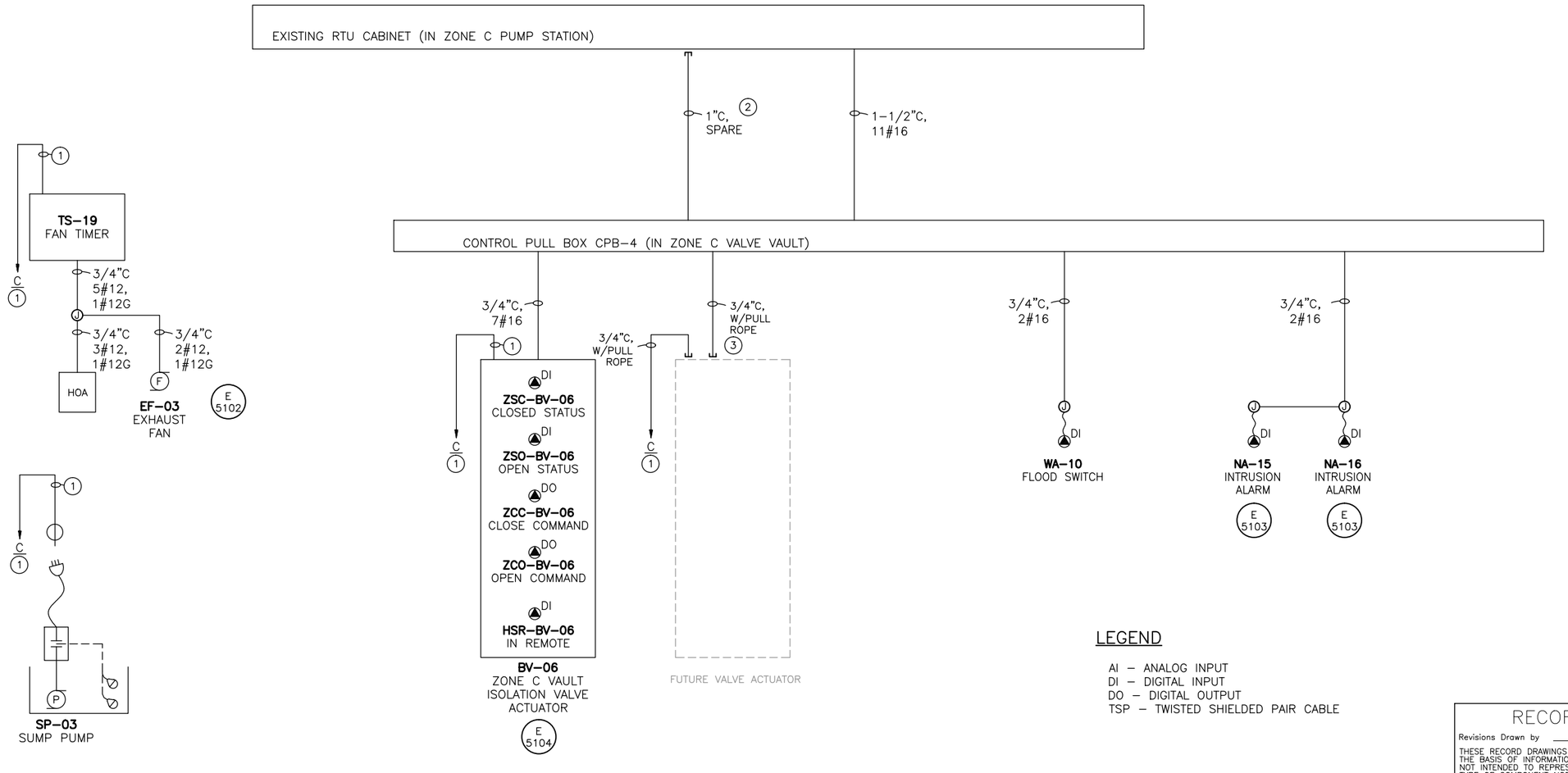
GENERAL NOTES:

1. REFER TO SHEETS E-8 FOR EQUIPMENT LOCATIONS.

KEY NOTES:

(1) SEE PANEL SCHEDULE LP-C ON SHEET E-13 FOR CONDUIT/CONDUCTOR SIZE.

(2) INSTALL CONDUIT FROM CPB-4 IN THE ZONE C VALVE VAULT THROUGH THE WALL OF THE PUMP ROOM. CAP CONDUIT INSIDE PUMP ROOM.



LEGEND

AI – ANALOG INPUT
DI – DIGITAL INPUT
DO – DIGITAL OUTPUT
TSP – TWISTED SHIELDED PAIR CABLE

RECORD DRAWINGS
Revisions Drawn by D. Lamph Date April 2012
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CONTROL ONE-LINE DIAGRAM

Bowen Collins & Associates, Inc. Consulting Engineers

REVISIONS

NO.	DATE	REV. BY	DESCRIPTION

JORDAN VALLEY WATER CONSERVATION DISTRICT
10200 SOUTH PIPELINE PROJECT

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DESIGN D. MAXWELL
DRAWN D. LAMPH
REVIEW CHECKED D. STEWART
APPROVED B. MAYERS

ELECTRICAL
ZONE C
VALVE VAULT CONTROL
ONE-LINE DIAGRAM

DATE: NOVEMBER 2010
PROJECT NUMBER 010-08-05.01

DRAWING NO. E-12
SHEET 60 OF 64

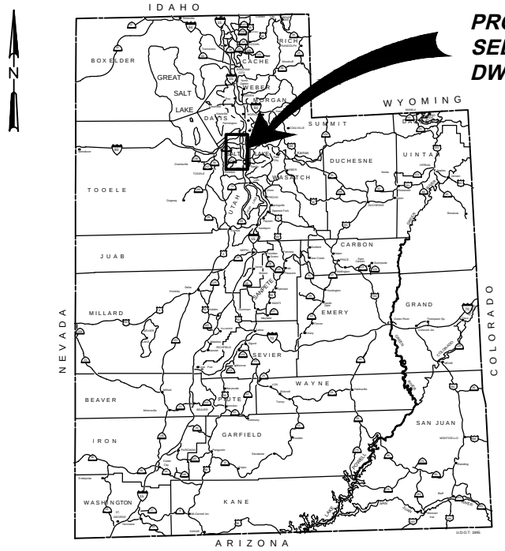
P:\Jordan Valley WCD\10200 South Pipeline\2.0 - Design Phase\2.10 Drawings\Record drawings\R0100805_10200_E-12.dwg Apr17,2012 - 2:21pm

APPENDIX E

2020 – 10200 South Pipeline (Downstream)
Applicable Drawings

10200 SOUTH ZONE B PIPELINE

VOLUME 2 OF 2
RECORD DRAWINGS
DECEMBER 2020

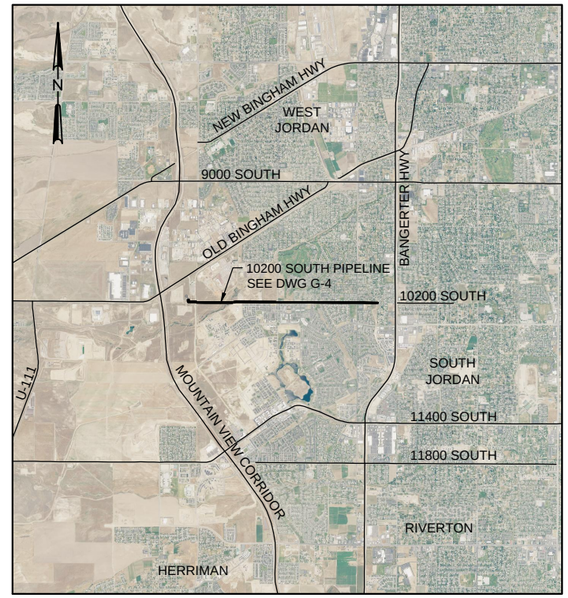


PROJECT LOCATION
SEE INDEX MAP
DWG G-4

VICINITY MAP

JORDAN VALLEY WATER CONSERVANCY DISTRICT

PROJECT # 4083



LOCATION MAP
NTS

BOARD OF TRUSTEES

GREGORY R. CHRISTENSEN	DAWN R. RAMSEY
A. REED GIBBY	COREY L. RUSHTON
KAREN D. LANG	LYLE C. SUMMERS
SHERRIE L. OHRN	JOHN H. TAYLOR
	BARBARA L. TOWNSEND

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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NO.	DATE	REVISION	BY	APVD
DSGN	R WILLEITNER	DR C HOGGARD	CHK A MURDOCK	APVD R WILLEITNER

12/20/20 RECORD DRAWINGS

CH RW

THE ORIGINAL DRAWING WAS STAMPED BY RYAN WILLEITNER UTAH P.E. NO. 8760818

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

GENERAL
COVER SHEET, LOCATION, AND VICINITY MAP

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	G-1
SHEET	1 of 72

RECORD DRAWINGS

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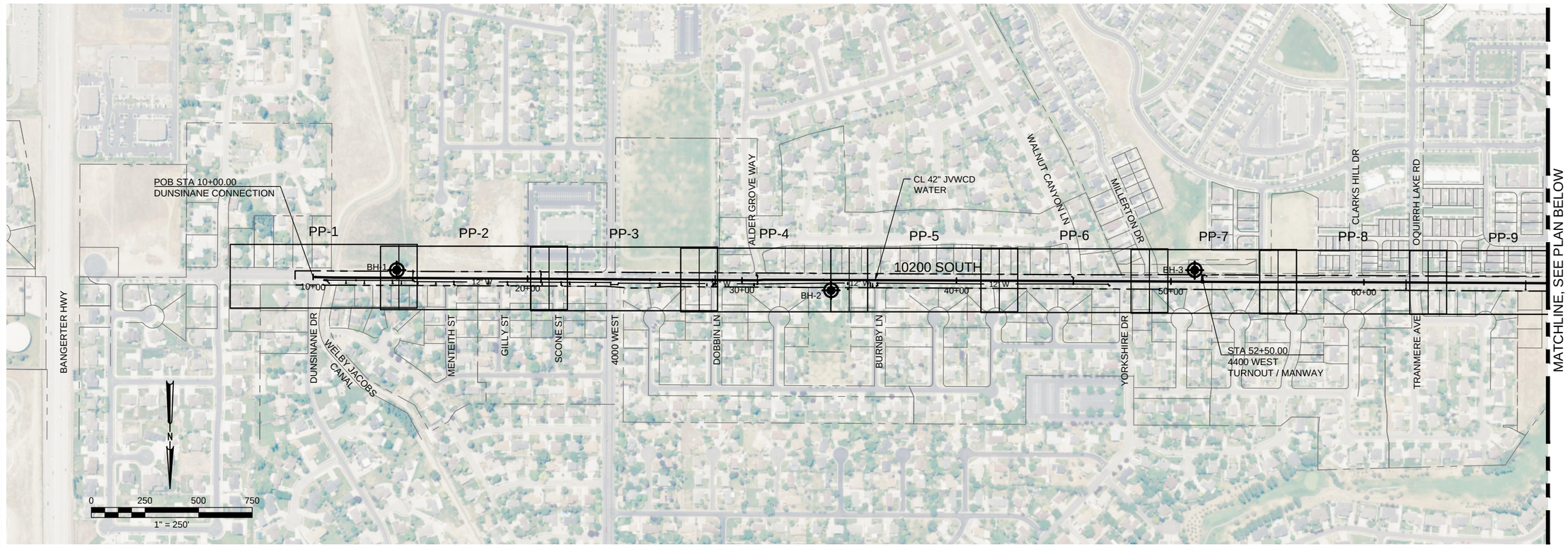

