



**DOCUMENT 00 90 01
ADDENDUM #2**

Project: Provo City Airport Pump Station PROVOENG202320542

Date: Tuesday, November 23, 2022
Bid Date: Thursday, December 15, 2022
Bid Time: 10:00 a.m.

This addendum shall be considered part of the Contract Document for the above referenced project as though it had been issued at the same time and shall be incorporated integrally therewith. Where provisions of the following supplementary data differ from those of the original Contract Documents, this Addendum shall govern and take precedence. Receipt of this addendum shall be acknowledged in Document 00 41 00 – Bid Form.

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Bid Date

The bid date has been moved from Thursday, December 1, 2022 to Thursday December 15, 2022.

Project Manual

Section 00 43 00 – Bid Schedule

Delete and replace this section with the version attached.

Section 22 11 23 – Submersible Pump and Appurtenances

Addition of technical specification for submersible pump.

Project Drawings

Sheet A304

Delete and replace this sheet. The model of the pump has been corrected and structural fill references granular backfill borrow.

Sheet S101

Delete and replace this sheet. The sheet now includes notes on the construction joints and the construction expansion joints.

Sheet S301

Delete and replace this sheet. Clarification on the depth of the structural fill (granular backfill borrow) under the concrete.

Attachments:

1. Section 00 43 00 – Bid Schedule
2. Section 22 11 23 – Submersible Pump and Appurtenances
3. Sheets A304, S101, S301

END OF ADDENDUM



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DOCUMENT 00 43 00
BID SCHEDULE

PART 1 GENERAL

1.1 DOCUMENT INCLUDES

- A. Price schedules.
- B. Measurement and payment provisions.

1.2 CONSTRUCTION CONTRACT

- A. The Construction Contract is known as Project.

1.3 REFERENCES

- A. APWA 01 29 00: Payment Procedures.
- B. Document 00 52 00: Agreement.

1.4 SCHEDULES TO BE ADDED TO THE AGREEMENT

- A. This document will be added to the Agreement by reference.

PART 2 PRICE SCHEDULES

SCHEDULE A - BASE BID

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1.01	Mobilization	LS	1	\$	\$
1.02	Survey	LS	1	\$	\$
1.03	Erosion Control	LS	1	\$	\$
1.04	Clearing and grubbing	LS	1	\$	\$
1.05	Earthwork Excavation and disposal	CY	7,405	\$	\$
1.06	Earthwork Fill and processing	CY	750	\$	\$
1.07	Install 24" RCP	LF	315	\$	\$
1.08	Pump Station and Appurtenances	LS	1	\$	\$
1.09	Install Screw Pumps and Components	LS	1	\$	\$
1.10	Concrete (Basin Floor, Access Road, and Weir)	SY	2,275	\$	\$
1.11	9" Riprap	CY	80	\$	\$
1.12	Fencing and Gate	LF	1,001	\$	\$
1.13	Install Sump Pump	LS	1	\$	\$
1.14	Install 18" RCP	LF	44	\$	\$
1.15	Install Headgate Structure	LS	1	\$	\$
1.16	Install Pump Station Electrical	LS	1	\$	\$
1.17	<u>Install Electrical Line In Levee</u>	LS	1	\$	\$
Total of All Unit Price Base Bid Items					\$
Total Unit Price Base Bid (in words): _____					

PART 3 MEASUREMENT AND PAYMENT

3.1 GENERAL

- A. Units of measurement are listed above in the price schedule(s).
- B. See measurement and payment procedures in APWA Section 01 29 00.
- C. ENGINEER will take all measurements and compute all quantities.
- D. CONTRACTOR will verify ENGINEER's measurements and computations.
- E. CONTRACTOR will provide all equipment, workers, and survey crews to assist ENGINEER in making measurements.
- F. Frames and covers damaged by CONTRACTOR will be replaced at no additional cost to OWNER.
- G. If ENGINEER determines an existing frame or cover needs to be replaced, a new frame or cover will be either provided by OWNER or CONTRACTOR. A frame and cover supplied by CONTRACTOR will be paid for by using prices agreed to in a Change Order.
- H. CONTRACTOR responsible for the preservation of neighboring facilities not being demolished, if damage occurs during construction proper restoration of all damage is required at no additional cost. All are included in the Bid Item.
- I. Description of Bid Items: The work generally consists of the following, which are numbered according to the bid schedule found in Part 2 of Section 00 43 00 – Bid Schedule

1. Mobilization

Measurement: Lump sum.

