

SAN ANTONIO WATER SYSTEM
ANDERSON PUMP STATION IMPROVEMENTS
SAWS JOB NO. 07-6007
SOLICITATION NO. B-11-002-DD

ADDENDUM NO. 1
April 21, 2011

To Bidder of Record:

This addendum, applicable to work designed above, is an amendment to the bidding documents and such will be a part of and included in the Contract. Acknowledge receipt of this addendum by the entering the addendum number in the space provided in submitted copies of the Bid Proposal.

A. QUESTIONS SUBMITTED TO SAWS

1. The operating head range for this pump is listed as 70 feet to 140 feet (Specification Section 11110). This is a very large operating range. Is the 70 feet head condition an intermittent or continuous duty operating point and is it to be accomplished at full speed, not reduced speed? RESPONSE: The operating head range is based on distribution system hydraulic modeling, combined with maximum and minimum operating water levels in ground storage reservoirs on both the suction and discharge sides of the pumps. All specified design requirements are based on full speed. Reduced or variable speed is not acceptable and is not provided for in the pump station design.
2. Would it be possible to review the system head curves for this pump station? RESPONSE: No. See response to Question 1.
3. Does the engineer have a pump curve from any other manufacturer that meets the 70 foot head requirement at full speed? RESPONSE: During the design phase, the named manufacturers in the specification provided pump curves that meet all of the performance and design requirements in Article 2-2 of Specification Section 11110.
4. Section 11725, Article 2-3.05, describes a system that operates only in the closed direction from a remote device such as the leak detector or emergency pushbuttons. The specification does not include remote monitoring capabilities of each valve position (open or closed). Specification does require the control panel to provide an output contact

when the “valve closed” is initiated. Sheet I-9 P&ID shows a low battery and failure output for each of two control panels. This drawing also shows valve-opened and valve-closed outputs for each actuator. These capabilities are not described in Section 11725, Article 2-3.05, but have been provided on most of SAWS previous jobs. RESPONSE: We do want the “valve close” output contact and the valves should be provided with the signals shown on the P&ID. See changes to Section 11725 included with this addendum.

5. Would you consider revising or removing the following statement on page 11725-6: “Adequate cable length shall be furnished with each actuator to allow cable to lay flat on the floor from the installed location of the actuator to the control panel.” We consider a cable attached to the actuator on a chlorine valve to be potentially hazardous when lying on the floor and across a thoroughfare. RESPONSE: The cord should be long enough to reach from the valve to the receptacle that the valve is plugged into, without dangling between these two points. (A dangling cord is a higher trip hazard than cord laying on the floor). If the supplier has an alternative method, it will be considered during the shop drawing review process.
6. Is there a separate Subcontractor Listing Form, other than the Good Faith Effort (GFE) form? RESPONSE: No.
7. Is it required to list all Subcontractors/Suppliers, whether SMWB or not, on the GFE form or only those subs and suppliers who are Certified SMWB? RESPONSE: All subcontractors, whether they are SMWB or not, should be listed on the Good Faith Effort Form. There is not a separate form for non-SMWB's.
8. What licenses are required to bid this project? RESPONSE: Per Article 2-1 of the General Conditions, Contractor shall comply with all pertinent ordinances of the City of San Antonio and laws/regulations of both the State of Texas and the United States. Licensing requirements generally pertain to trades such as electricians, HVAC/mechanical, plumbers, etc. and not to the Prime Contractor. For example, the State of Texas requires anyone who performs electrical work in the State of Texas must be licensed.
9. The 54” inlet shown on Section 1 on C1 shows a coupling with restraint harness and a reference to see Detail B on Sheet D1. However, Detail B on Sheet D1 does not have a calculation for 54” pipe (the table jumps from 36” to 60”). Should we assume 60” for design calculations? RESPONSE: See revisions to Detail B on Sheet D1 included in this addendum.
10. Section 1 on Sheet C1 shows two different flow line elevations for the 54” tank inlet pipe. Please clarify. RESPONSE: See revision to this Section included in this addendum.

11. Reference is made to the Pressure Sustaining Valve Station Plan on Sheet D2. The 5'-1" and 14'-7" dimensions which provide the location for FE-170 do not match the scaled dimension at 3/16" = 1 foot scale. RESPONSE: See revisions to this Plan on Sheet D2 included in this addendum.
12. Section 16722 (CCTV Surveillance and Security System) indicates that the security contractor/company must be pre-approved. What do I need to do to get our company approved to submit a bid for this portion of the project? RESPONSE: Any licensed security contractor will be acceptable. No pre-approval is necessary. See revision to this specification section included in this addendum.
13. SAWS received a supplier request to include a roofing system as an acceptable substitute to the specified system in Section 07525. RESPONSE: Except in rare instances, we will not review requests prior to bid to consider or approve "substitute" materials/equipment. After award of the construction contract, the successful Contractor may submit materials/equipment through the shop drawing process that they wish to be considered as a "substitute". Review and approval of the proposed "substitute" item shall be at the sole discretion of the Engineer.
14. SAWS received a supplier request to name an additional lightning protection system manufacturer in Specification Section 16670. RESPONSE: This specification section (and Article 5.12 of the SAWS General Conditions) includes an "or equal" clause that allows manufacturers other than those named in the specifications, if those other manufacturers are functionally equal to that named and sufficiently similar so that no change in related Work will be required. We will not review requests for "equal" materials/equipment prior to bid. After award of the construction contract, the successful Contractor may submit materials/equipment through the shop drawing process that they wish to be considered as an "equal". Review and approval of the proposed "equal" item shall be at the sole discretion of the Engineer.
15. Will SAWS accept Aurora horizontal split case pumps as an equal for this project? RESPONSE: Article 2-2 of Specification Section indicates that equal pumps would be acceptable, in addition to the two named manufacturers. However, we will not review or consider requests for "equal" materials/equipment prior to bid (see Response to Question No. 14). During the design phase, the two named manufacturers provided pump information that indicated compliance with all of the performance and design requirements in Article 2-2 of Specification Section 11110 (including compliance with the specified operating head range).

16. Reference: Specification Section 13207, Article 2-6.02. For the specified maximum flow rate and 9-inch maximum crest, the weir box has to be 9'-1" square. We request that the 9-inch crest be changed to 12-inch, which requires a less expensive and more practical 6' square weir box. RESPONSE: The request to change the maximum water level of the weir from 9-inches to 12-inches is acceptable. See revision to this specification section included in this addendum.
17. Reference: Specification Section 13207, Article 2-6.02. The overflow pipe is specified as 36-inch, Schedule 40, 304 stainless steel, which has a wall thickness of 3/4-inch and is very expensive. Savings could be realized by going to a thinner, less expensive wall for this low pressure application. RESPONSE: A minimum wall thickness of 1/4-inch will be acceptable. See revision to this specification section included in this addendum.
18. Reference: Specification Section 13207, Article 2-6.06. Would "Chase" manways be acceptable as a less expensive alternate to the specified manway. RESPONSE: "Chase" manways are not acceptable. Bid as specified.
19. Reference: Specification Section 13207, Article 2-6.07. Please review the specified 2,500 square inch net free area requirement for the vent. Manufacturer literature indicates that a single 36-inch vent will handle the specified flow rate, if the 2,500 square inch is removed. RESPONSE: The 2,500 square inch requirement will be deleted. See revisions to Specification Section 13207 included in this Addendum No. 1.
20. Can Chesterton 442 Split Mechanical Seals be added to the specification (Section 11110). RESPONSE: SAWS staff has reviewed the specification and does not wish to make any changes.

B. DRAWINGS.

1. Sheet C1 (9 of 102).
 - a. On Section 1, change the invert elevation of the existing 54" main (adjacent to the existing BFV) from 571.3± to 971.3±.
2. Sheet D1 (20 of 102).
 - a. On Detail B, add the following new line (for 54-inch pipe) to the steel pipe tie bolt schedule for harnessed joints.