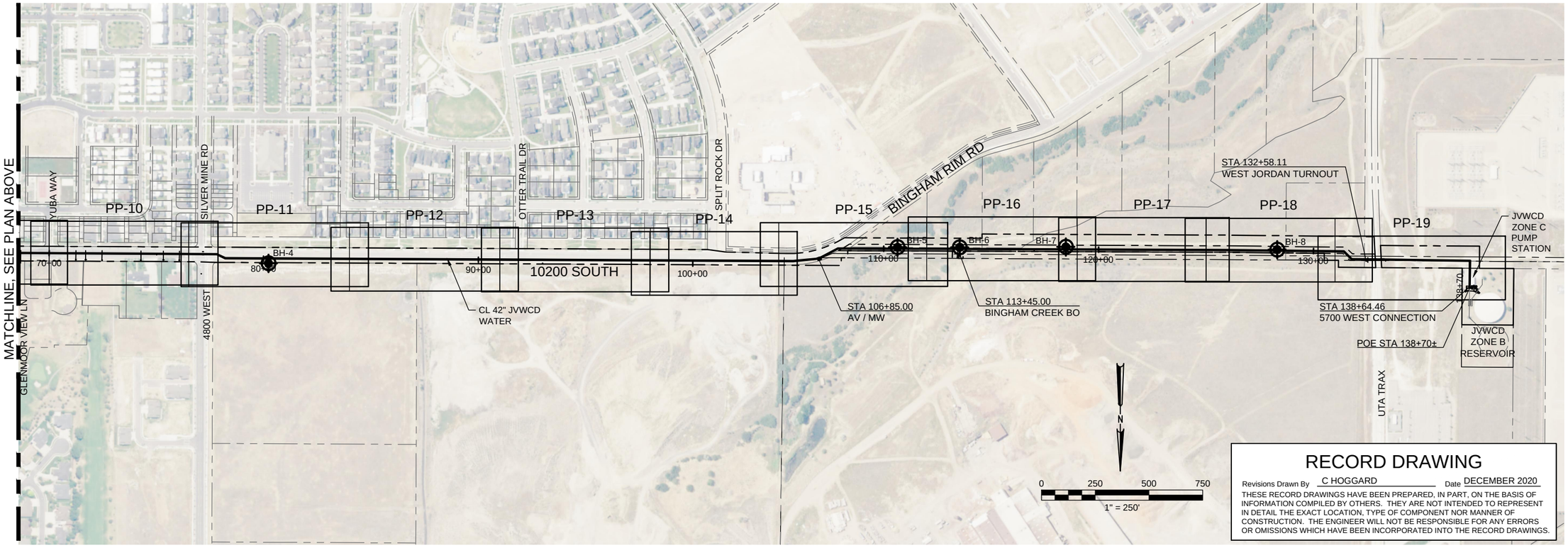

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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NO.	DATE	REVISION	BY	APVD
DSGN	R WILLEITNER	DR C HOGGARD	CHK A MURDOCK	APVD R WILLEITNER

12/2020 RECORD DRAWINGS

CH RW

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

GENERAL

DRAWING INDEX MAP

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	G-4
SHEET	4 of 72

RECORD DRAWINGS

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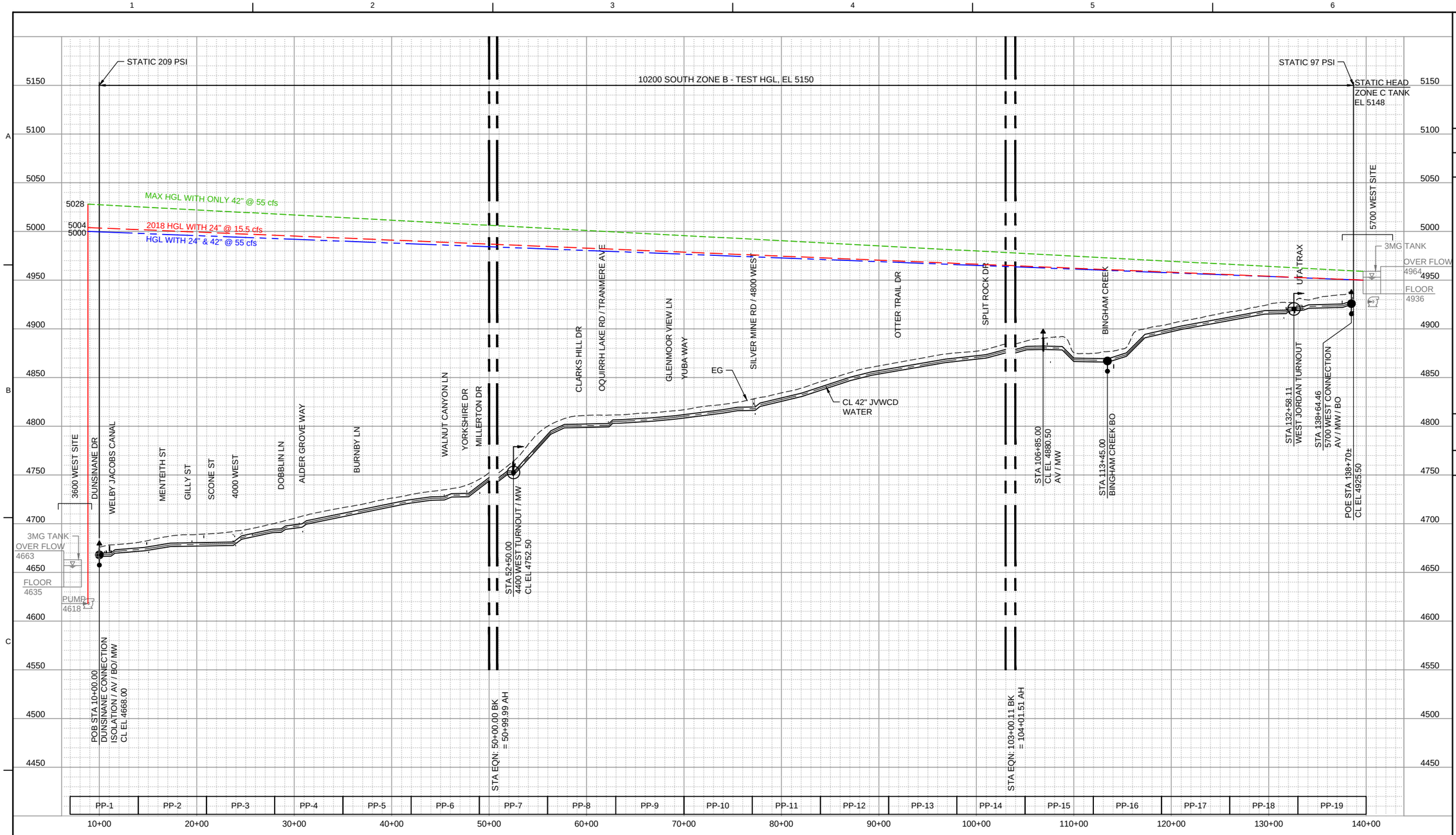

SCALE: 1" = 500' HORZ
1" = 50' VERT

LEGEND

- EXISTING GROUND
- PUMPING HEAD
- EXISTING DAILY MAX AVERAGE OPERATING HGL
- FUTURE PARALLEL PIPE OPERATING HGL
- FUTURE SINGLE PIPE OPERATING HGL
- FINISHED WATER TANK
- PUMP STATION
- TURNOUT
- AIR VALVE
- BLOW OFF
- MANWAY

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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NO.	DATE	REVISION	BY	APVD
DSGN	R WILLEITNER	DR C HOGGARD	CHK A MURDOCK	APVD R WILLEITNER
12/2020	RECORD DRAWINGS			

CH RW

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

GENERAL

HYDRAULIC PROFILE

RECORD DRAWINGS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	G-5
SHEET	5 of 72

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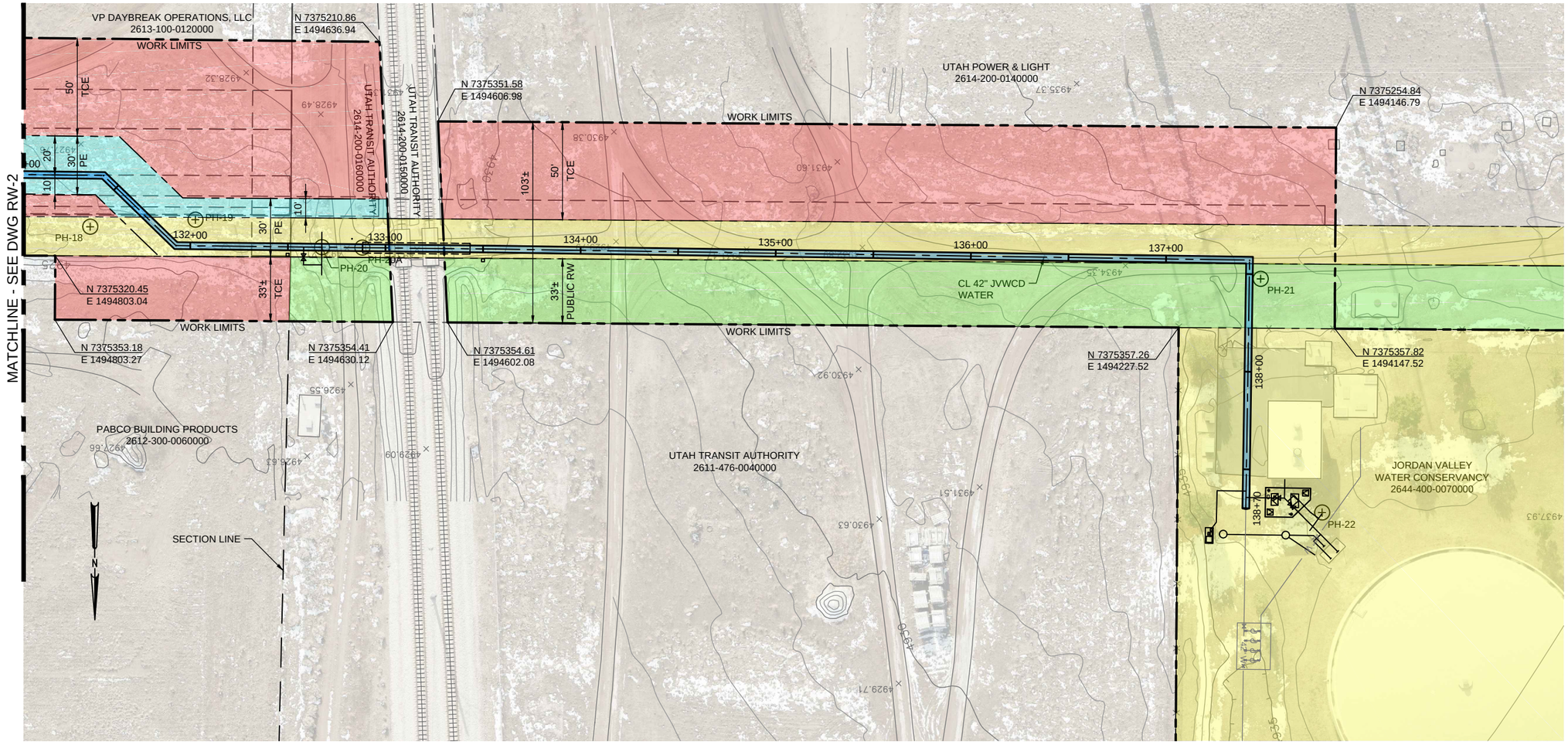

CONSTRUCTION WORK LIMITS

NEW 30' WIDE JVWCD PERPETUAL EASEMENT

NEW JVWCD TEMPORARY EASEMENT (WIDTH VARIES)

EXST 20' WIDE JVWCD PERPETUAL EASEMENT

EXST PUBLIC RIGHT OF WAY

0 30 60 90

1" =30'

