Steven M. Clouse WRC Electrical System Improvements Phase 2B RFCSP
Solicitation Number: CO-00547
Job No.: 21-6510

ADDENDUM 4

August 30, 2022

To Respondent of Record:

This addendum, applicable to work referenced above, is an amendment to the proposal request, plans and specifications and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the Addendum number and issue date on the space provided in submitted copies of the Proposal.

RESPONSES TO QUESTIONS

1. Please confirm Independent Testing Firm Report referenced in Section 16121 1.03 B 2 is pertaining to Field Test of the MV Cables referenced in Section 16121 3.03 E. As currently there is no requirement regarding the field test to be performed by Independent Testing Firm in Section 16121 3.03.

   Response: Refer to Changes to the Specifications, Item 1.

2. AVCOMM Technologies, Inc. are manufacturers of Industrial grade IT Products. We would like to request to be listed as an approved equal vendor.

   Response: No additional manufacturers will be named during bidding. Products submitted by Contractor for the project must fully comply with the contract documents. Materials for potential use on future projects may be submitted for consideration using the product submittal application process under Construction & Materials Specs in SAWS website at the following link.
   https://apps.saws.org/business_center/specs/product_submittal/

3. May bidder's submit their bid bond on a surety provided form?

   Response: Bidders may submit their bid bond on a surety provided form.

CHANGES TO THE SPECIFICATIONS

1. Section 16121 MEDIUM VOLTAGE CABLES
   a. Page 16121-2, Paragraph 1.03.B.2: Remove this sentence in its entirety. Replace with, "Submit field test reports as specified."

CHANGES TO THE PLANS

1. Remove the following sheets in their entirety and replace with the attached sheets:
   a. 00E14
   b. 00E27
   c. 00E32

d. 00E35
e. 20E28
f. 20E56
g. 20E57
h. 20E58
i. 20E59
j. 20E60
k. 20E61
l. 20E62

CLARIFICATIONS

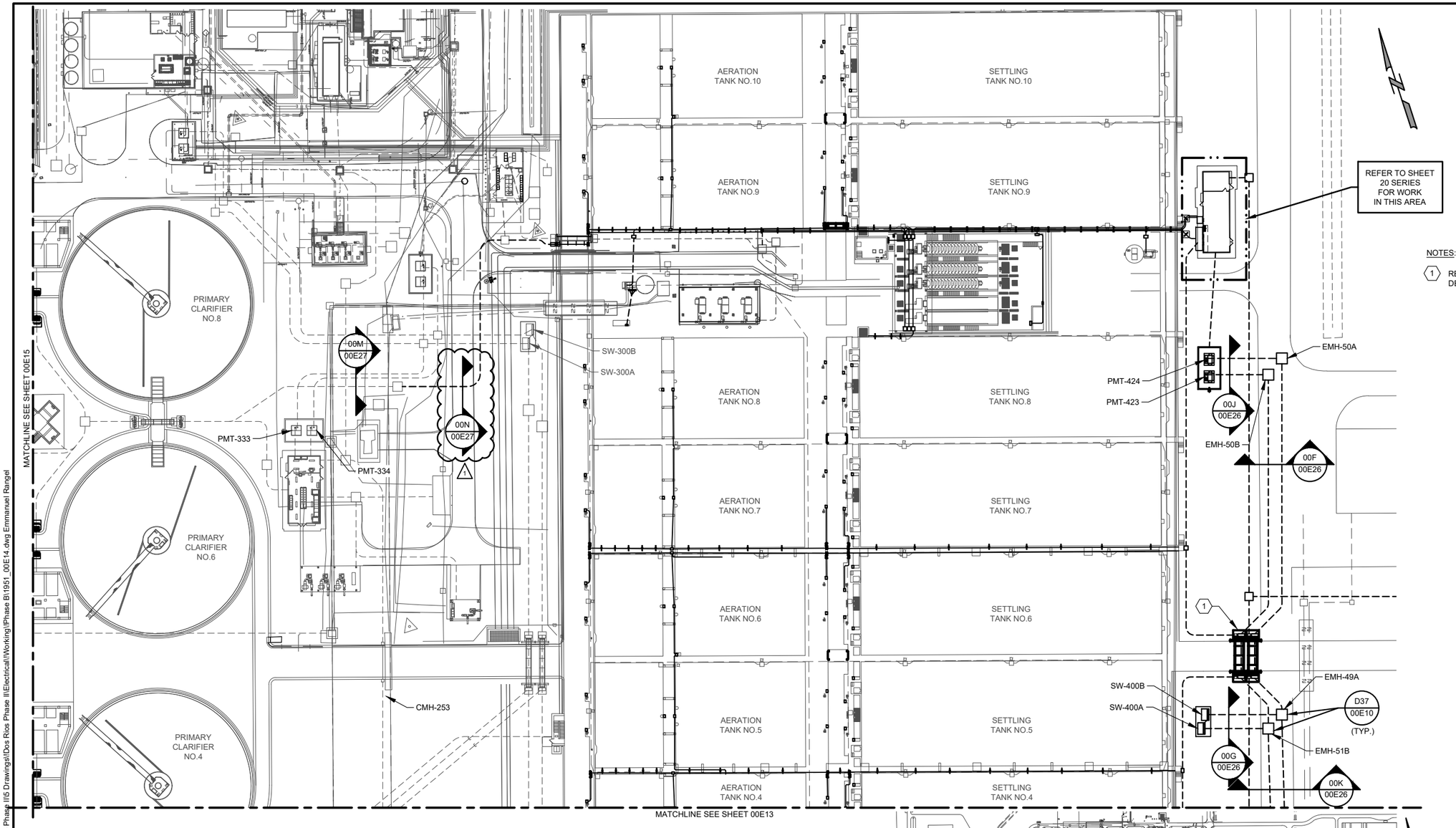
1. Removed third-party testing requirement for medium voltage cables.
2. Clarified ductbank routing.
3. Clarified bid bond submittal.
4. Clarified grounding requirements for control circuits.

END OF ADDENDUM

This Addendum, including these two (2) pages, is fourteen (14) pages with attachments in its entirety.

Attachments:
Drawings: 12 pages, 11x17 (HALF-SIZE)

William D. Sako
Gupta & Associates, Inc.
TBPE # F-2593
8/30/2021



NOTES:

1. REFER TO SHEET 00S07 FOR STRUCTURAL DETAILS.

ENLARGED SITE PLAN
SCALE: 1" = 40'
0 20' 40' 80' 120'

KEY PLAN

GAI
Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13777 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7661
Fax: 972-490-7475
www.gaiconsulting.com

WILLIAM D. SAKO 93283 LICENSED PROFESSIONAL ENGINEER 07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
1	08/30/22	ER	ADDENDUM NO.4

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

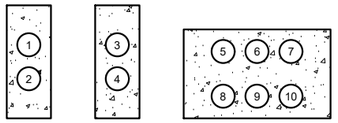
15KV DISTRIBUTION SITE PLAN - III

DESIGNED BY:	W.SAKO
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_00E14

SHEET NO.
00E14
36 OF 227

100% SUBMITTAL - ISSUED FOR BID

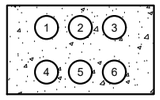
8/18/2022 5:42 PM Z:\1951_SAWS Dos Rios WRC Electrical System Improvements – Phase II\5 Drawings\Dos Rios Phase II\Electrical\Working\Phase B\1951_00E14.dwg Emmanuel Rangel



DUCTBANK

SECTION 00M (00E14) 1

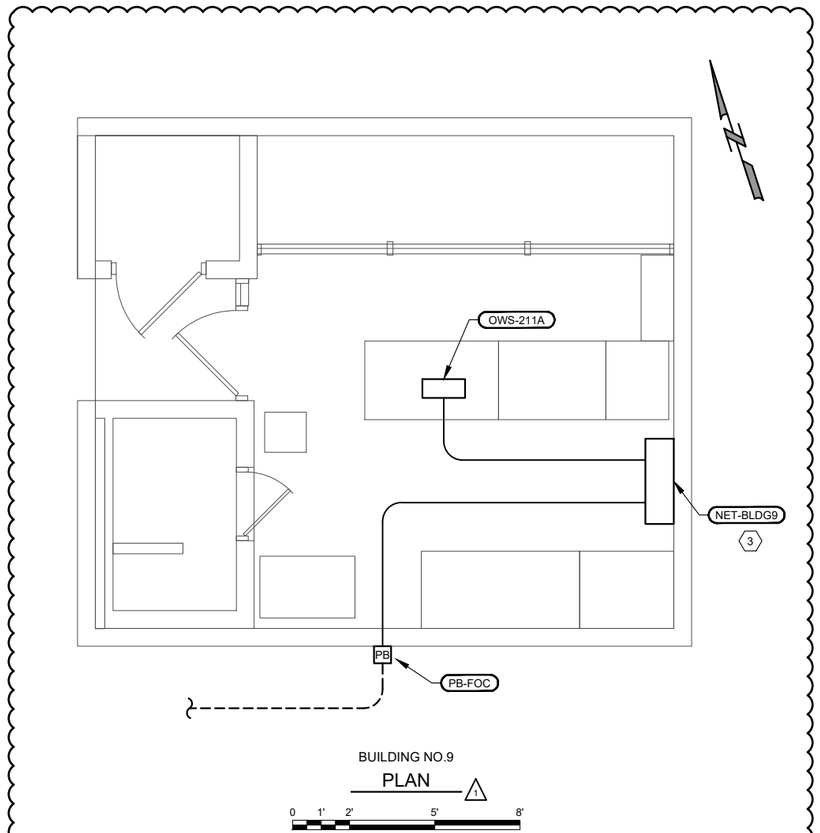
TABLE FOR SECTION 00M				
	CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
	1	SW300-2P	4"C	TO PMT-330
	2	SPARE	4"C	-
	3	SW300B-2P	4"C	TO PMT-333
	4	SPARE	4"C	-
2	5	B1-EM1-C1, B1-EM1-C2	2"C	EMERGENCY GENERATOR TO ATS-B1-A
	6	SPARE	2"C	-
	7	SPARE	2"C	J-BOXES TO LMH-10
2	8	B1-EM1-P	4"C	EMERGENCY GENERATOR TO ATS-B1-A VIA FTB-B1-A
2	9	B1-EM1-P	4"C	EMERGENCY GENERATOR TO ATS-B1-A VIA FTB-B1-A
2	10	B1-EM1-P	4"C	EMERGENCY GENERATOR TO ATS-B1-A VIA FTB-B1-A



