

REQUEST FOR QUALIFICATIONS

2013 LEON CREEK WATER RECYCLING CENTER (WRC) REHABILITATION AND PROCESS IMPROVEMENTS

SOLICITATION NO: Q-13-007-MF

ADDENDUM NO. 1 | July 31, 2013

QUESTIONS RECEIVED DURING Q&A PERIOD: REQUEST FOR QUALIFICATIONS

Q1. “May we please obtain drawings pertaining to the facilities that are included in the Leon Creek WRC RFQ (Q-13-007-MF) and any other overall site drawings?”

A1. Plans pertaining to some of the facilities included in the scope are attached to this addendum. They are for informational purposes only, and may not reflect all the changes made during the construction of the projects and thereafter.

Q2. “Concerning the RFQ for the subject, my question concerns the requirement that the Consultant shall have a San Antonio office. Does the definition of a San Antonio office include adjacent counties? Please clarify the limits.”

A2. Definition includes adjoining counties.

END OF QUESTIONS RECEIVED DURING Q&A PERIOD: REQUEST FOR QUALIFICATIONS

END OF ADDENDUM NO. 1



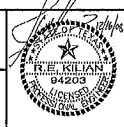
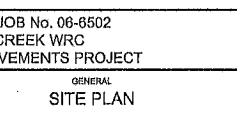
NOTES
 1. ALL EXISTING DIMENSIONS ARE APPROXIMATE, BASED ON AVAILABLE INFORMATION
 2. FOR SHEET NUMBERS SEE G-02

FACILITY NUMBER	DESCRIPTION
13	FEED DIVISION STRUCTURE
14	HEADWORKS
15	GRIFF TANKS
16	REPAIR CHAMBER
17	PRIMARY CLARIFIER 1
18	PRIMARY CLARIFIER 2
19	PRIMARY SLUDGE PUMP STATION NO. 1
20	PRIMARY SLUDGE PUMP STATION NO. 2
21	AERATION FLOTTATION BLOWERS
22	SECONDARY CLARIFIER 1-4
23	SECONDARY CLARIFIER 5-7
24	DIESSELS NO. 10
25	GAS HANDLING
26	CONTRACTOR STAGING AREA
27	TRANSFORMER PAD FOR ELECTRICAL SYSTEM AND TANK FEED
28	PIPELINE
29	PIPELINE
30	PIPELINE
31	PIPELINE
32	PIPELINE
33	PIPELINE
34	PIPELINE
35	PIPELINE
36	PIPELINE
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99	PIPELINE
100	PIPELINE

CONTRACT DOCUMENTS (G-01) SHALL BE USED AS PART OF THE BIDDING DOCUMENTS. CONTRACTORS AND ARCHITECTS SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS OF THE SITE PRIOR TO BIDDING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES AND STRUCTURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ACCESS TO ALL ADJACENT PROPERTIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING THE SITE TO ORIGINAL OR BETTER CONDITION AFTER COMPLETION OF THE PROJECT.

SAWS JOB No. 06-6502
 LEON CREEK WRC
 IMPROVEMENTS PROJECT
 GENERAL
 SITE PLAN

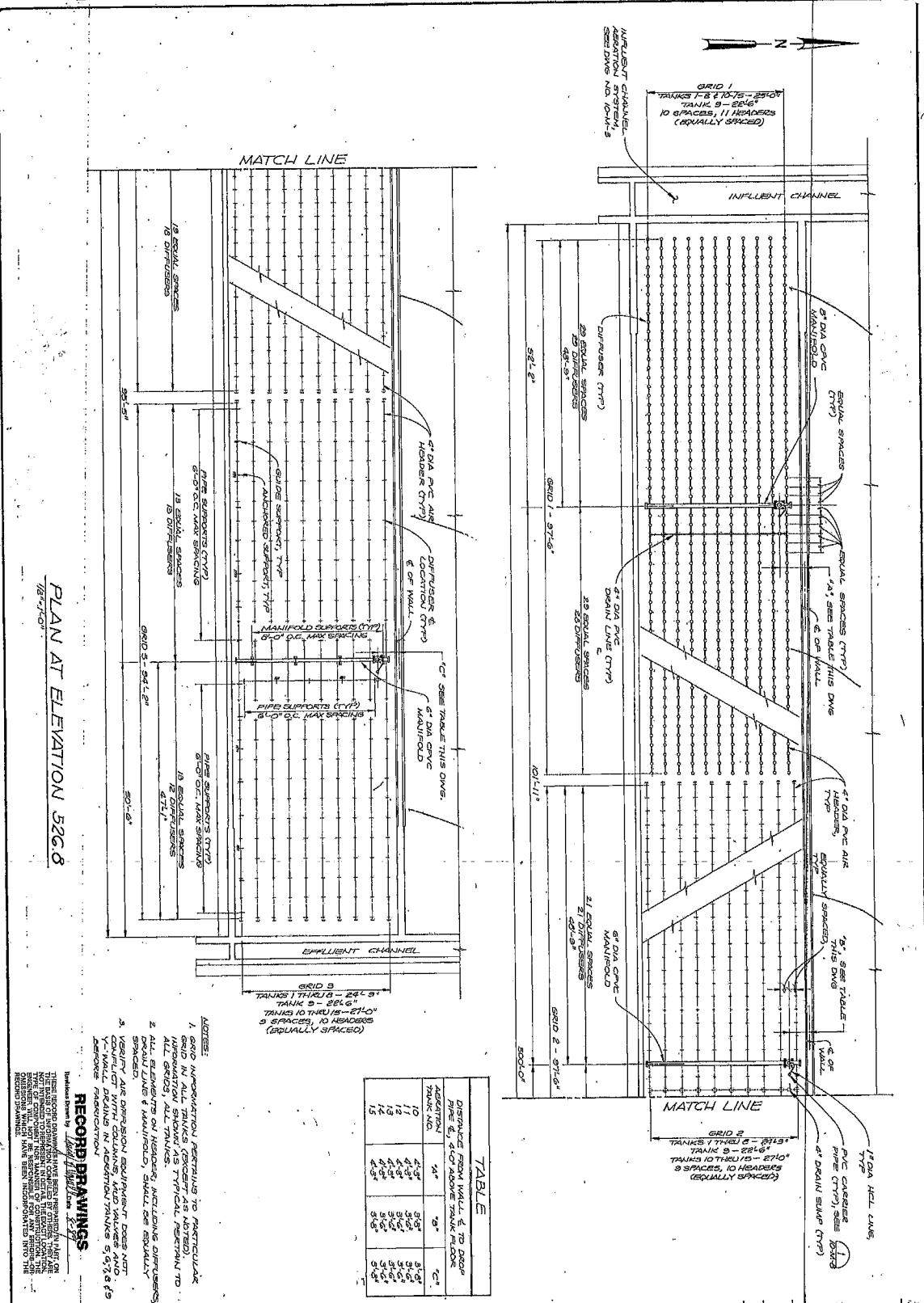
Drawn By: DE
 Checked By: DE
 Drawing No: 006506
 Sheet 5 of 22



SAN ANTONIO WATER SYSTEM



NO.	DATE	ADDENDUM NO. 4 REVISIONS	REK APP.
10/06			



PLAN AT ELEVATION 526.8

TABLE

ADAPTATION TANK NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DISTANCE FROM WALL & TO DEEP PIPE & 4\"/>															

- NOTES:
- GRID INFORMATION PERTAINING TO PARTICULAR ADAPTATION TANKS IS SHOWN IN THE TYPICAL ADAPTATION TANK DRAWING.
 - ALL ELEMENTS ON HEADERS, INCLUDING DIFFUSERS & MANIFOLDS, SHALL BE EQUALLY SPACED.
 - VERIFY AIR DISPERSION EQUIPMENT DOES NOT CONFLICT WITH COLLUMS, MAN VALVES AND VENTILATION EQUIPMENT.

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED BY THE ENGINEER FOR THE RECORD OF THE PROJECT. THEY ARE NOT TO BE USED FOR CONSTRUCTION OF THE PROJECT WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER. ANY CHANGES TO THESE RECORD DRAWINGS SHALL BE MADE BY THE ENGINEER AND SHALL BE INDICATED BY A REVISION.

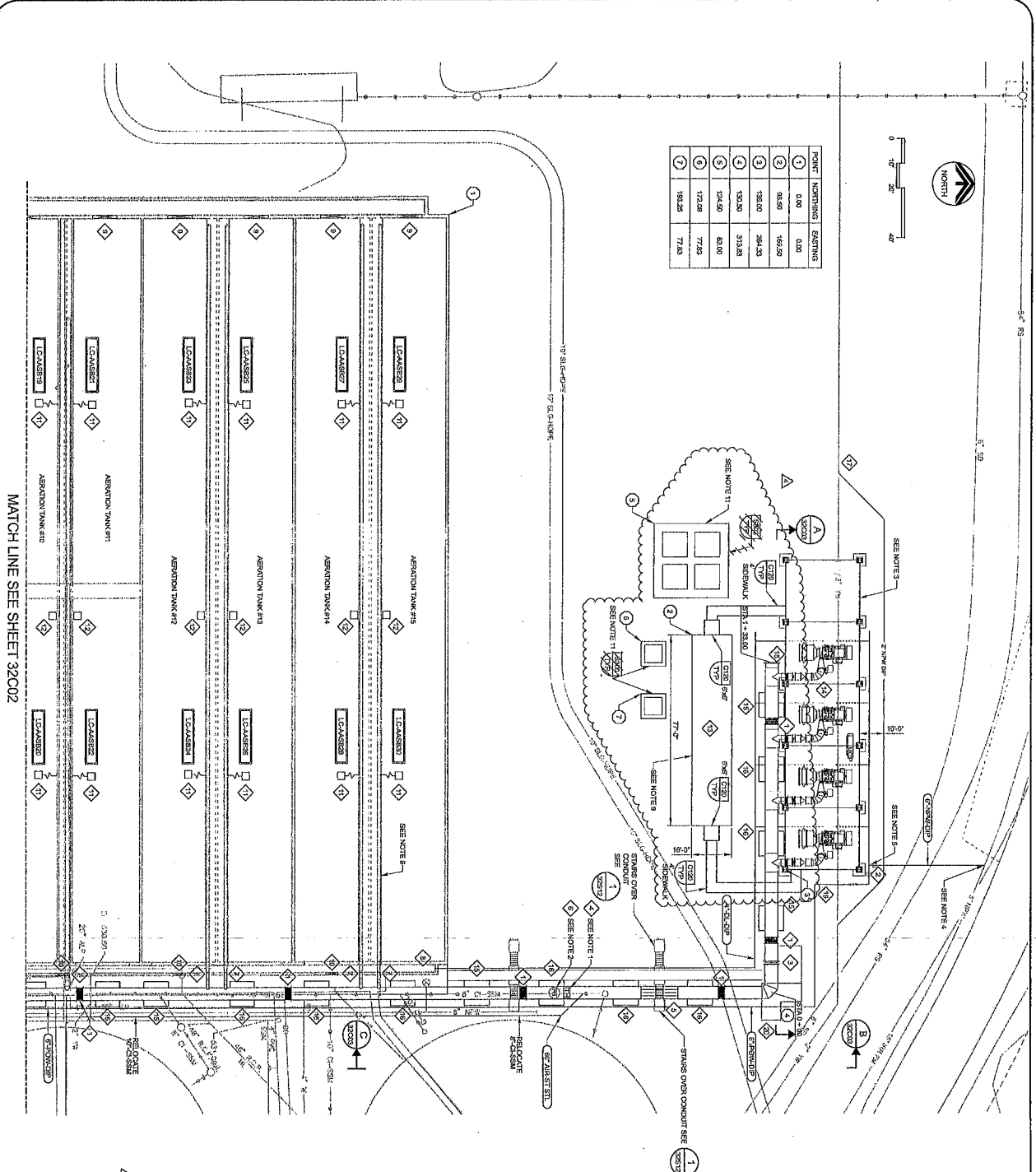
LEON CREEK
 ADVANCED SECONDARY TREATMENT PLANT UNITS - CATEGORY NO. 2
 AERATION TANKS
 PLAN AT ELEVATION 526.8
 MECHANICAL

San ANTONIO
 WASTEWATER FACILITIES IMPROVEMENTS



Date: JUNE 1988
 Designed by: STUEB
 Drawn by: GUYER/BAK
 Checked by: TANKEY
 Scale: 1/8" = 1'-0"

CRMHILL
 10-M-5



POINT	NORTHING	EASTING
1	0.00	0.00
2	86.90	166.20
3	136.00	264.43
4	150.50	319.83
5	154.50	43.00
6	172.28	77.83
7	183.25	77.83

KEY NOTES

- 1. NEW BLOWN EXPANSION JOINT (TYPE 1)
- 2. FIBER PRECASTION (TYPE 2)
- 3. GATE (CONCRETE)
- 4. NEW BATTERY WALL (CONCRETE)
- 5. FLOW CONDITIONERS
- 6. FIBER PRECASTION DOCUMENT
- 7. FIBER PRECASTION DOCUMENT
- 8. CONNECTION TO AERATION HEADER (CONCRETE)
- 9. BLOWER OUTDOOR AIR DRAIN (TYPE 3)
- 10. NEW MONITORED OPERATION WITH REMOTE CONTROL FOR AERATION IN LAST GATES (TYPE 1)
- 11. NEW MONITORED OPERATION GULLNET GATES (TYPE 7)
- 12. INSTALL DO PROBE PER PRECASTION DOCUMENT SPECIFICATION 1125
- 13. INSTALL DO CONDUIT PER PRECASTION DOCUMENT SPECIFICATION 1125
- 14. NEW BLOWN BUILDING
- 15. NEW FIBER PIPE SUPPORT (TYPE 4)
- 16. NEW FIBER PIPE SUPPORT (TYPE 5)
- 17. RELOCATE ENDING OF NEW CONDUIT TO FIELD VERIFY LOCATION BEFORE CONSTRUCTION
- 18. NEW FIBER PIPE
- 19. FIBER LOW PRESSURE GAS (TYPE 1)
- 20. SPECIFIED IN SECTION 2517 (TYPE 1)
- 21. NEW FIBER SUPPORT - CORNER CONDITION (TYPE 2)

NOTES

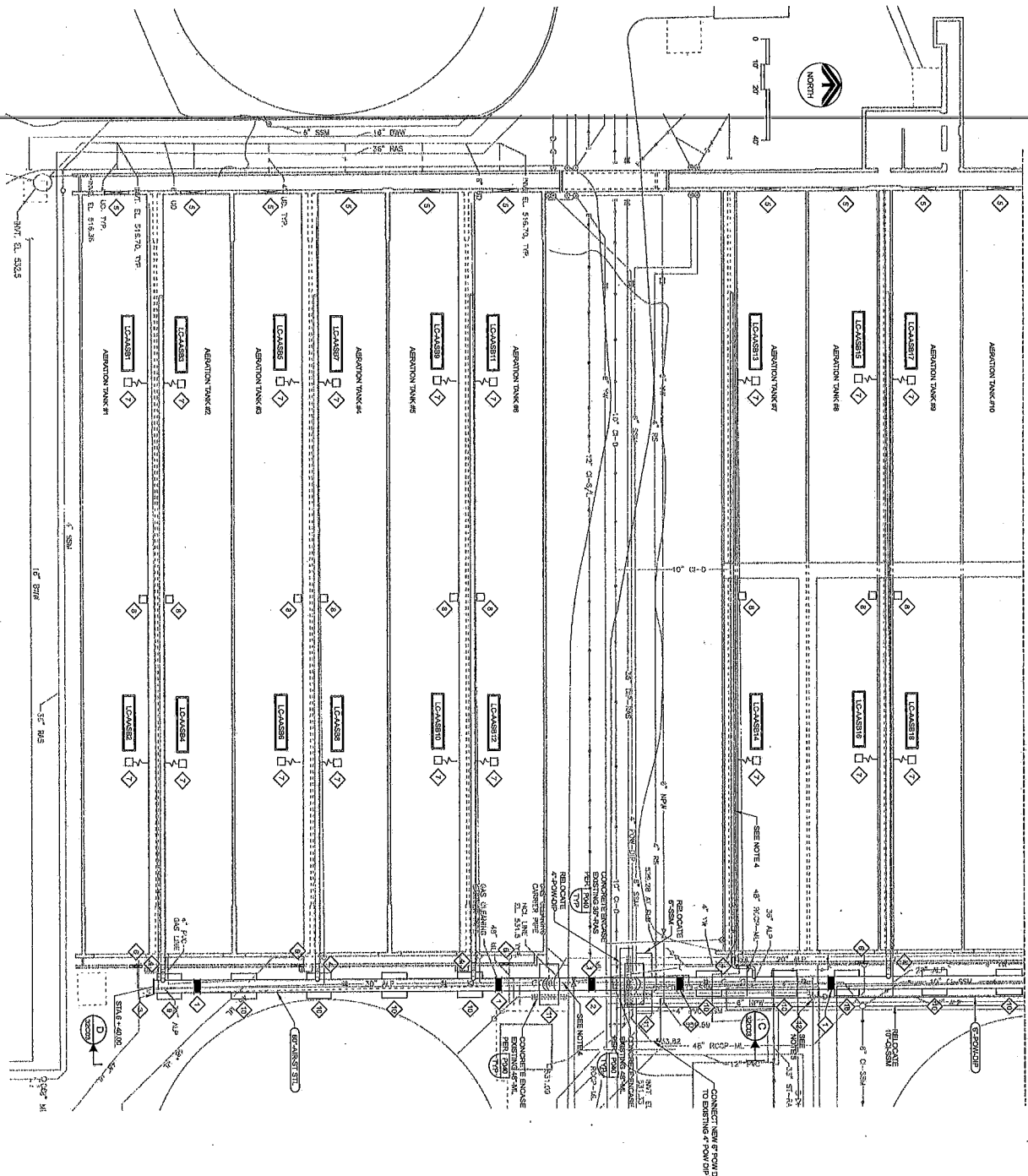
- 1. MINIMUM SPACING DISTANCE BETWEEN UPSTREAM FLOW CONDITIONER AND THERMAL LASS FLOW INDICATING TRANSMITTER SHALL BE 30" WITHOUT ANY FLOW OBSTRUCTION SUCH AS FLANGES OR FITTINGS
- 2. MINIMUM SPACING DISTANCE DOWN STREAM OF THE THERMAL LASS TRANSMITTER SHALL BE 30" WITHIN OF ANY FLOW OBSTRUCTION
- 3. FOR PLANE, SECTION AND DETAILS OF THE BLOWN BUILDING SEE SHEETS 32A AND 32B SHEETS
- 4. CONNECTION TO FIELD VERIFY LOCATION OF EXISTING FIBER
- 5. CONNECT NEW FIBER TO FIBER FOR BACK UP WATER SUPPLY TO BLOWERS FOR OIL TO WATER COOLER
- 6. REPLACE EXISTING METAL STAIRS LOCATED ON THE EAST SIDE OF AERATION BAYS 1 THROUGH 11 WITH NEW STAIRS PER 2
- 7. EXISTING UTILITIES ARE SHOWN FOR CONFORMANCE OF THE CONTRACTOR ONLY; THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES PRIOR TO THE START OF CONSTRUCTION FROM CONTRACTOR'S OPERATION
- 8. CONTRACTORS SHALL REMOVE EXISTING AIR HEADERS PER TABLE ON SHEET 32C04
- 9. THE MCC BUILDING AS SHOWN SHALL BE 7'6" X 11'6" THE SLUG SHALL BE PER 15521 WITHIN OF 2' SLUGS AND PER 17' BY 17'6"
- 10. REFER TO EXISTING SIZE WALK ON EAST SIDE OF AERATION BASIN PER 15521

CONTRACT DOCUMENTS DATED JULY 2004 AS SUPPLEMENTED BY ADDENDUM NO. 1 AND ADDENDUM NO. 2 AND SUPPLEMENTAL SPECIFICATIONS TO THE CONTRACT DOCUMENTS ARE HEREBY INCORPORATED INTO ONE COMPREHENSIVE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL DIMENSIONS, FIELD CONDITIONS AND CONDITIONS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES PRIOR TO THE START OF CONSTRUCTION FROM CONTRACTOR'S OPERATION.

NO.	DATE	REVISION	APP.
1	03/03	ADDENDUM NO. 1	REK
2	10/08	ADDENDUM NO. 2	REK
3		REVISIONS	APP.

CONFORMED DRAWINGS

SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT
CIVIL
AERATION HEADER PLAN I



MATCH LINE SEE SHEET 32C01

KEY NOTES

- 1. 90° BELOWS EXPANSION JOINT (SEE SPECIFICATION)
- 2. CONNECT NEW FLOW DIP TO EXISTING FLOW DIP
- 3. 60° BLIND FLANGE
- 4. CONNECTION TO AERATION HEADER (SEE NOTE 1)
- 5. NEW HORIZONTAL OPERATION FOR AERATION INFLUENT (SEE NOTE 5)
- 6. NEW HORIZONTAL OPERATION FOR AERATION EFFLUENT (SEE NOTE 6)
- 7. NEW HORIZONTAL OPERATION FOR AERATION INFLUENT (SEE NOTE 7)
- 8. NEW HORIZONTAL OPERATION FOR AERATION EFFLUENT (SEE NOTE 8)
- 9. NEW HORIZONTAL OPERATION FOR AERATION INFLUENT (SEE NOTE 9)
- 10. NEW HORIZONTAL OPERATION FOR AERATION EFFLUENT (SEE NOTE 10)
- 11. NEW HORIZONTAL OPERATION FOR AERATION INFLUENT (SEE NOTE 11)
- 12. NEW HORIZONTAL OPERATION FOR AERATION EFFLUENT (SEE NOTE 12)
- 13. NEW HORIZONTAL OPERATION FOR AERATION INFLUENT (SEE NOTE 13)
- 14. NEW HORIZONTAL OPERATION FOR AERATION EFFLUENT (SEE NOTE 14)
- 15. NEW HORIZONTAL OPERATION FOR AERATION INFLUENT (SEE NOTE 15)
- 16. NEW HORIZONTAL OPERATION FOR AERATION EFFLUENT (SEE NOTE 16)
- 17. NEW HORIZONTAL OPERATION FOR AERATION INFLUENT (SEE NOTE 17)
- 18. NEW HORIZONTAL OPERATION FOR AERATION EFFLUENT (SEE NOTE 18)
- 19. NEW HORIZONTAL OPERATION FOR AERATION INFLUENT (SEE NOTE 19)
- 20. NEW HORIZONTAL OPERATION FOR AERATION EFFLUENT (SEE NOTE 20)

NOTES

1. EXISTING UTILITIES ARE SHOWN FOR CONVENIENCE OF THE CONTRACTOR ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES FROM SURVEY DATA AND FIELD CONDITIONS. ANY CHANGES TO UTILITIES SHALL BE REVISIONS AT CONTRACTOR'S RISK.
2. DEMOLISH AND REPLACE EXISTING CONCRETE STAIRS ON EAST SIDE OF AERATION BASIN 1 THROUGH 6 WITH NEW STAIRS PER (SEE NOTE 1).
3. DEMOLISH AND REPLACE EXISTING METAL STAIRS LOCATED ON THE EAST SIDE OF AERATION BASIN 7 THROUGH 15 WITH NEW STAIRS PER (SEE NOTE 2).
4. CONTRACTOR SHALL VERIFY EXISTING HEADERS ARE TABLE ON SHEET 32C04.
5. FOR TEMPORARY INTERCONNECTION OF EXISTING AIR HEADERS AND NEW AIR HEADERS PER SPECIFICATION 17.0 AND INSTALL 4\"/>

CONTRACT DOCUMENTS IN THE CITY OF SAN ANTONIO, TEXAS, AS PART OF THE BIDDING DOCUMENTS GOVERNMENTS AND CONTRACTORS SHALL BE REFERRED TO AS THE CONTRACT DOCUMENTS. ANY CHANGES TO THE CONTRACT DOCUMENTS SHALL BE REVISIONS AT CONTRACTOR'S RISK. THE CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES FROM SURVEY DATA AND FIELD CONDITIONS. ANY CHANGES TO UTILITIES SHALL BE REVISIONS AT CONTRACTOR'S RISK.

No.	DATE	REVISIONS	APP.

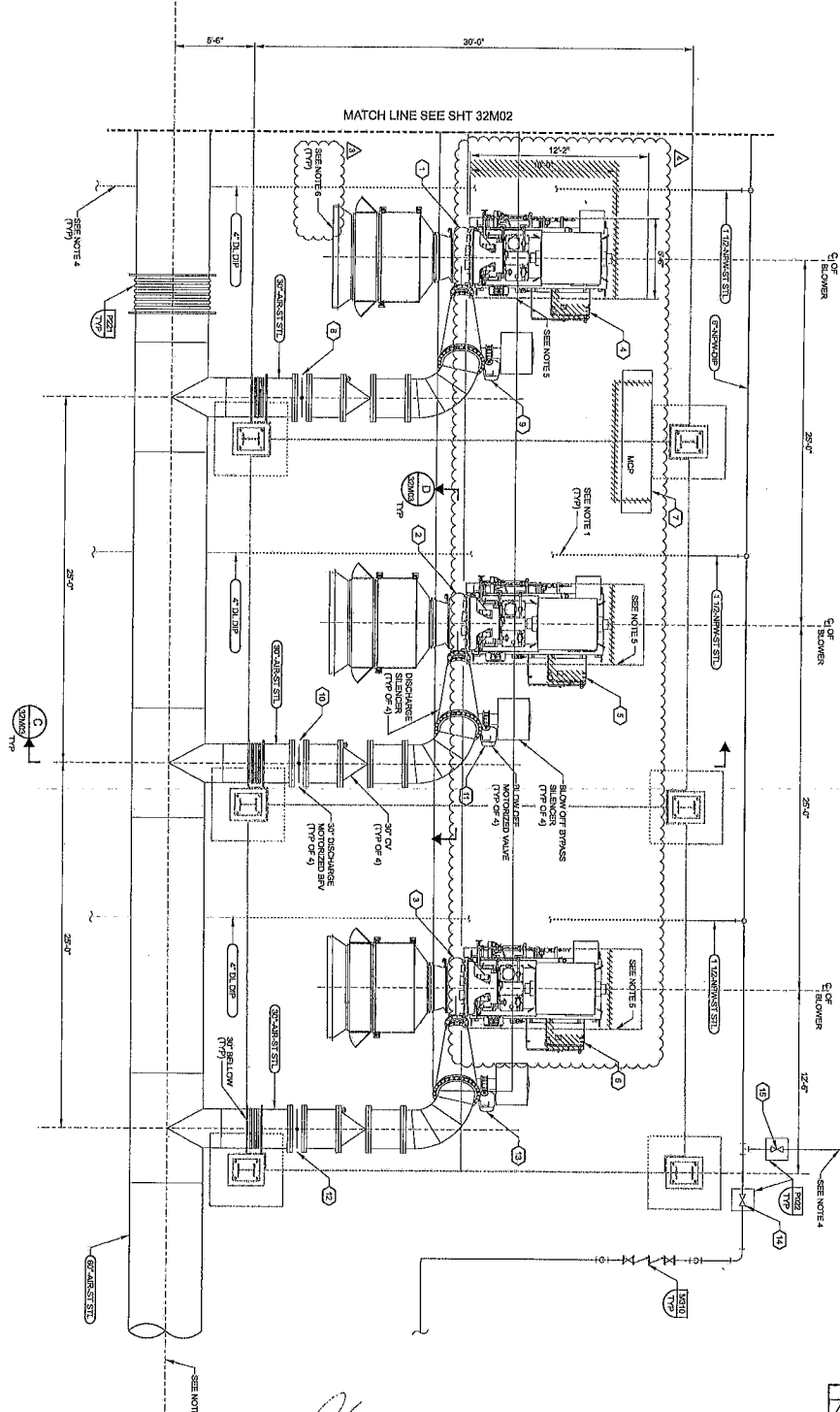
SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT
CIVIL
AERATION HEADER PLAN II

R. E. KILIAN
 84203
 08/31/2011

SAN ANTONIO WATER SYSTEM

Carollo
 Engineers...Working Wonders With Water™

Drawing 32C002
Sheet 46 of 472



A BLOWER PIPE PLAN

SCALE: 1/4" = 1'-0"
 FILE: LC-06-650-632-M01.dwg
 DATE: 05 DEC 2008 17:28
 PROJECT NO: 7473A.10
 DRAWING NO: 32M01

KEYING

1	LC-ASS302
2	LC-ASS303
3	LC-ASS304
4	LC-ASS305
5	LC-ASS306
6	LC-ASS307
7	LC-ASS308
8	LC-ASS309
9	LC-ASS310
10	LC-ASS311
11	LC-ASS312
12	LC-ASS313
13	LC-ASS314
14	LC-ASS315
15	LC-ASS316
16	LC-ASS317
17	LC-ASS318
18	LC-ASS319
19	LC-ASS320

- NOTES**
1. WATER PIPING FOR THE OIL COOLER SHALL BE INSTALLED AS REQUIRED FOR THE EQUIPMENT SUPPLIER'S ACCEPTED PRACTICES. THE EQUIPMENT SUPPLIER SHALL BE PROVIDED TYPICAL FOR EACH BLOWER. PROVIDE BALL VALVE FOR ISOLATION TYPICAL FOR EACH BLOWER.
 2. RETURN WATER PIPING FOR THE OIL COOLER SHALL BE INSTALLED AS REQUIRED FOR THE EQUIPMENT SUPPLIER'S ACCEPTED PRACTICES. PROVIDE BALL VALVE FOR ISOLATION TYPICAL FOR EACH BLOWER.
 3. INSTALL PIPE SUPPORTS PER SPEC'S.
 4. FOR CONTINUATION PIPING SEE PWS 32041.
 5. FOR BLOWER EQUIPMENT PIPING REFER TO SHEET 32011.
 6. PROVIDE NEIGHBORING OWNERS A COPY OF THIS SECTION (PER 0707).

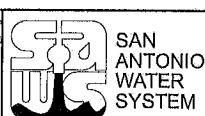
CONTRACT DOCUMENTS AND SPECIFICATIONS SHALL BE USED AS PART OF THE RECORD DOCUMENTS DRAWINGS AND NOT BE USED FOR CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AFFECTING AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AFFECTING AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM ALL AFFECTING AGENCIES.

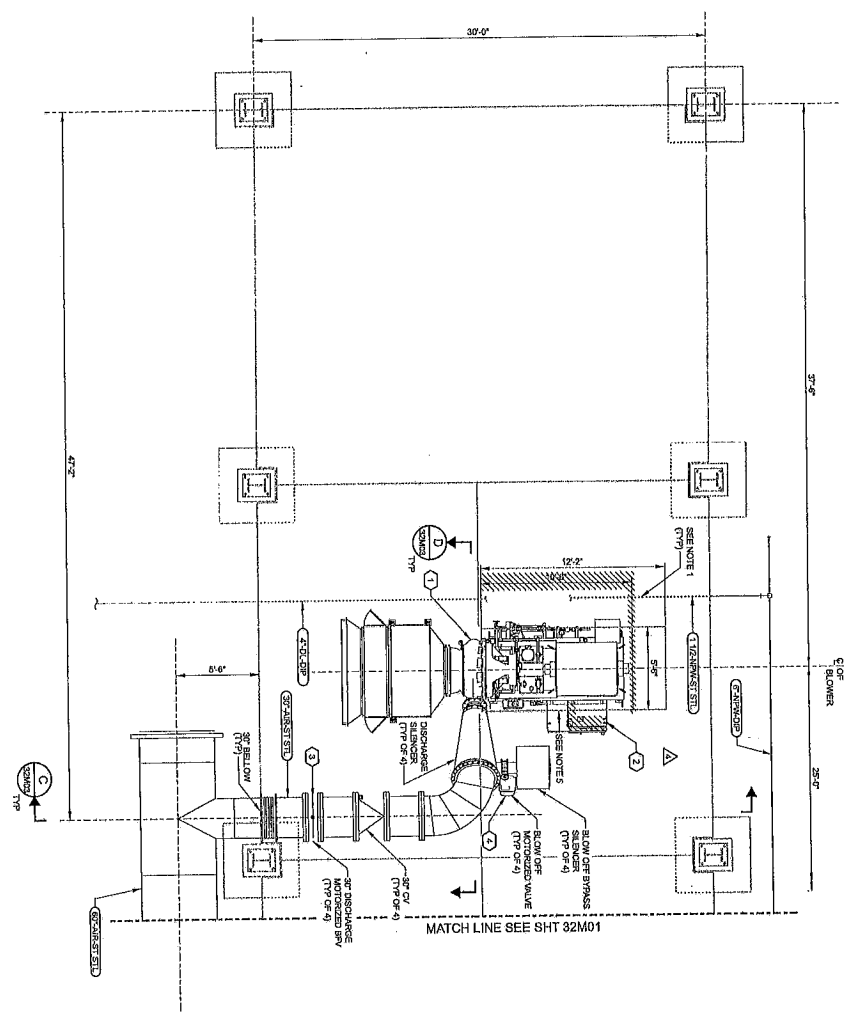
CONFORMED DRAWINGS

No.	DATE	REVISIONS	APP.
1008		ADDENDUM NO. 4	REK
098		ADDENDUM NO. 3	REK

SAWS JOB No. 06-6502
 LEON CREEK WRC
 IMPROVEMENTS PROJECT
 MECHANICAL
 AERATION BLOWER
 PLAN I

DESIGNED BY: JAH
 CHECKED BY: BE
 DRAWING NO: 32M01
 SHEET 18 OF 272





B BLOWER PIPE PLAN

CONTRACT DOCUMENTS, LATEST EDITION, AS PART OF THE BIDDING DOCUMENTS, SHALL BE REFERENCED TO THE CONTRACT DOCUMENTS, LATEST EDITION, AS PART OF THE BIDDING DOCUMENTS, AND ANY AMENDMENTS TO THE CONTRACT DOCUMENTS, LATEST EDITION, AS PART OF THE BIDDING DOCUMENTS, SHALL BE REFERENCED TO THE CONTRACT DOCUMENTS, LATEST EDITION, AS PART OF THE BIDDING DOCUMENTS.

CONTRACT DOCUMENTS, LATEST EDITION, AS PART OF THE BIDDING DOCUMENTS, SHALL BE REFERENCED TO THE CONTRACT DOCUMENTS, LATEST EDITION, AS PART OF THE BIDDING DOCUMENTS, AND ANY AMENDMENTS TO THE CONTRACT DOCUMENTS, LATEST EDITION, AS PART OF THE BIDDING DOCUMENTS, SHALL BE REFERENCED TO THE CONTRACT DOCUMENTS, LATEST EDITION, AS PART OF THE BIDDING DOCUMENTS.

KEY TAG

1	CAST IRON
2	CAST IRON
3	CAST IRON
4	CAST IRON

- NOTES**
1. WATER PIPING FOR THE BLOWER SHALL BE INSTALLED AS SHOWN AND SHALL BE INSTALLED AND AS ACCEPTED BY THE ENGINEER. ALL OF THE REQUIRED PIPING AND FITTING SHALL BE FOR SCHED. 40, 1/2" DIA. FOR EACH BLOWER.
 2. SCHEDULE 40S PIPING FOR THE BL. COOL. BR. SHALL BE INSTALLED BY THE CONTRACTOR TO THE BL. UNIT. PIPING CONNECTIONS PROVIDED BY THE EQUIPMENT MANUFACTURER. THE CONTRACTOR SHALL CHECK VALVE FOR SILENCE AND SILENCE PROTECTION, TYPICAL FOR EACH BLOWER.
 3. INSTALL PIPE SUPPORTS PER 302-03.
 4. PIPING CONNECTIONS PER 302-03.
 5. FOR BLOWER EQUIPMENT PIPING PER 302-03.

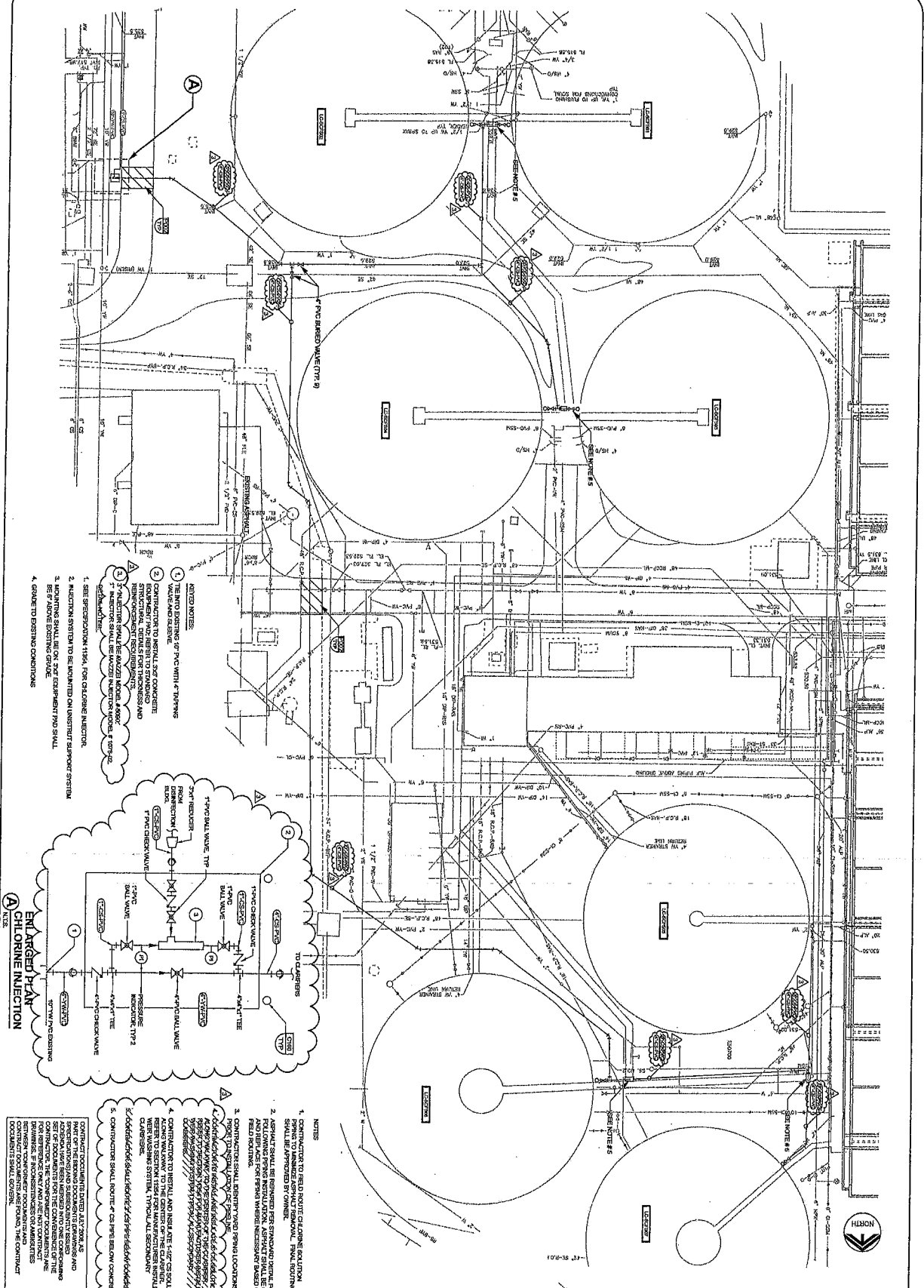
CONFORMED DRAWINGS

No.	DATE	ADDENDUM NO. 3 REVISIONS	REK APP.

SAWS JOB No. 06-6502
LEON CREEK WRC
IMPROVEMENTS PROJECT

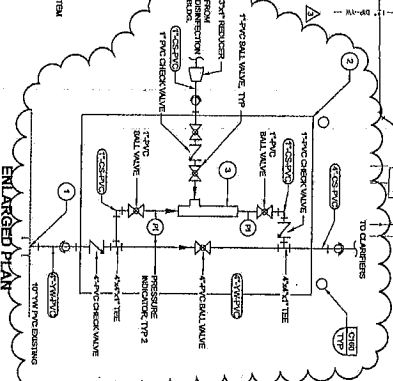
MECHANICAL
AERATION BLOWER
PLAN II





- NOTED NOTES:**
1. FIELD PREPARATION 11504, FOR CHLORINE INJECTION.
 2. INJECTION SYSTEM TO BE INSTALLED ON UNDISTURBED SUPPORT SYSTEM BEYOND EXISTING GRADE.
 3. PUMPING SHALL BE ON 20" EQUIPMENT PWD SHALL BE FUTURE EXISTING GRADE.
 4. ADJUST TO EXISTING CONDITIONS.

ENLARGED PLAN CHLORINE INJECTION



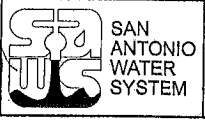
- NOTES:**
1. CONTRACTOR TO FIELD VERIFY CHLORINE SOLUTION STORAGE TANK LOCATION AND FIELD CONDITIONS.
 2. ASPHALT SHALL BE REFINISHED PER STANDARD DETAIL FOR ROADWAYS FROM RESTRICTION. ASPHALT SHALL BE CUT AND REPAIRED TO MATCH EXISTING ROADWAY SURFACE.
 3. CONTRACTOR SHALL VERIFY PUMP FIELD LOCATION.
 4. CONTRACTOR SHALL VERIFY PUMP FIELD LOCATION AND REFER TO SECTION 11504 FOR LIMIT FACTOR INSTALLATION. CONTRACTOR SHALL VERIFY PUMP FIELD LOCATION AND REFER TO SECTION 11504 FOR LIMIT FACTOR INSTALLATION.
 5. CONTRACTOR SHALL VERIFY PUMP FIELD LOCATION.
- CONTRACT DOCUMENTS DATED JAN 2008 AS SUPPLEMENTED BY ADDENDUM NO. 1 AND 2. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND REFER TO SECTION 11504 FOR LIMIT FACTOR INSTALLATION. CONTRACTOR SHALL VERIFY PUMP FIELD LOCATION AND REFER TO SECTION 11504 FOR LIMIT FACTOR INSTALLATION. CONTRACTOR SHALL VERIFY PUMP FIELD LOCATION AND REFER TO SECTION 11504 FOR LIMIT FACTOR INSTALLATION.

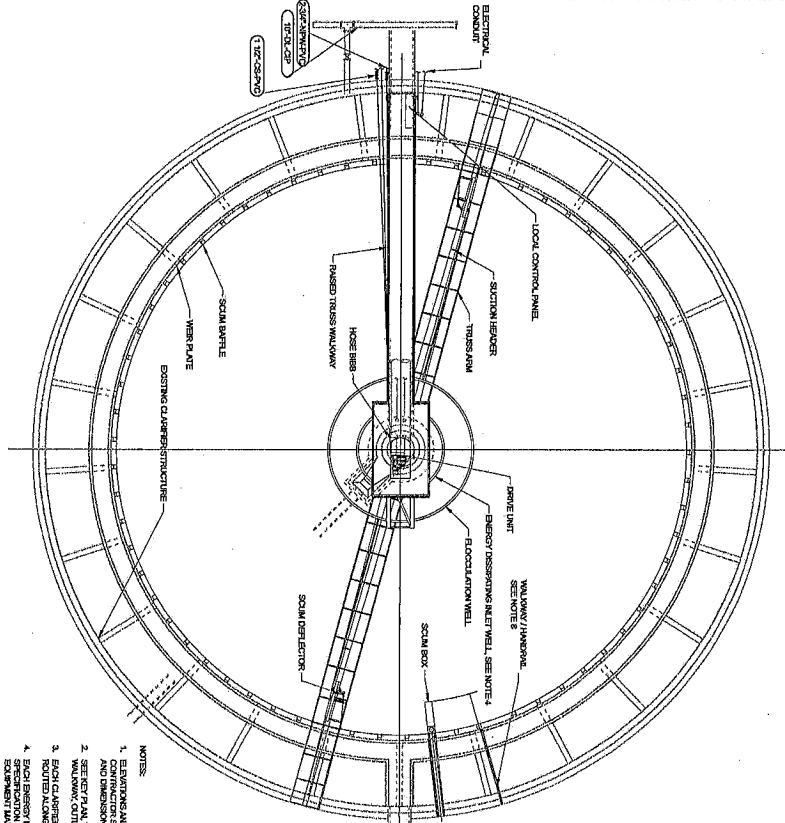
CONFORMED DRAWINGS	908	ADDENDUM NO. 3	ORA
	No.	REVISIONS	APP.
	DATE		

SAWS JOB No. 06-6502
 LEON CREEK WRC
 IMPROVEMENTS PROJECT

CIVIL
**SECONDARY CLARIFIERS 1-3
 WEIR WASHING SITE PLAN**

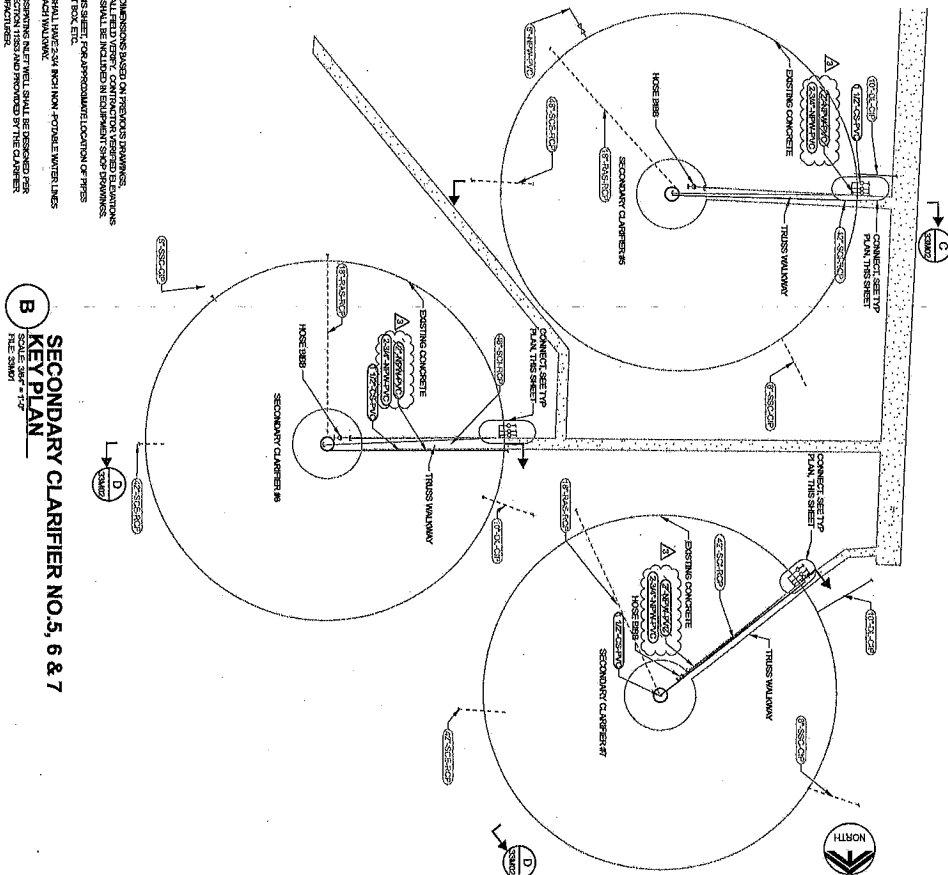
Checked by: [Signature]
 Drawn by: [Signature]
 Scale: 1/8" = 1'-0"





A
SECONDARY CLARIFIER
 TYPICAL PLAN
 SCALE: 1/8" = 1'-0"

- NOTES:**
1. ELEMENTS AND DIMENSIONS BASED ON PREVIOUS DRAWINGS. DIMENSIONS AND DIMENSIONS SHALL BE INCLUDED IN EQUIPMENT SHOP DRAWINGS.
 2. SEE CITY PLAN THIS SHEET FOR APPROXIMATE LOCATION OF PRESS WALKWAY, OUTLET BOX, ETC.
 3. EACH CLARIFIER SHALL HAVE 2 (2) 4" INCH DIAMETER WALKWAYS ROUTED ALONG EACH WALKWAY.
 4. EACH ENERGY TRANSFERRING INLET WELL SHALL BE DESIGNED PER EQUIPMENT MANUFACTURER'S REQUIREMENTS AND PROVIDED BY THE CONTRACTOR.
 5. SECTION SHEETS FOR WALKWAY PRESSURE WALKWAY TO CLARIFIERS REFER TO SPECIFICATION 1064 FOR WALKWAY USER INSTALLED WHEN WALKING SYSTEM TYPICAL SECONDARY CLARIFIERS.
 6. CONTRACTOR SHALL INSTALL AND RELIANT THE CRANE SOLUTION FOR WALKWAY PRESSURE WALKWAY INSTALLED WHEN WALKING SYSTEM TYPICAL SECONDARY CLARIFIERS.
 7. CONTRACTOR SHALL REMOVE EXISTING WALKWAYS LOCATED ON HOSE WAGON WALKWAY AND REMOVE SCUMMING STRUCTURE WALKWAY AND SCUMMING TRUSS WITH A 180 DEGREE SWING WATER NOZZLE.



B
SECONDARY CLARIFIER NO. 5, 6 & 7
 KEY PLAN
 SCALE: 1/8" = 1'-0"

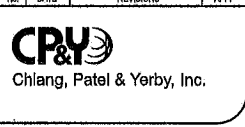
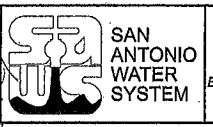
8. CONTRACTOR SHALL REMOVE EXISTING WALKWAY, ASSIGNED CRANE WALKWAY AND SCUMMING STRUCTURE AND REINSTALL AND REFINISH WALKWAY PRESSURE WALKWAY AND SCUMMING STRUCTURE TO REMAIN. REFER TO SPECIFICATION 0999. HOSE REEL AT CLARIFIERS 5, 6 AND 7.

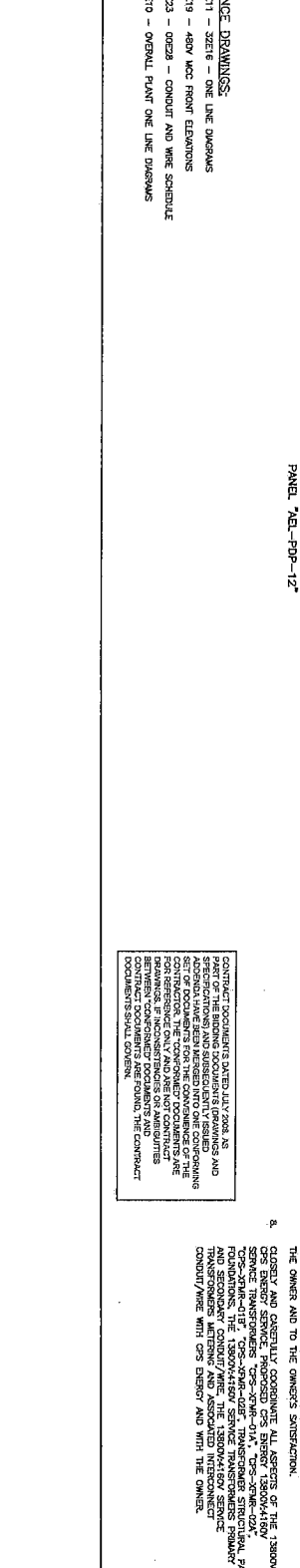
CONTRACT DOCUMENTS DATED JAN 2008, AS SPECIFICATIONS AND CONDITIONS PREPARED BY THE ENGINEER, AND ANY ADDENDUMS, AMENDMENTS, OR CHANGES TO THE CONTRACT DOCUMENTS, SHALL BE THE BASIS OF THE CONTRACT. CONTRACT DOCUMENTS PREPARED BY THE CONTRACTOR SHALL GOVERN.