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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THE ORIGINAL DRAWING WAS STAMPED BY RYAN WILLEITNER UTAH P.E. NO. 8760818

NO.	DATE	REVISION	DR	CHK	APVD	BY	CH	RW
	12/2020	RECORD DRAWINGS	C.HOGGARD	N JONES	APVD	R WILLEITNER		

DSGN R WILLEITNER

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

RIGHT-OF-WAY

PERPETUAL AND TEMPORARY LAND OWNERSHIP

RECORD DRAWINGS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	RW-3
SHEET	15 of 72

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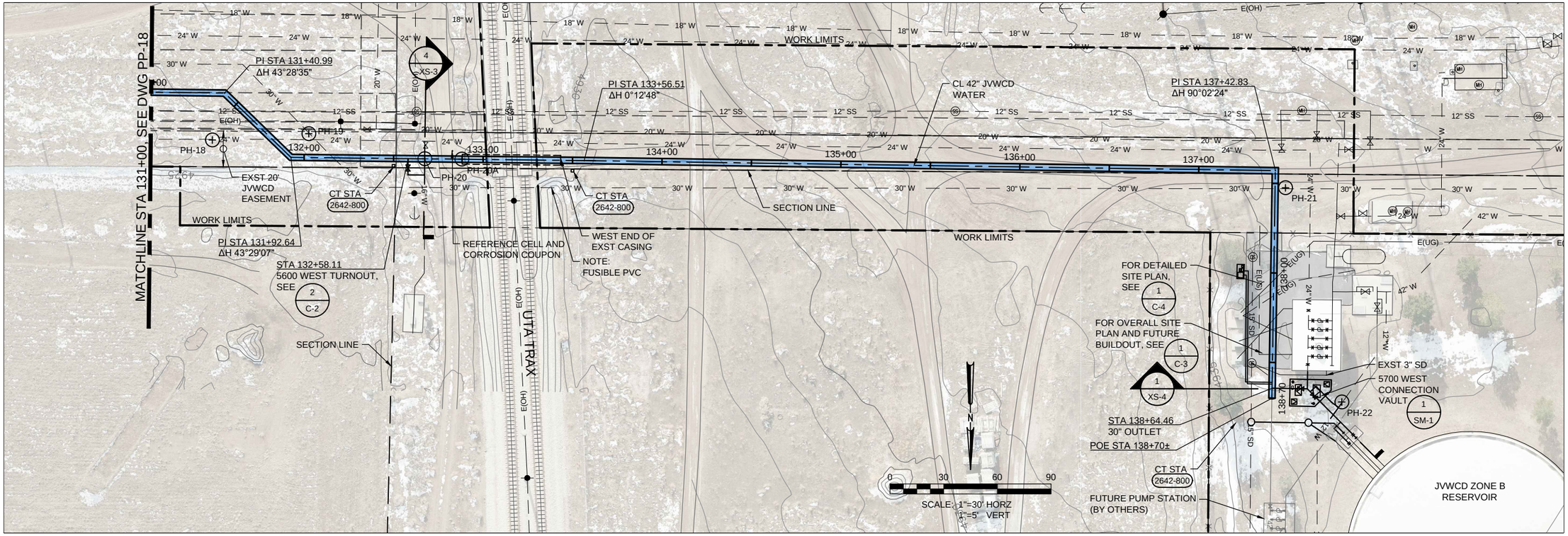

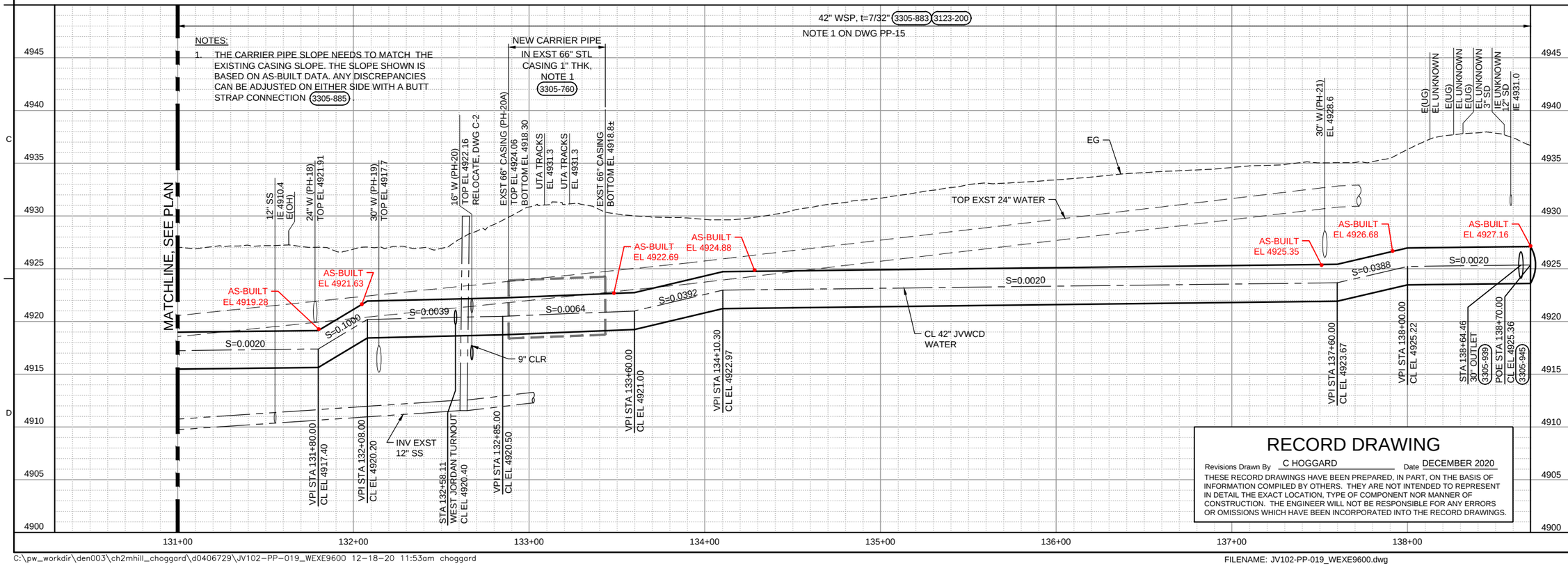

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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THE ORIGINAL DRAWING WAS STAMPED BY RYAN WILLEITNER UTAH P.E. NO. 8760818

NO.	DATE	REVISION	BY	APVD
DSGN	J CHADWICK	DR C HOGGARD CHK	N JONES	APVD R WILLEITNER
	12/2020	RECORD DRAWINGS		
			CH	RW

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

PLAN AND PROFILE

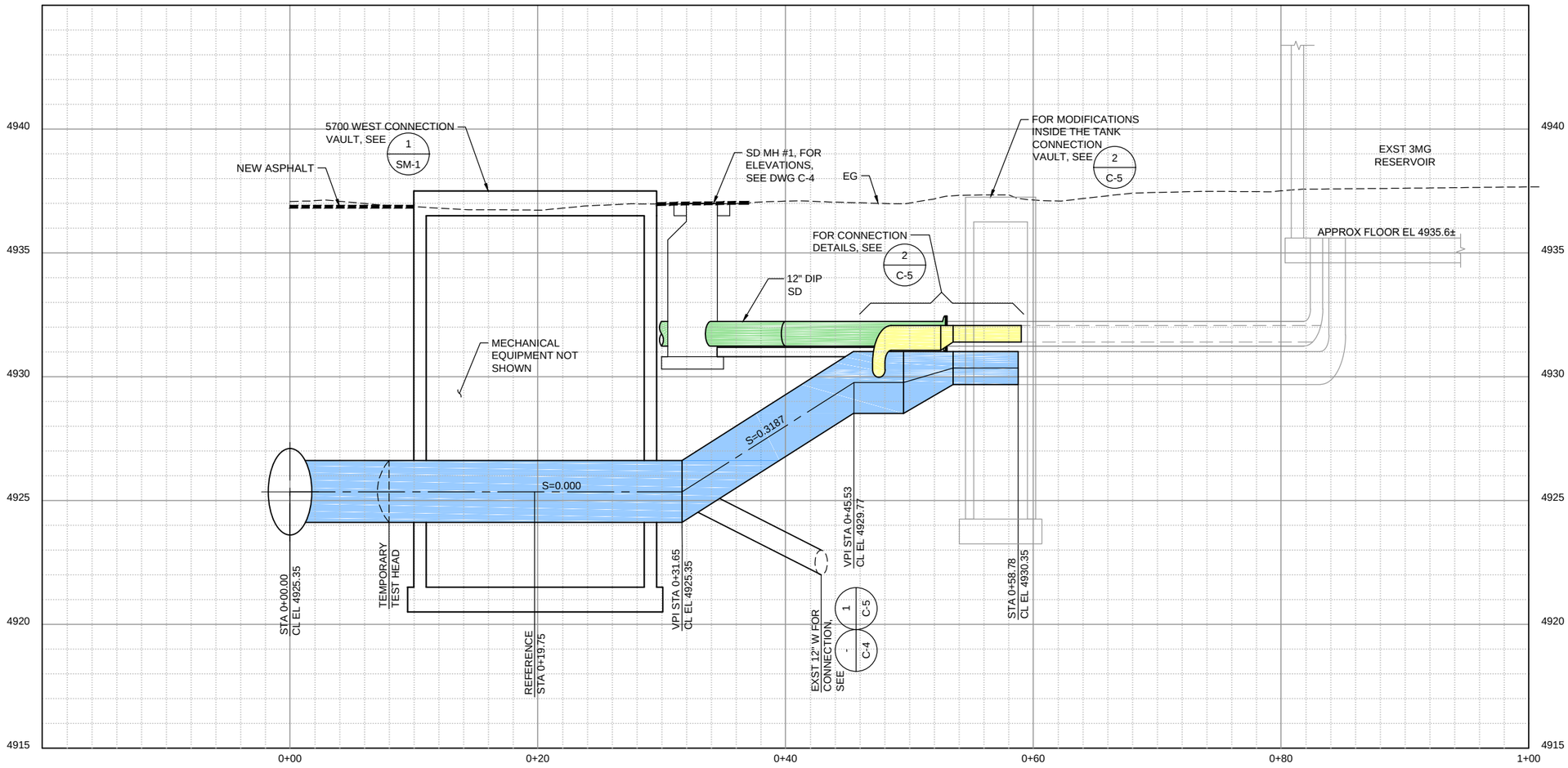
STA 131+00 TO STA 138+70±

RECORD DRAWINGS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	PP-19
SHEET	34 of 72



1 5700 WEST YARD PIPING PROFILE

1"=5' HORIZ
1"=2.5' VERT

PP-19
C-4

NO.	DATE	REVISION	BY	APVD
DSGN	J CHADWICK	DR C HOGGARD	CHK N JONES	APVD R WILLEITNER

12/20/20 RECORD DRAWINGS

CH RW

THE ORIGINAL DRAWING WAS STAMPED BY RYAN WILLEITNER UTAH P.E. NO. 8760818

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

CROSS SECTIONS

CROSS SECTIONS

RECORD DRAWINGS

RECORD DRAWING

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VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	XS-4
SHEET	38 of 72

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FILENAME: JV102-XS-004_WEXE9600.dwg

NOTE:
1. INSTALL 6-INCH SCHEDULE 40 PVC CONDUIT WITH FIBERGLASS ELBOWS AS SHOWN. BURY PIPE WITH 6" OF SAND ALL AROUND AND 36" MIN DEPTH.