54" 150 psi RR 1 3/4" 6

3. Sheet D2 (21 of 102).
 - a. On the Pressure Sustaining Valve Station Plan, change the 5'-1" dimension to 7'-1" and change the 14'-7" dimension to 12'-7".
4. Sheet E5 (40 of 102).
 - a. Replace Sheet E5 with new Sheet E5 that is included with this Addendum No. 1. Changes are shown in the clouded areas.
5. Sheet E6 (41 of 102).
 - a. Replace Sheet E6 with new Sheet E6 that is included with this Addendum No. 1. Changes are shown in the clouded areas.
6. Sheet E7 (42 of 102).
 - a. Replace Sheet E7 with new Sheet E7 that is included with this Addendum No. 1. Changes are shown in the clouded areas.
7. Sheet I2 (90 of 102).
 - a. Replace Sheet I2 with new Sheet I2 that is included with this Addendum No. 1. Changes are shown in the clouded areas.

C. BIDDING AND CONTRACT REQUIREMENTS.

1. INVITATION TO BID.

- a. Page 1. In the fourth paragraph, change the location of the mandatory prebid meeting from Conference Room 452 to Conference Room 137.

D. TECHNICAL SPECIFICATIONS.

1. Section 11725 - GAS CHEMICAL FEED SYSTEMS.

- a. Page 6, Article 2-3.05. In the fourth paragraph, add the following sentence after the third sentence:

"Each actuator controller shall be provided as indicated on the drawings."

- b. Page 7, Article 2-3.05. Add the following sentence at the end of the first paragraph:

"As indicated on the P&ID drawings, each control panel shall also provide a contact to indicate that the valve is open, a contact to indicate that the battery is low, and a contact to indicate that the valve has failed."

2. Section 13207 – WRAPPED PRESTRESSED CONCRETE TANK.
- a. Page 10, Article 2-6.02. In the first paragraph, change the maximum water level over the weir from 9-inches to 12-inches.
- In the second paragraph, change the thickness of the overflow pipe from Schedule 40 to ¼-inch minimum.
- b. Page 12, Article 2-6.07. Delete the first two sentences of the second paragraph.
3. Section 16722 – CCTV SURVEILLANCE AND SECURITY SYSTEM.
- a. Page 1, Article 1.02. Delete the following words:
- “from the list below. There are to be no substitutions”.
- Also delete items 1, 2, and 3 at the end of this article.

ACKNOWLEDGEMENT BY BIDDER

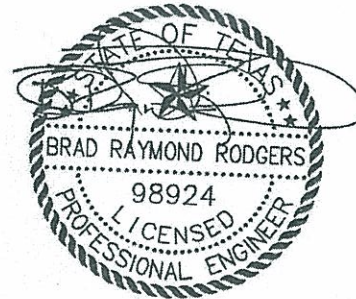
Each bidder shall acknowledge receipt of this addendum in the space provided in the Bid Proposal.

April 21, 2011

Black & Veatch Corporation



Gregory Dean Nelson
4/21/11
CIVIL



ELECTRICAL & Controls
4/21/11

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NO.	SIZE	TYPE	CIRCUIT	DESCRIPTION	FROM	TO	NOTES
1	2"	RTD	MC1P1-C1	HSP7-1 RTDS	VAULT	MOTOR1	
1		ANALOG	SCPN-110A	FIT-110 ANALOG	VAULT	MOTOR1 FLOW XMTR	
2	2"	208V	LA-13/15/17	FV-101 POWER	VAULT	MOTOR1 VALVE	
2		CONTROL	MC1P1-C2	HSP7-1 CONTROL	VAULT	MOTOR1	CONTINUES TO HS/PSL/HEATER
2		CONTROL	MC1P1-C3	FV-101 CONTROLS	VAULT	MOTOR1 VALVE	
2	120V	LA-18	FIT-110/120/130	POWER	VAULT	FIT-110/120/130	
3	2"	RTD	MC1P2-C1	HSP7-2 RTDS	VAULT	MOTOR2	
3		ANALOG	SCPN-120A	FIT-120 ANALOG	VAULT	MOTOR2 FLOW XMTR	
4	2"	208V	LA-19/21/23	FV-102 POWER	VAULT	MOTOR2 VALVE	
4		CONTROL	MC1P2-C2	HSP7-2 CONTROL	VAULT	MOTOR2	CONTINUES TO HS/PSL/HEATER
4		CONTROL	MC1P2-C3	FV-102 CONTROLS	VAULT	MOTOR2 VALVE	
5	2"	RTD	MC1P3-C1	HSP7-3 RTDS	VAULT	MOTOR3	
5		ANALOG	SCPN-130A	FIT-130 ANALOG	VAULT	MOTOR3 FLOW XMTR	
6	2"	208V	LA-25/27/29	FV-103 POWER	VAULT	MOTOR3 VALVE	
6		CONTROL	MC1P3-C2	HSP7-3 CONTROL	VAULT	MOTOR3	CONTINUES TO HS/PSL/HEATER
6		CONTROL	MC1P3-C3	FV-103 CONTROLS	VAULT	MOTOR3 VALVE	
7	2"	RTD	MC3P4-C1	HSP7-4 RTDS	VAULT	MOTOR4	
7		ANALOG	SCPN-140A	FIT-140 ANALOG	VAULT	MOTOR4 FLOW XMTR	
8	2"	208V	LA-7/9/11	FV-104 POWER	VAULT	MOTOR4 VALVE	
8		CONTROL	MC3P4-C2	HSP7-4 CONTROL	VAULT	MOTOR4	CONTINUES TO HS/PSL/HEATER
8		CONTROL	MC3P4-C3	FV-104 CONTROLS	VAULT	MOTOR4 VALVE	
8	120V	LA-16	FIT-140/150/160	POWER	VAULT	FIT-140/150/160	
9	2"	RTD	MC3P5-C1	HSP7-5 RTDS	VAULT	MOTOR5	
9		ANALOG	SCPN-150A	FIT-150 ANALOG	VAULT	MOTOR5 FLOW XMTR	
10	2"	208V	LA-13/15/17	FV-105 POWER	VAULT	MOTOR5 VALVE	
10		CONTROL	MC3P5-C2	HSP7-5 CONTROL	VAULT	MOTOR5	CONTINUES TO HS/PSL/HEATER
10		CONTROL	MC3P5-C3	FV-105 CONTROLS	VAULT	MOTOR5 VALVE	
11	2"	RTD	MC3P6-C1	HSP7-6 RTDS	VAULT	MOTOR6	
11		ANALOG	SCPN-160A	FIT-160 ANALOG	VAULT	MOTOR6 FLOW XMTR	
12	2"	208V	LA-19/21/23	FV-106 POWER	VAULT	MOTOR6 VALVE	
12		CONTROL	MC3P6-C2	HSP7-6 CONTROL	VAULT	MOTOR6	CONTINUES TO HS/PSL/HEATER
12		CONTROL	MC3P6-C3	FV-106 CONTROLS	VAULT	MOTOR6 VALVE	
13	2"	ANALOG	SCPN-109	PIT-109	VAULT	PIT-109	
13		ANALOG	SCPN-110	PIT-110	VAULT	PIT-110	
14	2"	120V	LB-2	PZ7 N LIGHTS	VAULT	PZ7 N LIGHTS	
14	120V	LB-4	PZ7 S LIGHTS	VAULT	PZ7 S LIGHTS		
14	120V	LB-6	PZ7 RECEPTACLES	VAULT	PZ7 RECEPTACLES		
15	2"	120V	LA-20	HSP7-1/2/3	VAULT	HSP7-1/2/3 HEAT TRACE	
15	120V	LB-22	HSP7-4/5/6	VAULT	HSP7-4/5/6 HEAT TRACE		
16	2"		2" SPARE				
17	2"		2" SPARE				
18	2"		2" SPARE				
19	2"		2" SPARE				
20	2"		2" SPARE				