Payment: Includes mobilization, demobilization, installation of temporary facilities, construction fencing, all bonds, insurances, permits and fees, traffic control, public outreach, coordination, quality control and testing of materials, preparation of project schedule, project identification sign, final cleanup and project closeout, and all other items not specifically called for in any other Bid item or called for in the plans and specifications or is customary, incidental or appurtenant to performance of a complete project. Payments will be made on according to the following schedule:

Percent of Original Contract Amount Earned	Percent of Mobilization to be Paid
5%	40%
15%	20%
40%	30%
50%	10%

2. Survey

Measurement: Lump sum.

Payment: Includes all surveying activities necessary to control the many phases of work required to construct a project to the lines and grades shown, specified, or established. Includes making all supporting computations and field notes required for control of the work and as necessary to establish the exact position, orientation, and elevation of the work from control stations including furnishing and setting construction stakes and marks, reference marks, and additional control stations.

3. Erosion Control

Measurement: Lump sum.

Payment: Costs associated with all labor, materials and equipment required to implement the storm water pollution prevention plan as identified in the project drawings throughout the duration of the project. Cost shall also include the submittal and permit costs associated with obtaining a storm water permit for general construction activities from the Utah Department of Environmental Quality, as well as installation and maintenance of BMPs including silt fences, gravel wattles, inlet barriers, construction exit and concrete washout.

For purposes of payment, Erosion Control shall be paid for on a complete basis as summarized in the following table.

Partial Payment	Percent of Amount Paid	When Paid
1 st	30%	With 1 st Pay Request
2 nd	30% (up to 60% total)	When contract is at least 60% complete
3 rd	40% (up to 100% total)	When contract is at least 95% complete

4. Clearing and Grubbing

Measurement: Lump sum.

Payment: This work consists of clearing, grubbing, removing, and disposing of vegetation, debris, and other objects within the construction limits except for vegetation and objects that are designated to be preserved, protected, or removed in accordance with the requirements of other provisions of these specifications.

5. Earthwork Excavation and Disposal

Measurement: Cubic Yards.

Payment: Quantities will be rounded to the nearest cubic yard. This item includes all excavation at the site including all excavation, grading, and smoothing, as shown in the drawings and hauling excess cut material and properly disposing of said material at an offsite location. Of the total excavation quantity of 8,155 cubic yards, it is estimated that 7,405 cubic yards will be disposed of offsite and 750 cubic yards will

remain onsite as fill material (part of Bid Item No. 6).

6. Earthwork Fill and Processing

Measurement: Cubic Yards.

Payment: Includes all fill placement at the site including all placement grading, smoothing, processing, filtering, scarifying the existing ground surface prior to placement and ensuring a solid contact and connection between each lift, and placement of fill. Provide testing results of each lift to the Owner and Engineer.

7. Install 24" RCP

Measurement: Linear Feet.

Payment: This item includes all excavation, dewatering of trench, stabilization, furnishing and installing pipe, approved bedding, installation of reinforced concrete cradle beneath embankment, backfill, and compaction, restoration of disturbed areas to equal or better condition, and compaction testing. Payment will be made on the actual linear feet of 24" RCP installed, for work complete and in place in accordance with the project plans and specifications.

8. Install Pump Station and Appurtenances

Measurement: Lump sum.

Payment: Includes all materials, transportation, equipment, labor and other items required for the completion of the work including placing and compacting engineered fill, construction of footings, foundations, walls, floors, bays, basins, pedestals, grating, etc. of the pump station building in accordance with the plans and specifications.

9. Install Screw Pumps and Appurtenances

Measurement: Lump sum.

Payment: Includes furnishing and installing spiral screws, lower bearing assemblies, upper bearing assemblies, drive assemblies, belts and sheaves, motors, flexible couplings, deflection plates, automatic lubrication systems, grouting materials, anchor bolts, shop surface preparation, painting, and all appurtenances pertaining to the manufacturer's instructions and installation requirements in accordance with the plans and specifications.

10. Concrete (Basin Floor, Access Road, and Weir)

Measurement: Square Yards.

Payment: Includes all construction, compaction, and placement of base course, forms, rebar, and concrete work on the access road in accordance with the plans and specifications.