FENCELINE / WORK LIMITS

90° FIBERGLASS VERTICAL SWEEP

PRIMARY POWER TO SITE. APPROX 242 FT OF 6" SCH 40 PVC, NOTE 1

EXST SOUTH JORDAN METER STATION

EXST SURGE TANK

EXST 42" WSP

EXST 12" BO TO POND

FUTURE CONNECTION TO 42" ZONE C PIPELINE

DEMOLISH 10' OF EXST 24" W AND 40' OF 16" W

EXST TANK CONNECTIONS

EXST 3MG RESERVOIR

FUTURE JVWCD RESERVOIR

WORK LIMITS

EXST 24" ZONE C

EXST 24" TEE

FOR DETAILED SITE WORK, SEE 1 / C-4

45° FIBERGLASS HORIZONTAL SWEEP

138+00

EXST 24" ZONE B

138+70

FUTURE PUMP STATION

TO FUTURE TANK

EXST GATE

90° FIBERGLASS VERTICAL SWEEP

DEMOLISH 75' OF EXST 12" SD

DEMOLISH LARGE CONCRETE THRUST BLOCK AT EXST ELBOW

FUTURE PUMP STATION CONNECTION

FENCELINE / WORK LIMITS

EXST POWER CONNECTIONS

POE STA 138+70±

5700 WEST CONNECTION VAULT 1 / SM-1

137+00

136+00

WORK LIMITS

0 20 40 60
1" = 20'

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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NO.	DATE	REVISION	BY	APVD
DSGN	R WILLEITNER	DR C HOGGARD	CHK A MURDOCK	APVD R WILLEITNER

12/2020 RECORD DRAWINGS

CH RW

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

CIVIL

OVERALL 5700 WEST SITE PLAN AND DEMOLITION

RECORD DRAWINGS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	C-3
SHEET	41 of 72

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FILENAME: JV102-C-003_WEXE9600.dwg

NOTES:

1. LOCATION OF EXISTING FACILITIES IS APPROXIMATE. CONFIRM HORIZONTAL AND VERTICAL LOCATIONS BEFORE FABRICATING YARD PIPING.
2. UTILITY INVESTIGATIONS WERE PERFORMED TO DETERMINE THE LOCATION OF THIS UTILITY, BUT IT WAS NOT FOUND. AFTER CONTRACTOR HAS LOCATED EXST 12" PVC, SUBMIT PLAN TO ENGINEER FOR CONNECTION USING WSP.
3. REMOVE ALL EXISTING ASPHALT ONSITE. REPLACE WITH 4" ASPHALT OVER 8" OF BASE COURSE, (3212-210). SLOPE TO DRAIN AWAY FROM STRUCTURES. APPROX 4,300 SF.
4. CONNECT ANODE TO EXTERIOR STEEL YARD PIPING PER (2642-800).
5. CLSM BACKFILL WITH MEGA LUG CONNECTIONS.

FOR CONTINUATION, SEE DWG C-3
EXST 42" WSP
EXST SURGE TANK
12" BFV FOR BLOW OFF ISOLATION
THRUST BLOCK
EXST 12" BO TO POND
EXST 36" DISHED HEAD
FUTURE CONNECTION TO 42" ZONE C PIPELINE
EXST 3MG RESERVOIR
EXST 16" INLET / OUTLET
EXST 12" OVERFLOW
CONNECTION TO EXST 12" PVC, NOTES 1 AND 2 SEE 1/C-5
8" x 8" HORIZONTAL TEE
FOR WSP PROFILE, SEE 1/XS-4
EXST 4" UNDERDRAIN
EXST 8" TANK DRAIN
SOLID SLEEVE COUPLING
2 QTY x 8" GATE VALVES, AWWA C509, TYPE V130
45° ELBOW
REMOVE AND RESTORE CONDUIT AND CABLE AS NEEDED
ANODE, 13' DEEP, NOTE 4
ANODE, 18' DEEP, NOTE 4
GRAVEL 3123-920
5700 WEST PUMP STATION UPDATE, SEE 1/PA-4
FLOW
EXST 24" ZONE C
EXST 3" PVC PUMP STATION FLOOR DRAIN
FOR TANK CONNECTION VAULT MODIFICATIONS, SEE NOTE 1 2/C-5
8" PVC W/ DIP FITTINGS, NOTE 5
CONNECT EXST 4" UNDERDRAIN TO SD MH #1
90° VERTICAL ELBOW
12" DIP 45° ELBOW
EXST 24" TEE
NOTE 1
2" SUMP DISCHARGE TO SD MH #1
TYPICAL FLOW
EXST 24" BFV FOR PUMP STATION ISOLATION
EXST 24" ZONE B
REFERENCE STA 0+19.75
SLOPE TO DRAIN
SD MH #1, 48"
N 7375463.62
E 1494172.72
RIM EL 4937.00
INV EL 4931.25
3305-710
PROTECT IN PLACE EXST THRUST BLOCK
SOLID SLEEVE COUPLING FOR CONNECTION
8" x 12" TEE
RELOCATE PRIMARY SITE POWER
14' TYP AROUND VAULT
APPX 55 FT TOTAL OF 12" DIP FOR SD
5700 WEST CONNECTION VAULT 1/SM-1
NEW ASPHALT, NOTE 3
TEMP DISHED HEAD FOR PRESSURE TEST
NEW ASPHALT, NOTE 3
REMOVE AND REPLACE EXST GATES
PRIMARY POWER TO SITE
EXST 12" SD DEMO NOT SHOWN FOR CLARITY
POE STA 138+70±
STA 138+64.46 42"x30" TEE 3305-939
WSP CONNECTION x3 2642-012
SD MH #2, 48"
N 7375463.14
E 1494204.68
RIM EL 4936.25
INV EL 4931.04
3305-710
FUTURE PUMP STATION CONNECTION
CONNECT NEW MH TO EXST 15" SD
EXTEND CURB AND GUTTER 36' PER CITY DETAIL
CT STATION 2642-800
ANODE JUNCTION BOX 2642-875
RECTIFIER 2642-891
4'x8'x4" THK CONC PAD
DEEP ANODE GROUND BED 2642-891
(4) 3" CONDUIT
(4) 3" CONDUIT
POWER METER PEDESTAL
TRANSFER SWITCH

0 5 10 15
1" = 5'

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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NO.	DATE	REVISION	BY	APVD
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	12/2020	RECORD DRAWINGS		
CH				
RW				

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

CIVIL

DETAILED 5700 WEST CONNECTION SITE PLAN

RECORD DRAWINGS

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	C-4
SHEET	42 of 72

C:\pw_workdir\den003\ch2mhill_choggard\d0406729\JV102-C-004_WEXE9600 12-18-20 02:48pm choggard

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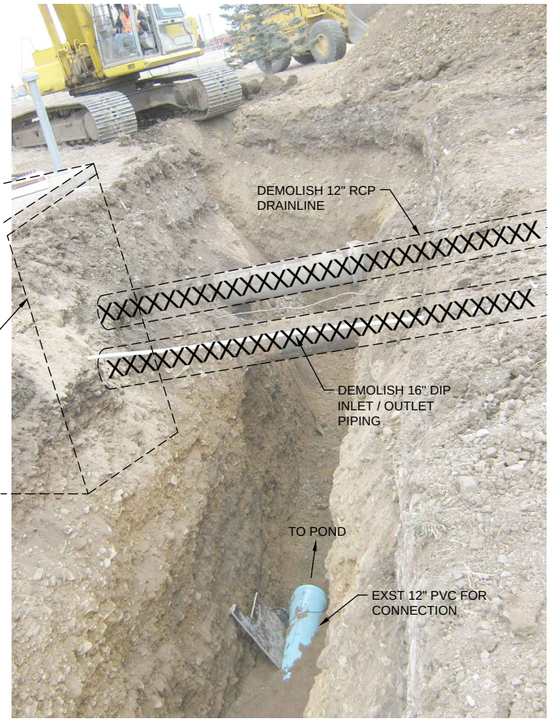
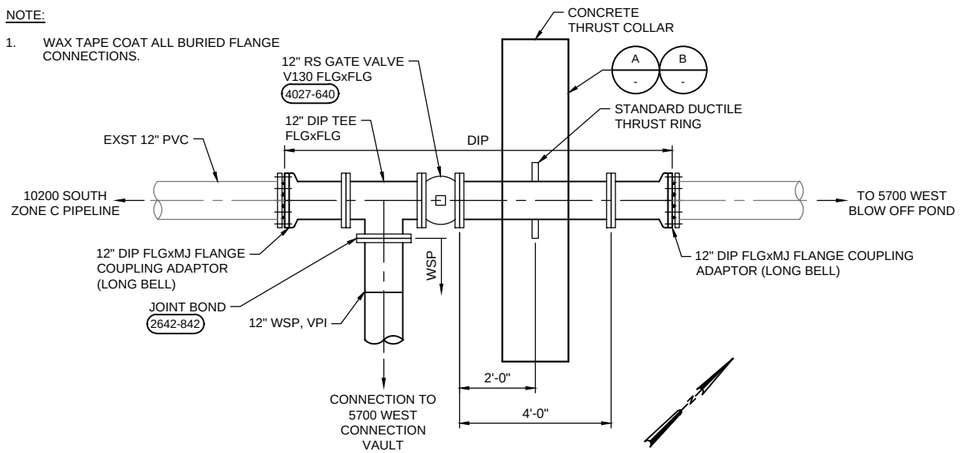


EXST 12" PVC DRAIN, LOOKING NORTHEAST.

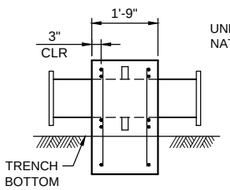
NOTE:

1. WAX TAPE COAT ALL BURIED FLANGE CONNECTIONS.



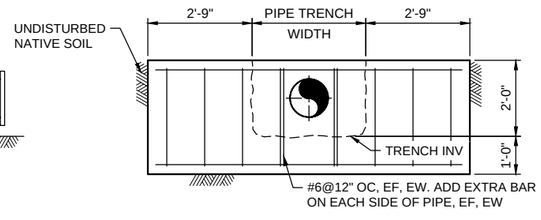
1 DIP CONNECTION TO EXST 12" PVC DRAIN

1/2"=1'-0"



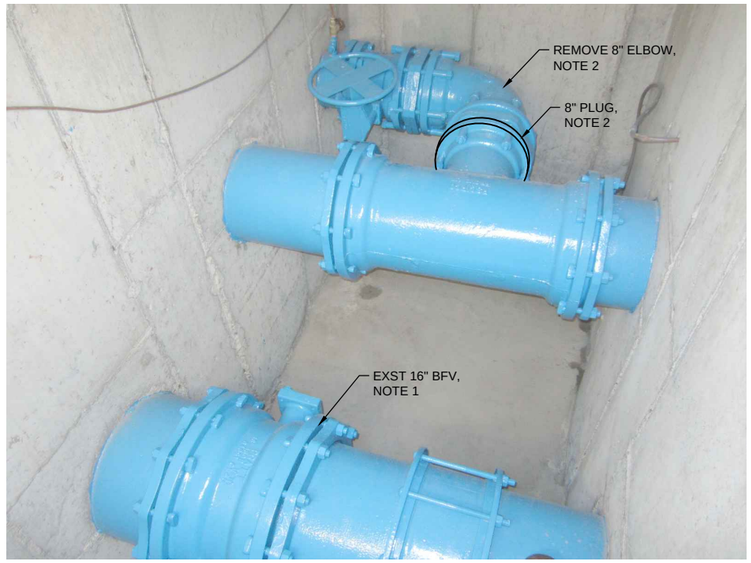
A PROFILE

1/2"=1'-0"

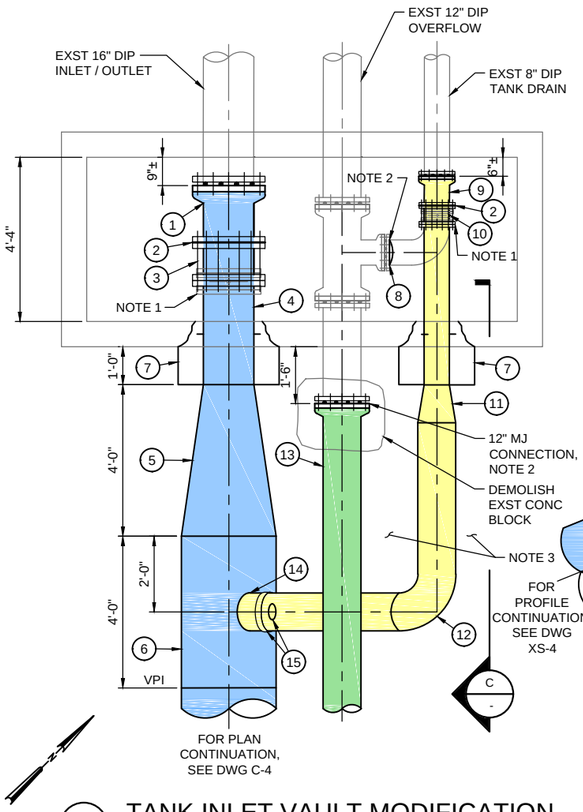


B TRENCH SECTION

1/2"=1'-0"



TANK INLET VAULT INTERIOR LOOKING NORTHEAST.



