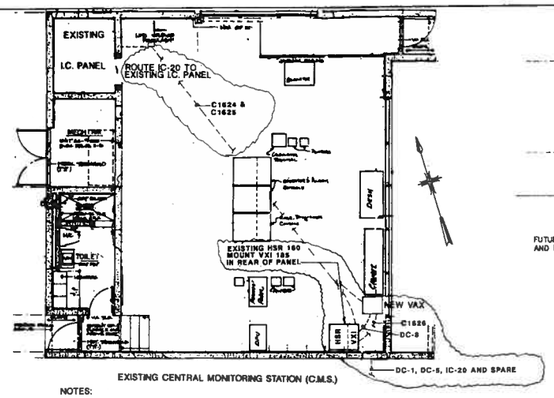
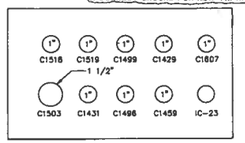


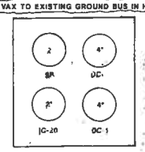
EXISTING CENTRAL MONITORING STATION (C.M.S.)

NOTES:

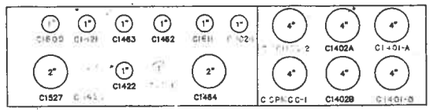
1. THE C.M.S. HAS A COMPUTER FLOOR. ALL CABLING, DATA HIGHWAY, POWER TO BE INSTALLED UNDERNEATH FLOOR.
2. POWER FOR NEW DCS EQUIPMENT IS TO BE POWERED FROM EXISTING LINE VOLTAGE REGULATOR.
3. CONNECT GROUND FOR NEW VXI AND VAX TO EXISTING GROUND BUS IN HSR 160.



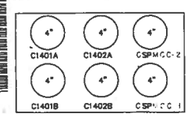
SECTION (2/2)
NOT TO SCALE



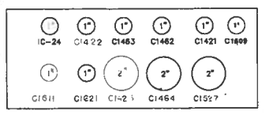
SECTION (6/2)
NOT TO SCALE



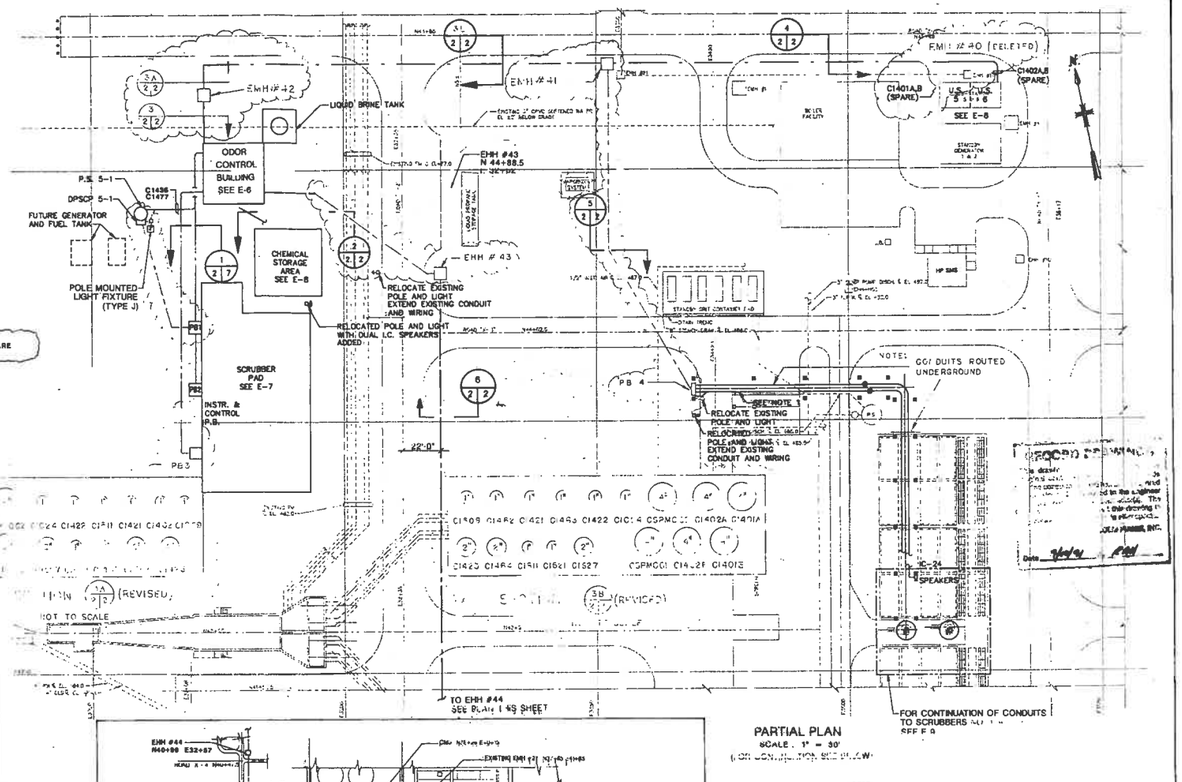
SECTION (3/2) (REVISED)
NOT TO SCALE



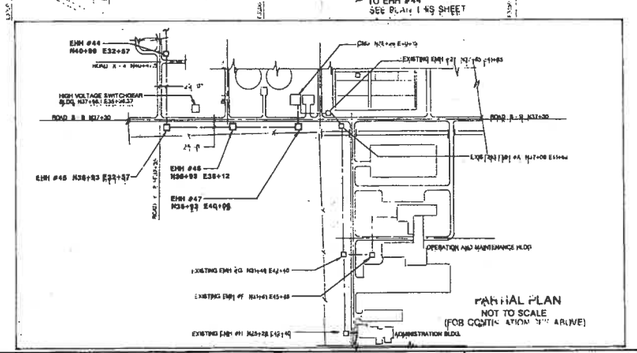
SECTION (4/2) (REVISED)
NOT TO SCALE



SECTION (5/2) (REVISED)
NOT TO SCALE



PARTIAL PLAN
SCALE: 1" = 30'



PARTIAL PLAN
NOT TO SCALE
(FOR CONSTRUCTION SEQUENCE)

NOTES:

1. SEE S-16 FOR EXPOSED CONDUIT ROUTING TO SCRUBBERS NO. 1 & 2.
2. CONTRACTOR SHALL COORDINATE HEAT TRACING REQUIREMENTS IN THE PIPE RACK FOR SCRUBBER AREA. SEE HEAT TRACING SPECIFICATIONS.
3. CONDUITS C1503, C1518, C1519, C1520, C1527, C1530, IC20, 23, AND 24 TO BE RIGID CONDUIT, INCLUDING UNDERGROUND DUCT BANK. AT EMH#41 AND #42 CONTRACTOR IS TO PROVIDE ISOLATION PROTECTION FOR C1527, AND IC-24 BY USE OF JUNCTION BOXES AND FLEX CONDUIT.
4. AT THE CMS THE CONTRACTOR IS TO CORE DRILL THROUGH SOUTH WALL [illegible] 10'-6 AND LEAVE 50'-0" OF SPARE DATA HIGHWAY. CAUTION IS TO BE EXERCISED SO AS NOT TO DAMAGE EXISTING DATA HIGHWAY. CONTRACTOR IS TO OBSERVE THE MINIMUM RECOMMENDED BENDING RADIUS BY THE MANUFACTURER WHEN HANDLING AND INSTALLING THE DATA HIGHWAY. THE NEW DATA HIGHWAY FROM CMS TO NEW ODOR CONTROL BUILDING IS TO BE REDUNDANT FIBAL FIBER OPTICS.
5. In new E.M.H. 43, 44, 45, 46, 47 and existing E.M.H. 2, A, C, F, H, the CONTRACTOR shall provide isolation and protection of all fiber optics and coaxial cables used for communications purposes for the DCS and all intercommunications cables. This shall be done by use of junction boxes and flex conduit.
6. The conduit routing from CMS to O & M building and Adm. building for DC-6 and DC-7 use same existing 4" conduit. The CONTRACTOR shall arrange for the DCS Vendor responsible for installing all fiber optics cables to pull out existing redundant coaxial cables and clean conduits according to specification Section 16111, before installing the fiber optics cables.

CONFORMED

DR 89-4501

REVISIONS				
NO.	BY	DATE	REMARKS	
2	RAN	3/28/90	INCORPORATED ADDENDUM	

DES JWG
DWN BLB
CHD RAN

MALCOLM PIRNIE

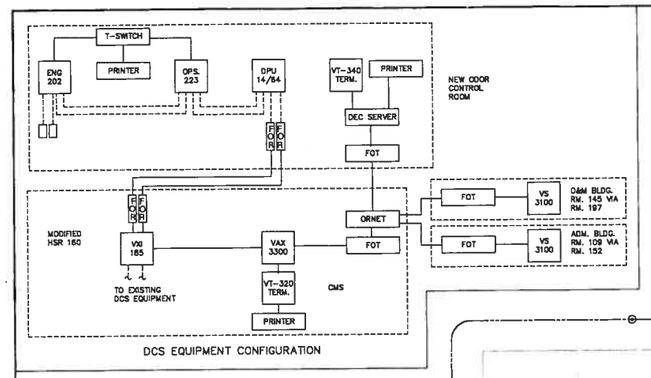
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
SAN ANTONIO, TEXAS

DOS RIOS FACILITIES
ODOR CONTROL EXPANSION & MODIFICATIONS

ELECTRICAL
PARTIAL SITE PLAN, SECTIONS AND DETAILS
SCALE AS NOTED

MALCOLM PIRNIE, INC.
DATE DECEMBER 1989

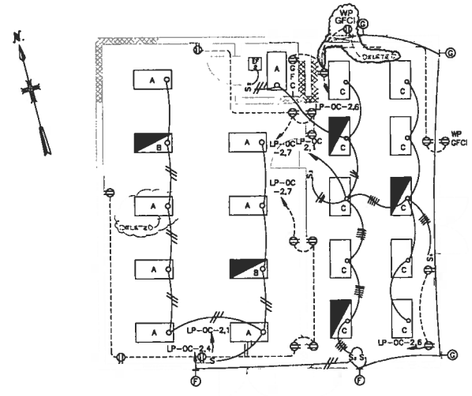
E SHEET 2 OF 9
DWG. NO. 94109-89.052-2



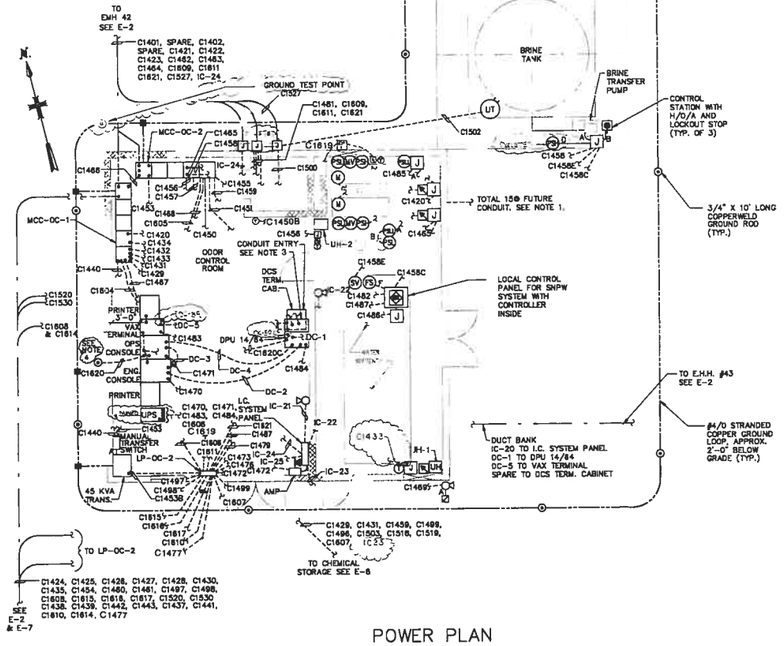
DCS EQUIPMENT CONFIGURATION

NOTES:

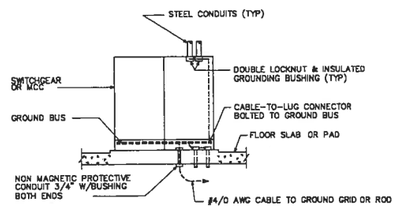
1. THE FOLLOWING CONDUITS SHALL BE CAPPED AND EXTENDED 2 FEET PAST EAST WALL: C1432, C1434, C1451, C1455, C1457, C1473, C1474, C1475, C1478, C1479, C1480, C1501, C1531, C1818. EACH CONDUIT SHALL HAVE A STAINLESS STEEL TAG BEARING ITS CONDUIT NUMBER FASTENED BY STAINLESS STEEL WIRE.
2. MINIMUM SIZE OF LIGHTING PANEL CIRCUIT WIRING LEAVING THE BUILDING SHALL BE #10 AWG.
3. THE FOLLOWING CONDUITS ARE ROUTED TO THE DCS TERMINATION CABINET: C1467, C1468, C1469, C1474, C1475, C1478, C1480, C1481, C1482, C1484A, C1485, C1488, C1498, C1501, C1502, C1503, C1518, C1519, C1520, C1500, C1530, C1531, C1604, C1605, C1608, C1814, AND C1818. APPROX. ENTRY INTO DCS TERM. CABINET IS 13" X 21". CONTRACTOR SHALL KEEP ANALOG WIRES SEPERATE FROM POWER AND CONTROL WIRES. ONLY CONDUITS C1484, C1820C, DC-1, DC-2 AND DC-4 SHALL BE ROUTED TO THE ELECTRONIC SIDE OF DPU 14/84. THE CONTRACTOR SHALL OBSERVE THE MINIMUM RECOMMENDED BENDING RADIUS BY THE THE MANUFACTURER WHEN HANDLING AND INSTALLING THE DATA HIGHWAY, BOTH COAXIAL AND FIBER OPTICS CABLES.
4. THE DCS EQUIPMENT GROUNDING SYSTEM SHALL BE A SEPARATE GROUND SYSTEM AND SHALL BE STRICTLY INSTALLED ACCORDING TO MANUFACTURER'S REQUIREMENTS.



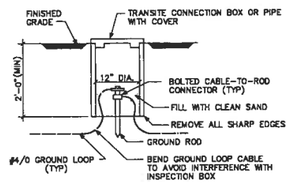
LIGHTING PLAN
SCALE: 3/16" = 1'-0"



POWER PLAN
SCALE: 3/16" = 1'-0"



TYPICAL SWITCHGEAR AND MOTOR CONTROL CENTER GROUNDING DETAIL
NOT TO SCALE



EXTERIOR GROUND TEST POINT
NOT TO SCALE

TYPE OF CONNECTION	BOLTED OR COMPRESSION		WELDED
	BURNDY CAT#	T&B CAT#	CADWELL CAT#
CABLE TO LUG	YA	54000 SERIES	LA
CABLE TO ROD	–	53000 SERIES	GT
CABLE TO ROD	GAR	–	GR
CABLE TO CABLE	GX	53000 SERIES	TY OR TA
CABLE TO PIPE	–	–	HA OR VS
CABLE TO PIPE OR CONDUIT	GAR OR GD	3800 SERIES	–
CABLE TO FLAT SURFACE	GB	–	HA OR HS
BRAID TO PIPE	GG	–	–

GROUNDING CONNECTIONS
NOT TO SCALE

RECORD DRAWINGS
Date 9/10/91 By PAH

CONFORMED

DR 89-6501

MALCOLM PIRNIE

NO.	BY	DATE	REVISIONS
1	RAN	2/26/90	INCORPORATED ADDENDUM

DES JWC
DWN ARD
CHD

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
SAN ANTONIO, TEXAS
DOS RIOS FACILITIES
ODOR CONTROL EXPANSION & MODIFICATIONS

ODOR CONTROL BUILDING
POWER AND LIGHTING PLAN AND GROUNDING DETAILS
SCALE AS NOTED

MALCOLM PIRNIE, INC.
DATE DECEMBER 1989
E SHEET 6 OF 9
DWG. NO. 9410N-89.856-2

NOT RECORD DRAWING

SCALE: 1"=80'-0"
0 40' 80'

METER VAULT

2 ED-2

HEADWORKS

EXISTING UG CONDUIT TO BE REUSED

RIO SG-1 LOCATED HERE. COORDINATE WITH SAWS ELECTRICAL DEPARTMENT FOR ACCESS.

SG-1

SLUDGE HOLDING TANK

SLUDGE HOLDING TANK

PRIMARY DIGESTER #7

PRIMARY DIGESTER #6

PRIMARY DIGESTER #5

PRIMARY DIGESTER #4

PRIMARY DIGESTER #3

PRIMARY DIGESTER #2

PRIMARY DIGESTER #1

PRIMARY SETTLING TANK #1

PRIMARY SETTLING TANK #3

PRIMARY SETTLING TANK #5

PRIMARY SETTLING TANK #7

PRIMARY SETTLING TANK #2

PRIMARY SETTLING TANK #4

PRIMARY SETTLING TANK #6

PRIMARY SETTLING TANK #8

DAF

BELT FILTER PRESS

BLENDING FACILITY

BLENDING TANK

PROPOSED PIG STATION

WATER TANK

1 ED-2

EXISTING MCC-B

SUBSTATION NO. 2 RIO-US-2 LOCATED HERE

PROPOSED PUMP STATION

SAWS PROJECT NO. 98-6516

STATE OF TEXAS
OSCAR MIRAMONTES
55413
REGISTERED PROFESSIONAL ENGINEER
6/1/01

REV. NO.	DATE	DRWN	CHKD	REMARKS

MIRAMONTES ENGINEERING

DESIGNED BY: O.M.
DRAWN BY:
SHEET CHKD BY:
CROSS CHKD BY:
APPROVED BY: O.M.
DATE: OCTOBER 2001

CAMP DRESSER & McKEE INC.
environmental engineers, scientists, planners, & management consultants
CDM

SAN ANTONIO WATER SYSTEM

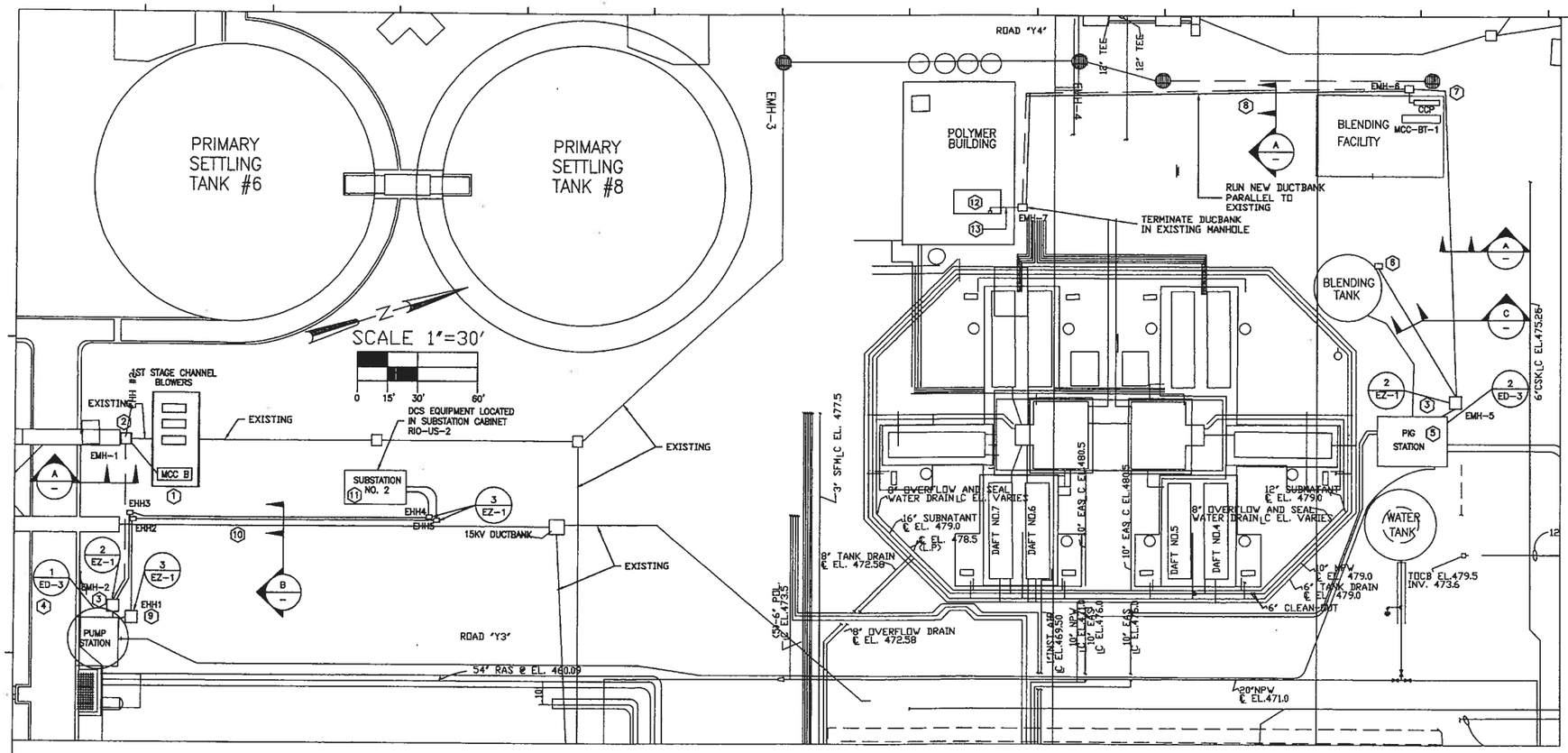
LEON CREEK, SALADO CREEK AND DOS RIOS WATER RECYCLING CENTERS INTERCONNECTIONS MODIFICATIONS PROJECT - PART A

DOS RIOS WATER RECYCLING CENTER ELECTRICAL GENERAL SITE PLAN

PROJECT No 8240-23741
FILE NAME:

SHEET No
ED-1

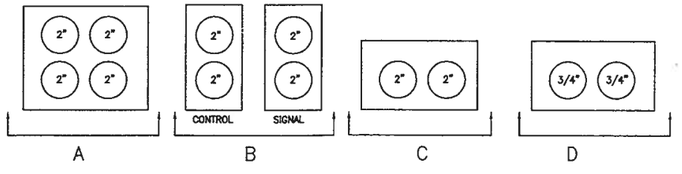
NOT RECORD DRAWING

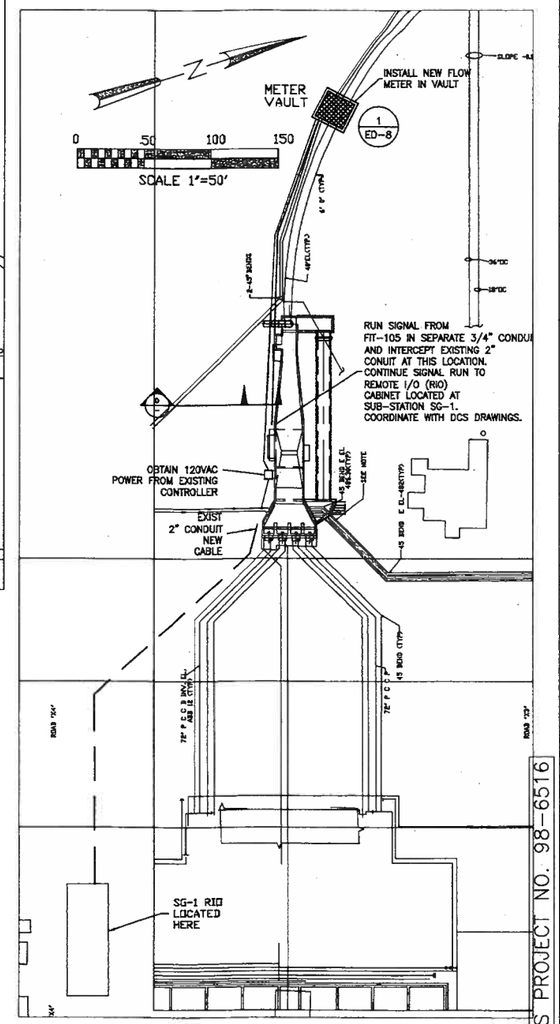


ELECTRICAL KEY NOTES (THIS SHEET ONLY):

1. INSTALL CIRCUIT BREAKER IN EXISTING MOTOR CONTROL CENTER (MCC-B) AND RUN CABLE TO EXISTING MANHOLE EMH-1 USING SPARE 3" CONDUIT. REFER TO ELECTRICAL ONE LINE FOR CABLE TYPE AND QUANTITY.
2. EXCAVATE AND EXPOSE MANHOLE WALL (EMH-1) AND CORE-DRILL A PENETRATION. INSTALL NEW DUCTBANK AND SEAL AND GROUT PENETRATION.
3. INSTALL NEW ELECTRICAL MANHOLE IN APPROXIMATE LOCATION INDICATED. COORDINATE MANHOLE RING AND COVER AND FLUSH TO GRADE. MANHOLE & COVER SHALL BE RATED FOR TRAFFIC LOAD.
4. INSTALL NEW MOTOR CONTROL CENTER (MCC-A) & NEW LOCAL PUMP CONTROLLERS. REFER TO ELECTRICAL SCHEMATICS.
5. INSTALL NEW LOCAL VALVE CONTROLLERS IN PIG STATION. REFER TO DETAIL.
6. RUN CONDUIT AND CABLE TO EXISTING LEVEL TRANSMITTER LOCATED BY BLEND TANK. REFER TO ELECTRICAL SCHEMATICS FOR CABLE TYPE AND QUANTITY. EXTEND CABLE TO DCS EQUIPMENT LOCATED IN POLYMER BLG.
7. RUN CONDUIT AND CABLE TO EXISTING MANHOLE EMH-6 LOCATED BY BLENDING FACILITY. EXTEND CABLES TO DCS EQUIPMENT LOCATED IN POLYMER BLG. REFER TO ELECTRICAL SCHEMATICS FOR CABLE TYPE AND QUANTITY.
   INSTALL NEW DUCTBANK FROM EMH-6 TO EMH-7 FOLLOWING SAME APPROXIMATE PATH AS EXISTING DUCTBANK.
8. NOT USED
9. INSTALL NEW SIGNAL HANDHOLE IN APPROXIMATE LOCATION INDICATED. COORDINATE HANDHOLE RING AND COVER AND FLUSH TO GRADE. HANDHOLE & COVER SHALL BE RATED FOR TRAFFIC LOAD.
10. RUN DUCTBANK FROM EMH-2 AND EHH-1 TO SUBSTATION NO. 2. INSTALL CONTROL AND SIGNAL CABLES IN QUANTITIES AND TYPES SHOWN IN ONE-LINE ELECTRICAL SCHEMATIC.
11. INSTALL NEW INPUT/OUTPUT MODULES ON EXISTING DCS EQUIPMENT AT RIO-US-2. LOCATED IN SUBSTATION NO. 2. REFER TO INSTRUMENTATION BLOCK DIAGRAM FOR TYPES AND QUANTITIES. TERMINATE DIGITAL AND ANALOG INPUTS ON NEW AND EXISTING INPUT MODULES AS REQUIRED. REFER TO INSTRUMENTATION SHEETS AND INSTRUMENTATION SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS.
12. INSTALL NEW INPUT/OUTPUT MODULES ON EXISTING DCS EQUIPMENT AT CONTROLLER 8/58 LOCATED IN POLYMER BLG. REFER TO INSTRUMENTATION BLOCK DIAGRAM FOR TYPES AND QUANTITIES. TERMINATE DIGITAL AND ANALOG INPUTS ON NEW AND EXISTING INPUT MODULES AS REQUIRED. REFER TO INSTRUMENTATION SHEETS AND INSTRUMENTATION SPECIFICATIONS FOR ADDITIONAL INSTRUCTIONS.
13. RUN 2-2" CONDUITS FROM EMH-7 TO JUNCTION BOX LOCATED INSIDE OF CONTROL ROOM & CONTINUE RUN TO JUNCTION BOX LOCATED NEXT TO CONTROLLER 8/58 CABINET. EXTEND CONTROL AND SIGNAL CABLES ORIGINATING AT PIG STATION AND TERMINATE IN RESPECTIVE I/O TERMINALS.

1 DOS RIOS WRC PUMP STATION
SCALE: 1"=20'





2 DOS RIOS WRC FLOW METER VAULT
SCALE: 1"=50'

SAWS PROJECT NO. 98-6516

STATE OF TEXAS
OSCAR MIRAMONTES
55413
REGISTERED PROFESSIONAL ENGINEER
10/1/01

REV. NO.	DATE	DRWN	CHKD	REMARKS

MIRAMONTES ENGINEERING

DESIGNED BY: O.M.
DRAWN BY:
SHEET CHKD BY:
CROSS CHKD BY:
APPROVED BY: O.M.
DATE: OCTOBER 2001

CAMP DRESSER & McKEE INC.
environmental engineers, scientists, planners, & management consultants
CDM

SAN ANTONIO WATER SYSTEM

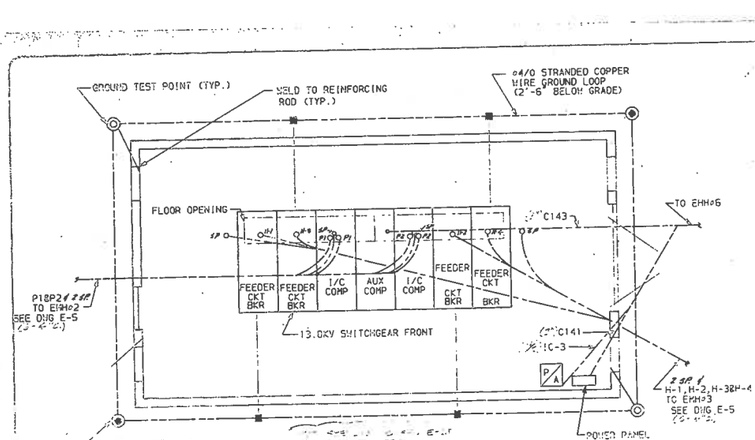
LEON CREEK, SALADO CREEK AND DOS RIOS WATER RECYCLING CENTERS INTERCONNECTIONS MODIFICATIONS PROJECT - PART A