DUCTBANK

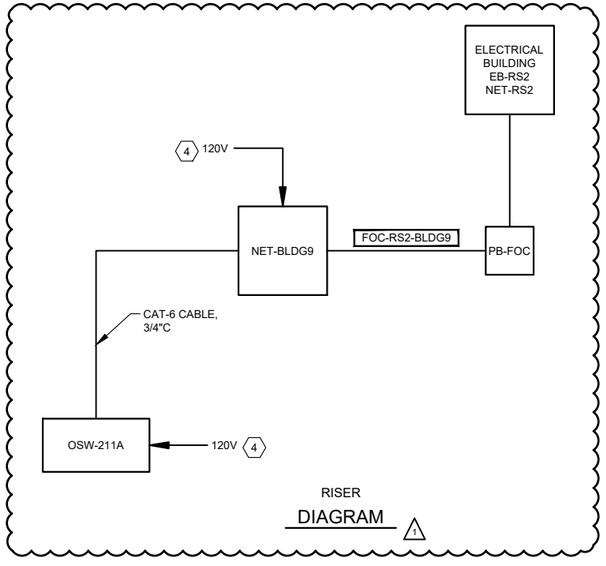
SECTION 00N (00E14) 1

TABLE FOR SECTION 00N			
CONDUIT NO.	CONDUIT TAG	CONDUIT SIZE	DESCRIPTION
1	B1-EM1-C1, B1-EM1-C2	2"C	EMERGENCY GENERATOR TO ATS-B1-A
2	SPARE	2"C	-
3	SPARE	2"C	J-BOXES TO LMH-10
4	B1-EM1-P	4"C	EMERGENCY GENERATOR TO ATS-B1-A VIA FTB-B1-A
5	B1-EM1-P	4"C	EMERGENCY GENERATOR TO ATS-B1-A VIA FTB-B1-A
6	B1-EM1-P	4"C	EMERGENCY GENERATOR TO ATS-B1-A VIA FTB-B1-A



BUILDING NO.9

PLAN 1



RISER

DIAGRAM 1

NOTES:

1. EXISTING DUCTBANK WITH EXISTING WIRES EXCEPT AS NOTED.
2. NEW WIRE IN EXISTING DUCTBANK.
3. LOCATION OF THE NETWORK ENCLOSURE SHALL BE ADJUSTED IN THE FIELD BASED ON SPACE AVAILABILITY.
4. PROVIDE 1202V POWER FROM EXISTING UPS SOURCE. PROVIDE 3#12, 3/4"C FIELD ROUTE WIRE AND CONDUIT.

GAI Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13777 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7961
Fax: 972-490-7975
www.gaiconsulting.com

WILLIAM D. SAKO 93283 LICENSED PROFESSIONAL ENGINEER 07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
1	08/30/22	ER	ADDENDUM NO.4

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

1"

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

DUCTBANK SECTIONS - III

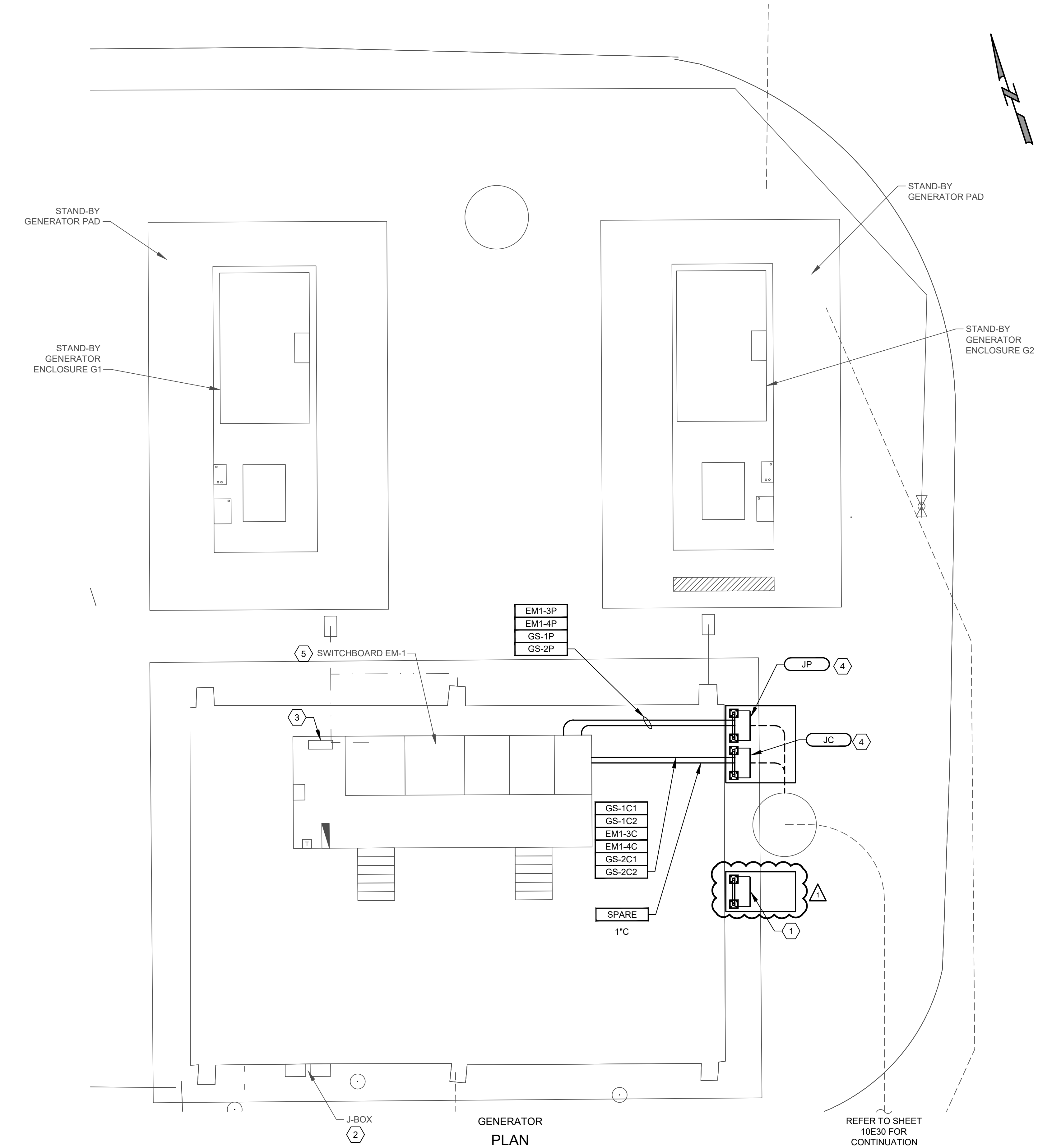
DESIGNED BY:	W.SAKO
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	G.LUKE
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_00E27

SHEET NO.

00E27

49 OF 227

100% SUBMITTAL - ISSUED FOR BID



GENERATOR
PLAN
SCALE: 1/4" = 1'-0"
0 2' 4' 8' 12'

GENERAL NOTES:

1. FIELD VERIFY THE EXACT LAYOUT.
2. FIELD ROUTE CONDUITS.
3. THE CONTRACTOR SHALL OBTAIN SERVICES OF MANUFACTURING TO MAKE ANY MODIFICATION TO THE 480V SWITCHGEAR AND CONTROLS.
4. THE GENERATOR SYSTEM SHALL BE TESTED ONCE THE INSTALLATION IS COMPLETED.
5. PROVIDE NECESSARY HARDWARE AND TERMINALS IN THE SWITCHBOARD TO TERMINATE NEW CABLES.

NOTES:

1. POWER J-BOX FOR AERATION BASIN.
2. EXISTING J-BOXES.
3. EXISTING GENERATOR CONTROL PANEL.
4. PROVIDE NEMA 4X, 316 SS POWER AND CONTROL BOXES TO ACCOMMODATE THE CONDUIT AND WIRES FOR DUCTBANK 10AM (REFER TO SHEET 10E30 AND 10E33). SIZE THE BOXES PER THE REQUIREMENTS OF THE NEC. PLACE THEM ON STANDS FOR CONDUIT ENTRY FROM BELOW AND ABOVE AS REQUIRED.
5. REFER TO SHEET 00E24 FOR ONE-LINE DIAGRAM.

GAI
Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13717 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7661
Fax: 972-490-7125
email:gaiconsulting.com

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
1	08/30/22	ER	ADDENDUM NO.4

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

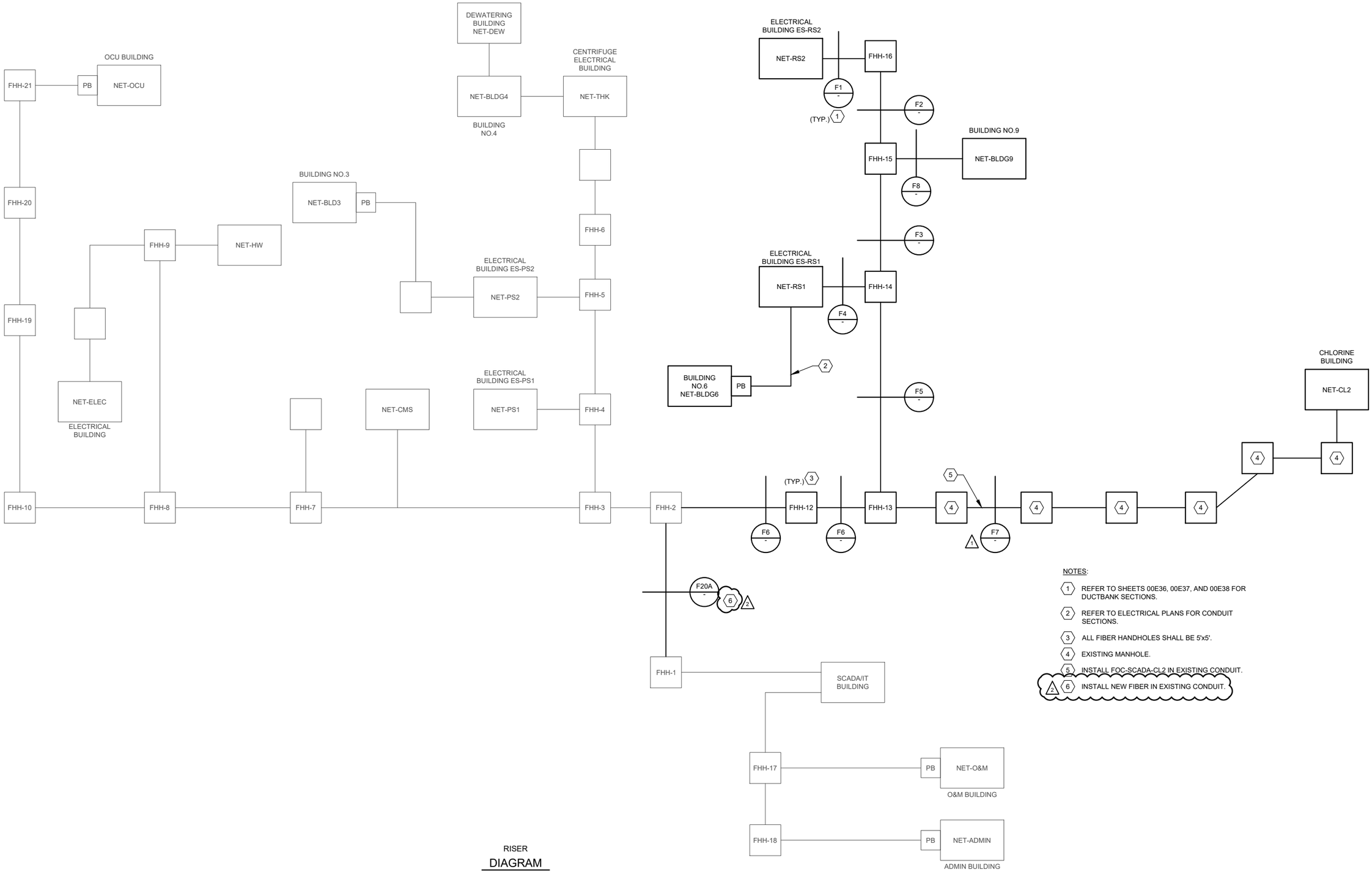
SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