2 TANK INLET VAULT MODIFICATION

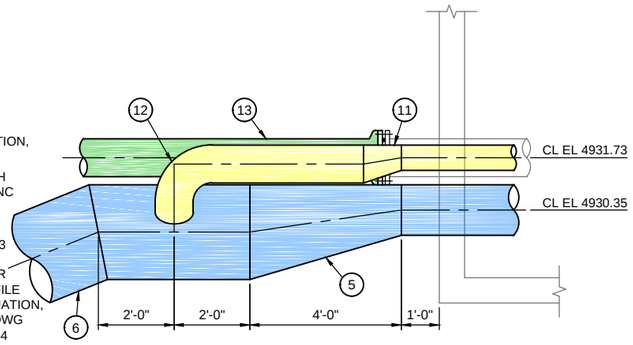
1/2"=1'-0"

MATERIAL SCHEDULE

1	16" DIP MJxFLG ADAPTOR
2	INSULATING FLANGE, MATCH PIPE DIAMETER 2642-925
3	16" RESTRAINED DISMANTLING JOINT
4	16" WSP STD WT
5	30"x16" ECCENTRIC REDUCER (FLAT TOP), 4-FT LONG
6	30" WSP, t=3/8"
7	CONCRETE COLLAR 0330-022
8	8" DIP MJ PLUG
9	8" DIP MJxFLG ADAPTOR
10	8" RESTRAINED DISMANTLING JOINT
11	12"x8" ECCENTRIC REDUCER (FLAT TOP)
12	12" WSP 90° ELBOW, COMBINED BEND
13	12" DIP
14	30"x12" OUTLET
15	BUTT STRAP CONNECTION, 3305-885 (EXTERIOR WELDS ONLY) W/ 5" THREADED HANDHOLE FOR LINING REPAIR

NOTES:

1. 16" INLET / OUTLET AND 8" DRAIN. REMOVE EXST PIPING. CONTRACTOR MAY SALVAGE MATERIALS. CORE THROUGH SOUTHEAST WALL AND INSTALL NEW WSP. FOR PRESSURE TEST REPLACE DISMANTLING JOINT WITH BLIND FLANGE.
2. OVERFLOW. REMOVE EXST 8" 90 DEG ELBOW AND PLUG EXISTING 12"x8" TEE OUTLET. DEMOLISH EXISTING CONCRETE BLOCK AND 12" RCP PIPE. CUT EXISTING 12" DIP 1'-6" AWAY FROM VAULT AND INSTALL NEW 12" DIP TO SD MH #1.
3. BACKFILL YARD PIPING WITH CLSM.



C SECTION

1/2"=1'-0"

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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THE ORIGINAL DRAWING WAS STAMPED BY RYAN WILLEITNER UTAH P.E. NO. 8760818

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	12/2020	RECORD DRAWINGS		

DSGN R WILLEITNER DR C HOGGARD CHK A MURDOCK APVD R WILLEITNER

CH RW

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

CIVIL

5700 WEST YARD PIPING DETAILS

RECORD DRAWINGS

VERIFY SCALE

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DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	C-5
SHEET	43 of 72

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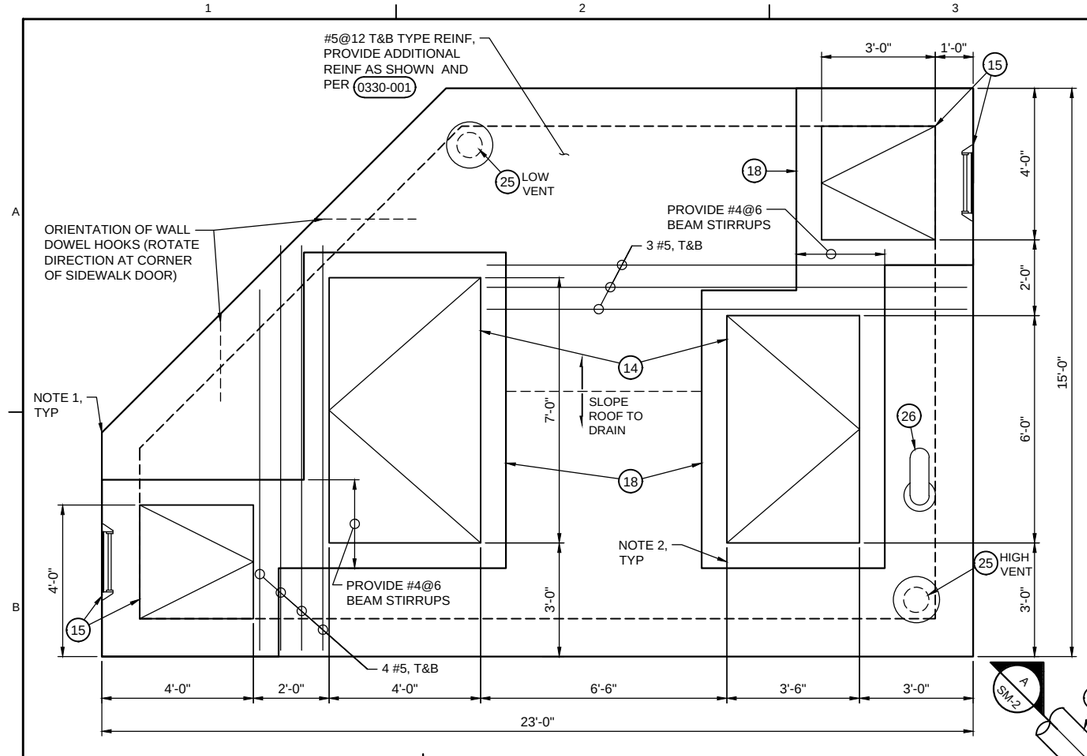


1 ROOF PLAN

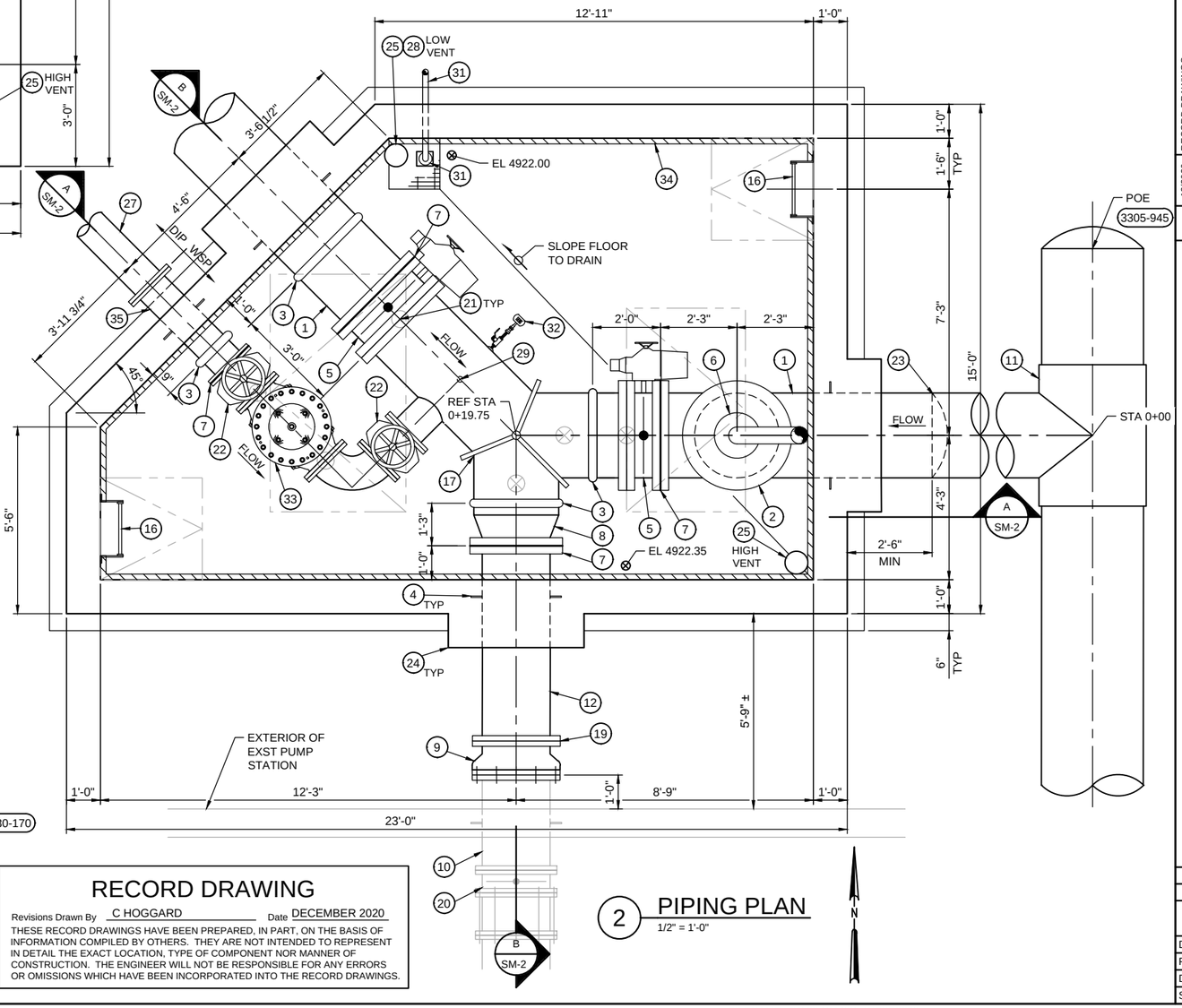
1/2" = 1'-0"

NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DWG G-10.
2. REINFORCE OPENINGS PER DETAIL 0330-001.
3. REINFORCE CORNERS PER DETAIL 0330-003.