CONFORMED DRAWINGS		ADDENDUM NO. 3	REK
No.	DATE	REVISIONS	APP.

SAWS JOB No. 06-6502
 LEON CREEK WRC
 IMPROVEMENTS PROJECT
 MECHANICAL
SECONDARY CLARIFIER
 KEY PLAN AND TYPICAL PLAN

Prepared by: [unclear]
 Checked by: [unclear]
 Drawing: **33M01**
 Sheet: 6 of 272





REFERENCE DRAWINGS:

- 32E11 - 32E16 - ONE LINE DIAGRAMS
- 32E19 - 480V MCC FRONT ELEVATIONS
- 02E23 - 02E26 - CONDUIT AND WIRE SCHEDULE
- 02E10 - OVERALL PLANT ONE LINE DIAGRAMS

CONTRACT DOCUMENTS DATED JULY 2006, ARE PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) WHICH HAVE BEEN MERGED INTO ONE COMPREHENSIVE SET OF DOCUMENTS FOR THE CONSTRUCTION OF THE BLOWER AREA. CONTRACTORS SHALL CONSULT THIS SET OF DOCUMENTS FOR ALL INFORMATION AND FOR REFERENCE ONLY AND NOT CONTRACT TERMS AND CONDITIONS. CONTRACT DOCUMENTS ARE FOUND IN THE CONTRACT AND SHALL BE THE FINAL VERSION.

- KEY NOTES:**
- FURNISH AND INSTALL BATTERY METER (B/M) AND/OR DISINTEGRATOR PER THE CONTRACT SPECIFICATIONS. ONLY MAJOR ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN THIS ROOM.
 - CONSTRUCT A BLOWER AREA FOR THE BLOWER AREA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE). THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).
 - PROVIDE ALL NECESSARY CONDUIT, WIRE TRAYS, AND SUPPORTS FOR THE BLOWER AREA. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).
 - FURNISH AND INSTALL ALL ELECTRICAL EQUIPMENT AND MATERIALS AS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).
 - PROVIDE ALL NECESSARY CONDUIT, WIRE TRAYS, AND SUPPORTS FOR THE BLOWER AREA. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).
 - FURNISH AND INSTALL ALL ELECTRICAL EQUIPMENT AND MATERIALS AS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).
 - PROVIDE ALL NECESSARY CONDUIT, WIRE TRAYS, AND SUPPORTS FOR THE BLOWER AREA. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).
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 - FURNISH AND INSTALL ALL ELECTRICAL EQUIPMENT AND MATERIALS AS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).
 - PROVIDE ALL NECESSARY CONDUIT, WIRE TRAYS, AND SUPPORTS FOR THE BLOWER AREA. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).
 - FURNISH AND INSTALL ALL ELECTRICAL EQUIPMENT AND MATERIALS AS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).
 - PROVIDE ALL NECESSARY CONDUIT, WIRE TRAYS, AND SUPPORTS FOR THE BLOWER AREA. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY PUBLIC SERVICE (CPS) AND THE CITY ENGINEER (CE).

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MEASURE TO SIZE
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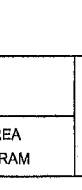
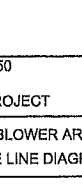
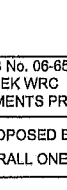
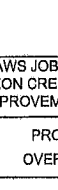
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No.	DATE	REVISIONS	APP.

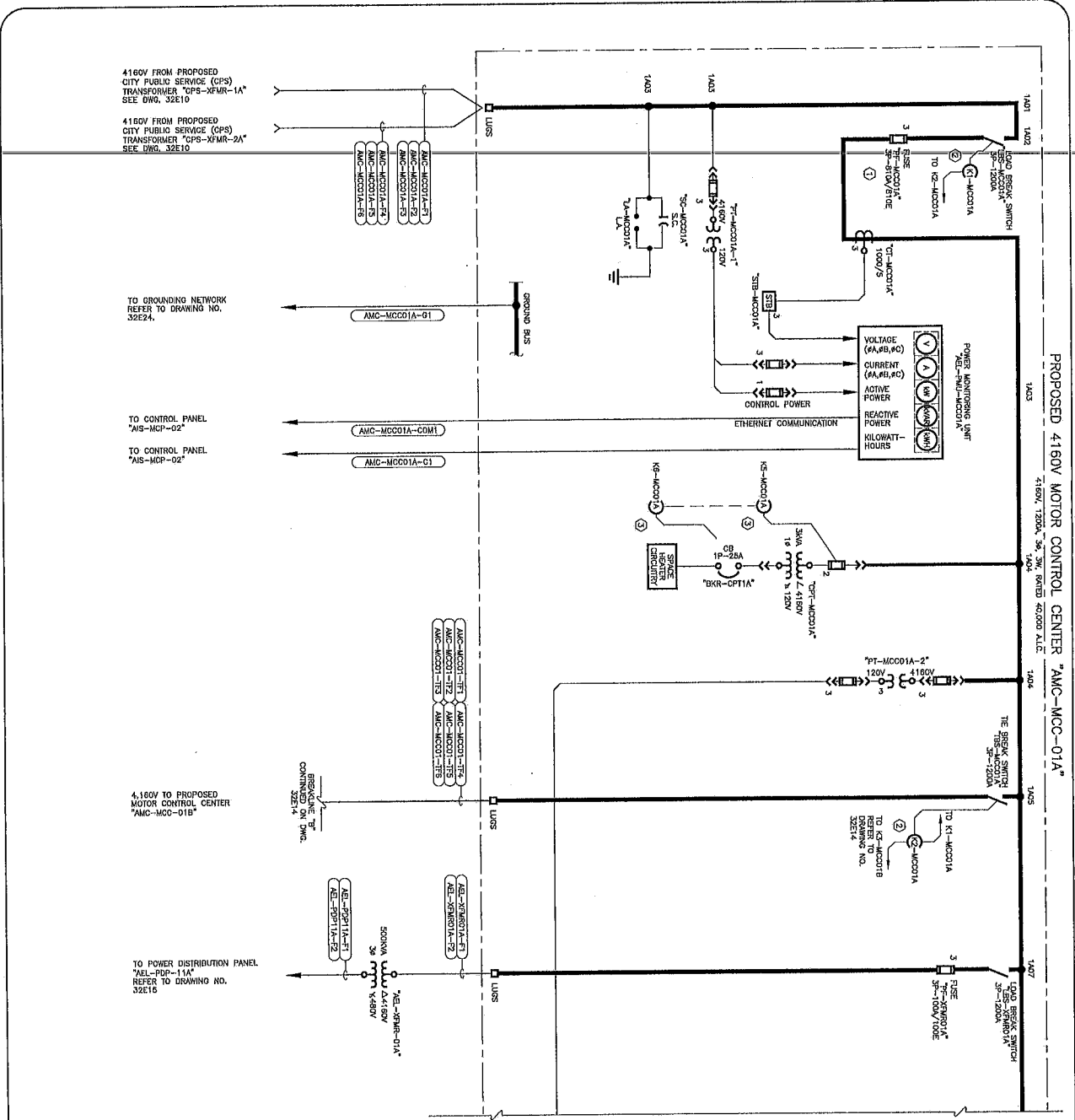
SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

PROPOSED BLOWER AREA
OVERALL ONE LINE DIAGRAM

Drawing: 32E10
Checked by: HEI
Designed by: HEI
Scale: 3/8" = 1'



11/2/2008



PROPOSED 4160V MOTOR CONTROL CENTER "AMC-MCC-01A"
 4160V, 1200A, 3P, 3W, RMBD 40,000 ALC.
 BREAKLINE "A-A" CONTINUED ON DRAWING NO. 32E12

- KEY NOTES:**
- ① - 450A, 5-PHASE FUSES IN PARALLEL.
 - ② - FINISH AND INSTALL KEY INTERLOCKS WITHIN THE MAIN AND THE LOAD BREAK SWITCH SECONDARY SWITCHES. THE MAIN AND THE LOAD BREAK SWITCH MAIN AND BREAK SWITCHES CAN BE CLOSED.
 - ③ - FINISH AND INSTALL KEY INTERLOCKS WITHIN THE CPT AND CPT SECONDARY BREAKER SECTION SO THAT THE CPT MUST BE OPENED/REMOVED OF THE CPT WHILE THE CPT SECONDARY LOAD IS ENERGIZED.
- GENERAL NOTES:**
1. ALL WORK DERIVED ON THIS DRAWING ARE PROPOSED.
 2. SHOULD A POWER OUTAGE TO A FACILITY BE REQUIRED, THE CONTRACTOR SHALL REQUEST SUCH AN OUTAGE IN WRITING. NO REQUEST SHALL DENY THE DESIRED DATE, TIME, DURATION, AND PURPOSE OF THE REQUESTED OUTAGE UNLESS OTHERWISE NOTED.
 3. THE OWNER RESERVES THE RIGHT TO MODIFY OR REJECT OR DEFER THE CONTRACTOR'S REQUEST FOR DELAYS IN THE DURATION OF THE OUTAGE SHALL BE LIMITED TO FOUR (4) HOURS OR LESS. THE OWNER RESERVES THE RIGHT TO LIMIT MODIFICATION OF THE OUTAGE DURATION BY THE OWNER SHALL NOT BE CONSIDERED REASON FOR DELAYS IN THE CONSTRUCTION SCHEDULE.
- REFERENCE DRAWINGS:**
 32E19 - FRONT ELEVATION
 00E23 - 00E28 - CONDUIT AND WIRE SCHEDULE

CONTRACT DOCUMENTS DATED JULY 2004, AS PART OF THE BIDDING DOCUMENTS FOR THE LEON CREEK WRC IMPROVEMENTS PROJECT. ANY CHANGES TO THESE DOCUMENTS HAVE BEEN REFERENCED TO ONE CORRECTING DOCUMENT. THE CONTRACT DOCUMENTS ARE FOR INFORMATION ONLY AND ARE NOT CONTRACTS BETWEEN THE OWNER AND THE CONTRACTOR. THE CONTRACT DOCUMENTS SHALL GOVERN.

SAWS JOB No. 06-850
 LEON CREEK WRC
 IMPROVEMENTS PROJECT
 PROPOSED BLOWER AREA
 4160V DETAILED ONE-LINE DIAGRAM
 (SHEET 1 OF 4)

WARNING
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No.	DATE	REVISIONS	APP.

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 Harutunian Engineering Incorporated
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7/4/2008

Sheet 32E11 of 422

BREAKLINE "A-A"
CONTINUED ON DRAWING NO. 32E11

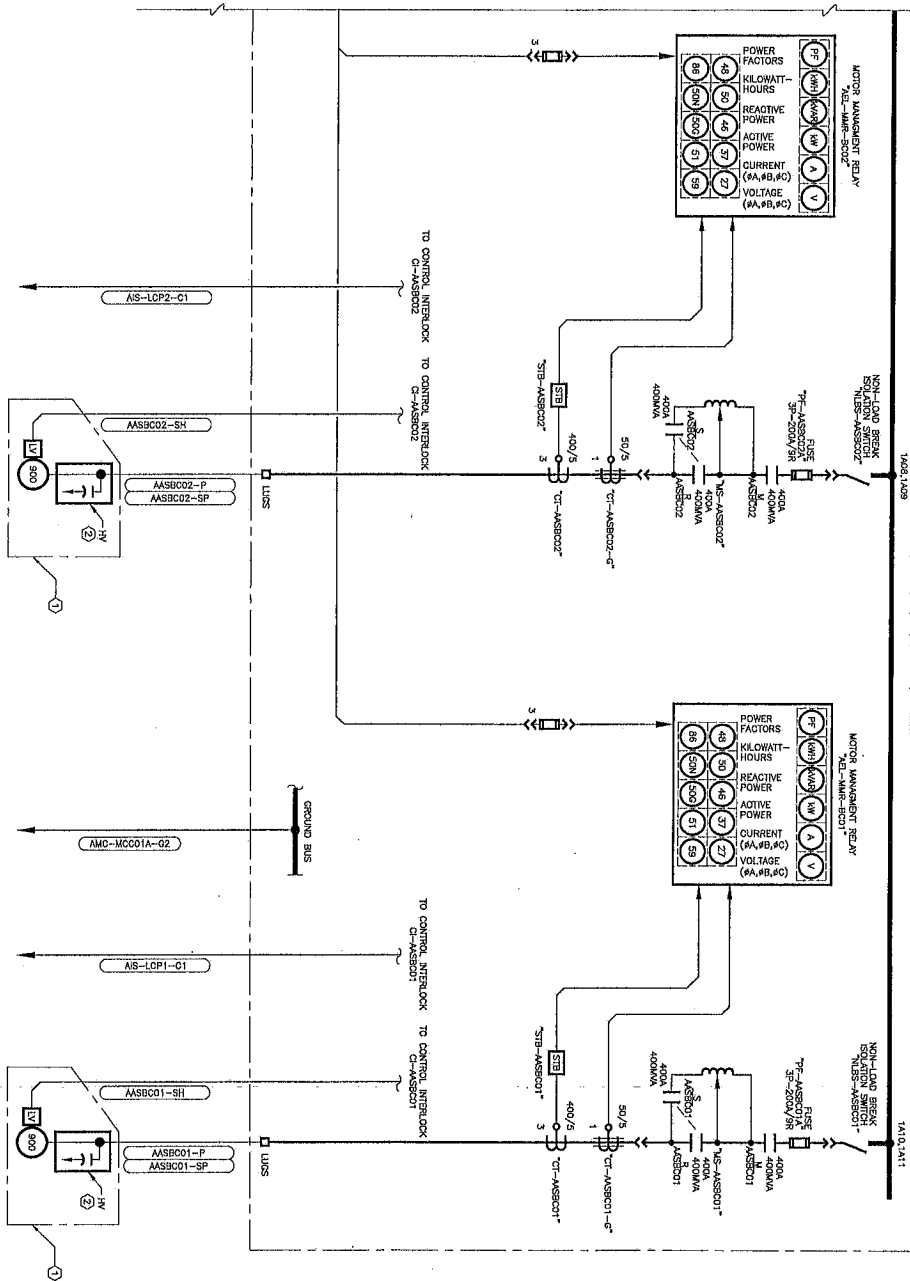
PROPOSED PROCESS
AIR BLOWER
"LC-AASBC02"
LOCAL CONTROL PANEL

PROPOSED PROCESS
AIR BLOWER
"LC-AASBC02"
LOCAL CONTROL PANEL

TO GROUNDING NETWORK
REFER TO DRAWING NO.
32E24.

PROPOSED PROCESS
AIR BLOWER
"LC-AASBC01"
LOCAL CONTROL PANEL

PROPOSED PROCESS
AIR BLOWER
"LC-AASBC01"
LOCAL CONTROL PANEL



PROPOSED 4160V MOTOR CONTROL CENTER "AMC-MCC-01A"
1982.1.09
4160V, 1200A, 3φ, 3W, 2MFD 42000 ALC

1410.14.11

KEY NOTES:

- OWNER PRE-PURCHASED EQUIPMENT REFERENCE LEAD CHECK SHEETS, AND APPROPRIATE PRECISEMENT DOCUMENTS, COORDINATE WITH THE OWNER'S PRECISEMENT DOCUMENTS.
- OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR THE PROJECT.
- POWER FACTOR CORRECTION CAPACITORS SHALL BE SIZED AND SUPPLIED BY EQUIPMENT MANUFACTURER.

GENERAL NOTES:

- ALL ITEMS DEPICTED ON THIS DRAWING ARE PROPOSED.
- SHOULD A POWER OUTAGE TO A FACILITY BE REQUIRED, THE CONTRACTOR SHALL REQUEST SUCH AN OUTAGE IN WRITING. NO REQUEST SHALL BE MADE UNTIL THE REQUESTED DATE, TIME, DURATION, AND PURPOSE OF THE REQUESTED OUTAGE HAS BEEN DETERMINED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER OF ANY REQUEST FOR SUCH AN OUTAGE. MODIFICATION OR CANCELLATION OF SUCH A REQUEST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOT BE CONSIDERED RESPONSIBLE FOR DELAYS IN THE CONSTRUCTION SCHEDULE UNLESS OTHERWISE NOTED. THE DURATION OF THE OUTAGE TO BE LESS THAN 4 HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER OF ANY REQUEST FOR SUCH AN OUTAGE. MODIFICATION OR CANCELLATION OF SUCH A REQUEST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOT BE CONSIDERED RESPONSIBLE FOR DELAYS IN THE CONSTRUCTION SCHEDULE.
- THE ACTUAL REQUIRED SIZE OF THE CONDUIT ENTRANCE SIZES AND SIZE OF THE EQUIPMENT CONDUIT ENTRANCE SIZES SHALL BE DETERMINED BY THE CONTRACTOR AND COORDINATED WITH THE PLANS OF THE ELECTRICAL DIVISION.

REFERENCE DRAWINGS:

- 32E10 - FRONT ELEVATION
- 02E3 - CONDUIT AND WIRE SCHEDULE

CONTRACT DOCUMENTS DATED JULY 2006 AS SUPPLEMENTED BY ADDENDUMS AND SPECIFICATIONS AND THE SAN ANTONIO WATER SYSTEM'S STANDARD SPECIFICATIONS AND ADDENDUMS HAVE BEEN INCORPORATED INTO ONE COMPREHENSIVE CONTRACT DOCUMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER OF ANY REQUEST FOR SUCH AN OUTAGE. MODIFICATION OR CANCELLATION OF SUCH A REQUEST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOT BE CONSIDERED RESPONSIBLE FOR DELAYS IN THE CONSTRUCTION SCHEDULE UNLESS OTHERWISE NOTED. THE DURATION OF THE OUTAGE TO BE LESS THAN 4 HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER OF ANY REQUEST FOR SUCH AN OUTAGE. MODIFICATION OR CANCELLATION OF SUCH A REQUEST SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOT BE CONSIDERED RESPONSIBLE FOR DELAYS IN THE CONSTRUCTION SCHEDULE.

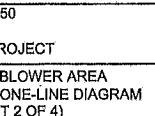


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No.	DATE	REVISIONS	APP.

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
PROPOSED BLOWER AREA
4160V DETAILED ONE-LINE DIAGRAM
(SHEET 2 OF 4)

Drawn by: HBI
Checked by: HBI
32E12
Sheet 2 of 4



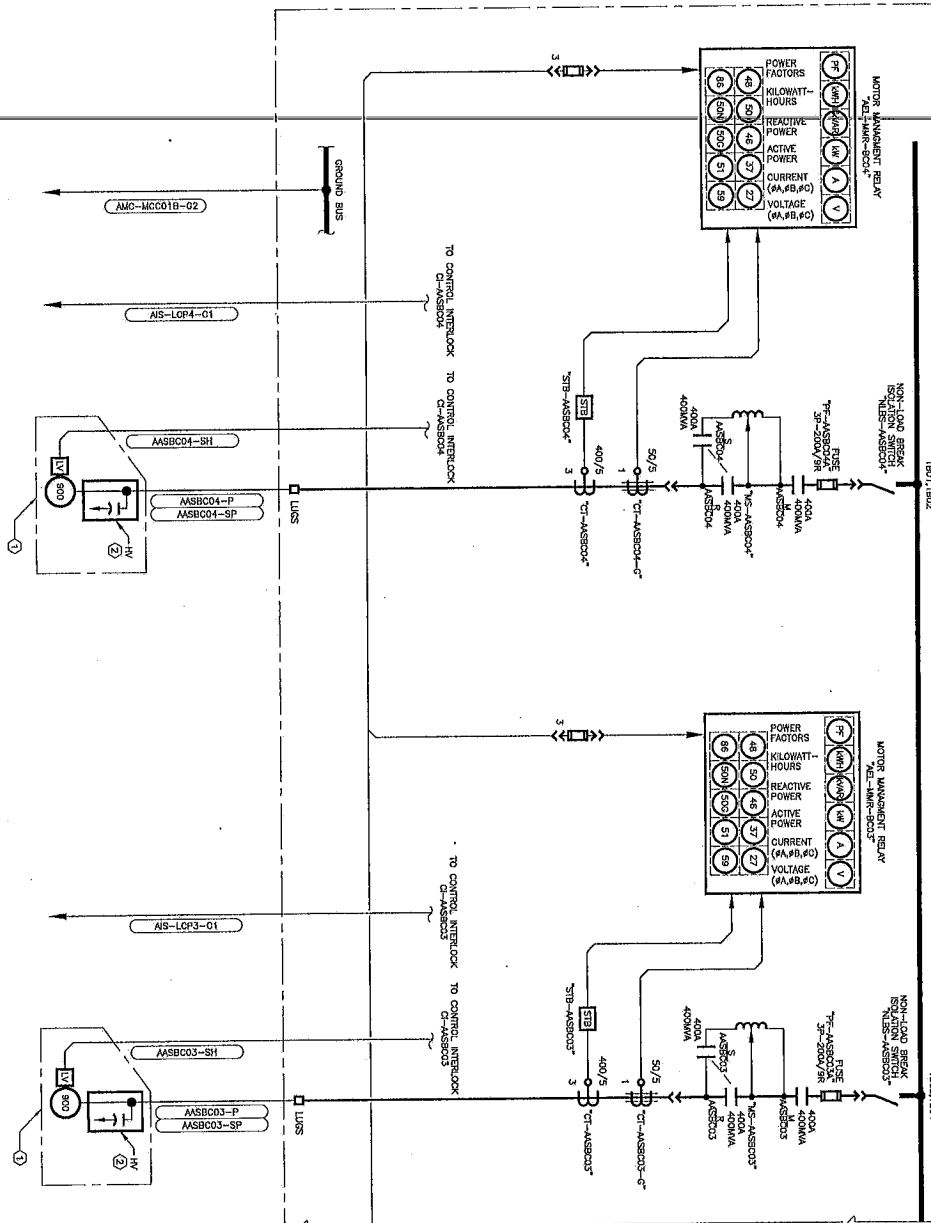
7/2/2008

SAN ANTONIO WATER SYSTEM



HARUTUNIAN ENGINEERING INCORPORATED
1982.1.09
4160V, 1200A, 3φ, 3W, 2MFD 42000 ALC

PROPOSED 4160V MOTOR CONTROL CENTER "AMC-MCC-01B"
 18071802 4160V, 1200A, 3Ø, 3W, 4800 40000 A.L.C.



TO GROUNDING NETWORK
 REFER TO DRAWING NO.
 32E24.

PROPOSED PROCESS
 AIR BLOWER
 "LC-ASBC04"
 LOCAL CONTROL PANEL

PROPOSED PROCESS
 AIR BLOWER
 "LC-ASBC04"

PROPOSED PROCESS
 AIR BLOWER
 "LC-ASBC03"
 LOCAL CONTROL PANEL

PROPOSED PROCESS
 AIR BLOWER
 "LC-ASBC03"

BREAKLINE "A-A"
 CONTINUED ON DRAWING NO. 32E12

- KEY NOTES:**
- OWNER PRE-PURCHASED EQUIPMENT, REFERENCE LEON CREEK WATER RECLAMATION CENTER PURCHASE OF EQUIPMENT DOCUMENTS, WATER RECLAMATION CENTER, SAN ANTONIO, TEXAS. OWNER TO OBTAIN, CLOSELY AND CAREFULLY COMPARE LOAD INFORMATION WITH OWNER IN PRODUCT SUBMITTALS.
 - POWER FACTOR CORRECTION CAPACITORS MOUNTED/LOCATED IN REAR AND SUPPLIED BY EQUIPMENT MANUFACTURER.
- GENERAL NOTES:**
- ALL ITEMS DERIVED ON THIS DRAWING ARE PROPOSED.
 - SHOULD A POWER CHANGE TO A FACILITY BE REQUIRED, THE CONTRACTOR SHALL REQUEST SUCH AN CHANGE IN WRITING NO LESS THAN 90 DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY CHANGES TO THE CONTRACT SHALL BE MADE BY A WRITTEN ORDER RESIGNED THE RIGHT TO WORK OR REJECT ANY REQUEST FOR SUCH AN CHANGE, MODIFICATION OR ADDITION TO THE CONTRACT. DELAYS IN THE CONSTRUCTION SCHEDULE UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR DELAYS IN THE CONSTRUCTION SCHEDULE. THE OWNER RESERVES THE RIGHT TO LIMIT THE DURATION OF THE OUTLET TO LESS THAN 4 HOURS. SHALL NOT BE CONSIDERED REASON FOR DELAYS IN THE CONSTRUCTION SCHEDULE.
 - THE ACTUAL REQUIRED SIZE OF THE CONDUIT ENTRANCE ANGLE IS TO BE DETERMINED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE SIZE OF THE CONDUIT SHALL BE CORRECT AND COORDINATED WITH THE PLANS OF THE ELECTRICAL CONTRACTOR.

REFERENCE DRAWINGS:

32E19 - FRONT ELEVATION
 02E23 - 02E28 - CONDUIT AND WIRE SCHEDULE

CONTRACT DOCUMENTS DATED JULY 2008 AS SUPPLEMENTED BY ADDENDUMS AND SPECIFICATIONS AND SUBSEQUENTLY ISSUED ADDENDUMS HAVE BEEN INCORPORATED INTO ONE COMPREHENSIVE CONTRACT DOCUMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND REVIEWING ALL CONTRACT DOCUMENTS AND SPECIFICATIONS AND SUBSEQUENTLY ISSUED ADDENDUMS PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND REVIEWING ALL CONTRACT DOCUMENTS AND SPECIFICATIONS AND SUBSEQUENTLY ISSUED ADDENDUMS PRIOR TO COMMENCEMENT OF WORK.

SAWS JOB No. 06-650
 LEON CREEK WRC
 IMPROVEMENTS PROJECT

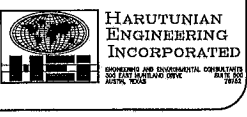
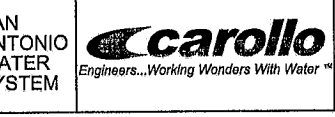
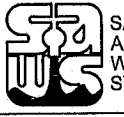
PROPOSED BLOWER AREA
 4160V DETAILED ONE-LINE DIAGRAM
 (SHEET 3 OF 4)

Checked by: HBI
 Drawing: 32E13
 Sheet: 33 of 422

7/12/2008

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No.	DATE	REVISIONS	APP.

PROPOSED 4160V MOTOR CONTROL CENTER "AMC-MCC-01B"

TO POWER DISTRIBUTION PANEL,
"AL-FDP-11B"
REFER TO DRAWING NO.
32E15

4160V TO PROPOSED
MOTOR CONTROL CENTER
"AMC-MCC-01A"
CONTINUED ON DWG.
32E11

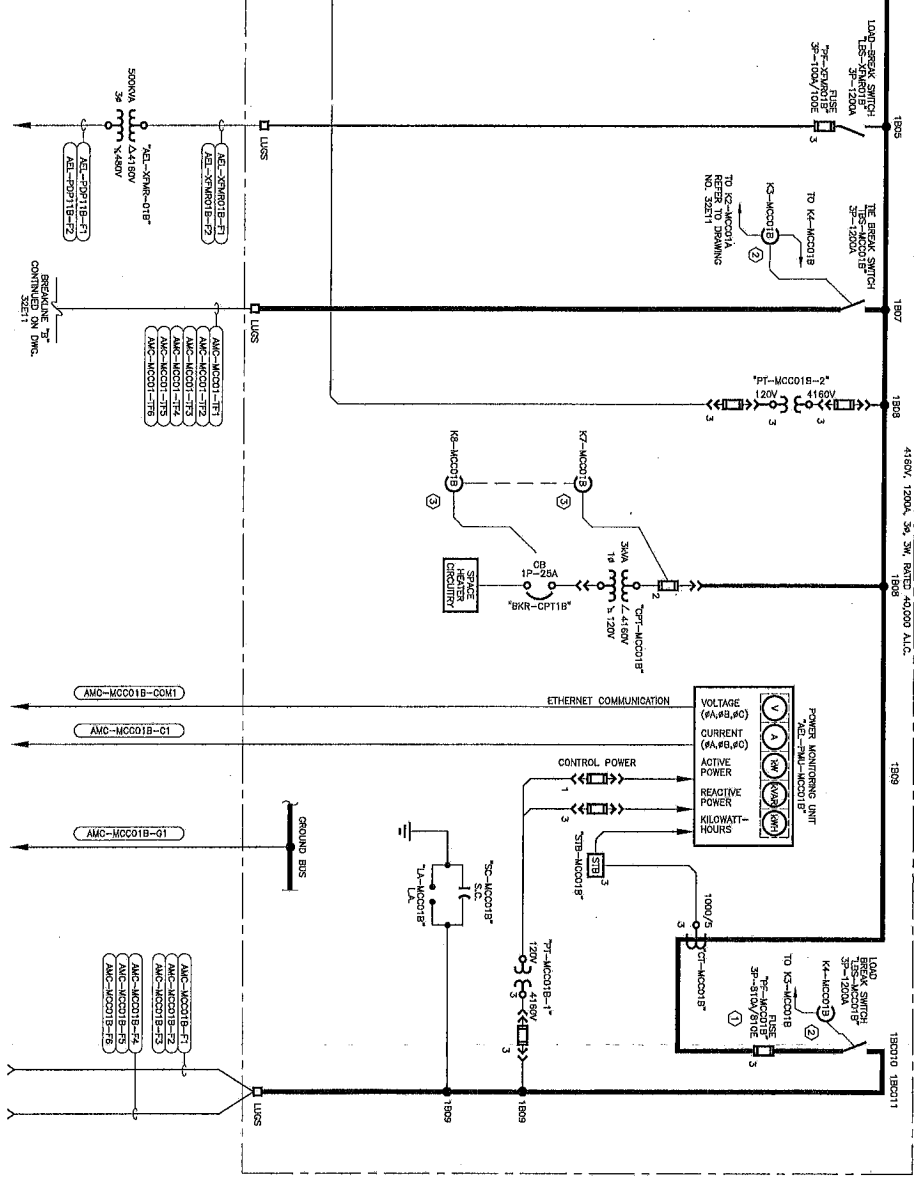
TO CONTROL PANEL
"MS-MCP-02"

TO CONTROL PANEL
"MS-MCP-02"

TO GROUNDING NETWORK
REFER TO DRAWING NO.
32E24.

4160V FROM PROPOSED
CITY PUBLIC SERVICE (CPS)
TRANSFORMER "CPS-XFMR-1B"
SEE DWG. 32E10

4160V FROM PROPOSED
CITY PUBLIC SERVICE (CPS)
TRANSFORMER "CPS-XFMR-2B"
SEE DWG. 32E10



KEY NOTES:

- ① 2 - 450A E-4601 PASSES IN PARALLEL.
- ② FURNISH AND INSTALL KEY INTERLOCKS WITHIN THE MAIN AND OPEN BEFORE BOTH MAIN LOAD BREAK SWITCHES CAN BE CLOSED.
- ③ FURNISH AND INSTALL KEY INTERLOCKS WITHIN THE CPT AND OPEN BEFORE BOTH MAIN LOAD BREAK SWITCHES CAN BE OPENED/REMOVED OF THE CPT WHILE THE CPT SECONDARY LOAD IS ENERGIZED.

GENERAL NOTES:

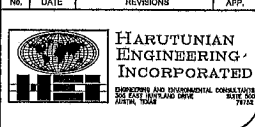
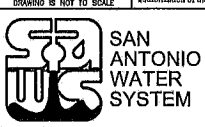
1. ALL ITEMS OBTAINED ON THIS DRAWING ARE PROPOSED.
2. SHOULD A POWER OUTAGE TO A FACILITY BE REQUIRED, THE OWNER SHALL ADVANCE A CONCEPT OF WORKING PLAN TO THE CONTRACTOR AT LEAST 14 DAYS PRIOR TO THE START DATE. THE DURATION OF THE WORK SHALL BE LIMITED TO FOUR (4) HOURS ON LESS. THE OWNER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE OUTAGE DURATION BY THE OWNER SHALL BE LIMITED TO FOUR (4) HOURS ON LESS. THE OWNER SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE OUTAGE DURATION BY THE OWNER SHALL BE LIMITED TO FOUR (4) HOURS ON LESS.
3. THE ACTUAL REQUIRED SIZE OF THE CONDUIT ENTRANCE AREAS IS TO BE DETERMINED BY THE MANUFACTURER. THE LOCATION AND SIZE OF THE EQUIPMENT CONDUIT ENTRANCE AREAS SHALL BE DETERMINED BY THE MANUFACTURER. THE LOCATION AND SIZE OF THE EQUIPMENT CONDUIT ENTRANCE AREAS SHALL BE DETERMINED BY THE MANUFACTURER.

REFERENCE DRAWINGS:

- 32E19 - FRONT ELEVATION
- 02E28 - CONDUIT AND WIRE SCHEDULE

CONTRACT DOCUMENTS DATED AT LEAST 30 DAYS BEFORE THE DATE OF THE CONTRACT AND SUBSEQUENTLY ISSUED REVISIONS SHALL BE REFERRED TO THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO AND THE STATE OF TEXAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO AND THE STATE OF TEXAS.

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
PROPOSED BLOWER AREA
4160V DETAILED ONE-LINE DIAGRAM
(SHEET 4 OF 4)



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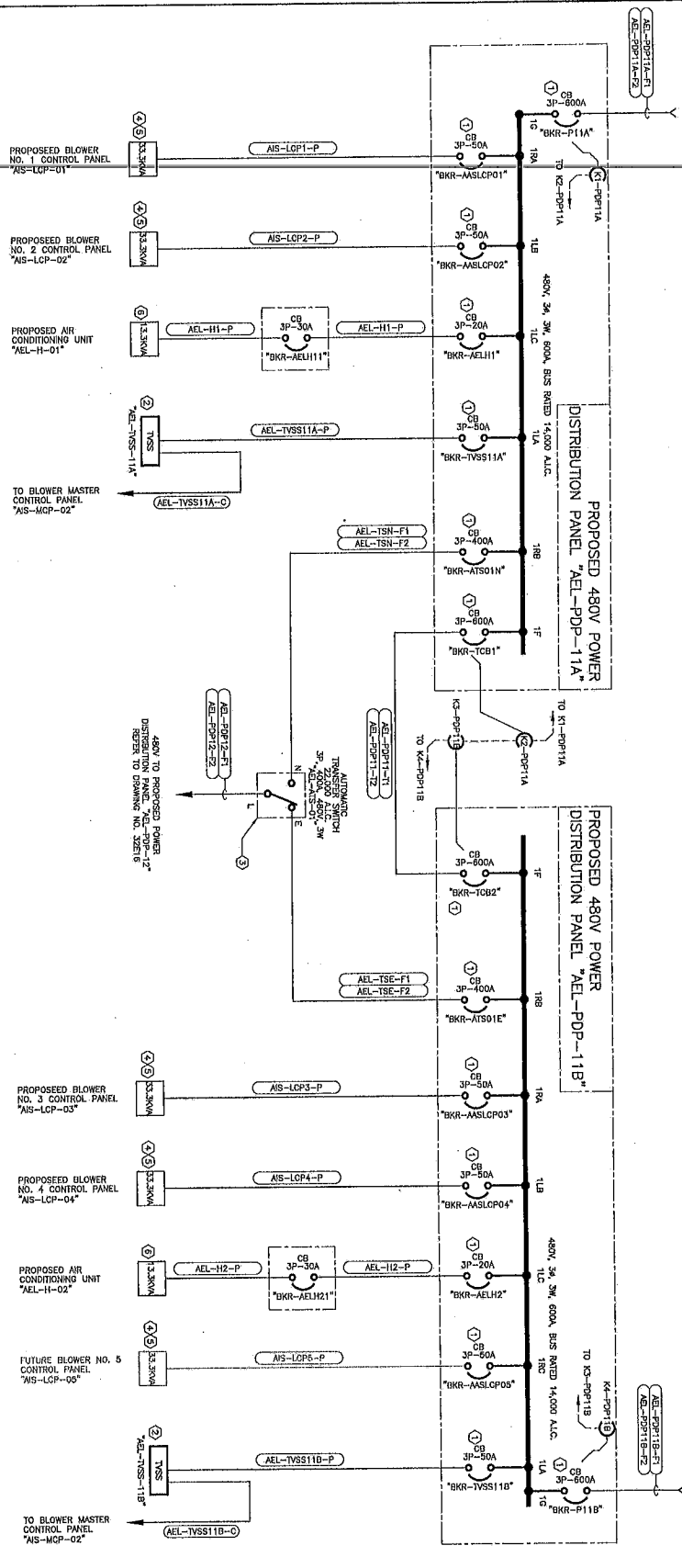
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No.	DATE	REVISIONS	APP.

Sheet 32E14
Drawing 32E14
Scale 3/8" = 1"

480V FROM PROPOSED TRANSFORMER "AEL-TRN-01B" REFER TO DRAWING NO. 32E114

480V FROM PROPOSED TRANSFORMER "AEL-TRN-01B" REFER TO DRAWING NO. 32E114



- KEY NOTES:**
1. CONTRACTOR SHALL BE FURNISHED AND INSTALLED WITH MECHANICAL LOCKOUT MECHANISM FOR REPAIRS.
 2. FURNISH TRANSFER VOLTAGE SOURCE SUPPRESSOR (TVSS) WITH APPROVED MANUFACTURER'S INSTRUCTIONS FOR USE AT 480V, 3A, 3M AS MANUFACTURED BY INNOVATIVE TECHNOLOGY INC. (P/400-4000-00) OR APPROVED EQUALS IN COMPLIANCE WITH SPECIFICATION SECTIONS 0172 AND 0173. PROVIDE SPECIFIC SECTION 0172 AND 0173. INSTALL PER THE MANUFACTURER'S RECOMMENDATIONS AND HAVE ALL PULL CONNECTIONS.
 3. AUTOMATIC TRANSFER SWITCH SHALL HAVE A MANUAL START AND A LOCKOUT MECHANISM FOR REPAIRS.
 4. PROPOSED CONTROL PANEL ASSEMBLY SHALL HAVE MECHANICAL LOCKOUT MECHANISM FOR REPAIRS.
 5. THE ACTUAL REQUIRED SIZE OF THE CONDUIT ENTRANCE ARMS IS TO BE DETERMINED BY THE MANUFACTURER. ARMS SHALL BE CLOSELY AND CAREFULLY COORDINATED WITH THE PLANS OF THE ELECTRICAL BUILDING.

- KEY NOTES (CONTINUED):**
6. PROPOSED AIR CONDITIONING UNIT AND AIR SYSTEMS SHALL BE PROVIDED BY THE ELECTRICAL, INSTRUMENTATION AND CONTROL BUILDING (EIBC) MANUFACTURER. REFER TO A FIELD NOT SHOWN HERE. CONTRACTOR TO COORDINATE WITH EIBC MANUFACTURER FOR FINAL CONDUIT SIZE AND FOR EACH REQUIREMENT OF THE AIR CONDITIONING SYSTEM. THE CONTRACTOR IS TO SIZE AND PROVIDE THE AIR CONDITIONING SYSTEM AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

- GENERAL NOTES:**
1. ALL ITEMS DEPICTED ON THIS DRAWING ARE PROPOSED.
 2. SHOULD A POWER OUTAGE OCCUR AT ANY POINT IN THE SYSTEM, THE CONTRACTOR SHALL ADVISE THE OWNER IMMEDIATELY BY PHONE AND IN WRITING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RESTORATION OF THE SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RESTORATION OF THE SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RESTORATION OF THE SYSTEM.

- REFERENCE DRAWINGS:**
- 0023 - 0028 - CONDUIT AND WIRE SCHEDULE
- 0023 - 0028 - CONDUIT AND WIRE SCHEDULE

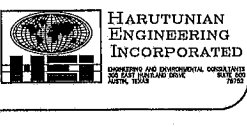
CONTRACT DOCUMENTS DATED JULY 2004 AS PART OF THE BIDDING DOCUMENTS FOR THE LEON CREEK WRC IMPROVEMENTS PROJECT. ADDITIONAL DOCUMENTS HAVE BEEN REFERRED TO IN THIS DRAWING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO AND THE STATE OF TEXAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO AND THE STATE OF TEXAS.

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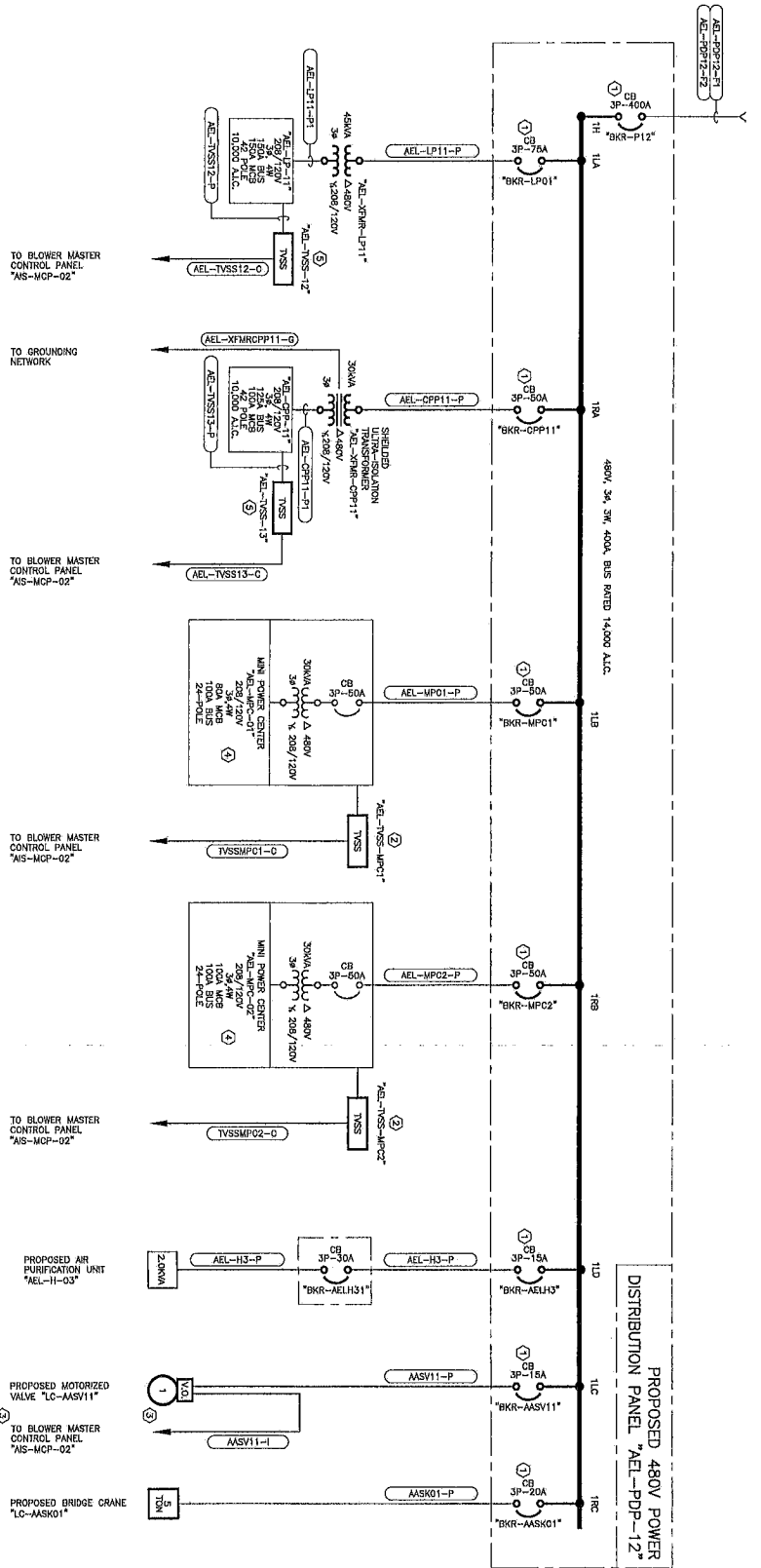
No.	DATE	REVISIONS	APP.

SAWS JOB No. 06-850
LEON CREEK WRC IMPROVEMENTS PROJECT
PROPOSED BLOWER AREA
480V DETAILED ONE-LINE DIAGRAM
(SHEET 1 OF 2)



Drawn: 32E115
Checked: 32E115
Date: 7/2/08

480V 2POW PROPOSED AIRPANEL
TRANSFER SWITCH "AEL-ATS-01"
REFER TO DRAWING NO. 32E15



- KEY NOTES:**
1. CIRCUIT BREAKERS SHALL BE RATED AND INSTALLED WITH MECHANICAL LOCKOUT MECHANISM PER SPECIFICATIONS.
 2. FURNISH TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS) WITH A MINIMUM PEAK SURGE CURRENT RATING OF 100KA PER PHASE AND A MINIMUM SURGE VOLTAGE RATING OF 2500V PER PHASE. TECHNICAL SPECIFICATIONS SHALL BE AS APPROVED EQUAL OR BETTER. THE TVSS SHALL BE A TYPE WITH A MINIMUM RESPONSE TIME OF 100 NS. THE TVSS SHALL BE TYPE I OR TYPE II. THE TVSS SHALL BE INSTALLED IN THE MAIN ELECTRICAL SERVICE PANELS IN ACCORDANCE WITH SPECIFICATION SECTIONS 0130 AND 1650. ALL FINAL CONNECTIONS SHALL BE MADE PER THE TVSS INSTALLATION MANUAL.
 3. OWNER PRE-APPROVED EQUIPMENT RESPONSE SPECIFICATION INFORMATION WITH OWNER IN PRODUCT SUBMITTALS. LOADS SHALL BE IDENTIFIED IN THE ELECTRICAL LOADS SCHEDULE.
 4. FURNISH AND INSTALL PROPOSED MAIN POWER CENTER IN THE COORDINATION WITH THE ELECTRICAL LOADS SCHEDULE AND THE ELECTRICAL LOADS SCHEDULE FOR ADDITIONAL INFORMATION.
 5. FURNISH TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS) WITH A MINIMUM PEAK SURGE CURRENT RATING OF 100KA PER PHASE AND A MINIMUM SURGE VOLTAGE RATING OF 2500V PER PHASE. TECHNICAL SPECIFICATIONS SHALL BE AS APPROVED EQUAL OR BETTER. THE TVSS SHALL BE A TYPE WITH A MINIMUM RESPONSE TIME OF 100 NS. THE TVSS SHALL BE TYPE I OR TYPE II. THE TVSS SHALL BE INSTALLED IN THE MAIN ELECTRICAL SERVICE PANELS IN ACCORDANCE WITH SPECIFICATION SECTIONS 0130 AND 1650. ALL FINAL CONNECTIONS SHALL BE MADE PER THE TVSS INSTALLATION MANUAL.
- GENERAL NOTES:**
1. ALL ITEMS SHOWN ON THIS DRAWING ARE PROPOSED.
 2. SHOULD A POWER OUTAGE TO A FACILITY BE REQUIRED, THE CONTRACTOR SHALL REQUEST SUCH AN OUTAGE IN WRITING TO THE OPERATOR AND FURNISH A WRITTEN CONFIRMATION OF THE REQUEST AND PURPOSE OF THE REQUESTED DOWNTIME. THE OPERATOR SHALL BE ADVISED OF THE REQUESTED DOWNTIME AND PURPOSE OF THE REQUESTED DOWNTIME. THE OPERATOR SHALL BE ADVISED OF THE REQUESTED DOWNTIME AND PURPOSE OF THE REQUESTED DOWNTIME. THE OPERATOR SHALL BE ADVISED OF THE REQUESTED DOWNTIME AND PURPOSE OF THE REQUESTED DOWNTIME.

- REFERENCE DRAWINGS:**
- 32E20 - FRONT ELEVATION
 - 32E41 - FLOOR PLAN
 - 02E23 - 02E28 - CONDUIT AND WIRE SCHEDULE

CONTRACT DOCUMENTS DATED JULY 2004, AS WELL AS ALL REVISIONS TO THE SAME, ARE HEREBY REFERENCED AND SHALL BE CONSIDERED PART OF THESE DOCUMENTS. CONTRACT DOCUMENTS ARE HEREBY REFERENCED AND SHALL BE CONSIDERED PART OF THESE DOCUMENTS. CONTRACT DOCUMENTS ARE HEREBY REFERENCED AND SHALL BE CONSIDERED PART OF THESE DOCUMENTS.

SAWS JOB NO. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
PROPOSED BLOWER AREA
480V DETAILED ONE-LINE DIAGRAM
(SHEET 2 OF 2)
Drawing: 32E16
Checked by: JH
Designed by: JH
Date: 7/1/08

San Antonio Water System Logo
San Antonio Water System
7/1/2008

WARNING
1/2"
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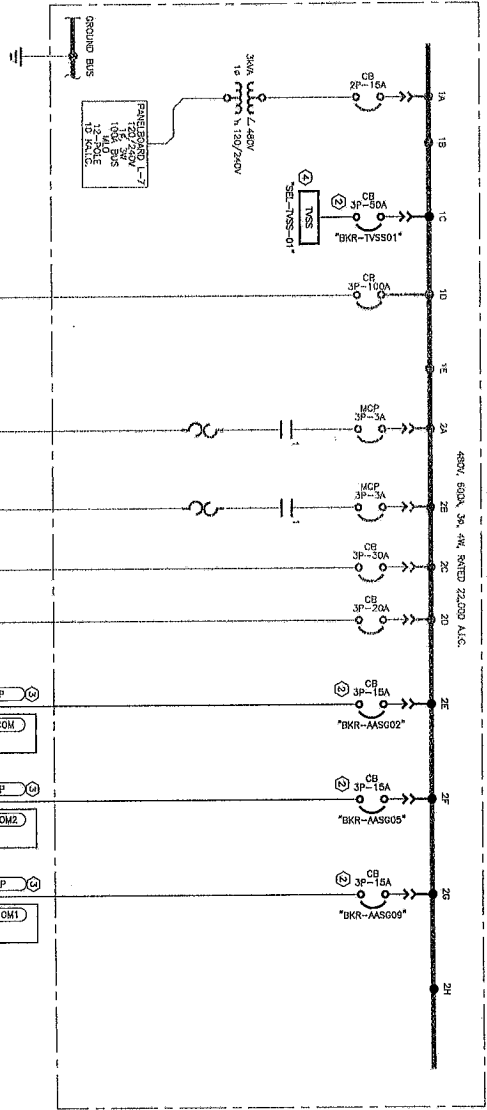
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ENGINEERING AND ENVIRONMENTAL CONSULTING
2505 EAST MARLBOROUGH
DALLAS, TEXAS 75228

No.	DATE	REVISIONS	APP.

EXISTING 480V MOTOR CONTROL CENTER "MCC-7"

480V, 500A, 3P, 4W, RATED 22,000 A.I.C.



KEY NOTES:

1. THE EXISTING 480V MOTOR CENTER WAS MANUFACTURED BY "GENERAL ELECTRIC, MODEL CORDON MOTOR CONTROL CENTER, CORDA MOTOR 1984, MOTOR CENTER, CENTER IS ALSO TAGGED "MCC 7 SEC. CABINET".
2. FINISH AND INSTALL PROPOSED CIRCUIT BREAKER ASSEMBLY INSIDE OF EXISTING MOTOR CONTROL CENTER AND MAKE ALL FINAL CONNECTIONS. MAKE SURE THE EXISTING MOTOR CENTER IS OF THE SAME MANUFACTURER AS THE EXISTING MOTOR CENTER.
3. FINISH AND INSTALL PROPOSED CIRCUIT BREAKER ASSEMBLY INSIDE OF EXISTING MOTOR CONTROL CENTER AND MAKE ALL FINAL CONNECTIONS. MAKE SURE THE EXISTING MOTOR CENTER IS OF THE SAME MANUFACTURER AS THE EXISTING MOTOR CENTER.
4. FINISH AND INSTALL PROPOSED THROTTLE VOLTAGE SURE SUPPRESSOR CIRCUIT INSIDE OF EXISTING MOTOR CONTROL CENTER AND MAKE ALL FINAL CONNECTIONS. MAKE SURE THE EXISTING MOTOR CENTER IS OF THE SAME MANUFACTURER AS THE EXISTING MOTOR CENTER.
5. FINISH AND INSTALL PROPOSED THROTTLE VOLTAGE SURE SUPPRESSOR CIRCUIT INSIDE OF EXISTING MOTOR CONTROL CENTER AND MAKE ALL FINAL CONNECTIONS. MAKE SURE THE EXISTING MOTOR CENTER IS OF THE SAME MANUFACTURER AS THE EXISTING MOTOR CENTER.