11. Install 9" Riprap

Measurement: Cubic Yards.

Payment: Includes all labor, materials, transportation, placement, compaction, and other items associated with the construction of the channel, chute, and spillway riprap in the locations shown on the plans and in accordance with the details and cross sections: Payment covers production, shipment, quality control testing and verification of riprap requirements. Payment also covers placement, shaping, and grading of rip rap to the designated thickness and depth to approved final grade.

12. Fencing and Gate

Measurement: Linear Feet.

Payment: Includes excavating or drilling post holes, drilling and installing for bolts/anchors, mounting bracket plates, epoxy, hardware, fence posts, caps, placing concrete to anchor posts, rails, tension bars for fencing and gates.

13. Install Sump Pump

Measurement: Lump sum.

Payment: Includes furnishing and installing submersible pump, ductile iron pipe, fittings, thrust blocks, including excavation, compaction, backfill around piping, coring, connecting, and grouting all piping in the sump basin and the pump station walls in accordance with the Drawings and Specifications.

14. Install 18" RCP

Measurement: Linear Feet.

Payment: This item includes all excavation, dewatering of trench, stabilization, furnishing and installing pipe, approved bedding, installation of reinforced concrete cradle beneath embankment, backfill, and compaction, restoration of disturbed areas to equal or better condition, compaction testing, testing. Payment will be made on the actual linear feet of 18" RCP installed, for work complete and in place in accordance with the Drawings and Specifications.

15. Install Headgate Structure

Measurement: Lump Sum.

Payment: Includes excavation, backfill and compaction, furnishing, installing, compacting structural fill, hauling and disposing of waste materials, furnishing and installing all grating, headgates, pre-cast concrete structure, coring, connecting, and grouting all piping in accordance with the Drawings and Specifications.

16. Install Pump Station Electrical

Measurement: Lump sum.

Payment: Includes all materials, transportation, equipment, labor and other items required for the completion of the work including furnishing and installing all control panels, RTU, panelboard, transformers, motor controllers, level transmitter,

conduit, lighting, electrical to pumps, service disconnects, etc., and any other appurtenances required to complete the pump station and sump pump electrical components in accordance with the Drawings and Specifications.

17. Install Electrical Line In Levee

Measurement: Lump sum.

Payment: Includes all materials, transportation, equipment, labor and other items required for the completion of the work including furnish and install all power conduit, electrical lines, etc., and any other appurtenances required to complete the electrical power line in the levee in accordance with the drawings and specifications.

END OF SECTION



SECTION 22 11 23 SUBMERSIBLE PUMP AND APPURTENANCES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Scope. This section covers the work necessary to furnish and install, complete, the submersible pump and motor specified herein.
- B. Submittals. Shop drawings shall be submitted in accordance with section 01 00 00 and shall include descriptive information as required to fully describe the pump, controls (if required), and overall operating performance. The shop drawings shall clearly state any deviations from the specified requirements. The following shall also be furnished with the shop drawings. Performance requirements specified hereinafter shall be defined in the hydraulic institute standards and ANSI/AWWA e101-88.
 - 1. Performance data curves (adjusted for operating speed) showing head, capacity, horsepower demand, and pump efficiency over the entire operating range of the pump, from shutoff to maximum capacity. The equipment manufactured shall indicate separately the head, capacity, horsepower demand, overall efficiency, and minimum submergence required at the specified design point.
 - 2. Equipment manufactured shall provide complete and detailed information regarding the installation of the pumps. Any installation requirements or operating conditions which the supplier or manufacturer feels to be critical to the safe and reliable operation of the pumps should be identified and described in detail.
 - 3. Operating and maintenance manuals and maintenance summary sheets for the equipment specified herein shall be furnished as specified in section 01 00 00.

1.2 DESIGN CRITERIA

- A. General. Pumps shall be capable of continuous operation while pumping stormwater.
- B. Operating capacity

Maximum Capacity	900 gpm
Low End Capacity	210 gpm
Total Dynamic Head	33 ft
Nominal Operating Speed	1,165 RPM
Minimum Efficiency	70%
Minimum Motor Horsepower	15
Discharge Size	6"

- C. The pump and motor shall be capable of operating within specified parameters without permanent damage.