SWITCHBOARD NO.1 PLAN

DESIGNED BY:	W.SAKO
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_00E32

SHEET NO.
00E32
53 OF 227

100% SUBMITTAL - ISSUED FOR BID



NOTES:

1. REFER TO SHEETS 00E36, 00E37, AND 00E38 FOR DUCTBANK SECTIONS.
2. REFER TO ELECTRICAL PLANS FOR CONDUIT SECTIONS.
3. ALL FIBER HANDHOLES SHALL BE 5'x5'.
4. EXISTING MANHOLE.
5. INSTALL FOC-SCADA-CL2 IN EXISTING CONDUIT.
6. INSTALL NEW FIBER IN EXISTING CONDUIT.

RISER DIAGRAM

GAI Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13777 Neutron Road
Dallas, Texas 75244
Tel. 972-490-7661
Fax. 972-490-7475
www.gaiconsulting.com

WILLIAM D. SAKO 93283 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS 07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
2	08/30/22	ER	ADDENDUM NO.4
1	08/08/22	ER	ADDENDUM NO.2

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

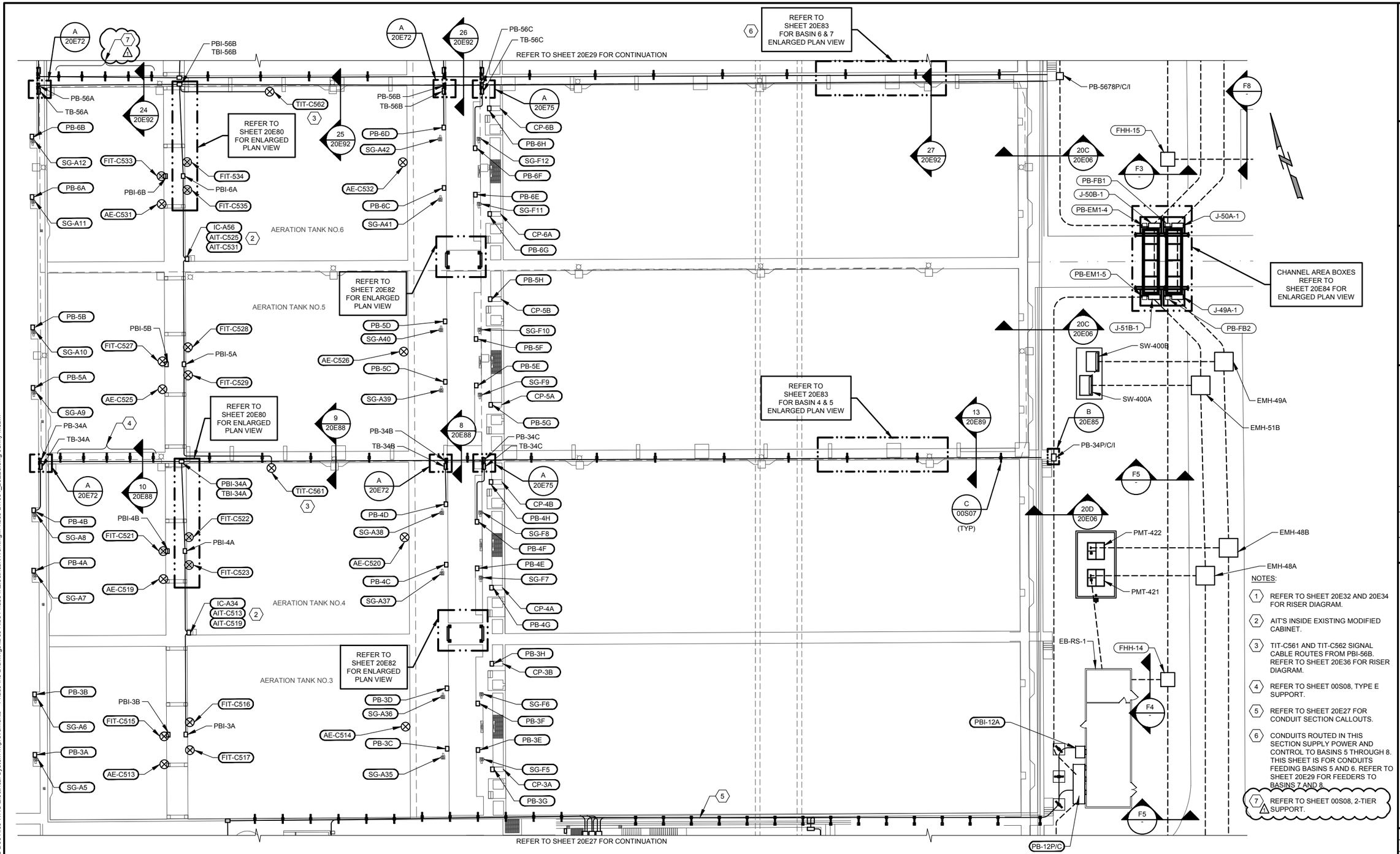
SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

FIBER OPTIC
OVERALL RISER DIAGRAM

DESIGNED BY:	V.K. GUPTA
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_00E35

SHEET NO.
00E35
55 OF 227

100% SUBMITTAL - ISSUED FOR BID



ENLARGED SITE PLAN

SCALE: 1" = 20'

0 10' 20' 40' 60'

GENERAL NOTES:

1. REFER TO SHEET 20N34 FOR THE EQUIPMENT TAGS CROSS REFERENCE.

NOTES:

1. REFER TO SHEET 20E32 AND 20E34 FOR RISER DIAGRAM.
2. AIT'S INSIDE EXISTING MODIFIED CABINET.
3. TIT-C561 AND TIT-C562 SIGNAL CABLE ROUTES FROM PBI-56B. REFER TO SHEET 20E36 FOR RISER DIAGRAM.
4. REFER TO SHEET 00S08, TYPE E SUPPORT.
5. REFER TO SHEET 20E27 FOR CONDUIT SECTION CALLOUTS.
6. CONDUITS ROUTED IN THIS SECTION SUPPLY POWER AND CONTROL TO BASINS 5 THROUGH 8. THIS SHEET IS FOR CONDUITS FEEDING BASINS 5 AND 6. REFER TO SHEET 20E29 FOR FEEDERS TO BASINS 7 AND 8.
7. ⚠ REFER TO SHEET 00S08, 2-TIER SUPPORT.

GAI
Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13777 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7661
Fax: 972-490-7775
www.gaiconsulting.com

WILLIAM D. SAKO 93283 LICENSED PROFESSIONAL ENGINEER 07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
1	08/30/22	ER	ADDENDUM NO.4

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

FIRST STAGE AERATION TANKS NO.3 THROUGH NO.6 ENLARGED SITE PLAN

DESIGNED BY:	E. CLEMENT
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_20E28

SHEET NO.
20E28
122 OF 227

100% SUBMITTAL - ISSUED FOR BID

8/23/2022 12:07 PM Z:\1951_SAWS Dos Rios WRC Electrical System Improvements – Phase II\5 Drawings\!Dos Rios Phase II\Electrical\!Working\!Phase B\1951_20E28.dwg Jenny Meam