GENERAL NOTES:

1. DARK LINEWORK DENOTES PROPOSED ITEMS. LIGHT LINEWORK DENOTES EITHER EXISTING OR PREFERED ITEMS UNLESS NOTED OTHERWISE.
2. CLOSERLY AND CHEMICALY COMPATIBLE WITH ALL POINTS OF CONNECTION PRIOR TO COMMISSIONING DEMOLITION/REMOVAL ACTIVITIES.
3. THE ACTUAL REQUIRED SIZE OF THE CONDUIT ENTRANCE HOLE IS TO BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR THE EXISTING MOTOR CONTROL CENTER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR THE EXISTING MOTOR CONTROL CENTER.
4. THE CONTRACTOR SHALL BE AWARE THAT WHEN ANY EXISTING EQUIPMENT IS PROPOSED TO BE DEMOLISHED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT.
5. ALL EXISTING ITEMS SHOWN ON THIS DRAWING ARE IN PERFECT WORKING CONDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT.
6. THE EXISTING INFORMATION SHOWN ON THIS DRAWING WAS OBTAINED FROM THE CONTRACTOR'S RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT.
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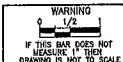
GENERAL NOTES (CONTINUED):

1. THE EXISTING INFORMATION SHOWN ON THIS DRAWING WAS OBTAINED FROM THE CONTRACTOR'S RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT.
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REFERENCE DRAWINGS:

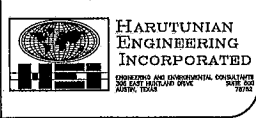
- 06231 - FRONT ELEVATION
- 06232 - CONDUIT AND WIRE SCHEDULE

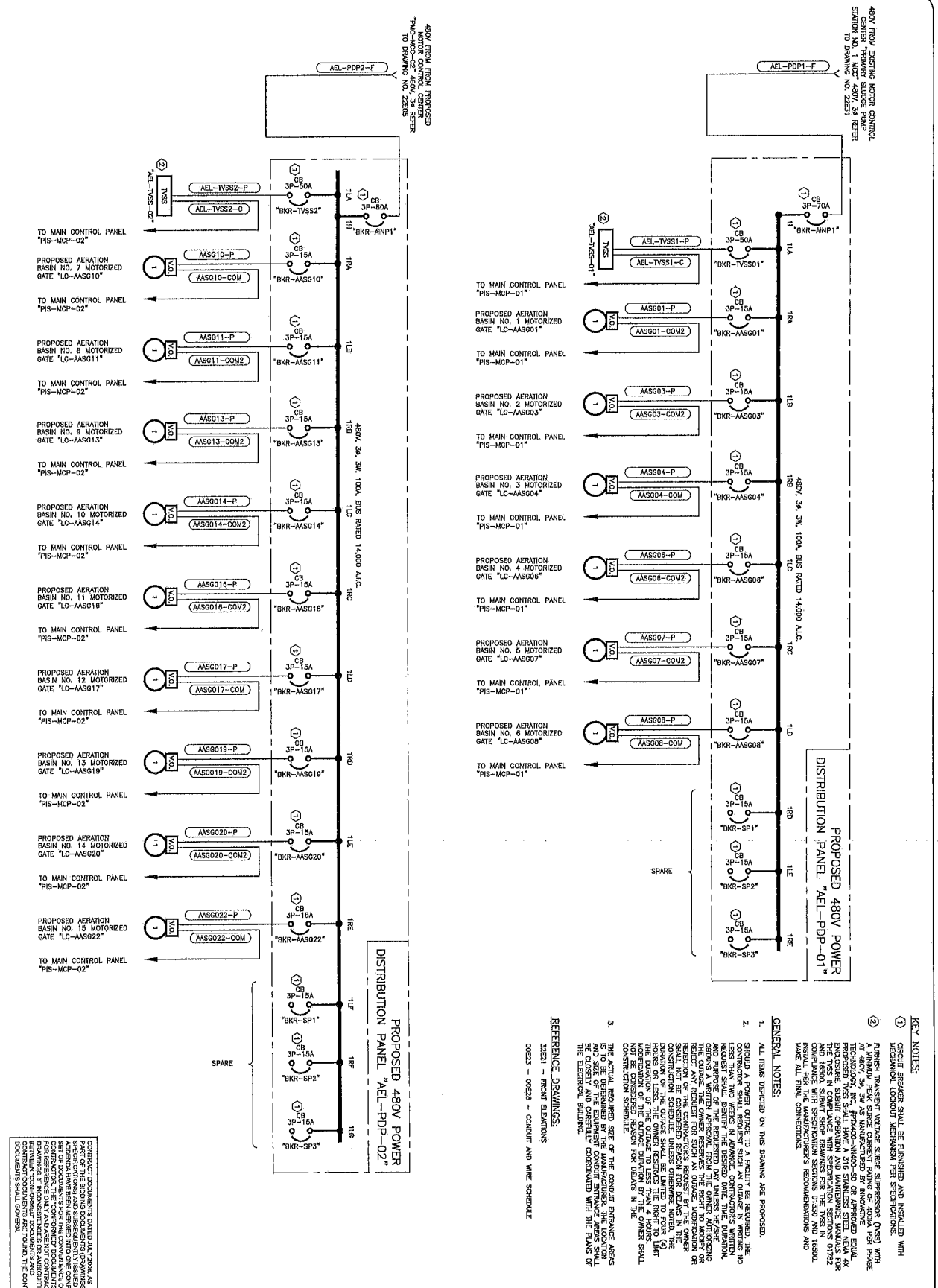
CONTRACT DOCUMENTS DATED JULY 2004 AS SUPPLEMENTED BY ADDENDUMS AND SPECIFICATIONS AND SUBSEQUENTLY ISSUED ADDENDUMS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF SUCH EQUIPMENT.



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480V EXISTING MOTOR CONTROL CENTER PRIMARY SLUDGE PUMP STATION NO. 1000, 480V, 3Ø, 3W, 100A, BUS RATED 14,000 A.I.C. SEE SHEET 10 FOR WIRING AND CONNECTIONS.

480V EXISTING MOTOR CONTROL CENTER PRIMARY SLUDGE PUMP STATION NO. 1000, 480V, 3Ø, 3W, 100A, BUS RATED 14,000 A.I.C. SEE SHEET 10 FOR WIRING AND CONNECTIONS.

PROPOSED 480V POWER DISTRIBUTION PANEL "AEL-PDP-01"

PROPOSED 480V POWER DISTRIBUTION PANEL "AEL-PDP-02"

- KEY NOTES:**
1. CIRCUIT BREAKER SHALL BE RATED AND INSTALLED WITH MECHANICAL LOCKOUT MECHANISM FOR SPECIFICATION.
 2. FURNISH TRANSPARENT POLYESTER SURGE SUPPRESSION (TVSS) WITH AT 480V, 3Ø, 3W AS MANUFACTURED BY INNOVATIVE TECHNOLOGY, INC. PART NO. AN-03-03 OR APPROVED EQUAL. ENCLOSED CIRCUIT BREAKER AND MAINLINE WIRING SHALL BE INSTALLED IN COMPLIANCE WITH SPECIFICATION SECTION 0722 FOR COMPLIANCE WITH SPECIFICATION SECTIONS 0720 AND 1600. INSTALL PER THE MANUFACTURER'S RECOMMENDATIONS AND MEET ALL TYPE CONSTRUCTION.

- GENERAL NOTES:**
1. ALL ITEMS DERIVED ON THIS DRAWING ARE PROPOSED.
 2. SHOULD A POWER OUTAGE BE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ELECTRICAL SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ELECTRICAL SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE ELECTRICAL SYSTEM.

REFERENCE DRAWINGS:

00271 - FRONT ELEVATIONS
 00273 - CONDUIT AND WIRE SCHEDULE
 00275 - CONDUIT AND WIRE SCHEDULE

3. THE ACTUAL REQUIRED SIZE OF THE CONDUIT ENTRANCE AREAS IS TO BE DETERMINED BY THE CONTRACTOR. THE CONDUIT SHALL BE CLOSED AND OVERLAPPED WITH THE FLANS OF THE ELECTRICAL BUILDING.

CONTRACT DOCUMENTS DATED JULY 2004 AS SUPPLEMENTED BY ADDENDUMS AND AMENDMENTS AND SUBSEQUENTLY ISSUED BY THE CONTRACTOR SHALL BE THE BASIS OF THE CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO AND THE STATE OF TEXAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO AND THE STATE OF TEXAS.

SAWS JOB No. 08-850
LEON CREEK WRC IMPROVEMENTS PROJECT

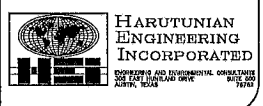
AERATION BASIN
 480V DETAILED ONE-LINE DIAGRAM
 RENOVATION (SHEET 2 OF 2)

3/2/08

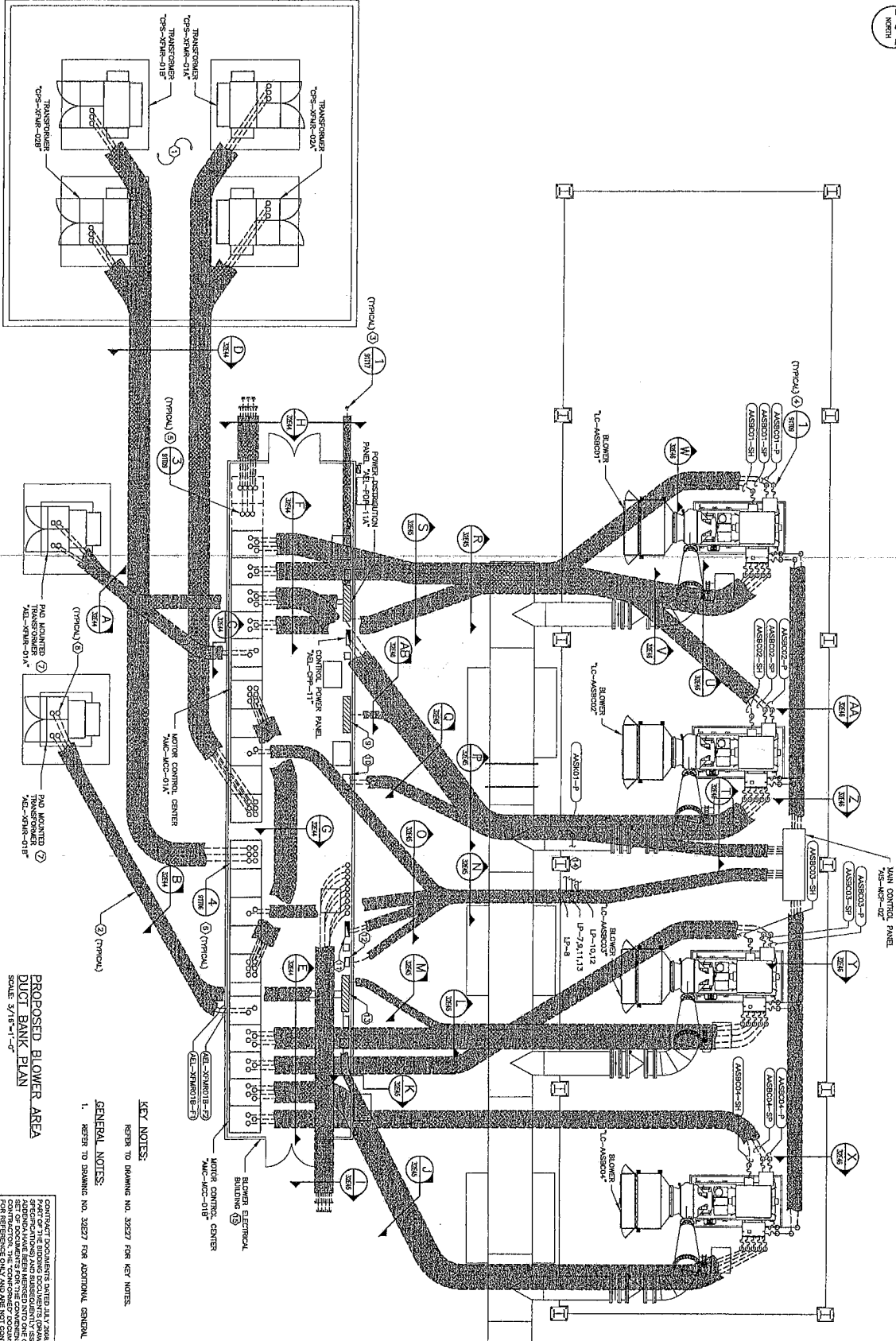


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Sheet 235 of 472



KEY NOTES:
REFER TO DRAWING NO. 32227 FOR KEY NOTES.

GENERAL NOTES:
1. REFER TO DRAWING NO. 32227 FOR ADDITIONAL GENERAL NOTES.

CONTRACT DOCUMENTS DATED JULY 2004, AS SUPPLEMENTED BY ADDENDUMS, GENERAL CONDITIONS AND SPECIFICATIONS AND SCHEDULES GOVERNING THE PROJECT, HAVE BEEN INCORPORATED INTO ONE COMPREHENSIVE CONTRACT. THE CONTRACT DOCUMENTS ARE THE SOLE BASIS FOR THE DESIGN AND CONSTRUCTION OF THE PROJECT. ANY DISCREPANCIES OR INCONSISTENCIES BETWEEN CONTRACT DOCUMENTS AND ANY ADDITIONAL DOCUMENTS SHALL GOVERN.

SAWS Job No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

PROPOSED BLOWER AREA
DUCT BANK PLAN (SHEET 1 OF 2)

3/22/06

Sheet 344 of 472

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1/2
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MEASURE 1/2" THEN
DRAWING IS NOT TO SCALE

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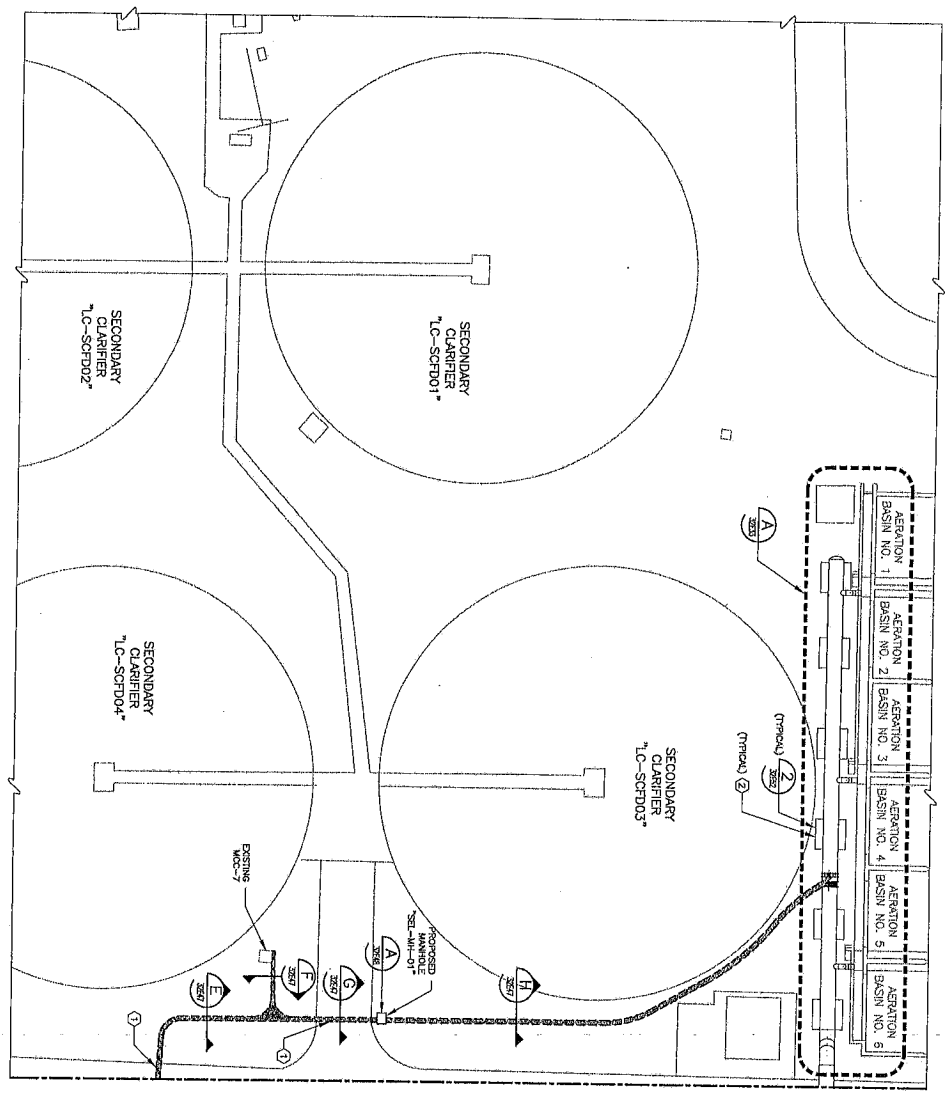


SAN ANTONIO WATER SYSTEM

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DALLAS, TEXAS 75244
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FAX: 972.981.1113

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AERATION BASIN AREA PLAN
SCALE 1" = 30'-0"

KEY NOTES:

- CONTRACTOR SHALL REPAIR/REPLACE ALL ROAD/PARKING AREA DAMAGED/REMOVED OR FUTURE REAS UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL REPAIR/REPLACE ALL DAMAGED/REMOVED OR FUTURE REAS UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL REPAIR/REPLACE ALL DAMAGED/REMOVED OR FUTURE REAS UNLESS NOTED OTHERWISE.
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- CONTRACTOR SHALL REPAIR/REPLACE ALL DAMAGED/REMOVED OR FUTURE REAS UNLESS NOTED OTHERWISE.

GENERAL NOTES:

1. PARK LIGHTING DEVICES PROPOSED UNDER LIGHT FIXTURES SHALL BE EITHER EXISTING OR FUTURE REAS UNLESS NOTED OTHERWISE.
2. LOCATION AND SIZE OF EQUIPMENT SHALL BE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE, FOR COMPLETE INFORMATION.
4. FERRY AND REMOVAL CONTRACTOR/VERIFY ALL POINTS OF CONNECTION PRIOR TO COMMENCEMENT OF CONSTRUCTION.
5. THE DATE TO BE ADDED TO EXISTING FACILITIES, REFER ANY FACILITY DAMAGED IN THE COURSE OF CONSTRUCTION TO BE REPAIR ITEMS WORKING 24 HOURS PER DAY UNTIL THE DAMAGE IS REPAIRED AT NO ADDITIONAL COST TO OWNER.
6. THE CONTRACTOR SHALL BE AWARE THAT WHEN ANY EXISTING EQUIPMENT IS DAMAGED OR DESTROYED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SUCH EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SUCH EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SUCH EQUIPMENT.
7. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING ELECTRICAL/MECHANICAL/STRUCTURAL/ETC. UNDERGROUND UTILITIES/SYSTEMS WHETHER SHOWN HERE ON THIS DRAWING OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SUCH UTILITIES/SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SUCH UTILITIES/SYSTEMS.
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11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SUCH UTILITIES/SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SUCH UTILITIES/SYSTEMS.

REFERENCE DRAWINGS:

- 32617 - ONE-LINE DRAWING
- 32635 - ELECTRICAL AND I&C PLAN
- 32637 - DUCT BANK SECTIONS
- 32646 - MANHOLE PLAN AND ELEVATIONS

CONTRACT DOCUMENTS WITH ALL FROM AS SHOWN ON THE DRAWING DOCUMENTS (ORDINANCES AND SPECIFICATIONS) SHALL BE REVIEWED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF SUCH UTILITIES/SYSTEMS.

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SAN ANTONIO WATER SYSTEM

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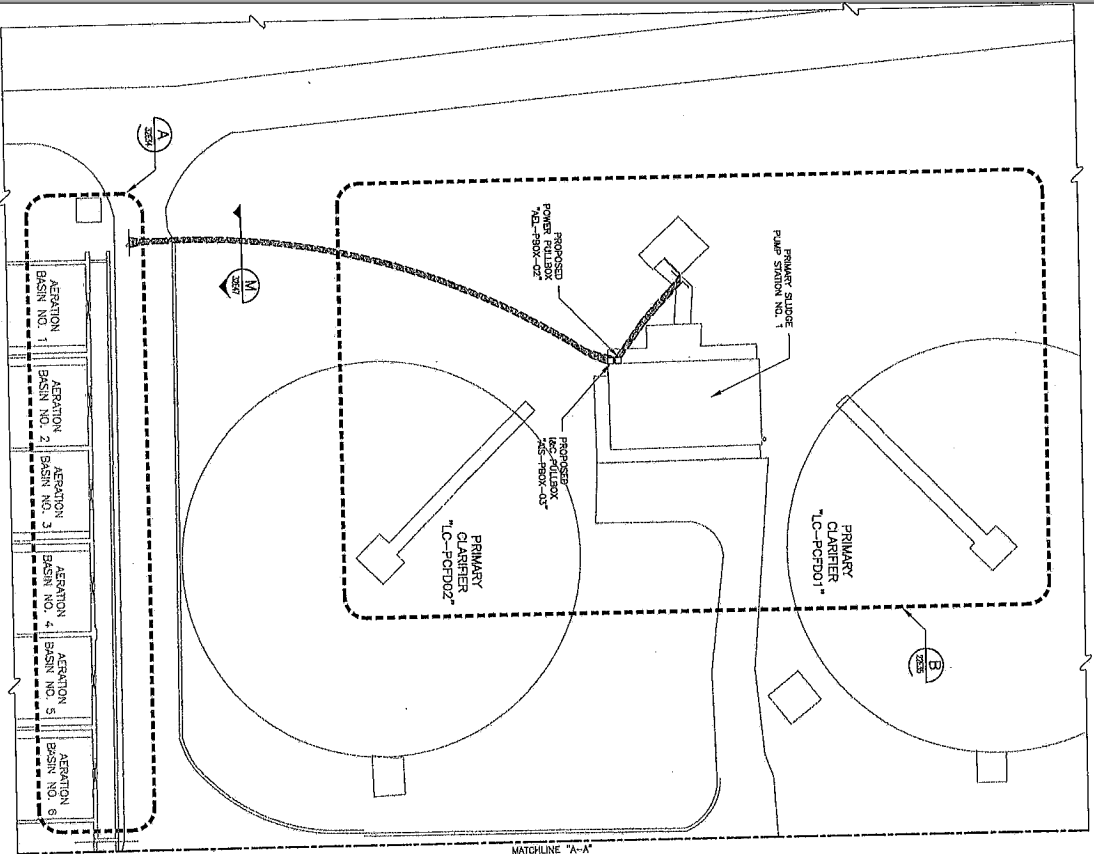
SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

AERATION BASIN
ELECTRICAL AND I&C SITE PLAN
RENOVATION (SHEET 1 OF 3)

Sheet 386 of 427

32E30

7/2/2008



AERATION BASIN AREA PLAN
SCALE 1" = 30'-0"

MATCHLINE "A-A"
SEE DRAWING NO. 32E32

GENERAL NOTES:

1. DARK LINEWORK SHOWS PROPOSED ITEMS. LIGHT LINEWORK SHOWS EITHER EXISTING OR FUTURE ITEMS UNLESS NOTED OTHERWISE.
2. LOCATION AND SIZE OF EQUIPMENT SHALL BE APPROXIMATE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. ALL ELECTRICAL, MECHANICAL, STRUCTURAL, CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO ELECTRICAL, MECHANICAL, STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE, FOR ADDITIONAL INFORMATION.
4. CLOSELY AND CAREFULLY COORDINATE ALL POINTS OF CONNECTION PRIOR TO COMMENCEMENT OF CONSTRUCTION.
5. TAKE CARE TO AVOID DAMAGE TO EXISTING FACILITIES. ANY FACILITY DAMAGED OR DESTROYED DURING THE COURSE OF THIS PROJECT SHALL BE REPAIRED TO ITS ORIGINAL OPERATING CONDITION IMMEDIATELY WITH REPAIRS COSTS WORKING 24 HOURS PER DAY UNTIL THE DAMAGE IS REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO.
7. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING ELECTRICAL, MECHANICAL, STRUCTURAL, AND CIVIL CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO.
10. CONTRACTOR SHALL CLOSELY AND CAREFULLY COORDINATE ROUTE OF PROPOSED UNDERGROUND ELECTRICAL SYSTEM WITH EXISTING AND PROPOSED UNDERGROUND UTILITIES/STRUCTURES, ETC.
11. THE USER IS TO KEEP THE EXISTING FACILITY OPERATIONAL AT ALL TIMES. CAREFULLY COORDINATE ALL REMOVAL AND MODIFICATION WORK WITH THE PLANS/OPERATIONS FOR THE FACILITY.

REFERENCE DRAWINGS:

- 22E31 - ONE-LINE DIAGRAM
- 22E1B - ONE-LINE DIAGRAM
- 22E33 - FRONT ELEVATIONS
- 22E31 - FRONT ELEVATIONS
- 22E34 - ELECTRICAL AND I&C PLAN
- 22E27 - DUCT BANK SECTIONS

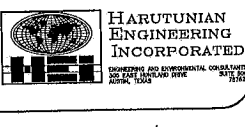
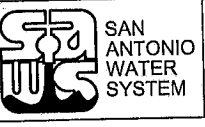
CONTRACT DOCUMENTS DATED 11/2006 AS SUPPLEMENTED BY ADDENDUMS AND SPECIFICATIONS AND SUBSEQUENTLY ISSUED AMENDMENTS SHALL BE THE GOVERNING DOCUMENTS. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF ALL INFORMATION PROVIDED HEREON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SAN ANTONIO.

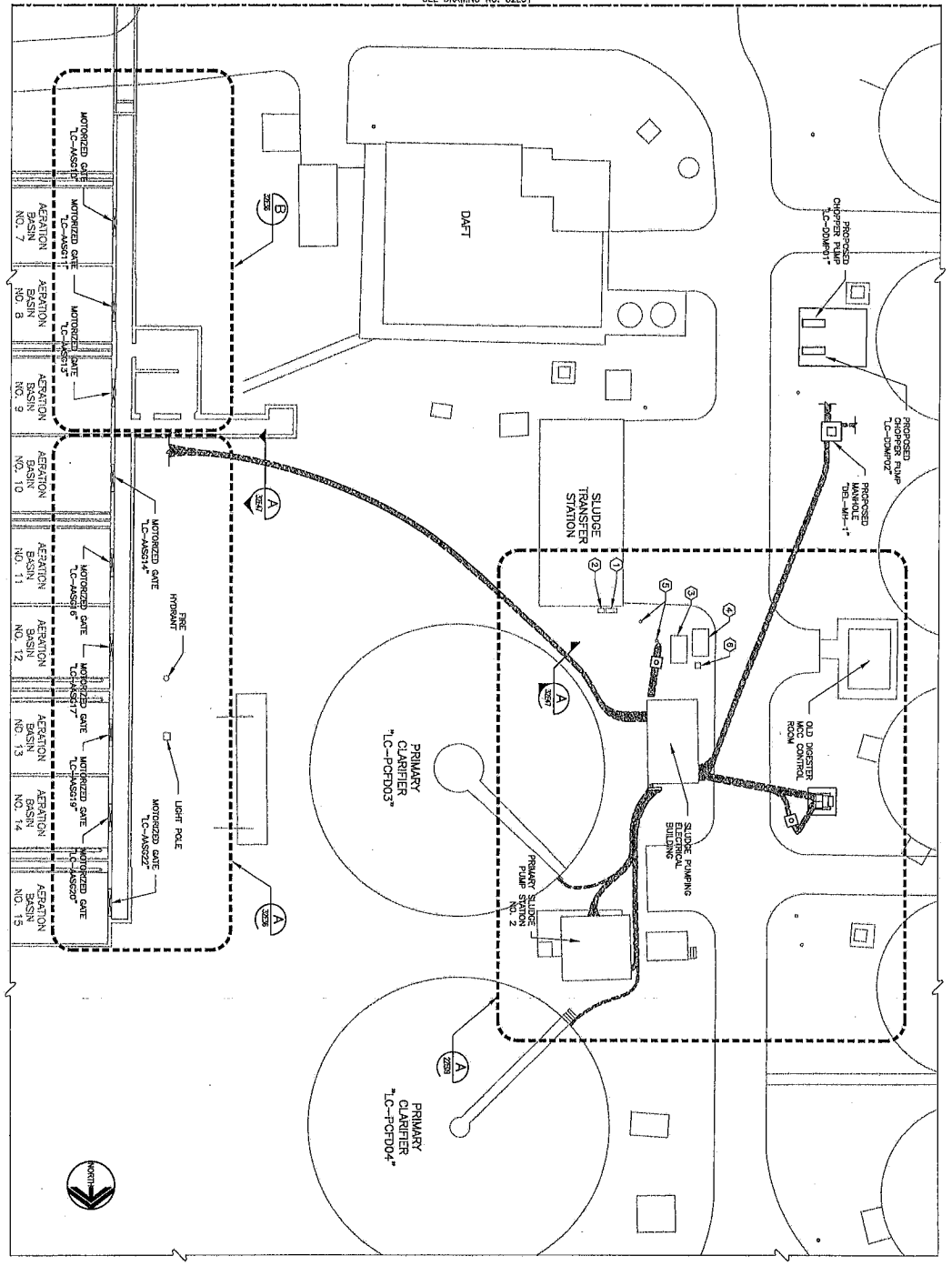
<p>WARNING</p> <p>1/2"</p> <p>IF MEASURED IN THEIR SHOWN IS NOT TO SCALE</p>	<p>REUSE OF DOCUMENTS</p> <p>This document and the ideas and designs incorporated herein as an instrument of professional service has been developed, designed and prepared by Harutunian Engineering, Inc. for the project and shall not be used, in whole or in part, for any other project without the written authorization of the San Antonio Water System and Harutunian Engineering, Inc. © 2008</p>	NO.	DATE	REVISIONS	APP.

SAWS JOB No. 06-660
LEON CREEK WRC
IMPROVEMENTS PROJECT

AERATION BASIN
ELECTRICAL AND I&C SITE PLAN
RENOVATION (SHEET 2 OF 3)

32E31
Sheet 2 of 3





REFERENCE DRAWINGS:

- 22E04 - 22E05 - ONE-LINE DRAWING
- 22E18 - ONE-LINE DRAWING
- 22E06 - FRONT ELEVATION
- 22E21 - FRONT ELEVATION
- 22E26 - ELECTRICAL AND I&C PLAN
- 22E47 - DUCT BANK SECTIONS

AERATION BASIN AREA PLAN
SCALE 1" = 30'-0"

CONTRACT DOCUMENTS DATED 11/17/2010 AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) AND SUPPLEMENTAL SPECIFICATIONS TO THE BIDDING DOCUMENTS (ADDENDUMS) FOR THE RENOVATION OF THE AERATION BASIN AREA OF THE LEON CREEK WASTE WATER TREATMENT PLANT. THIS DRAWING IS ONE OF THE SET OF DOCUMENTS FOR THE CONSTRUCTION OF THE PROJECT. THIS DRAWING IS TO BE USED FOR REFERENCE ONLY, AND DOES NOT CONSTITUTE A CONTRACT. CONTRACT DOCUMENTS ARE FOUND IN THE CONTRACT DOCUMENTS SHALL CONTROL.

GENERAL NOTES (CONTINUED)

10. CONTRACTOR SHALL CAREFULLY AND CAREFULLY REVIEW ALL CONTRACT DOCUMENTS AND SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS TO THE BIDDING DOCUMENTS (ADDENDUMS) FOR THE RENOVATION OF THE AERATION BASIN AREA OF THE LEON CREEK WASTE WATER TREATMENT PLANT. THIS DRAWING IS ONE OF THE SET OF DOCUMENTS FOR THE CONSTRUCTION OF THE PROJECT. THIS DRAWING IS TO BE USED FOR REFERENCE ONLY, AND DOES NOT CONSTITUTE A CONTRACT. CONTRACT DOCUMENTS ARE FOUND IN THE CONTRACT DOCUMENTS SHALL CONTROL.
11. THE INTENT IS TO KEEP THE EXISTING FACILITY AS MUCH AS POSSIBLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RECOMMENDED CONSTRUCTION SEQUENCE IN THE CONTRACT PLANS/SPECIFICATIONS FOR THIS FACILITY.

- KEY NOTES:**
1. EXISTING JUNCTION BOX "JB-301".
 2. EXISTING JUNCTION BOX "JB-302".
 3. EXISTING SIGNAL MANHOLE "SM SIGNAL".
 4. EXISTING POWER MANHOLE "PM POWER".
 5. EXISTING POWER POLES.
 6. EXISTING TRANSFORMER.

GENERAL NOTES:

1. DARK LINEWORK DENOTES PROPOSED ITEMS, LIGHT LINEWORK DENOTES ITEMS EXISTING OR FUTURE IDEAS.
2. HATCHING AND SHADING SHALL BE USED TO INDICATE THE LOCATION OF EXISTING AND PROPOSED CONDUITS PRIOR TO COMMENCING CONSTRUCTION.
3. COMPONENTS ARE SHOWN ON THIS DRAWING REFER TO AS APPLICABLE FOR ADDITIONAL INFORMATION.
4. CLOSELY AND CAREFULLY COORDINATE ALL POINTS OF CONNECTION PRIOR TO COMMENCING CONSTRUCTION.
5. TAKE CARE TO AVOID DAMAGE TO EXISTING FACILITIES AND UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL EXISTING FACILITIES AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL EXISTING FACILITIES AND UTILITIES.
6. THE CONTRACTOR SHALL BE AWARE THAT WHEN ANY EXISTING FACILITY IS TO BE REMOVED, THE POSSIBILITY OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL EXISTING FACILITIES AND UTILITIES.
7. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING FACILITIES AND UTILITIES SHOWN HERE ON THIS DRAWING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL EXISTING FACILITIES AND UTILITIES.
8. SHOULD A SPONGE DRAINAGE TO A DRAINAGE OR REMOVED THE CONTRACTOR SHALL REQUEST SUCH AS DURING IN WRITING NO LESS THAN TWO WEEKS IN ADVANCE OF THE DESIRED DATE. THE DRAINAGE AND REMOVAL OF THE SPONGE DRAINAGE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL EXISTING FACILITIES AND UTILITIES.

<p>WARNING</p> <p>IF THIS BAR DOES NOT OPEN IT IS NOT TO SCALE</p>	<p>REUSE OF DOCUMENTS</p> <p>This document and the ideas and designs incorporated herein as an instrument of professional service have been developed, designed and prepared by Harutunian Engineering, Inc. and is not to be used, in whole or part, for any other project without the written authorization of the San Antonio Water System and Harutunian Engineering, Inc. © 2008</p>	<p>No.</p>	<p>DATE</p>	<p>REVISIONS</p>	<p>APP.</p>

SAWS JOB NO. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT

AERATION BASIN
ELECTRICAL AND I&C SITE PLAN
RENOVATION (SHEET 3 OF 3)

San Antonio Water System
San Antonio, Texas

Carollo
Engineers...Working Wonders With Water™

HARUTUNIAN ENGINEERING INCORPORATED

32E32

Sheet 303 of 323



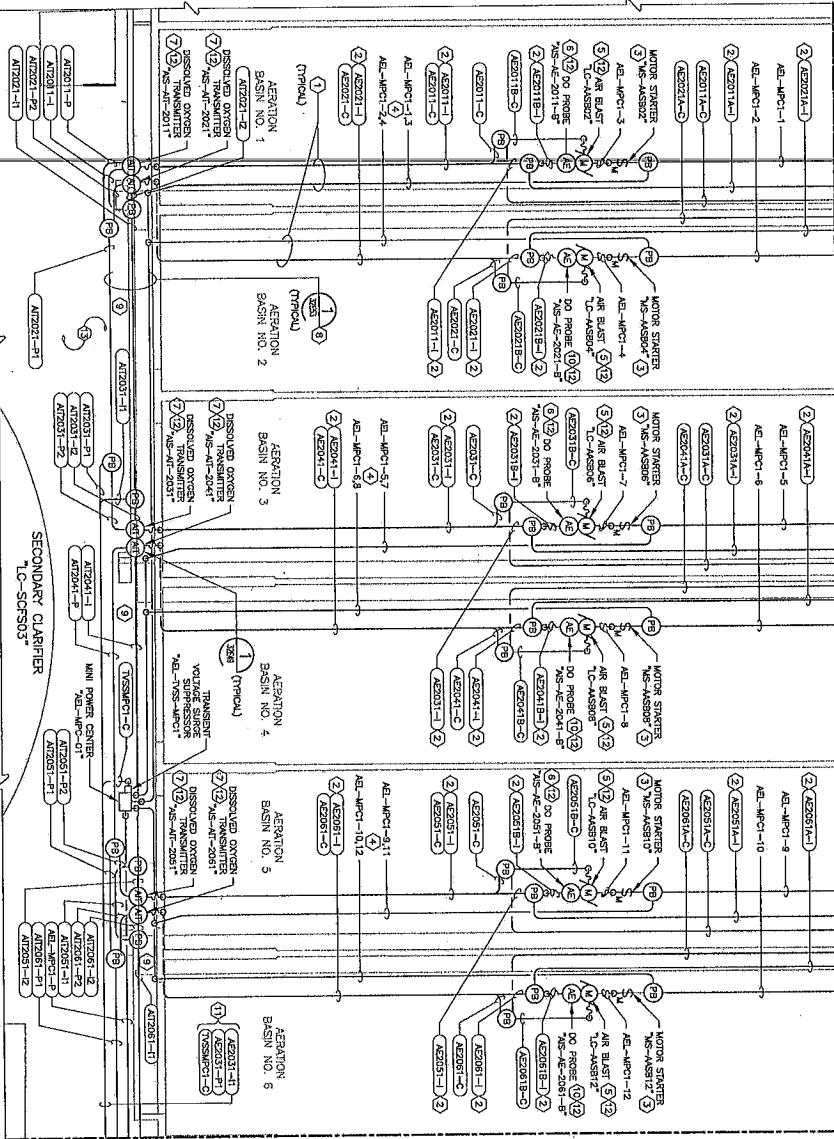
REFERENCE DRAWINGS:

- 3263 - LOWER AREA PLAN
- 3267 - CONDUIT SCHEMatics
- 3269 - 3283 - DETAILS
- 0023 - 0028 - CONDUIT AND WIRE SCHEDULE
- 3208 - 3207 - PROCESS AND INSTRUMENTATION DRAWING
- 3209 - INSTRUMENT WIRING SCHEMatics

CONTRACT DOCUMENTS DATED JULY 2006, AS SUPPLEMENTED BY AMENDMENTS NO. 1 AND 2, AND SPECIFICATIONS AND SCHEDULES ATTACHED HERETO, ARE HEREBY REFERRED TO AS THE CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE THE SOLE AUTHORITY FOR THE WORK TO BE PERFORMED HEREUNDER. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND ANY OTHER DOCUMENTS SHALL GOVERN.

MATCHLINE "A"-
SEE DRAWING NO. 3268

AERATION BASINS 1-6 EAST
DISSOLVED OXYGEN PLAN
SCALE: 1/8"=1'-0"



MATCHLINE "B"-
SEE DRAWING NO. 3263

KEY NOTES:

- 1 ADDITIONAL PROPOSED CONDUIT/RACE SHALL ROUTE ALONG THIS SIDE FROM TOP/RIGHT END OF BASIN TO THE TRANSMITTER/PROBE FOR CLARIFIER. REFER TO DRAWING NO. 3263 FOR ADDITIONAL INFORMATION.
- 2 CHECKLIST COORDINATE DO PROBE AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITH PROCESS/MECHANICAL AND DETAIL TWO ON DRAWING NO. 3263.
- 3 OWNER PRE-PROCESSED EQUIPMENT, HERETOFORE FROM CRICK WATER RECYCLING CENTER IMPROVEMENTS PROJECT OF AERATION BASINS, DRIVERS, AND APPURTENANCES PROVIDED BY OWNER SHALL BE INSTALLED AT THE BASIN AS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ELECTRICAL AND INSTRUMENTATION WORK TO THE OWNER'S EQUIPMENT WITH THE OWNER'S PRODUCTION SUBMITTALS.
- 4 Proposed aeration process has some headers is NOT SHOWN ON THIS DRAWING FOR PURPOSE OF CLARIFIER. REFER TO MECHANICAL/CIVIL FOR LOCATION OF OVERHEAD PROCESS AIR PIPING AND ADDITIONAL INFORMATION.

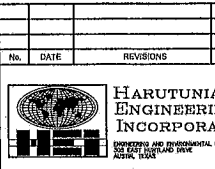
KEY NOTES:

- 1 FINISH AND INSTALL PROPOSED CONDUIT RACE ALONG THIS SIDE FROM TOP/RIGHT END OF BASIN TO THE TRANSMITTER/PROBE FOR CLARIFIER. REFER TO DRAWING NO. 3263 FOR ADDITIONAL INFORMATION.
- 2 DISSOLVED OXYGEN TRANSMITTER, CHECK AS MANUFACTURED BY PROCESS MANUFACTURER TO BE ROUTED FROM PROBE TO RESPECTIVE TRANSMITTER. DISSOLVED OXYGEN TRANSMITTERS AND TRANSMITTERS SHALL BE ROUTED TO THE TRANSMITTERS. LEAVE A MINIMUM OF SIX INCHES CLEARANCE FROM TRANSMITTERS TO THE TRANSMITTERS. REFER TO INSTRUMENTATION DETAIL (S) ON DRAWING NO. 3264 FOR ADDITIONAL INFORMATION. CHECKLIST COORDINATE RACE, INSTALLATION LOCATION WITH PROCESS/MECHANICAL AND DETAIL ONE ON DRAWING NO. 3263.
- 3 CHECKLIST COORDINATE DO PROBE AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITH PROCESS/MECHANICAL AND DETAIL TWO ON DRAWING NO. 3263.
- 4 PROPOSED DO PROBE AIR BLAST COMPRESSOR/CONTROLLER SHALL BE INSTALLED AT THE BASIN AS SHOWN ON THIS DRAWING. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ELECTRICAL AND INSTRUMENTATION WORK TO THE OWNER'S EQUIPMENT WITH THE OWNER'S PRODUCTION SUBMITTALS.
- 5 FINISH AND INSTALL PROPOSED CONDUIT RACE ALONG THIS SIDE FROM TOP/RIGHT END OF BASIN TO THE TRANSMITTER/PROBE FOR CLARIFIER. REFER TO DRAWING NO. 3263 FOR ADDITIONAL INFORMATION.
- 6 FINISH AND INSTALL PROPOSED CONDUIT RACE ALONG THIS SIDE FROM TOP/RIGHT END OF BASIN TO THE TRANSMITTER/PROBE FOR CLARIFIER. REFER TO DRAWING NO. 3263 FOR ADDITIONAL INFORMATION.
- 7 FINISH AND INSTALL PROPOSED CONDUIT RACE ALONG THIS SIDE FROM TOP/RIGHT END OF BASIN TO THE TRANSMITTER/PROBE FOR CLARIFIER. REFER TO DRAWING NO. 3263 FOR ADDITIONAL INFORMATION.
- 8 FINISH AND INSTALL PROPOSED CONDUIT RACE ALONG THIS SIDE FROM TOP/RIGHT END OF BASIN TO THE TRANSMITTER/PROBE FOR CLARIFIER. REFER TO DRAWING NO. 3263 FOR ADDITIONAL INFORMATION.

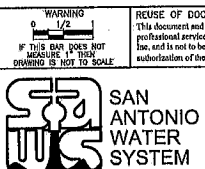
GENERAL NOTES:

- 1 DARK LINEWORK DENOTES PROPOSED ITEMS. LIGHT LINEWORK DENOTES EITHER EXISTING OR LOCATED ITEMS UNLESS NOTED OTHERWISE.
- 2 LOCATION OF CONDUITS AND EQUIPMENT SHALL BE APPROVED BY THE CONTRACTOR.
- 3 ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL DRAWINGS AS APPLICABLE FOR ADDITIONAL INFORMATION.
- 4 CHECKLIST COORDINATE/VERIFY ALL POINTS OF CONNECTION PRIOR TO CONSTRUCTION.
- 5 THE OWNER SHALL BE RESPONSIBLE FOR THE COST OF ANY DAMAGE TO EXISTING FACILITIES, REPAIR, ANY FACILITY DAMAGED IN THE COURSE OF CONSTRUCTION OR ANY PART OF THIS CONTRACT. THIS INCLUDES THE COST OF REMEDIATION OF EXISTING FACILITIES AND THE COST OF REPAIR TO ANY DAMAGE TO EXISTING FACILITIES. REFER TO INSTRUMENTATION DETAIL (S) ON DRAWING NO. 3264 FOR ADDITIONAL INFORMATION. CHECKLIST COORDINATE RACE, INSTALLATION LOCATION WITH PROCESS/MECHANICAL AND DETAIL ONE ON DRAWING NO. 3263.
- 6 THE CONTRACTOR SHALL BE AWARE THAT WHEN ANY EXISTING EQUIPMENT IS DISCONNECTED, REMOVED, REDUCED OR OTHERWISE MODIFIED, THE RESPONSIBILITY FOR THE COST OF ACTION TO TAKE TO PROTECT THE REMAINING EQUIPMENT SHALL BE THE CONTRACTOR'S. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ANY DAMAGE TO EXISTING FACILITIES. REFER TO INSTRUMENTATION DETAIL (S) ON DRAWING NO. 3264 FOR ADDITIONAL INFORMATION. CHECKLIST COORDINATE RACE, INSTALLATION LOCATION WITH PROCESS/MECHANICAL AND DETAIL ONE ON DRAWING NO. 3263.
- 7 SHOULD A POWER OUTAGE TO A FACILITY BE REQUIRED, THE CONTRACTOR SHALL REQUEST THAT AN UNINTERRUPTIBLE POWER SUPPLY (UPS) BE PROVIDED TO THE CONTRACTOR'S WRITERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF THE UPS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF THE UPS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF THE UPS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF THE UPS.
- 8 THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL TRANSMITTERS, PROBES, AND EQUIPMENT PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ANY DAMAGE TO EXISTING FACILITIES. REFER TO INSTRUMENTATION DETAIL (S) ON DRAWING NO. 3264 FOR ADDITIONAL INFORMATION. CHECKLIST COORDINATE RACE, INSTALLATION LOCATION WITH PROCESS/MECHANICAL AND DETAIL ONE ON DRAWING NO. 3263.
- 9 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ANY DAMAGE TO EXISTING FACILITIES. REFER TO INSTRUMENTATION DETAIL (S) ON DRAWING NO. 3264 FOR ADDITIONAL INFORMATION. CHECKLIST COORDINATE RACE, INSTALLATION LOCATION WITH PROCESS/MECHANICAL AND DETAIL ONE ON DRAWING NO. 3263.
- 10 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ANY DAMAGE TO EXISTING FACILITIES. REFER TO INSTRUMENTATION DETAIL (S) ON DRAWING NO. 3264 FOR ADDITIONAL INFORMATION. CHECKLIST COORDINATE RACE, INSTALLATION LOCATION WITH PROCESS/MECHANICAL AND DETAIL ONE ON DRAWING NO. 3263.

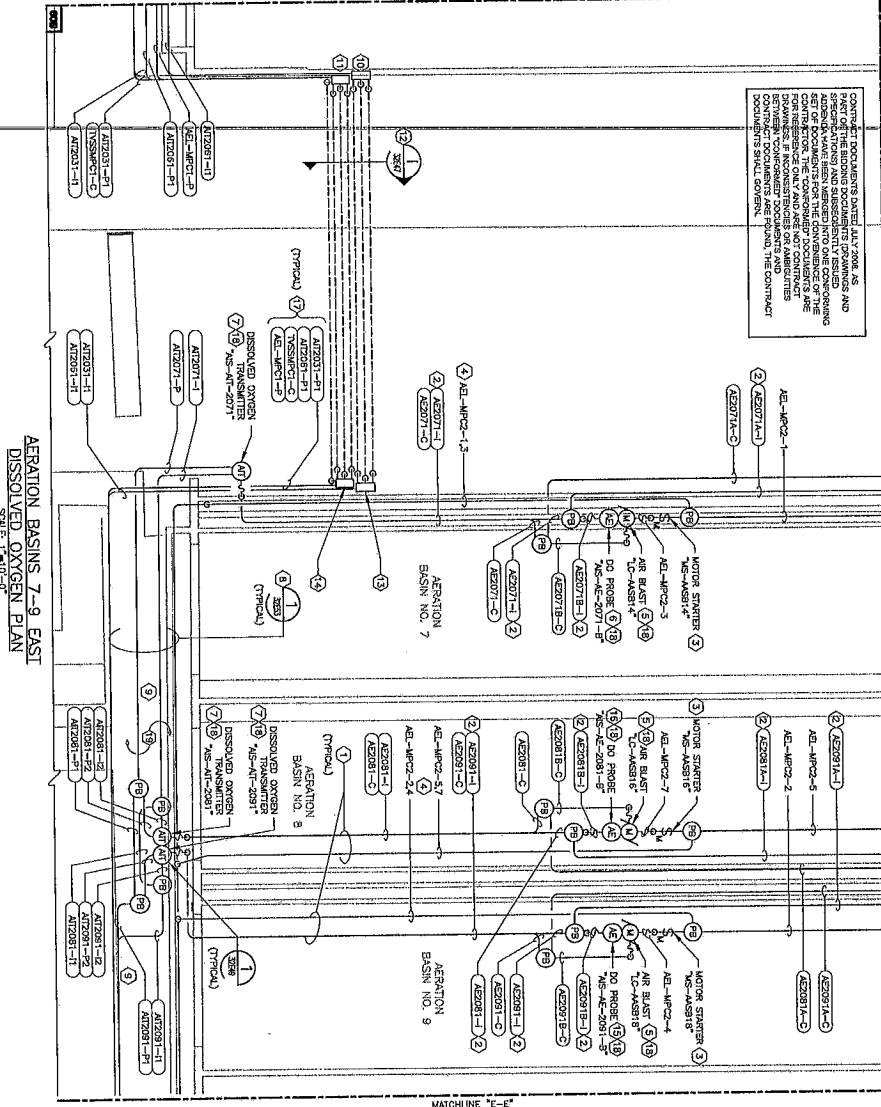
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SAN ANTONIO WATER SYSTEM
Engineers...Working Wonders With Water



SAWS JOB NO. 08-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION BASIN DISSOLVED OXYGEN
ELECTRICAL AND I&C PLAN
PROPOSED (SHEET 1 OF 7)
Checked by: [Signature]
32637
Sheet 353 of 432



AERATION BASINS 7-9 EAST
DISSOLVED OXYGEN PLAN
SCALE 1"=10'-0"

- REFERENCE DRAWINGS:
- 32E75 - BLOWER AREA PLAN
 - 32E77 - CONDUIT SECTIONS
 - 32E51 - 32E53 - DETAILS

- REFERENCE DRAWINGS (CONTINUED):
- 32E6 - INSTRUMENT WIRING SCHEMATS
 - 02E23 - 02E28 - CONDUIT AND WIRE SCHEDULE

- REFERENCE DRAWINGS (CONTINUED):
- 32E68 - INSTRUMENT WIRING SCHEMATS
 - 02E23 - 02E28 - CONDUIT AND WIRE SCHEDULE

KEY NOTES (CONTINUED):

- PROPOSED POWER PULLBOX, FURNISH AND INSTALL PROPOSED PULLBOX AT SOUTH WALL OF AERATION BASIN SEVEN ACCORDING TO DETAIL SIX ON DRAWING NO. 91700.
- PROPOSED CONDUIT, WIRE, AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITHIN AERATION BASIN SEVEN SHALL BE IDENTIFIED BY THE CONTRACTOR.
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- PROPOSED CONDUIT, WIRE, AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITHIN AERATION BASIN SEVEN SHALL BE IDENTIFIED BY THE CONTRACTOR.