DOS RIOS WATER RECYCLING CENTER ELECTRICAL SITE PLAN

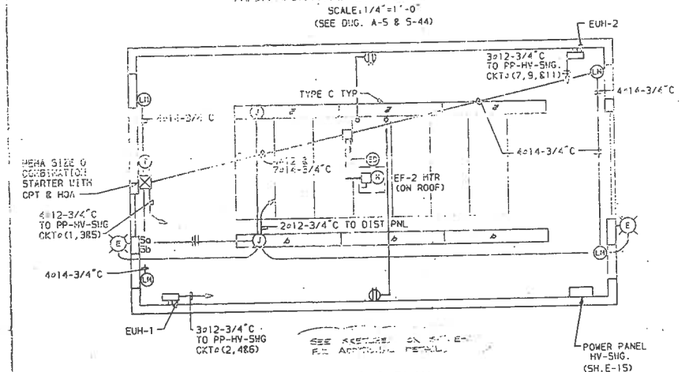
PROJECT No 8246-23741
FILE NAME

SHEET No
ED-2

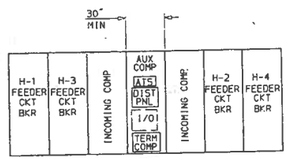
8'-8"
(SC1) 3" (C1) 3" (C1) 3" (SC2) 3" (2") C141 (1") C143
(SP) 3" (C2) 3" (C2) 3" (SC3) 3" (2") C141 (3") SP
5 5/5 DUCT BANK CONFIGURATIONS
N.T.S. TO SCALE (TYP.)
2'-5"
(P1) (SPARE) (P2)
(P) (SPARE) (P2)
1'-8"
1 5/5
(H1) (SPARE) (H3)
(H2) (SPARE) (H4)
2 5/5
(H1) (SPARE) (H3)
(SPARE) (C77) (H4)
(C75) (SPARE) (C75)
3 5/5
(P1) (SPARE) (C77)
(H4) (C77) (C76)
6 5/5
CAP 2 SPARE DUCTS EASEMENT LINE
MATCH LINE "A-A" SEE BELOW
30'
16'
24'
20'
7'-0" HIGH CHAIN-LINK FENCE
10' WIDE GATE
PRIMETER (CPS)
VALLEY ROAD
CPS OVERHEAD ELECT. SERVICE LINE (BY CPS)
TO CPS SUBSTATION
GATE BY OTHERS 30'-0"
TEMPORARY LINE FOR CONTRACTOR
13.2 KV, 3 Ø, OVERHEAD SERVICE AREA
SCALE: 1"=30'
B.L. 485
EXTEND EXISTING DUCTS 4-5" WITH 4-5" STEEL DUCTS IN CONC. UNDERGROUND FEEDERS P18 P2-UP POLES.
SERVICE POLES 45 FT CLASS 2 EACH WITH 14.4 KV 3 POLE, GANG-OPERATED POLE TOP MOUNTED LOAD BREAK SWITCH AND THREE FUSED CUTOUTS MOUNTED ON CROSSARM BELOW - SEE SPEC.
2'-5"
(H1) (SP) (H3)
(H2) (C77) (H4)
(C75) (SP) (C76)
CABLES FOR FEEDERS H3 & H4 ARE NOT IN CONTRACT
10 5/5
B-B
E-20
Y-4
Y-5
Y-2
Y-3
POWER PANEL - PP-2L WITH CONTRACTOR ENCLOSURE - SEE DWG 621 FOR DETAILS
MCC 56-162 ENCLOSURE SEE ENLARGED PLAN PP-121
SUBSTATION "H" SEE ENLARGED PLAN OF PAGE 11
EMH #5
EMH #7
EMH #6
EMH #4
EMH #3
MATCH LINE "A-A" SEE SHT. E-34
EXH-1 N 3762.42 E 2639.64 T.O.N.H. 488.52
EXH-2 N 3766.40 E 3272.74 T.O.N.H. 483.86
EXH-3 N 3761.77 E 3593.08 T.O.N.H. 481.30
EXH-15 N 4019.23 E 3591.45 T.O.N.H. 483.80
EXH-6 N 3871.37 E 3587.65 T.O.N.H. 481.26
EXH-7 N 4009.66 E 3588.38 T.O.N.H. 483.64
NOTES:
ALL DUCT BANK CONFIGURATIONS SHOWN ON DWG'S E-20 E-34 & E-47 ARE 1'-4" DEEP, INCLUDING 3" OF SAND OR ABC. UNLESS NOTED OTHERWISE.
ALL DUCT BANK CONFIGURATION DIMENSIONS ARE ROUNDED TO NEAREST INCH FOR COMPLETE BURRIED DUCT BANK INSTALLATION.
EXISTING SERVICE POLES
592'-0"
EMH #1
EMH #2
EXISTING 6(4"x6") DUCT BANK UNDER ROAD
C.P.S. EASEMENT AREA
TO MAIN GATE & GUARD HS.
13.2 KV SWITCHGEAR
℄ OF ROAD B-B
1'-8"
(4") H1 (4") SP
(4") H2 (4") SP
11 34 5
1'-1"
(1½") IC-3 (3") SP
(2") C141 (1") C143
7 5/5
2'-1"
(2") C146C (3") IC-6 (2") C141 (1") C143
(2") C146B (3") C54 (2") C61B (3") SP
4 5/5
1'-8"
(2") C146C (3") IC-7 (3") SP
(2") C146B (3") C54 (2") C41B
8 5/5
1'-3"
(2") C146C (3") IC-8
(2") C146B (3") C5
9 34 3
N
PROJECT RECORD
No. Date Revisions App.
A 11-4-87 As Built - Project Record
Drawing No. 410N-83.238-0
SAN ANTONIO WASTEWATER FACILITIES IMPROVEMENTS
CONTRACT NO. 3
DOS RIOS FACILITY
GENERAL
POWER DISTRIBUTION & AREA LIGHTING
Sheet E-5
of E-58
DR 88-8501
9101062



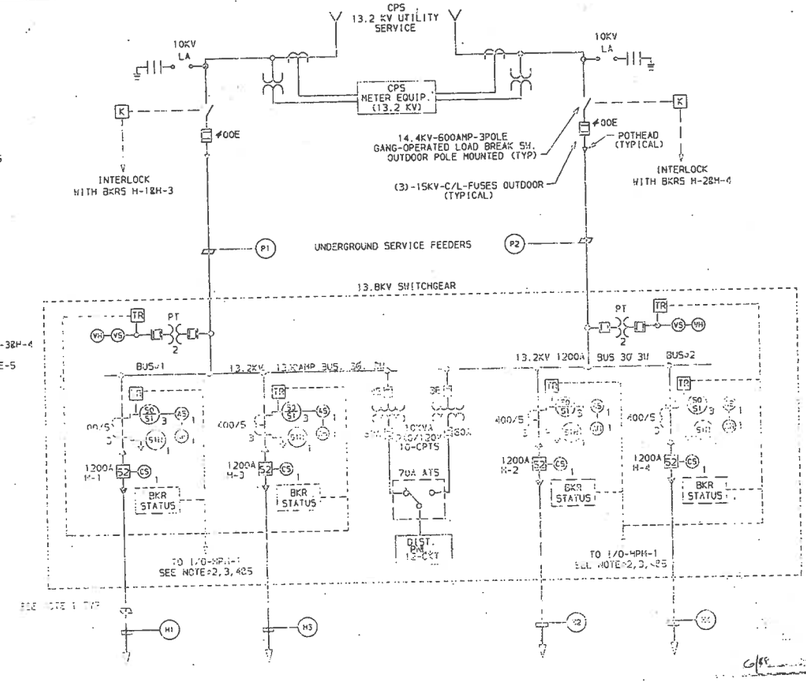
POWER LAYOUT
HIGH VOLTAGE SWITCHGEAR BLDG.
SCALE: 1/4"=1'-0"
(SEE DWG. A-5 & S-44)



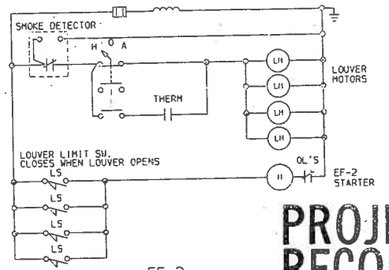
LIGHTING PLAN
HIGH VOLTAGE SWITCHGEAR BLDG.
SCALE: 1/4"=1'-0"
(SEE DWG. A-5 & S-44)



13.2KV SWITCHGEAR FRONT
(N.T.S)



COORDINATE WITH DRAWINGS E-6 AND E-6XA



EF-2

13KV PRIMARY SERVICE AND FEEDER SCHEDULE:

P1	2 SETS OF 3-1/C @ 4/0 15KV SHIELDED & 1 @4/0 GND -2-#"CONDUITS
P2	2 SETS OF 3-1/C @ 4/0 15KV SHIELDED & 1 @4/0 GND -2-#"CONDUITS
H1	1 SET OF 3-1/C @ 4/0 15KV SHIELDED & 1 @4/0 GND -1-#"CONDUIT
H2	1 SET OF 3-1/C @ 4/0 15KV SHIELDED & 1 @4/0 GND -1-#"CONDUIT
X3	1 SET OF 3-1/C @ 4/0 15KV SHIELDED & 1 @4/0 GND -1-#"CONDUIT
H4	1 SET OF 3-1/C @ 4/0 15KV SHIELDED & 1 @4/0 GND -1-#"CONDUIT

NOTE:
1 CABLE SHALL BE ONE CONTINUOUS SIZE FROM CIRCUIT BREAKER TO EACH SUBSTATION OR PAD MOUNT XFMR. REFER TO DWG E2 FOR LOADS ASSOCIATED WITH EACH FEEDER.
2 SUBSTATION VENDOR SHALL PROVIDE TERMINAL COMPARTMENT WITH 35 TERMINALS OF WHICH 15 ARE ISOLATED TERMINALS FOR SIGNALS OF TRANSDUCERS.
3 SUBSTATION VENDOR SHALL PROVIDE CONTROL WIRING TROUGH THRU EACH SWITCHGEAR COMPARTMENT FOR BREAKER STATUS WIRING.
4 CONTRACTOR SHALL EXTEND CIRCUIT BREAKER STATUS WIRING VIA WIRE TROUGH AND TERMINATE ON TERMINAL STRIP OF TERMINAL COMPARTMENT.
5 CONTRACTOR SHALL ARRANGE AUXILLIARY COMPARTMENT OF SWITCHGEAR SUCH THAT I/O-MPH-1 PROVIDED UNDER CONTRACT#2, CAN BE INSTALLED IN SWITCHGEAR UNDER CONTRACT NO.2.

PROJECT RECORD

Drawing No. 410N-05.23B-D

NO.	DATE	REVISIONS
1	2-84	AS-BUILT

CONTRACT NO.3
DOS RIOS FACILITY
GENERAL
13.2 KV DISTRIBUTION SWITCHGEAR

Sheet E-6.1
of E-58

DR 88-6501

LIGHTING & POWER
H.V. SWITCH HOUSE
N.T.S.

POWER LAYOUT
HV SWITCH HOUSE BLDG.
N.T.S.

SECTION A-A

SECTION B-B

High Voltage Switchgear Stub up

DETAIL SHEET A/B
STUB UP DETAILS
N.T.S.

COORDINATE WITH DRAWING E-6 AND E-6 X

DR 88-6501

No.	Date	Revisions	App.

Drawing No.

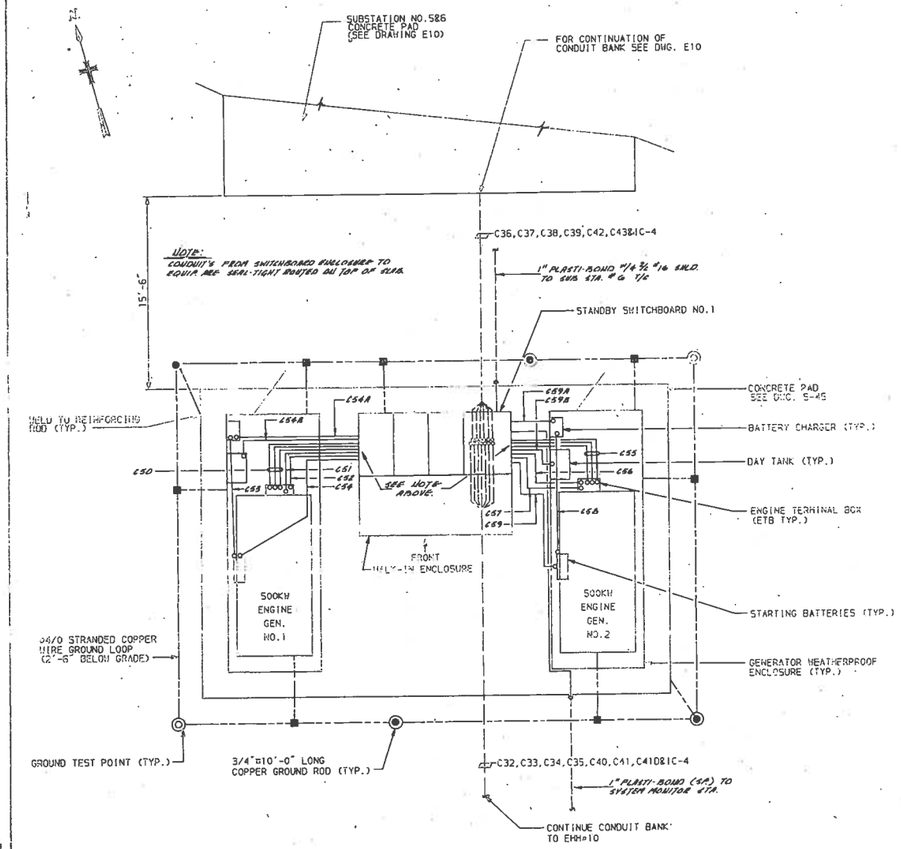
MALCOLM PIRNIE

Date 4 MAR 1988
Designed by RCC
Drawn by RCC
Checked by RCC
Scale N.T.S.