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.1 & NO.2		
SG-A1	SLUICE GATE (INFLUENT)	SG — C6 — RIRS11-101 (6#14 - SPARE)	PLC-RS1
SG-A2	SLUICE GATE (INFLUENT)	SG — C6 — RIRS11-102 (6#14 - SPARE)	
SG-A3	SLUICE GATE (INFLUENT)	SG — C6 — RIRS11-103 (6#14 - SPARE)	
SG-A4	SLUICE GATE (INFLUENT)	SG — C6 — RIRS11-104 (6#14 - SPARE)	
SG-A31	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS11-105 (6#14 - SPARE)	
SG-A32	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS11-106 (6#14 - SPARE)	
SG-A33	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS11-107 (6#14 - SPARE)	
SG-A34	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS11-108 (6#14 - SPARE)	
AE-C501	DISSOLVE OXYGEN (DO) SENSOR	AE — ⟨1⟩ — IC-A12 (AIT-C501)	
AE-C502	DISSOLVE OXYGEN (DO) SENSOR	AE — ⟨1⟩ — IC-A12 (AIT-C501) — A6 — RIRS11-109 (2-1PR#16TSP-SPARE)	
AE-C507	DISSOLVE OXYGEN (DO) SENSOR	AE — ⟨1⟩ — IC-A12 (AIT-C507)	
AE-C504	DISSOLVE OXYGEN (DO) SENSOR	AE — ⟨1⟩ — IC-A12 (AIT-C507)	
FIT-C503	FLOW TRANSMITTER	FIT — A1 — RIRS11-110	
FIT-C504	FLOW TRANSMITTER	FIT — A1 — RIRS11-111	
FIT-C505	FLOW TRANSMITTER	FIT — A1 — RIRS11-112	
FIT-C509	FLOW TRANSMITTER	FIT — A1 — RIRS11-113	
FIT-C510	FLOW TRANSMITTER	FIT — A1 — RIRS11-114	
FIT-C511	FLOW TRANSMITTER	FIT — A1 — RIRS11-115	
	FIRST STAGE SETTLING TANKS NO.1 & NO.2		
SG-F1	SLUICE GATE	SG — C6 — RIRS11-116 (6#14 - SPARE)	
SG-F2	SLUICE GATE	SG — C6 — RIRS11-117 (6#14 - SPARE)	
SG-F3	SLUICE GATE	SG — C6 — RIRS11-118 (6#14 - SPARE)	
SG-F4	SLUICE GATE	SG — C6 — RIRS11-119 (6#14 - SPARE)	
E003	SLUDGE COLLECTOR PANEL NO.1A	CP — C4 — RIRS11-120 (2#14 - SPARE)	
E004	SLUDGE COLLECTOR PANEL NO.1B	CP — C4 — RIRS11-121 (2#14 - SPARE)	
E005	SLUDGE COLLECTOR PANEL NO.2A	CP — C4 — RIRS11-122 (2#14 - SPARE)	
E006	SLUDGE COLLECTOR PANEL NO.2B	CP — C5 — RIRS11-123 (2#14 - SPARE)	

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.1 AND NO.2 PIPE GALLERY		
FIT-E001	FLOW TRANSMITTER	FIT — ⟨2⟩ RIRS11-124 — ENCLOSURE SKF1 — A1 — RIRS11-124	PLC-RS1
V-E001	VALVE CONTROL PANEL	CP — ⟨2⟩ RIRS11-125 — ENCLOSURE SKF1 — A1 — RIRS11-125	
FIT-E002	FLOW TRANSMITTER	FIT — ⟨2⟩ RIRS11-126 — ENCLOSURE SKF1 — A1 — RIRS11-126	
V-E002	VALVE CONTROL PANEL	CP — ⟨2⟩ RIRS11-127 — ENCLOSURE SKF1 — A1 — RIRS11-127	
	ELECTRICAL BUILDING EB-RS-1		
ZS-RS1-2	CONTROL ROOM INTRUSION SWITCH	ZS — C1 — RIRS11-128	
NETRAK-RS1	NETWORK ENCLOSURE	CP — C1 — RIRS11-129	
TIT-RS1-2	CONTROL ROOM TEMPERATURE TRANSMITTER	TIT — A1 — RIRS11-130	

GENERAL NOTES:

1. ALL THE CONDUIT AND WIRE RUNS ARE SHOWN INDIVIDUALLY FOR CLARITY. CONTRACTOR TO ROUTE WIRES AND CONDUITS AS PER RISER DIAGRAM.
2. THE CONDUIT SIZE AS SHOWN ARE MINIMUM.
3. ALL WIRES SHALL BE TERMINATED ON TERMINAL BLOCK. THERE SHALL BE NO LOOSE WIRES.
4. THE SIZES AS SHOWN ARE MINIMUM. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH THE CABINET AND TERMINATE ALL WIRES PLUS 25% SPARE TERMINAL BLOCKS.
5. ALL CAT-6 CABLE TO BE ROUTED IN CONDUIT ONLY.
6. REFER TO SHEET 20N34 FOR THE EQUIPMENT TAGS CROSS REFERENCE.

NOTES:

⟨1⟩ EXISTING EQUIPMENT, CABLES AND CONDUITS.

⟨2⟩ EXISTING EQUIPMENT. PROVIDE NEW CABLES IN EXISTING CONDUITS.

△1

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE			
C1	2#14, #14G, 3/4"C	A1	1-1Pr#16 TSP, #14G, 3/4"C
C2	4#14, #14G, 3/4"C	A2	2-1Pr#16 TSP, #14G, 3/4"C
C3	6#14, #14G, 1"C	A3	3-1Pr#16 TSP, #14G, 3/4"C
C4	8#14, #14G, 1"C	A4	4-1Pr#16 TSP, #14G, 1"C
C5	10#14, #14G, 1"C	A5	5-1Pr#16 TSP, #14G, 1"C
C6	12#14, #14G, 1-1/4"C	A6	6-1Pr#16 TSP, #14G, 1-1/2"C
C7	14#14, #14G, 1-1/4"C	A7	7-1Pr#16 TSP, #14G, 2"C
C8	16#14, #14G, 1-1/4"C	A8	8-1Pr#16 TSP, #14G, 2"C
C9	18#14, #14G, 1-1/4"C	A9	9-1Pr#16 TSP, #14G, 2"C
C10	20#14, #14G, 1-1/4"C	A10	10-1Pr#16 TSP, #14G, 2"C
C11	22#14, #14G, 1-1/4"C	A11	11-1Pr#16 TSP, #14G, 2"C
C12	24#14, #14G, 1-1/4"C	M1	1-CAT-5e, #14G, 1"C
C14	28#14, #14G, 1-1/4"C	M2	2-CAT-5e, #14G, 1-1/2"C
C30	60#14, #14G, 3-1/2"C	M3	3-CAT-5e, #14G, 2"C
C37	74#14, #14G, 4"C	M4	4-CAT-5e, #14G, 2"C

CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:

1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.

C# — # REPRESENTS PAIR OF WIRE
EXAMPLE C10 = 20#14 WIRES
EXAMPLE C20 = 40#14 WIRES
C = CONTROL

2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.

GAI
Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13717 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7661
Fax: 972-490-7125
email:gaiconsulting.com

WILLIAM D. SAKO 93283 LICENSED PROFESSIONAL ENGINEER 07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
△1	08/30/22	ER	ADDENDUM NO.4

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

1"

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL
FIRST STAGE AERATION TANKS INTERFACE DIAGRAM

DESIGNED BY:	K. KADAM
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_20E56

SHEET NO.
20E56
150 OF 227

100% SUBMITTAL - ISSUED FOR BID

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.3 & NO.4		REMOTE I/O RIO-RS1-1
SG-A5	SLUICE GATE (INFLUENT)	SG — C6 — RIRS12-101 (6#14 - SPARE)	
SG-A6	SLUICE GATE (INFLUENT)	SG — C6 — RIRS12-102 (6#14 - SPARE)	
SG-A7	SLUICE GATE (INFLUENT)	SG — C6 — RIRS12-103 (6#14 - SPARE)	
SG-A8	SLUICE GATE (INFLUENT)	SG — C6 — RIRS12-104 (6#14 - SPARE)	
SG-A35	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS12-105 (6#14 - SPARE)	
SG-A36	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS12-106 (6#14 - SPARE)	
SG-A37	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS12-107 (6#14 - SPARE)	
SG-A38	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS12-108 (6#14 - SPARE)	
AE-C513	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A34 / AIT-C513	
AE-C514	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A34 / AIT-C513 — A6 — RIRS12-109 2-1PR#16TSP-SPARE	
AE-C519	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A34 / AIT-C519	
AE-C520	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A34 / AIT-C519	
FIT-C515	FLOW TRANSMITTER	FIT — A1 — RIRS12-110	
FIT-C516	FLOW TRANSMITTER	FIT — A1 — RIRS12-111	
FIT-C517	FLOW TRANSMITTER	FIT — A1 — RIRS12-112	
FIT-C521	FLOW TRANSMITTER	FIT — A1 — RIRS12-113	
FIT-C522	FLOW TRANSMITTER	FIT — A1 — RIRS12-114	
FIT-C523	FLOW TRANSMITTER	FIT — A1 — RIRS12-115	
	FIRST STAGE SETTLING TANKS NO.3 & NO.4		
SG-F5	SLUICE GATE	SG — C6 — RIRS12-116 (6#14 - SPARE)	
SG-F6	SLUICE GATE	SG — C6 — RIRS12-117 (6#14 - SPARE)	
SG-F7	SLUICE GATE	SG — C6 — RIRS12-118 (6#14 - SPARE)	
SG-F8	SLUICE GATE	SG — C6 — RIRS12-119 (6#14 - SPARE)	
E010	SLUDGE COLLECTOR PANEL NO.3A	CP — C4 — RIRS12-120 (2#14 - SPARE)	
E011	SLUDGE COLLECTOR PANEL NO.3B	CP — C4 — RIRS12-121 (2#14 - SPARE)	
E012	SLUDGE COLLECTOR PANEL NO.4A	CP — C4 — RIRS12-122 (2#14 - SPARE)	
E013	SLUDGE COLLECTOR PANEL NO.4B	CP — C4 — RIRS12-123 (2#14 - SPARE)	

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.3 AND NO.4 PIPE GALLERY	ENCLOSURE SKF1	REMOTE I/O RIO-RS1-1
FIT-E008	FLOW TRANSMITTER	FIT — (2) — RIRS12-124 — ENCLOSURE SKF1 — A1 — RIRS12-124	
V-E008	VALVE CONTROL PANEL	CP — (2) — RIRS12-125 — ENCLOSURE SKF1 — A1 — RIRS12-125	
FIT-E009	FLOW TRANSMITTER	FIT — (2) — RIRS12-126 — ENCLOSURE SKF1 — A1 — RIRS12-126	
V-E009	VALVE CONTROL PANEL	CP — (2) — RIRS12-127 — ENCLOSURE SKF1 — A1 — RIRS12-127	
	ELECTRICAL BUILDING EB-RS-1		
ZS-RS1-A	ELECTRICAL ROOM INTRUSION SWITCH	ZS — C1 — RIRS12-128	
ZS-RS1-B	ELECTRICAL ROOM INTRUSION SWITCH	ZS — C1 — RIRS12-128A	
ZS-RS1-C	ELECTRICAL ROOM INTRUSION SWITCH	ZS — C1 — RIRS12-128B	
TIT-RS1-1	ELECTRICAL ROOM TEMPERATURE	TIT — A1 — RIRS12-129	

GENERAL NOTES:

1. ALL THE CONDUIT AND WIRE RUNS ARE SHOWN INDIVIDUALLY FOR CLARITY. CONTRACTOR TO ROUTE WIRES AND CONDUITS AS PER RISER DIAGRAM.
2. THE CONDUIT SIZE AS SHOWN ARE MINIMUM.
3. ALL WIRES SHALL BE TERMINATED ON TERMINAL BLOCK. THERE SHALL BE NO LOOSE WIRES.
4. THE SIZES AS SHOWN ARE MINIMUM. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH THE CABINET AND TERMINATE ALL WIRES PLUS 25% SPARE TERMINAL BLOCKS.
5. ALL CAT-6 CABLE TO BE ROUTED IN CONDUIT ONLY.
6. REFER TO SHEET 20N34 FOR THE EQUIPMENT TAGS CROSS REFERENCE.