KEY NOTES (CONTINUED):

- PROPOSED POWER PULLBOX, FURNISH AND INSTALL PROPOSED PULLBOX AT NORTH WALL OF AERATION BASIN SEVEN ACCORDING TO DETAIL SIX ON DRAWING NO. 91700.
- PROPOSED CONDUIT, WIRE, AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITHIN AERATION BASIN SEVEN SHALL BE IDENTIFIED BY THE CONTRACTOR.
- PROPOSED CONDUIT, WIRE, AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITHIN AERATION BASIN SEVEN SHALL BE IDENTIFIED BY THE CONTRACTOR.
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- PROPOSED CONDUIT, WIRE, AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITHIN AERATION BASIN SEVEN SHALL BE IDENTIFIED BY THE CONTRACTOR.

KEY NOTES (CONTINUED):

- FURNISH AND INSTALL PROPOSED CONDUIT/WIRE TO/FROM PROPOSED DISSOLVED OXYGEN EQUIPMENT AT EACH BASIN AND TO/FROM PROPOSED SOURCE/DESTINATION EQUIPMENT ROUTE EXPANDED CONDUIT AT SCHEDULED LEVEL, AS CLOSE TO DESIGN WALL OF BASIN AS POSSIBLE. REFER TO PROPOSED CONDUIT/WIRE SCHEDULE FOR SCHEDULED LEVELS AND WIRE SIZES.
- ADDITIONAL PROPOSED CONDUIT/WIRE SHALL BE IDENTIFIED BY THE CONTRACTOR. REFER TO DRAWING NO. 32E51 AND 32E53 FOR ADDITIONAL INFORMATION.
- PROPOSED REMEDIATION ANALOG SIGNAL PULLBOX, FURNISH AND INSTALL PROPOSED PULLBOX AT NORTH WALL OF AERATION BASIN SEVEN ACCORDING TO DETAIL SIX ON DRAWING NO. 91700.
- PROPOSED POWER PULLBOX, FURNISH AND INSTALL PROPOSED PULLBOX AT NORTH WALL OF AERATION BASIN SEVEN ACCORDING TO DETAIL SIX ON DRAWING NO. 91700.
- PROPOSED CONDUIT/WIRE ROUTES VIA UNDERGROUND DUCT SHALL BE IDENTIFIED BY THE CONTRACTOR. REFER TO DETAIL SIX ON DRAWING NO. 91700 FOR INFORMATION ON DUCT DESIGN. REFER TO DRAWING NO. 32E51 AND 32E53 FOR ADDITIONAL INFORMATION.
- PROPOSED CONDUIT/WIRE ROUTES VIA UNDERGROUND DUCT SHALL BE IDENTIFIED BY THE CONTRACTOR. REFER TO DETAIL SIX ON DRAWING NO. 91700 FOR INFORMATION ON DUCT DESIGN. REFER TO DRAWING NO. 32E51 AND 32E53 FOR ADDITIONAL INFORMATION.
- PROPOSED CONDUIT/WIRE ROUTES VIA UNDERGROUND DUCT SHALL BE IDENTIFIED BY THE CONTRACTOR. REFER TO DETAIL SIX ON DRAWING NO. 91700 FOR INFORMATION ON DUCT DESIGN. REFER TO DRAWING NO. 32E51 AND 32E53 FOR ADDITIONAL INFORMATION.
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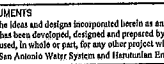
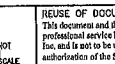
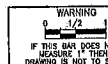
GENERAL NOTES:

1. DARK LINED DEVICES PROPOSED UNDER LIGHT UNDERBANK CHANGES OTHER EXISTING OR FUTURE (SEE DRAWING NO. 32E75).
2. LOCATION AND SIZE OF CONDUIT SHALL BE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ACTUAL LOCATION AND SIZE OF CONDUIT.
3. ALL ELECTRICAL/ELECTRONIC/STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE, FOR ADDITIONAL INFORMATION, DESIGN AND SPECIFICATIONS/VEHICLE ALL POINTS OF CONNECTION FROM TO CONDUITING.
4. RESOLUTION AMOUNTS TO 1/16" UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR CONSTRUCTION OF THIS PROJECT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR CONSTRUCTION OF THIS PROJECT.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR CONSTRUCTION OF THIS PROJECT.
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12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR CONSTRUCTION OF THIS PROJECT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR CONSTRUCTION OF THIS PROJECT.

NO.	DATE	REVISIONS	APP.

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SAWS JOB NO. 06-660
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION BASIN DISSOLVED OXYGEN
ELECTRICAL AND I&C PLAN
PROPOSED (SHEET 3 OF 7)



Harutunian Engineering Incorporated
1112
11/2/2008

SAWS JOB NO. 06-660
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION BASIN DISSOLVED OXYGEN
ELECTRICAL AND I&C PLAN
PROPOSED (SHEET 3 OF 7)

SAWS JOB NO. 06-660
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SAWS JOB NO. 06-660
LEON CREEK WRC
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AERATION BASIN DISSOLVED OXYGEN
ELECTRICAL AND I&C PLAN
PROPOSED (SHEET 3 OF 7)

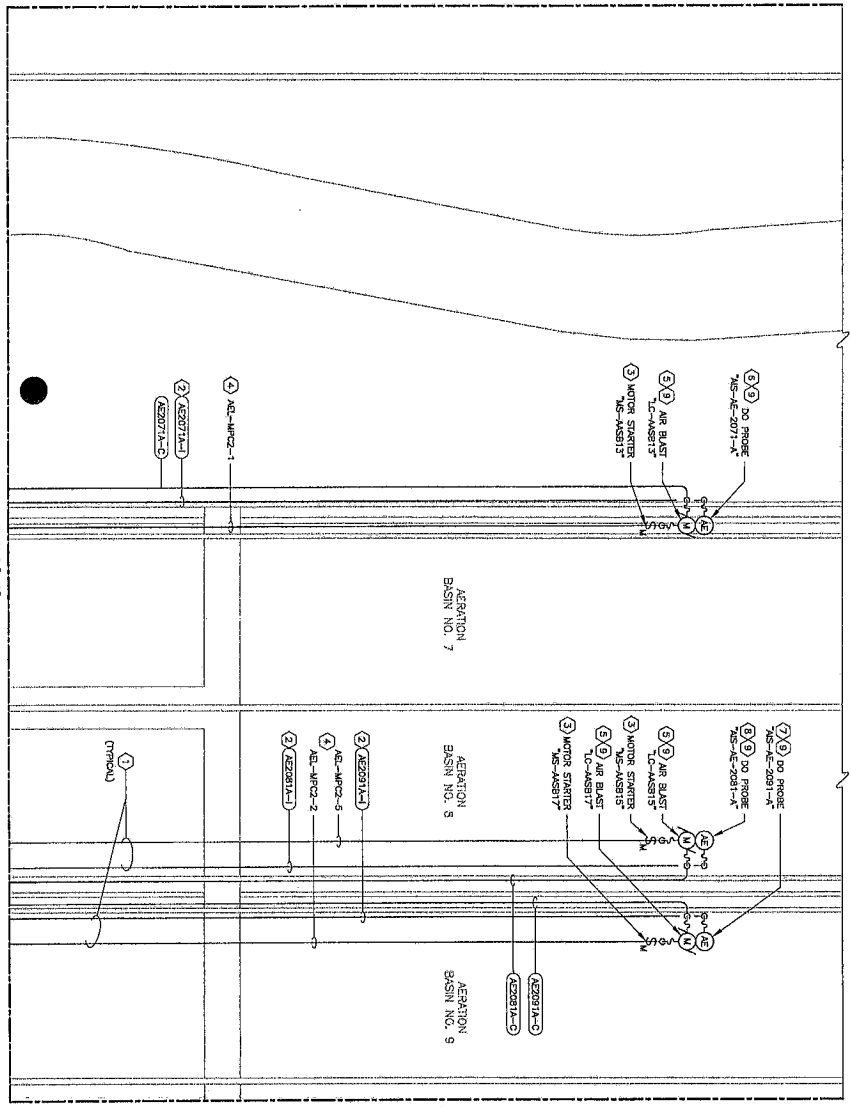
SAWS JOB NO. 06-660
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ELECTRICAL AND I&C PLAN
PROPOSED (SHEET 3 OF 7)

SAWS JOB NO. 06-660
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION BASIN DISSOLVED OXYGEN
ELECTRICAL AND I&C PLAN
PROPOSED (SHEET 3 OF 7)



MATCHLINE "0-0"
SEE DRAWING NO. 32E39

PROJECT DRAWINGS SHALL BE THE BASIS FOR THE BIDDING DOCUMENTS, DRAWINGS AND SPECIFICATIONS AND SHALL BE THE BASIS FOR THE SET OF DOCUMENTS FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.



AERATION BASINS 7-9 WEST
DISSOLVED OXYGEN PLAN
SCALE 1"=10'-0"

MATCHLINE "7-0"
SEE DRAWING NO. 32E39

MATCHLINE "1-1"
SEE DRAWING NO. 32E42

KCC NOTES:

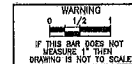
- 32E43 - BLOWER AREA PLAN
- 32E47 - CONDUIT SECTIONS
- 32E51 - 32E53 - DETAILS
- 02E3 - 02E8 - CONDUIT AND WIRE SCHEDULE
- 32E9 - 32E7 - PROCESS AND INSTRUMENTATION DIAGRAM
- 32E8 - INSTRUMENT WIRING SCHEMAS

REFERENCE DRAWINGS:

1. FINISH AND INSTALL PROPOSED CONDUIT ALONG OUTSIDE EDGE OF HANDRAIL/WALKWAY CHANNEL AND ASSOCIATED FITTINGS/HANDWAYS.
2. DISSOLVED OXYGEN PROBE INTERNAL CABLE AS MANUFACTURED BY PROBE MANUFACTURER TO INTERNAL CABLE TO BE FURNISHED BY BLOWER SYSTEM SUPPLIER. SHOULD CABLE BETWEEN PROBE AND TRANSMITTER BE OF INSUFFICIENT LENGTH, CONTRACTOR SHALL FURNISH AND INSTALL ADDITIONAL CABLE TO EXTEND PROBE CABLE LENGTH BY TERMINATING TO PROBE CABLE USING EXACT FIELD WIRE NITS PER SPECIFICATIONS. WITH PULLBOX IN ANY SPACES BETWEEN PULLBOX AND RESPECTIVE TRANSMITTER A MINIMUM LENGTH OF 5'-0" OF CONDUIT PROVIDED BY PROBE AND MANUFACTURER PROVIDED CABLE SHALL REMAIN INSIDE CONDUIT AND SHALL NOT BE EXPOSED TO WEATHER. CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ALL FINAL CONNECTIONS PER THE DISSOLVED OXYGEN METER MANUFACTURER'S WIRING DIAGRAMS AND RECOMMENDATIONS.
3. FINISH AND INSTALL PROPOSED MANUAL MOTOR STARTER PER SPECIFICATIONS AND MAKE ALL FINAL CONNECTIONS TO DISSOLVED OXYGEN AIR BLAST COMPRESSOR PER MANUFACTURER'S STARTER WIRING DIAGRAM AND MAKE ALL FINAL CONNECTIONS TO DISSOLVED OXYGEN AIR BLAST COMPRESSOR PER MANUFACTURER'S STARTER WIRING DIAGRAM TO COMPRESSOR BEHIND SHIELD TYPICAL FOR ALL MANUAL MOTOR STARTERS FOR DO PROBE AIR BLAST COMPRESSORS.
4. REFER TO PANEL SCHEDULE ON DRAWING NO. 32E68 FOR ADDITIONAL INFORMATION.
5. PROPOSED DO PROBE AIR BLAST COMPRESSOR/CONTROLLER SHALL BE INSTALLED AT THE BLOWER HANDWAY WITH A SIGN SHEED OF THE SAME CONSTRUCTION TYPE AS THE INSTRUMENT ON ALL SITES OF COMPRESSOR EXCEPT DO SIGN SHEED WALL AND ADJACENT EQUIPMENT. REFER TO APPLICABLE BOM INSTALLATION DETAIL ON DRAWING NO. 32E51 FOR ADDITIONAL INFORMATION.
6. GENERALLY ASSUME DO PROBE AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITH PROCESS/ACQUANT AND RETAIL THREE ON DRAWING NO. 32E51.
7. GENERALLY ASSUME DO PROBE AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITH PROCESS/ACQUANT AND RETAIL FOUR ON DRAWING NO. 32E51.
8. GENERALLY ASSUME DO PROBE AND ASSOCIATED EQUIPMENT INSTALLATION LOCATION WITH PROCESS/ACQUANT AND RETAIL FIVE ON DRAWING NO. 32E51.
9. OWNER PRE-APPROVED EQUIPMENT REFERENCE LEON CREEK WATER RECLAMING CENTER IMPROVEMENTS PURCHASE OF AERATION BLOWERS, DRIVERS, AND APPURTENANCES PROCEDURES DOCUMENTS CLOSELY AND GENERALLY COMPARE LEAD DATA EQUIPMENT LOCATIONS, AND OTHER TECHNICAL INFORMATION WITH THE OWNER'S PREVIOUS DRAWINGS.

GENERAL NOTES:

1. DARK LINES AND SHARP EDGES REQUIRED. LIGHT LINES SHOULD BE EITHER EXISTING OR DIMINISHED UNLESS NOTED OTHERWISE.
2. LOCATION AND SIZE OF EQUIPMENT SHALL BE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS PRIOR TO COMMENCING CONSTRUCTION.
3. ALL ELECTRICAL MECHANICAL STRUCTURAL/CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL DRAWINGS AS APPLICABLE FOR ADDITIONAL INFORMATION.
4. CLOSELY AND CAREFULLY COORDINATE/VERIFY ALL POINTS OF CONNECTION PRIOR TO COMMENCING CONSTRUCTION.
5. TAKE CARE TO AVOID DAMAGE TO EXISTING FACILITIES. REMOVE ANY FACILITY DAMAGED IN THE COURSE OF CONSTRUCTION OR ANY PART OF THIS CONTRACT TO THE OWNER'S SATISFACTION IS REPAIRED AT NO ADDITIONAL COST TO OWNER.
6. THE CONTRACTOR SHALL BE AWARE THAT WHEN ANY EXISTING EQUIPMENT IS DISCONNECTED, REMOVED, RELOCATED OR OTHERWISE MODIFIED, THE POSSIBLE HAZARD FOR EACH ACTION SHALL BE IDENTIFIED AND THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE PUBLIC AND THE ENVIRONMENT. THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR THE CONSTRUCTION OF ANY FACILITY DAMAGED IN THE COURSE OF THIS PROJECT. HOWEVER, SHOULD ANY INTERFERENCE TO PLANT OPERATION OCCUR AS A RESULT OF THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INVESTIGATION AND CORRECTIVE ACTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INVESTIGATION AND CORRECTIVE ACTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INVESTIGATION AND CORRECTIVE ACTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INVESTIGATION AND CORRECTIVE ACTION.
7. SHOULD A POWER OUTAGE TO A FACILITY BE REQUIRED, THE CONTRACTOR SHALL REQUEST SUCH AN OUTAGE IN WRITING TO THE OWNER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE FACILITY.
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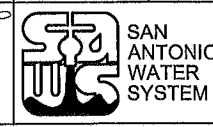
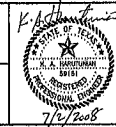
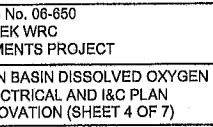


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No.	DATE	REVISIONS	APP.

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION BASIN DISSOLVED OXYGEN
ELECTRICAL AND I&C PLAN
RENOVATION (SHEET 4 OF 7)

Checked By: HBI
Designed By: HBI
Drawing No: 32E40
Sheet 358 of 422



CONTRACT DOCUMENTS DATED AT VARIOUS TIMES AS PART OF THE DESIGN DEVELOPMENT PROCESS AND WHICH ARE INCORPORATED BY REFERENCE INTO THIS DRAWING HAVE BEEN REVIEWED AND APPROVED FOR CONSTRUCTION BY THE DESIGN PROFESSIONAL. THE CONTRACT DOCUMENTS ARE FOR INFORMATION ONLY AND ARE NOT TO BE USED FOR CONSTRUCTION. THE CONTRACT DOCUMENTS ARE THE SOLE GOVERNING DOCUMENTS FOR THE PROJECT. CONTRACT DOCUMENTS SHALL GOVERN.

KEY NOTES (CONTINUED):

② REMAINER PROVIDED OVERHEAD PROCESS AIR PUMP MOTOR IS NOT SHOWN ON THIS DRAWING FOR PURPOSES OF CLARITY AND TO AVOID OVERLAP WITH THE LOCATION OF THE REMAINDER OF THE PROCESS AIR PUMP AND ASSOCIATED EQUIPMENT.

③ 3250 - 3265 - CONDUIT SECTIONS

④ 3267 - BLOWER AREA PLAN

⑤ 3267 - CONDUIT SECTIONS

⑥ 3267 - CONDUIT SECTIONS

⑦ 3267 - CONDUIT SECTIONS

⑧ 3267 - CONDUIT SECTIONS

⑨ 3267 - CONDUIT SECTIONS

⑩ 3267 - CONDUIT SECTIONS

⑪ 3267 - CONDUIT SECTIONS

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⑮ 3267 - CONDUIT SECTIONS

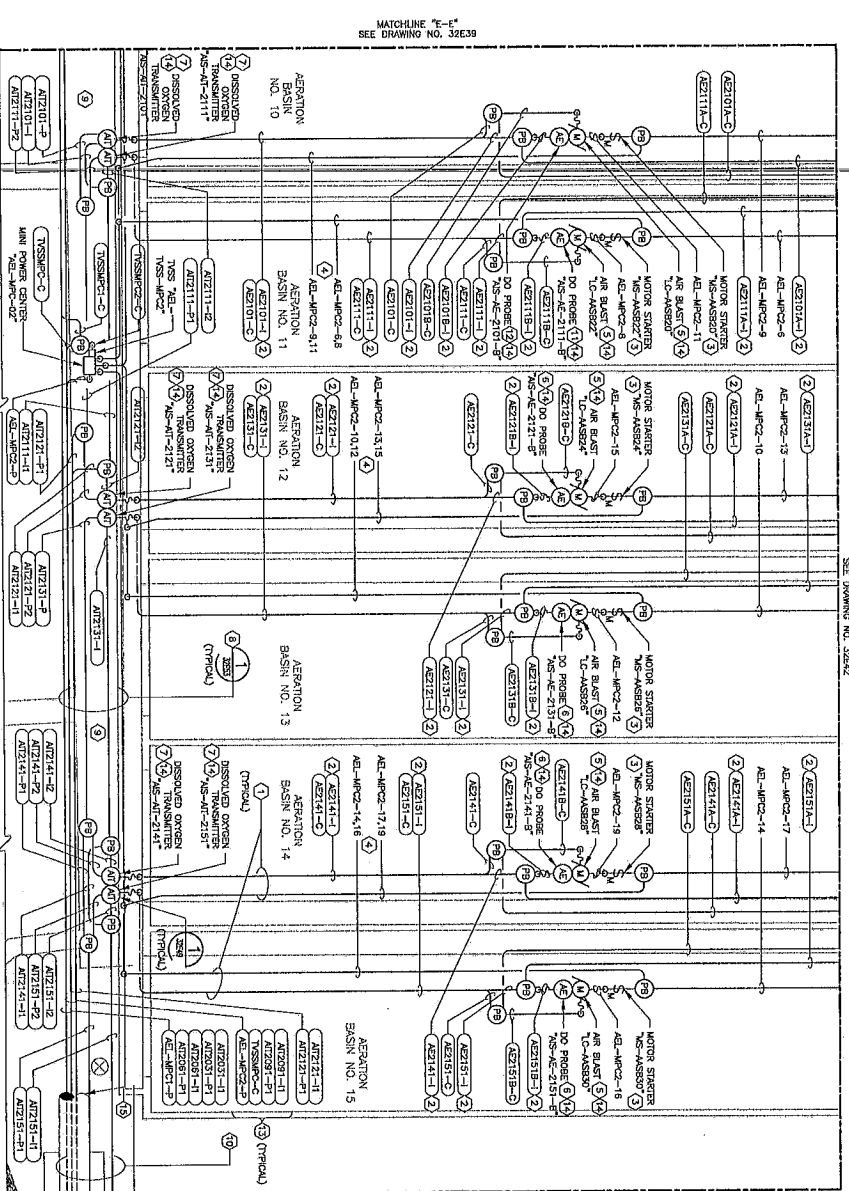
⑯ 3267 - CONDUIT SECTIONS

KEY NOTES (CONTINUED):

① ⑰ PREPARED CONDUIT/WIRE CHAINAGE TO/ FROM PROCESS EQUIPMENT LOCATED TO ADJUST TO THE CENTERLINE OF THE CONDUIT/WIRE CHAINAGE. THE CONDUIT/WIRE CHAINAGE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS. ALL CONDUIT/WIRE ROUTING SHALL BE SHOWN TO CLEAR ALL STRUCTURAL MEMBERS AND OTHER OBSTACLES AND SHALL BE SHOWN TO CLEAR ALL STRUCTURAL MEMBERS AND OTHER OBSTACLES AND SHALL BE SHOWN TO CLEAR ALL STRUCTURAL MEMBERS AND OTHER OBSTACLES.

② ⑱ OWNER SHALL PROVIDE ALL INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THIS SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

③ ⑲ OWNER SHALL PROVIDE ALL INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THIS SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.



MATCHLINE '9'-0\"/>

SEE DRAWING NO. 3252

AERATION BASINS 10-15 EAST DISSOLVED OXYGEN PLAN

SCALE: 1/8\"/>

KEY NOTES (CONTINUED):

④ ⑳ OWNER SHALL PROVIDE ALL INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THIS SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

⑤ ㉑ OWNER SHALL PROVIDE ALL INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THIS SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

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⑦ ㉓ OWNER SHALL PROVIDE ALL INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THIS SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

⑧ ㉔ OWNER SHALL PROVIDE ALL INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THIS SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

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⑪ ㉗ OWNER SHALL PROVIDE ALL INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THIS SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

⑫ ㉘ OWNER SHALL PROVIDE ALL INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THIS SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

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MATCHLINE '10'-0\"/>

SEE DRAWING NO. 3253

GENERAL NOTES:

1. THIS DRAWING IS A PART OF THE PROJECT DRAWINGS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
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9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

KEY NOTES:

① ① FURNISH AND INSTALL PROCESS CONTROL ALONG OUTER EDGE OF BLOWER/WALKWAY, SUPPORT CHANNEL, AND ASSOCIATED FITTINGS/ACCESSORIES.

② ② DISPOSED OVERHEAD PROCESS AIR PUMP MOTOR IS NOT SHOWN ON THIS DRAWING FOR PURPOSES OF CLARITY AND TO AVOID OVERLAP WITH THE LOCATION OF THE REMAINDER OF THE PROCESS AIR PUMP AND ASSOCIATED EQUIPMENT.

③ ③ OWNER SHALL PROVIDE ALL INFORMATION NECESSARY FOR THE PROPER INSTALLATION OF THIS SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.

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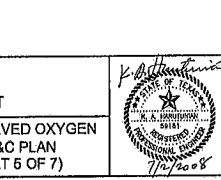
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SAWS JOB NO. 06-650
**LEON CREEK WRC
IMPROVEMENTS PROJECT**
**AERATION BASIN DISSOLVED OXYGEN
ELECTRICAL AND I&C PLAN
RENOVATION (SHEET 6 OF 7)**

Drawn by: **JLH**
Checked by: **MLG**
Date: **11/17/2008**

Sheet **388** of **472**
Drawing **325341**

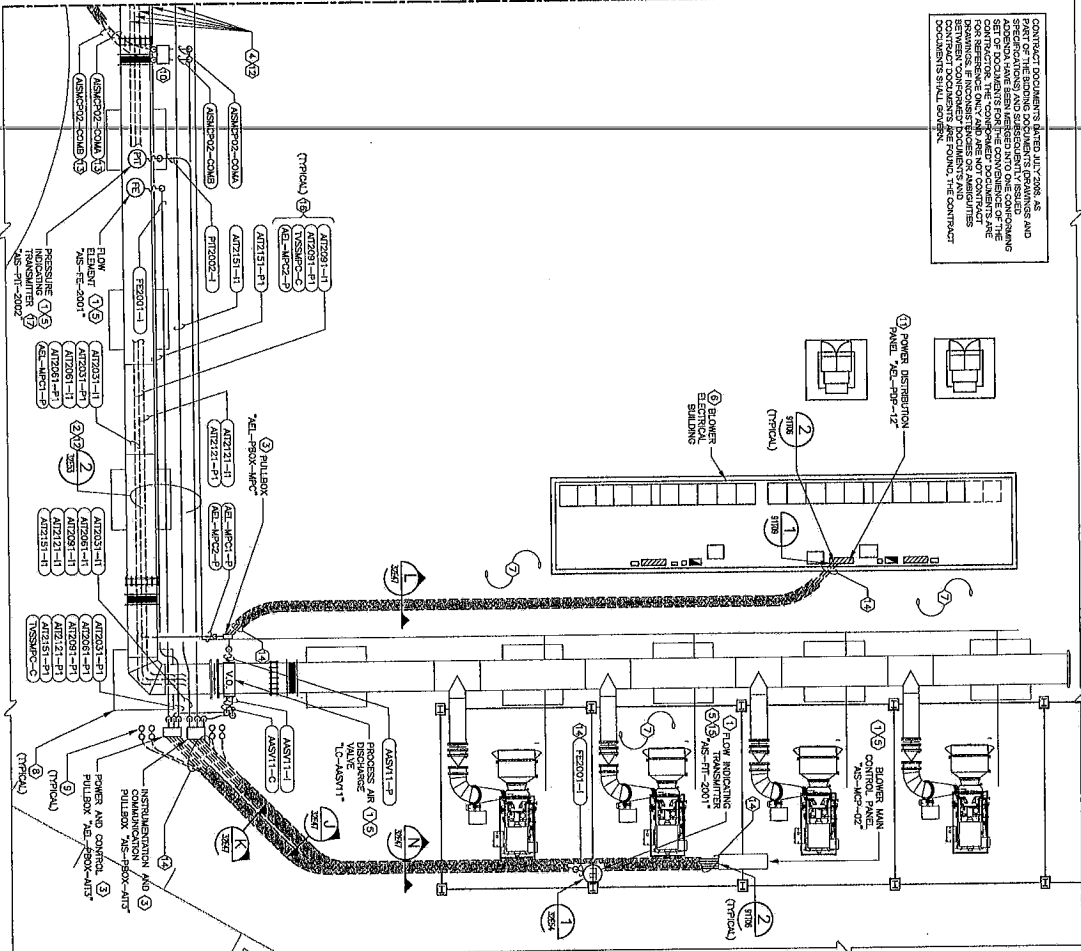


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SAN ANTONIO WATER SYSTEM



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PHONE: (281) 415-2400 FAX: (281) 415-2401
WWW.HARUTUNIANENGINEERING.COM



BLOWER AREA DO CONTROL
SYSTEM PLAN - PROPOSED
SCALE 1/8"=1'-0"



CONTRACT DOCUMENTS DATED JULY 2006, AS PART OF THE BIDDING DOCUMENTS, DRAWINGS AND SPECIFICATIONS, HAVE BEEN REFERRED TO AND INCORPORATED BY REFERENCE ONLY AND ARE NOT CONTRACT DOCUMENTS. CONTRACT DOCUMENTS ARE FOUND IN THE CONTRACT DOCUMENTS AND CONTRACTS, NOT IN THIS DRAWING.

1. GENERAL NOTES:
 1. PARK LANDMARK DEVIATES PROPOSED MARK LIGHT LANDMARK DEVIATES FROM DESIGN OR FROM THIS DRAWING. (W/2)
 2. LOCATION AND SIZE OF EQUIPMENT SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ACTUAL CONDITIONS PRIOR TO COMMENCING CONSTRUCTION.
 3. NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE FOR ADDITIONAL INFORMATION.
 4. CLOSELY AND CAREFULLY EXAMINE EVERY ALL POINTS OF CONNECTION PRIOR TO COMMENCING REVISIONS. REPAIR AND/OR REPLACE AS NECESSARY TO MAINTAIN THE INTEGRITY OF THE SYSTEM. REPAIRS SHALL BE MADE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO PROCEEDING.
 5. THE CONTRACTOR SHALL KNOW THAT ANY INTERFERENCE TO THE OPERATION OF PLANT EQUIPMENT AT ITS INSTALLED LOCATION WILL BE AT THE CONTRACTOR'S RISK AND AT HIS OWNERS RISK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD.
 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD.
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 17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD.
 18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD.
 19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD.
 20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD.
2. REFERRED DRAWINGS:
 1. 0023 - 0028 - CONDUIT AND WIRE SCHEDULE
 2. 3205 - 3207 - PROCESS AND INSTRUMENTATION DYNAMIC
 3. 3208 - 3210 - INSTRUMENT WIRING SCHEMATIC

KEY NOTES:

1. OWNER IS RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD.
2. OWNER IS RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD.
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20. OWNER IS RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE OF ALL UTILITIES AND EQUIPMENT TO REMAIN AT THE JOB SITE THROUGHOUT THE CONSTRUCTION PERIOD.

No.	DATE	REVISIONS	APP.

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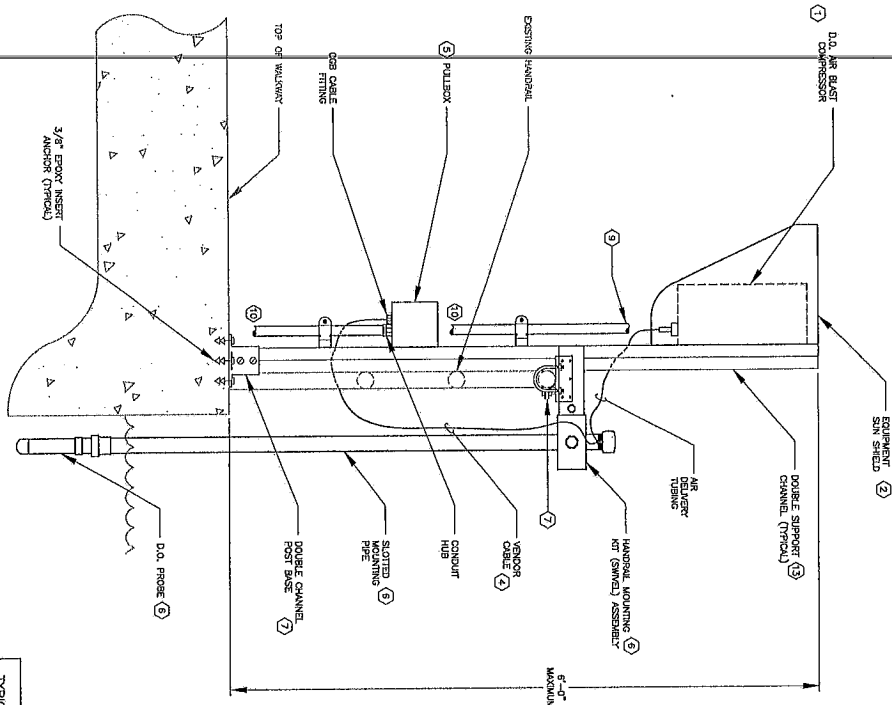
SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION BASIN DISSOLVED OXYGEN
ELECTRICAL AND I&C PLAN
PROPOSED (SHEET 7 OF 7)



SAN ANTONIO WATER SYSTEM

Carollo
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HARUTUNIAN ENGINEERING INCORPORATED
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DALLAS, TEXAS 75246-4003



D.O. PROBE AND AIR BLAST COMPRESSOR INSTALLATION DETAIL - SIDE VIEW
SCALE: 1/8\"/>

TYPICAL FOR AERATION BASIN NOS. 1, 2, AND 5.

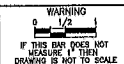
GENERAL NOTES:

1. ALL HARDWARE SHALL BE A316 STAINLESS STEEL, UNLESS OTHERWISE NOTED ON THIS DRAWING.
2. PROPOSED ITEMS ARE SHOWN IN DARK LINEDWORK. EXISTING ITEMS ARE SHOWN IN LIGHT LINEDWORK, UNLESS NOTED OTHERWISE.
3. NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE, FOR ADDITIONAL INFORMATION.
4. EXISTING LOCATION OF MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE NOT SHOWN ON THIS DRAWING. REFER TO MECHANICAL/STRUCTURAL/CIVIL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL/STRUCTURAL/CIVIL ITEMS.
5. CONTRACTOR SHALL CAREFULLY COORDINATE ROUTE OF PROPOSED CONDUIT/WIRE WITH EXISTING AND PROPOSED SYSTEMS/COMPONENTS/EQUIPMENT/UTILITIES, ETC.
6. CONTRACTOR SHALL SEE ALL PULLEXES PER AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC).
7. LOCATION/SIZES OF ELECTRICAL EQUIPMENT SHOWN ARE CONFINED TO COMMERCIAL CONSTRUCTION ONLY.
8. THE PROPOSED INSTALLED OXIGEN PUMP AND ASSOCIATED AIR-BLAST DISINTEGRATED OXIGEN PUMP CLEANING SYSTEM ARE OWNER PRE-FabricATED EQUIPMENT. REFERENCE ITEM CHECK WATER TREATMENT SYSTEMS AND APPLICABLES. REQUIREMENTS SHALL BE OBTAINED FROM THE MANUFACTURER WITH EXCEPT TO DISASSEMBLE OXIGEN PROBE CABLE AS SHOWN WITH PROBE BY ALL ELECTRICAL AND WIRE AND WARE ALL FINAL TREATMENTS FOR A FULLY FUNCTIONAL, ASSIGNED AS SYSTEM AND DISINTEGRATED OXIGEN PUMP AND TEMPERATURE TO/FROM EQUIPMENT FURNISHED BY THE MANUFACTURER.
9. THE PULLEXES REQUIRED ON THE DRAWING ARE INTENDED TO OBTAIN THE DETAILS ON DRAWING NO. 22821 AS WELL AS ALL KENOVES ARE CALLED OUT ON EACH DETAIL, ONLY THOSE KENOVES ARE CALLED OUT ON EACH DETAIL TO THIS DETAIL.

KEY NOTES:

1. INSTALL THE PROPOSED AIR BLAST COMPRESSOR/CONTROLLER ALONG THE EXISTING AERATION BASIN. HANGING IN THE BASIN. COMPLETE POWER AND CONTROL CONDUIT/WIRE CONNECTIONS ARE NOT SHOWN HERE FOR CLARITY. REFER TO FLOOR PLAN DRAWINGS FOR ADDITIONAL INFORMATION.
2. SUN-SHIELD SHALL BE A FABRICATED FRAMEWORK, SUN-SHIELD SHALL BE GALVANIZED STEEL. CONDUIT REQUIRED SHALL BE GALVANIZED STEEL. ALL JOINTS SHALL BE WELDED AND SHALL BE MOUNTED TO SUNSHIELD STRUCTURE. ALLOWING MINIMUM INTERIOR CLEARANCE FROM ENCLOSURE TO SUN-SHIELD WALL OF SIX INCHES.
3. PULLEX MUST BE A MINIMUM OF 8\"/>
4. REFER TO FLOOR PLAN DRAWING/CONTROLLER LOCATED AT THE EAST END OF THE AERATION BASIN, ROUTE CABLE EXPOSED BETWEEN SUNSHIELD AND SUN-SHIELD SHALL BE PROTECTED BY SUN-SHIELD AS APPLICABLE.
5. PULLEX AND INSTALL, 316 STAINLESS STEEL, NEMA 4X FURLEX ANNUALLY SEE AS A PUMP FOR TRANSMISSION OF CONDUIT TO EXPOSED ROUTING TO SLOTTED PIPE ASSEMBLY. CONTINUATION CONDUIT/WIRE CONNECTIONS TO PULLEX ARE NOT PERMITTED TO EXPOSED ROUTING TO SLOTTED PIPE ASSEMBLY - SEE 22822 FOR ADDITIONAL INFORMATION.
6. INSTALL PROPOSED DISINTEGRATED OXIGEN SENSOR ASSEMBLY AT THE LOCATION SHOWN ON PLAN DRAWING NOS. 22827 - 22828. UNLESS OTHERWISE NOTED BY MANUFACTURER'S RECOMMENDATIONS. CAREFULLY COORDINATE INSTALLATION HEIGHT, DEPTH OF PROBE WITH MECHANICAL AND EQUIPMENT MANUFACTURER AND THE OWNER.
7. EXISTING PROPOSED SUPPORT CHANNEL TO EXISTING WALKWAY AT BASE AS SHOWN AND TO THE TOP OF THE HORIZONTAL MEMBER OF BASE AS SHOWN. UNLESS OTHERWISE NOTED BY MANUFACTURER SHALL AS APPLICABLE. UNLESS OTHERWISE NOTED BY MANUFACTURER SHALL AS APPLICABLE. UNLESS OTHERWISE NOTED BY MANUFACTURER SHALL AS APPLICABLE. UNLESS OTHERWISE NOTED BY MANUFACTURER SHALL AS APPLICABLE.
8. UNLESS OTHERWISE NOTED BY MANUFACTURER, REFER TO FLOOR PLAN DRAWING NOS. 22827 FOR THE LOCATION OF THE PROPOSED SLOTTED PIPE.
9. PROPOSED CONDUIT(S) CONNECT TO COMPRESSOR ENCLOSURE. COORDINATE WITH MANUFACTURER FOR REQUIREMENTS AND HEIGHT AND RIS/VENTILATION SYSTEMS AND CONTINUAL WORK TO THE OWNER. REFER TO FLOOR PLAN DRAWING NOS. 22827 FOR ADDITIONAL INFORMATION.
10. PROPOSED CONDUIT WIRE CONNECTIONS TO/FROM PROPOSED DISINTEGRATED OXIGEN SYSTEM ASSOCIATED EQUIPMENT, REFER TO FLOOR PLAN DRAWING NOS. 22827 - 22828 FOR CONTINUATION AND ADDITIONAL INFORMATION.
11. THE BOTTOM OF THE AIR COMPRESSOR AND SUNSHIELD ASSEMBLY SHALL BE MOUNTED TO THE SUPPORT CHANNEL FROM THE SURFACE OF THE PROCESS PIPE BELOW.
12. THE AIR COMPRESSOR ASSEMBLY SHOULD BE MOUNTED TO THE SUPPORT CHANNEL AT A DISTANCE OF AT LEAST 4\"/>
13. THROUGH NOT VISIBLE IN THIS VIEW, FINISH AND INSTALL TWO CROSS MEMBERS REQUIRED FOR A SECURE INSTALLATION. FINISH AND INSTALL THE NECESSARY HORIZONTAL CROSS MEMBERS FOR A SECURE INSTALLATION. FINISH AND INSTALL THE NECESSARY HORIZONTAL CROSS MEMBERS FOR A SECURE INSTALLATION. FINISH AND INSTALL THE NECESSARY HORIZONTAL CROSS MEMBERS FOR A SECURE INSTALLATION. FINISH AND INSTALL THE NECESSARY HORIZONTAL CROSS MEMBERS FOR A SECURE INSTALLATION.

CONTRACT DOCUMENTS DATED JULY 2004, IS PART OF THE BIDDING DOCUMENTS DRAWINGS AND SPECIFICATIONS. THE CONTRACT DOCUMENTS ARE HEREBY INCORPORATED INTO ONE COORDINATING SET OF CONTRACT DOCUMENTS. THE CONTRACT DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT DOCUMENTS. CONTRACT DOCUMENTS AND THE CONTRACT DOCUMENTS SHALL BE SUBJECT TO THE CONTRACT DOCUMENTS AND THE CONTRACT DOCUMENTS.



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No.	DATE	REVISIONS	APP.

SAWS JOB No. 06-850
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION BASIN
TYPICAL D.O. PROBE & AIR BLAST
INSTALLATION DETAIL (SHEET 1 OF 2)

Contract No. 06-850
Drawing No. 321550
Scale: 3/8\"/>

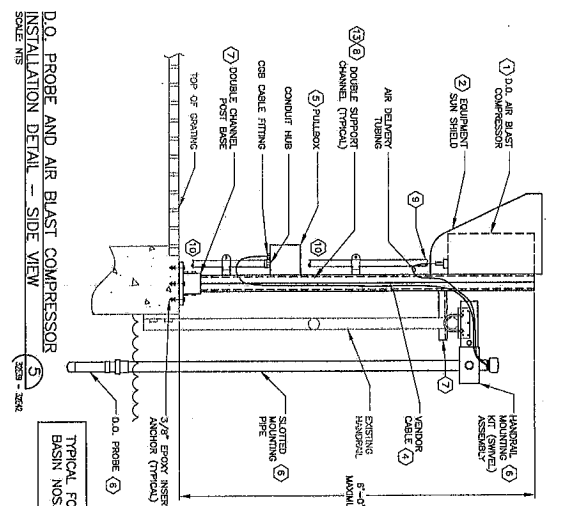
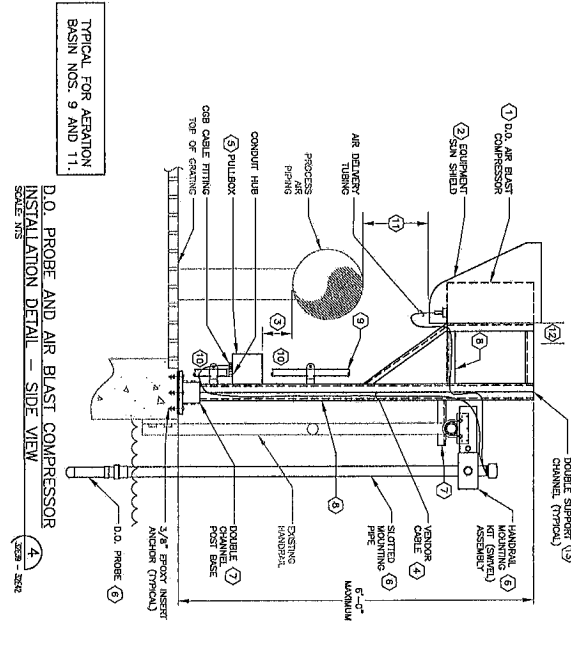
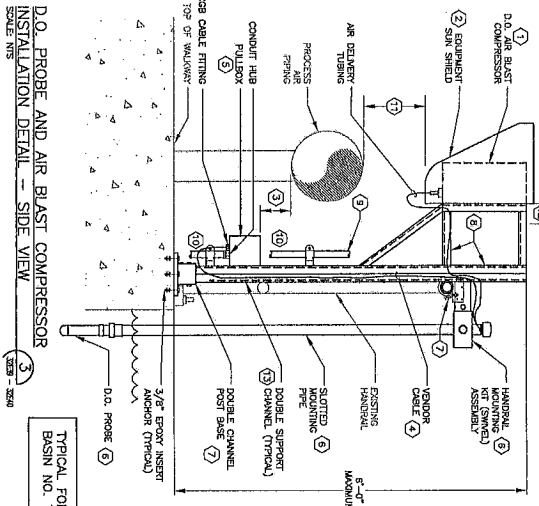
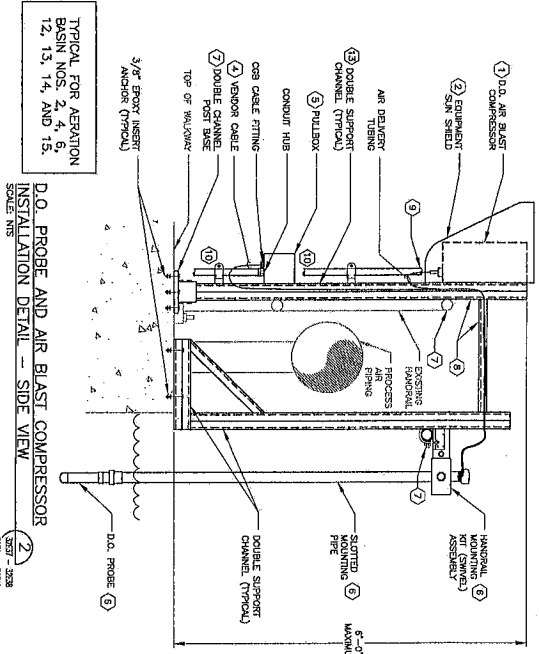


SAN ANTONIO WATER SYSTEM

Carollo
Engineers...Working Wonders With Water™

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GENERAL NOTES:
 1. REFER TO DRAWING 32520 FOR ALL NOTES AND GENERAL NOTES



CONTRACT DOCUMENTS AND ALL DATA AS PART OF THE BIDDING DOCUMENTS DRAWINGS AND SPECIFICATIONS AND SUBSEQUENTLY ISSUED SET OF DOCUMENTS FOR THE CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. CONTRACT DOCUMENTS ARE FOUND IN THE CONTRACT DOCUMENTS SHALL GOVERN.

SAWS JOB No. 06-650
 LEON CREEK WRC
 IMPROVEMENTS PROJECT
 AERATION BASIN
 TYPICAL D.O. PROBE & AIR BLAST
 INSTALLATION DETAIL (SHEET 2 OF 2)

32551
 Drawing
 Sheet 369 of 472



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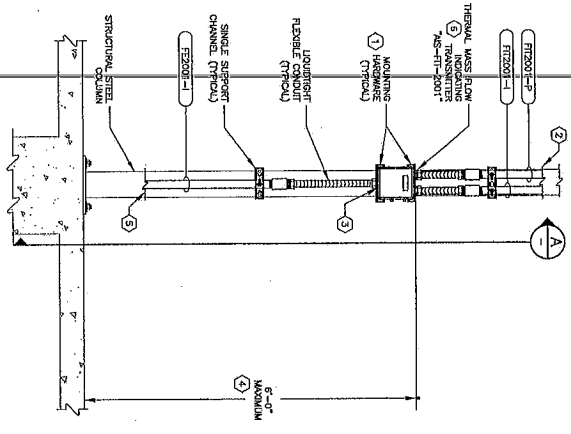


SAN ANTONIO WATER SYSTEM

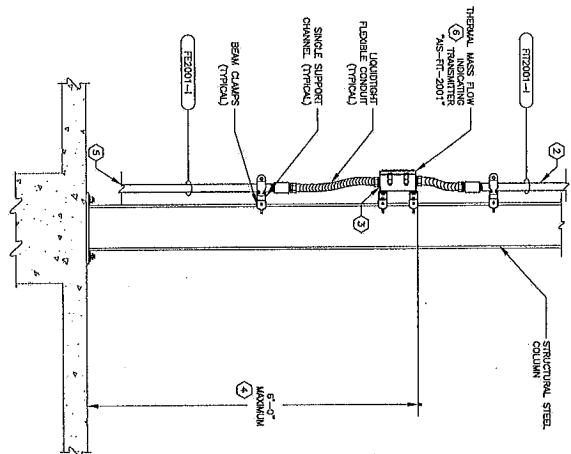
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THERMAL MASS FLOWMETER INDICATING TRANSMITTER SUPPORT RACK INSTALLATION DETAIL - FRONT VIEW
SCALE: 1/2" = 1'-0"
32E29 32E43



THERMAL MASS FLOWMETER INDICATING TRANSMITTER SUPPORT RACK INSTALLATION DETAIL - SIDE VIEW
SCALE: 1/2" = 1'-0"
32E29 32E43

KEY NOTES:

1. MOUNT PROPOSED INSTRUMENTS TO PROPOSED CONDUIT SUPPORT CHANNEL WITH MINIMUM 1/4" HORIZONTAL.
2. CONDUIT CONTINUE TO/FROM BLOWER SYSTEM MAIN CONTROL PANEL, 'MS-402-02', REFER TO DRAWING NO. 32E29 FOR CONTINUATION AND ADDITIONAL INFORMATION.
3. THE PROPOSED INSTRUMENT IS EQUIPPED WITH CONDUIT ENTRY POINTS FOR THE CONDUIT ENTRY POINTS. THE CONDUIT ENTRY POINTS SHALL BE THE CASE FINISH AND INSTALL A CONDUIT REDUCER, PER CONTRACT SPECIFICATIONS, AT THE POINT WHERE THE CONDUIT ENDS/STARTS. TRANSMITTER, CLOSELY AND CAREFULLY COORDINATE WITH THE SIZE AND REVISIONS OF THE VENDOR PROVIDED ORDER.
4. REFER TO PLANS ON DRAWING NO. 32E29 AND 32E43 FOR LOCATING TRANSMITTER AT ELEVATION OF 6'-0" MAXIMUM HEIGHT TRANSMITTER ENCLOSURE.
5. CONDUIT CONTINUES TO/FROM BLOWER SYSTEM THERMAL MASS FLOWMETER TO BLOWER SYSTEM MAIN CONTROL PANEL, 'MS-402-02', REFER TO DRAWING NO. 32E29 FOR CONTINUATION AND ADDITIONAL INFORMATION.
6. OWNER PRE-PURCHASED EQUIPMENT, REFERENCE LEON CREEK WATER RECYCLING CENTER IMPROVEMENTS PURCHASE OF ABANDON BLOWER, BLOWER AND CHANGELIST COMPONENTS, LOAD DATA, CONDUIT ENTRY LOCATIONS, AND OTHER PERMIT INFORMATION WITH THE OWNER IN PROJECT SUBMITTALS.

GENERAL NOTES:

1. ALL HARDWARE SHALL BE #316 STAINLESS STEEL UNLESS OTHERWISE NOTED ON THIS DRAWING.
2. PROPOSED ITEMS ARE SHOWN IN DASH LINEWORK, EXISTING ITEMS ARE SHOWN IN LIGHT LINEWORK, UNLESS NOTED OTHERWISE.
3. NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE SHOWN. SEE OTHER DRAWINGS FOR ADDITIONAL INFORMATION.
4. EXACT LOCATIONS OF MECHANICAL/STRUCTURAL/CIVIL COMPONENTS STRUCTURAL/CIVIL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL/STRUCTURAL/CIVIL ITEMS.

REFERENCE DRAWINGS:

- 32E29 AND 32E43 - ELECTRICAL AND I&O PLANS
- 32E29 - INSTRUMENT WIRING SCHEMATIC
- 02E23 - CONDUIT AND WIRE SCHEDULE

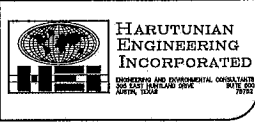
CONTRACT DOCUMENTS DATED JULY 2004 AS PART OF THE LEON CREEK WATER RECYCLING CENTER IMPROVEMENTS PURCHASE OF ABANDON BLOWER, BLOWER AND CHANGELIST COMPONENTS, LOAD DATA, CONDUIT ENTRY LOCATIONS, AND OTHER PERMIT INFORMATION WITH THE OWNER IN PROJECT SUBMITTALS. CONTRACT DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT. CONTRACT DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT. CONTRACT DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT. CONTRACT DOCUMENTS ARE FOR REFERENCE ONLY AND ARE NOT CONTRACT.