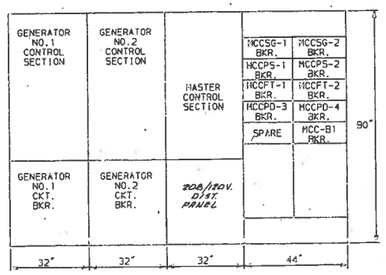
WASTEWATER FACILITIES IMPROVEMENTS
SAN ANTONIO

CONTRACT NO. 3
DOS RIOS FACILITY
H.V. SWITCHGEAR "AS-BUILTS"

Sheet E-6
of 53



STANDBY GENERATOR NO.1&2 LAYOUT
SCALE= 1/4"=1'-0"



STANDBY SWITCHBOARD NO.1
FRONT VIEW
(NOT TO SCALE)
NOTE: DIMENSIONS DEPEND ON EQUIPMENT SELECTED.

COORDINATE WITH SHEET E-7.

PROJECT RECORD

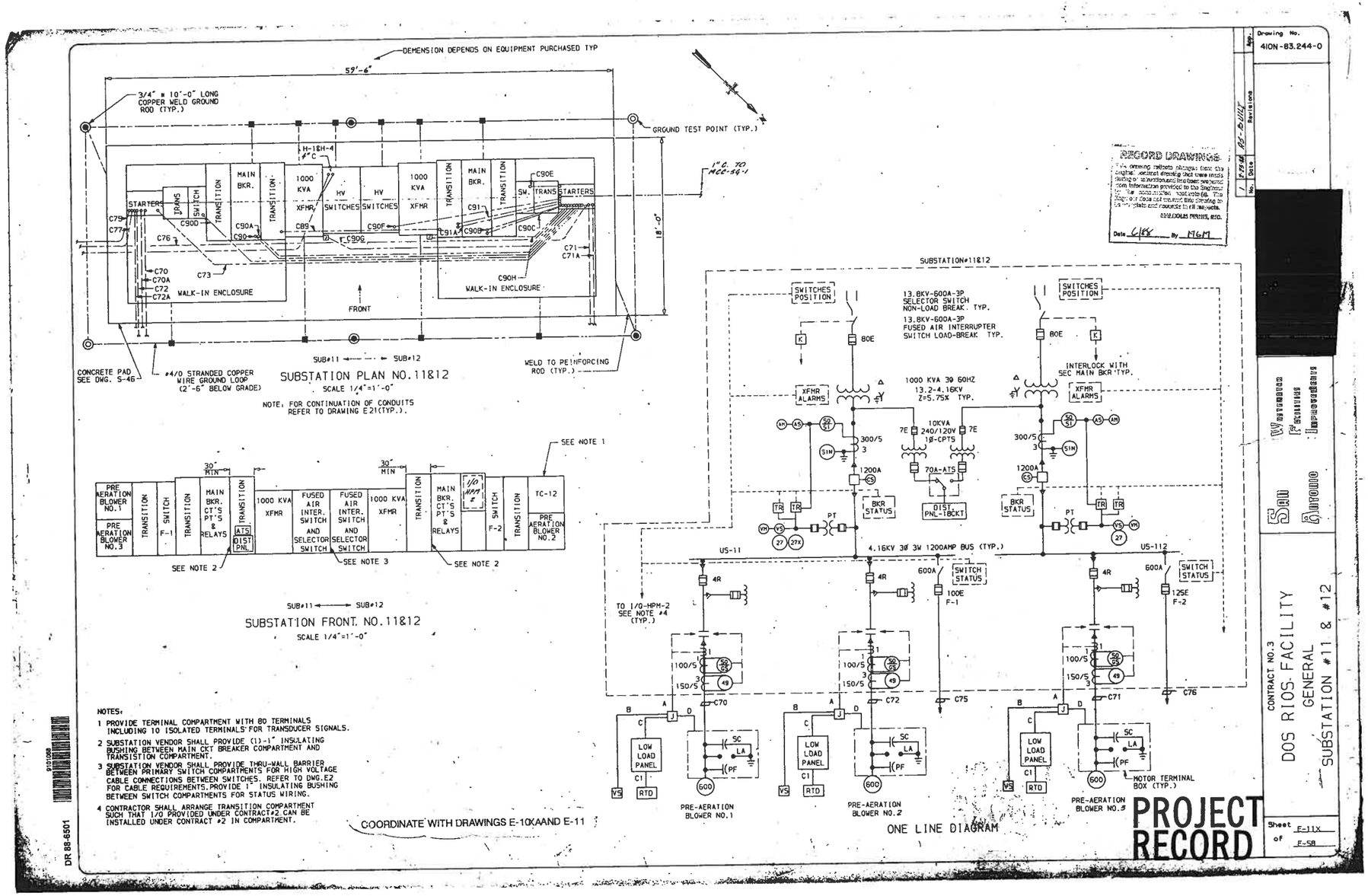
Drawing No. 410N-DS.E00-0

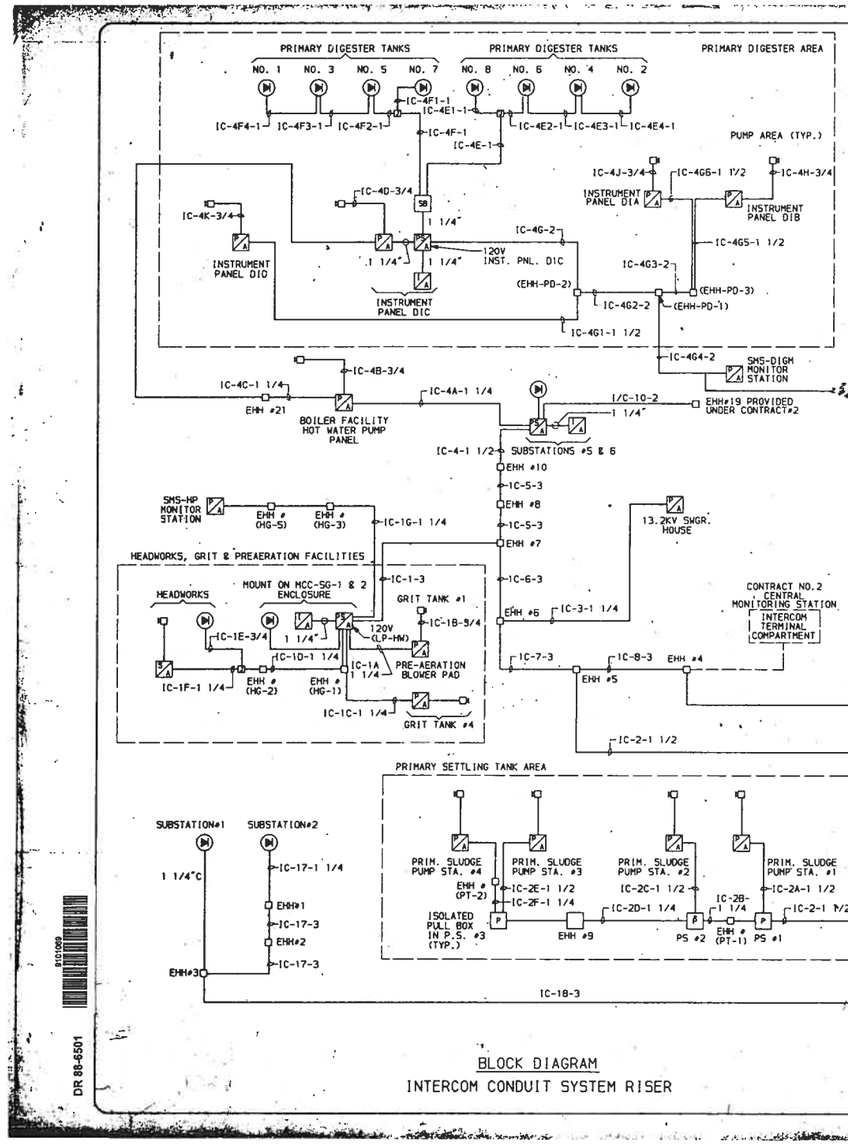
No.	Date	Revisions	By
1	4/7/88	AS-BUILT	

CONTRACT NO.3
DOS RIOS FACILITY
GENERAL
STANDBY GENERATORS #1 & #2

Sheet E-7
of E-58

DR 88-6501

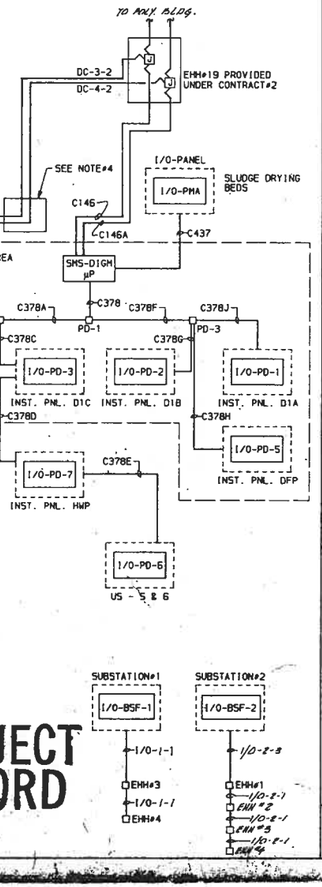

DEMENSION DEPENDS ON EQUIPMENT PURCHASED TYP
59'-6"
3/4" ø 10'-0" LONG COPPER WELD GROUND ROD (TYP.)
GROUND TEST POINT (TYP.)
H-18H-4 #°C
1" C. TO MCC-54-1
18'-0"
STARTER
TRANS
SWITCH
TRANSITION
MAIN BKR.
TRANSITION
1000 KVA XFMR
HV SWITCHES
HV SWITCHES
1000 KVA XFMR
TRANSITION
MAIN BKR.
TRANSITION
SW.
TRANS
STARTERS
C90E
C91
C90D
C90A
C90
C89
C90F
C91A
C90C
C90G
C90H
C79
C77
C76
C73
C70
C70A
C72
C72A
C71
C71A
WALK-IN ENCLOSURE
WALK-IN ENCLOSURE
FRONT
SUB#11
SUB#12
CONCRETE PAD SEE DWG. S-46
#4/0 STRANDED COPPER WIRE GROUND LOOP (2'-6" BELOW GRADE)
WELD TO REINFORCING ROD (TYP.)
SUBSTATION PLAN NO.11&12
SCALE 1/4"=1'-0"
NOTE: FOR CONTINUATION OF CONDUITS REFER TO DRAWING E21(TYP.).
30" MIN
30" MIN
SEE NOTE 1
PRE AERATION BLOWER NO.1
PRE AERATION BLOWER NO.3
TRANSITION
SWITCH F-1
TRANSITION
MAIN BKR. CT'S PT'S & RELAYS
TRANSITION
ATS
DIST PNL
1000 KVA XFMR
FUSED AIR INTER. SWITCH AND SELECTOR SWITCH
FUSED AIR INTER. SWITCH AND SELECTOR SWITCH
1000 KVA XFMR
TRANSITION
MAIN BKR. CT'S PT'S & RELAYS
I/O HPM-2
SWITCH F-2
TRANSITION
TC-12
PRE AERATION BLOWER NO.2
SEE NOTE 2
SEE NOTE 3
SEE NOTE 2
SUB#11
SUB#12
SUBSTATION FRONT NO.11&12
SCALE 1/4"=1'-0"
NOTES:
1 PROVIDE TERMINAL COMPARTMENT WITH 80 TERMINALS INCLUDING 10 ISOLATED TERMINALS FOR TRANSDUCER SIGNALS.
2 SUBSTATION VENDOR SHALL PROVIDE (1)-1" INSULATING BUSHING BETWEEN MAIN CKT BREAKER COMPARTMENT AND TRANSISTION COMPARTMENT.
3 SUBSTATION VENDOR SHALL PROVIDE THRU-WALL BARRIER BETWEEN PRIMARY SWITCH COMPARTMENTS FOR HIGH VOLTAGE CABLE CONNECTIONS BETWEEN SWITCHES. REFER TO DWG.E2 FOR CABLE REQUIREMENTS.PROVIDE 1" INSULATING BUSHING BETWEEN SWITCH COMPARTMENTS FOR STATUS WIRING.
4 CONTRACTOR SHALL ARRANGE TRANSITION COMPARTMENT SUCH THAT I/O PROVIDED UNDER CONTRACT#2 CAN BE INSTALLED UNDER CONTRACT #2 IN COMPARTMENT.
COORDINATE WITH DRAWINGS E-10(AAND E-11
SUBSTATION#11&12
SWITCHES POSITION
13.8KV-600A-3P SELECTOR SWITCH NON-LOAD BREAK. TYP.
13.8KV-600A-3P FUSED AIR INTERRUPTER SWITCH LOAD-BREAK TYP.
SWITCHES POSITION
80E
K
80E
K
INTERLOCK WITH SEC MAIN BKR TYP.
XFMR ALARMS
1000 KVA 3Ø 60HZ 13.2-4.16KV Z=5.75% TYP.
XFMR ALARMS
10KVA 240/120V 1Ø-CPTS
7E
7E
70A-ATS
300/5
1200A
BKR STATUS
DIST PNL-18CKT
300/5
1200A
BKR STATUS
PT
PT
4.16KV 3Ø 3W 1200AMP BUS (TYP.)
US-11
US-112
600A
SWITCH STATUS
100E F-1
600A
SWITCH STATUS
125E F-2
TO I/O-HPM-2 SEE NOTE #4 (TYP.)
100/5
150/5
C70
C72
C75
C71
C76
LOW LOAD PANEL
RTD
SC
LA
PF
600
PRE-AERATION BLOWER NO.1
PRE-AERATION BLOWER NO.2
PRE-AERATION BLOWER NO.3
MOTOR TERMINAL BOX (TYP.)
ONE LINE DIAGRAM
RECORD DRAWINGS
Drawing No. 410N-83.244-0
No. 1 Date 7-7-88 Revisions By MGM App.
CONTRACT NO.3
DOS RIOS FACILITY
GENERAL
SUBSTATION #11 & #12
Sheet E-11X of E-58
PROJECT RECORD
DR 88-6501



BLOCK DIAGRAM
INTERCOM CONDUIT SYSTEM RISER

GENERAL NOTES

1. ALL INTERCONNECTION LINES BETWEEN EQUIPMENT REPRESENT CONDUIT ROUTING. FOR CONDUITS TAGGED IC-NUMBER-SIZE REFER TO PLAN DRAWINGS FOR ROUTING. ALL CONDUITS FOR INTERCOM SYSTEM NOT TAGGED IC-NUMBER-SIZE ARE LOCAL CONDUIT REQUIREMENTS OF 3/4" IN SIZE UNLESS NOTED OTHERWISE.
2. ALL INTERCOM EQUIPMENT SHOWN IN PLAN DRAWINGS ARE FOR LOCATIONS ONLY. EQUIPMENT AND CABLES TO BE PROVIDED UNDER CONTRACT NO.2.
3. PROVIDE FLEXIBLE CONDUIT AND JUNCTION BOX IN ALL ELECTRICAL HANDHOLES FOR THE INTERCOM CONDUIT SYSTEM, SO CABLES WILL BE ISOLATED FROM THE POWER CONDUCTORS.
4. IN ORDER TO ISOLATE PSMS I/O CABLES FROM POWER CONDUCTORS THE FOLLOWING CONDUITS SHALL BE RUN CONTINUOUS THROUGH EACH ELECTRICAL HANDHOLE IDENTIFIED. PROVIDE FLEXIBLE CONDUIT AND JUNCTION BOX WITHIN HANDHOLES.