PART 2 - PRODUCTS

2.1 PUMP DESIGN

- A. General. Pump shall include an integral check valve designed into the discharge of the pump. Pump shall include an integral carbon graphite bearing to handle momentary upthrust loads. An upthrust bumper bolt in the discharge of the pump will not be acceptable. Pump downthrust shall be absorbed by the motor thrust bearing. Each impeller shall be fitted with a seal ring around its eye or skirt to prevent hydraulic loss. All metallic components of the pump shall be stainless steel. All elastomeric components shall be Nitrile Rubber.

2.2 MOTOR DESIGN

- A. General. The motor shall be a squirrel cage induction motor designed for continuous underwater operation in conformance with NEMA standards. Motor shall be filled with a non-toxic oil for cooling and lubrication. A flexible diaphragm shall be provided to permit expansion of internal motor fluid. The seal shall be a silicon carbide, fluorocarbon, tungsten carbide, or a nitrile face seal. A mercury type shaft seal will not be acceptable. Motor shall be premium efficiency and VFD rated.

2.3 ELECTRICAL CABLE

- A. Quick disconnect cable. See electrical specifications.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. The installation shall be in accordance with manufacturers written recommendations. The installation shall be as shown in the drawings.

3.2 PAINTING

- A. Shop and field painting shall be specified by owner.

3.3 FUNCTIONAL TEST

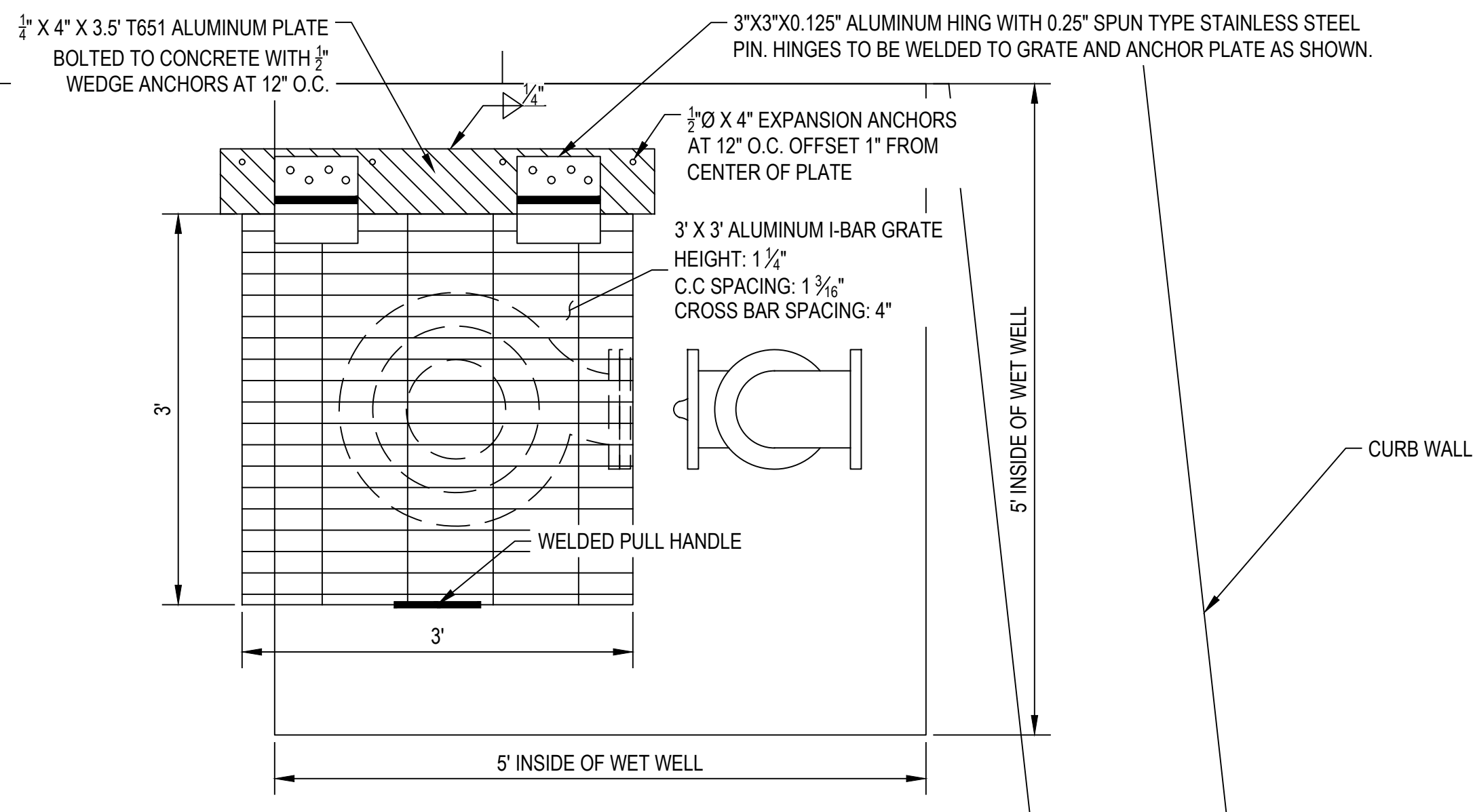
- A. Prior to owner acceptance and formal pump station start-up, all equipment shall be inspected for proper alignment, quiet operation, proper connection, and satisfactory performance by means of a function test. A start up report showing function testing, motor voltages, running amperages and well water levels shall be provided to the engineer after pump station start-up.