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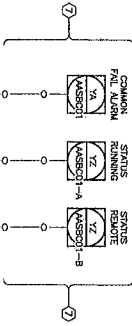


SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION BASIN
THERMAL MASS FLOW INDICATING
TRANSMITTER INSTALLATION DETAIL
Drawing 32E54
Sheet 372 of 472

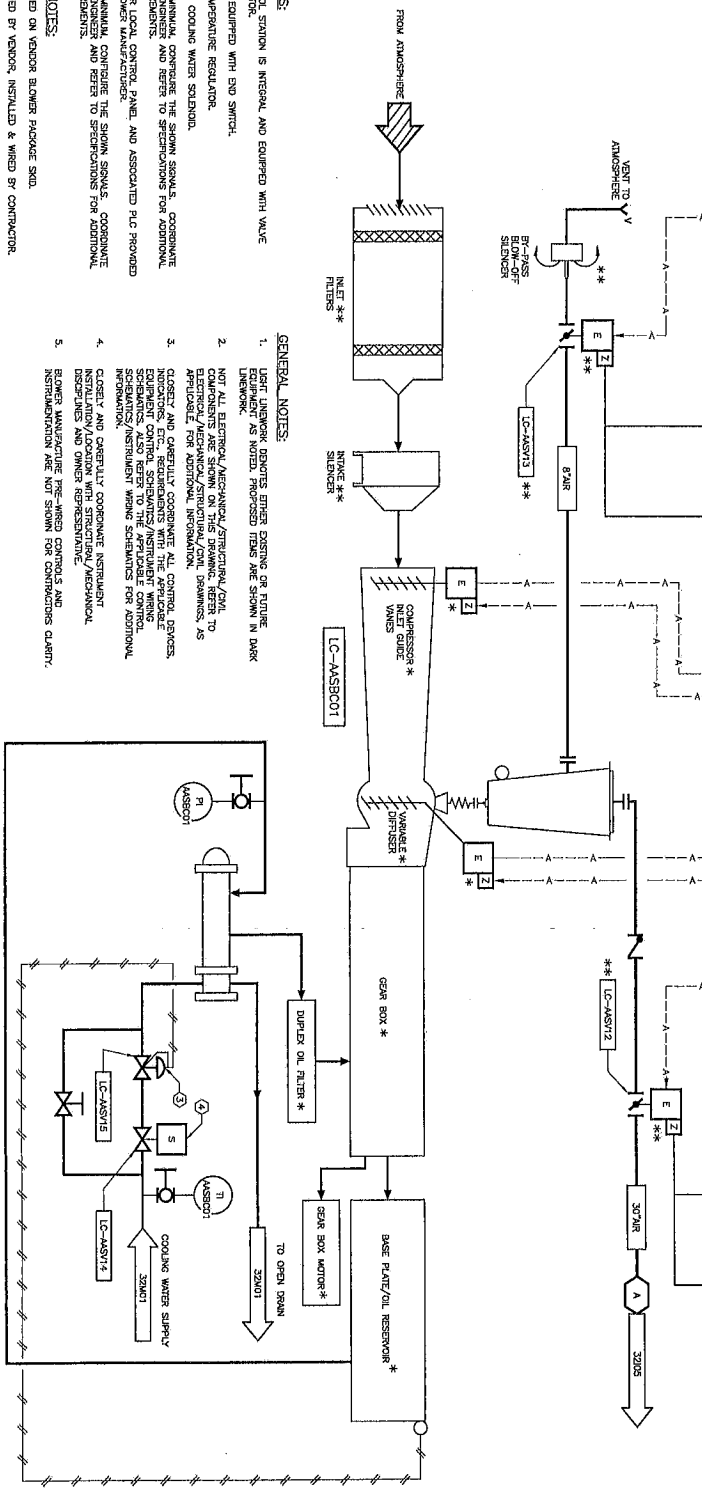
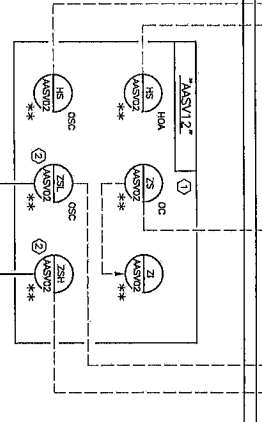
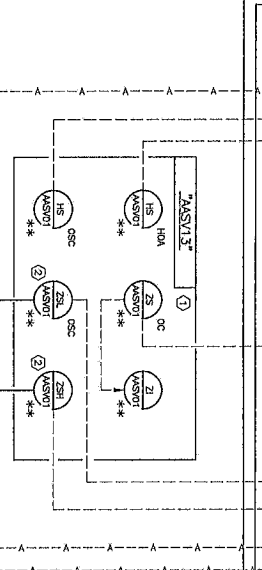


CONTRACT DOCUMENTS, SPECIFICATIONS AND PERMITS AND ALL REVISIONS AND AMENDMENTS ARE HEREBY INCORPORATED INTO THIS DRAWING. THE CONTRACT DOCUMENTS ARE HEREBY REFERRED TO FOR THE PURPOSE OF OBTAINING THE MEANING OF ANY TERM OR PHRASE AND ARE CONSIDERED TO BE PART OF THIS CONTRACT DOCUMENTS AND SHALL GOVERN.

DISTRIBUTED CONTROL SYSTEM



PLC - LOP - DT
BLOWER LOOK CONTROL PANEL (6)



KEY NOTES:

- 1 CONTROL STATION IS INTEGRAL AND EQUIPPED WITH VALVE OPERATOR.
- 2 VALVE EQUIPPED WITH END SWITCH.
- 3 OIL TEMPERATURE REGULATOR.
- 4 SOL - COOLING WATER SOLUTION.
- 5 AS A GENERAL COMPARE THE SIGNAL SIGNALS, COORDINATE REQUIREMENTS.
- 6 BLOWER LOCAL CONTROL PANEL AND ASSOCIATED PLC PROVIDED BY BLOWER MANUFACTURER.
- 7 AS A GENERAL COMPARE THE SIGNAL SIGNALS, COORDINATE REQUIREMENTS, AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

GENERAL NOTES:

1. LIGHT LINEWORK DENOTES EITHER DASHING OR FUTURE LINEWORK AS NOTED THROUGH THIS SHEET AND SHOWN IN DARK LINEWORK.
2. NOT ALL ELECTRICAL/MECHANICAL STRUCTURAL/GENERAL EQUIPMENT IS SHOWN ON THIS DRAWING, REFER TO ELECTRICAL/MECHANICAL/STRUCTURAL/GENERAL EQUIPMENT DRAWINGS ON SEPARATE SHEETS FOR ALL COMPONENTS, INSTRUMENTS, AND INSTRUMENT WIRING SCHEMATICS/INSTRUMENT WIRING SCHEMATICS FOR ADDITIONAL INFORMATION.
3. CHECK ALL COMPONENTS WITH STRUCTURAL/MECHANICAL INSTRUMENTATION AND CHECK WITH STRUCTURAL/MECHANICAL INSTRUMENTATION AND CHECK WITH STRUCTURAL/MECHANICAL INSTRUMENTATION FOR ADDITIONAL INFORMATION.
4. REFER DRAWINGS FROM THE WORKSHEETS AND INSTRUMENTATION ARE NOT SHOWN FOR CONTRACTORS CLARITY.
5. REFER DRAWINGS FROM THE WORKSHEETS AND INSTRUMENTATION ARE NOT SHOWN FOR CONTRACTORS CLARITY.

SYMBOL NOTES:

- * SUPPLIED ON VENDOR BLOWER PACKAGE SKID
- ** SUPPLIED BY VENDOR, INSTALLED & WIRED BY CONTRACTOR.

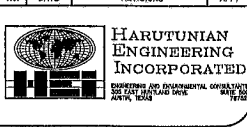
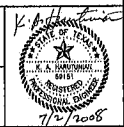


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No.	DATE	REVISIONS	APP.

Sheet 388 of 422
Drawing 32101
Checked by: HRI
Designed by: HRI

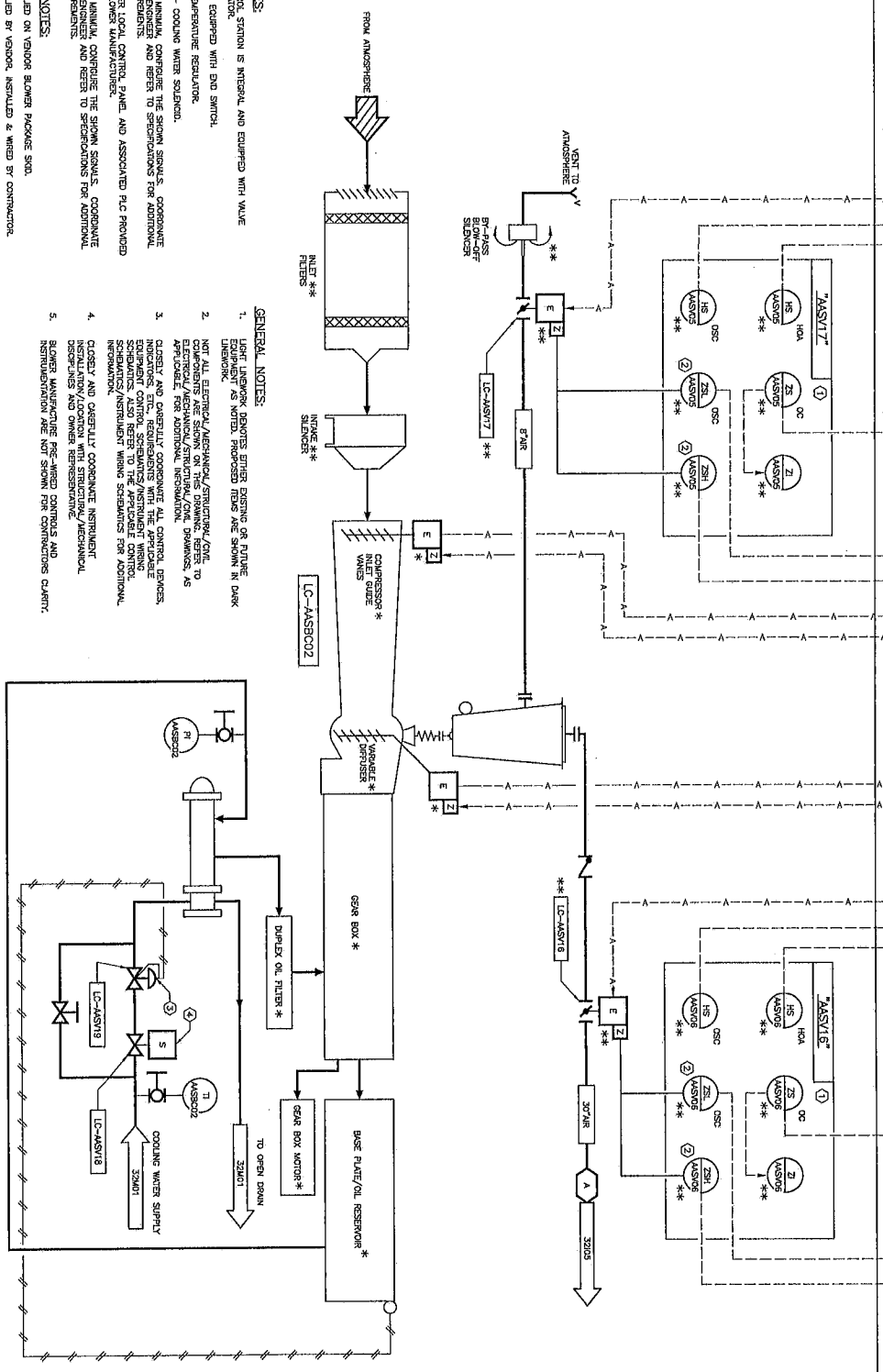
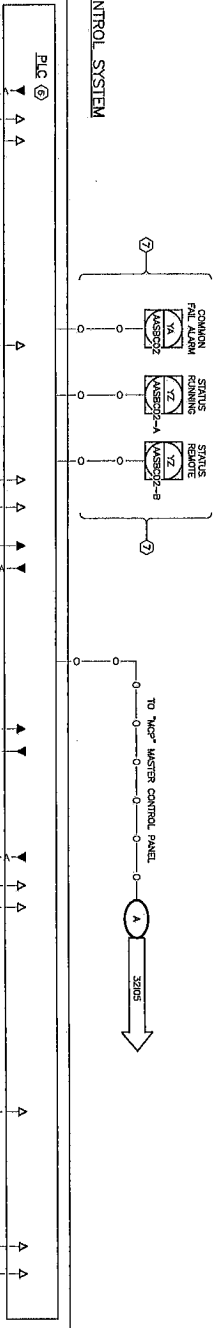
SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION SYSTEM
P&ID (SHEET 1 OF 5)



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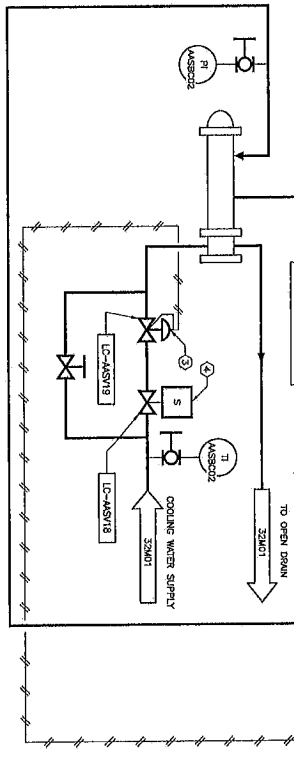
DISTRIBUTED CONTROL SYSTEM

"AS-LOP-02"
BLOWER LOCAL CONTROL PANEL



- KEY NOTES:**
- CONTROL STATION IS MECHANICAL AND EQUIPPED WITH VALVE OPERATOR.
 - VALVE EQUIPPED WITH END SWITCH.
 - TEMPERATURE RESISTOR.
 - COOLING WATER SOLUTION.
 - AS A MINIMUM, COMPARE TO THE SHOWN SIGNALS, COORDINATE REQUIREMENTS.
 - BLOWER LOCAL CONTROL PANEL AND ASSOCIATED PLC PROVIDED BY BLOWER MANUFACTURER.
 - AS A MINIMUM, COMPARE THE SHOWN SIGNALS, COORDINATE WITH SIGNALS AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - AS A MINIMUM, COMPARE THE SHOWN SIGNALS, COORDINATE WITH SIGNALS AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

- GENERAL NOTES:**
- LIGHT LINEWORK DENOTES EITHER EXISTING OR FUTURE EQUIPMENT AS NOTED. PROPOSED ITEMS ARE SHOWN IN DARK LINEWORK.
 - NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/PIPE TO BE SHOWN. REFER TO ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL DRAWINGS, AS APPLICABLE, FOR ADDITIONAL INFORMATION.
 - CHECK AND CORRECTLY COORDINATE ALL CONTROL DEVICES, EQUIPMENT CONTROL SCHEMATIC/MECHANICAL DRAWINGS. ALSO REFER TO THE APPLICABLE CONTROL INSTRUMENT WHEN SCHEMATICS FOR ADDITIONAL INFORMATION.
 - CHECK AND CORRECTLY COORDINATE INSTRUMENT IDENTIFICATION/LOCATION WITH STRUCTURAL/MECHANICAL DRAWINGS AND OWNER REPRESENTATIVE.
 - BLOWER MANUFACTURE PRE-WIRED CONTROLS AND INSTRUMENTATION ARE NOT SHOWN FOR CONTRACTORS QUOTE.



No.	DATE	REVISIONS	APP.

SAWS JOB No. 06-650
LEON CREEK WRC IMPROVEMENTS PROJECT
AERATION SYSTEM P&ID (SHEET 2 OF 5)

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SAN ANTONIO WATER SYSTEM
Engineers...Working Wonders With Water™

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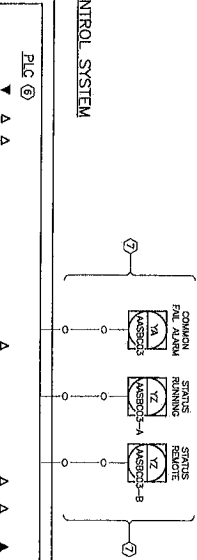
HARUTUNIAN ENGINEERING INCORPORATED
ENGINEERING AND ENVIRONMENTAL CONSULTANTS
10000 N. LOOP WEST, SUITE 1000, DALLAS, TEXAS 75243

Sheet 202 of 272
Drawing 32102
Checked by: [Signature]
Designed by: [Signature]
Date: 11/1/2006

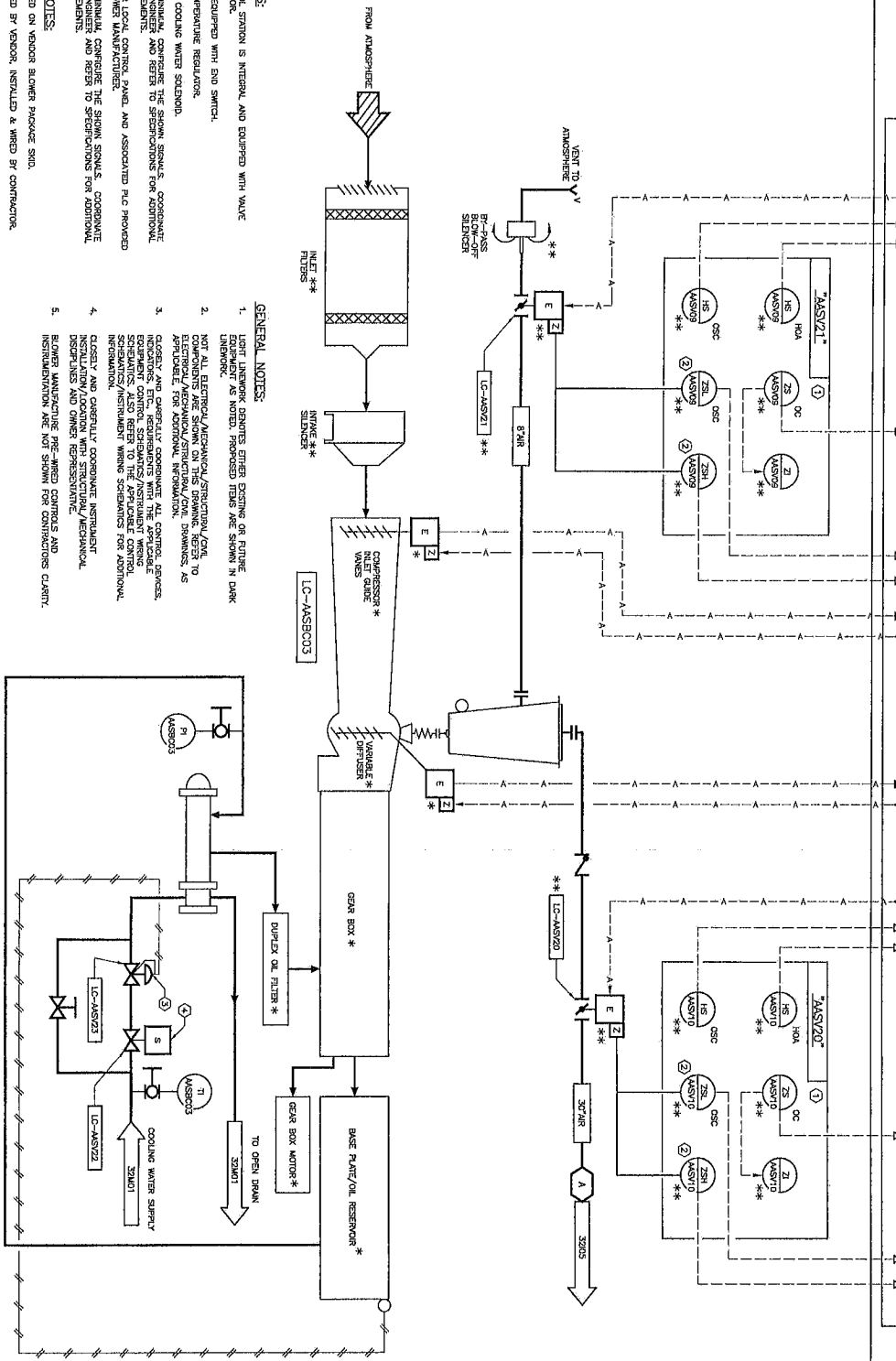
CONTRACT DOCUMENTS DATED JULY 2004 AS PART OF THE BIDDING DOCUMENTS DRAWINGS AND SPECIFICATIONS FOR THE CONSTRUCTION AND INSTALLATION OF THE AERATION SYSTEM AND ADJUSTABLE INLET VALVE ASSEMBLY. THESE DOCUMENTS HAVE BEEN ASSIGNED TO THE CORRESPONDING SET OF DOCUMENTS FOR THE CONSTRUCTION AND INSTALLATION OF THE AERATION SYSTEM AND ADJUSTABLE INLET VALVE ASSEMBLY. CONTRACTORS SHALL REFER TO THE CONTRACT DOCUMENTS FOR THE CONSTRUCTION AND INSTALLATION OF THE AERATION SYSTEM AND ADJUSTABLE INLET VALVE ASSEMBLY. CONTRACT DOCUMENTS ARE FOUND IN THE CONTRACT DOCUMENTS SET OF THE CONTRACT.

DISTRIBUTED CONTROL SYSTEM

"AS-10P-03" MASTER CONTROL PANEL (5)

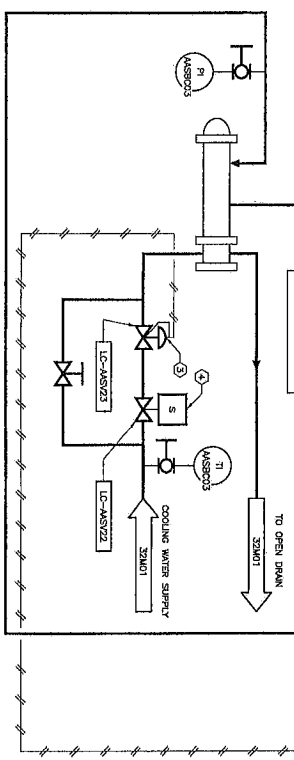


TO "MCP" MASTER CONTROL PANEL (A) 300S



- KEY NOTES:**
- CONTROL STATION IS INTERLU, AND EQUIPPED WITH VALVE MOTOR.
 - VALVE EQUIPPED WITH SOU SWITCH.
 - OIL TEMPERATURE REGULATOR.
 - SOI - COOLING WATER SCHEDULE.
 - AS A MANUAL, COMPARE THE SLOW, SIGNALS, COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - BEFORE LOCAL CONTROL PANEL, AND ASSOCIATED PLC PROVIDED BY ENGINEER.
 - AS A MANUAL, COMPARE THE SLOW, SIGNALS, COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

- GENERAL NOTES:**
- LIGHT DIMMER, DENOTES EITHER EXISTING OR FUTURE DIMMER.
 - NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/CIVIL COMPONENTS ARE SHOWN ON THIS DRAWING, REFER TO APPROPRIATE DRAWINGS FOR ADDITIONAL INFORMATION.
 - CLOSELY AND CAREFULLY COMPARE ALL CONTROL PANELS, INDICATORS, ETC., REQUIREMENTS WITH THE APPLICABLE SCHEMATIC/INSTRUMENT WIRING SCHEMATICS/INSTRUMENT WIRING SCHEMATICS FOR ADDITIONAL INFORMATION.
 - CLOSELY AND CAREFULLY COMPARE INSTRUMENT DISCIPLINES AND OWNER REQUIREMENTS FOR ADDITIONAL INFORMATION.
 - OWNER MANUFACTURE PRE-ASSEMBLED CONTROLS AND INSTRUMENTATION ARE NOT SHOWN FOR CONTRACTORS CLARITY.



SYMBOL NOTES:

- * SUPPLIED BY VENDOR, INSTALLED & WIRED BY CONTRACTOR.
- ** SUPPLIED BY VENDOR, INSTALLED & WIRED BY CONTRACTOR.

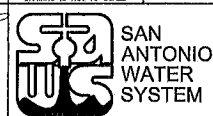
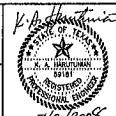
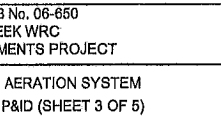
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No.	DATE	REVISIONS	APP.

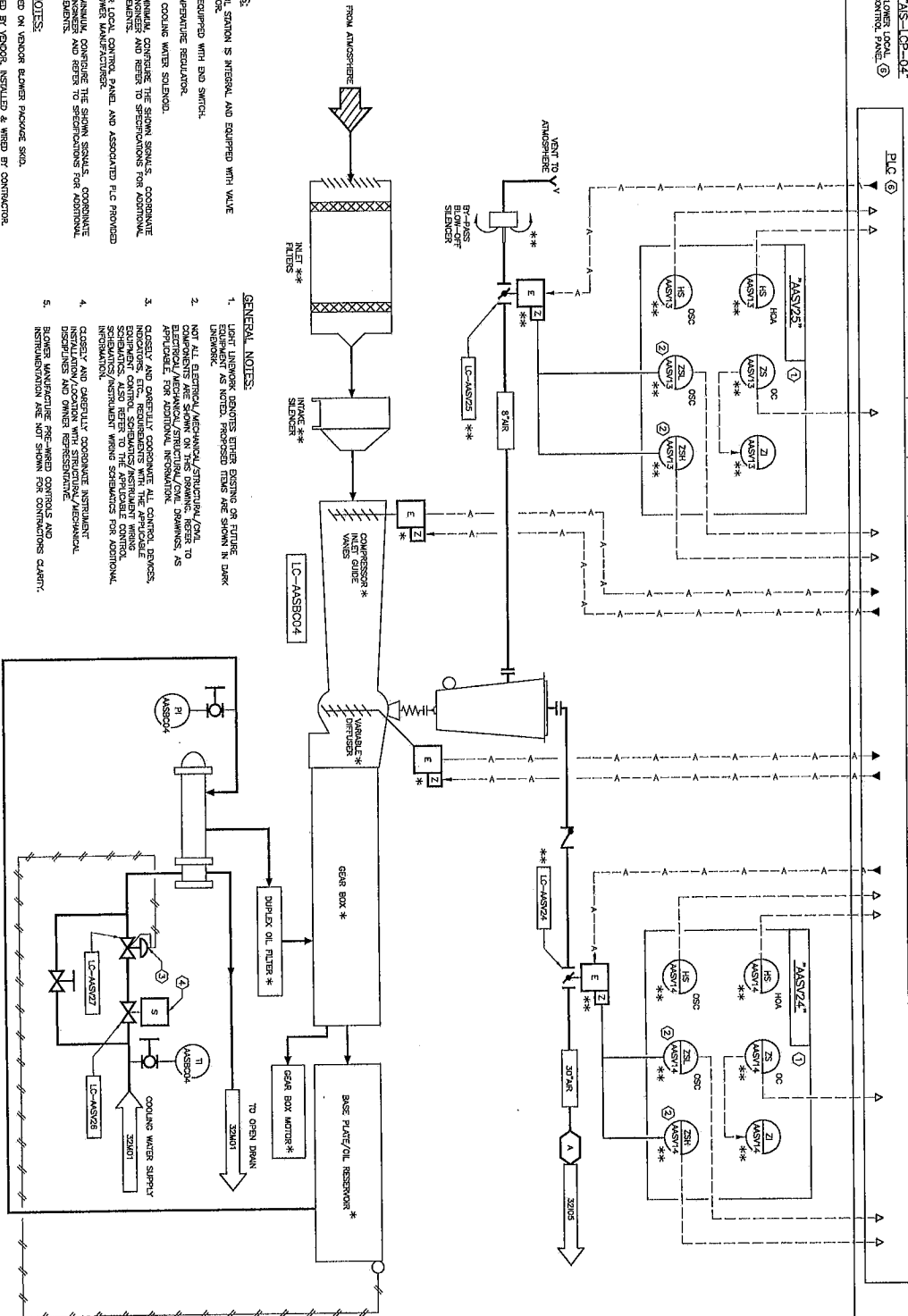
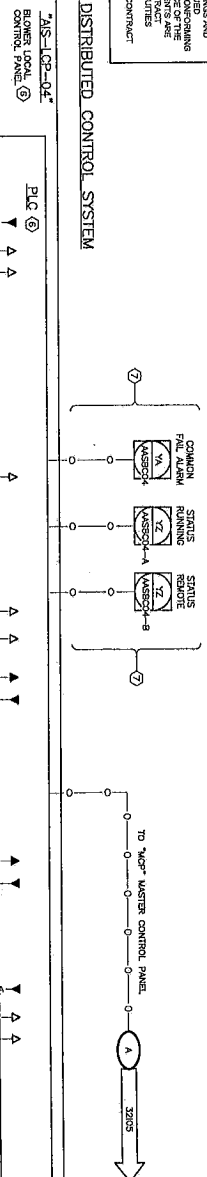
SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION SYSTEM
P&ID (SHEET 3 OF 5)

Checked by: LEB
Designed by: LEB
Drawing No.: 32103
Sheet: 380 of 422



CONTRACT DOCUMENTS DATED 03/18/06 AS SUPPLEMENTED BY ADDENDUM NO. 1 AND ADDENDUM NO. 2, AND THE SPECIFICATIONS AND ASSOCIATED GENERAL NOTES TO THE CONTRACT DOCUMENTS SHALL BE A PART OF THE CONTRACT. THE CONTRACT DOCUMENTS ARE DRAWINGS, IF INCONSISTENCIES OR AMBIGUITIES BETWEEN CONTRACT DOCUMENTS AND SUPPLEMENTARY DOCUMENTS SHALL GOVERN.

DISTRIBUTED CONTROL SYSTEM



KEY NOTES:

- 1 CONTROL STATION IS INTERNAL AND EQUIPPED WITH VALVE POSITIONER.
- 2 VALVE EQUIPPED WITH BID SWITCH.
- 3 OIL TEMPERATURE REGULATOR.
- 4 SOL - COOLING WATER SIGNAL.
- 5 AS A MINIMUM, COMPARE THE SHOWN SIGNALS, COORDINATE WITH ENGINEER AND REFER TO SPECIFICATIONS FOR ADDITIONAL SCHEDULES/INSTRUMENT WIRING SCHEMATICS FOR ADDITIONAL INFORMATION.
- 6 CLOSETLY AND CAREFULLY COMPARE INSTRUMENT DISCIPLINES AND OWNER REPRESENTATIVE INFORMATION.
- 7 BLOWER MANUFACTURER'S PRE-WIRED CONTROLS AND INSTRUMENTATION ARE NOT SHOWN FOR CONTRACTOR'S CLARITY.

SYMBOL NOTES:
* SUPPLIED ON VENDOR BLOWER PACKAGE SKID.
** SUPPLIED BY VENDOR, INSTALLED & WIRED BY CONTRACTOR.

GENERAL NOTES:

1. LIGHT LAMPWORK DENOTES EITHER EXISTING OR FUTURE EQUIPMENT AS NOTED. PROPOSED ITEMS ARE SHOWN IN DARK UNDERLINE.
2. NOT ALL ELECTRICAL/Mechanical/STRUCTURE/Civil TO BE SHOWN IN THIS P&ID DRAWING AS APPLICABLE FOR ADDITIONAL INFORMATION.
3. CLOSELY AND CAREFULLY COMPARE ALL CONTROL DEVICES, INSTRUMENTS, ETC., REQUIREMENTS WITH THE APPLICABLE SCHEDULES/INSTRUMENT WIRING SCHEMATICS FOR ADDITIONAL INFORMATION.
4. CLOSETLY AND CAREFULLY COMPARE INSTRUMENT DISCIPLINES AND OWNER REPRESENTATIVE INFORMATION.
5. BLOWER MANUFACTURER'S PRE-WIRED CONTROLS AND INSTRUMENTATION ARE NOT SHOWN FOR CONTRACTOR'S CLARITY.

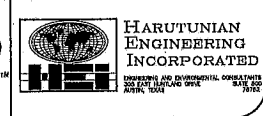
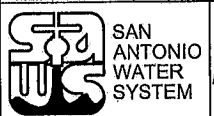
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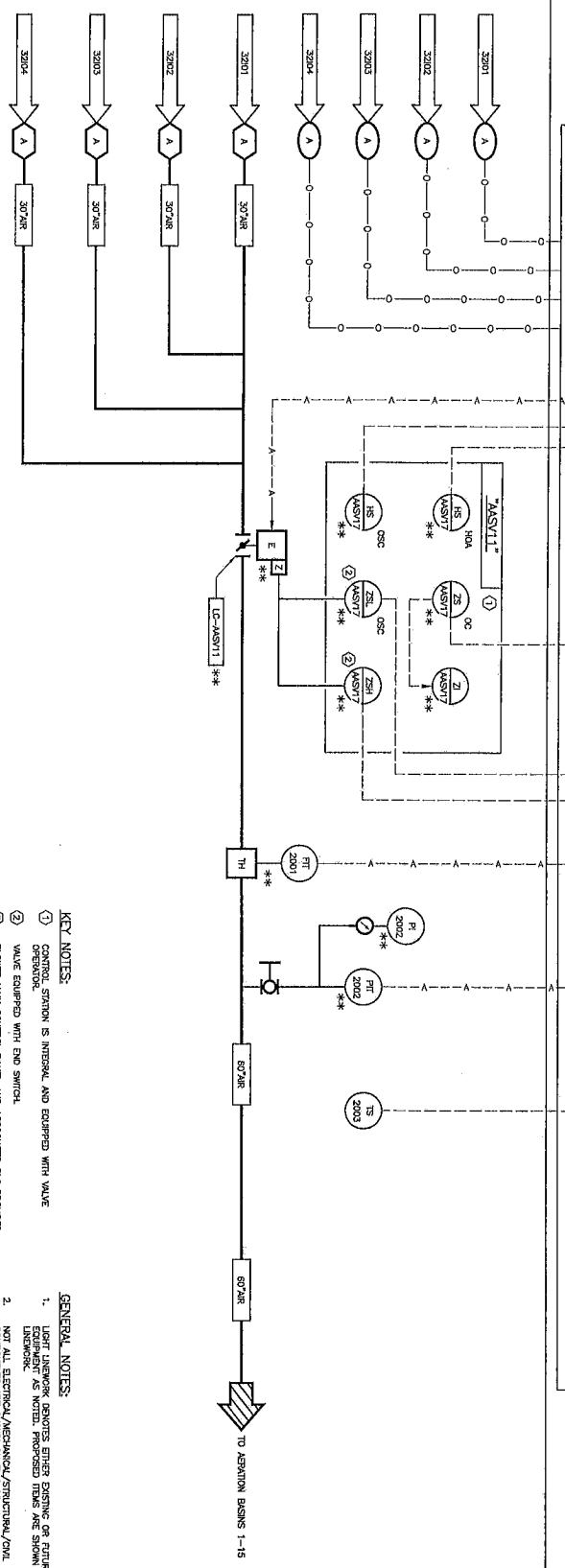
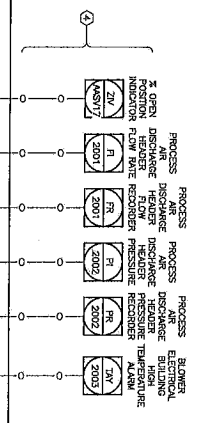
SAWS JOB No. 06-660
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION SYSTEM
P&ID (SHEET 4 OF 5)

32104
Sheet 381 of 472



DISTRIBUTED CONTROL SYSTEM

PLC ③
BLOWER MASTER CONTROL PANEL ③



CONTRACT DOCUMENTS SHALL BE KEPT AS PART OF THE BIDDING DOCUMENTS (PERMITS AND SPECIFICATIONS) AND SUBSEQUENTLY REPRODUCED AND MAINTAINED AS PART OF THE RECORD SET OF DOCUMENTS FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE DRAWINGS. IF INCONSISTENCIES OR AMBIGUITIES ARE FOUND IN THE CONTRACT DOCUMENTS, THE CONTRACT DOCUMENTS SHALL GOVERN.

- KEY NOTES:**
- ① CONTROL STATION IS INTEGRAL AND EQUIPPED WITH VALVE OPERATOR.
 - ② VALVE EQUIPPED WITH END SWITCH.
 - ③ EQUIPMENT CONTROL PANEL AND ASSOCIATED PLC PROVIDED AS A UNITARY PACKAGE. COMPARE THE SHOW GROUP REQUIREMENTS WITH BIDDING AND REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- STANDARD NOTES:**
- * SUPPLIED BY VENDOR, INSTALLED & WIRED BY CONTRACTOR.

- GENERAL NOTES:**
1. LIGHT LAMPWORK DEPICTS EITHER EXISTING OR CHANGE EQUIPMENT AS NOTED. PROPOSED ITEMS ARE SHOWN IN DARK LAMPWORK.
 2. NOT ALL ELECTRICAL/MECHANICAL/STRUCTURAL/PILE COMPONENTS ARE SHOWN ON THIS DRAWING. REFER TO APPLICABLE CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
 3. CLARIFY AND ORIENTATIVE COMPONENT ALL CONTROL DEVICES, INDICATORS, ETC. REQUIREMENTS WITH THE APPLICABLE SCHEMATICS/INSTRUMENT WIRING SCHEMATICS FOR ADDITIONAL INFORMATION.
 4. CLOSELY AND CAREFULLY COMPARE INSTRUMENT SYMBOLS AND MANUFACTURE REFERENCE NUMBERS AND DISCREPANCIES AND OWNER REPRESENTATIVE INTERVIEW/INVESTIGATION ARE NOT SHOWN FOR CONTRACTORS CLARITY.

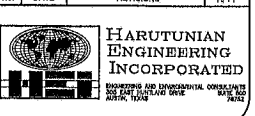
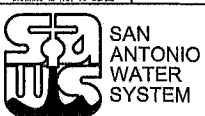
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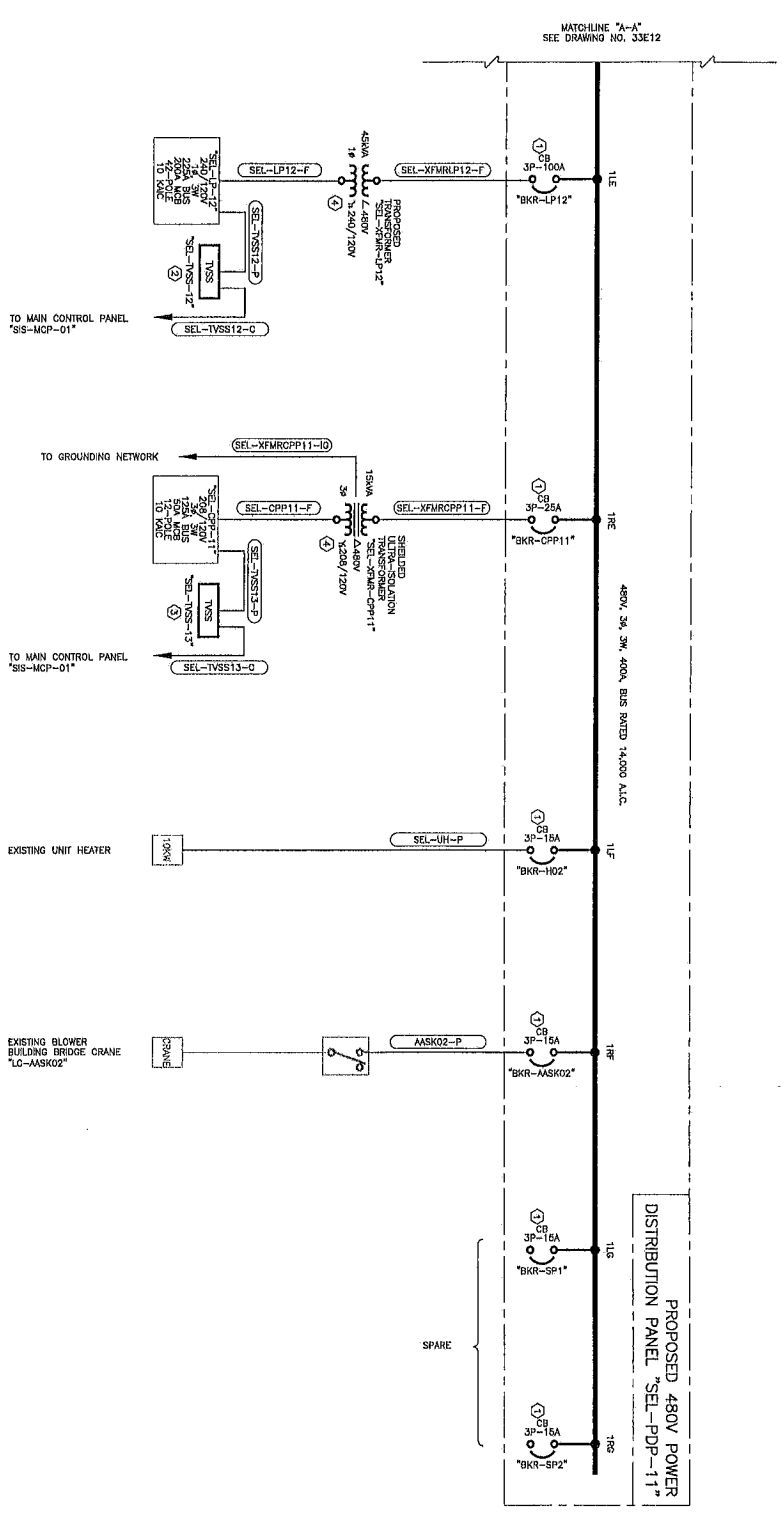
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No.	DATE	REVISIONS	APP.

SAWS JOB No. 06-850
LEON CREEK WRC
IMPROVEMENTS PROJECT
AERATION SYSTEM
P&ID (SHEET 5 OF 5)

Drawn by: HED
Checked by: HED
Contract No.: 06-850
Drawing No.: 32105
Sheet 5 of 5





KEY NOTES:

1. CIRCUIT BREAKER SHALL BE FINISHED AND INSTALLED WITH MECHANICAL LOCKOUT MECHANISM PER SPECIFICATIONS.
2. FINISH TRANSIENT VOLTAGE SUPPRESSOR (TVSS) WITH A MINIMUM PEAK SURGE CURRENT RATING OF 100KA PER PHASE. TECHNOLOGY, INC. APPROX-1701-30 OR APPROVED EQUAL. ENCLOSED TVSS SHALL BE INSTALLED IN THE BUS AND THE TVSS IN COMPLIANCE WITH SPECIFICATION SECTIONS 0782 THROUGH 0785. THE TVSS SHALL BE INSTALLED IN COMPLIANCE WITH SPECIFICATION SECTIONS 0782 THROUGH 0785. THE TVSS SHALL BE INSTALLED IN COMPLIANCE WITH SPECIFICATION SECTIONS 0782 THROUGH 0785. THE TVSS SHALL BE INSTALLED IN COMPLIANCE WITH SPECIFICATION SECTIONS 0782 THROUGH 0785.
3. FINISH TRANSIENT VOLTAGE SUPPRESSOR (TVSS) WITH A MINIMUM PEAK SURGE CURRENT RATING OF 100KA PER PHASE. TECHNOLOGY, INC. APPROX-1701-30 OR APPROVED EQUAL. ENCLOSED TVSS SHALL BE INSTALLED IN THE BUS AND THE TVSS IN COMPLIANCE WITH SPECIFICATION SECTIONS 0782 THROUGH 0785. THE TVSS SHALL BE INSTALLED IN COMPLIANCE WITH SPECIFICATION SECTIONS 0782 THROUGH 0785. THE TVSS SHALL BE INSTALLED IN COMPLIANCE WITH SPECIFICATION SECTIONS 0782 THROUGH 0785.

GENERAL NOTES:

1. ALL ITEMS DEPICTED ON THIS DRAWING ARE PROPOSED. SHOULD A POWER OUTAGE TO A FACILITY BE REQUIRED, THE CONTRACTOR SHALL REQUEST SUCH AN OUTAGE IN WRITING. THE REQUEST SHALL IDENTIFY THE DESIRED DATE, LOCATION, AND PURPOSE OF THE REQUESTED OUTAGE. UNLESS OTHERWISE SPECIFIED, THE REQUESTED OUTAGE SHALL BE FOR THE MINIMUM PERIOD OF TIME REQUIRED TO COMPLETE THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
2. THE ACTUAL REQUIRED SIZE OF THE CONDUIT ENTRANCE AREAS AND SIZE OF THE EQUIPMENT CONDUIT ENTRANCE KEYS SHALL BE DETERMINED BY THE CONTRACTOR AND SHALL BE COMPATIBLE WITH THE PLANS OF THE ELECTRICAL BIDDING.

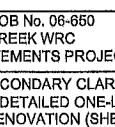
REFERENCE DRAWINGS:

33E14 - FRONT ELEVATION
00223 - 00229 - CONDUIT AND WIRE SCHEDULE

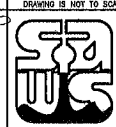
CONTRACT DOCUMENTS DATED JULY 2006, AS PART OF THE BIDDING DOCUMENTS (DRAWINGS AND SPECIFICATIONS) FOR THE SECONDARY CLARIFIER AREA IMPROVEMENTS PROJECT. ANY ADDENDUMS HAVE BEEN MERGED INTO ONE DOCUMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

SAWS JOB No. 06-650
LEON CREEK WRC
IMPROVEMENTS PROJECT
SECONDARY CLARIFIER AREA
480V DETAILED ONE-LINE DIAGRAM
RENOVATION (SHEET 2 OF 2)

Drawn by: HEB
Checked by: HEB
33E13
Sheet 412 of 472



SAN ANTONIO WATER SYSTEM

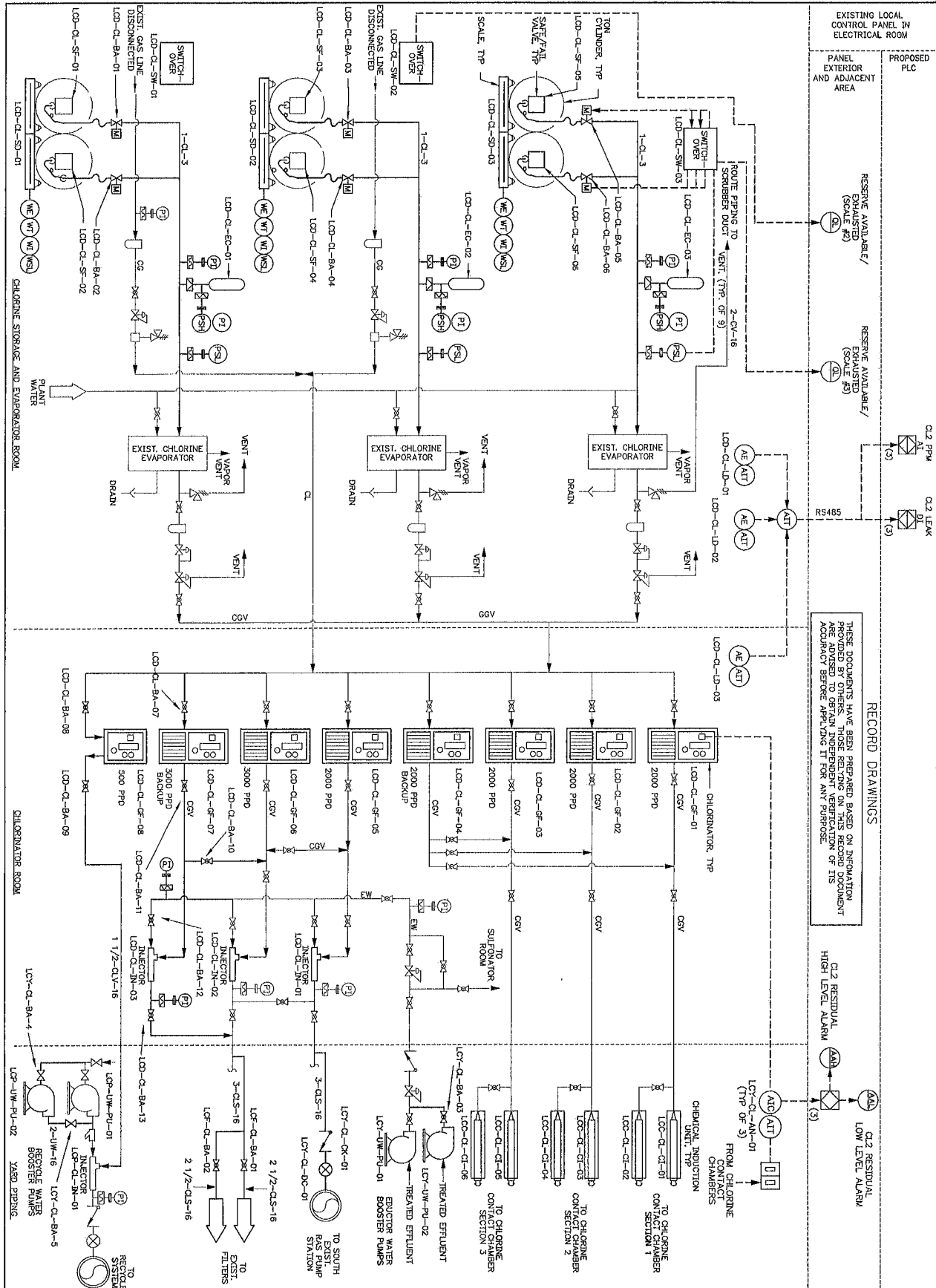


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10000 W. LOOP WEST, SUITE 1000
DALLAS, TEXAS 75243

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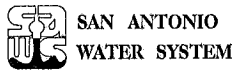
No.	DATE	REVISIONS	APP.



WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE

LEON CREEK WATER RECYCLING CENTER
PROCESS MECHANICAL DIAGRAM-
CHLORINE SYSTEM

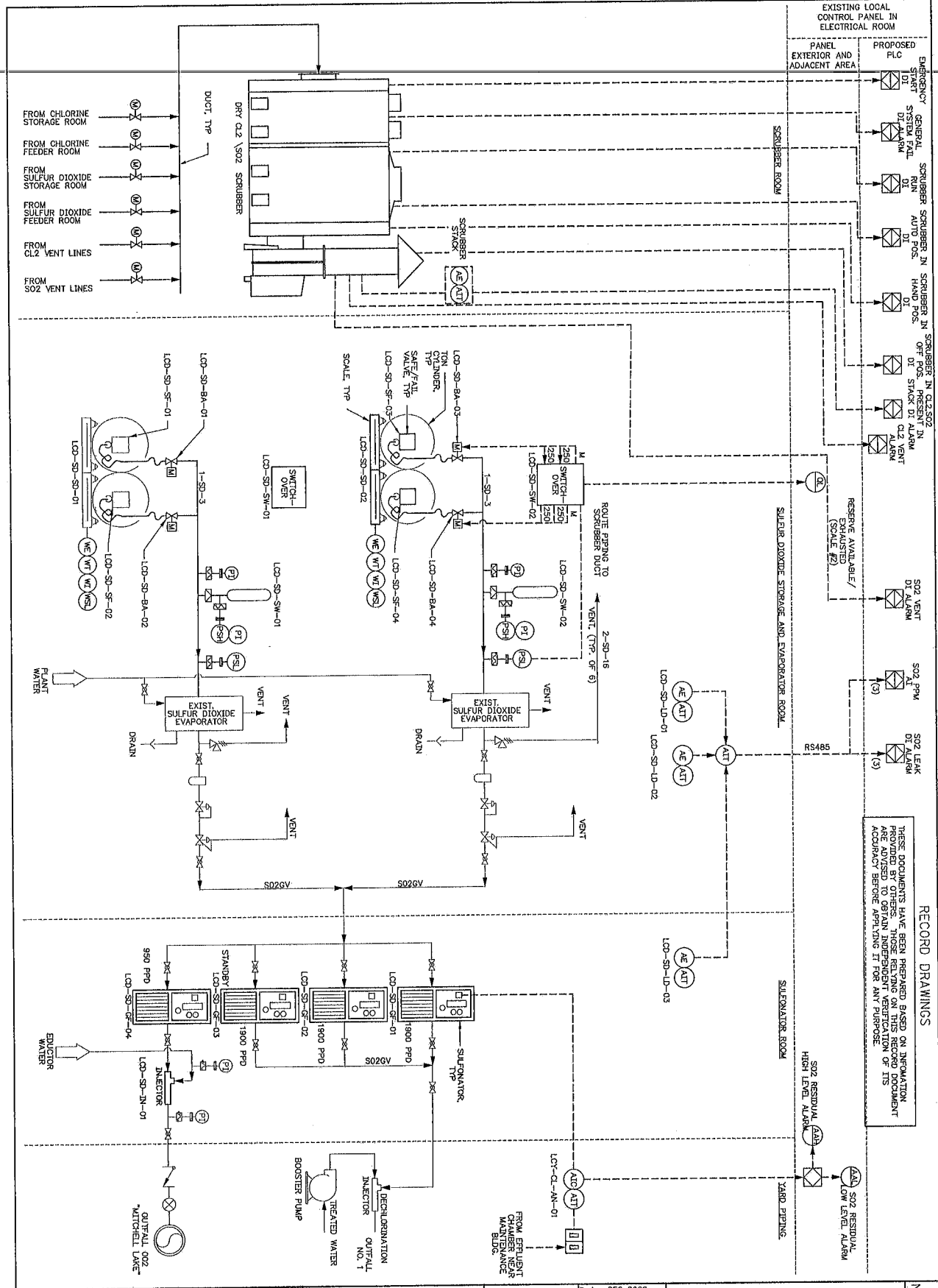
DWG. NO. LC-M-1
77 OF 83



DATE: DEC. 2009
DESIGN BY: AJP
DRAWN BY: MSM
CHECKED BY: MTV
SCALE: NTS

CP&Y
Chiang, Patel & Yerby, Inc.