NOTES:

(1) EXISTING EQUIPMENT, CABLES AND CONDUITS.

(2) EXISTING EQUIPMENT. PROVIDE NEW CABLES IN EXISTING CONDUITS.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE

(Revision 1)

C1	2#14, #14G, 3/4"C	A1	1-1Pr#16 TSP, #14G, 3/4"C
C2	4#14, #14G, 3/4"C	A2	2-1Pr#16 TSP, #14G, 3/4"C
C3	6#14, #14G, 1"C	A3	3-1Pr#16 TSP, #14G, 3/4"C
C4	8#14, #14G, 1"C	A4	4-1Pr#16 TSP, #14G, 1"C
C5	10#14, #14G, 1"C	A5	5-1Pr#16 TSP, #14G, 1"C
C6	12#14, #14G, 1-1/4"C	A6	6-1Pr#16 TSP, #14G, 1-1/2"C
C7	14#14, #14G, 1-1/4"C	A7	7-1Pr#16 TSP, #14G, 2"C
C8	16#14, #14G, 1-1/4"C	A8	8-1Pr#16 TSP, #14G, 2"C
C9	18#14, #14G, 1-1/4"C	A9	9-1Pr#16 TSP, #14G, 2"C
C10	20#14, #14G, 1-1/4"C	A10	10-1Pr#16 TSP, #14G, 2"C
C11	22#14, #14G, 1-1/4"C	A11	11-1Pr#16 TSP, #14G, 2"C
C12	24#14, #14G, 1-1/4"C	M1	1-CAT-5e, #14G, 1"C
C14	28#14, #14G, 1-1/4"C	M2	2-CAT-5e, #14G, 1-1/2"C
C30	60#14, #14G, 3-1/2"C	M3	3-CAT-5e, #14G, 2"C
C37	74#14, #14G, 4"C	M4	4-CAT-5e, #14G, 2"C

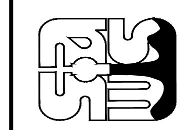
CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:

1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.

C#
- # REPRESENTS PAIR OF WIRE
  EXAMPLE C10 = 20#14 WIRES
  EXAMPLE C20 = 40#14 WIRES
- C = CONTROL

2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.

GAI
Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13717 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7661
Fax: 972-490-7125
email:gaiconsulting.com



SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
1	08/30/22	ER	ADDENDUM NO.4

1" — ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

FIRST STAGE AERATION TANKS INTERFACE DIAGRAM

DESIGNED BY:	K. KADAM
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_20E57

SHEET NO.

20E57

100% SUBMITTAL - ISSUED FOR BID

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.5 & NO.6		
SG-A9	SLUICE GATE (INFLUENT)	SG C6 → RIRS21-101 (6#14 - SPARE)	PLC-RS2
SG-A10	SLUICE GATE (INFLUENT)	SG C6 → RIRS21-102 (6#14 - SPARE)	
SG-A11	SLUICE GATE (INFLUENT)	SG C6 → RIRS21-103 (6#14 - SPARE)	
SG-A12	SLUICE GATE (INFLUENT)	SG C6 → RIRS21-104 (6#14 - SPARE)	
SG-A39	SLUICE GATE (EFFLUENT)	SG C6 → RIRS21-105 (6#14 - SPARE)	
SG-A40	SLUICE GATE (EFFLUENT)	SG C6 → RIRS21-106 (6#14 - SPARE)	
SG-A41	SLUICE GATE (EFFLUENT)	SG C6 → RIRS21-107 (6#14 - SPARE)	
SG-A42	SLUICE GATE (EFFLUENT)	SG C6 → RIRS21-108 (6#14 - SPARE)	
AE-C525	DISSOLVE OXYGEN (DO) SENSOR	AE (1) → IC-A56 AIT-C525	
AE-C526	DISSOLVE OXYGEN (DO) SENSOR	AE (1)	
AE-C531	DISSOLVE OXYGEN (DO) SENSOR	AE (1) → IC-A56 AIT-C531	
AE-C532	DISSOLVE OXYGEN (DO) SENSOR	AE (1)	
		A4 → RIRS21-109 2-PR#16TSP-SPARE	
FIT-C527	FLOW TRANSMITTER	FIT A1 → RIRS21-110	
FIT-C528	FLOW TRANSMITTER	FIT A1 → RIRS21-111	
FIT-C529	FLOW TRANSMITTER	FIT A1 → RIRS21-112	
FIT-C533	FLOW TRANSMITTER	FIT A1 → RIRS21-113	
FIT-C534	FLOW TRANSMITTER	FIT A1 → RIRS21-114	
FIT-C535	FLOW TRANSMITTER	FIT A1 → RIRS21-115	
	FIRST STAGE SETTLING TANKS NO.5 & NO.6		
TIT-C561	TEMPERATURE TRANSMITTER	TIT A1 → RIRS21-116	
TIT-C562	TEMPERATURE TRANSMITTER	TIT A1 → RIRS21-117	
SG-F9	SLUICE GATE	SG C6 → RIRS21-118 (6#14 - SPARE)	
SG-F10	SLUICE GATE	SG C6 → RIRS21-119 (6#14 - SPARE)	
SG-F11	SLUICE GATE	SG C6 → RIRS21-120 (6#14 - SPARE)	
SG-F12	SLUICE GATE	SG C6 → RIRS21-121 (6#14 - SPARE)	
E017	SLUDGE COLLECTOR PANEL NO.5A	CP C4 → RIRS21-122 (2#14 - SPARE)	
E018	SLUDGE COLLECTOR PANEL NO.5B	CP C4 → RIRS21-123 (2#14 - SPARE)	
E019	SLUDGE COLLECTOR PANEL NO.6A	CP C4 → RIRS21-124 (2#14 - SPARE)	
E020	SLUDGE COLLECTOR PANEL NO.6B	CP C4 → RIRS21-125 (2#14 - SPARE)	

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.5 AND NO.6 PIPE GALLERY	ENCLOSURE SKF2	
FIT-E015	FLOW TRANSMITTER	FIT (2) RIRS21-126 → A1 RIRS21-126	PLC-RS2
V-E015	VALVE CONTROL PANEL	CP (2) RIRS21-127 → A1 RIRS21-127	
FIT-E016	FLOW TRANSMITTER	FIT (2) RIRS21-128 → A1 RIRS21-128	
V-E106	VALVE CONTROL PANEL	CP (2) RIRS21-129 → A1 RIRS21-129	
	ELECTRICAL BUILDING EB-RS-2		
ZS-RS2-A	ELECTRICAL ROOM INTRUSION SWITCH	ZS C1 → RIRS21-130	
ZS-RS2-B	ELECTRICAL ROOM INTRUSION SWITCH	ZS C1 → RIRS21-130A	
ZS-RS2-C	ELECTRICAL ROOM INTRUSION SWITCH	ZS C1 → RIRS21-130B	
NETRAK-RS2	NETWORK ENCLOSURE	CP C1 → RIRS21-131	
TIT-RS2-1	ELECTRICAL TEMPERATURE TRANSMITTER	TIT A1 → RIRS21-132	

GENERAL NOTES:

1. ALL THE CONDUIT AND WIRE RUNS ARE SHOWN INDIVIDUALLY FOR CLARITY. CONTRACTOR TO ROUTE WIRES AND CONDUITS AS PER RISER DIAGRAM.
2. THE CONDUIT SIZE AS SHOWN ARE MINIMUM.
3. ALL WIRES SHALL BE TERMINATED ON TERMINAL BLOCK. THERE SHALL BE NO LOOSE WIRES.
4. THE SIZES AS SHOWN ARE MINIMUM. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH THE CABINET AND TERMINATE ALL WIRES PLUS 25% SPARE TERMINAL BLOCKS.
5. ALL CAT-6 CABLE TO BE ROUTED IN CONDUIT ONLY.
6. REFER TO SHEET 20N34 FOR THE EQUIPMENT TAGS CROSS REFERENCE.

NOTES:

(1) EXISTING EQUIPMENT, CABLES AND CONDUITS.

(2) EXISTING EQUIPMENT. PROVIDE NEW CABLES IN EXISTING CONDUITS.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE

C1	2#14, #14G, 3/4"C	A1	1-1Pr#16 TSP, #14G, 3/4"C
C2	4#14, #14G, 3/4"C	A2	2-1Pr#16 TSP, #14G, 3/4"C
C3	6#14, #14G, 1"C	A3	3-1Pr#16 TSP, #14G, 3/4"C
C4	8#14, #14G, 1"C	A4	4-1Pr#16 TSP, #14G, 1"C
C5	10#14, #14G, 1"C	A5	5-1Pr#16 TSP, #14G, 1"C
C6	12#14, #14G, 1-1/4"C	A6	6-1Pr#16 TSP, #14G, 1-1/2"C
C7	14#14, #14G, 1-1/4"C	A7	7-1Pr#16 TSP, #14G, 2"C
C8	16#14, #14G, 1-1/4"C	A8	8-1Pr#16 TSP, #14G, 2"C
C9	18#14, #14G, 1-1/4"C	A9	9-1Pr#16 TSP, #14G, 2"C
C10	20#14, #14G, 1-1/4"C	A10	10-1Pr#16 TSP, #14G, 2"C
C11	22#14, #14G, 1-1/4"C	A11	11-1Pr#16 TSP, #14G, 2"C
C12	24#14, #14G, 1-1/4"C	M1	1-CAT-5e, #14G, 1"C
C14	28#14, #14G, 1-1/4"C	M2	2-CAT-5e, #14G, 1-1/2"C
C30	60#14, #14G, 3-1/2"C	M3	3-CAT-5e, #14G, 2"C
C37	74#14, #14G, 4"C	M4	4-CAT-5e, #14G, 2"C

CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:

1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.

C# — # REPRESENTS PAIR OF WIRE
EXAMPLE C10 = 20#14 WIRES
EXAMPLE C20 = 40#14 WIRES
C = CONTROL

2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.