MATERIAL SCHEDULE

1. 30" WSP SPECIAL W/ OUTLETS, t = 3/8"
2. 30" ACCESS MANWAY 3305-940 SIM
3. GROOVED END COUPLING, MATCH PIPE DIAMETER
4. SEEP RING 3305-916 FOR ALL PIPE WALL PENETRATIONS ON SOUTH WALL, USE t=1/2" FOR THRUST RING
5. 30" BUTTERFLY VALVE TYPE V504 W/ ELECTRIC OPERATOR, SUPPLIED BY JVWCD
6. 6" COMBINATION AIR VALVE TYPE V746 4027-120 2337-806
7. INSULATING FLANGE, MATCH PIPE DIAMETER 2642-925
8. 30x24" WSP FLG x GE CONCENTRIC REDUCER
9. 24" DIP FLG x MJ ADAPTER W/ RESTRAINED JOINT. WAX TAPE COAT
10. EXST 24" DUCTILE IRON PIPE
11. WRAPPER OUTLET 3305-939
12. 24" ID, t=3/8" WSP, FLG x FLG
13. FLOOR CONDUIT TO VALVE CONNECTION 2605-305, TYP OF 3
14. SIDEWALK DOOR W/ DRAIN, SIZE AS SHOWN
15. 36" SQUARE SIDEWALK DOOR W/ DRAIN AND EXTERIOR LADDER 0551-143
16. INTERIOR LADDER 0551-101
17. 30" TRUE WYE W/ FLG AND GROOVED ENDS. FOR CROTCH PLATE DETAILS SEE DWG PA-5
18. 8" CONCRETE CURB 0330-080
19. JOINT BOND 2642-842
20. EXST 24" BFV. REMOVE AND INSTALL BLIND FLANGE FOR PRESSURE TEST. REINSTALL AFTER TEST
21. PIPE SUPPORT 4005-500 QTY OF 6
22. 12" FLG x FLG GATE VALVE, TYPE V130 W/ MANUAL OPERATOR
23. TEMP DISHED HEAD FOR PRESSURE TESTING 3305-945 USE BUTT STRAP FOR FINAL CONNECTION 3305-885
24. PIPE COLLAR 0330-021 MONOLITHIC POUR, QTY OF 3
25. 8" VENT PIPE W/ ROOF PENETRATION 2337-806
26. 6" GOOSENECK AIR VALVE VENT ASSEMBLY WITHOUT COVER 2337-805
27. 12" DIP, THRUST RESTRAINED, JOINT LOCKING SYSTEM
28. EXHAUST FAN 2337-810
29. 2" DRAIN 4027-195
30. WALL PIPE SUPPORT 4005-505
31. SUMP PUMP. SLOPE TO DRAIN TOWARD SD MH #1 0330-085 2230-170
32. PRESSURE TRANSDUCER 4090-690
33. 12" GLOBE VALVE W/ ELECTRONIC SOLENOID OPERATION, TYPE V714, SUPPLIED BY JVWCD
34. 2" THICK RIGID INSULATION ON CEILING AND WALLS 4 FEET DOWN FROM INSIDE OF CEILING, OMIT BEHIND LADDER
35. 12" FLG WSP



2 PIPING PLAN

1/2" = 1'-0"

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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THE ORIGINAL DRAWING WAS STAMPED BY RYAN WILLEITNER UTAH P.E. NO. 8760818

NO.	DATE	REVISION	DR	CHK	APVD
DSGN	R WILLEITNER	C HOGGARD	A MURDOCK	R WILLEITNER/T PETTY	
	12/2020	RECORD DRAWINGS			
				CH	RW

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

STRUCTURAL / MECHANICAL

5700 WEST CONNECTION VAULT
ROOF AND PIPING PLANS

RECORD DRAWINGS

VERIFY SCALE

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DWG	SM-1
SHEET	44 of 72

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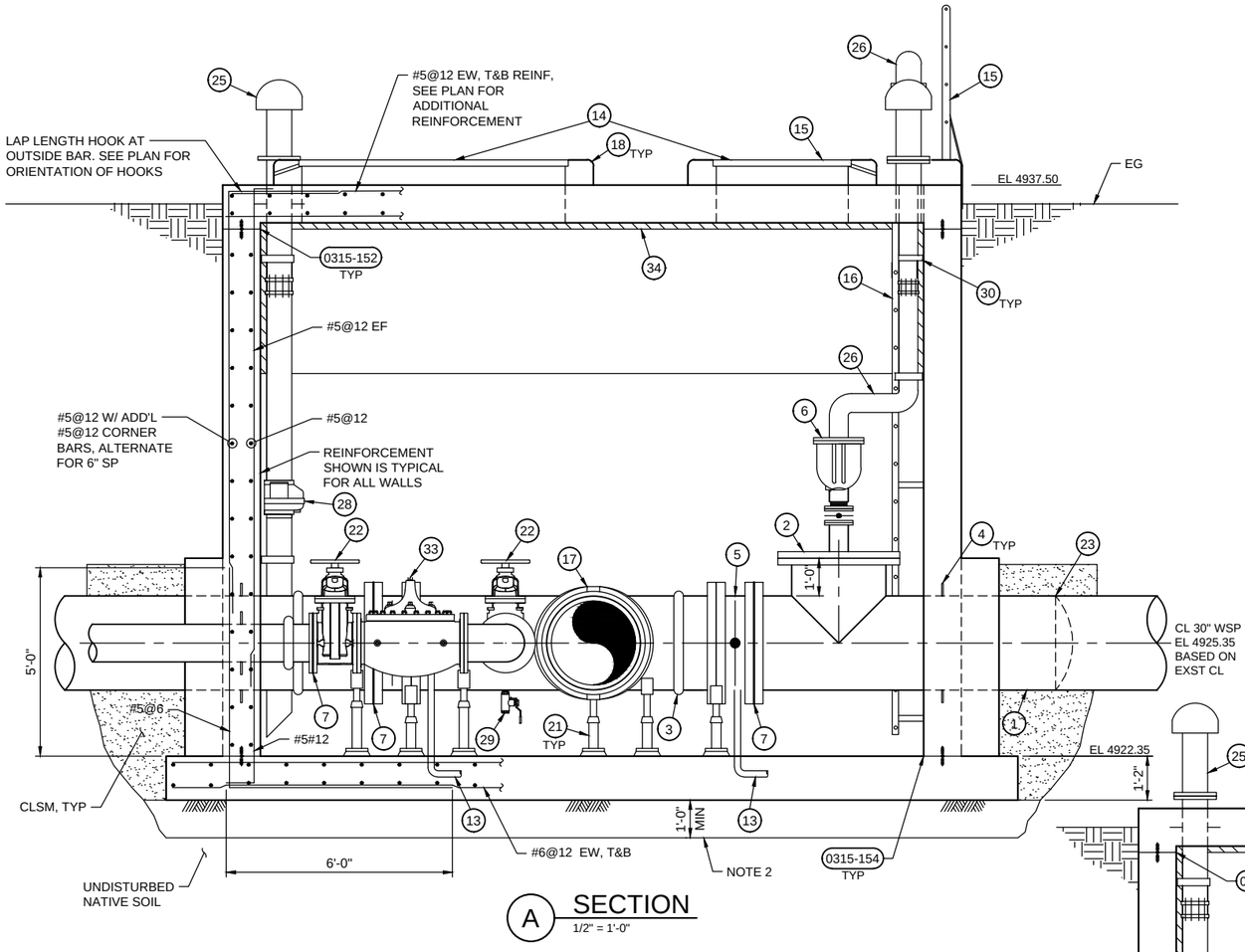
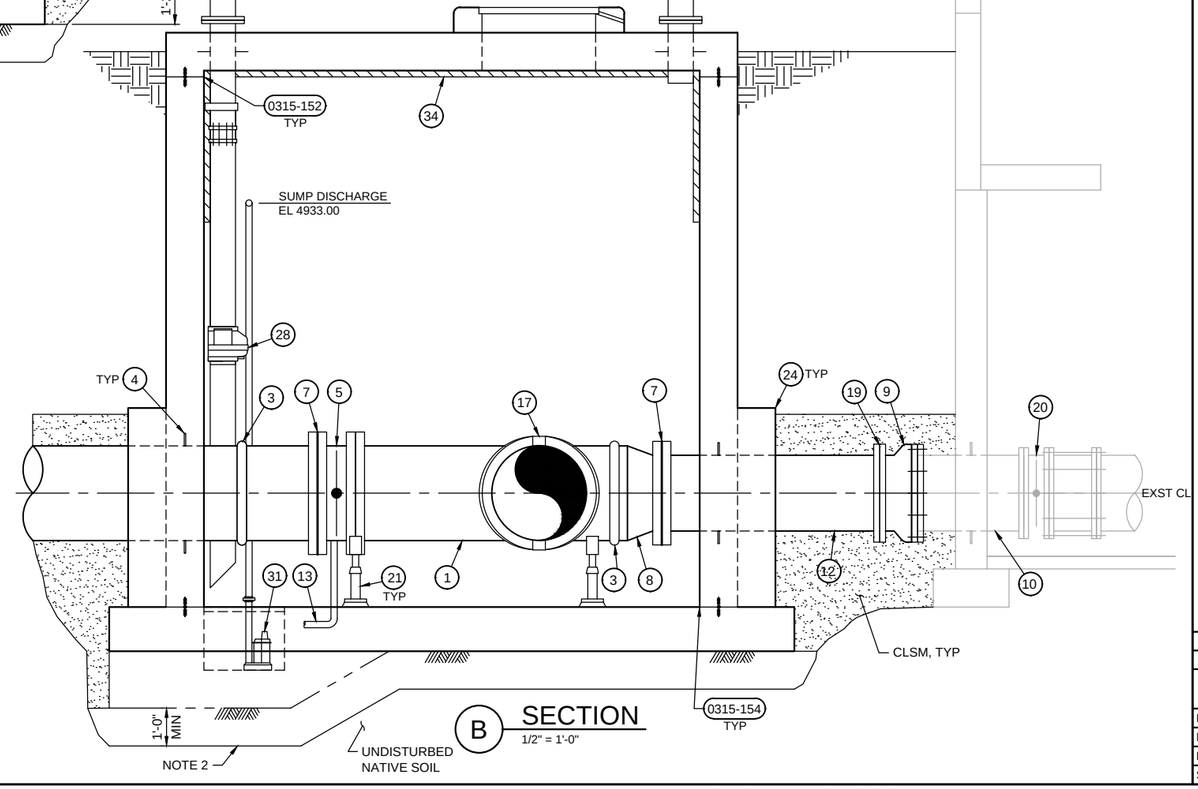


A SECTION
1/2" = 1'-0"



B SECTION
1/2" = 1'-0"

NOTES:

1. FOR MATERIAL SCHEDULE SEE DWG SM-1.
2. PROVIDE 12" MIN GRANULAR STRUCTURAL BACKFILL AND COMPACT TO 98% RELATIVE COMPACTION ASTM D1557.

RECORD DRAWING

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	12/2020	RECORD DRAWINGS	C HOGGARD	A MURDOCK	APVD	R WILLEITNER	T PETTY

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

STRUCTURAL / MECHANICAL

5700 WEST CONNECTION VAULT SECTIONS

RECORD DRAWINGS

VERIFY SCALE

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DATE	DECEMBER 2020
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DWG	SM-2
SHEET	45 of 72

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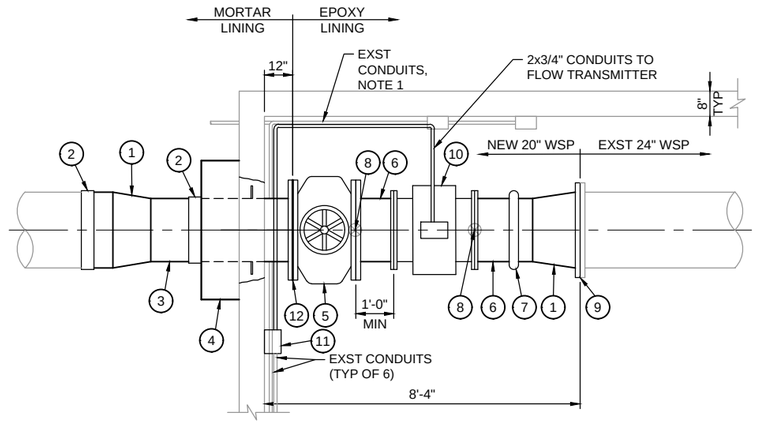
LOOKING NORTH AT THE SOUTH WALL OF 5700 WEST PUMP STATION EXTERIOR PIPING.