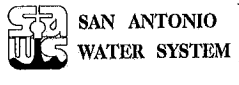
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No. 06-6503



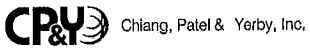
DWG. NO.
LC-M-2
78 OF 123

WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE

LEON CREEK WATER RECYCLING CENTER
PROCESS MECHANICAL DIAGRAM
SULFUR DIOXIDE SYSTEM



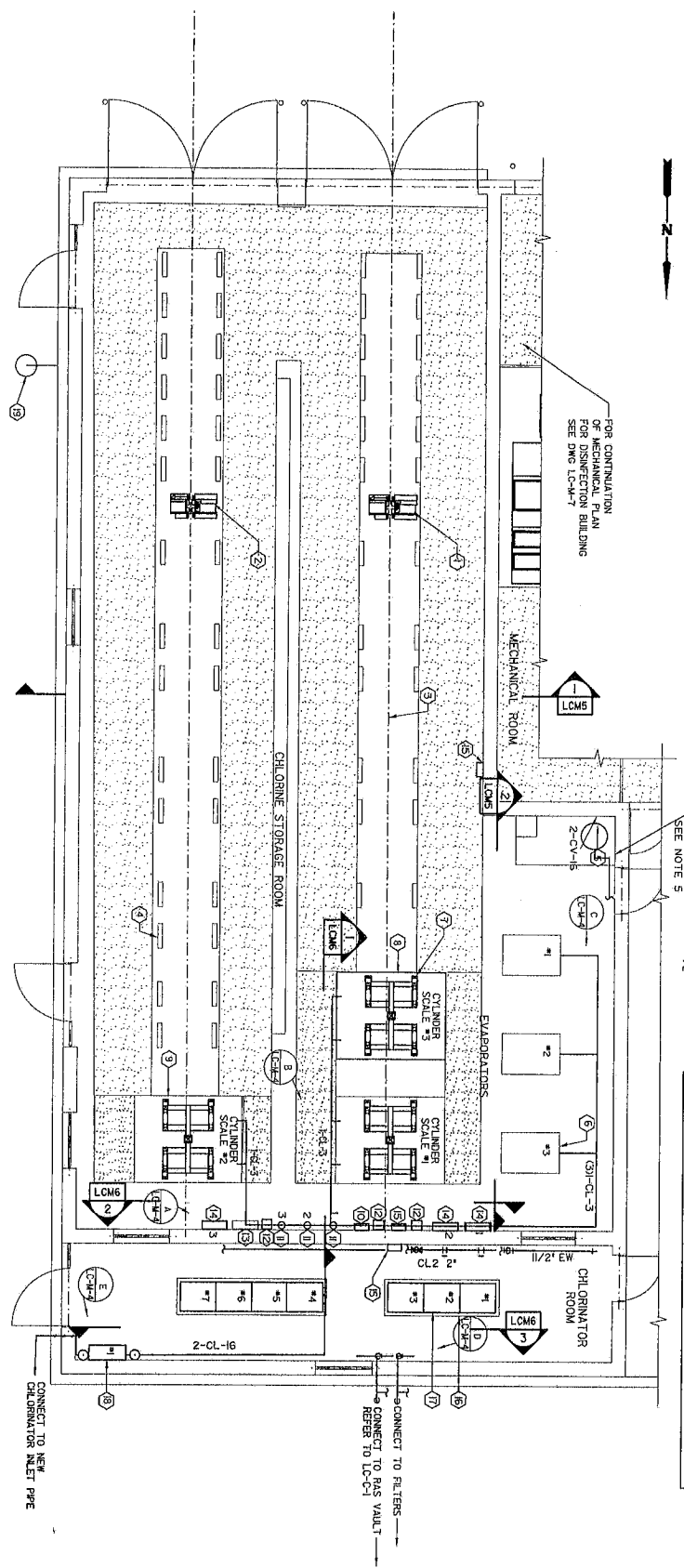
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Design by: AJP
Drawn by: MSM
Checked by: MTY
Scale: NO SCALE
HORIZONTAL
VERTICAL:



SAWS JOB
No. 06-6503

RECORD DRAWINGS

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MECHANICAL PLAN
CHLORINE STORAGE AND FEEDER ROOMS

SCALE IN FEET
0 4 8

NOTES BY SYMBOL	CONTINUED
1 LCP-CL-MC-02	11 EXPANSION CHAMBER, LCP-CL-EC-XX, TYP
2 LCP-CL-MC-01	12 ELECTRONIC CHLOROSCALE, TYP 3
3 L EXIST. MONORAIL BEAM, TYP	13 EXIST. ROBO CONTROL
4 EXIST. TRUSSING, TYP	14 SWITCHOVER, LCP-CL-SW-XX, TYP 3
5 2-CV-16 & 1/2-CV-16, ROUTE TO SCRUBBER DUCT	15 LCP-CL-LD-01, 02, 03
6 EXIST. EVAPORATOR, TYP	16 EXIST. CONCRETE HOUSEKEEPING PAD, TYP
7 DUAL TITON CYLINDER SCALE, LCP-CL-SC-XX, TYP	17 FLOOR MOUNTED CHLORINATOR, LCP-CL-FC-XX, TYP
8 ELEVATED CONCRETE PAD	18 WALL MOUNTED CHLORINATOR, LCP-CL-FC-XX, TYP
9 EXIST. ELEVATED CONCRETE PAD, TYP	19 ETWASH STATION, LCP-CS-ES-01
10 EXF CHAMBER CONTROL BOX	

CONTRACTOR TO INSTALL SOD PROOF WALKWAY IN CHLORINE STORAGE ROOM. REFER TO SPECIFICATION 09900.

- NOTES:
1. TAG NUMBER 'XXX' DESIGNATION INDICATES SEQUENTIAL EQUIPMENT NUMBER. REFER TO PWD ON SHEET LC-M-1 FOR ACTUAL NUMBERS.
 2. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK AROUND THE ACTIVE CHLORINE AND SULFUR DIOXIDE FEED SYSTEMS. EXISTING EQUIPMENT AND ASSOCIATED PIPING WITHIN PROXIMITY OF PIPING AREA CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS FROM TV CAMS/SCHEMATIC OF WORK.
 3. CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN OPERATION OF GENERAL FEED SYSTEMS THROUGHOUT DURATION OF CONSTRUCTION. EMERGENCY RESPONSE PROCEDURES FOR CONSTRUCTION CONSTRAINTS AND SCHEDULING CHANGES WILL BE PROVIDED.
 4. VENTILATION AND BREATHER SYSTEMS NOT SHOWN FOR CLARITY. CHEMICAL TOOLS INCLUDING BREATHERS SHALL BE PROVIDED BY CONTRACTOR. EXISTING EQUIPMENT AND ASSOCIATED PIPING WITHIN PROXIMITY OF PIPING AREA CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS FROM TV CAMS/SCHEMATIC OF WORK.
 5. CONTRACTOR SHALL LABEL EACH CHLORINE VENT LINES BASED ON SCRUBBER DUCT AT FLOOR INLET AT FLOOR. REMAINING LINES SHALL BE REMOVED AND CAPPED AS NECESSARY.

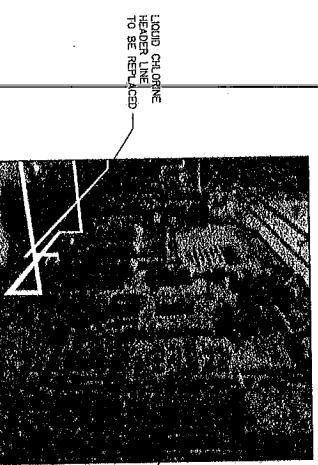


PHOTO 1
NTS
LCM3

LIQUID CHLORINE
HEADER LINE
TO BE REPLACED

SWITCHOVER
BOX TO BE
REPLACED

ROBO-CONTROL
BOX TO BE
EXCHANGED

LIQUID CHLORINE
LINE FROM 1-TON
CYLINDERS TO
BE REPLACED

LIQUID CHLORINE LINE TO BE REPLACED

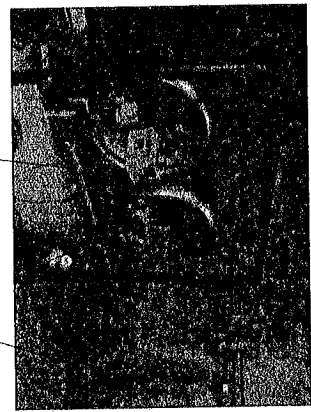
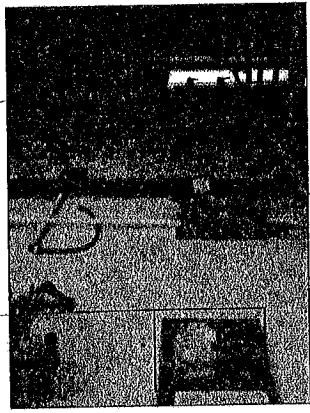


PHOTO 2
NTS
LCM3

HEADER LIQUID LINE TO BE REPLACED

EXIST. CHLORINE GAS LINE
TO BE CONNECTED TO NEW WALL
MOUNTED CHLORINATOR



INSTALL
NEW EJECTOR SYSTEM

INSTALL
NEW WALL MOUNTED
CHLORINATOR
SHALL BE MOUNTED

CHLORINE SOLUTION
LINE TO BE REPLACED
2 1/2" CS-56

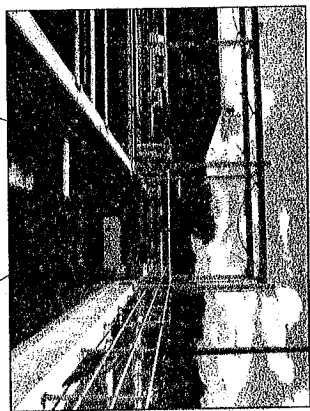


PHOTO 3
NTS
LCM3

PHOTO 4
NTS
LCM3

RECORD DRAWINGS
TYPICAL CHLORINE SOLUTION
LINE TO BE REPLACED

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PROVIDED BY OTHERS. THESE PRESENT AN EVALUATION OF ITS
ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

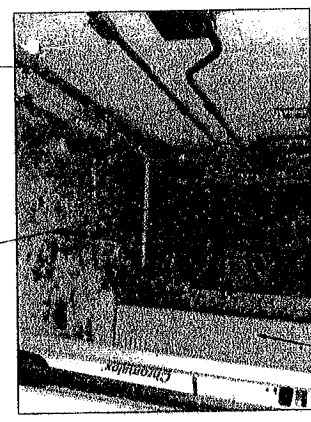


PHOTO 5
NTS
LCM3

NEW LINE TO REMAIN IN PLACE

EXIST. LIQUID CHLORINE
LINES TO BE REPLACED

EVAPORATORS, (TYPE OF 3)

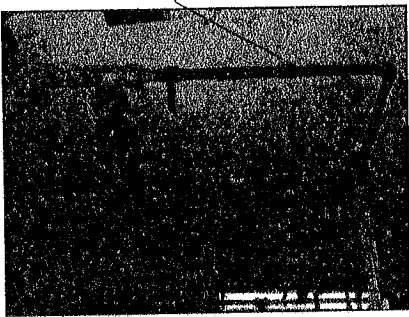
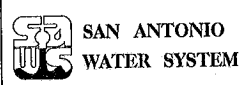


PHOTO 6
NTS
LCM3

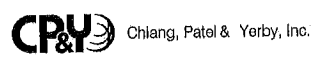
NEW LINE WITH
502 INJECTOR
TO REMAIN IN
PLACE

NEW LINE THAT
LEAKS TO
EJECTOR
TO REMAIN IN PLACE

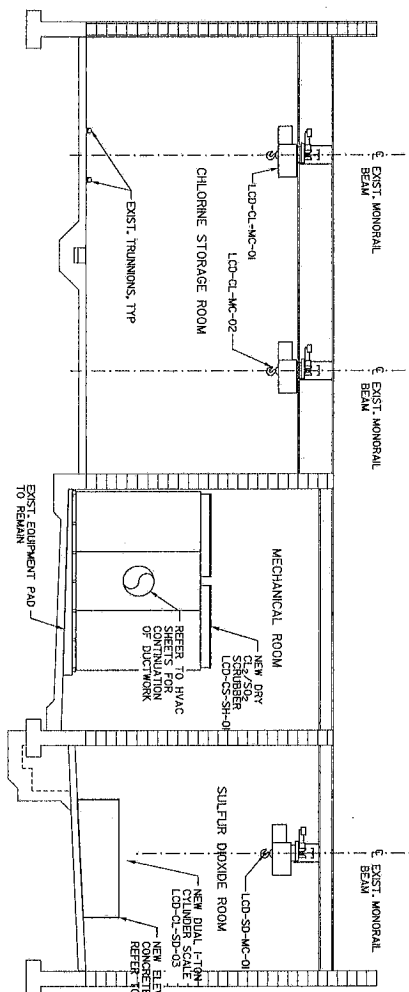
WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE
LEON CREEK WATER RECYCLING CENTER
CHLORINE PHOTO DETAILS



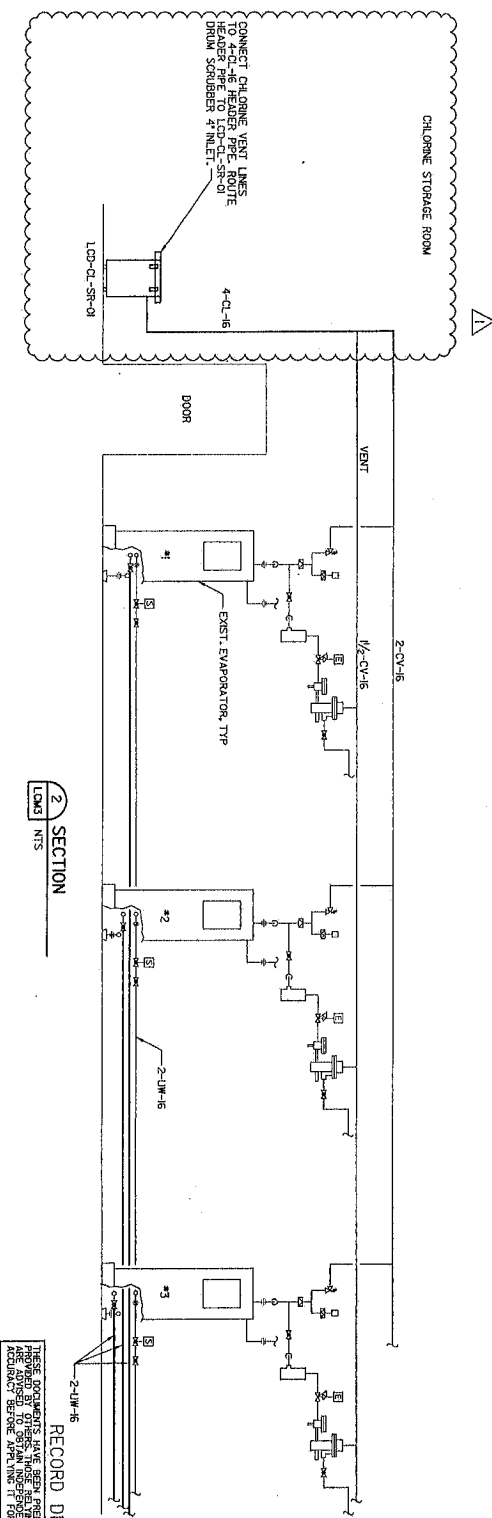
Date: DEC. 2009
Design by: HC
Drawn by: MWH
Checked by: MTV
Scale: AS SHOWN
HORIZONTAL:
VERTICAL:



DWG. NO.
LC-M-4
03 OF 03



SECTION 1
1
1
1
LOCK 1
0 4 8
SCALE IN FEET



SECTION 2
2
3
LOCK 3
NTS

- SHEET NOTES**
1. REFER TO LCM-7 FOR PLAN VIEW.
 2. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK IN MECHANICAL ROOMS. ALL EQUIPMENT SHALL BE PROTECTED FROM DAMAGE. CONTRACTOR SHALL PROVIDE BEANS TO PROTECT ALL EXISTING EQUIPMENT TYPES AND ASSOCIATED PARTS/DRAWINGS WHEN WORKING IN CLOSE PROXIMITY.
 3. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE EXISTING MECHANICAL SYSTEMS. CONTRACTOR SHALL PROVIDE BEANS TO PROTECT ALL EXISTING MECHANICAL SYSTEMS THROUGHOUT DURATION OF CONSTRUCTION. REFER TO MECHANICAL RECORD DRAWINGS FOR DETAILS.
 4. MECHANICAL AND ELECTRICAL SYSTEMS NOT SHOWN FOR THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH ALL CONDITIONS WITH EXTENSIVE EXISTING EQUIPMENT AND ASSOCIATED PARTS/DRAWINGS. CONTRACTOR SHALL PROVIDE BEANS TO PROTECT ALL EXISTING MECHANICAL SYSTEMS THROUGHOUT DURATION OF CONSTRUCTION. REFER TO MECHANICAL RECORD DRAWINGS FOR DETAILS.
 5. CONTRACTOR SHALL LABEL EACH CHLORINE AND SULFUR DIOXIDE VENT LINES ON EVAPORATOR FEEL.
 6. REFER TO SPECIFICATION 4300 FOR DETAIL RELATED TO MONORAIL AND CRANE.
 7. REFER TO GENERAL MECHANICAL DETAILS FOR PIPE SUPPORTS.

RECORD DRAWINGS

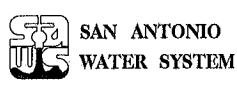
THESE DRAWINGS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY THE CLIENT AND FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL INFORMATION AND PROVIDE BEANS TO PROTECT ALL EXISTING MECHANICAL SYSTEMS THROUGHOUT DURATION OF CONSTRUCTION. REFER TO MECHANICAL RECORD DRAWINGS FOR DETAILS.

DATE	REVISION	BY
08-08-09	REVISED PER REQUEST FOR PROPOSAL #14, CONNECT VENT LINES TO DRY SCRUBBER.	USM

DWG. NO. LCM-5
81 OF 83

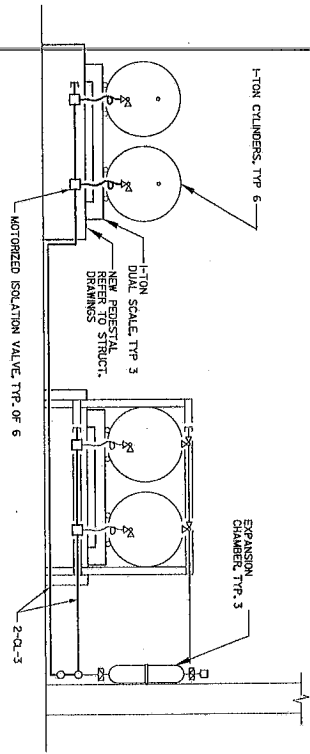
WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE

LEON CREEK WATER RECYCLING CENTER
MECHANICAL SECTIONS - CHLORINE
STORAGE & MECHANICAL ROOMS

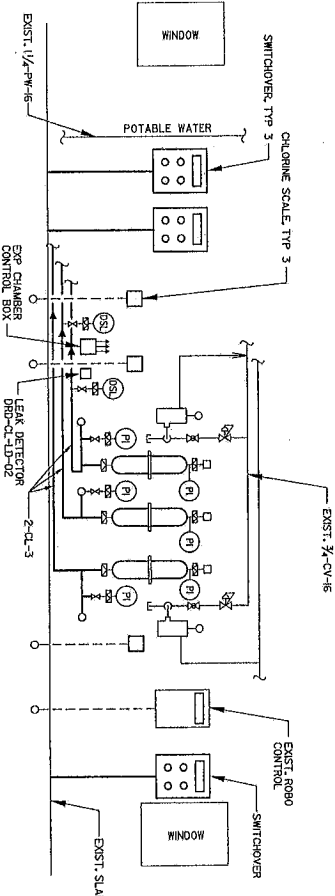


Date: DEC. 2008
Design by: AJP
Drawn by: PEC
Checked by: MTY
Scale: AS SHOWN
HORIZONTAL
VERTICAL

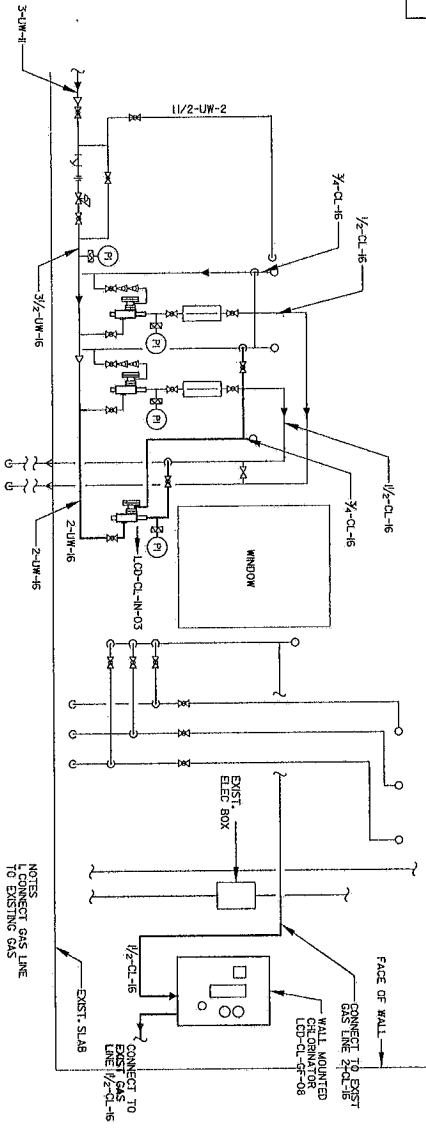




SECTION 1
LONG NTS



SECTION 2
LONG NTS



SECTION 3
LONG NTS

THESE DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS, THOSE RELYING ON THIS RECORD OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

RECORD DRAWINGS

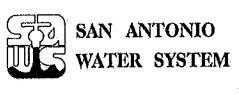
- SHEET NOTES:
1. TAG NUMBERS AND DESIGNATION INDICATES SEQUENTIAL EQUIPMENT NUMBER REFER TO PWD ON SHEET LC-M-6 FOR ACTUAL NUMBERS.
 2. CONTRACTOR SHALL USE BATTERY OPERATED WELDING EQUIPMENT. CONTRACTOR SHALL PROVIDE MEANS TO PROTECT ALL EXISTING WORKMAN CLOSE BY.
 3. CONTRACTOR SHALL COORDINATE WITH OTHERS TO MAINTAIN OPERATION OF ALL EQUIPMENT AND SYSTEMS. REFER TO SPECIFICATION 4300 FOR CONSTRUCTION CONSTRAINTS AND EMERGENCY RESPONSE MEASURES.
 4. MECHANICAL ROOMS INCLUDE TIGHT WORKING CONDITIONS WITH EXTREME WORKING AREA. CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.
 5. REFER TO SPECIFICATION 4300 FOR DETAIL RELATED TO MONORAIL AND CRANE.
 6. REFER TO GENERAL MECHANICAL DETAILS FOR PIPE SUPPORTS.

NOTES
CONNECT GAS LINE
TO EXISTING GAS

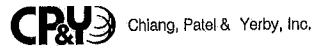
LC-M-6
82 OF 123

WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE

LEON CREEK WATER RECYCLING CENTER
MECHANICAL SECTIONS - CHLORINE
STORAGE & FEEDER ROOMS



Date: DEC, 2009
Design by: AJP
Drawn by: PEC
Checked by: MTV
Scale: N.T.S.
HORIZONTAL: N/A
VERTICAL: N/A

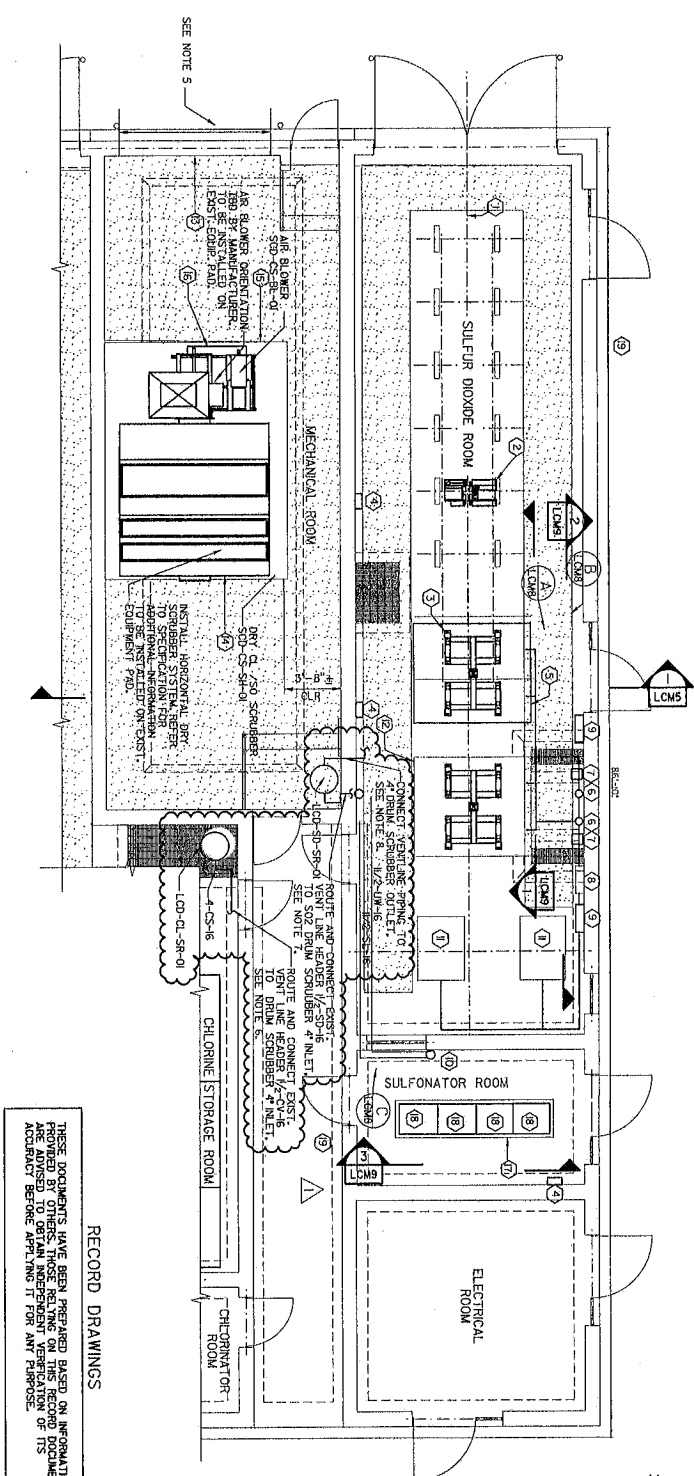


SAWS Job
No. 06-6503

NOTES BY SYMBOL	CONTINUED
1. EXST. MONORIAL BEAM	11. EXST. EVAPORATOR, TYP. OF 2
2. MONORIAL CRANE, LCO-SO-MC-XX	12. EXST. ELEVATED CONCRETE PAD
3. DUAL 1-TON CUMBER SCALE, LCO-SO-SO-XX, TYP.	13. EXST. OVERHEAD ROLLUP DOOR
4. LEAK DETECTOR, LCO-SO-LD-04, 02, 03	14. DRY O ₂ /SO ₂ SCRUBBER, LCO-CS-SH-01
5. ELEVATED CONCRETE PAD	15. EXST. CONCRETE PAD
6. EXPANSION CHAMBER, LCO-SO-EC-XX, TYP. 2	16. AB BLOWER LOCATION TBD BY SYSTEM DESIGN, LCO-CS-BL-01
7. SCALE DISPLAY	17. EXST. CONCRETE HOUSEKEEPING PAD
8. EXST. ROBOCONTROL	18. FLOOR MOUNTED SULFONATOR, LCO-SO-SF-XX, TYP.
9. SWITCHOVER, LCO-SO-SW-XX, TYP. 2	19. EYE WASH SAFETY STATION, LCO-SW-ES-XX
10. INJECTOR, LCO-SO-IN-01	

CONTRACTOR TO REMOVE EXISTING CHEMICAL ROOM AND SEPARATE PAY ITEM, CONTRACTOR TO INSTALL SO2 PROOF WALKWAY IN SULFUR DIOXIDE EXIST. ROOM 300 S.F. REFER TO SPECIFICATION 09900.

MECHANICAL PLAN
SO2 STORAGE & FEEDER AND SCRUBBER ROOMS



RECORD DRAWINGS

THESE DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS; THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED BY OTHERS THAT THE INFORMATION IS NOT GUARANTEED AND ASSOCIATED APPURTENANCES WHEN WORKING IN CLOSE PROXIMITY.

- NOTES:
1. TAG NUMBER 'XX' DESIGNATION INDICATES SEQUENTIAL EQUIPMENT NUMBER, REFER TO PAD ON SHEET LC-M-1 FOR ACTUAL NUMBERS.
 2. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK AROUND THE ACTIVE CHLORINE AND SULFUR DIOXIDE FEED SYSTEMS, EQUIPMENT PIPING, AND ASSOCIATED APPURTENANCES WHEN WORKING IN CLOSE PROXIMITY.
 3. CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN OPERATION OF CHEMICAL FEED SYSTEMS THROUGHOUT DURATION OF CONSTRUCTION, EMERGENCY, RESPONSE MEASURES.
 4. MECHANICAL AND ELECTRICAL SYSTEM NOT SHOWN FOR CLARITY. CHEMICAL ROOMS INCLUDE TRAIL WORKING CONDITIONS WITH PROXIMITY OF PIPING TO CONSIDERATION OF WORK.
 5. CONTRACTOR SHALL COORDINATE WITH SCRUBBER MANUFACTURER. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING CONTRACTOR SHALL NOT CAUSE DAMAGE TO EXISTING STRUCTURE OR DOORS DAMAGE. ANY DAMAGE SHALL BE REPAIRED AT AN ADDITIONAL COST TO THE OWNER.
 6. CONTRACTOR SHALL LABEL EACH CHLORINE VENTLINE PIPING ON EVAPORATOR FEED, DRY O₂/SO₂ SCRUBBER VENT LINE HEADERS TO DRY SCRUBBER INLET, FROM SCRUBBER OUTLET SHOULD BE ORIENTED NEAR THE SCRUBBER DRY INLET.
 7. CONTRACTOR SHALL LABEL EACH SULFUR DIOXIDE VENTLINE BASED ON EVAPORATOR FEED, FROM SCRUBBER OUTLET SHOULD BE ORIENTED NEAR THE SCRUBBER DRY INLET, TO MECHANICAL ROOM, CONNECT 1/2" SO₂ TO DRY SCRUBBER INLET.
 8. CONNECT 2" OUTLET PIPING TO SULFUR DIOXIDE DRY SCRUBBER 4" OUTLET AND ROUTE LINE NEAR DEFENSIVE SCRUBBER DUCT INLET IN SULFUR DIOXIDE STORAGE ROOM, CONTRACTOR TO BROUT SEAL BETWEEN WALL AND PENETRATION.
 9. REFER TO UPDATED SPECIFICATION 12856.

DATE	REVISION	BY
06-00-00	REVISD PER REQUEST FOR PROPOSAL #14, CONNECT VENT LINES TO DRY SCRUBBERS.	MEM

DATE: DEC. 2009
 Design by: AJP
 Drawn by: PEC
 Checked by: MTY
 Scale: AS SHOWN
 HORIZONTAL: AS NOTED
 VERTICAL: AS NOTED

SAWS JOB NO. 06-6503

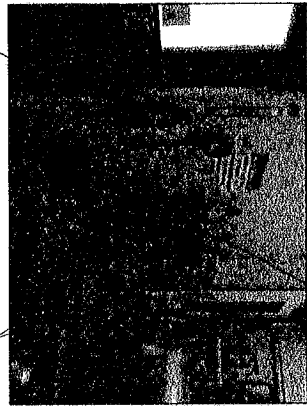
CHANG, PATEL & YERBY, INC.

SAN ANTONIO WATER SYSTEM

WATER RECYCLING CENTERS DISINFECTION SYSTEM EVALUATION AND PERFORMANCE UPGRADE LEON CREEK WATER RECYCLING CENTER

MECHANICAL PLAN - SULFUR DIOXIDE STORAGE, FEEDER AND MECHANICAL ROOMS

DMG. NO. LC-M-7 83 OF 123



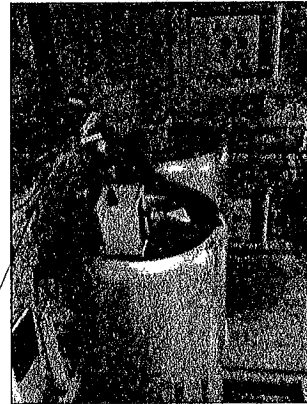
EXP. CHAMBERS TO BE REPLACED

SCALE NEARLY TO BE REPLACED

PHOTO
N.T.S.

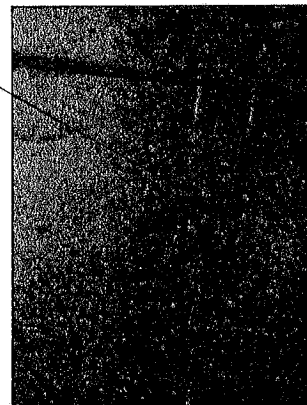


LIQUID LINE TO BE REPLACED



LIQUID LINE TO BE REPLACED

PHOTO
N.T.S.



1/2"-5/8" TO REMAIN IN PLACE

NEW LINE THAT SUPPLIES EJECTOR 1/2"-5/8" TO REMAIN IN PLACE


PHOTO
N.T.S.

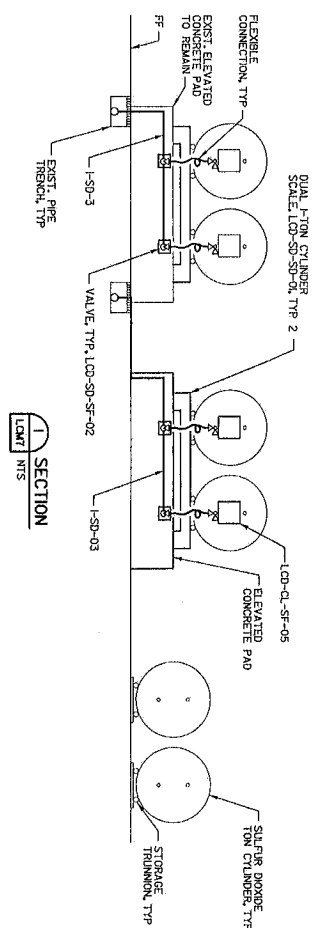


RECORD DRAWINGS

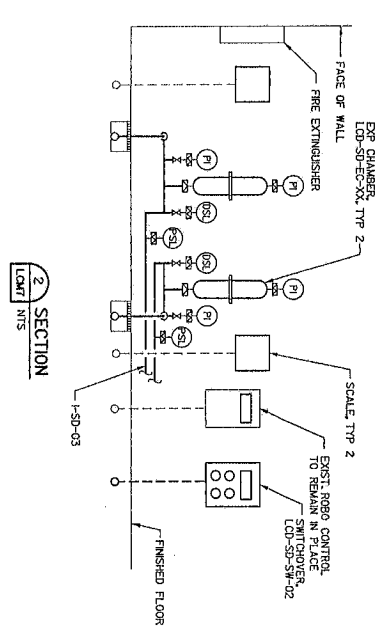
THESE DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS, THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE RELYING ON IT FOR ANY PURPOSES.

- NOTE**
1. CONTRACTOR TO COORDINATE CONNECTIONS AND RE-ROUTING OF NEW LINES WITH OWNER, REFER TO SPEC 0210 FOR SCHEDULING CONSIDERATIONS.
 2. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK AROUND THE ACTIVE CHLORINE AND SULFUR DIOXIDE FEED SYSTEMS, EQUIPMENT, PIPING, AND ASSOCIATED APPURTENANCES WHEN WORKING IN CLOSE PROXIMITY.
 3. CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN OPERATION OF ALL EXISTING SYSTEMS AND EQUIPMENT. CONTRACTOR SHALL REFER TO SPECIFICATION 0100 FOR CONSTRUCTION CONSTRAINTS AND EMERGENCY RESPONSE MEASURES.
 4. MECHANICAL AND ELECTRICAL SYSTEMS NOT SHOWN FOR CLARITY. CHEMICAL ROOMS INCLUDE TIGHT WORKING CONDITIONS WITH EXTENSIVE WORKING AREA. CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

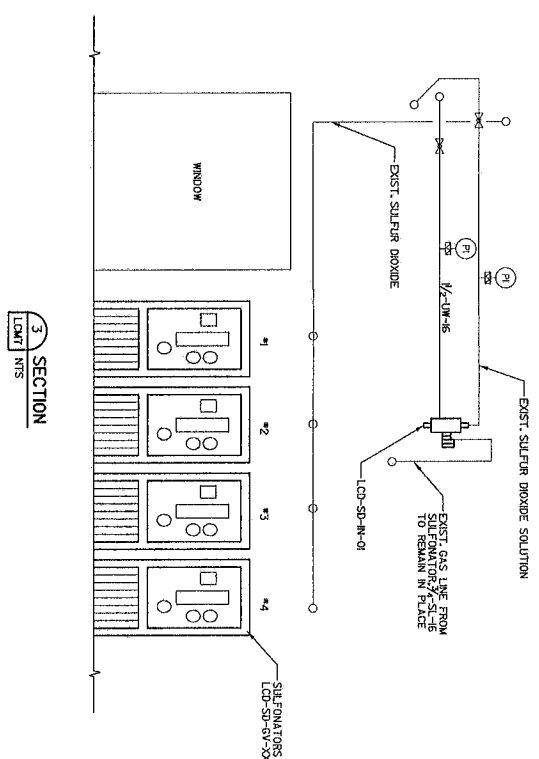
<p>SAWS Job No. 06-6503</p>	<p>CP&Y Chiang, Patel & Yerby, Inc.</p>	<p>Date: DEC. 2009 Design by: HC Drawn by: MWH Checked by: MTY Scale: N.T.S., HORIZONTAL: N/A VERTICAL: N/A</p>	<p>SAN ANTONIO WATER SYSTEM</p> 	<p>WATER RECYCLING CENTERS DISINFECTION SYSTEM EVALUATION AND PERFORMANCE UPGRADE</p> <p>LEON CREEK WATER RECYCLING CENTER SULFUR DIOXIDE PHOTO DETAILS</p> <p>DWG. NO. LC-M-8 84 OF 123</p>
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1 SECTION
LIMIT NTS



2 SECTION
LIMIT NTS

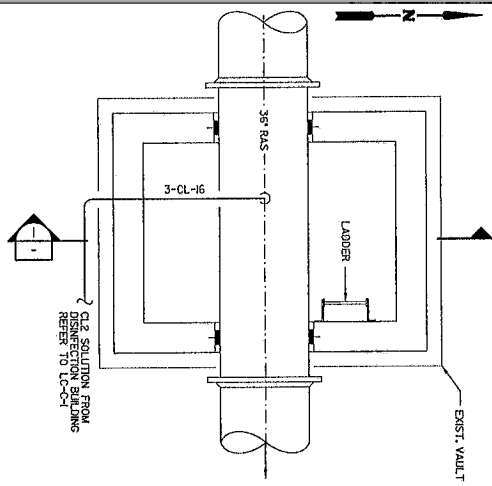


3 SECTION
LIMIT NTS

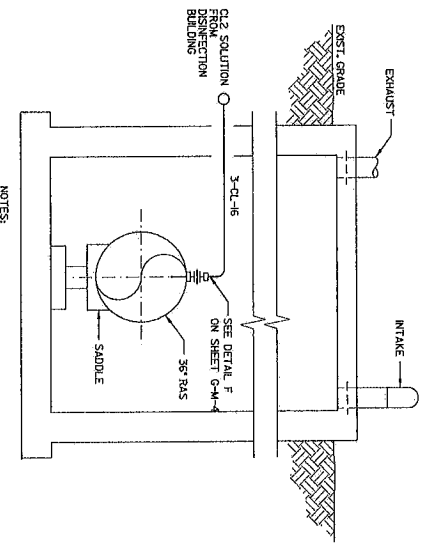
- NOTES:
1. TAG NUMBER XXX DESIGNATION INDICATES EQUIPMENT NUMBER. REFER TO PWD ON SHEET LC-M-2 FOR ACTUAL NUMBERS.
 2. CONTRACTOR TO COORDINATE CONNECTIONS AND RE-Routing OF SCHEDULING CONSTRAINTS.
 3. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK AROUND THE ACTIVE CHLORINE AND SULFUR DIOXIDE FEED SYSTEMS. CONTRACTOR SHALL PROVIDE MEANS TO PROTECT ALL EXISTING MECHANICAL AND ASSOCIATED APPLIANCES WHEN WORKING IN CLOSE PROXIMITY.
 4. CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN OPERATION OF CHLORINE THROUGHOUT DURATION OF CONSTRUCTION. REFER TO SPECIFICATION 0100 FOR CONSTRUCTION CONSTRAINTS AND EMERGENCY RESPONSE MEASURES.
 5. MECHANICAL AND ELECTRICAL SYSTEMS NOT SHOWN FOR CLARITY. MECHANICAL ROOMS INCLUDE FIGHT WORKING CONDITIONS WITH EXTENSIVE WORKING AREA. CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

RECORD DRAWINGS

THESE DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THOSE RELYING ON THIS RECORD DOCUMENT ASSUME RESPONSIBILITY FOR ANY ERRORS.

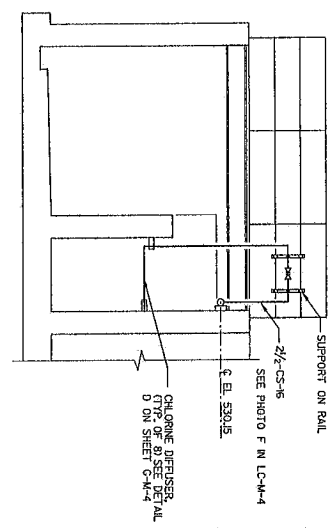


A RAS PUMP STATION FLOWMETER VAULT
 LDC1 0 2 4
 SCALE IN FEET

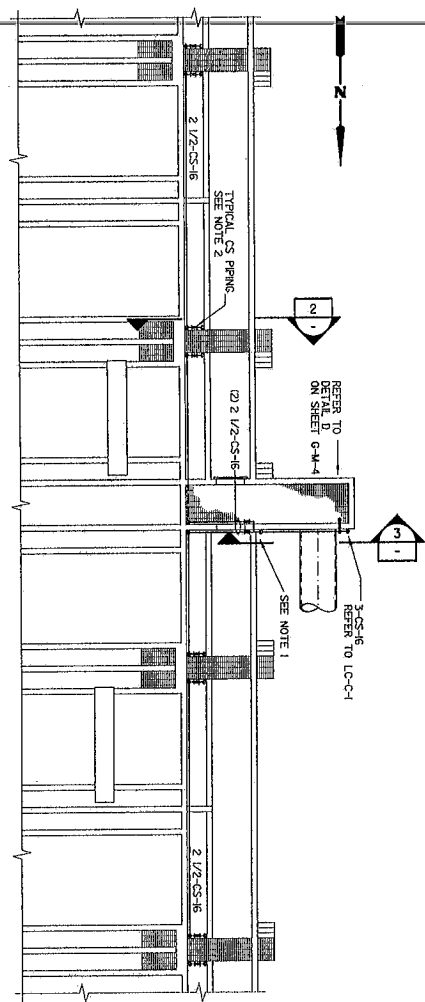


1 SECTION
 0 2 4
 SCALE IN FEET

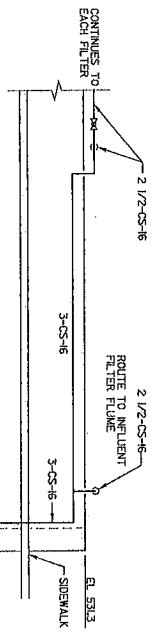
NOTES:
 1. REFER TO G-M-4, DETAIL E FOR PIPE PENETRATION.



2 SECTION
 0 2 4
 SCALE IN FEET



B CHLORINE INJECTION TO FILTERS
 LDC1 0 8 16
 SCALE IN FEET



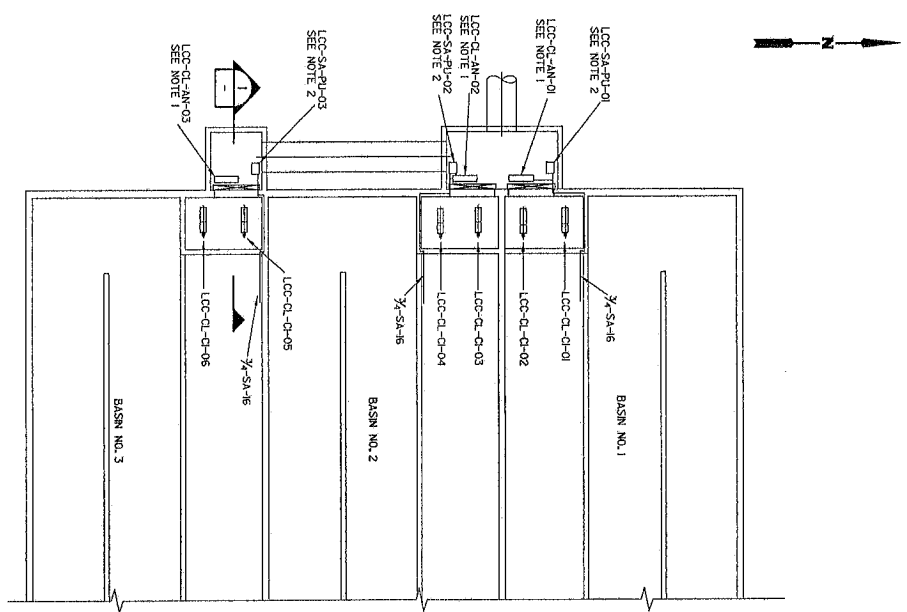
3 SECTION
 0 2 4
 SCALE IN FEET

NOTES:
 1. REMOVE EXISTING CHLORINE SOLUTION DISTRIBUTION PANEL. SEE LC-D-5.
 2. SEE PHOTO F IN LC-M-4.
 3. REFER TO G-M-5 FOR PIPE DETAILS.
 4. ALL PIPE ANCHORS AND SUPPORTS SHALL BE 306 SS.

RECORD DRAWINGS

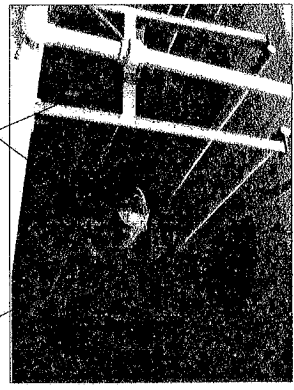
THESE DRAWINGS HAVE BEEN PREPARED BASED ON NEGOTIATION WITH THE CLIENT. THE CLIENT HAS REVIEWED THESE DRAWINGS AND HAS ADVISED THAT THE INFORMATION CONTAINED HEREIN IS ACCURATE AND COMPLETE. THE CLIENT HAS ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.





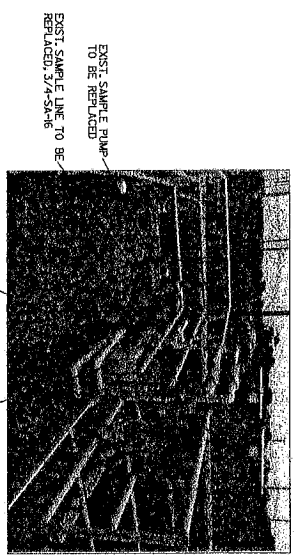
CHLORINE INJECTION AT CONTACT BASINS

SCALE IN FEET
0 16 32



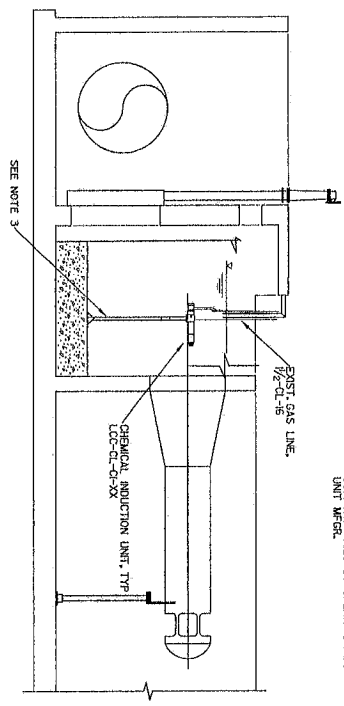
EXIST. STRUCTURE TO BE REPLACED BY CONTRACTOR

PHOTO A LCC



EXIST. STRUCTURE FOR NEW CHLORINE GAS LINE TO REMAIN IN PLACE

PHOTO B LCC

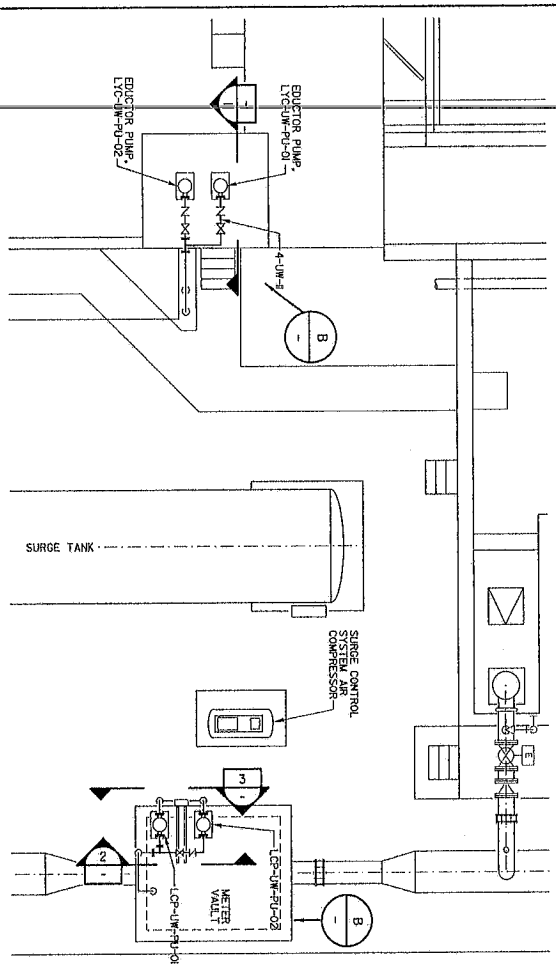


RECORD DRAWINGS

SECTION
SCALE IN FEET
0 4 8

THESE DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS, THOSE RELYING ON THIS RECORD DOCUMENT ACCEPTS RESPONSIBILITY FOR ANY ERRORS OR OMISSIONS BEFORE ANY WORK BEGINS.