3.4 SUPPLIER

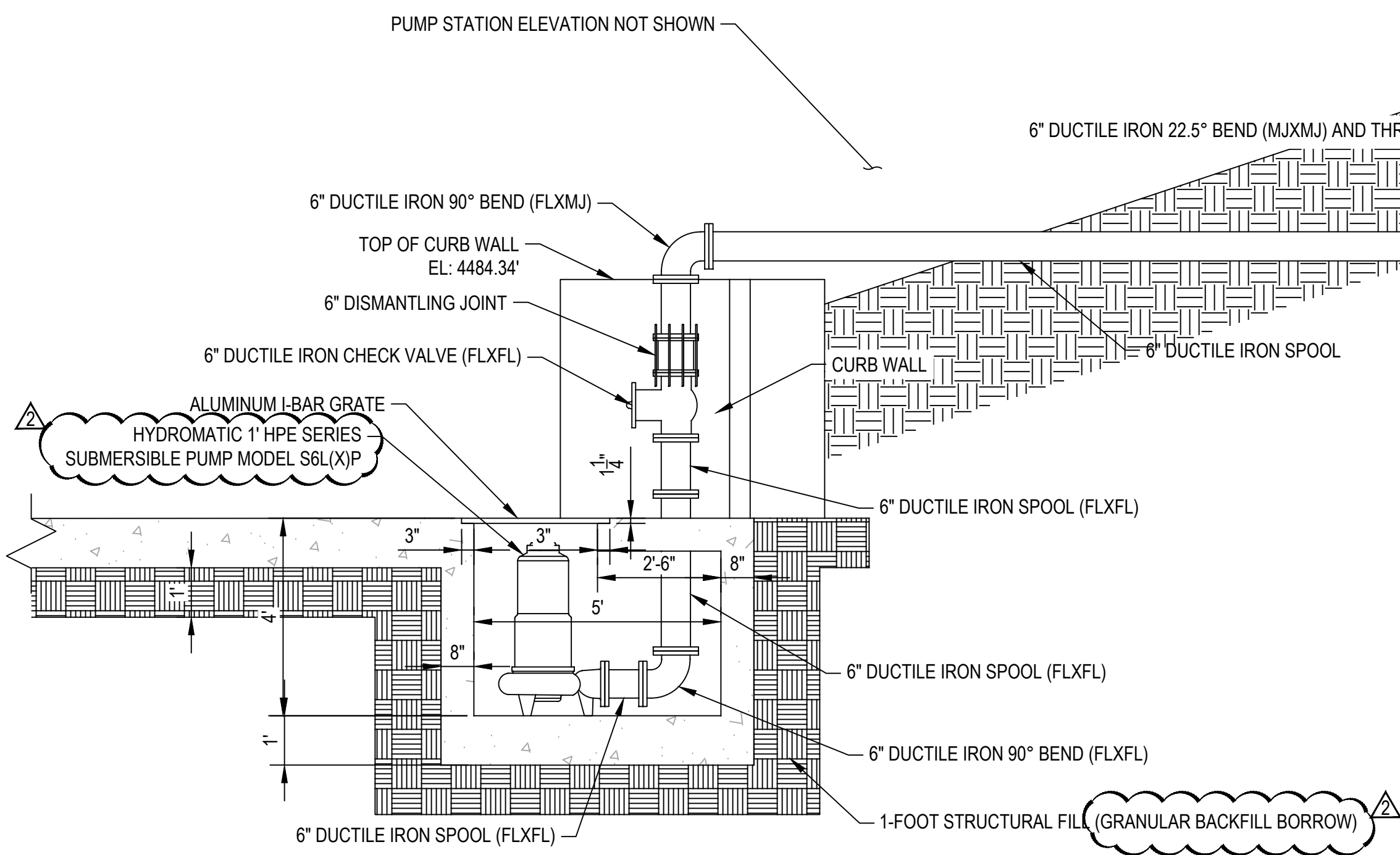
- A. The supplier of the well pump, motor and appurtenances shall have been in business for not less than 10 years. The primary function of the supplier shall be water well pumps and motors. This supplier shall have sole responsibility for all materials contained within this specification section.
- B. Approved manufacturers are: Pentair, national pump co., or preapproved equal.