LOOKING WEST AT THE SOUTH CORNER OF 5700 WEST PUMP STATION INTERIOR PIPING.



1 PLAN
1/2"=1'-0"

MATERIAL SCHEDULE

1. 24" x 20" WSP REDUCER, STD WT
2. BUTT STRAP JOINT CONNECTION 3305-885 W/ HEAT SHRINK SLEEVE
3. 20" ELBOW. CONTRACTOR TO VERIFY ANGLE
4. PIPE COLLAR W/ SEEP RING 0330-021
5. 20" RS GATE VALVE, FULL PORT V130
6. 20" WSP SPOOL
7. 20" GROOVED END COUPLING
8. PIPE SUPPORT 4005-500
9. 24" AWWA CLASS E FLANGE
10. 20" MAG METER. CONNECT TO EXST ELECTRICAL SYSTEM 4091-222
11. FLOW TRANSMITTER MOUNTED TO SOUTH WALL
12. INSULATING FLANGE 2642-925

NOTES:

1. ADJUST CONDUIT RUNNING ALONG WALL AND FLOOR AS NECESSARY FOR PIPE REPLACEMENT.

RECORD DRAWING

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NO.	DATE	REVISION	BY	APVD
	12/2020	RECORD DRAWINGS		

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

PIPELINE APPURTENANCES

PUMP STATION PIPING UPSIZE

RECORD DRAWINGS

VERIFY SCALE

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DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	PA-4
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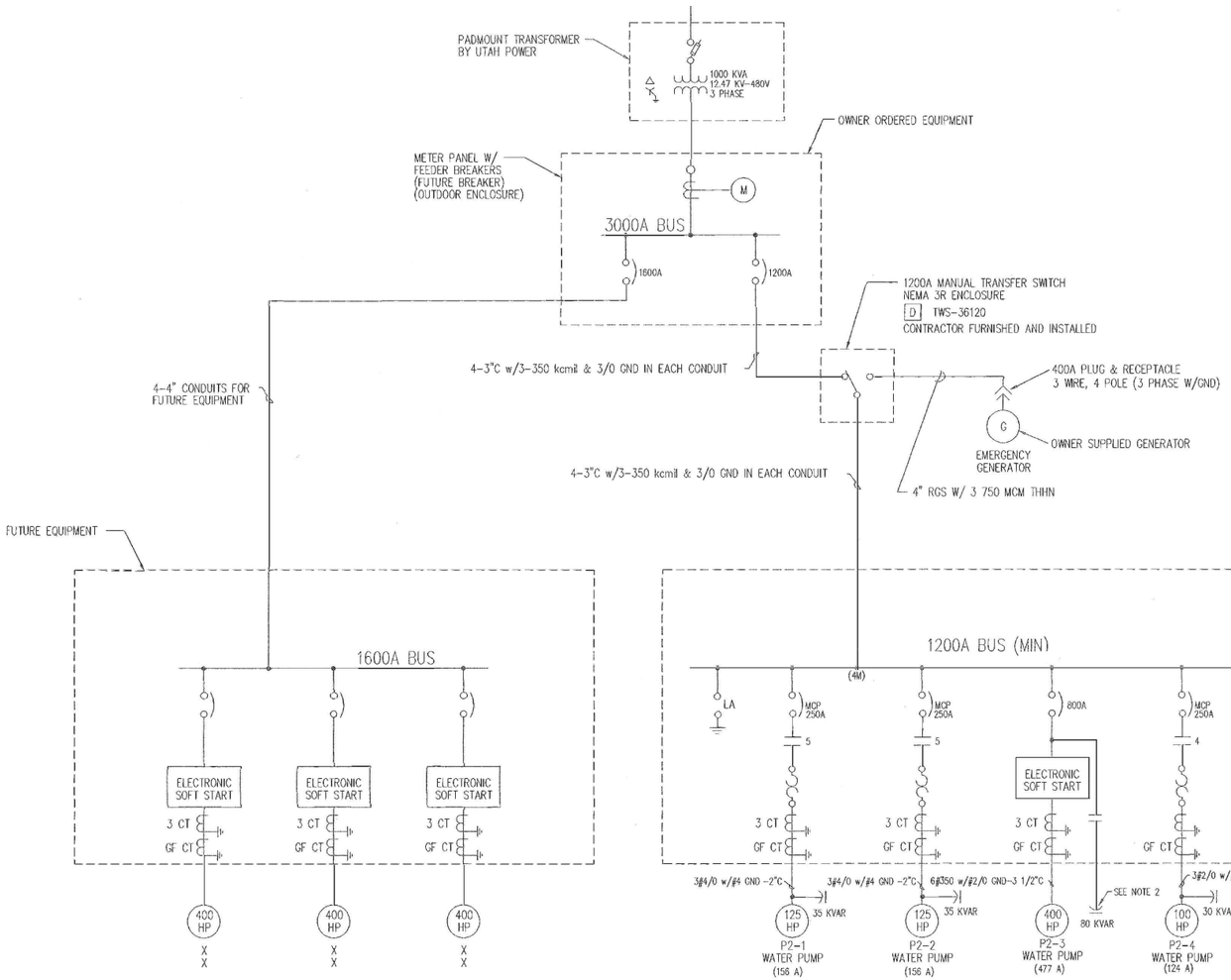

LOAD CALCULATION

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
BOOSTER PUMP 1		125	156
BOOSTER PUMP 2		125	156
BOOSTER PUMP 3		400	477
BOOSTER PUMP 4		100	124
SURGE TANK COMPRESSOR		7.5	11
NORTH MOTORIZED VALVE		0.75	1.6
SOUTH MOTORIZED VALVE		0.75	1.6
EAST MOTORIZED VALVE		**0.75**	**1.6**
WEST MOTORIZED VALVE		**0.75**	**1.6**
NON- MOTOR LOADS			
XFMR	30		62.5
MPC	**10**		**20.8**
SUBTOTAL			**1013.73**
+25% OF LARGEST MOTOR			**119.25**
+25% OF APPX CONTINUOUS LOAD			**10.4**
TOTAL AMPS @ 480V/3PHASE			**1143.4**
MAIN SERVICE SIZE			1200

PANEL SCHEDULE

PANEL: MPC (MINI-POWER CENTER) LOCATION 10200 SOUTH PUMP STATION
SERVICE VOLTAGE: 120/240 1PH 3W PHASE: 1 WIRE: 3
TOTAL LOAD KVA: 2.8 BUS SIZE: 40A PRIMARY: 40A (14KAIC) TYPE: BRKR
REMARKS: SECONDARY: 50A (10KAIC)

LOAD IN VA A	LOAD IN VA B	CIRCUIT DESCRIPTION	BKR A/P	CKT NO.	CKT NO.	BKR A/P	CIRCUIT DESCRIPTION	LOAD IN VA A	LOAD IN VA B
150.0		LIGHTING	20/1	1	2	20/1	VAULT RECEPTACLES	360.0	
	1180.0	SUMP PUMP RECEPTACLE	20/1	3	4	15/1	EXHAUST FAN		100.0
120.0		20" FLOW METER	15/1	5	6	20/1	CATHODIC PROTECTION	900.0	
	0.0	SPARE	20/1	7	8	20/1	SPARE		0.0
0.0		SPARE	20/1	9	10				
				11	12				
				13	14				
				15	16				
				17	18				
270.0	1180	TOTAL						1260.0	100.0

NOTES:

1. POWER FACTOR CORRECTION CAPACITORS TO BE SELF-HEALING, INTERNALLY PROTECTED, w/DISCHARGE RESSISTORS & NEMA 12 ENCLOSURES ABB or EQUAL.
2. POWER CABLES TO 80KVAR CAPACITOR TO BE 10FT. MINIMUM IN LENGTH.
3. USE SPARE MCC BUCKETS FOR THE MOV AND MPC CIRCUITS. REPLACE EXISTING CIRCUIT BREAKERS AS INDICATED IN THE SINGLE LINE DIAGRAM. NEW CIRCUIT BREAKERS WITH MATCHING MAKE, MODEL, AIC RATING, ETC. OF EXISTING CIRCUIT BREAKERS IN THE MCC.
4. FOR ADDITIONAL CONDUIT AND CABLE REQUIREMENTS, REFER TO CONDUIT BLOCK DIAGRAM IN DWG E-2.

THIS DRAWING MODIFIES AS-BUILT DRAWINGS DATED 9-1-1997
DRAWING: SHEET 13 OF 25

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

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THE ORIGINAL DRAWING WAS STAMPED BY MANIKA GUPTA UTAH P.E. NO. 10432912

NO.	DATE	REVISION	BY	CHK	APVD
DSGN	J CASTANOS	DR C HOGGARD	CHK R WILLEITNER	APVD M GUPTA	
	12/2020	RECORD DRAWINGS			

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

ELECTRICAL

SINGLE-LINE DIAGRAM

RECORD DRAWINGS

VERIFY SCALE
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0 1"

DATE	DECEMBER 2020
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DWG	E-1
SHEET	51 of 72

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RECORD DRAWING

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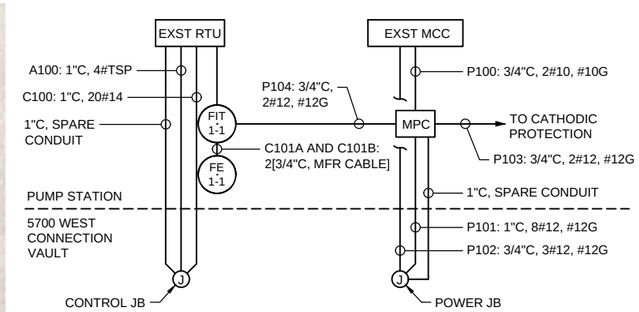

CONDUIT BLOCK DIAGRAM

EXST SURGE TANK

EXST CONNECTION VAULT

EXST PUMP STATION

FE-1-1, NOTE 4
4091-222

C101A
C101B

FIT-1-1

A101

P104

MPC

RTU

FOR PRIMARY POWER RELOCATION, SEE DWG C-3

EXST MCC

NOTE 6

PANEL MPC, NOTE 8

EXST RTU PANEL NOTE 3

P101
P102
A100
C100

2605-400

NOTE 1

P103

5700 WEST CONNECTION VAULT
2
SM-1

NOTE 5
2605-400

CATHODIC PROTECTION RECTIFIER, NOTE 9

2642-891

EXST UTILITY TRANSFORMER

EXISTING METERING PANEL

EXST TRANSFER SWITCH

0 10 10 15
1" = 5'

GENERAL NOTES:

A. SEAL OPENING AROUND CONDUIT, INSIDE AND OUTSIDE OF THE WALL PENETRATION.

NOTES:

1. FOR ELECTRICAL WORK INSIDE 5700 WEST CONNECTION VAULT, REFER TO DWG E-3.
2. FOR CONDUIT AND CABLE REQUIREMENTS, REFER TO CONDUIT BLOCK DIAGRAM ON THIS DWG.
3. RTU INTERIOR COMPONENTS AND ASSEMBLY BY JVWCD. CONTRACTOR SHALL PROVIDE 4-FOOT SERVICE LOOP FOR ALL CONDUCTORS IN RTU CABINET.
4. DISCONNECT AND REMOVE EXISTING ELECTROMAGNETIC FLOW METER AND INSTALL UPSIZED REPLACEMENT. PROVIDE 2#12, #12G, 3/4"C FROM FLOW TRANSMITTER TO THE MPC. PROVIDE 1#16 TSP, 3/4"C FROM FLOW TRANSMITTER TO THE RTU.
5. CATHODIC PROTECTION RECTIFIER SHALL BE FED FROM PANEL MPC, CKT. 6.
6. CONDUIT TO PENETRATE FROM THE TOP OF BOTH MCC-1 AND PANEL MPC.
7. COORDINATE POWER OUTAGE WITH OWNER PRIOR TO START OF NEW WORK AND TESTING.
8. TIE MPC GROUND TO EXISTING GROUNDING ELECTRODES SYSTEM AT MCC WITH MINIMUM #8 BARE COPPER GROUNDING ELECTRODE CONDUCTOR.
9. PROVIDE 30A RATED, 240V, 2P, NEMA 3R SAFETY DICONNECT SWITCH FOR THE CATHODIC PROTECTION RECTIFIER. REFER TO 2642-891 FOR INSTALLATION REQUIREMENT.