NO.	SIZE	TYPE	CIRCUIT	DESCRIPTION	FROM	TO	NOTES
1	2"	480V	HCL-8	GATE POWER	VAULT	EXISTING EMH-8	
2	2"	FIBER	8/F FIBER	SECURITY FIBER	VAULT	EXISTING EMH-8	
3	2"		2" SPARE		VAULT	EXISTING EMH-8	
4	2"		2" SPARE		VAULT	EXISTING EMH-8	
5	3"	4160V	MC2WP1-P	WELL PUMP 1	VAULT	EXISTING EMH-8	
6	3"	4160V	MC2WP2-P	WELL PUMP 2	VAULT	EXISTING EMH-8	

NO.	SIZE	TYPE	CIRCUIT	DESCRIPTION	FROM	TO	NOTES
1	13"	4160V	MC2X1-P	TX-1/MCLU2	VAULT	TX-1	
2	3"	480V	TX1-HAP	TX-1/PANEL HA	VAULT	TX-1	
3	3"	4160V	MC4X2-P	TX-2/MCLU4	VAULT	TX-2	
4	3"	480V	TX2-HBP	TX-2/PANEL HB	VAULT	TX-2	

NO.	SIZE	TYPE	CIRCUIT	DESCRIPTION	FROM	TO	NOTES
1	2"	POWER	HA-3G	GENERATOR POWER	CL2 BLDG	GENERATOR	GENERATOR POWER
2	2"	NETWORK	HA-3N	GENERATOR NETWORK	CL2 BLDG	GENERATOR	GENERATOR NETWORK
3	2"	CONTROLS	HA-3C	GENERATOR CONTROLS	CL2 BLDG	GENERATOR	GENERATOR CONTROLS
4	2"		2" SPARE	SPARE			

NO.	SIZE	TYPE	CIRCUIT	DESCRIPTION	FROM	TO	NOTES
1		CONTROL	SCPN-200	LEVEL SWITCHES	VAULT	EVault	TO LCP-201
2	2"	CONTROL	MC1P1-C4	HSP7-1/FV-110 CONTROL	VAULT	EVault	TO SCP-2
2	CONTROL	MC1P2-C4	HSP7-2/FV-120 CONTROL	VAULT	EVault	TO SCP-2	
2	CONTROL	MC1P3-C4	HSP7-3/FV-130 CONTROL	VAULT	EVault	TO SCP-2	
2	CONTROL	MC3P4-C4	HSP7-4/FV-140 CONTROL	VAULT	EVault	TO SCP-2	
3	2"	CONTROL	MC3P5-C4	HSP7-5/FV-150 CONTROL	VAULT	EVault	TO SCP-2
3	CONTROL	MC3P6-C4	HSP7-6/FV-160 CONTROL	VAULT	EVault	TO SCP-2	
3	CONTROL	SCPN-171	PRESS SUSTAINING VALVE	VAULT	EVault		
3	120V	LB-8	WP1 HEATER	VAULT	EVault	SPLICE BOXWP1 HEATER	
3	120V	LB-10	WP2 HEATER	VAULT	EVault	SPLICE BOXWP2 HEATER	
4	120V	LA-12	WP3 HEATER	VAULT	EVault	SPLICE BOXWP3 HEATER	
4	120V	LA-14	WP4 HEATER	VAULT	EVault	SPLICE BOXWP4 HEATER	
4	120V	LA-16	WP5 HEATER	VAULT	EVault	SPLICE BOXWP5 HEATER	
5	2"		2" SPARE		VAULT	EVault	SPICE BOXM-L-C
6	2"		2" SPARE		VAULT	EVault	
7	2"		2" SPARE		VAULT	EVault	
8	2"		2" SPARE		VAULT	EVault	
9	2"	208V	LA-3/7/9/11	LP-A/INST BLDG	VAULT	EVault	SPLICE BOXM-L-A
9	208V	LA-7/9/11	MCC-A/LA	VAULT	EVault	EVault	SPLICE BOXMCC-A/LA
10	2"	208V	LA-13/15	MCC-A/LB	VAULT	EVault	SPLICE BOXMCC-A/LB
11	2"	120V	LB-20/30		VAULT	EVault	
12	2"	24VAC	3#12	CAMERA POWER	VAULT	EVault	
13	3"	ANALOG	SCPN-109	PIT-109	VAULT	EVault	TO SCP-2
13	ANALOG	SCPN-110	PIT-110	VAULT	EVault	EVault	TO SCP-2
13	ANALOG	SCPN-110A	FIT-110 ANALOG	VAULT	EVault	EVault	TO SCP-2
13	ANALOG	SCPN-120A	FIT-120 ANALOG	VAULT	EVault	EVault	TO SCP-2
13	ANALOG	SCPN-130A	FIT-130 ANALOG	VAULT	EVault	EVault	TO SCP-2
13	ANALOG	SCPN-140A	FIT-140 ANALOG	VAULT	EVault	EVault	TO SCP-2
13	ANALOG	SCPN-150A	FIT-150 ANALOG	VAULT	EVault	EVault	TO SCP-2
13	ANALOG	SCPN-160A	FIT-160 ANALOG	VAULT	EVault	EVault	TO SCP-2
13	ANALOG	SCPN-201A	LEVEL XMTR	VAULT	EVault	EVault	TO SCP-2
13	ANALOG	SCPN-201B	CL2 XMTR ANALOG	VAULT	EVault	EVault	TO SCP-2
13	ANALOG	SCPN-170	MICRON TRANSMISSION MAIN FLOW METER, PRESSURE TRANSMITTERS	VAULT	EVault	EVault	
14	2"	12/F FIBER	N-1	CL2 BLDG NETWORK	VAULT	EVault	SCPN-CL2 BLDG NETWORK
14	8/F FIBER	N-1	MULTILIN NETWORK	VAULT	EVault	EVault	SCPN-MULTILIN NETWORK
14	8/F FIBER	SECURITY	SECURITY	VAULT	EVault	EVault	
15	2"	5-CAT5e	CAMERA	TANK CAMERAS & RADIOS (2 SPARE)	VAULT	EVault	
16	2"		2" SPARE		VAULT	EVault	
17	2"		2" SPARE		VAULT	EVault	

NO.	SIZE	TYPE	CIRCUIT	DESCRIPTION	FROM	TO	NOTES
1	2"	CONTROL	SCPN-171	PRESS SUSTAINING VLV CNTRL	NEW TANK	VALVE	
2	2"	POWER	LB-20/30	PRESS SUSTAINING VLV PWR	NEW TANK	VALVE	
3	2"	POWER	HEAT TRACE	PRESS SUSTAINING VLV HT TR	NEW TANK	VALVE	
4	2"		2" SPARE		NEW TANK	VALVE	
5	2"		2" SPARE		NEW TANK	VALVE	
6	2"	ANALOG	SCPN-170	MICRON TRANSMISSION MAIN FLOW METER, PRESSURE TRANSMITTERS			MAN FLOW METER