END OF SECTION

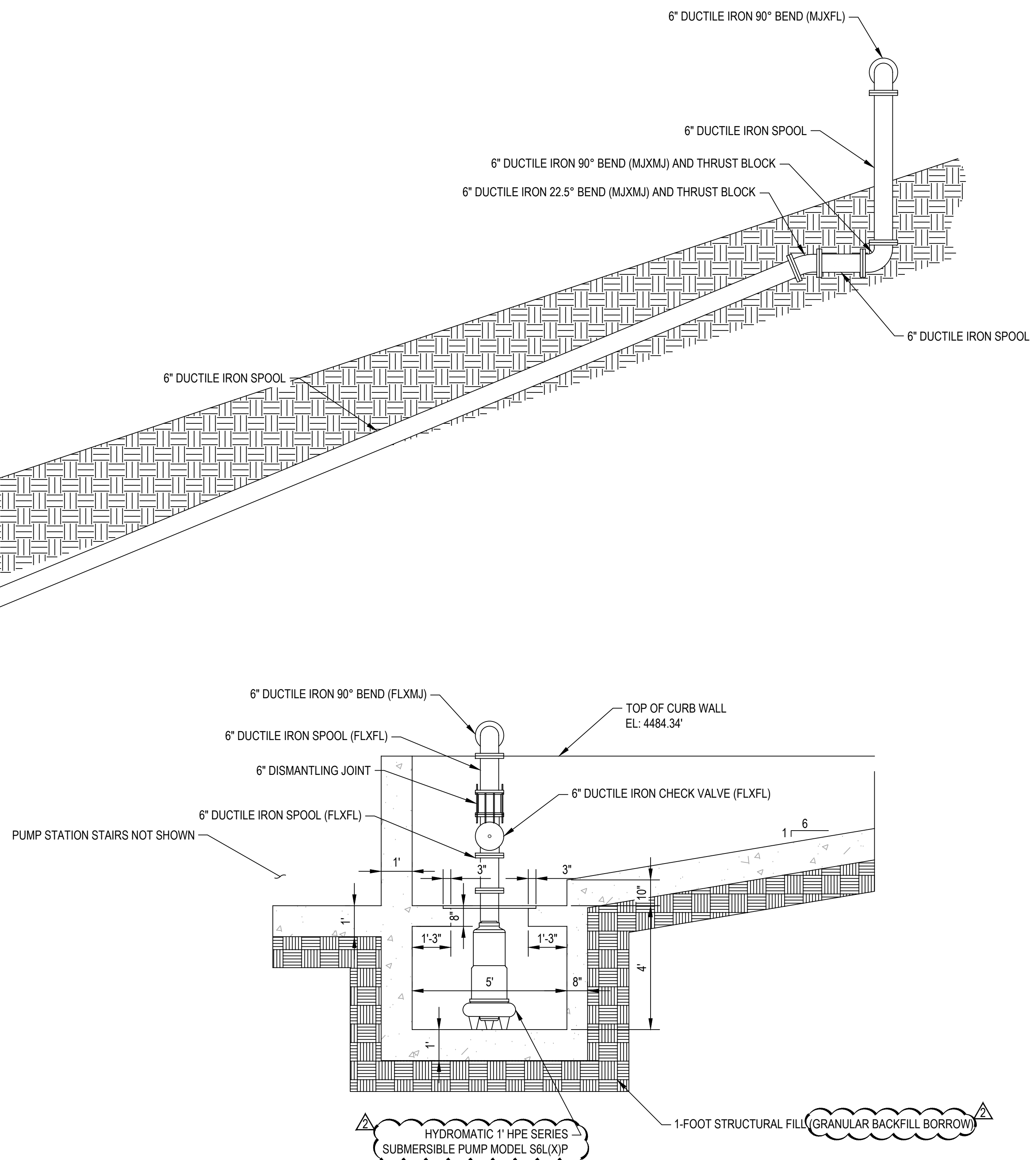
File Path: P:\2019-0033 Provo-West Side Levee Plan\Task Order 02 - Airport Moat Pump Station\Drawings\SHEETS\BUILDING SECTIONS.dwg Nov 22, 2022 - 12:31 pm