GAI Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13777 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7661
Fax: 972-490-7795
www.gaiconsulting.com

WILLIAM D. SAKO 93283 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS — 07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
1	08/30/22	ER	ADDENDUM NO.4

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

FIRST STAGE AERATION TANKS
INTERFACE DIAGRAM

DESIGNED BY:	K. KADAM
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_20E58

SHEET NO.
20E58
152 OF 227

100% SUBMITTAL - ISSUED FOR BID

8/23/2022 12:09 PM Z:\1951_SAWS Dos Rios WRC Electrical System Improvements – Phase II\5 Drawings\IDos Rios Phase II\Electrical\Working\Phase B\1951_20E58.dwg Jenny Meam

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.7 & NO.8		REMOTE I/O RIO-RS2-1
SG-A13	SLUICE GATE (INFLUENT)	SG — C6 — RIRS22-101 (6#14 - SPARE)	
SG-A14	SLUICE GATE (INFLUENT)	SG — C6 — RIRS22-102 (6#14 - SPARE)	
SG-A15	SLUICE GATE (INFLUENT)	SG — C6 — RIRS22-103 (6#14 - SPARE)	
SG-A16	SLUICE GATE (INFLUENT)	SG — C6 — RIRS22-104 (6#14 - SPARE)	
SG-A43	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS22-105 (6#14 - SPARE)	
SG-A44	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS22-106 (6#14 - SPARE)	
SG-A45	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS22-107 (6#14 - SPARE)	
SG-A46	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS22-108 (6#14 - SPARE)	
AE-C537	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A78 (AIT-C537)	
AE-C538	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A78 (AIT-C537) — A6 — RIRS22-109 2-1PR#16TSP-SPARE	
AE-C543	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A78 (AIT-C543)	
AE-C544	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A78 (AIT-C543)	
FIT-C539	FLOW TRANSMITTER	FIT — A1 — RIRS22-110	
FIT-C540	FLOW TRANSMITTER	FIT — A1 — RIRS22-111	
FIT-C541	FLOW TRANSMITTER	FIT — A1 — RIRS22-112	
FIT-C545	FLOW TRANSMITTER	FIT — A1 — RIRS22-113	
FIT-C546	FLOW TRANSMITTER	FIT — A1 — RIRS22-114	
FIT-C547	FLOW TRANSMITTER	FIT — A1 — RIRS22-115	
	FIRST STAGE SETTLING TANKS NO.7 & NO.8		
SG-F13	SLUICE GATE	SG — C6 — RIRS22-116 (6#14 - SPARE)	
SG-F14	SLUICE GATE	SG — C6 — RIRS22-117 (6#14 - SPARE)	
SG-F15	SLUICE GATE	SG — C6 — RIRS22-118 (6#14 - SPARE)	
SG-F16	SLUICE GATE	SG — C6 — RIRS22-119 (6#14 - SPARE)	
E055	SLUDGE COLLECTOR PANEL NO.7A	CP — C4 — RIRS22-120 (2#14 - SPARE)	
E024	SLUDGE COLLECTOR PANEL NO.7B	CP — C4 — RIRS22-121 (2#14 - SPARE)	
E025	SLUDGE COLLECTOR PANEL NO.8A	CP — C4 — RIRS22-122 (2#14 - SPARE)	
E026	SLUDGE COLLECTOR PANEL NO.8B	CP — C4 — RIRS22-123 (2#14 - SPARE)	

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.7 AND NO.8 PIPE GALLERY		REMOTE I/O RIO-RS2-1
FIT-E022	FLOW TRANSMITTER	FIT — (2) — RIRS22-124 — ENCLOSURE SKF2 — A1 — RIRS22-124	
V-E022	VALVE CONTROL PANEL	CP — (2) — RIRS22-125 — ENCLOSURE SKF2 — A1 — RIRS22-125	
FIT-E023	FLOW TRANSMITTER	FIT — (2) — RIRS22-126 — ENCLOSURE SKF2 — A1 — RIRS22-126	
V-E023	VALVE CONTROL PANEL	CP — (2) — RIRS22-127 — ENCLOSURE SKF2 — A1 — RIRS22-127	
	ELECTRICAL BUILDING EB-RS-2		
ZS-RS2-2	CONTROL ROOM INTRUSION SOUTH	ZS — C1 — RIRS22-128	
TIT-RS2-2	CONTROL ROOM TEMPERATURE TRANSMITTER	TIT — A1 — RIRS22-129	

GENERAL NOTES:

1. ALL THE CONDUIT AND WIRE RUNS ARE SHOWN INDIVIDUALLY FOR CLARITY. CONTRACTOR TO ROUTE WIRES AND CONDUITS AS PER RISER DIAGRAM.
2. THE CONDUIT SIZE AS SHOWN ARE MINIMUM.
3. ALL WIRES SHALL BE TERMINATED ON TERMINAL BLOCK. THERE SHALL BE NO LOOSE WIRES.
4. THE SIZES AS SHOWN ARE MINIMUM. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH THE CABINET AND TERMINATE ALL WIRES PLUS 25% SPARE TERMINAL BLOCKS.
5. ALL CAT-6 CABLE TO BE ROUTED IN CONDUIT ONLY.
6. REFER TO SHEET 20N34 FOR THE EQUIPMENT TAGS CROSS REFERENCE.

NOTES:

(1) EXISTING EQUIPMENT, CABLES AND CONDUITS.

(2) EXISTING EQUIPMENT. PROVIDE NEW CABLES IN EXISTING CONDUITS.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE

C1	2#14, #14G, 3/4"C	A1	1-1Pr#16 TSP, #14G, 3/4"C
C2	4#14, #14G, 3/4"C	A2	2-1Pr#16 TSP, #14G, 3/4"C
C3	6#14, #14G, 1"C	A3	3-1Pr#16 TSP, #14G, 3/4"C
C4	8#14, #14G, 1"C	A4	4-1Pr#16 TSP, #14G, 1"C
C5	10#14, #14G, 1"C	A5	5-1Pr#16 TSP, #14G, 1"C
C6	12#14, #14G, 1-1/4"C	A6	6-1Pr#16 TSP, #14G, 1-1/2"C
C7	14#14, #14G, 1-1/4"C	A7	7-1Pr#16 TSP, #14G, 2"C
C8	16#14, #14G, 1-1/4"C	A8	8-1Pr#16 TSP, #14G, 2"C
C9	18#14, #14G, 1-1/4"C	A9	9-1Pr#16 TSP, #14G, 2"C
C10	20#14, #14G, 1-1/4"C	A10	10-1Pr#16 TSP, #14G, 2"C
C11	22#14, #14G, 1-1/4"C	A11	11-1Pr#16 TSP, #14G, 2"C
C12	24#14, #14G, 1-1/4"C	M1	1-CAT-5e, #14G, 1"C
C14	28#14, #14G, 1-1/4"C	M2	2-CAT-5e, #14G, 1-1/2"C
C30	60#14, #14G, 3-1/2"C	M3	3-CAT-5e, #14G, 2"C
C37	74#14, #14G, 4"C	M4	4-CAT-5e, #14G, 2"C

CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:

1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.

C# — # REPRESENTS PAIR OF WIRE; EXAMPLE C10 = 20#14 WIRES; EXAMPLE C20 = 40#14 WIRES; C = CONTROL

2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.

GAI Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
WILLIAM D. SAKO 93283
07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	ER	REMARKS
4	08/30/22			ADDENDUM NO.4

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

FIRST STAGE AERATION TANKS INTERFACE DIAGRAM

DESIGNED BY:	K. KADAM
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_20E59

SHEET NO. 20E59

100% SUBMITTAL - ISSUED FOR BID

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.9 & NO.10		REMOTE I/O RIO-RS2-2
SG-A17	SLUICE GATE (INFLUENT)	SG — C6 — RIRS23-101 (6#14 - SPARE)	
SG-A18	SLUICE GATE (INFLUENT)	SG — C6 — RIRS23-102 (6#14 - SPARE)	
SG-A19	SLUICE GATE (INFLUENT)	SG — C6 — RIRS23-103 (6#14 - SPARE)	
SG-A20	SLUICE GATE (INFLUENT)	SG — C6 — RIRS23-104 (6#14 - SPARE)	
SG-A47	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS23-105 (6#14 - SPARE)	
SG-A48	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS23-106 (6#14 - SPARE)	
SG-A49	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS23-107 (6#14 - SPARE)	
SG-A50	SLUICE GATE (EFFLUENT)	SG — C6 — RIRS23-108 (6#14 - SPARE)	
AE-C549	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A910 (AIT-C501)	
AE-C550	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A910 (AIT-C501); IC-A910 — A6 — RIRS23-109 (2-1PR#16TSP-SPARE)	
AE-C555	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A910 (AIT-C507)	
AE-C556	DISSOLVE OXYGEN (DO) SENSOR	AE — (1) — IC-A910 (AIT-C507)	
FIT-C551	FLOW TRANSMITTER	FIT — A1 — RIRS23-110	
FIT-C552	FLOW TRANSMITTER	FIT — A1 — RIRS23-111	
FIT-C553	FLOW TRANSMITTER	FIT — A1 — RIRS23-112	
FIT-C557	FLOW TRANSMITTER	FIT — A1 — RIRS23-113	
FIT-C558	FLOW TRANSMITTER	FIT — A1 — RIRS23-114	
FIT-C559	FLOW TRANSMITTER	FIT — A1 — RIRS23-115	
	FIRST STAGE SETTLING TANKS NO.9 & NO.10		
SG-F17	SLUICE GATE	SG — C6 — RIRS23-116 (6#14 - SPARE)	
SG-F18	SLUICE GATE	SG — C6 — RIRS23-117 (6#14 - SPARE)	
SG-F19	SLUICE GATE	SG — C6 — RIRS23-118 (6#14 - SPARE)	
SG-F20	SLUICE GATE	SG — C6 — RIRS23-119 (6#14 - SPARE)	
E030	SLUDGE COLLECTOR PANEL NO.9A	CP — C4 — RIRS23-120 (2#14 - SPARE)	
E031	SLUDGE COLLECTOR PANEL NO.9B	CP — C4 — RIRS23-121 (2#14 - SPARE)	
E032	SLUDGE COLLECTOR PANEL NO.10A	CP — C4 — RIRS23-122 (2#14 - SPARE)	
E033	SLUDGE COLLECTOR PANEL NO.10B	CP — C4 — RIRS23-123 (2#14 - SPARE)	