- NOTES:
1. PANEL ANALYZER TO BE PROVIDED BY ANALYZER MANUFACTURER.
 2. SAMPLE PUMP TO BE PROVIDED BY ANALYZER MANUFACTURER.
 3. REPLACED EXISTING SUPPORT WITH SUPPORT FRAMING BY CHEMICAL INDUCTION UNIT MFG.



CHLORINE INJECTION AT RECYCLED WATER PUMP STATION AND EDUCTOR WATER PUMP

SCALE IN FEET

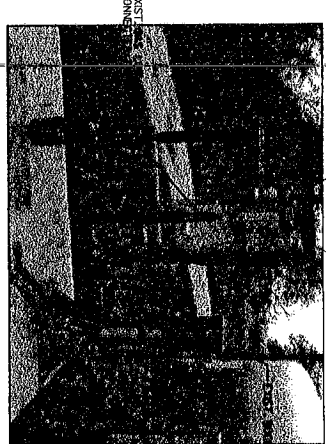


PHOTO A

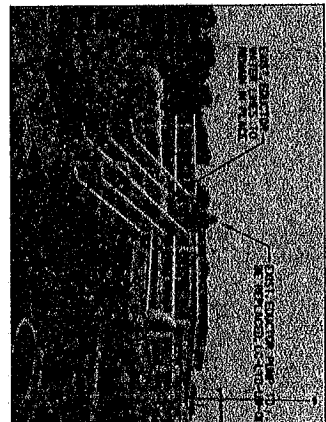
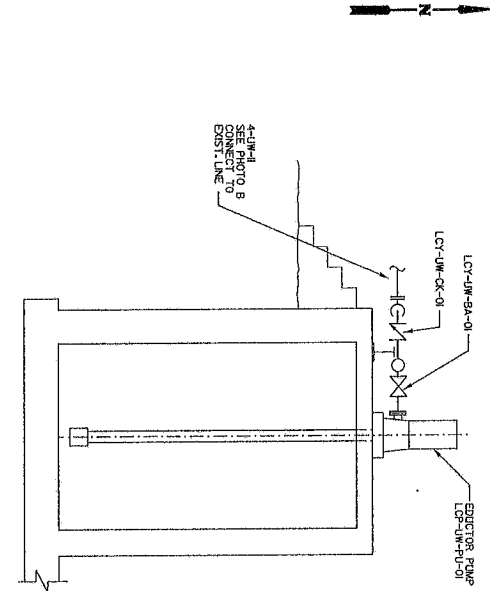


PHOTO B

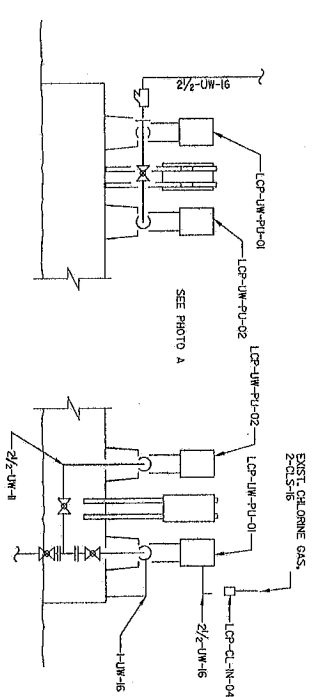
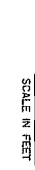
RECORD DRAWINGS

THESE DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THOSE RELYING ON THIS RECORD DOCUMENT ACCEPTS BEFORE ANY USE FOR ANY PURPOSE.



SECTION 1

NOTE: STRAINER TO BE USED. ALL PIPING TO BE INSULATED.



SECTION 2

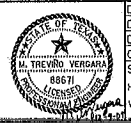
SECTION 3

NOTE: PIPING TO BE INSULATED.

WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE

LEON CREEK WATER RECYCLING CENTER
MECHANICAL PLAN - EDUCTOR PUMP
& RECYCLED WATER IMPROVEMENTS

SAN ANTONIO WATER SYSTEM



Date: DEC. 2009
Design by: AJP
Drawn by: PEC
Checked by: MTY
Scale:
HORIZONTAL: AS NOTED
VERTICAL: AS NOTED

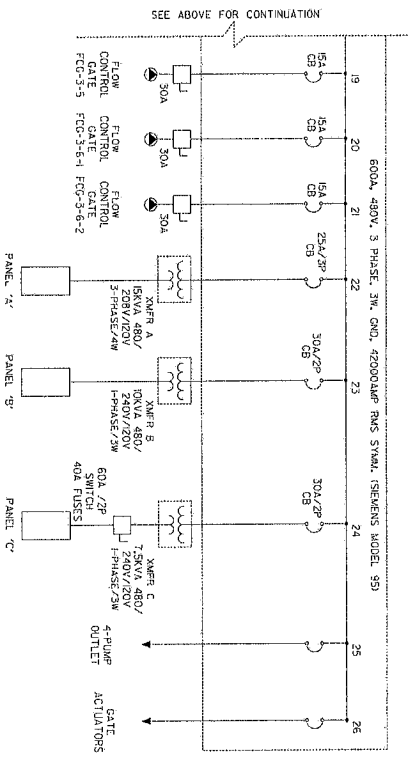
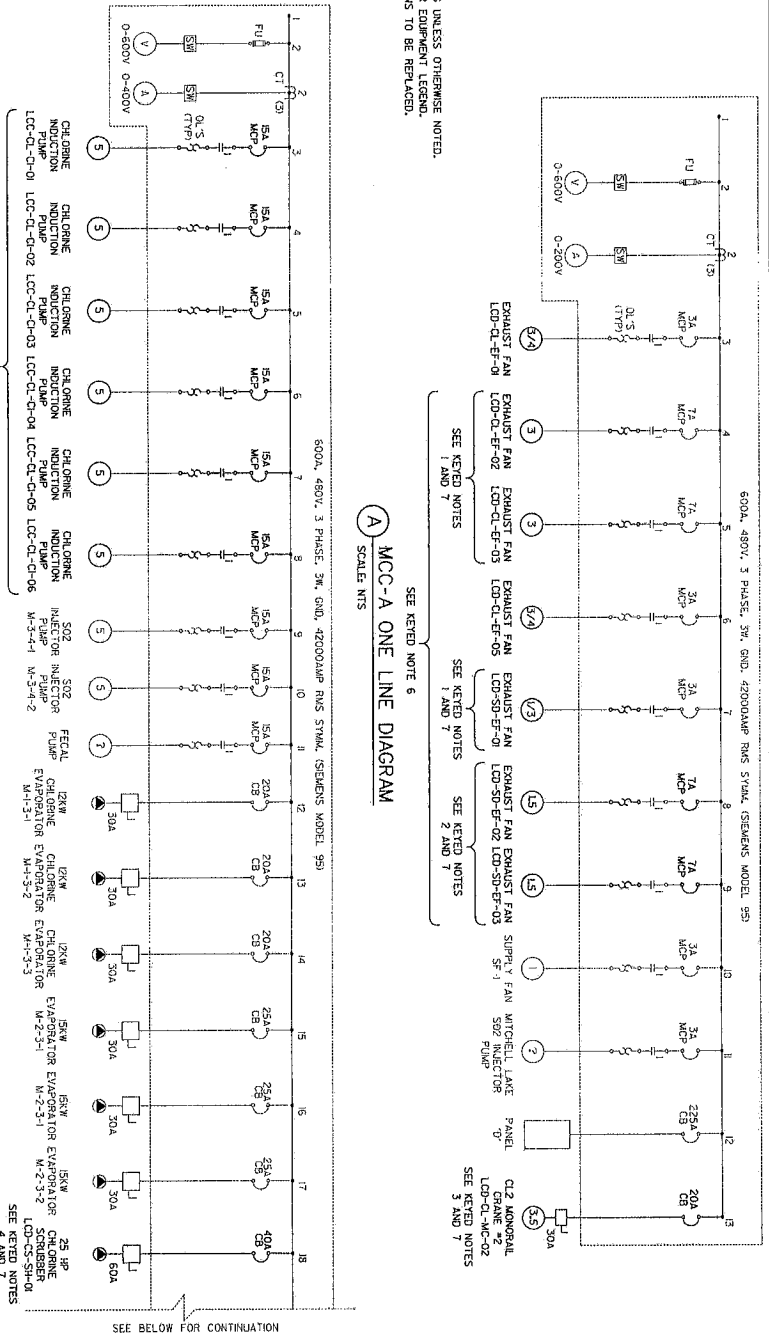
CP&Y Chiang, Patel & Yerby, Inc.

SAWS JOB
No. 06-6503

DWG. NO.
L-C-M-12
88 OF 123

- NOTES**
1. ALL EQUIPMENT IS EXISTING UNLESS OTHERWISE NOTED.
 2. REFERENCE SHEET 6-7 FOR EQUIPMENT LEGEND.
 3. ALL EXISTING EXHAUST FANS TO BE REPLACED.

A MCC-A ONE LINE DIAGRAM
SCALE: NTS



B MCC-B ONE LINE DIAGRAM
SCALE: NTS

- CAUTIONARY NOTES:**
1. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK IN THIS AREA. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE EXISTING ELECTRICAL AND MECHANICAL DRAWINGS AND ALL ASSOCIATED APPURTENANCES WHEN WORKING IN CLOSE PROXIMITY TO THESE SYSTEMS.
 2. CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN OPERATION OF CHEMICAL FEED SYSTEMS THROUGHOUT DURATION OF CONSTRUCTION. REFER TO SPECIFICATION CODE MEASURES.
 3. MECHANICAL SYSTEM NOT SHOWN FOR CLARITY. CHEMICAL ROOMS INCLUDE TIGHT WORKING CONDITIONS WITH EXTENSIVE EXISTING EQUIPMENT AND ASSOCIATED PIPING WITH PROHIBITIVELY LIMITED ACCESS TO THESE SYSTEMS. VERIFY ALL FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

- RECORD NOTES:**
1. RESIZE MOTOR OVERLOAD HEATERS TO MATCH NEW EXHAUST FAN HP.
 2. RESIZE MOTOR CIRCUIT PROTECTOR AND MOTOR OVERLOAD HEATERS TO MATCH NEW EXHAUST FAN HP.
 3. INSTALL NEW FEEDER BREAKER, CONDUIT, CABLE AND DISCONNECT FOR TO MATCH NEW FEEDER EXHAUST FAN HP.
 4. REPLACE EXISTING WET SCRUBBER WITH NEW DRY SCRUBBER. REPLACE FEEDER BREAKER, CABLE, AND DISCONNECT TO MATCH NEW SCRUBBER HP.
 5. REPLACE EXISTING EDUCTOR WITH NEW CHEMICAL INDUCTION UNIT.
 6. REPLACE ENTIRE MCC CIRCUL INCLUDING FEEDER BREAKER, STARTER, OVERLOADS AND CONTROL DEVICES SIZED FOR NEW SHP UNITS. REFER TO SHEET LC-E-2 DETAIL B. FAN SCHEDULE FOR FAN LOCATIONS. ALL FANS NOT SHOWN ON THIS SHEET ARE POWERED VIA EXISTING POWER PANEL 'A'. REFERENCE SHEET LC-E-2.
 7. MCC MUST BE POWERED DOWN WHEN BREAKER IS CHANGED OUT.

RECORD DRAWINGS

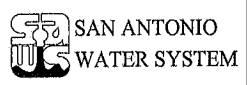
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DWG. NO. LC-E-1
94 OF 123

WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE

LEON CREEK WATER RECYCLING CENTER

ELECTRICAL ONE-LINES



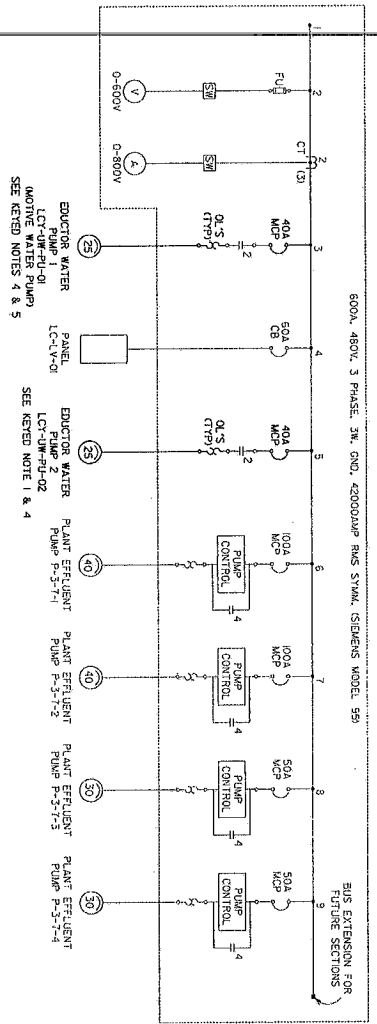
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Vertical:

RECORD DRAWINGS

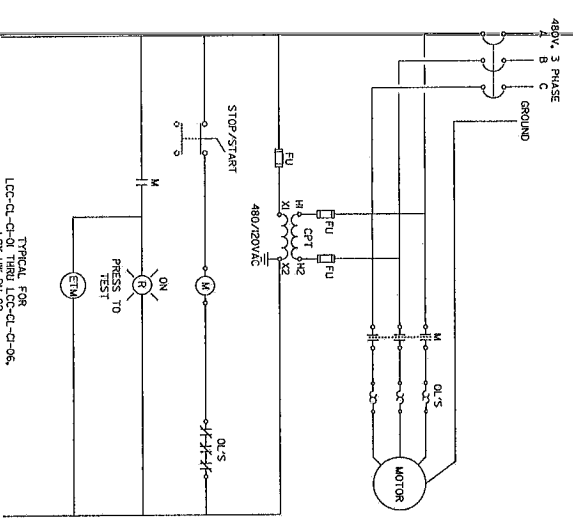
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ENGINEERING AND TESTING

SAWS Job No. 06-6503



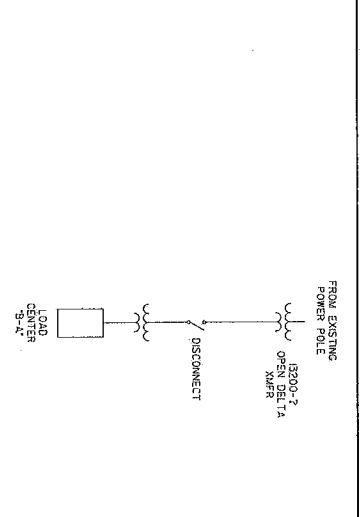
A MCC-C ONE LINE DIAGRAM
SCALE: NTS



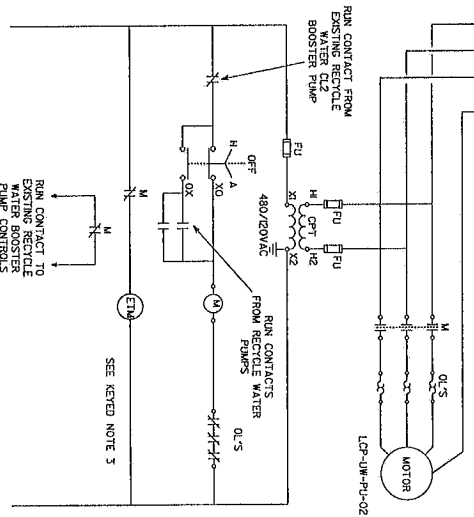
TYPICAL FOR
LCC-CL-Q-01 THRU LCC-CL-Q-06.
LCC-UM-FU-02
SEE KEYED NOTE 2)

B CL2 INDUCTION PUMP & STANDBY
EDUCTOR WATER PUMP CONTROLS
SCALE: NTS

- KEYED NOTES:**
1. ADD NEW MCC CIRCUIT INCLUDING FEEDER BREAKER, STARTER, OVERLOADS AND CONTROL DEVICES TO SERVICE NEW EDUCTOR WATER PUMP AS SHOWN IN DETAIL B, ROUTE CABLE AND CONDUIT TO EDUCTOR PUMP.
 2. REFER TO SHEET LC-E-1 DETAIL B FOR MCC-C ONE-LINE.
 3. ALL EQUIPMENT TO BE LOCATED IN NEW CONTROL PANEL, REFER TO SHEET LC-E-2 POWER PANEL, T.C.-LV-07 SCHEDULE FOR POWER BOOSTER PUMPS.
 4. MCC MUST BE POWERED DOWN WHEN BREAKER IS CHANGED OUT, COORDINATE WITH SAMS.
 5. RESIZE MOTOR CIRCUIT PROTECTOR, MOTOR OVERLOAD HEATERS, CONDUIT AND CABLE TO MATCH NEW EDUCTOR WATER PUMP HP.
- NOTES:**
1. ALL EQUIPMENT SHOWN AS LIGHTENED IS EXISTING UNLESS OTHERWISE NOTED.
 2. FOR EQUIPMENT LEGEND, SEE SHEET G-7.
- CAUTIONARY NOTES:**
1. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK AROUND THE ACTIVE CHLORINE AND SULFUR DIOXIDE FEED SYSTEMS. CONTRACTOR SHALL PROVIDE APPROPRIATE MASKS TO PROTECT ALL PERSONNEL FROM CHLORINE AND SULFUR DIOXIDE APPEARANCES WHEN WORKING IN CLOSE PROXIMITY.
 2. CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN DURATION OF CHEMICAL FEED SYSTEMS THROUGHOUT PERIOD OF CONSTRUCTION CONSTRAINTS AND DEPENDENT RESPONSE REQUIREMENTS.
 3. CONTRACTOR SHALL NOT SHOW FOR CLARITY, CHEMICAL FEED SYSTEMS INCLUDE TIGHT WORKING CONDITIONS WITH EXTENSIVE EXISTING EQUIPMENT AND ASSOCIATED PIPING WITHIN PROXIMITY OF WORKING AREA. CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.



D EXISTING POWER FEED
AT EFFLUENT FLUME AREA
SCALE: NTS



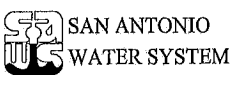
C STANDBY RECYCLE WATER
CL2 BOOSTER PUMP CONTROL
SCALE: NTS

RECORD DRAWINGS

THESE DOCUMENTS HAVE BEEN PREPARED BASED ON INFORMATION AND PROVIDED TO BEST AVAILABLE SOURCE. CONTRACTOR SHALL VERIFY ACCURACY BEFORE APPLYING IT FOR ANY PURPOSE.

DMC-INC.
LC-E-2
95 OF 123

WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE
LEON CREEK WATER RECYCLING CENTER
ELECTRICAL ONE-LINES



Date: DEC. 2007
Design by: SM,CG
Drawn by: RC
Checked by: RDG
Scale: AS SHOWN
HORIZONTAL:
VERTICAL:

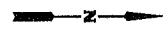
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ENGINEERING AND TESTING

RECORD DRAWINGS

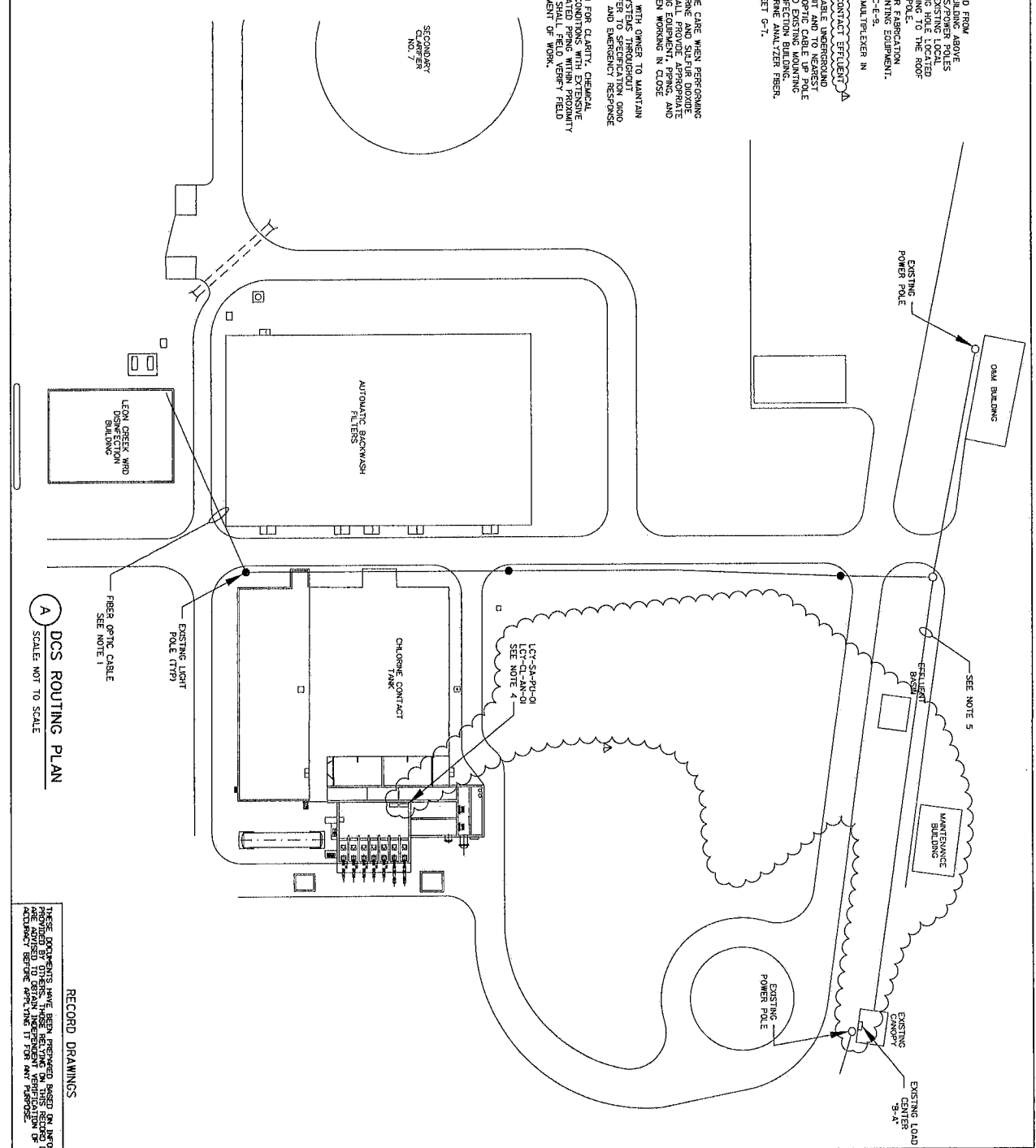
NO.	DATE	BY

SAMS Job No. 06-6503



- NOTES**
1. FIBER OPTIC CABLE TO BE ROUTED FROM DISINFECTION BUILDING TO O&M BUILDING ABOVE AS SHOWN. ROUTE CABLE FROM EXISTING LOCAL CONTROL PANEL THROUGH EXISTING HOLE LOCATED ON NORTHWEST CORNER OF BUILDING TO THE ROOF TO EXISTING LIGHT POLE (TYPE 1) AND DOWN TO EXISTING CENTER LOAD CENTER (S-4).
 2. CONTRACTOR IS RESPONSIBLE FOR FABRICATION AND DESIGN OF FIBER OPTIC MOUNTING EQUIPMENT.
 3. FOR P.L.C. DETAILS, SEE SHEET LC-E-9.
 4. MOUNT ANALOG TO FIBER OPTIC MULTIPLEXER IN ANALYZER ENCLOSURE.
 5. ROUTE 6-STRAND FIBER OPTIC CABLE UNDERGROUND USING CONCRETE ENCASED CONDUIT AND TO NEAREST FIBER OPTIC MOUNTING EQUIPMENT. CONDUIT TO BE INSTALLED IN P.V.C. SCHEDULE 40 CONDUIT TO EXISTING MOUNTING EQUIPMENT AND ACROSS TO DISINFECTION BUILDING. FOLLOW SAME SCHEME FOR CHLORINE ANALYZER FIBER. FOR EQUIPMENT LEADON, SEE SHEET 0-11.

- CAUTIONARY NOTES:**
1. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK WITHIN OR NEAR EXISTING ELECTRICAL AND MECHANICAL FEED SYSTEMS. CONTRACTOR SHALL PROVIDE APPROPRIATE MEANS TO PROTECT ALL EXISTING EQUIPMENT, PIPING, AND ASSOCIATED APPURTENANCES WHEN WORKING IN CLOSE PROXIMITY.
 2. CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN OPERATION OF CHEMICAL FEED SYSTEMS THROUGHOUT DURATION OF CONSTRUCTION. REFER TO SPECIFICATION 0100 FOR CONSTRUCTION CONSTRAINTS AND EMERGENCY REVERSE MEASURES.
 3. MECHANICAL SYSTEM NOT SHOWN FOR CLARITY. CHEMICAL ROOMS INCLUDE TIGHT WORKING CONDITIONS WITH EXTENSIVE LIGHT EQUIPMENT AND ASSOCIATED FIELD WITH PROXIMITY TO EXISTING ELECTRICAL FEED SYSTEMS. FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

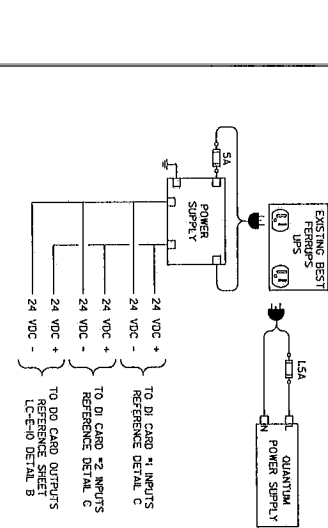


DCS ROUTING PLAN
SCALE NOT TO SCALE

RECORD DRAWINGS
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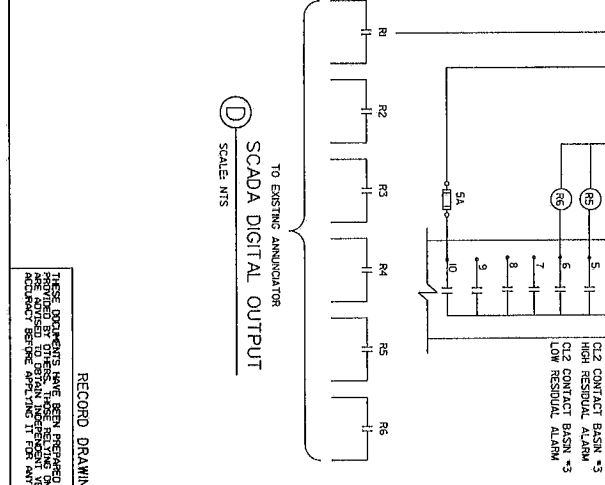
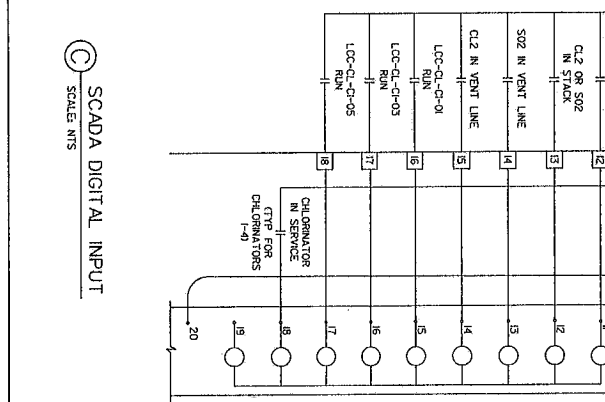
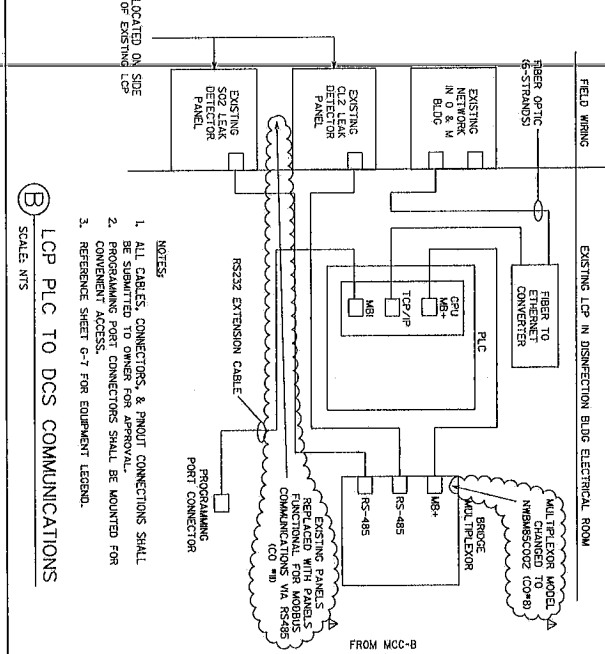
<p>WATER RECYCLING CENTERS DISINFECTION SYSTEM EVALUATION AND PERFORMANCE UPGRADE</p> <p>LEON CREEK WATER RECYCLING CENTER DCS ROUTING MISCELLANEOUS ELECTRICAL PLAN</p>	<p>SAN ANTONIO WATER SYSTEM</p>	<p>ROBERT S. GRUBB 12/16/09</p>	<p>Date: DEC. 2007 Design by: SM,GG Drawn by: EC Checked by: RDG Scale: AS SHOWN HORIZONTAL VERTICAL:</p>	<p>RECORD DRAWINGS</p> <p>CP&Y Chiang, Patel & Yerby, Inc. in association with</p> <p>GRUBB ENGINEERING, INC. ELECTRICAL POWER SYSTEMS ENGINEERING AND TESTING</p>	<p>SAWS Job No. 06-6503</p>
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DWG. NO.
LC-E-5
98 OF 123



CAUTIONARY NOTES:

- CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK AROUND THE LOCAL CONTROL PANEL. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING EQUIPMENT, PIPING, AND ASSOCIATED APPURTENANCES WHEN WORKING IN CLOSE PROXIMITY.
- CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN DURATION OF CONSTRUCTION REFER TO SPECIFICATION 0100 FOR CONSTRUCTION CONSTRAINTS AND EMERGENCY RESPONSE MEASURES.
- MECHANICAL SYSTEM NOT SHOWN FOR CLARITY. CHEMICAL ROOMS INCLUDE TIGHT WORKING CONDITIONS WITH EXTENSIVE CONFINEMENT. CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.



NOTES:

- ALL CABLES, CONNECTORS, & PORT CONNECTIONS SHALL BE SIZED TO MEET ALL APPLICABLE CODES.
- PROGRAMMING PORT CONNECTORS SHALL BE MOUNTED FOR CONVENIENT ACCESS.
- REFERENCE SHEET C-7 FOR EQUIPMENT LEGEND.

RECORD DRAWINGS

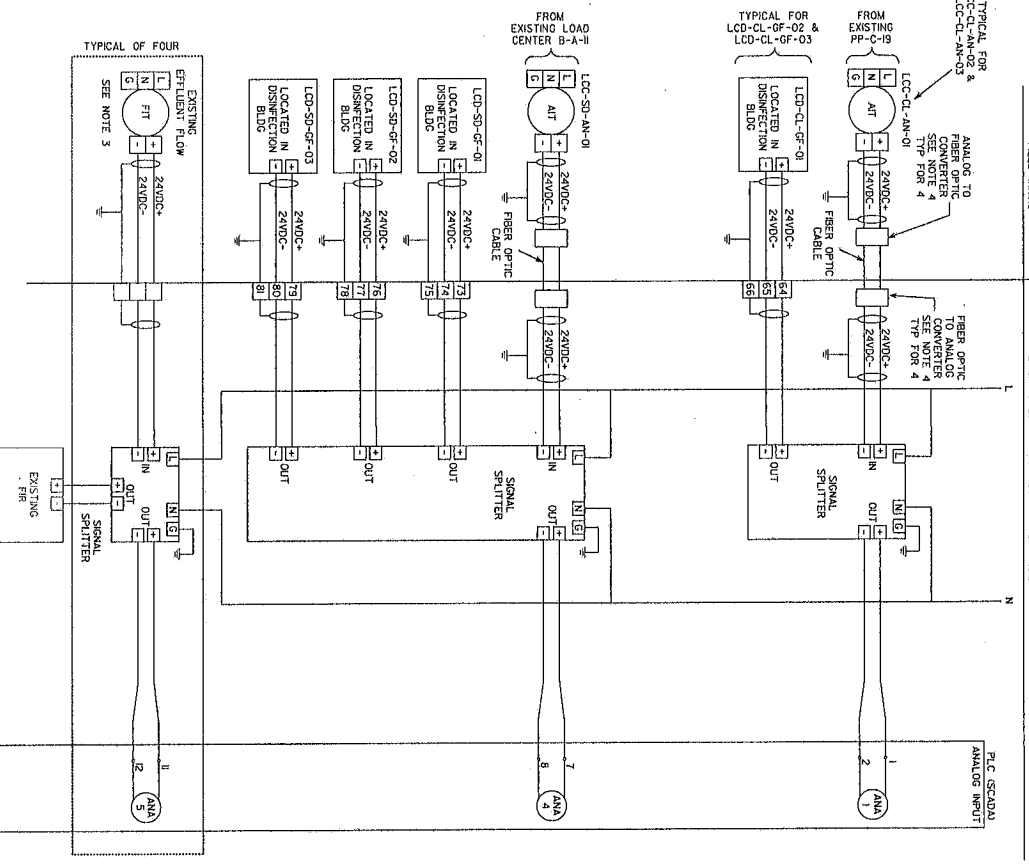
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<p>WATER RECYCLING CENTERS DISINFECTION SYSTEM EVALUATION AND PERFORMANCE UPGRADE</p> <p>LEON CREEK WATER RECYCLING CENTER LOCAL SCADA COMMUNICATION AND CONTROLS DETAILS</p>	<p>SAN ANTONIO WATER SYSTEM</p>	<p>DATE: DEC. 2007 DESIGN BY: SM,CG DRAWN BY: EC CHECKED BY: ROO SCALE: AS SHOWN HORIZONTAL VERTICAL</p>	<p>RECORD DRAWINGS</p> <p>BD 11/18/09</p>	<p>SAWS Job No. 06-6503</p>
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ELECTRICAL POWER SYSTEMS
ENGINEERING AND TESTING

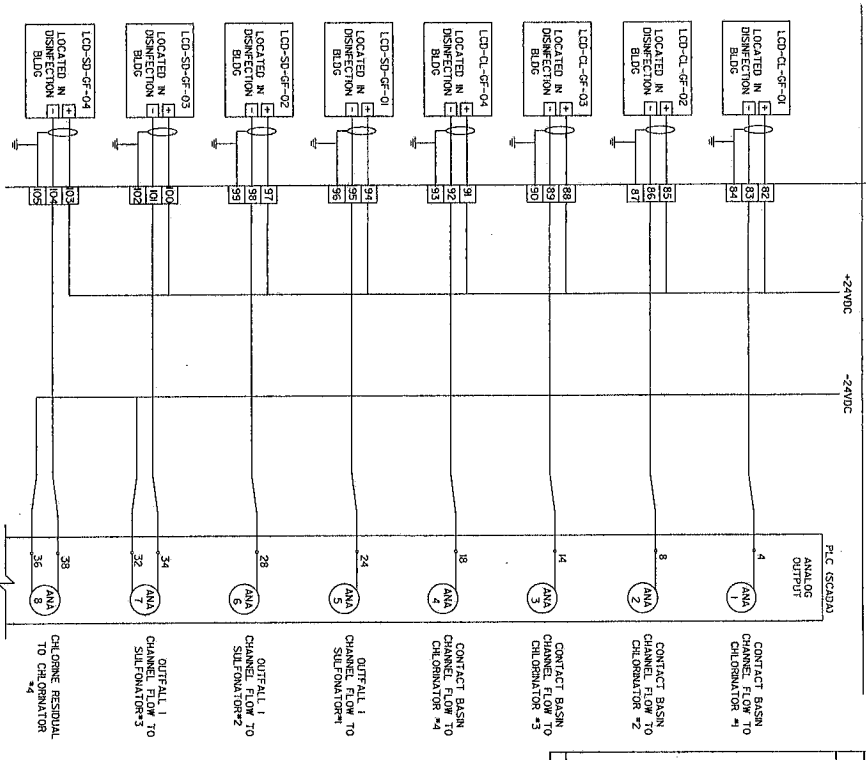
RECORD DRAWINGS

SCADA ANALOG INPUT
SCALE: NTS



RECORD DRAWINGS

SCADA ANALOG OUTPUT
SCALE: NTS



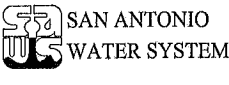
RECORD DRAWINGS

SCADA ANALOG OUTPUT
SCALE: NTS

- GENERAL NOTES:**
- CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING INSTRUMENTATION CABLE AND CONDUIT FROM THE INSTRUMENTS TO SCADA PANEL.
 - REMOVE SERIAL RECORDER FROM PANEL, LCP AND BACPANEL IN LOCATION OF PREVIOUS RECORDER PROGRAMMING.
 - AT PRESENT FOUR 4-20MA SIGNALS FROM EXISTING FLOWMETERS ARE ROUTED TO EXISTING FLOW RECORDER AT LOCAL CONTROL PANEL. EITHER SIGNAL SPLITTER AND THEN TO EXISTING FLOW RECORDER AND P.L.C.
 - CONVERTER SHALL HAVE 24VDC POWER SOURCE EITHER FROM NEW OR EXISTING POWER SUPPLY.
 - FOR EQUIPMENT LEGEND, SEE SHEET 6-7.
- CAUTIONARY NOTES:**
- CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK AROUND THE ACTIVE CHLORINE AND SULFUR DIOXIDE FEED SYSTEMS. CONTRACTOR SHALL PROVIDE APPROPRIATE PROTECTIVE MEASURES FOR THE PROTECTION OF HIS/HER AND ASSOCIATED APPURTENANCES WHEN WORKING IN CLOSE PROXIMITY.
 - CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN DURATION OF CONSTRUCTION. REFER TO SPECIFICATION 0000 FOR CONSTRUCTION CONSTRAINTS AND EMERGENCY RESPONSE MEASURES.
 - MECHANICAL SYSTEM NOT SHOWN FOR CLARITY. CHEMICAL AND ELECTRICAL PARTS OF THE SYSTEM SHALL BE INSTALLED IN EXISTING AREAS. CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

DATE: DEC. 2007
DESIGN BY: SM,CG
DRAWN BY: EC
CHECKED BY: RDG
SCALE: AS SHOWN
HORIZONTAL
VERTICAL

WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE
LEON CREEK WATER RECYCLING CENTER
LOCAL SCADA WIRING DIAGRAM



CP&Y Chlang, Patel & Yerby, Inc.
In association with
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ELECTRICAL POWER SYSTEMS
ENGINEERING AND TESTING

RECORD DRAWINGS	BD	1/16/07	60
SAWS Job No. 06-6503			

EXISTING POWER PANEL 'A' FED FROM MCC-B (SIEMENS S3)										
TYPE	1	2	3	4	5					
500/SULFON RM LOTS	20	1	1	2	1	20	ELECT RM LOTS			
MCHL RM/EXST CORR	20	1	3	4	1	20	CL2 RM LOTS NORTH			
EXTERIOR LOTS	20	1	5	6	1	20	CL2 RM LOTS SOUTH			
500/SULFONATOR REC	20	1	7	8	1	20	500/MCHL RM REC			
SULFONATOR/ELECT REC	20	1	9	10	1	20	CL2/MCHL RM REC			
CL2/CHEM RM REC	20	1	12	1	20	LDD-CL-9F-04				
LDD-S0-EF-04	20	1	13	14	1	20	SEE KEPTED NOTE II			
ROOF MOUNT REC	20	1	15	16	1	20	CHLORINATOR RM LOTS			
LDD-S0-SW-02	20	1	17	18	1	20	SEE KEPTED NOTES 18A6			
LDD-S0-S0-02	20	1	19	20	1	20	SEE KEPTED NOTES 18A6			
LDD-S0-S0-01	20	1	21	22	1	20	SEE KEPTED NOTES 18A6			
SPACE	1	23	24	1	20	SEE KEPTED NOTES 18A6				
SPACE	1	25	26	1	20	SEE KEPTED NOTES 18A6				
LDD-CS-ES-02	20	1	27	28	1	20	SEE KEPTED NOTES 18A6			
SPACE	1	29	30	1		SEE KEPTED NOTES 18A6				

EXISTING POWER PANEL 'B' FED FROM MCC-B (SIEMENS S3)										
TYPE	1	2	3	4	5					
LDD-CL-0F-04	15	1	1	2	1	15	LDD-CL-0F-04			
LDD-CL-0F-02	15	1	3	4	1	15	SEE KEPTED NOTE I			
LDD-CL-0F-03	15	1	5	6	1	15	SEE KEPTED NOTE I			
CP-2-21	20	1	7	8	1	15	SEE KEPTED NOTE I			
CP-1-15	20	1	9	10	1	15	SEE KEPTED NOTE 3			
CP-2-15	20	1	11	12	1	15	SEE KEPTED NOTE 3			
FREE ALARM PANEL	20	1	13	14	1	20	SEE KEPTED NOTE 4A6			
M-4-1-2 HEATER	30	1	15	16	1	20	SEE KEPTED NOTE 5			
SPACE	20	1	17	18	1	20	SEE KEPTED NOTE 5			
M-2-6-1	15	1	19	20	1	15	SEE KEPTED NOTE 5			
M-2-6-2	15	1	21	22	1	20	SEE KEPTED NOTE 5			
PANEL ECP-1	20	1	23	24	1	20	SEE KEPTED NOTE 5			
M-4-1-1 HEATER	30	1	25	26	1	15	SEE KEPTED NOTE 5			
M-2-10-1	15	1	27	28	1	15	SEE KEPTED NOTE 5			
M-2-10-3	15	1	29	30	1	15	SEE KEPTED NOTE 5			
M-1-1-1	15	1	31	32	1	15	SEE KEPTED NOTE 5			
LDD-CL-0F-08	15	1	33	34	1	20	SEE KEPTED NOTES 17A6			
SPACE	15	1	35	36	1	20	SEE KEPTED NOTES 17A6			
LDD-S0-0F-04	15	1	39	40	1	20	SEE KEPTED NOTES 17A6			
LDD-S0-AN-01	20	1	41	42	1	20	SEE KEPTED NOTES 17A6			

EXISTING POWER PANEL 'C' FED FROM MCC-C (SIEMENS S3)										
TYPE	1	2	3	4	5					
M0V-1	5	3	3	4	3	15	M0V-2			
M0V-3	5	3	9	10	3	15	M0V-4			
M0V-5	15	3	15	16	1	15	LCP-0-0S-1			
PSCP-COR POWER	15	1	19	20	1	15	LCP-0-0S-2			
PSCP-HTR	15	1	21	22	2	15	MITCHELL PUMP			
HTR-BRAKE 1-5	15	1	23	24	1	15	LIT-0-0S-1			
SCADA AIR CONDITIONER	20	1	25	26	1	15	LCP-0-0S-3			
SCADA AIR CONDITIONER	20	1	27	28	1	15	AT-0-0S-1			
SCADA AIR CONDITIONER	20	1	29	30	1	15	SCADA PUMP CONTROL			
SCADA AIR CONDITIONER	20	1	31	32	1	15	LCP-0-0S-4			
SCADA AIR CONDITIONER	20	1	33	34	1	15	LIT-0-0S-2			
SLUMP PUMP	20	2	35	36	1	20	RECYCLE MOTOR HTR			
LCP-UM-FU-QL	60	3	39	40	1	20	RECYCLE MOTOR HTR			
LCP-UM-FU-QL	60	3	41	42	1	15	NEW SCADA PANEL			

GENERAL NOTES:
 1. FOR EQUIPMENT LEGEND, SEE SHEET C-7.

KEYED NOTES:
 1. EXISTING CHLORINATOR TO BE REPLACED.
 2. NEW CHLORINATOR TO BE ADDED.
 3. EXISTING CL2 SCALE TO BE REPLACED.
 4. NEW CL2 SCALE TO BE ADDED.
 5. EXISTING SULFONATOR AND CABLE TO BE REPLACED.
 6. ROUTE CONDUIT AND CABLE TO NEW UNITS.
 7. NEW SO2 ANALYZER TO BE ADDED.
 8. NEW CHLORINE SCALE SWITCH OVER UNIT TO BE ADDED.
 9. EXISTING SO2 SCALE TO BE REPLACED.
 10. NEW SO2 SCALE TO BE ADDED.
 11. EXISTING HEATER TO BE REPLACED.
 12. EXISTING HEATER TO BE REPLACED.
 13. EXISTING MAKE UP AIR HANDLING UNIT TO BE REPLACED.
 14. EXISTING CRANE HOIST TO BE REPLACED.
 15. NEW UNIT HEATER TO BE ADDED. ADD NEW DISCONNECT.
 16. NEW UNIT HEATER TO BE ADDED. ADD NEW FEEDER BREAKER AS SHOWN. ADD NEW DISCONNECT.
 17. EXISTING MAKE UP AIR HANDLING UNIT CONTROL PANEL TO BE ADDED.
 18. NEW SULFUR DIOXIDE SCALE SWITCH OVER UNIT TO BE ADDED.
 19. NEW CHLORINE BOOSTER PUMP TO BE ADDED. ADD NEW LOCAL CONTROL PANEL WITH DISCONNECT AND HOA SWITCH FOR NEW PUMP.
 20. NEW ETHERASH TO BE REPLACED. ABANDON EXISTING CONDUIT AND CABLE ROUTE. NEW NEW CONDUIT AND CABLE TO BE ADDED.
 21. EXISTING HEATER TO BE REPLACED. ADD NEW SCRUBBER. ADD NEW FEEDER BREAKER AS SHOWN.
 22. NEW SCRUBBER TO BE ADDED. ADD NEW FEEDER BREAKER AS SHOWN.

CAUTIONARY NOTES:
 1. CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK AROUND THE ACTIVE CHEMICAL AND SULFUR DIOXIDE MEANS TO PROTECT ALL EXISTING EQUIPMENT, PIPING, AND ASSOCIATED APPLIANCE WHEN WORKING IN CLOSE PROXIMITY.
 2. CONTRACTOR SHALL COORDINATE WITH OWNER TO MAINTAIN EXISTING OPERATIONAL CONSTRAINTS TO SPECIFICATION ORDER FOR CONSTRUCTION CONSTRAINTS AND EMERGENCY RESPONSE MEASURES.
 3. MECHANICAL SYSTEM NOT SHOWN FOR CLARITY. CHEMICAL ROOMS INCLUDE TIGHT WORKING CONDITIONS WITH EXTENSIVE CONTAMINATION. CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

RECORD DRAWINGS

DATE: DEC. 2007
 DESIGN BY: SM.CG
 DRAWN BY: EC
 CHECKED BY: RDG
 SCALE: AS SHOWN
 HORIZONTAL
 VERTICAL

11/18/09

SAWS Job No. 06-6503

Chiang, Patel & Yerby, Inc. in association with

GRUBB ENGINEERING, INC. ELECTRICAL POWER SYSTEMS ENGINEERING AND TESTING

SAN ANTONIO WATER SYSTEM

LEON CREEK WATER RECYCLING CENTER PANEL SCHEDULES

105 OF 123

RECORD DRAWINGS

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EXISTING POWER PANEL "C" FED FROM MCC-B
TYPE: 100A COPPER BUS
MAIN LUGS ONLY
120V/200V
100% CIP WIRE

P-3-1 (LCC-SA-PL-01)	25	1	2	1	25	P-3-2(LCC-SA-PL-02)	SEE KEYED NOTES 1 & 6
P-3-2 (LCC-SA-PL-02)	25	1	3	4	1	SPACE	
SPACE	5	2	6	1	5	SPACE	
SPACE	7	8	1	5	5	SPACE	
P-3-4-1	5	1	9	10	1	SPACE	
SPACE	5	1	12	1	5	SPACE	
SOUTH FLUME FLOWMETER	5	1	13	4	1	SPACE	
WEST RECEPTL.	5	1	15	6	1	SPACE	
WEST RECEPTL.	5	1	17	8	1	SPACE	
LCC-CL-AN-01	5	1	19	20	1	SPACE	
LCC-CL-AN-02	5	1	21	22	1	SPACE	
SPACE	5	2	23	24	2	SPACE	
SPACE	5	2	25	26	2	SPACE	
SPACE			27	28		SPACE	
SPACE			29	30		SPACE	

EXISTING LOAD CENTER 8-A FED FROM OVERHEAD SERVICE AT EFFLUENT FLUME AREA
TYPE: 100A COPPER BUS
60 AMP MAIN BREAKER
120V/200V
100% CIP WIRE

MANH BREAKER	60	2	3	4	2	40	ANALYZER SHED
DO METER	20	1	5	6	1	20	SPACE
AUTO SAMPLER	20	1	7	8	2	20	SPACE
GRU RECEPTACLE	20	2	9	10			SPACE
SPACE	25	1	11	12			SPACE

GENERAL NOTES
L FOR EQUIPMENT LEGEND, SEE SHEET G-7.

- KEYED NOTES:
- SAMPLE PUMP TO BE ADDED/REPLACED.
 - NEW CHLORINE ANALYZER TO BE ADDED.
 - NEW CHLORINE ANALYZER TO BE ADDED.
 - USE SPARE-20A FEEDER BREAKER AS SHOWN.
 - ROUTE NEW CONDUIT AND CABLE AS DETAILED ON SHEET LC-E-2.
 - NEW SAMPLE PUMP TO BE ADDED. ADD NEW 25A BREAKER AS SHOWN.
 - ADD NEW FEEDER BREAKER AS SHOWN AND ROUTE NEW CONDUIT AND CABLE AS DETAILD ON SHEET LC-E-4.
 - MOVE TWO EXISTING 50A 2P BREAKERS DOWN AS SHOWN FOR SPARES.