1 WET WELL PLAN
A304 SCALE: 1" = 1'-0"



2 WET WELL & PIPING SECTION FACING NORTH
A304 SCALE: 5" = 1'-0"



3 WET WELL SECTION FACING WEST
A304 SCALE: 5" = 1'-0"

REV#	BY	DATE	DESCRIPTION
1	JCD	11-21-2022	PUMP MODEL STRUCTURAL FILL

ISSUED FOR CONSTRUCTION

CRS ENGINEERS
Answers to Infrastructure®
4246 S Riverboat Rd, Ste 200 | Salt Lake City, UT 84123 | P: 801.359.5565 | www.crsengineers.com

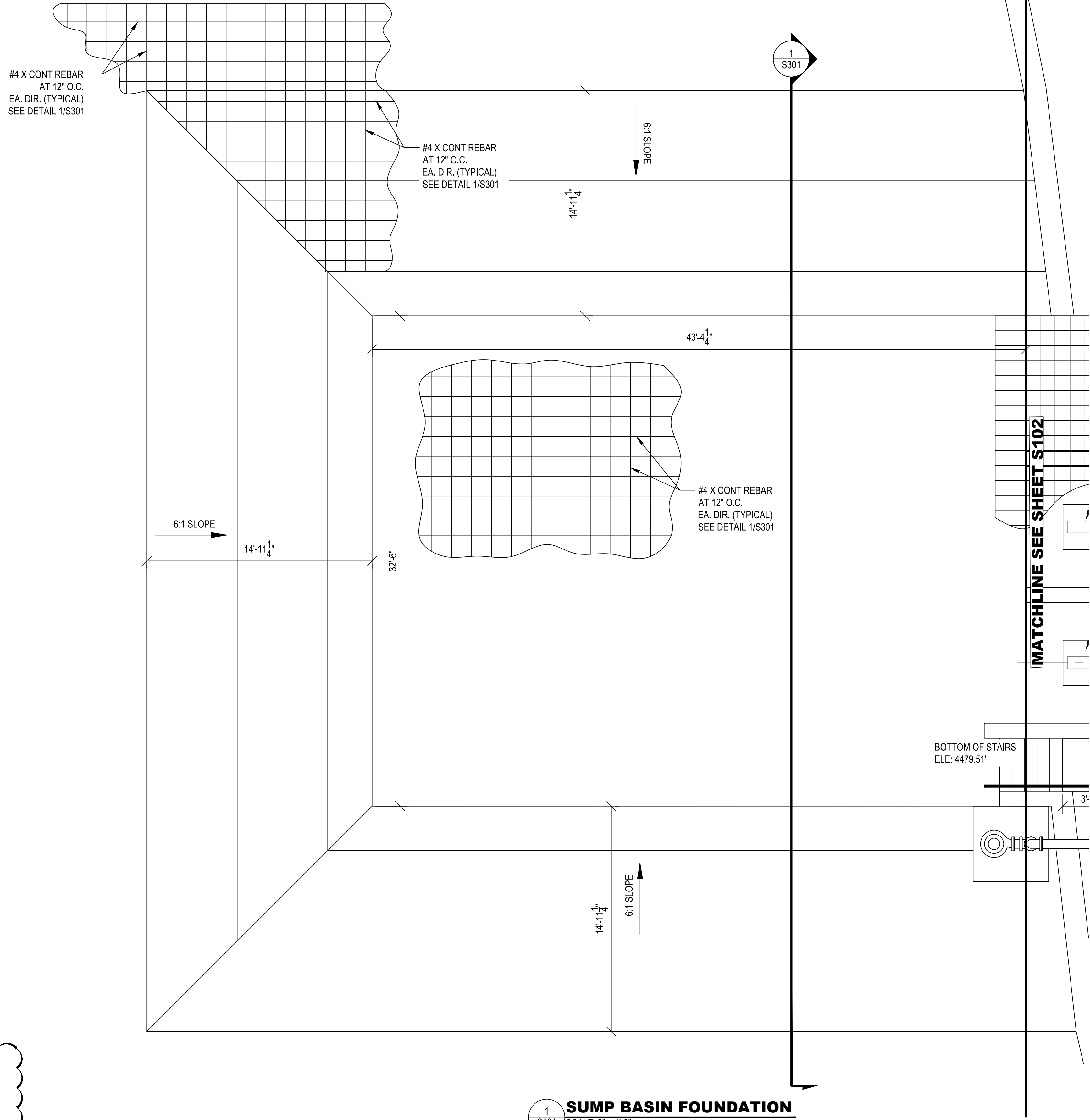
PROVO CITY
PROVO AIRPORT PUMP STATION
WET WELL PLAN & SECTIONS

PROJECT NUMBER: 2019-0033	SHEET OF: 18 41	SHEET NUMBER: A304
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ISSUE DATE: MARCH 9, 2022

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- NOTES:
1. PLACE FORMED EXPANSION JOINTS AT INTERFACE BETWEEN SLAB AND WALL AND AT APPROXIMATELY 50-FOOT INCREMENTS PERPENDICULAR TO SLAB EDGES.
 2. EXPANSION JOINTS ARE TO BE CREATED USING 1/2" THICK NEOPRENE MATERIAL PLACED TO FULL SLAB DEPTH.
 3. PLACE SAW CUT CONTROL JOINTS EVENLY ACROSS SLAB IN EACH DIRECTION AT A MAXIMUM SPACING OF 15 FEET ON CENTER.



SUMP BASIN FOUNDATION
 1 S101 SCALE: 3" = 1'-0"