   CABLES FURNISHED AND INSTALLED UNDER CONTRACT#2:
   A. C240 - EHH#8, (PROVIDE ECONNECT CONDUITS 240, 240A AND 240C IN EHH#9)
   B. C378D - EHH#21
   C. C143 - EHH#7, EHH#6
   D. C146B & C146C - EHH#8, EHH#7, EHH#6, EHH#5 (CAP IN EHH#4)
   E. C145 & C146A - EHH#20, EHH#10
   F. I/O-2 -EHH#3
   G. EHH-SB7, SB6, SB4, SB1, SB1&EHH-PD-6.



BLOCK DIAGRAM
PMS & I/O - CONDUIT SYSTEM RISER

PROJECT RECORD

No.	Date	Revisions	App.
1	5/19/88	As-Built	

Drawing No. 41ON-83.249-0

Westside Wastewater Facilities Improvements
San Antonio

CONTRACT NO. 3
DOS RIOS FACILITY
GENERAL
BLOCK DIAGRAMS, INTERCOM, PMS & I/O

Sheet E-15A of E-58

DR 88-6501

MATCH LINE "F - F" SEE SHT. E-47 (FOR POWER LAYOUT SEE DWG E-50)

ROAD "X-2"

TO EHH#20

TO EHH#19

POWER CONTINUATION OF DUCT BANKS SEE DWG. E47

EHH#11

EHH#21

IC-10

EMH #4

SUBSTATION #5&6 SEE ENLARGED PLAN DWG.E10

BOILER FACILITY SEE ENLARGED PLAN DWG.E53

STANDBY GENERATORS NO.1&2 SEE ENLARGED PLAN DWG.E7

EHH-9	N 4256.55	E 3899.90	T.O.N.H.	483.58
EHH-10	N 4697.15	E 3898.79	T.O.N.H.	482.15
EHH-11	N 4656.96	E 3873.09	T.O.N.H.	483.73
EHH-4	N 4818.83	E 3891.71	T.O.N.H.	483.38

EMH #10

MICROPROCESSOR

SYSTEM MONITORING STATION (SMS-MP)

ROAD "X-3"

ROAD "X-4"

ROAD "X-5"

EMH #8

MATCHLINE "X-A" SEE SHT. E-34

COORDINATE WITH DRAWING E-20.

NOTES:
1) FOR LIGHTING DETAIL SEE SHEET E-23
2) FOR MANHOLE & HANDHOLE DETAILS SEE DWG. E-14.

DUCT BANK
NOT TO SCALE (TYP.)

4'-2" — C38 C16 C16 C16 SP C388 C314 C315 / C39 C17 C17 C17 SP C42 C317 C318 C438 SP — 1'-3"

2'-10" — C32 C34 C40 C41D IC-4 / C33 C35 C40 C41 — 1'-3"

5'-10" — C146C SP C1 C1 C32 IC-5 C41A / C146B SP C2 C2 C33 C34 C41B — 1'-3"

2'-2" — C36 C38 C42 / C37 C39 C43 IC-4 — 1'-3"

3'-11" — C146C SP C34 SP IC-5 C32 C41D / C146B C240 C35 C40 C40 C33 C41 — 1'-3"

1'-5" — SP H3 / SP H4 — 1'-3"

1'-8" — C146C SP C146 / C146B C240 C146A — 1'-3"

2'-0" — DC4 DC3 C146 C146A — 6"

5'-8" — C146 C34 SP IC-5 C32 C41D / C146A C35 C40 C40 C33 C41 — 1'-3"

4'-7" — C38 C16 C16 C16 SP C388 C320 C378D IC-4C / C39 C17 C17 C17 SP C42 C324 C321 SP — 1'-3"

H(1) H(2) H(3) H(4) H(5) H(6)

(1) H

(3) H 6

(2) H 5

BLOWER STATION (SEE NOTE 1)

7" DUCTED FROM DIST. P.I.E.S.

MATCHLINE "D-D" SEE SHT. E-5 ROAD "X-4"

RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.

MALCOLM PIRNIE, INC.

Date 6/94 By MGM

PROJECT RECORD

DR 88-4501

No.	Date	Revisions	By	App.
A	10/5 87	AS BUILT PROJ RECORD	DKM	

Drawing No. 41ON-83.254-0

WASTEWATER FACILITIES IMPROVEMENTS

SAN ANTONIO

CONTRACT NO. 3

DOS RIOS FACILITY

SCREEN, GRIT, & PREARATION FACILITIES
POWER DISTRIBUTION & AREA LIGHTING

Sheet E-20X
of E-58

No	Date	As Built Proj. Record Revisions	App
A	100487		

Drawing No
410N-83.255-0

ROADWAY LTG. CKT.#1 - 5.8 KVA
ROADWAY LTG. CKT.#2 - 6.12 KVA
ROADWAY LTG CKT.#3 - 5.8 KVA
SPARE

POWER PNL. PP-RL - 480V, 3Φ, 3W, 100AMP MAIN LUGS - PROVIDE GND BUS

CONDUIT SIZE
A = 3/4"
B = 1"
C = 1-1/4"
D = 1-1/2"
E = 2"
F = 3"

120V FROM LP-HN - CKT #16
PHOTOCELL
FROM MCC 56-2-BKR.
TO PP-RL MAIN BUS
ROADWAY LTG.-CONTACTOR CONTROL

FLOW ELEMENT
25' MIN. PLASTI-BOND EQUIVENT BY VENDOR
FLOW TRANSMITTER
SCREEN DISTRIBUTION CHAMBER SLUICE GATE (TYP.)
MOUNT ON LTG. FIXTURE POLE
C100, C101 - FOR CONDUIT ARRANGEMENT REFER TO ONE LINE DIAGRAM

600V-60A-MECHANICALLY HELD CONTACTOR IN NEMA 1 ENCLOSURE WITH RELAY & H-O-A SWITCH
NEMA 3R OUTDOOR COMMON-AISLE WALK-THROUGH ENCLOSURE
MCC 56-1
MCC 56-2
C121
C121A (SEE NOTE 4)
TO EHH-7 SEE DWG. E-5
#4/0 STRANDED COPPER WIRE, CONNECT TO GROUND BUS (TYPICAL)
ENLARGED PLAN MCC 56-1&2 SCALE 1/4"=1'-0"

ROAD 'X-3'
ROAD 'X-4'
ROAD 'Y-2'
ROAD 'Y-5'
N 42+25
72"ϕ
GRIT TANK NO.4
NO.3
NO.2
NO.1
6F MONORAIL
PREAERATION TANK NO.4
ODOR CONTROL SYSTEM SEE ENLARGED PLAN ON DWG. E24
CONCRETE HANDHOLE SEE DWG. E16 FOR DETAILS TYPICAL
SEE DWG E22 FOR ENLARGED PLAN
PREAERATION AND GRIT TANK BLOWER STATION SEE ENLARGED PLAN ON DWG. E24
TANK DRAINAGE PANEL SEE TANK DRAINAGE DETAIL ON DWG. C15-4
SEWAGE PUMP STATION NO. 3A
CONTROL PANEL
1"C-3"#10 & 1"#12 TO PP-SMS-HP CKT. #(8, 10 & 12)
MICROPROCESSOR
PP-SMS-HP
C140, C145 & 2C-16
EHH-HG5 SEE NOTE 5
EHH-HG4
EHH-HG2 SEE NOTE 3
EHH-HG1 SEE NOTE 3
EHH-HG3
MCC 56-1&2 ENCLOSURE SEE ENLARGED PLAN AT LEFT
SUBSTATION NO. 1 & 2 SEE ENLARGED PLAN ON DWG. E11
TO EHH-7 SEE DWG. E-5
C144
C192