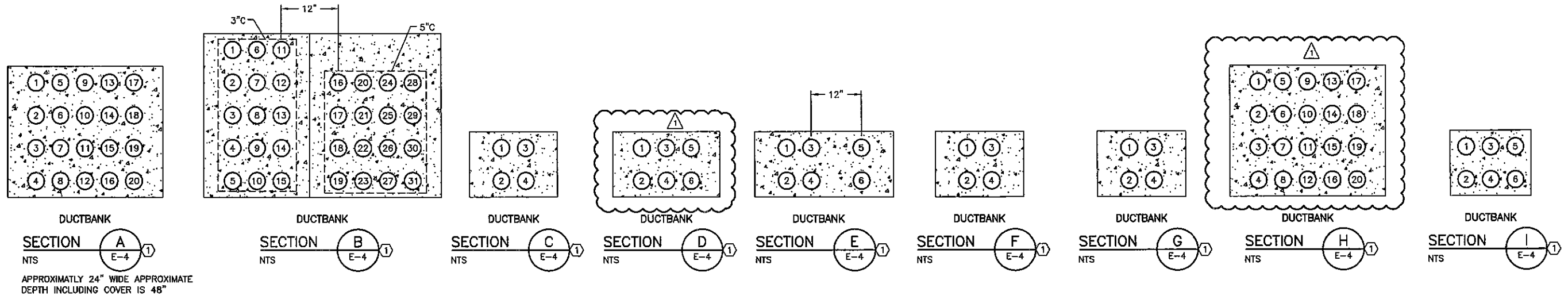
NO.	SIZE	TYPE	CIRCUIT	DESCRIPTION	FROM	TO	NOTES
1	3"	4160V	MC1MCA-P	MCC-A POWER	VAULT	EVault	MCC-A
2	3"	4160V	MC1P1-P	HSP7-1 POWER	VAULT	EVault	HSP7-1
3	3"	4160V	MC1P2-P	HSP7-2 POWER	VAULT	EVault	HSP7-2
4	3"	4160V	MC1P3-P	HSP7-3 POWER	VAULT	EVault	HSP7-3
5	3"		SPARE				
6	3"		SPARE				
7	3"	4160V	MC3MCA-P	MCC-A POWER	VAULT	EVault	MCC-A
8	3"	4160V	MC3P4-P	HSP7-4 POWER	VAULT	EVault	HSP7-4
9	3"	4160V	MC3P5-P	HSP7-5 POWER	VAULT	EVault	HSP7-5
10	3"	4160V	MC3P6-P	HSP7-6 POWER	VAULT	EVault	HSP7-6
11	3"	4160V	MC4WP3-P	WELL PUMP 3	VAULT	EVault	
12	3"	4160V	MC4WP4-P	WELL PUMP 4	VAULT	EVault	
13	3"	4160V	MC4WP5-P	WELL PUMP 5	VAULT	EVault	
14	3"		3" SPARE				
15	3"		3" SPARE				
16	3"		3" SPARE				
16	3"	4160V	UT01S	UTILITY XFMR UT01	VAULT	EVault	
17	3"	4160V	UT01S	UTILITY XFMR UT01	VAULT	EVault	
18	3"	4160V	UT01S	UTILITY XFMR UT01	VAULT	EVault	
19	3"	4160V	UT01S	UTILITY XFMR UT01	VAULT	EVault	
20	3"	4160V	UT01S	UTILITY XFMR UT01	VAULT	EVault	
21	3"	4160V	UT01S	UTILITY XFMR UT01	VAULT	EVault	
22	5"		5" SPARE				
23	5"		5" SPARE				
24	5"		5" SPARE				
25	5"		5" SPARE				
26	5"		5" SPARE				
26	5"	4160V	UT02S	UTILITY XFMR UT02	VAULT	EVault	
27	5"	4160V	UT02S	UTILITY XFMR UT02	VAULT	EVault	
28	5"	4160V	UT02S	UTILITY XFMR UT02	VAULT	EVault	
29	5"	4160V	UT02S	UTILITY XFMR UT02	VAULT	EVault	
30	5"	4160V	UT02S	UTILITY XFMR UT02	VAULT	EVault	
31	5"	4160V	UT02S	UTILITY XFMR UT02	VAULT	EVault	

NO.	SIZE	TYPE	CIRCUIT	DESCRIPTION	FROM	TO	NOTES
1	3"	480V	HA-3HCL-8	CL2 BLDG POWERIGATE PWR.	VAULT	CL2 BLDG	CL2 BLDG POWER
2	2"	12/F FIBER	N-1	CL2 BLDG NETWORK	VAULT	CL2 BLDG	CL2 BLDG NETWORK
3	2"		2" SPARE	SPARE			
4	2"		2" SPARE	SPARE			

NO.	SIZE	TYPE	CIRCUIT	DESCRIPTION	FROM	TO	NOTES
1	2"	120V	LA-10	HA-3/HA-3/HA-3	VAULT	NEW TANK	HA-3/HA-3/HA-3
1	120V	LB-18	HA-3/HA-3/HA-3	VAULT	NEW TANK	HA-3/HA-3/HA-3	TO AIT / PIT / RADIOS
1	POWER	LB-12	HA-3/HA-3/HA-3	VAULT	NEW TANK	HA-3/HA-3/HA-3	TO NEW TANKS
2	2"	ANALOG	SCPN-201A	LEVEL XMTR	VAULT	NEW TANK	TO LIT
2	ANALOG	SCPN-201B	CL2 XMTR ANALOG	VAULT	NEW TANK	NEW TANK	TO AIT
2	ANALOG	SCPN-170	MICRON TRANSMISSION MAIN FLOW METER & PRESSURE TRANSMITTERS	VAULT	NEW TANK	NEW TANK	
3	2"	5-CAT-5e	CAMERA	TANK CAMERA / RADIOS	VAULT	NEW TANK	
3	2"	120V SIGNAL	SCPN-200	LEVEL SWITCH SIGNALS	VAULT	NEW TANK	
3	POWER	LB-20/30	PRESS SUSTAINING VALVE	VAULT	NEW TANK	NEW TANK	
4	2"		2" SPARE		VAULT	NEW TANK	
5	2"		2" SPARE		VAULT	NEW TANK	
6	2"		2" SPARE		VAULT	NEW TANK	

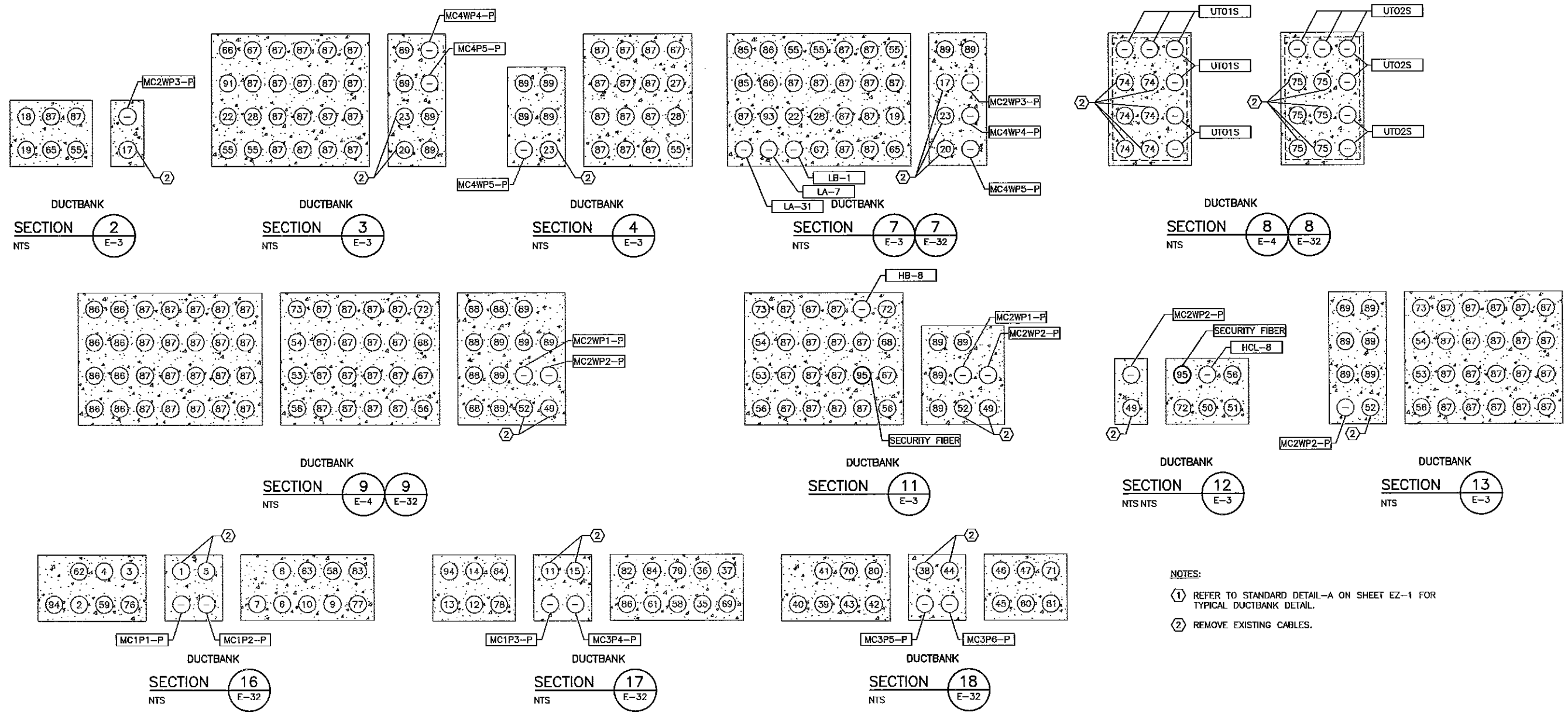
COND NO.	SIZE	CIRCUIT NUMBER
1	2.5"	MCLU1-1
2	1"	MCLU1-1B
3	2"	MCLU1-1C
4	1"	MCLU1-1D
5	2.5"	MCLU1-2
6	1"	MCLU1-2B
7	2"	MCLU1-2C
8	1"	MCLU1-2D
9	1"	MCLU1-2I
10	2"	MCLU1-2J
11	2.5"	MCLU1-3
12	1"	MCLU1-3B
13	2"	MCLU1-3C
14	1"	MCLU1-3D
15	3"	MCLU1-4
16	3"	MCLU1-5
17	4"	MCLU2-1
18	1"	MCLU2-1D
19	1.5"	MCLU2-1E
20	4"	MCLU2-2
21	1"	MCLU2-2D
22	1.5"	MCLU2-2E
23	4"	MCLU2-3
24	4"	MCLU2-3A
25	1"	MCLU2-3B
26	1"	MCLU2-3C
27	1"	MCLU2-3D
28	1.5"	MCLU2-3E
29	1"	MCLU2-3F
30	1"	MCLU2-3G
31	1"	MCLU2-3H
32	3"	MCLU3-1
33	3"	MCLU3-2
34	2.5"	MCLU3-3
35	1"	MCLU3-3B
36	2"	MCLU3-3C
37	1"	MCLU3-3D
38	2.5"	MCLU3-4
39	1"	MCLU3-4B
40	2"	MCLU3-4C