PROJECT NUMBER: 2019-0033	SHEET OF: 19 41	SHEET NUMBER: S101
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PROVO CITY
PROVO AIRPORT PUMP STATION
 FOUNDATION PLAN

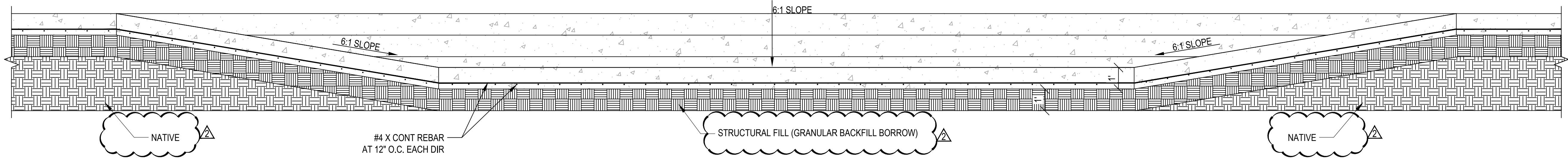
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ISSUED FOR CONSTRUCTION

REV.#	BY	DATE	DESCRIPTION
1	JCD	11-15-2022	REBAR IN CONCRETE SLAB
2	JCD	11-22-2022	CONSTRUCTION JOINTS

PROJECT MANAGER K. JONES	CHECKED BY K. JONES	DRAWN BY S. NEDELKOV	ISSUE DATE MARCH 9, 2022
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SECTION THROUGH SUMP BASIN
SCALE: 3/8"=1'-0"

PROJECT NUMBER: 2019-0033	SHEET OF 21 41	SHEET NUMBER: S301
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PROVO CITY
PROVO AIRPORT PUMP STATION
SECTION

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ISSUED FOR CONSTRUCTION

REV#	BY	DATE	DESCRIPTION
1	JCD	11-15-2022	EXTENDING CONCRETE SLAB
2	JCD	11-21-2022	STRUCTURAL FILL

PROJECT MANAGER K. JONES	CHECKED BY K. JONES	DRAWN BY S. NEDELKOV	ISSUE DATE MARCH 9, 2022
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PROJECT ENGINEER: K. JONES