THE ORIGINAL DRAWING WAS STAMPED BY MANIKA GUPTA UTAH P.E. NO. 10432912

NO.	DATE	REVISION	BY	APVD
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	12/2020	RECORD DRAWINGS	CH	RW

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

ELECTRICAL

5700 WEST CONNECTION VAULT ELECTRICAL SITE PLAN

RECORD DRAWINGS

VERIFY SCALE

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DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	E-2
SHEET	52 of 72

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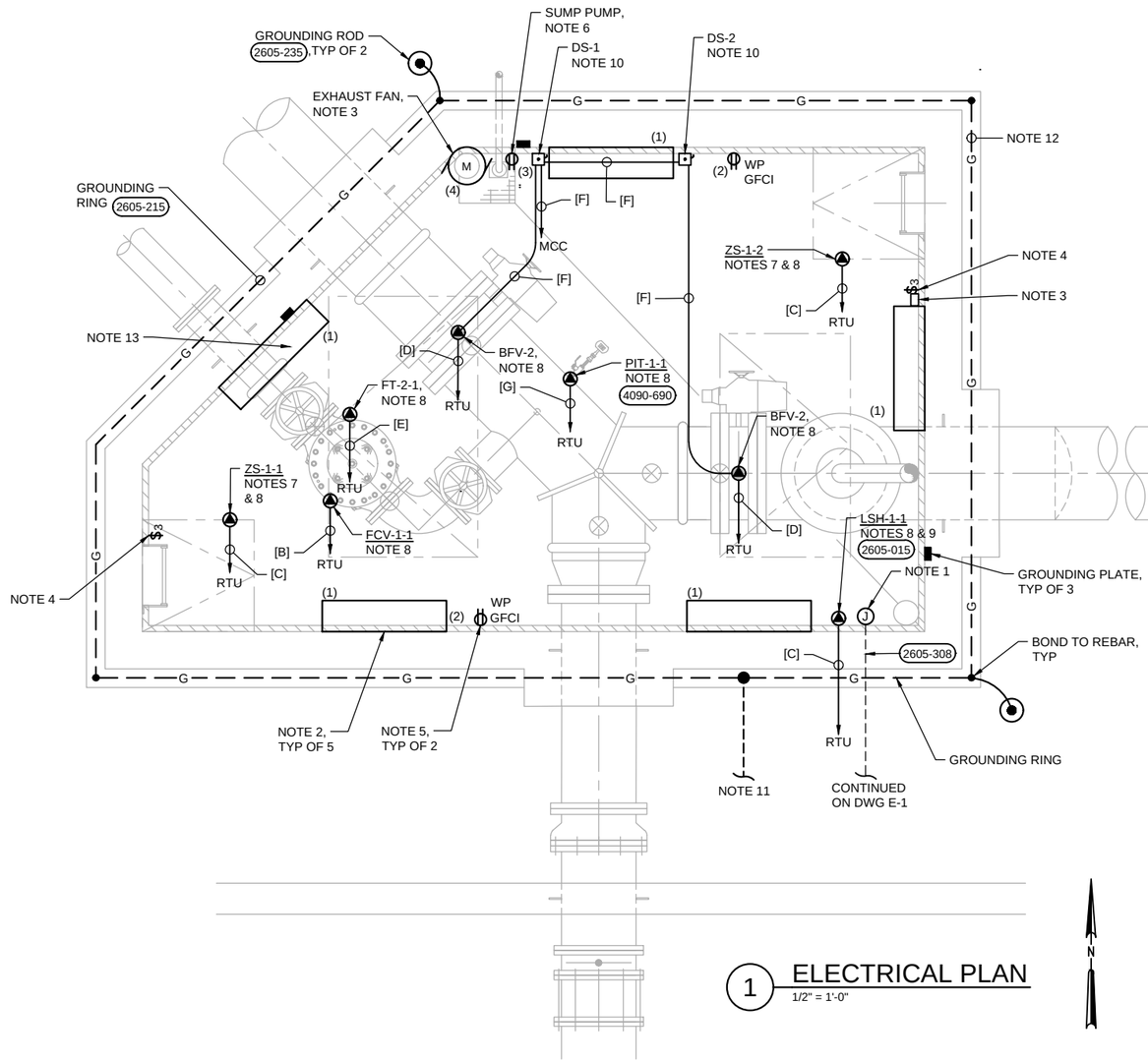
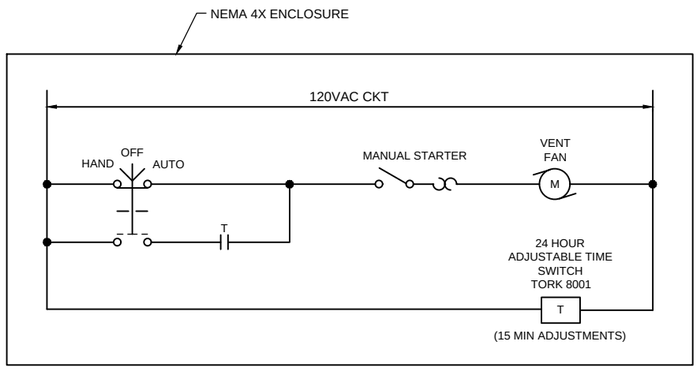


1 ELECTRICAL PLAN
1/2" = 1'-0"



EXHAUST FAN CONTROL SCHEMATIC DIAGRAM

GENERAL NOTES:

A. NUMBERS IN PARENTHESES (X) ADJACENT TO LIGHTS, RECEPTACLES AND EXHAUST FAN DENOTE CIRCUIT NUMBERS IN PANEL MPC. PROVIDE 3/4"C, 2 #12, #12G.

B. RTU INTERIOR COMPONENTS AND ASSEMBLY BY JVWCD. CONTRACTORS SHALL PROVIDE 4-FOOT SERVICE LOOP FOR ALL CONDUCTORS IN RTU CABINET.

C. ALL CONDUCTORS SHALL BE STRANDED. (NO SOLID CONDUCTORS).

D. CONDUIT BODIES AND BOXES FOR WIRING DEVICES SHALL BE CAST MALLEABLE IRON. BOXES ARE TYPE FS OR FD.

E. ALL WIRING DEVICES SHALL BE HEAVY DUTY, BACK WIRED ONLY, SUITABLE FOR STRANDED WIRE. STRANDED WIRE SHALL NOT BE WRAPPED AROUND DEVICE SCREWS.

F. ATTACH CONDUIT TO STRUCTURE WITH MALLEABLE CLAMPS WITH BACKSTRAP OR UNISTRUT WITH STRUT STRAPS. ALL UNISTRUT, STRUT STRAPS, AND MOUNTING ANCHORS SHALL BE STAINLESS STEEL.

G. CONTRACTOR SHALL AVOID SPLICING CONDUCTORS OR CABLES WITHIN JUNCTION BOXES OR PULL BOXES. CONTRACTOR TO PROVIDE TERMINAL STRIPS FOR ANY CONDUCTORS SPLICED IN THE FIELD AND CLEARLY IDENTIFY CONDUCTORS WITH WEATHER RESISTANT LABELS.

KEY NOTES:

1. PROVIDE SEPERATE JUNCTION BOX(ES) ON VAULT WALL FOR POWER CONDUIT AND CONTROL CONDUIT TERMINATIONS. QUANTITY AND SIZE AS REQUIRED.
2. PROVIDE ENCLOSED AND GASKETED LINEAR LED LUMINAIRE, LITHONIA FEM-L48-6000LMN-IMAFL-WD-MVOLT-40K OR APPROVED EQUAL. WALL MOUNT AT 7'-6" ABOVE FINISH FLOOR.
3. INSTALL HAND-OFF-AUTO SWITCH AT PRINCIPAL ACCESS HATCH ADJACENT TO LIGHT SWITCH. PROVIDE TORK #8001 TIME SWITCH (NO SUBSTITUTES). MOUNT TIME SWITCH IN NEMA 4X FIBERGLASS ENCLOSURE. HOFFMAN A16148CHQRFG. REFER TO EXHAUST FAN CONTROL SCHEMATIC DIAGRAM BELOW FOR MORE INFORMATION.
4. MOUNT LIGHT SWITCH 6" BELOW VAULT HATCH AND ADJACENT TO LADDER. PROVIDE WEATHER PROOF (WP) WHILE IN-USE COVER
5. MOUNT CONVENIENCE RECEPTACLE 48 INCHES ABOVE FINISH FLOOR. CIRCUIT RECEPTACLES AS SHOWN. PROVIDE WP WHILE IN-USE COVER.
6. PROVIDE 20A SIMPLEX RECEPTACLE WITH WP WHILE IN-USE COVER FOR SUMP PUMP. MOUNT AT 48" ABOVE FINISH FLOOR.
7. ACCESS HATCH INTRUSION SWITCH, WIDE-GAP MAGNETIC CONTACT SWITCH, 24VDC RATING. MOUNT SWITCH INSIDE HATCH. PROVIDE INTERLOGIX 2507AH OR APPROVED EQUAL.
8. INSTALL CONDUITS EMBEDDED IN CONCRETE FROM HATCH INTRUSION SWITCH, LEVEL SENSOR, PRESSURE INDICATING TRANSMITTER, MOTORIZED BUTTERFLY VALVES, FLOW CONTROL VALVE AND TO FLOW TRANSMITTER TO JUNCTION BOX ON SOUTH WALL.
9. MOUNT FLOOD ALARM SWITCH AT 3" ABOVE FINISHED FLOOR. GEMS LS-270.
10. PROVIDE ROTARY NON-FUSED DISCONNECT SWITCH 600V, 30A, 3 POLE NEMA 4X FOR THE MOTOR OPERATED VALVES.
11. EXTEND AND CONNECT TO THE EXISTING GROUNDING ELECTRODE CONDUCTOR AT THE PUMP STATION.
12. #1 BARE COPPER GROUNDING ELECTRODE CONDUCTOR.
13. ADD EXTRA CONDUIT FOR GROUND TO NEAR CENTER OF PIPE.

CONDUCTOR TYPES:

[A]	=	3/4"C, 2#12, 1#12G
[B]	=	3/4"C, 2#16TSP, 2#14
[C]	=	3/4"C, 2#14
[D]	=	3/4"C, 6#14
[E]	=	3/4"C, 1#16TSP, 2#14
[F]	=	3/4"C, 3#12, #12G
[G]	=	3/4"C, 1#16TSP

RECORD DRAWING

Revisions Drawn By C HOGGARD Date DECEMBER 2020

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

THE ORIGINAL DRAWING WAS STAMPED BY MANIKA GUPTA UTAH P.E. NO. 10432912

NO.	DATE	REVISION	CHK	BY	APVD
DSGN	DR	CHK			
J CASTANOS	C HOGGARD	R WILLEITNER	APVD	M GUPTA	
12/2020	RECORD DRAWINGS				

JORDAN VALLEY WATER CONSERVANCY DISTRICT

10200 SOUTH PIPELINE PROJECT

JACOBS

ELECTRICAL

5700 WEST CONNECTION VAULT
ELECTRICAL PLAN

RECORD DRAWINGS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	DECEMBER 2020
PROJ	WEXE9600
DWG	E-3
SHEET	53 of 72