COND NO.	SIZE	CIRCUIT NUMBER
----------	------	----------------



NEW DUCTBANKS

EXISTING DUCTBANKS



NOTES:

① REFER TO STANDARD DETAIL-A ON SHEET E2-1 FOR TYPICAL DUCTBANK DETAIL.

② REMOVE EXISTING CABLES.

NO.	BY	CHK	APP
1	BRB		
REVISIONS AND RECORD OF ISSUE			
DATE	DESCRIPTION	BY	CHK
4/15/11	ADDENDA NO.1		
PROJECT NO. 161472			
SHEET NO. 07-6007			
DRAWN BY: BRB			
CHECKED BY: VXB			
APPROVED BY: BRB			
DATE: 4/15/11			

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SAN ANTONIO WATER SYSTEM
ANDERSON PUMP STATION IMPROVEMENTS

DUCTBANK SECTIONS

DESIGNED: BRB
DETAILED: JH
CHECKED: VXB
APPROVED: BRB
DATE: 4/15/11

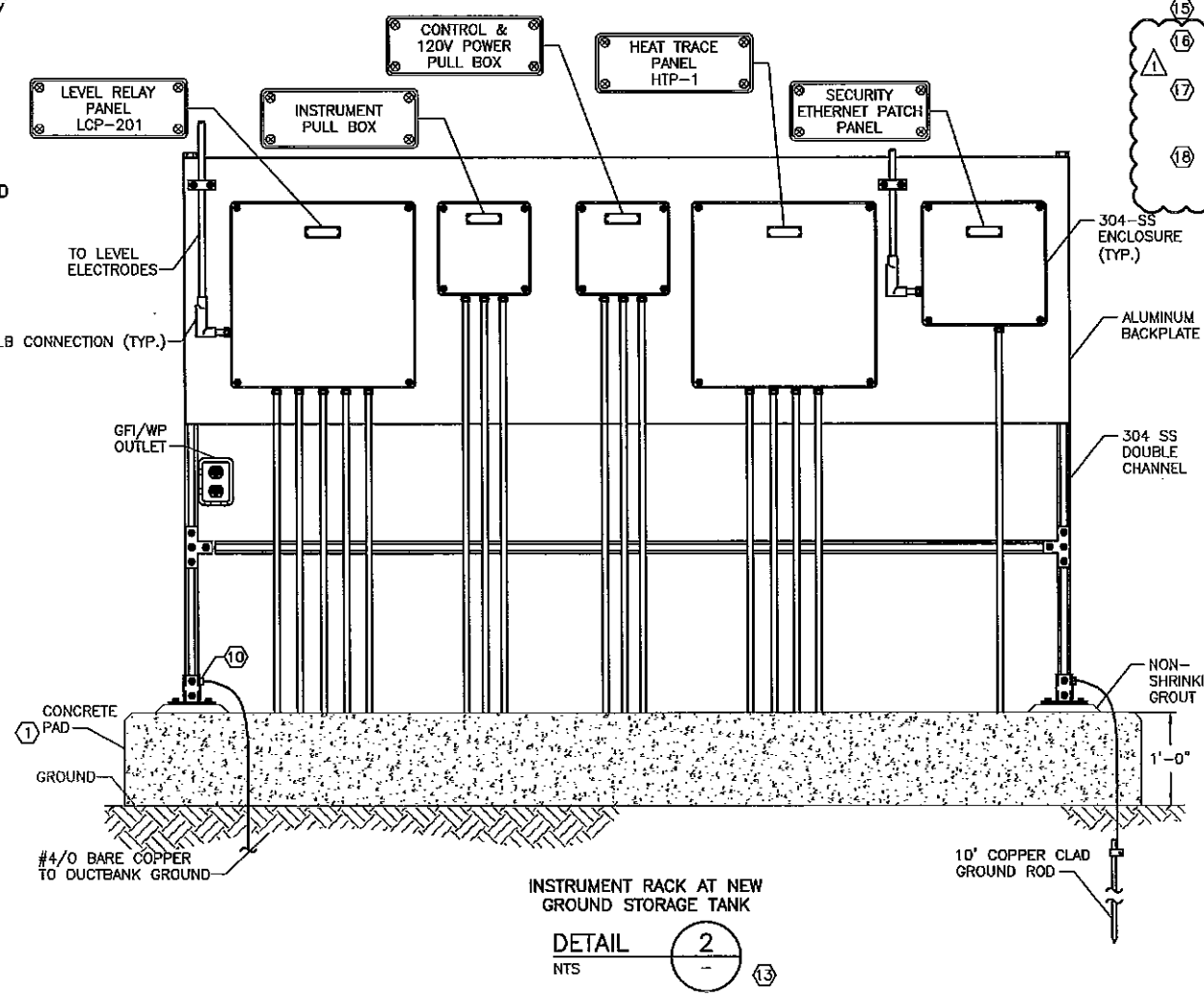
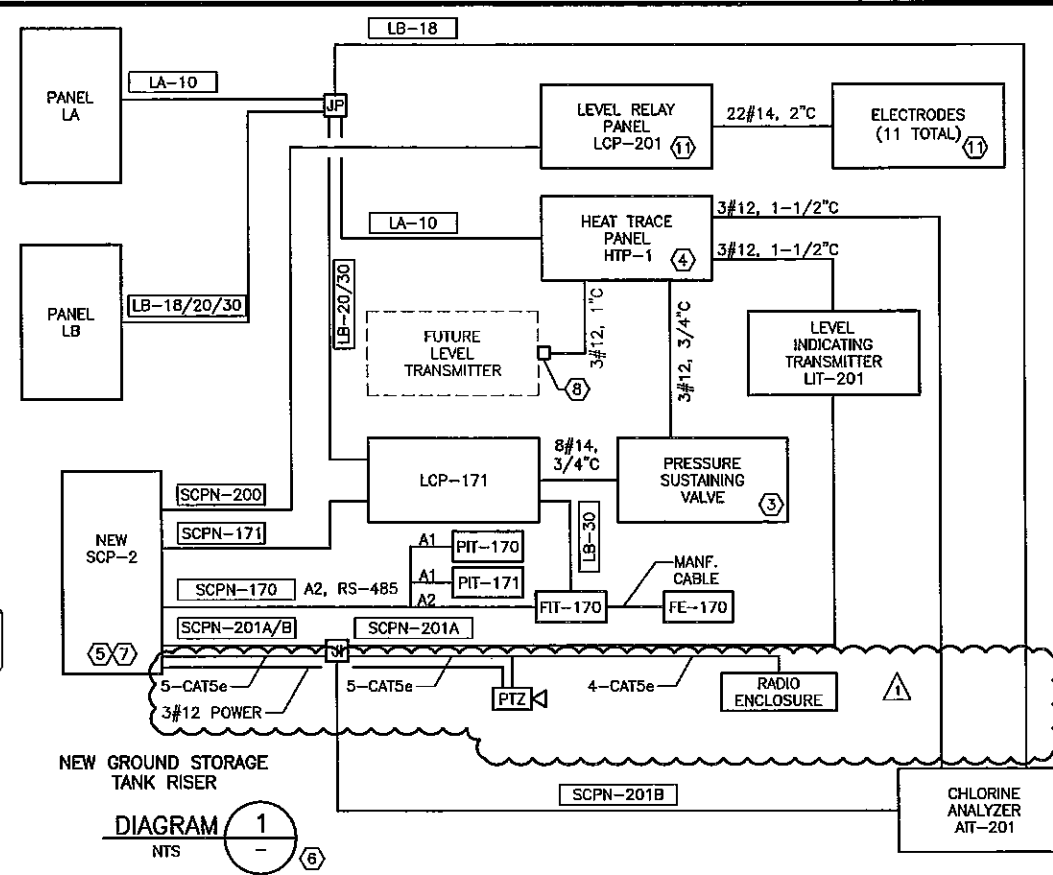
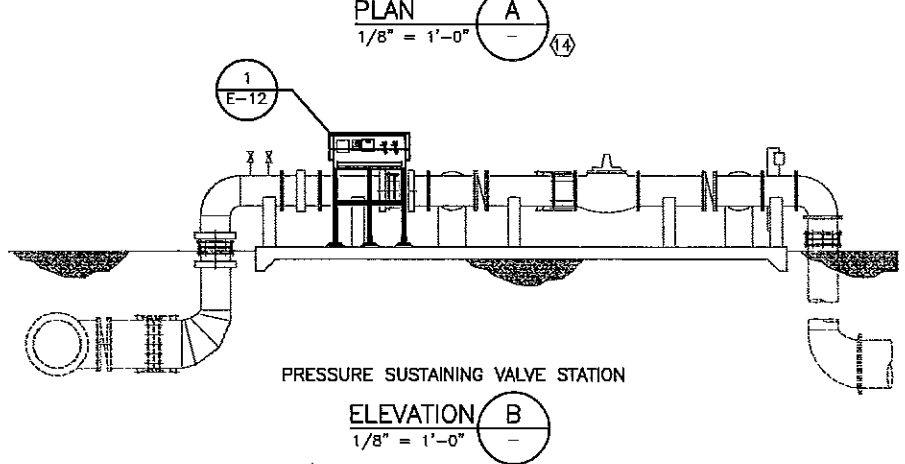
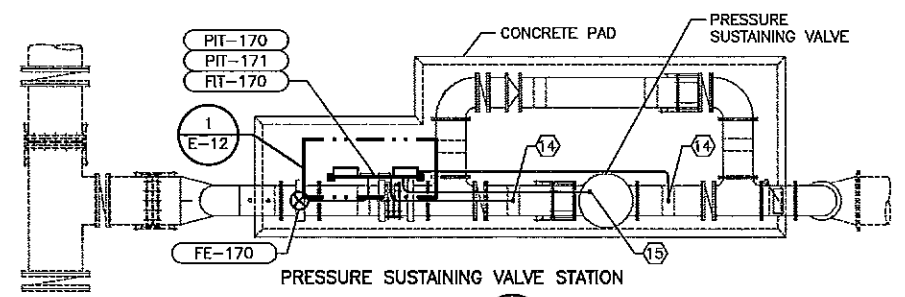
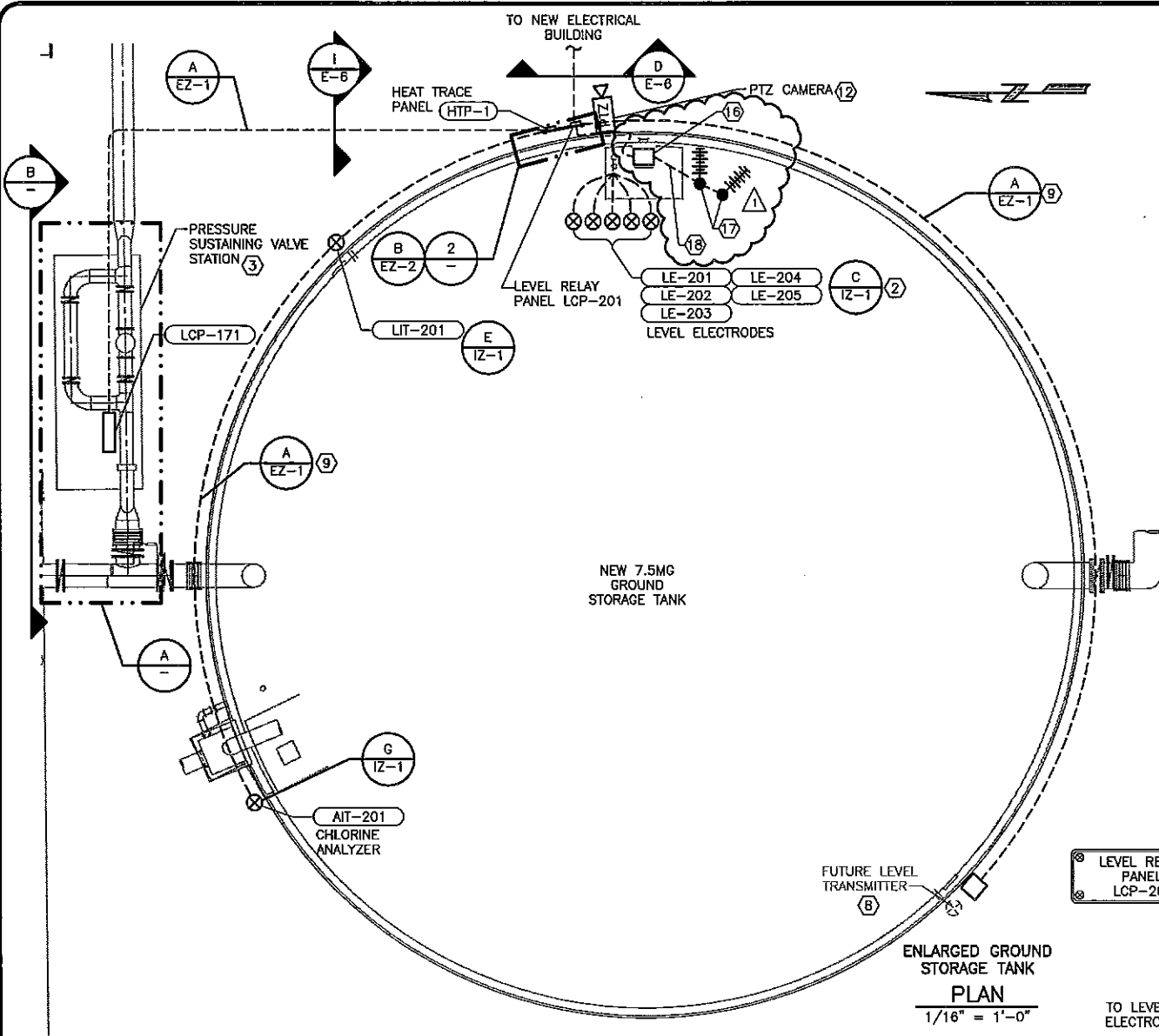
B&V PROJECT NO.
161472