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	AERATION TANKS NO.9 AND NO.10 PIPE GALLERY	ENCLOSURE SKF2	REMOTE I/O RIO-RS2-2
FIT-E028	FLOW TRANSMITTER	FIT — (2) — RIRS23-124 — ENCLOSURE SKF2 — A1 — RIRS23-124	
CV-E028	VALVE CONTROL PANEL	CP — (2) — RIRS23-125 — ENCLOSURE SKF2 — A1 — RIRS23-125	
FIT-E029	FLOW TRANSMITTER	FIT — (2) — RIRS23-126 — ENCLOSURE SKF2 — A1 — RIRS23-126	
CV-E029	VALVE CONTROL PANEL	CP — (2) — RIRS23-127 — ENCLOSURE SKF2 — A1 — RIRS23-127	

GENERAL NOTES:

1. ALL THE CONDUIT AND WIRE RUNS ARE SHOWN INDIVIDUALLY FOR CLARITY. CONTRACTOR TO ROUTE WIRES AND CONDUITS AS PER RISER DIAGRAM.
2. THE CONDUIT SIZE AS SHOWN ARE MINIMUM.
3. ALL WIRES SHALL BE TERMINATED ON TERMINAL BLOCK. THERE SHALL BE NO LOOSE WIRES.
4. THE SIZES AS SHOWN ARE MINIMUM. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH THE CABINET AND TERMINATE ALL WIRES PLUS 25% SPARE TERMINAL BLOCKS.
5. ALL CAT-6 CABLE TO BE ROUTED IN CONDUIT ONLY.
6. REFER TO SHEET 20N34 FOR THE EQUIPMENT TAGS CROSS REFERENCE.

NOTES:

(1) EXISTING EQUIPMENT, CABLES AND CONDUITS.

(2) EXISTING EQUIPMENT. PROVIDE NEW CABLES IN EXISTING CONDUITS.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE

△1

C1	2#14, #14G, 3/4"C	A1	1-1Pr#16 TSP, #14G, 3/4"C
C2	4#14, #14G, 3/4"C	A2	2-1Pr#16 TSP, #14G, 3/4"C
C3	6#14, #14G, 1"C	A3	3-1Pr#16 TSP, #14G, 3/4"C
C4	8#14, #14G, 1"C	A4	4-1Pr#16 TSP, #14G, 1"C
C5	10#14, #14G, 1"C	A5	5-1Pr#16 TSP, #14G, 1"C
C6	12#14, #14G, 1-1/4"C	A6	6-1Pr#16 TSP, #14G, 1-1/2"C
C7	14#14, #14G, 1-1/4"C	A7	7-1Pr#16 TSP, #14G, 2"C
C8	16#14, #14G, 1-1/4"C	A8	8-1Pr#16 TSP, #14G, 2"C
C9	18#14, #14G, 1-1/4"C	A9	9-1Pr#16 TSP, #14G, 2"C
C10	20#14, #14G, 1-1/4"C	A10	10-1Pr#16 TSP, #14G, 2"C
C11	22#14, #14G, 1-1/4"C	A11	11-1Pr#16 TSP, #14G, 2"C
C12	24#14, #14G, 1-1/4"C	M1	1-CAT-5e, #14G, 1"C
C14	28#14, #14G, 1-1/4"C	M2	2-CAT-5e, #14G, 1-1/2"C
C30	60#14, #14G, 3-1/2"C	M3	3-CAT-5e, #14G, 2"C
C37	74#14, #14G, 4"C	M4	4-CAT-5e, #14G, 2"C

CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:

1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.

C#
REPRESENTS PAIR OF WIRE
EXAMPLE C10 = 20#14 WIRES
EXAMPLE C20 = 40#14 WIRES
C = CONTROL

2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.

GAI
Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13717 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7661
Fax: 972-490-7125
email:gaiconsulting.com

STATE OF TEXAS
WILLIAM D. SAKO
93283
LICENSED
PROFESSIONAL ENGINEER
07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
△1	08/30/22	ER	ADDENDUM NO.4

1"
ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B

ELECTRICAL
FIRST STAGE AERATION TANKS INTERFACE DIAGRAM

DESIGNED BY:	K. KADAM
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_20E60

SHEET NO.
20E60

100% SUBMITTAL - ISSUED FOR BID

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	RAS P.S. & EAS P.S. (SOUTH) AERATION TANKS NO.1 THROUGH NO.4		
LSL-S1	LEVEL SWITCH LOW	LSL (1)	REMOTE I/O RIO-RS1-2
LSH-S1	LEVEL SWITCH HIGH	LSH (1)	
LSL-S2	LEVEL SWITCH LOW	LSL (1)	
LSH-S2	LEVEL SWITCH HIGH	LSH (1)	
LSH-S3	LEVEL SWITCH HIGH	LSH (1)	
LSL-S3	LEVEL SWITCH LOW	LSL (1)	
		SOUTH SLUDGE WELL HGH LEVEL ALARM PANEL — C4 — RIRS13-101	
RAS-1	RAS PUMP NO.1	MCC-RS-1: C4 RIRS13-105A; C37 — RIRS13-105 (12#14 - SPARE)	
OLP-1	OIL PUMP NO.1	C5 RIRS13-105B	
RAS-2	RAS PUMP NO.2	C4 RIRS13-105C	
OLP-2	OIL PUMP NO.2	C5 RIRS13-105D	
RAS-3	RAS PUMP NO.3	C4 RIRS13-105E	
OLP-3	OIL PUMP NO.3	C5 RIRS13-105F	
EAS-1	EAS PUMP NO.1	C2 RIRS13-105G	
EAS-2	EAS PUMP NO.2	C2 RIRS13-105H	
PSH-F005	PRESSURE SWITCH HIGH (LOCATED AT EAS P.S. SOUTH)	PSH: C1 — RIRS13-106	
LSH E-01	LEVEL SWITCH HIGH (LOCATED AT EAS P.S. SOUTH SUMP PUMP)	LSH: C1 — RIRS13-107	
	SKIMMING WELL AERATION TANKS NO.1 THROUGH NO.4		
-	SKIMMING MIXER NO.1	MCC-RS-1: C5 RIRS13-108A; C10 — RIRS13-108	
-	SKIMMING MIXER NO.2	C5 RIRS13-108B	
	PIPE GALLERY AERATION TANKS NO.1 THROUGH NO.4		
-	CHOPPER PUMP NO.1	MCC-RS-1: C5 RIRS13-109A; C10 — RIRS13-109	
-	CHOPPER PUMP NO.2	C5 RIRS13-109B	
PSH-F010	PRESSURE SWITCH	PSH: (2) — RIRS13-114	

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
AIT-F001	LEL	AIT (3) — GMP-001 — A3 — RIRS13-115	REMOTE I/O RIO-RS1-2
AIT-F002	OXYGEN SENSOR	AIT (3) — GMP-001	
AIT-F003	CHLORINE SENSOR	AIT (3) — GMP-001	
LSH T-01	SUMP PUMP NO.1 HIGH LEVEL ALARM	LSH: C1 — RIRS13-117	
	ELECTRICAL BUILDING EB-RS-1		
UPS-RS1	UPS	UPS: C2 — RIRS13-118; C1 — RIRS13-119	
-	MCC-RS-1 SPD	MCC-RS-1: C1 — RIRS13-120	
-	MCC-B1-A SPD	MCC-B1-A: C1 — RIRS13-121	

GENERAL NOTES:

1. ALL THE CONDUIT AND WIRE RUNS ARE SHOWN INDIVIDUALLY FOR CLARITY. CONTRACTOR TO ROUTE WIRES AND CONDUITS AS PER RISER DIAGRAM.
2. THE CONDUIT SIZE AS SHOWN ARE MINIMUM.
3. ALL WIRES SHALL BE TERMINATED ON TERMINAL BLOCK. THERE SHALL BE NO LOOSE WIRES.
4. THE SIZES AS SHOWN ARE MINIMUM. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH THE CABINET AND TERMINATE ALL WIRES PLUS 25% SPARE TERMINAL BLOCKS.
5. ALL CAT-6 CABLE TO BE ROUTED IN CONDUIT ONLY.
6. REFER TO SHEET 20N34 FOR THE EQUIPMENT TAGS CROSS REFERENCE.

NOTES:

(1) EXISTING EQUIPMENT, CABLES AND CONDUITS.

(2) EXISTING EQUIPMENT. PROVIDE NEW CABLES IN EXISTING CONDUITS.

(3) MANUFACTURER PROVIDED CABLE IN 1"C.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE

C1	2#14, #14G, 3/4"C	A1	1-1Pr#16 TSP, #14G, 3/4"C
C2	4#14, #14G, 3/4"C	A2	2-1Pr#16 TSP, #14G, 3/4"C
C3	6#14, #14G, 1"C	A3	3-1Pr#16 TSP, #14G, 3/4"C
C4	8#14, #14G, 1"C	A4	4-1Pr#16 TSP, #14G, 1"C
C5	10#14, #14G, 1"C	A5	5-1Pr#16 TSP, #14G, 1"C
C6	12#14, #14G, 1-1/4"C	A6	6-1Pr#16 TSP, #14G, 1-1/2"C
C7	14#14, #14G, 1-1/4"C	A7	7-1Pr#16 TSP, #14G, 2"C
C8	16#14, #14G, 1-1/4"C	A8	8-1Pr#16 TSP, #14G, 2"C
C9	18#14, #14G, 1-1/4"C	A9	9-1Pr#16 TSP, #14G, 2"C
C10	20#14, #14G, 1-1/4"C	A10	10-1Pr#16 TSP, #14G, 2"C
C11	22#14, #14G, 1-1/4"C	A11	11-1Pr#16 TSP, #14G, 2"C
C12	24#14, #14G, 1-1/4"C	M1	1-CAT-5e, #14G, 1"C
C14	28#14, #14G, 1-1/2"C	M2	2-CAT-5e, #14G, 1-1/2"C
C30	60#14, #14G, 3-1/2"C	M3	3-CAT-5e, #14G, 2"C
C37	74#14, #14G, 4"C	M4	4-CAT-5e, #14G, 2"C

CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:

1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.

C# — # REPRESENTS PAIR OF WIRE
EXAMPLE C10 = 20#14 WIRES
EXAMPLE C20 = 40#14 WIRES
C = CONTROL

2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.