EHH-HG-1	N 4133.42	E 3188.26	T.O.E.H.	480.36
EHH-HG-2	N 4133.00	E 3271.79	T.O.E.H.	481.01
EHH-HG-3	N 4066.73	E 3480.89	T.O.E.H.	481.06
EHH-HG-4	N 4234.56	E 3497.99	T.O.E.H.	481.53
EHH-HG-5	N 4435.06	E 3486.69	T.O.E.H.	486.56

RECORD DRAWINGS
This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.
MALCOLM PIRNIE, INC.
Date 6/88 By MGM

1) ALL CONDUIT RUNS IN GRADE SHALL BE RIGID STEEL CONCRETE ENCASED, UNLESS NOTED OTHERWISE. RUNS SHALL BE APPROXIMATELY 2'-0" BELOW GRADE.
2) FOR CONTINUATION OF CONDUITS TO GRIT TANKS AND FOR GRIT TANK TYPICAL ARRANGEMENT REFER TO DWG. E22.
3) CONTRACTOR SHALL PROVIDE PULL BOX AND CONDUIT WITHIN HANDHOLE FOR CONDUIT C138, SO THAT SIGNAL CABLES WILL BE ISOLATED FROM ALL POWER CONDUCTORS.
4) CONTRACTOR SHALL COIL & TAG WIRES IN C121A AT MCC 56-1. PROVIDE SUFFICIENT SLACK FOR FUTURE TERMINATIONS AT 2D-HP-1.
5) CONTRACTOR SHALL PROVIDE PULL BOX AND CONDUIT WITHIN HAUDHOLE FOR CONDUIT C145, SO THAT FUTURE 2C-CABLES WILL BE ISOLATED FROM ALL POWER CONDUCTORS.
6) DIMENSIONS OF DUCT BANKS ARE ROUNDED TO THE NEAREST INCH, RUN APPROX. 2'-0" BELOW GRADE, UNLESS OTHERWISE NOTED.

COORDINATE WITH DRAWING E-21 AND E-27X

TEXAS REGISTERED

San Antonio Wastewater Facilities Improvements

CONTRACT NO. 3
DOS RIOS FACILITY
SCREEN, GRIT, & PREAERATION FACILITIES
HEADWORKS SCREEN & GRIT, & PREAERATION
POWER LAYOUT

Sheet E-21X
of E-58

DR 88-4501

CKT NO	TRIP	DESCRIPTION OF LOAD	LOAD KVA	KVA PER PHASE A	B	C	LOAD KVA	DESCRIPTION OF LOAD	TRIP	CKT NO
1	30	DIS. PANEL 4	4.67	4.67				- SPACE -		2
3	30	LTG. / SPACE	4.67		4.66		3.97	DIS. PANEL 4	30	4
5	20	DIS. PANEL 4 - RECEPT.	.90			1.80	3.97	LTG.	30	6
7		- SPACE -		1.50			1.50	MAIN TRANSFORMER 4	20	8
9	20	- SPACE -	.72		.72			- SPACE -		10
11	20	MAIN TRANSFORMER 4	1.50			1.50		SPACE	20	12
13	30	DIST. PANEL DIS	2.0	2.72			.50	MAIN PANEL MP-3-3	30	14
15		- SPACE -			1.72			SPACE	10	16
17	20	SPACE				1.30	1.30	ROOF AREA	20	18
19	20	SPACE		1.30			1.30	LTG.	20	20
21	20	SPACE			1.30			SPACE	20	22
23	20	DIS. PANEL 3 RECEPT.	.90			1.10	.20	CONTACT 457	20	24
25										26
27		N/A						N/A		28
29										30
31										32
33										34
35										36

LIGHTING PNL - P4-1
CARRIED TO MCC - P4-1

TOTAL KVA	9.14	9.38	8.12
LOAD CONNECTED TO THIS PNL			27.64

SERVICE CHARACTERISTICS
120/208 VOLT, 3 PHASE, 4 WIRE, 60 CYCLE
100/125 AMP MAIN BKR, PLUG-ON BKRS

CKT NO	TRIP	DESCRIPTION OF LOAD	LOAD KVA	KVA PER PHASE A	B	C	LOAD KVA	DESCRIPTION OF LOAD	TRIP	CKT NO
1	30	DIS. PANEL 4	4.67	4.67				- SPACE -		2
3	30	LTG. / SPACE	4.67		4.67		3.97	DIS. PANEL 4	30	4
5	20	DIS. PANEL 4 - RECEPT.	.90			1.80	3.97	LTG.	30	6
7		- SPACE -		1.50			1.50	MAIN TRANSFORMER 4	20	8
9	20	- SPACE -	.72		.72			- SPACE -		10
11	20	MAIN TRANSFORMER 3	1.50			1.50		SPACE	20	12
13	30	DIST. PANEL DIS	2.0	2.72			.50	MAIN PANEL MP-3-3	30	14
15		- SPACE -			1.72			SPACE	10	16
17	20	SPACE				1.30	1.30	ROOF AREA	20	18
19	20	SPACE		1.30			1.30	LTG.	20	20
21	20	SPACE			1.30			SPACE	20	22
23	20	DIS. PANEL 3 RECEPT.	.90			1.10	.20	CONTACT 457	20	24
25										26
27		N/A						N/A		28
29										30
31										32
33										34
35										36

LIGHTING PNL - P3-1
CARRIED TO MCC - P3-1

TOTAL KVA	9.99	9.58	8.77
LOAD CONNECTED TO THIS PNL			28.14

SERVICE CHARACTERISTICS
120/208 VOLT, 3 PHASE, 4 WIRE, 60 CYCLE
100/125 AMP MAIN BKR, PLUG-ON BKRS

CKT NO	TRIP	DESCRIPTION OF LOAD	LOAD KVA	KVA PER PHASE A	B	C	LOAD KVA	DESCRIPTION OF LOAD	TRIP	CKT NO
1	20	DIS. PANEL 4-2	4.67	4.67				- SPACE -		2
3	30	LTG. / SPACE	4.67		3.66		3.97	DIS. PANEL 4-4	30	4
5	20	DIS. PANEL 4-2 RECEPT.	.90			1.80	3.97	LTG.	30	6
7		- SPACE -		1.50			1.50	MAIN TRANSFORMER 4	20	8
9	20	RECEPT. RECEPT.	.72		.72			- SPACE -		10
11	20	MAIN TRANSFORMER 2	1.50			1.50		SPACE	20	12
13	30	DIST. PANEL DIS	2.88	2.58			.50	MAIN PANEL MP-3-3	30	14
15		- SPACE -			1.72			SPACE	10	16
17	20	SPACE				1.30	1.30	ROOF AREA	20	18
19	20	SPACE		1.30			1.30	LTG.	20	20
21	20	SPACE			1.30			SPACE	20	22
23	20	DIS. PANEL 4 RECEPT.	.90			1.10	.20	CONTACT 457	20	24
25										26
27		N/A						N/A		28
29										30
31										32
33										34
35										36

LIGHTING PNL - P3-2
CARRIED TO MCC - P3-2

TOTAL KVA	9.99	9.38	8.77
LOAD CONNECTED TO THIS PNL			28.14

SERVICE CHARACTERISTICS
120/208 VOLT, 3 PHASE, 4 WIRE, 60 CYCLE
100/125 AMP MAIN BKR, PLUG-ON BKRS

mcc-sb-1/2
PCC for work

SKETCH

RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared and/or informs us provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.

MALCOLM PIRNIE, INC.

Date 6/88 By MBM

COORDINATE WITH DRAWING E-21 AND E-21X

DR 88-5501

No	Date	Revisions	App.

Drawing No.

MALCOLM PIRNIE

Date - JUNE 1988
Designed by - PCC
Drawn by - PCC
Checked by PCC
Scale N.T.S.