SAWS JOB NO.
07-6007

E-6
SHEET
41 OF 102

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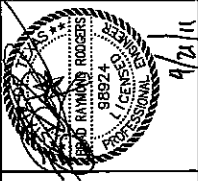


- NOTES:**
- CONCRETE PAD SHALL EXTEND 36" BEYOND PANEL DOOR FACES.
 - REFER TO SCHEMATICS FOR LEVEL PROBE ELEVATIONS.
 - PROVIDE HEAT TRACE AND SIGNALING FOR PRESSURE SUSTAINING VALVE. REFER TO SCHEMATICS ON SHEET EY-16 AND BLOCK DIAGRAM ON THIS SHEET. FIELD ROUTE CONDUIT AND WIRE FROM LCP-301 ON PIPE SUPPORTS TO VALVE LIMIT SWITCHES, SOLENOID VALVES, AND HEAT TRACED PIPING.
 - REFER TO SCHEMATIC-2 ON SHEET EY-16.
 - REFER TO SHEET E-12 FOR INTERFACE DIAGRAM.
 - FIELD ROUTE CONDUIT & WIRE TO ALL DEVICES, INCLUDING THOSE NOT SHOWN ON PLAN VIEW.
 - LOCATED IN EXISTING INSTRUMENTATION BUILDING.
 - INSTALL HEAT TRACE CONDUIT AND WIRE FOR FUTURE LEVEL TRANSMITTER. TERMINATE IN 6"x6"x4" NEMA 4X ENCLOSURE.
 - SEE RISER DIAGRAM FOR CIRCUIT DETAILS. RUN TWO CONDUITS TO FUTURE LEVEL TRANSMITTER.
 - USE COMPRESSION GROUND CONNECTOR AT UNISTRUT.
 - REFER TO SHEET EY-4 FOR SCHEMATIC.
 - CONNECT WITH BELDEN 7919 CAT-5E CABLE IN 1-1/2" CONDUIT AND 3-#12 IN 3/4" CONDUIT TO SECURITY PANEL. INSTALL 3 SPARE CABLES PLUS THE CAMERA CABLE.
 - REFER TO RISER DIAGRAM-1 ON THIS SHEET.
 - PROVIDE 1/4" COPPER TUBING FROM PIPE TO PRESSURE TRANSMITTER. INSTALL 1" VALVE AT EACH PIPE WELDOLET (2 TOTAL).
 - 8#14, 3/4"
 - INSTALL TWO RADIOS IN A NEMA 4X ENCLOSURE WITH SUNSHIELD.
 - INSTALL TWO NEW ANTENNAS PER THE SPECIFICATIONS ON 2" PIPE. CONDUIT SHALL EXTEND 6' ABOVE THE TOP OF THE TANK.
 - CONNECT THE RADIOS TO THE ANTENNAS WITH LMR400 OR CABLES AS RECOMMENDED BY THE RADIO MANUFACTURER CABLE, IN 1" CONDUIT.