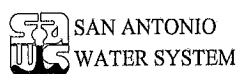
CAUTIONARY NOTES:

- CONTRACTOR SHALL USE EXTREME CARE WHEN PERFORMING WORK AROUND THE ACTIVE CHLORINE AND SODIUM HYDROXIDE SYSTEMS. ALL WORK SHALL BE CONDUCTED IN A SAFE MANNER AND ALL NECESSARY MEANS TO PROTECT ALL EXISTING EQUIPMENT, PIPING, AND ASSOCIATED APURTENANCES WHEN WORKING IN CLOSE PROXIMITY.
- CONTRACTOR SHALL COORDINATE WITH OWNED TO MAINTAIN ALL EXISTING SYSTEMS AND EQUIPMENT OPERATIONAL DURING CONSTRUCTION. REFER TO SPECIFICATION 0100 FOR CONSTRUCTION CONSTRAINTS AND EMERGENCY RESPONSE MEASURES.
- MECHANICAL SYSTEM NOT SHOWN FOR CLARITY. CHEMICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN THE EXISTING EQUIPMENT AND ASSOCIATED PIPING WITHIN PROXIMITY OF WORKING AREA. CONTRACTOR SHALL FIELD VERIFY FIELD CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

RECORD DRAWINGS 8D 1/16/09

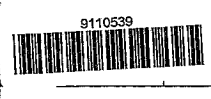
SAWS Job No. 06-6503
Chang, Patel & Yerby, Inc. in association with GRUBB ENGINEERING, INC. ELECTRICAL POWER SYSTEMS ENGINEERING AND TESTING

Date: DEC. 2007
Design by: SM, CC
Drawn by: SM, EC
Checked by: RGC
Scale: AS SHOWN
HORIZONTAL
VERTICAL:

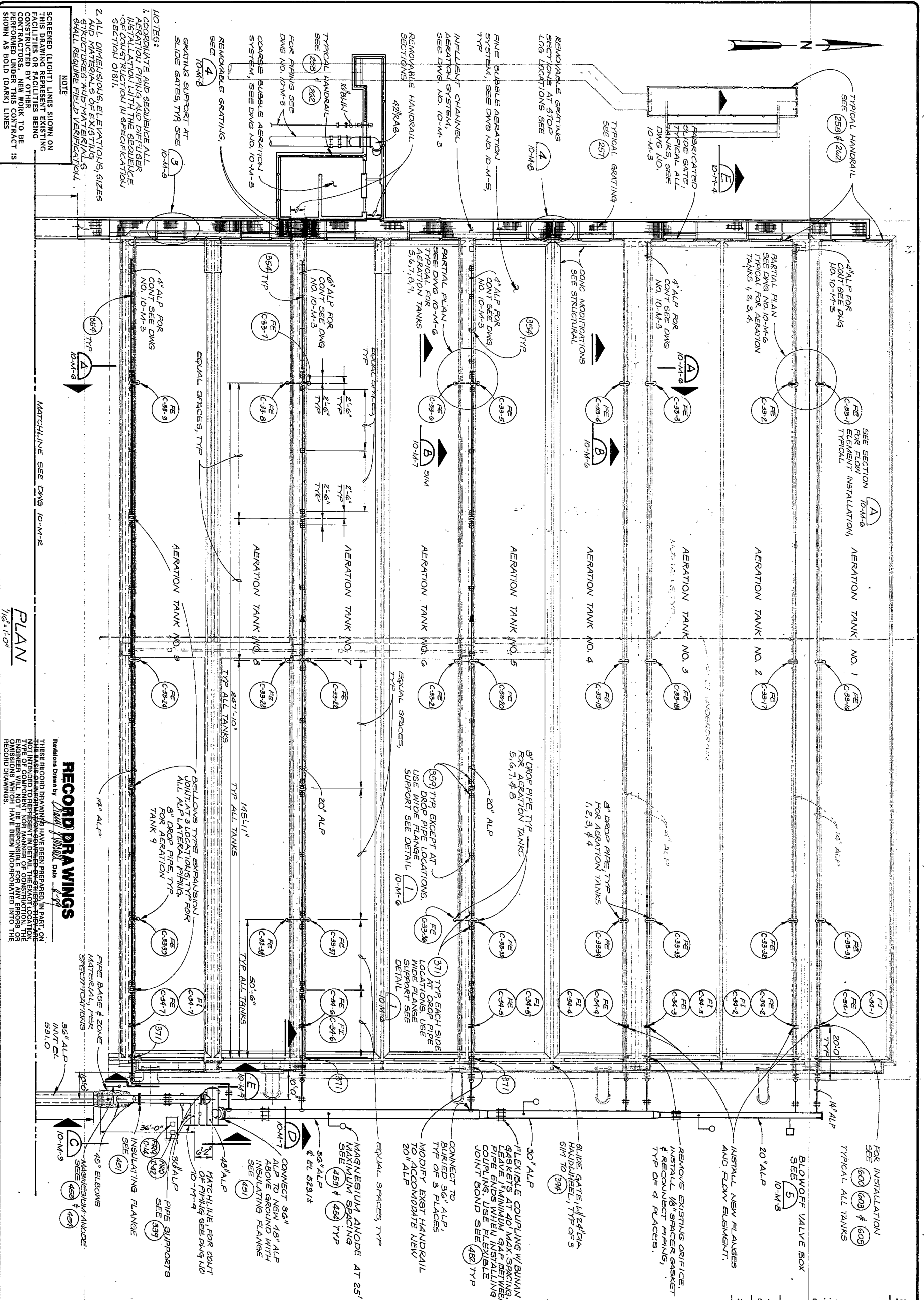


WATER RECYCLING CENTERS
DISINFECTION SYSTEM EVALUATION
AND PERFORMANCE UPGRADE
LEON CREEK WATER RECYCLING CENTER
PANEL SCHEDULES

DWG. NO.
LC-E-13
106 OF 125



10-M	10-M-1	10-M-1	10-M-1
5			



SCREENED (LIGHT) LINES SHOWN ON THIS DRAWING REPRESENT EXISTING FACILITIES OR FACILITIES BEING CONSTRUCTED BY OTHER CONTRACTORS. NEW WORK TO BE PERFORMED UNDER THIS CONTRACT IS SHOWN AS BOLD (DARK) LINES.

NOTE

1. COORDINATE AND SEQUENCE ALL AERATION PIPING AND DIFFUSER INSTALLATION WITH THE SEQUENCE OF CONSTRUCTION IN SPECIFICATION SECTION 01811.

2. ALL DIMENSIONAL ELEVATIONS, SIZES AND MATERIALS OF PIPING SHALL REQUIRE FIELD VERIFICATION.

GRATING SUPPORT AT SLIDE GATES, TYP SEE 10-M-3

REMOVABLE GRATING, SEE 10-M-8

INFLUENT CHANNEL, AERATION SYSTEM, SEE DWG NO. 10-M-5

REMOVABLE HANDRAIL SECTIONS 42R/AS

TYPICAL HANDRAIL, SEE (453) & (454)

FOR PIPING SEE DWG NO. 10-M-3

COARSE BUBBLE AERATION SYSTEM, SEE DWG NO. 10-M-3

FINE BUBBLE AERATION SYSTEM, SEE DWG NO. 10-M-5

REMOVABLE GRATING SECTIONS AT STOP LOG LOCATIONS SEE 10-M-8

TYPICAL GRATING SEE (257)

FABRICATED SLIDE GATE, TYPICAL ALL TANKS, SEE DWG NO. 10-M-3

SEE SECTION 10-M-6 FOR FLOW ELEMENT INSTALLATION, TYPICAL

SEE DWG NO. 10-M-6 TYPICAL FOR AERATION TANKS 1, 2, 3, 4,

4" ALP FOR CONT. SEE DWG NO. 10-M-5

CONC. MODIFICATIONS SEE STRUCTURAL

4" ALP FOR CONT. SEE DWG NO. 10-M-3

8" DROP PIPE TYP. FOR AERATION TANKS 5, 6, 7, 8, 9

311) TYP EACH SIDE AT DROP PIPE LOCATIONS. USE WIDE FLANGE SUPPORT SEE DETAIL 10-M-6

312) TYP EACH SIDE AT DROP PIPE LOCATIONS. USE WIDE FLANGE SUPPORT SEE DETAIL 10-M-6

CONNECT TO BURIED 36" ALP, TYP OF 3 FLANGES. MODIFY EXIST HANDRAIL TO ACCOMMODATE NEW 20" ALP

MAGNESIUM ANODE AT 25' MAXIMUM SPACING SEE (453) & (454) TYP

CONNECT 36" ALP TO NEW 48" ALP ABOVE GROUND WITH INSULATING FLANGE SEE (451)

INSULATING FLANGE SEE (451)

PIPE SUPPORTS SEE (339)

PIPE BASE & ZONE MATERIAL, PER SPECIFICATIONS

36" ALP INVT EL 591.0

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF AN ON-SITE VISUAL SURVEY AND OTHER INFORMATION NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION OF EXISTING OR PROPOSED FACILITIES. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

PLAN

1/8" = 1'-0"

MATCHLINE SEE DWG 10-M-2

FOR INSTALLATION, SEE (600), (603) & (605) TYPICAL ALL TANKS

BLOWOFF VALVE BOX SEE 10-M-9

INSTALL NEW FLANGES AND FLOW ELEMENT.

20" ALP

REMOVE EXISTING ORIFICE. INSTALL 1/8" SPACER GASKET & RECONNECT PIPING, TYP OF 4 PLACES.

30" ALP FLEXIBLE COUPLING W/ BUNAN GASKETS AT 40" MAX. SPACING. LEAVE 1" MINIMUM GAP BETWEEN PIPE ENDS WHEN INSTALLING COUPLING. USE FLEXIBLE JOINT BOND SEE (452) TYP

CONNECT TO BURIED 36" ALP, TYP OF 3 FLANGES. MODIFY EXIST HANDRAIL TO ACCOMMODATE NEW 20" ALP

MAGNESIUM ANODE AT 25' MAXIMUM SPACING SEE (453) & (454) TYP

CONNECT 36" ALP TO NEW 48" ALP ABOVE GROUND WITH INSULATING FLANGE SEE (451)

INSULATING FLANGE SEE (451)

PIPE SUPPORTS SEE (339)

PIPE BASE & ZONE MATERIAL, PER SPECIFICATIONS

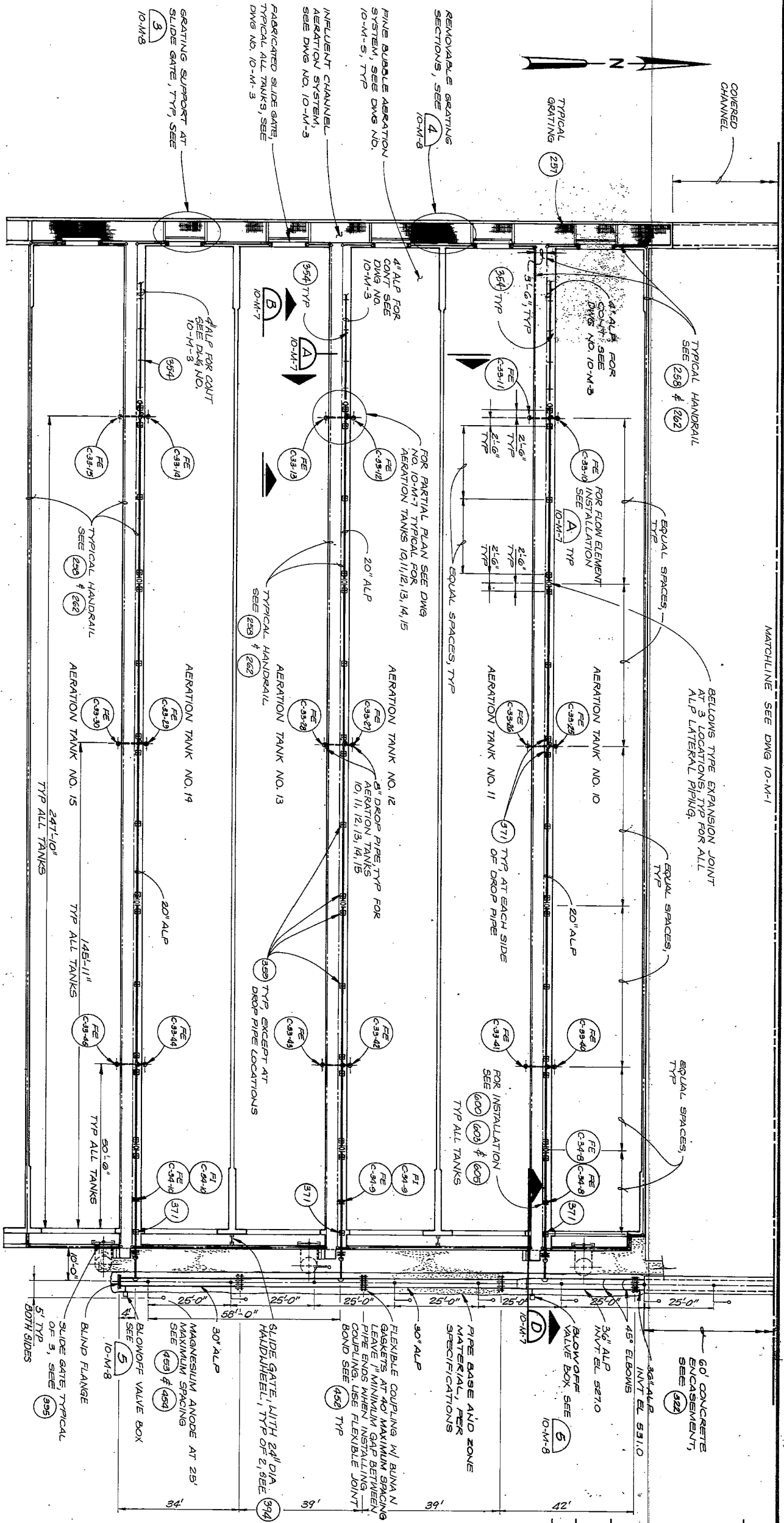
36" ALP INVT EL 591.0

<p>LEON CREEK</p> <p>ADVANCED SECONDARY TREATMENT PLANT UNITS - CATEGORY NO. 2</p> <p>AERATION TANKS</p> <p>PLAN - EXISTING TANKS</p> <p>MECHANICAL</p>	<p>San ANTONIO</p> <p>WASTEWATER FACILITIES IMPROVEMENTS</p>	<p>Date: JUNE 1985</p> <p>Designed by: H. DAWSON</p> <p>Drawn by: SUDBANK</p> <p>Checked by: S. SHOTTS</p> <p>Scale: 1/16" = 1'-0"</p>	<p>Revisions</p> <table border="1"> <tr> <th>No.</th> <th>Date</th> <th>Description</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	No.	Date	Description				<p>App. 10-M-1</p> <p>Drawing No.</p>
		No.	Date	Description						
<p>Sheet 54</p>	<p> </p>	<p> </p>	<p> </p>							



LC 85-6501

10-M-2	
10-M-2	



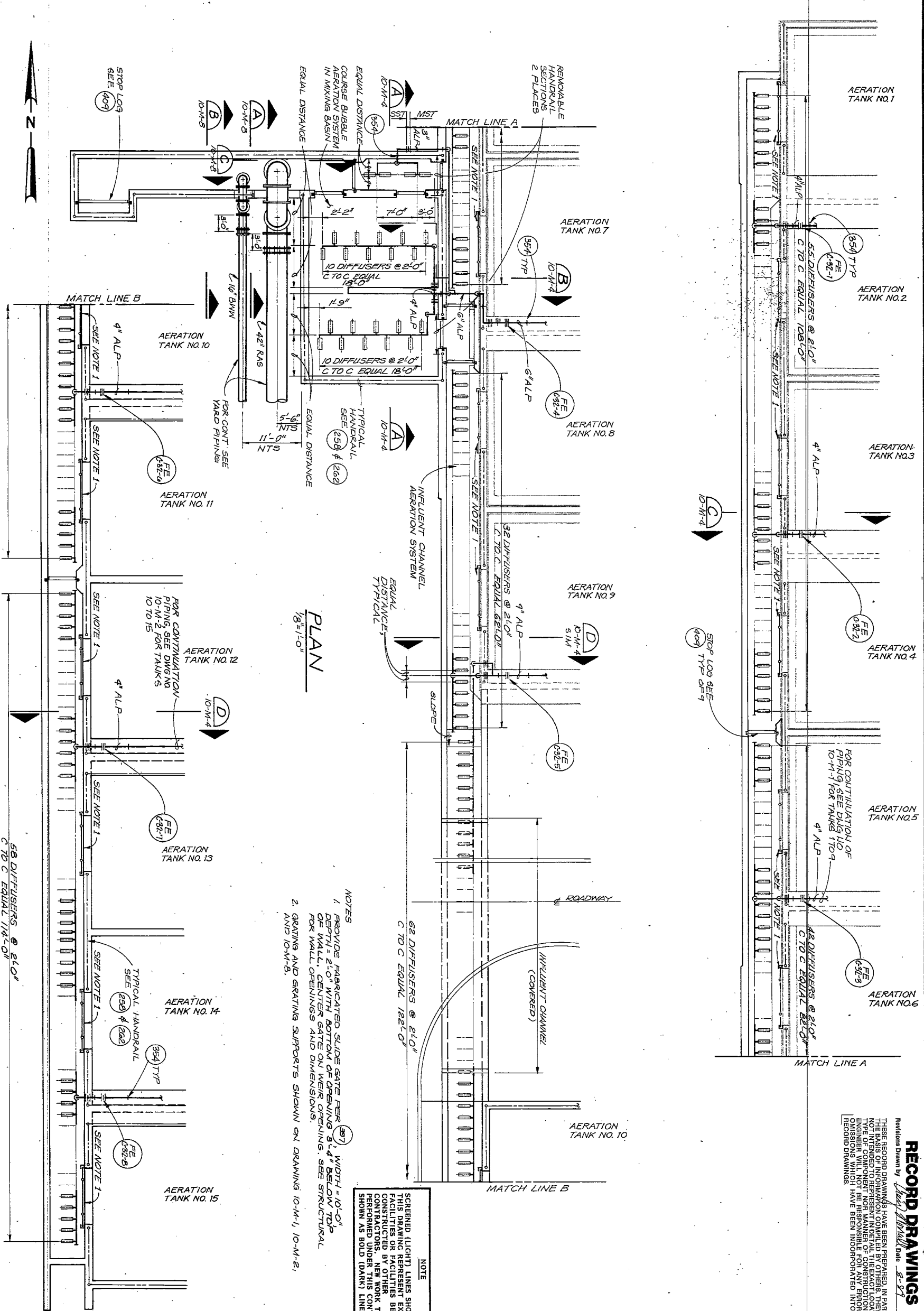
PLAN
1/16" = 1'-0"

RECORD DRAWINGS

Revisions Drawn by *Cherry Hill* Date *2-87*
 THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF THE ORIGINAL RECORD DRAWINGS AND THE TYPE OF COMPONENT NOT IN DETAIL THE EXACT LOCATION, DIMENSIONS, OR MATERIALS WILL NOT HAVE BEEN INDICATED IN THE RECORD DRAWINGS.

SHEET 65	LEON CREEK ADVANCED SECONDARY TREATMENT PLANT UNITS - CATEGORY NO. 2 AERATION TANKS PLAN - NEW TANKS MECHANICAL	SAN ANTONIO	WASTEWATER FACILITIES IMPROVEMENTS		Date: JUNE 1986 Designed by: <i>M. D. Dyer III</i> Drawn by: <i>SANBANK</i> Checked by: <i>C. SHOTTS</i> Scale: 1/16" = 1'-0"	No. Date Revisions 	Drawing No. 10-M-2

10-M-3		
10-M-3		



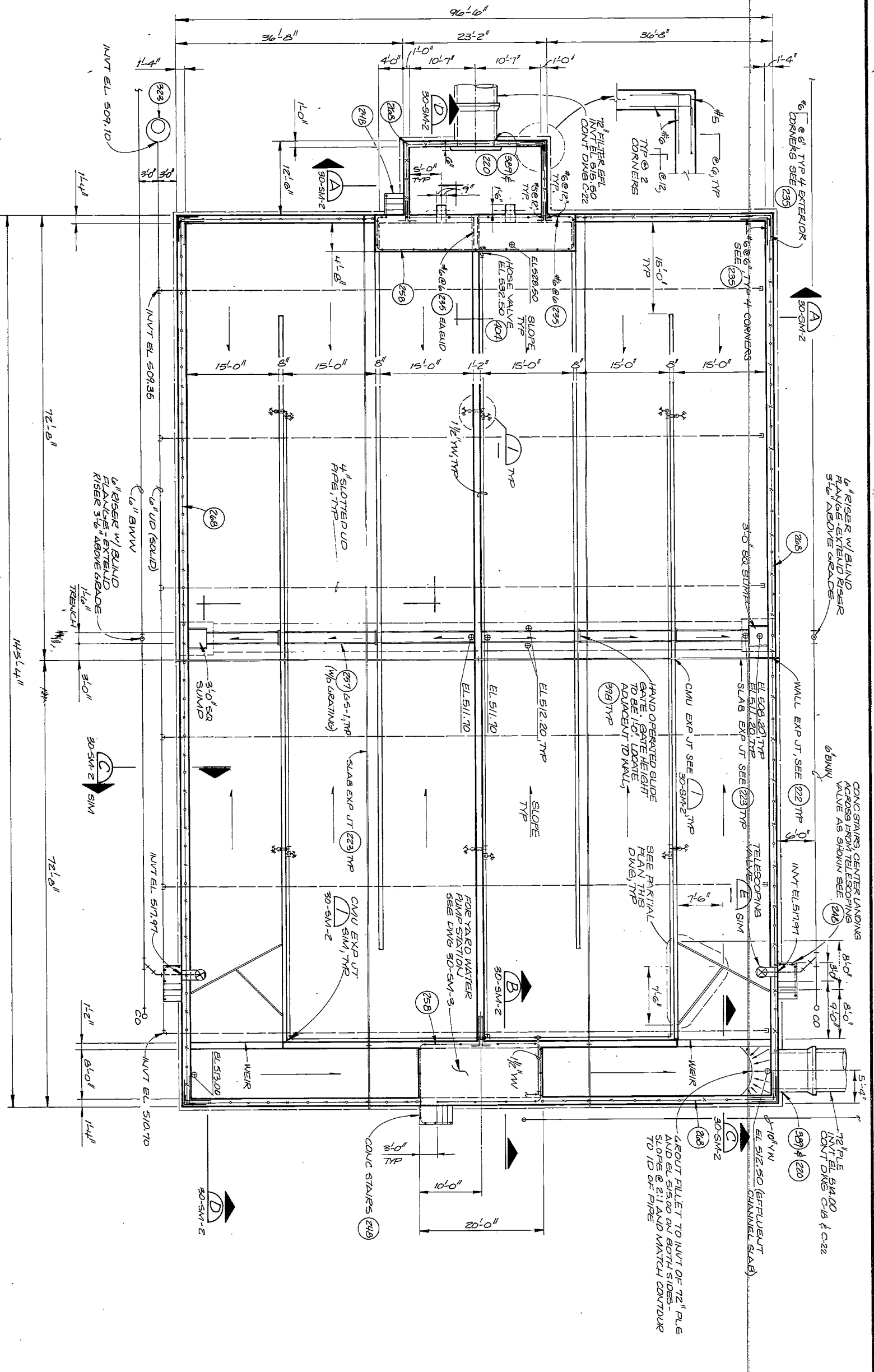
PLAN
1/8" = 1'-0"

- NOTES
1. PROVIDE FABRICATED SLIDE GATE PER (397) WIDTH = 10'-0" DEPTH = 2'-0" WITH BOTTOM OF OPENING 9'-4" BELOW TOP OF WALL. CENTER GATE ON WEIR OPENING. SEE STRUCTURAL FOR WALL OPENINGS AND DIMENSIONS.
 2. GRATING AND GRATING SUPPORTS SHOWN ON DRAWING 10-M-1, 10-M-2, AND 10-M-8.

NOTE
SCREENED (LIGHT) LINES SHOWN ON THIS DRAWING REPRESENT EXISTING CONDITIONS. NEW WORK TO BE CONSTRUCTED BY OTHER CONTRACTORS UNDER THIS CONTRACT IS SHOWN AS BOLD (DARK) LINES.

RECORD DRAWINGS
 Revisions Drawn by *John J. Miller* Date *8-27*
 THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART, ON THE BASIS OF THE ORIGINAL DRAWINGS AND THE LOCATION OF THE TYPE OF COMPONENT NOT MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INTRODUCED INTO THE RECORD DRAWINGS.

56	LEON CREEK ADVANCED SECONDARY TREATMENT PLANT UNITS - CATEGORY NO. 2				Date: JUNE 1985 Designed by: M. DAMOTA Drawn by: ZIMMERMAN Checked by: B. SHOTTS Scale: 1/8" = 1'-0"		No. Date Revisions App. _____ _____ _____ _____	Drawing No. 10-M-3
	AERATION TANKS PLAN— INFLUENT CHANNEL AND MIXING CHAMBER MECHANICAL							



PLAN
 1/8" = 1'-0"

- NOTES
1. FOR FOUNDATION PREPARATION SEE (22).
 2. REINFORCE ALL 8" 1/2" & 1-1/4" WALLS SIMILAR TO THE REPRESENTATIVE WALLS SHOWN ON DWG. 30-SM-2 UNLESS OTHERWISE NOTED.

RECORD DRAWINGS

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 DESIGNER'S RESPONSIBILITY IS TO VERIFY THE ACCURACY OF THE DIMENSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

No.	Date	Revisions	App.

Date: _____
 Designed by: _____
 Drawn by: _____
 Checked by: _____
 Scale: _____

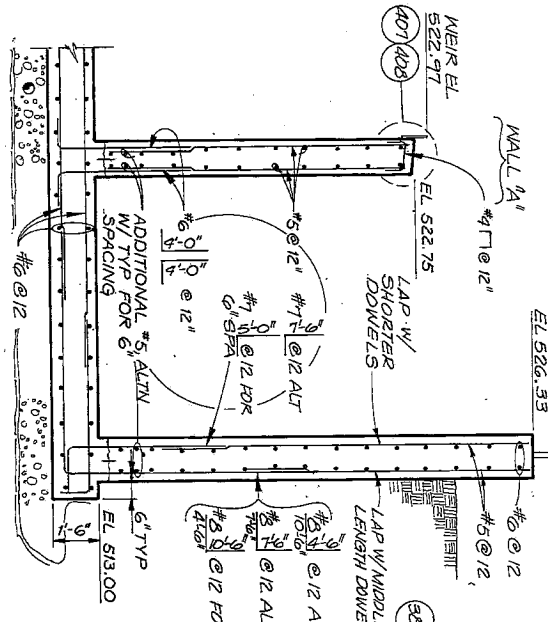


Drawing No.
 30-SM-1.1

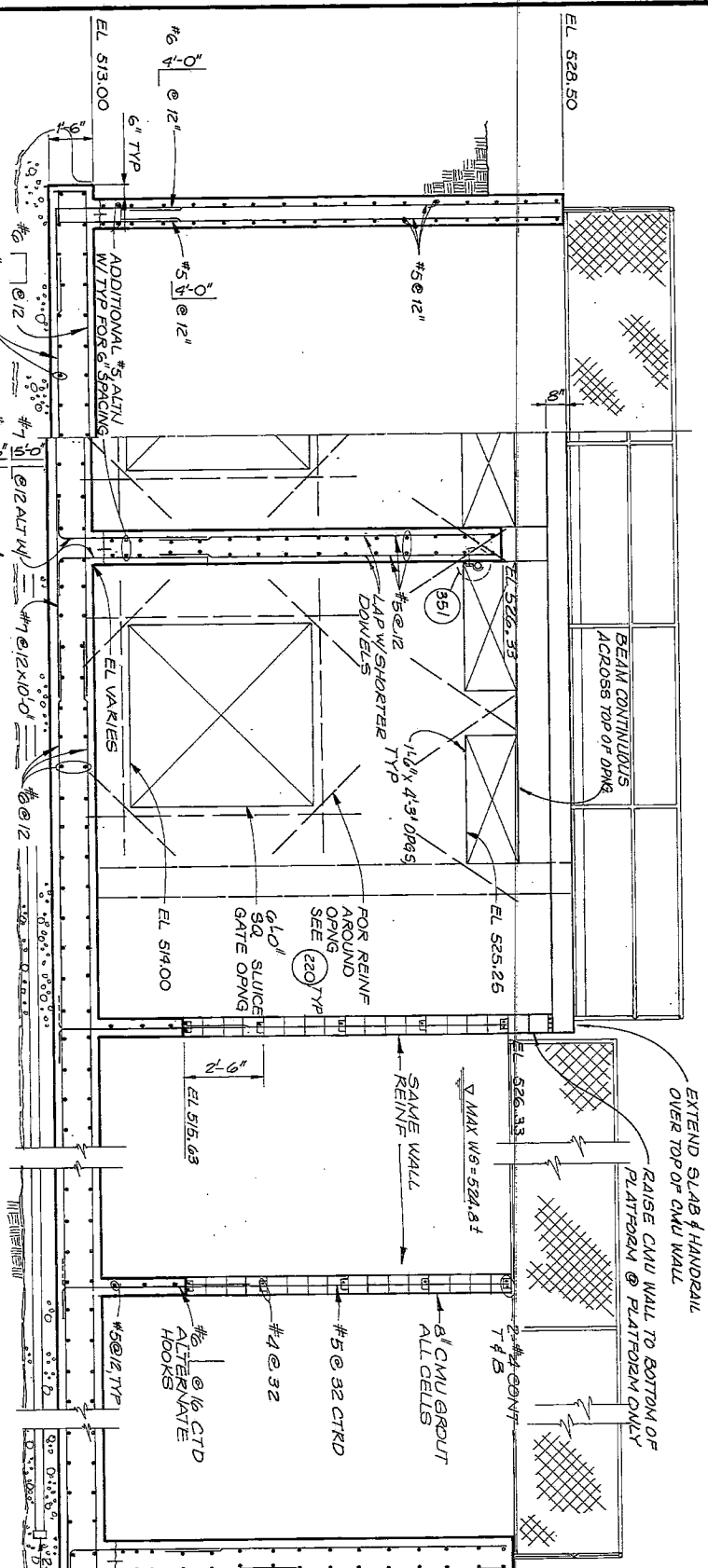
LEON CREEK
 ADVANCED SECONDARY TREATMENT PLANT UNITS - CATEGORY NO. 2
 CHLORINE CONTACT BASIN
 PLAN
 STRUCTURAL MECHANICAL

SAN ANTONIO WASTEWATER FACILITIES IMPROVEMENTS

SECTION C
3/8" = 1'-0"
30-SM-1



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

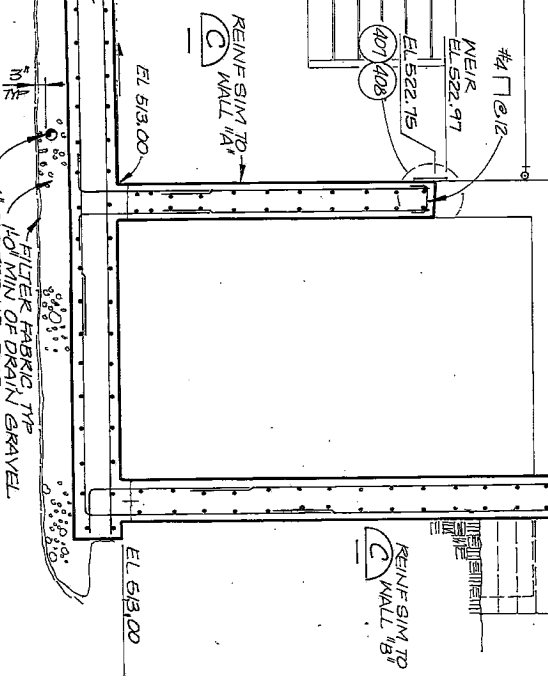


NOTE:
FOUNDATION PREPARATION FOR THIS
STRUCTURE CONSISTS OF
EXCAVATING 4'-0" LIME SLURRY
OR INJECTION OF SOILS FOR A DEPTH
OF 7'-0" THEN PLACING LIME
TREATED FILL TO SUBGRADE
ELEVATION. SEE DWG DC-3

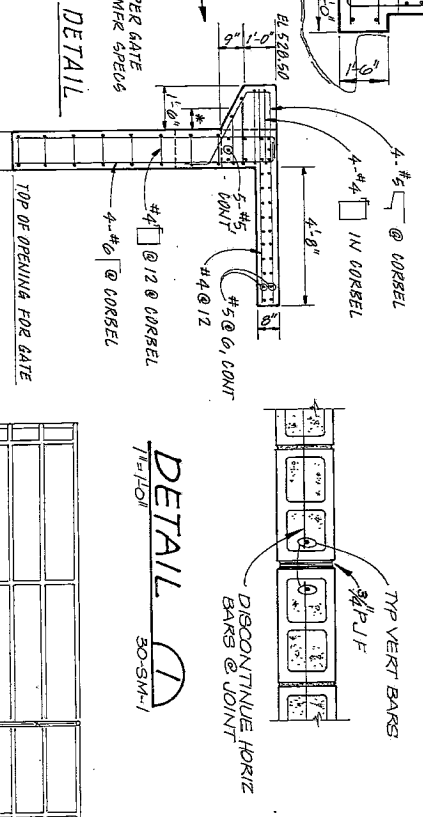
RECORD DRAWINGS

Revisions Drawn by: [Signature]
DATE: [Date]
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 NUMBER OF COMPONENTS OR
DIMENSIONS WHICH HAVE BEEN INCORPORATED INTO THE
RECORD DRAWINGS.

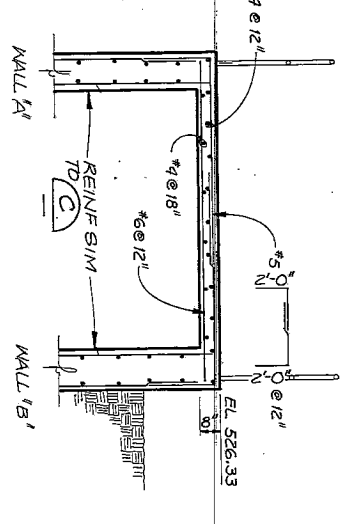
SECTION D
3/8" = 1'-0"
30-SM-1



DETAIL D
1/2" = 1'-0"
30-SM-1

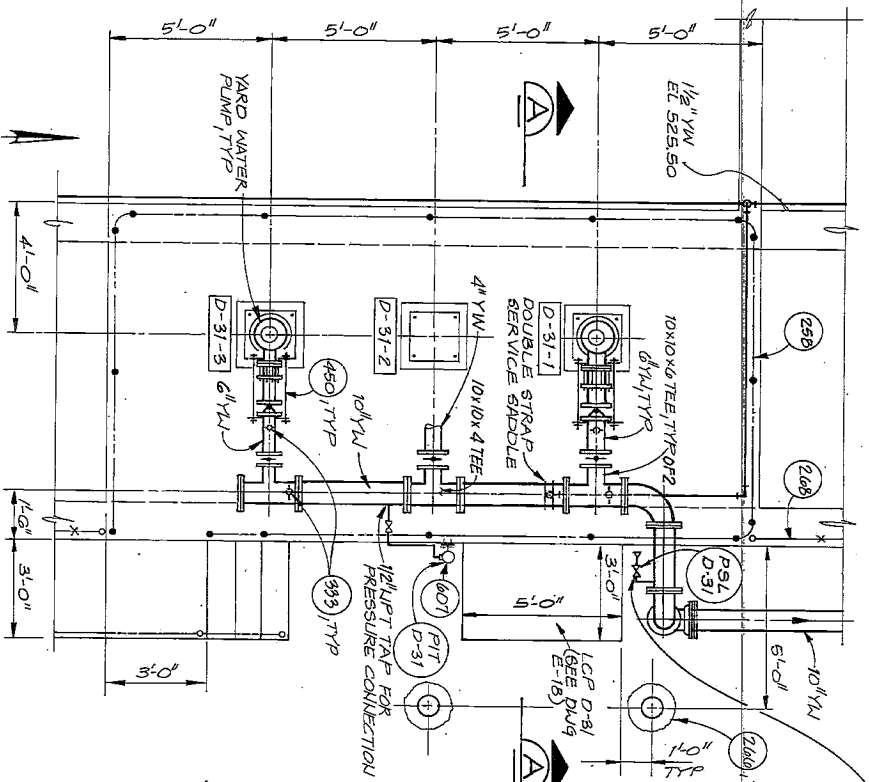


SECTION B
3/8" = 1'-0"
30-SM-1



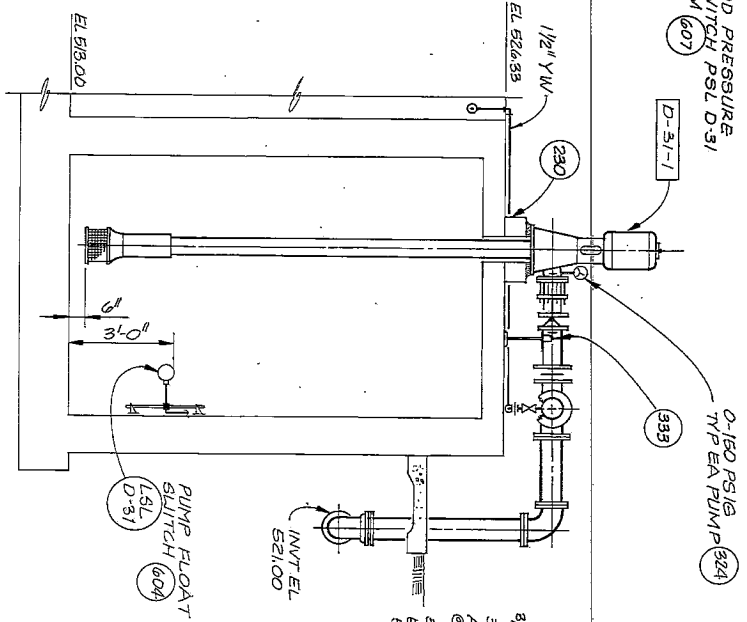


LC 85-6501

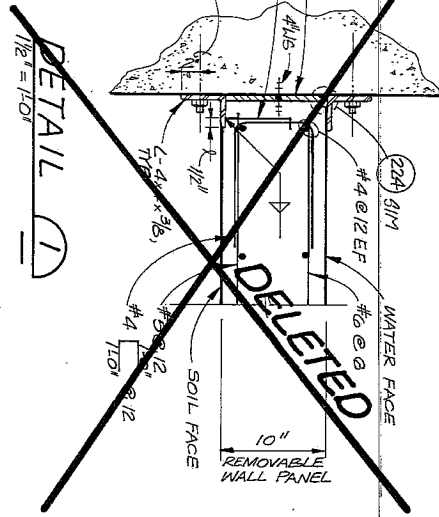


PLAN
3/8" = 1'-0"

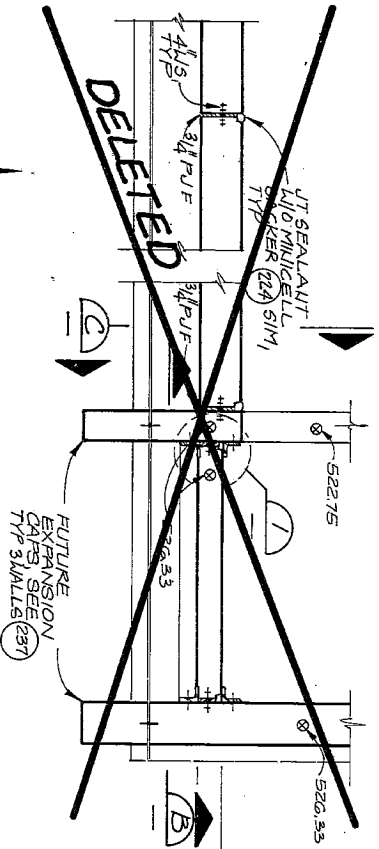
YARD WATER PUMP STATION



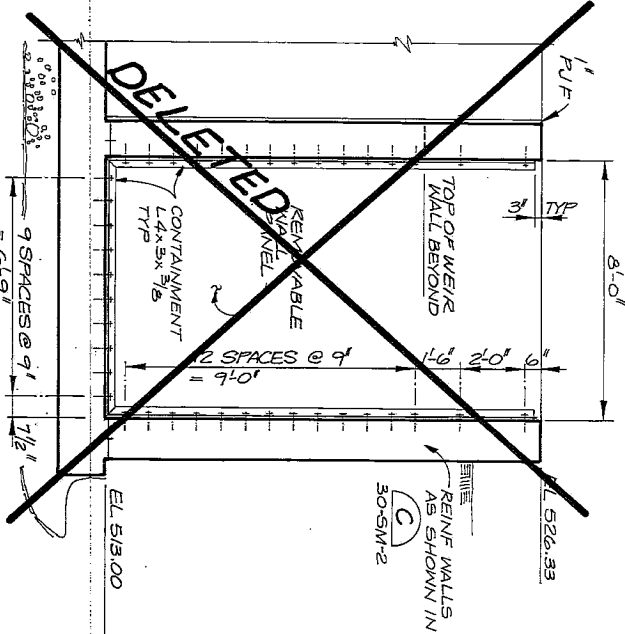
SECTION A
3/8" = 1'-0"



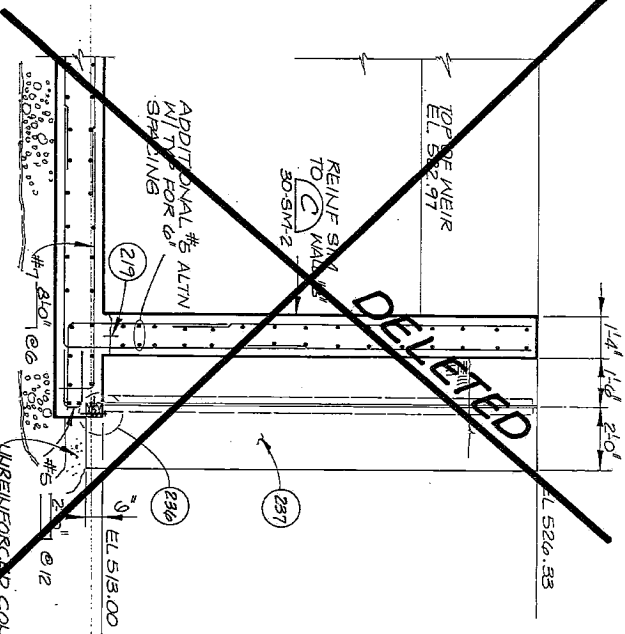
DETAIL D
1/2" = 1'-0"



PARTIAL PLAN
3/8" = 1'-0"



SECTION B
3/8" = 1'-0"



SECTION C
3/8" = 1'-0"

RECORD DRAWINGS
 Revisions Drawn by WMM Date 8-27
 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, CHARACTER OR CONDITION OF ANY EXISTING UTILITIES. THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONSEQUENCES OF THE OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

No.	Date	Revisions	App.

Date: JUNE 1985
 Designed by: J. Aldrich
 Drawn by: F. Kerr
 Checked by: D. Tinkey
 Scale: AS SHOWN

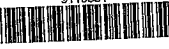
LEON CREEK
 ADVANCED SECONDARY TREATMENT PLANT UNITS - CATEGORY NO. 2
 CHLORINE CONTACT BASIN
 YARD WATER PUMP STATION
 STRUCTURAL MECHANICAL

San Antonio WASTEWATER FACILITIES IMPROVEMENTS

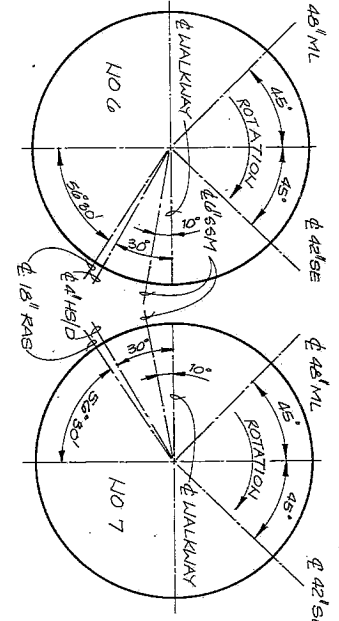
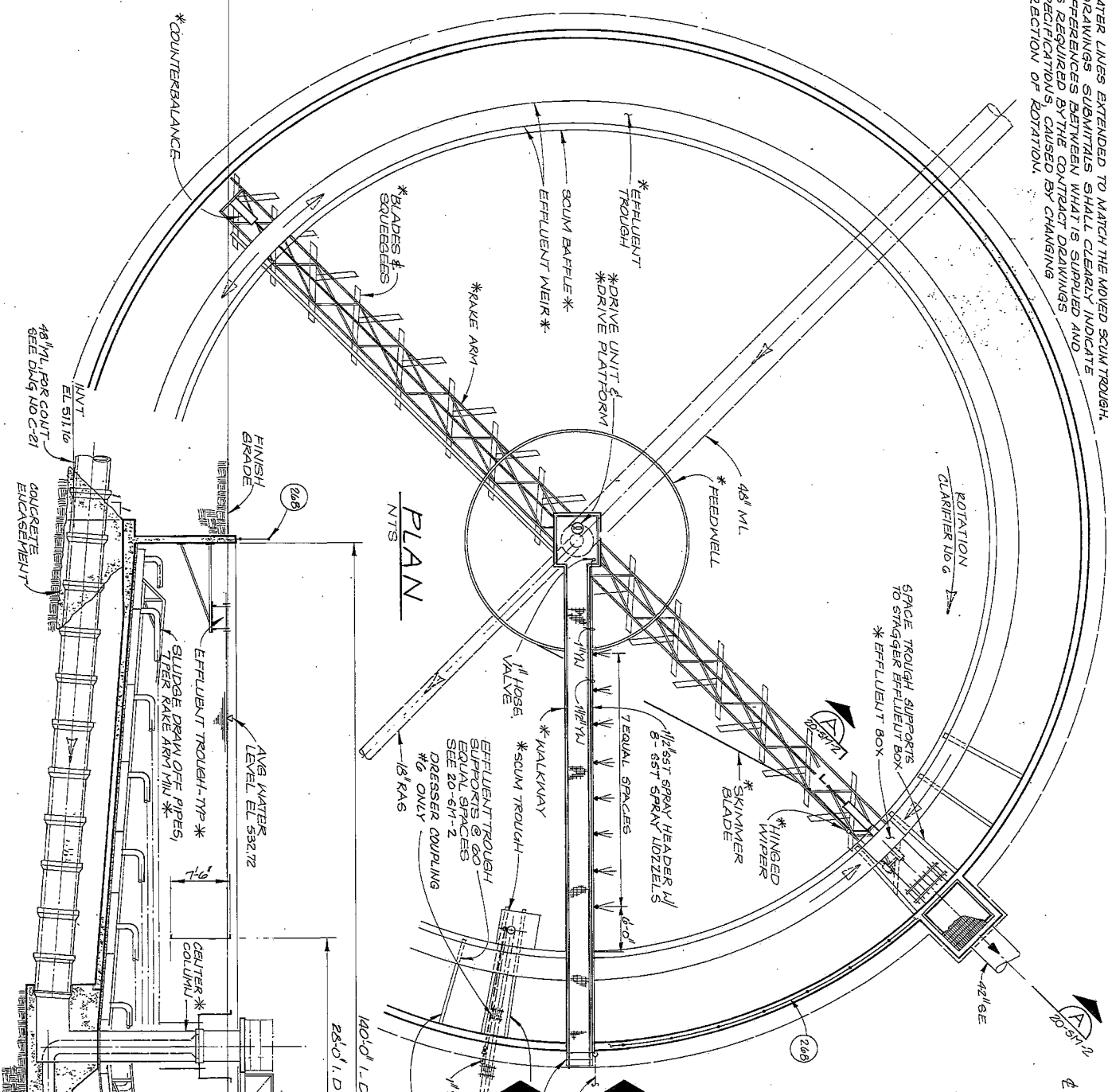
STATE OF TEXAS
 STEPHEN E. AASHEM
 5877

Drawing No. 30-SM-3
 Sheet 78

9110551

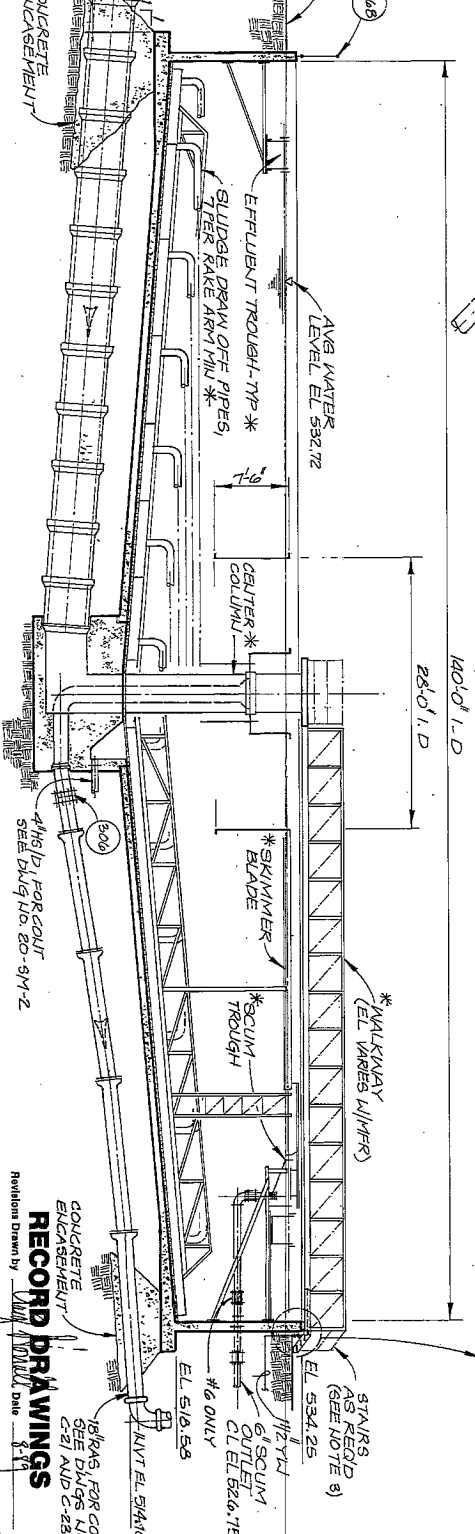


4. BOTH CLARIFIERS MAY BE SUPPLIED WITH THE SAME DIRECTION OF ROTATION. SUBJECT TO THE APPROVAL OF THE ENGINEER AND PROVIDED ALL NECESSARY CHANGES TO FURNISH A COMPLETE AND OPERATING SYSTEM ARE MADE WITHOUT CHANGING THE ORIENTATION OF THE CLARIFIER WALKWAY. THE CHANGES SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: SCUM TROUGH LOCATED ON THE OPPOSITE SIDE OF THE WALKWAY; SPRAY NOZZLES DIRECTED IN THE OPPOSITE DIRECTION; AND THE SCUM AND YARD WATER LINES EXTENDED TO MATCH THE MOVED SCUM TROUGH. SHOP DRAWINGS SUBMITTED SHALL CLEARLY INDICATE ALL DIFFERENCES BETWEEN WHAT IS SUPPLIED AND WHAT IS REQUIRED BY THE CONTRACT DRAWINGS. CAUSED BY CHANGING THE DIRECTION OF ROTATION.



ORIENTATION PLAN
TI-201

- NOTES
- 1. PIPING ON THIS PLAN IS SCHEMATIC. FOR PIPE LOCATIONS SEE ORIENTATION PLAN ABOVE AND DWG NO. C-21.
 - 2. *- INDICATES EQUIPMENT SUPPLIED BY THE SECONDARY CLARIFIER MECHANISM MANUFACTURER AND INSTALLED BY THE CONTRACTOR.
 - 3. STAIRS SHALL BE IN CONFORMANCE WITH STANDARD DETAILS.
 - 4. SEE UPPER LEFT.



ELEVATION AT WALL
NTS

RECORD DRAWINGS

CONCRETE
EXCAVEMENT
SEE DWG NO. C-23
FOR CONT.
SEE DWG NO. C-21
FOR CONT.
SEE DWG NO. C-21
FOR CONT.

COMPOSITE SECTION
NTS

No.	Date	Revisions	App.

Date
Designed by M. DEERT
Drawn by LF KENT
Checked by D. TINKEY
Scale
AS SHOWN



San Antonio
WASTEWATER
FACILITIES
IMPROVEMENTS

LEON CREEK
ADVANCED SECONDARY TREATMENT PLANT UNITS - CATEGORY NO. 2

SECONDARY CLARIFIERS:
PLAN AND SECTIONS

STRUCTURAL MECHANICAL

Sheet 66