GAI Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13777 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7951
Fax: 972-490-7955
e-mail: gai@gaiconsulting.com

WILLIAM D. SAKO 93283 LICENSED PROFESSIONAL ENGINEER — 07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
1	08/30/22	ER	ADDENDUM NO.4

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

FIRST STAGE AERATION TANKS
RAS P.S. AND EAS P.S. (SOUTH)
INTERFACE DIAGRAM

DESIGNED BY:	K. KADAM
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_20E61

SHEET NO.
20E61
155 OF 227

100% SUBMITTAL - ISSUED FOR BID

8/23/2022 12:10 PM Z:\1951_SAWS Dos Rios WRC Electrical System Improvements – Phase II\5 Drawings\Dos Rios Phase II\Electrical\Working\(Phase B\1951_20E61.dwg Jenny Meam

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
	RAS P.S. & EAS P.S. (NORTH) AERATION TANKS NO.5 THROUGH NO.10		
LSL-N1	LEVEL SWITCH HIGH	LSL (1) → NORTH SLUDGE WELL HGH LEVEL ALARM PANEL	
LSH-N1	LEVEL SWITCH HIGH	LSH (1) → NORTH SLUDGE WELL HGH LEVEL ALARM PANEL	
LSL-N2	LEVEL SWITCH LOW	LSL (1) → NORTH SLUDGE WELL HGH LEVEL ALARM PANEL	
LSH-N2	LEVEL SWITCH HIGH	LSH (1) → NORTH SLUDGE WELL HGH LEVEL ALARM PANEL	
LSH-N3	LEVEL SWITCH HIGH	LSH (1) → NORTH SLUDGE WELL HGH LEVEL ALARM PANEL	
LSL-N3	LEVEL SWITCH LOW	LSL (1) → NORTH SLUDGE WELL HGH LEVEL ALARM PANEL	
		NORTH SLUDGE WELL HGH LEVEL ALARM PANEL C4 → RIRS24-101	
RAS-4	RAS PUMP NO.4	MCC-RS-2 C4 → RIRS24-105A; C37 → RIRS24-105 (12#14 - SPARE)	REMOTE I/O RIO-RS2-3
OLP-4	OIL PUMP NO.4	MCC-RS-2 C5 → RIRS24-105B	
RAS-5	RAS PUMP NO.5	MCC-RS-2 C4 → RIRS24-105C	
OLP-5	OIL PUMP NO.5	MCC-RS-2 C5 → RIRS24-105D	
RAS-6	RAS PUMP NO.6	MCC-RS-2 C4 → RIRS24-105E	
OLP-6	OIL PUMP NO.6	MCC-RS-2 C5 → RIRS24-105F	
EAS-3	EAS PUMP NO.3	MCC-RS-2 C2 → RIRS24-105G	
EAS-4	EAS PUMP NO.4	MCC-RS-2 C2 → RIRS24-105H	
PSH-F032	PRESSURE SWITCH HIGH (LOCATED AT EAS P.S. NORTH)	PSH C3 → RIRS24-106	
LSH E-02	LEVEL SWITCH HIGH (LOCATED AT EAS P.S. NORTH SUMP PUMP)	LSH C1 → RIRS24-107A	
FIT-F032	EAS P.S. NORTH FLOW TRANSMITTER (LOCATED IN PIPE GALLERY)	FIT (2) → RIRS24-107 → SKF2 A1 → RIRS24-107	
F032	EAS P.S. NORTH VALVE CONTROL PANEL LOCATED IN (PIPE GALLERY)	V (2) → RIRS24-107B → SKF2 A1 → RIRS24-107B	
	SKIMMING WELL AERATION TANKS NO.1 THROUGH NO.4		
-	SKIMMING MIXER NO.3	MCC-RS-2 C5 → RIRS24-108A; C10 → RIRS24-108	
-	SKIMMING MIXER NO.4	MCC-RS-2 C5 → RIRS24-108B	
	TUNNEL CHOPPER AERATION TANKS NO.1 THROUGH NO.4		
-	CHOPPER PUMP NO.3	MCC-RS-2 C5 → RIRS24-112A; C10 → RIRS24-112	
-	CHOPPER PUMP NO.4	MCC-RS-2 C5 → RIRS24-112B	
PSH-F036	PRESSURE SWITCH	PSH C1 → RIRS24-114	

INTERFACE DIAGRAM

EQUIPMENT TAG	DESCRIPTION	FIELD WIRING	PLC/RIO
AIT-F007	LEL	AIT (3) → GMP-003 A3 → RIRS24-115	REMOTE I/O RIO-RS2-3
AIT-F008	OXYGEN SENSOR	AIT (3) → GMP-003	
AIT-F009	CHLORINE SENSOR	AIT (3) → GMP-003	
LSH T-02	SUMP PUMP NO.2 HIGH LEVEL ALARM	LSH C1 → RIRS24-116	
LSH T-03	SUMP PUMP NO.3 HIGH LEVEL ALARM	LSH C1 → RIRS24-117	
AIT-F004	LEL	LSH (3) → GMP-002 A3 → RIRS24-119	
AIT-F005	OXYGEN SENSOR	LSH (3) → GMP-002	
AIT-F006	CHLORINE SENSOR	LSH (3) → GMP-002	
	ELECTRICAL BUILDING EB-RS-2		
UPS-RS2	UPS	UPS C2 → RIRS24-118	
-	MCC-RS-2 SPD	MCC-RS-2 C1 → RIRS24-122; C1 → RIRS24-120	
-	MCC-B1-B SPD	MCC-B1-B C1 → RIRS24-121	

GENERAL NOTES:

1. ALL THE CONDUIT AND WIRE RUNS ARE SHOWN INDIVIDUALLY FOR CLARITY. CONTRACTOR TO ROUTE WIRES AND CONDUITS AS PER RISER DIAGRAM.
2. THE CONDUIT SIZE AS SHOWN ARE MINIMUM.
3. ALL WIRES SHALL BE TERMINATED ON TERMINAL BLOCK. THERE SHALL BE NO LOOSE WIRES.
4. THE SIZES AS SHOWN ARE MINIMUM. THE CONTRACTOR SHALL BE RESPONSIBLE TO FURNISH THE CABINET AND TERMINATE ALL WIRES PLUS 25% SPARE TERMINAL BLOCKS.
5. ALL CAT-6 CABLE TO BE ROUTED IN CONDUIT ONLY.
6. REFER TO SHEET 20N34 FOR THE EQUIPMENT TAGS CROSS REFERENCE.

NOTES:

(1) EXISTING EQUIPMENT, CABLES AND CONDUITS.

(2) EXISTING EQUIPMENT. PROVIDE NEW CABLES IN EXISTING CONDUITS.

(3) MANUFACTURER PROVIDED CABLE IN 1"C.

CONTROL & INSTRUMENTATION WIRE/CONDUIT SCHEDULE

C1	2#14, #14G, 3/4"C	A1	1-1Pr#16 TSP, #14G, 3/4"C
C2	4#14, #14G, 3/4"C	A2	2-1Pr#16 TSP, #14G, 3/4"C
C3	6#14, #14G, 1"C	A3	3-1Pr#16 TSP, #14G, 3/4"C
C4	8#14, #14G, 1"C	A4	4-1Pr#16 TSP, #14G, 1"C
C5	10#14, #14G, 1"C	A5	5-1Pr#16 TSP, #14G, 1"C
C6	12#14, #14G, 1-1/4"C	A6	6-1Pr#16 TSP, #14G, 1-1/2"C
C7	14#14, #14G, 1-1/4"C	A7	7-1Pr#16 TSP, #14G, 2"C
C8	16#14, #14G, 1-1/4"C	A8	8-1Pr#16 TSP, #14G, 2"C
C9	18#14, #14G, 1-1/4"C	A9	9-1Pr#16 TSP, #14G, 2"C
C10	20#14, #14G, 1-1/4"C	A10	10-1Pr#16 TSP, #14G, 2"C
C11	22#14, #14G, 1-1/4"C	A11	11-1Pr#16 TSP, #14G, 2"C
C12	24#14, #14G, 1-1/4"C	M1	1-CAT-5e, #14G, 1"C
C14	28#14, #14G, 1-1/4"C	M2	2-CAT-5e, #14G, 1-1/2"C
C30	60#14, #14G, 3-1/2"C	M3	3-CAT-5e, #14G, 2"C
C37	74#14, #14G, 4"C	M4	4-CAT-5e, #14G, 2"C

CONTROL & INSTRUMENTATION WIRE/CONDUIT TABLE NOTES:

1) NOT ALL POSSIBLE COMBINATIONS ARE LISTED. INCLUDE A SEPARATE GROUND WIRE IN EACH CONDUIT RUN.

C# — # REPRESENTS PAIR OF WIRE
EXAMPLE C10 = 20#14 WIRES
EXAMPLE C20 = 40#14 WIRES
C = CONTROL

2) ANALOG CABLES ARE INTENDED TO BE INDIVIDUALLY INSULATED TWISTED SHIELDED PAIRS UNLESS OTHERWISE NOTED ON THE DRAWING.

GAI Gupta & Associates, Inc.
CONSULTING ENGINEERING
Registration No. F-2593
13777 Neutron Road
Dallas, Texas 75244
Tel: 972-490-7961
Fax: 972-490-7975
www.gaiconsulting.com

WILLIAM D. SAKO 93283 LICENSED PROFESSIONAL ENGINEER 07/06/22

SAN ANTONIO WATER SYSTEM

REV. NO.	DATE	DRWN	REMARKS
1	08/3/2022	ER	ADDENDUM NO.4

ONE INCH AT FULL SIZE IF NOT ONE INCH SCALE ACCORDINGLY

SAN ANTONIO WATER SYSTEM
STEVEN M. CLOUSE WRC
ELECTRICAL SYSTEM IMPROVEMENTS PHASE 2B
ELECTRICAL

FIRST STAGE AERATION TANKS
RAS P.S. AND EAS P.S. (NORTH)
INTERFACE DIAGRAM

DESIGNED BY:	K. KADAM
DRAWN BY:	E.RANGEL
SHEET CHK'D BY:	V.K. GUPTA
APPROVED BY:	W.SAKO
DATE:	JULY 2022
SAWS JOB NO.:	21-6510
FILE NAME:	1951_20E62

SHEET NO.
20E62
156 OF 227

100% SUBMITTAL - ISSUED FOR BID

8/23/2022 12:11 PM Z:\1951_SAWS Dos Rios WRC Electrical System Improvements – Phase II\5 Drawings\Dos Rios Phase II\Electrical\Working\Phase B\1951_20E62.dwg Jenny Meam