NO.	BY	CHK	APP
1	BRH		

DATE	REVISIONS AND RECORD OF ISSUE	BY	CHK	APP
4/15/11				

SYMBOL	DESCRIPTION
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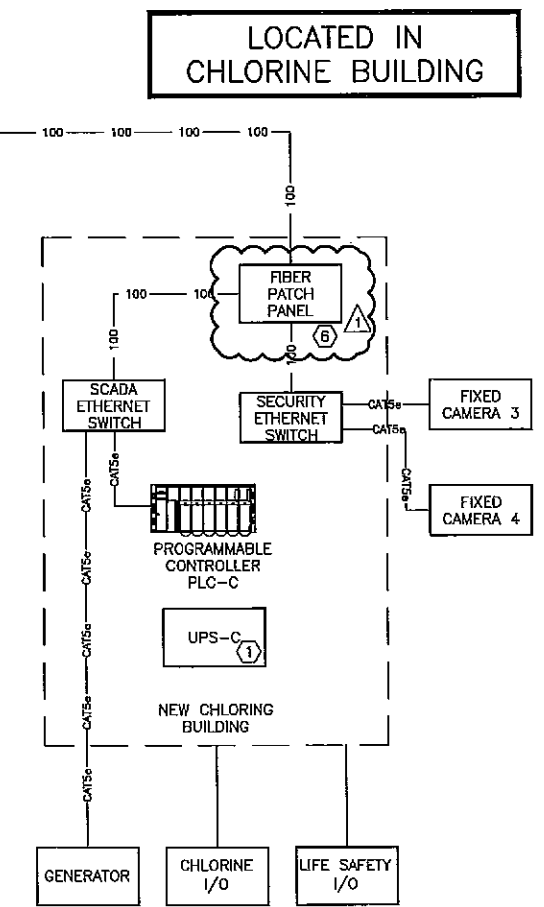
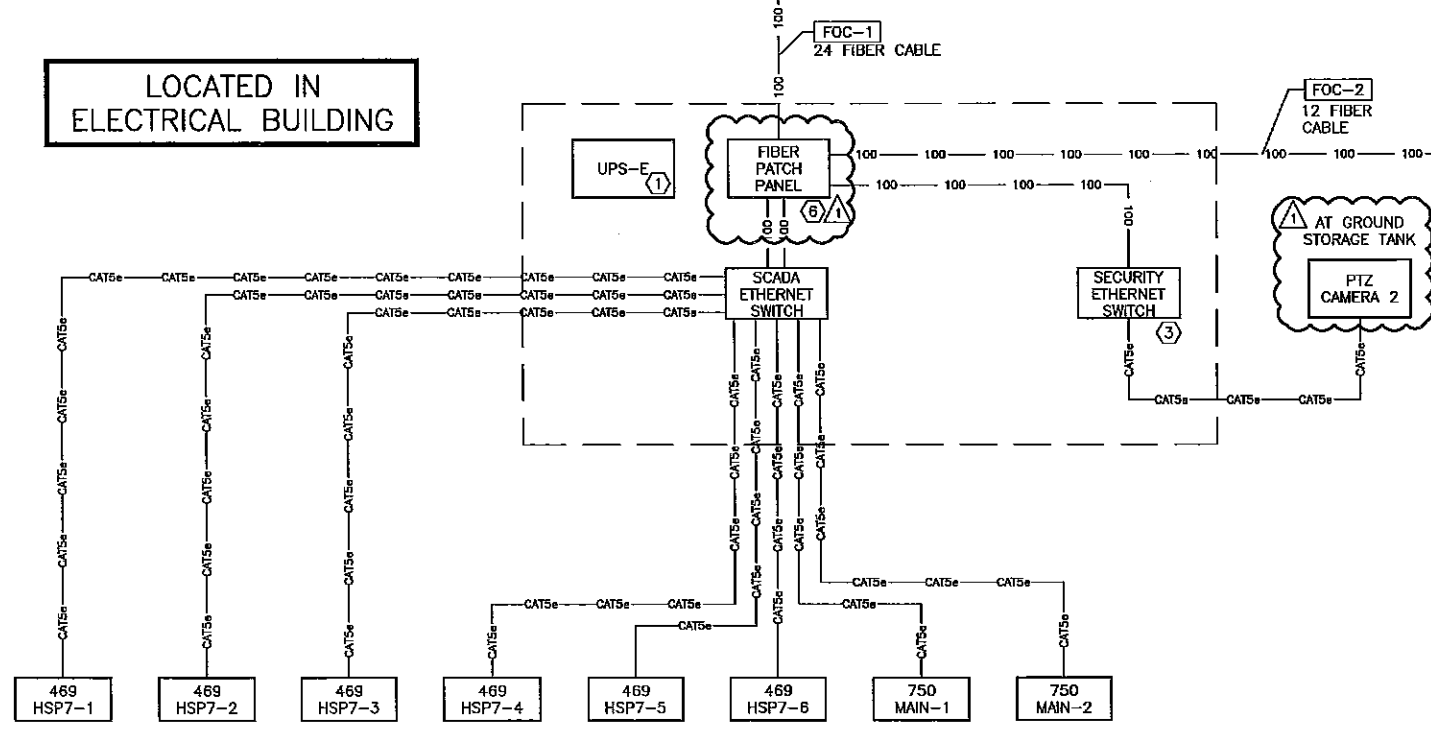
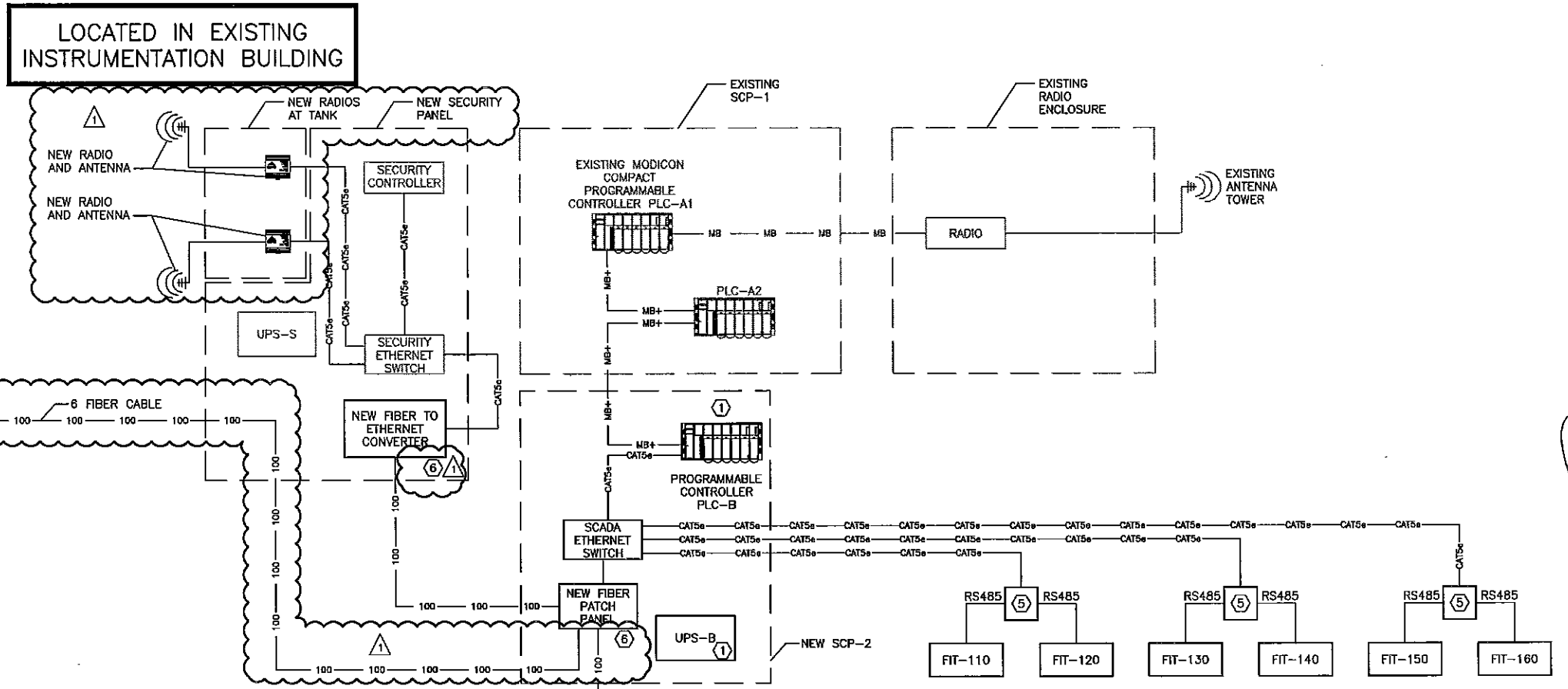
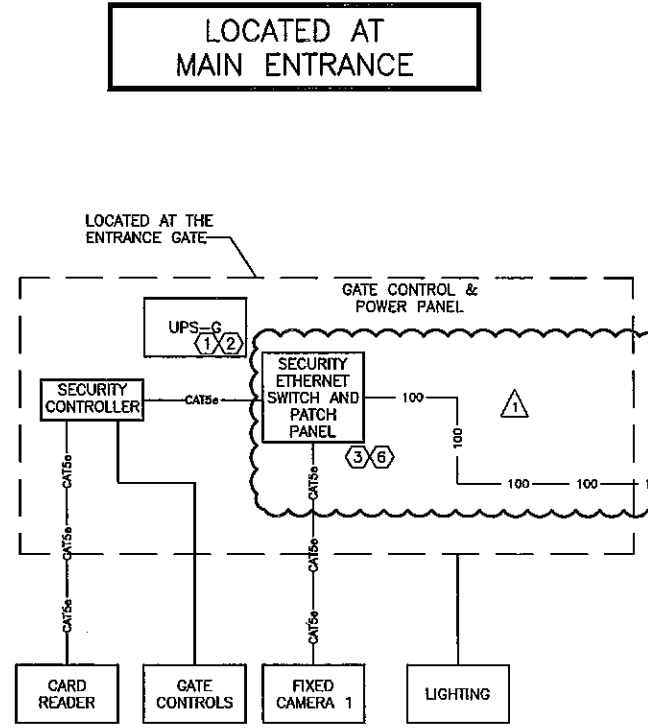
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 Registration No. 2-2011

SAN ANTONIO WATER SYSTEM
ANDERSON PUMP STATION IMPROVEMENTS
GROUND STORAGE TANK DETAILS

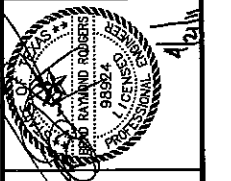
DESIGNED: BRH
DETAILED: JH
CHECKED: VKG
APPROVED: BRH
DATE:
B&V PROJECT NO. 161472
SAWS JOB NO. 07-6007
E-7 SHEET 42 OF 102

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 4/18/2011 3:36:21 PM, HP LaserJet 5100 PCL 6, JC



- NOTES:**
- ① PROVIDE 500W DIN RAIL MOUNT UPS, SOLA SDU SERIES OR EQUAL. PROVIDE MULTIPLE UPS UNITS IF REQUIRED BY LOAD.
 - ② DO NOT CONNECT GATE OPENER OR LIGHTS TO UPS.
 - ③ PROVIDE POWER OVER ETHERNET SWITCHES FOR CAMERAS WHERE SO NOTED.
 - ④ VERIFY ALL NEW COMMUNICATIONS AT THE FACTORY ACCEPTANCE TEST. VERIFY ALL COMMUNICATION FOR NEW CONNECTIONS FROM NEW TO EXISTING EQUIPMENT AT THE SITE ACCEPTANCE TEST.
 - ⑤ B AND B # MESR902T ETHERNET TO RS-485 TWO PORT GATEWAY.
 - ⑥ PROVIDE ETHERNET PATCH PANELS FOR ALL SITE ROUTED FIBER. TERMINATE ALL FIBERS FOR ALL CABLES AT BOTH ENDS AT FIBER PATCH PANELS.

NO.	BY	CHK	APP
1	BRR		
REVISED AND RECORD OF ISSUE			
DATE	4/15/11		
CYRNET ID:	101472-3000-C-00007500	XREF1:	0101472_G&L.dwg
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PLOTTED:	RAMT2044_4/19/2009 5:52:51 PM	XREF4:	
USER:	RAMT2044	XREF5:	



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SAN ANTONIO WATER SYSTEM
ANDERSON PUMP STATION IMPROVEMENTS

INSTRUMENTATION SYSTEM ARCHITECTURE

DESIGNED: BRR
 DETAILED: CTS
 CHECKED: YKG
 APPROVED: BRR

DATE: 04/12/10

B&V PROJECT NO.
161472

SAWS JOB NO.
07-6007

I-2
 SHEET
 90 OF 102