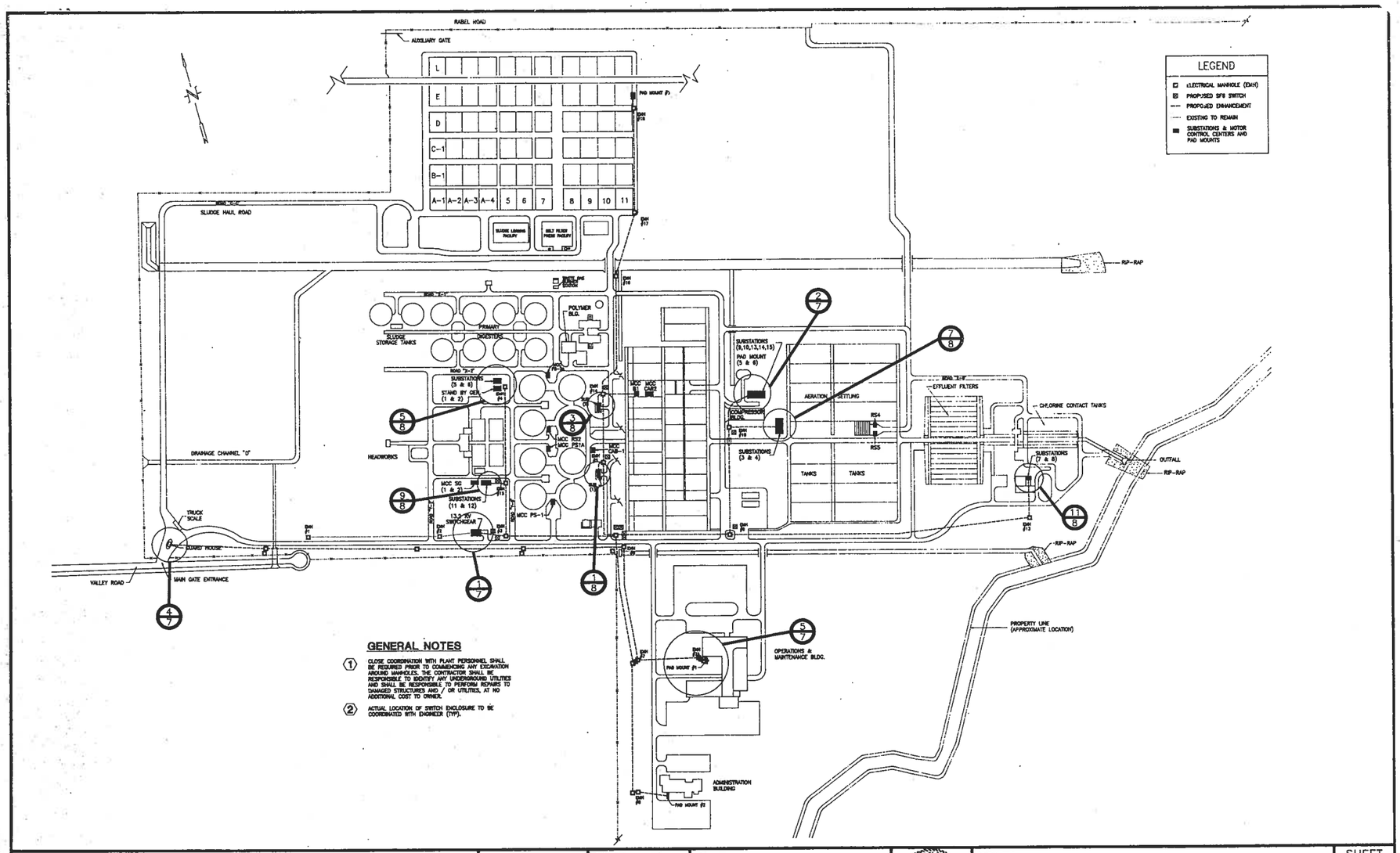
SAN ANTONIO WASTEWATER FACILITIES IMPROVEMENTS

CONTRACT NO. 3

DOS RIOS FACILITY

MISC. ELECTRICAL PANELS & SKETCH

Sheet E-21X of 58



GENERAL NOTES

1. CLOSE COORDINATION WITH PLANT PERSONNEL SHALL BE REQUIRED PRIOR TO COMMENCING ANY EXCAVATION AROUND MANHOLES. THE CONTRACTOR SHALL BE RESPONSIBLE TO IDENTIFY ANY UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE TO PERFORM REPAIRS TO DAMAGED STRUCTURES AND / OR UTILITIES, AT NO ADDITIONAL COST TO OWNER.
2. ACTUAL LOCATION OF SWITCH ENCLOSURE TO BE COORDINATED WITH ENGINEER (TYP).

PROJECT RE-ISSUED DUE TO SAWS MERGER

PROJECT NO.	
ACAD FILE	DRWG PLOTPLAN
BASE DATE	MARCH 1, 1992
SCALE	1" = 300'
REV. BY / DESCRIPTION / DATE	

DESIGNED BY	DATE
DRAWN BY	DATE
M.F.	MARCH 1, 1992
CHECKED BY	DATE
APPROVED BY	DATE
O.M.	JUNE 29, 1993

MIRAMONTES
Engineering Co., Inc.
ELECTRICAL • MECHANICAL • PROCESS CONTROL
CONSULTING ENGINEERS
10715 GULFDALE, SUITE 250 • SAN ANTONIO, TEXAS 78216
TEL (210)349-2255 • FAX (210)349-2448

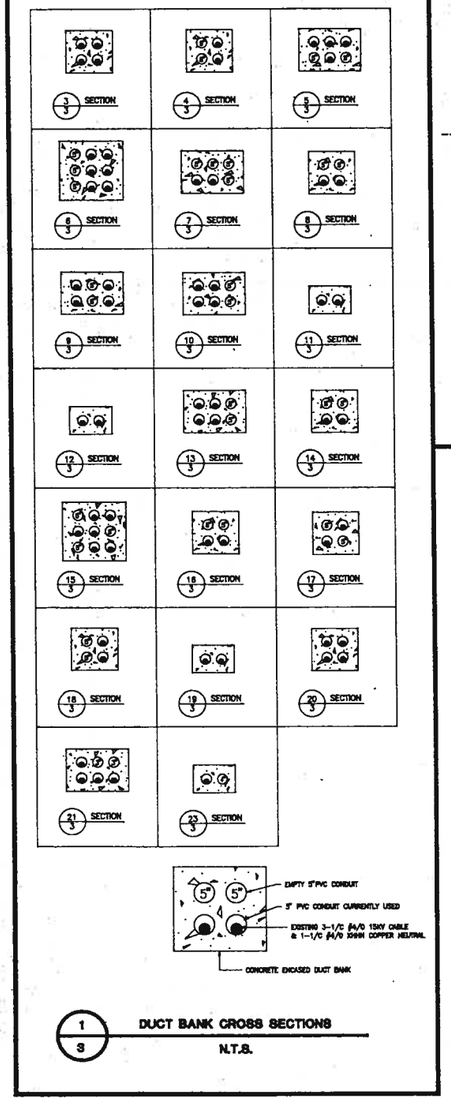
STATE OF TEXAS — OSCAR MIRAMONTES — 52413 — REGISTERED PROFESSIONAL ENGINEER
DATE: 6/29/93

DRAWING TITLE: **PLOT PLAN**

PROJECT TITLE: **DOS RIOS WASTEWATER TREATMENT PLANT ELECTRICAL ENHANCEMENTS**

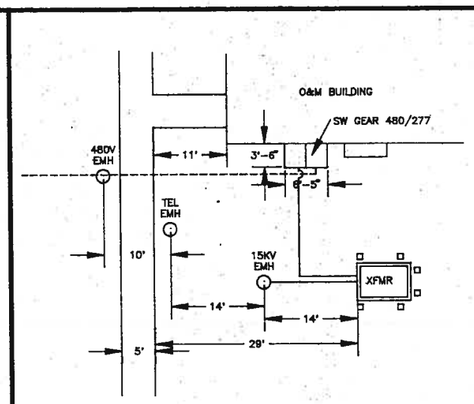
SHEET 2 OF 8

DR 92-0534



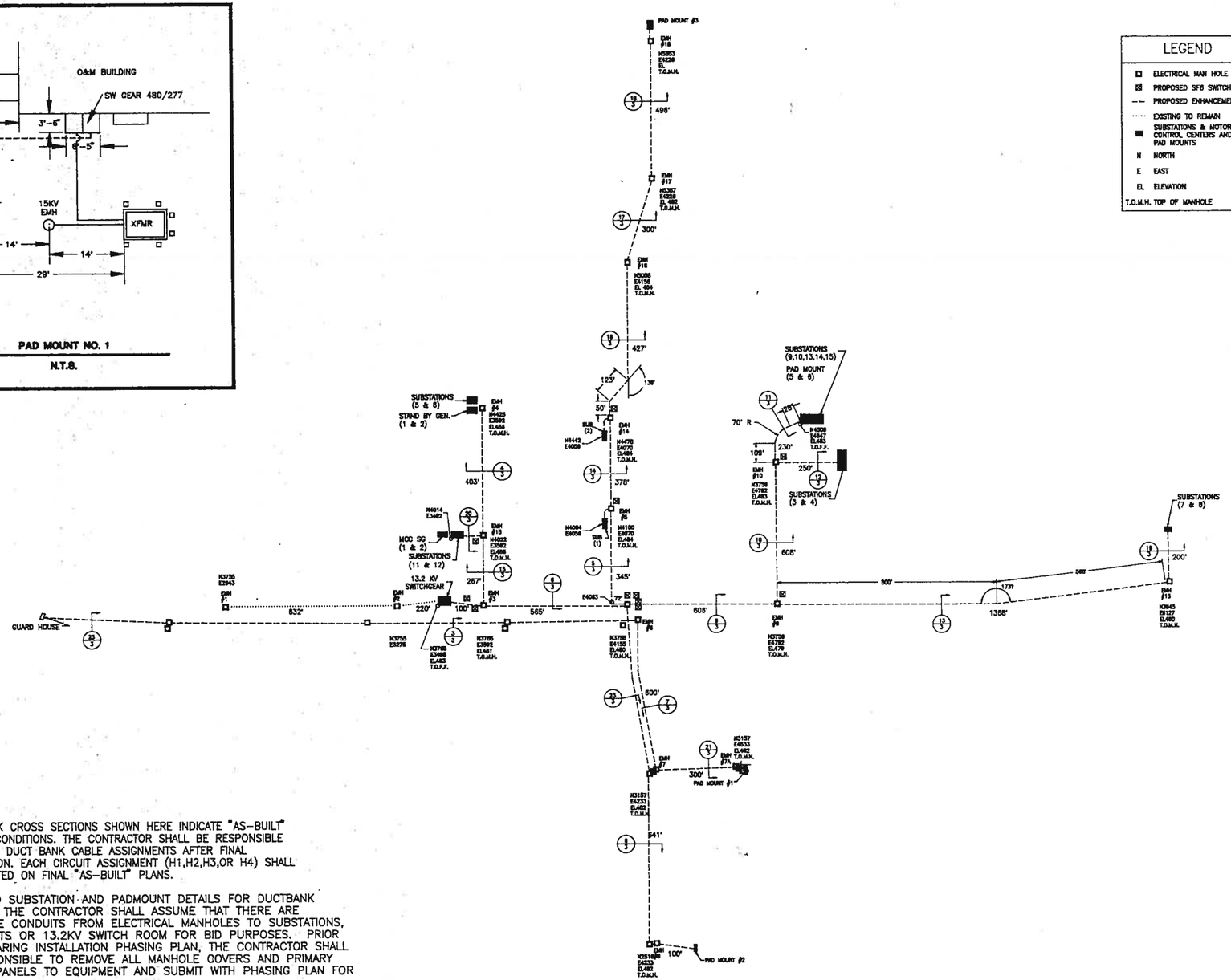
1/3 DUCT BANK CROSS SECTIONS

N.T.S.



22/3 PAD MOUNT NO. 1

N.T.S.



LEGEND

- ELECTRICAL MAN HOLE (EMH)
- PROPOSED SF6 SWITCH
- PROPOSED ENHANCEMENT
- EXISTING TO REMAIN
- SUBSTATIONS & MOTOR CONTROL CENTERS AND PAD MOUNTS
- N NORTH
- E EAST
- EL ELEVATION
- T.O.M.H. TOP OF MANHOLE

NOTE 1: DUCT BANK CROSS SECTIONS SHOWN HERE INDICATE "AS-BUILT" EXISTING CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO SUBMIT DUCT BANK CABLE ASSIGNMENTS AFTER FINAL INSTALLATION. EACH CIRCUIT ASSIGNMENT (H1,H2,H3,OR H4) SHALL BE INDICATED ON FINAL "AS-BUILT" PLANS.

NOTE 2: REFER TO SUBSTATION AND PADMOUNT DETAILS FOR DUCTBANK LAYOUT. THE CONTRACTOR SHALL ASSUME THAT THERE ARE NO SPARE CONDUITS FROM ELECTRICAL MANHOLES TO SUBSTATIONS, PADMOUNTS OR 13.2KV SWITCH ROOM FOR BID PURPOSES. PRIOR TO PREPARING INSTALLATION PHASING PLAN, THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ALL MANHOLE COVERS AND PRIMARY FEEDER PANELS TO EQUIPMENT AND SUBMIT WITH PHASING PLAN FOR APPROVAL.

PROJECT RE-ISSUED DUE TO SAWS MERGER

PROJECT NO.	
ACAD FILE	DRAW\1LINE
BASE DATE	MARCH 1, 1992
SCALE	N.T.S

REV.	BY	DESCRIPTION	DATE

DESIGNED BY	DATE
DRAWN BY	DATE
N.F.	MARCH 1, 1992
CHECKED BY	DATE
APPROVED BY	DATE
O.M.	JUNE 29, 1993

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STATE OF TEXAS — OSCAR MIRAMONTES — 55413 — REGISTERED PROFESSIONAL ENGINEER

DATE: 6/29/93

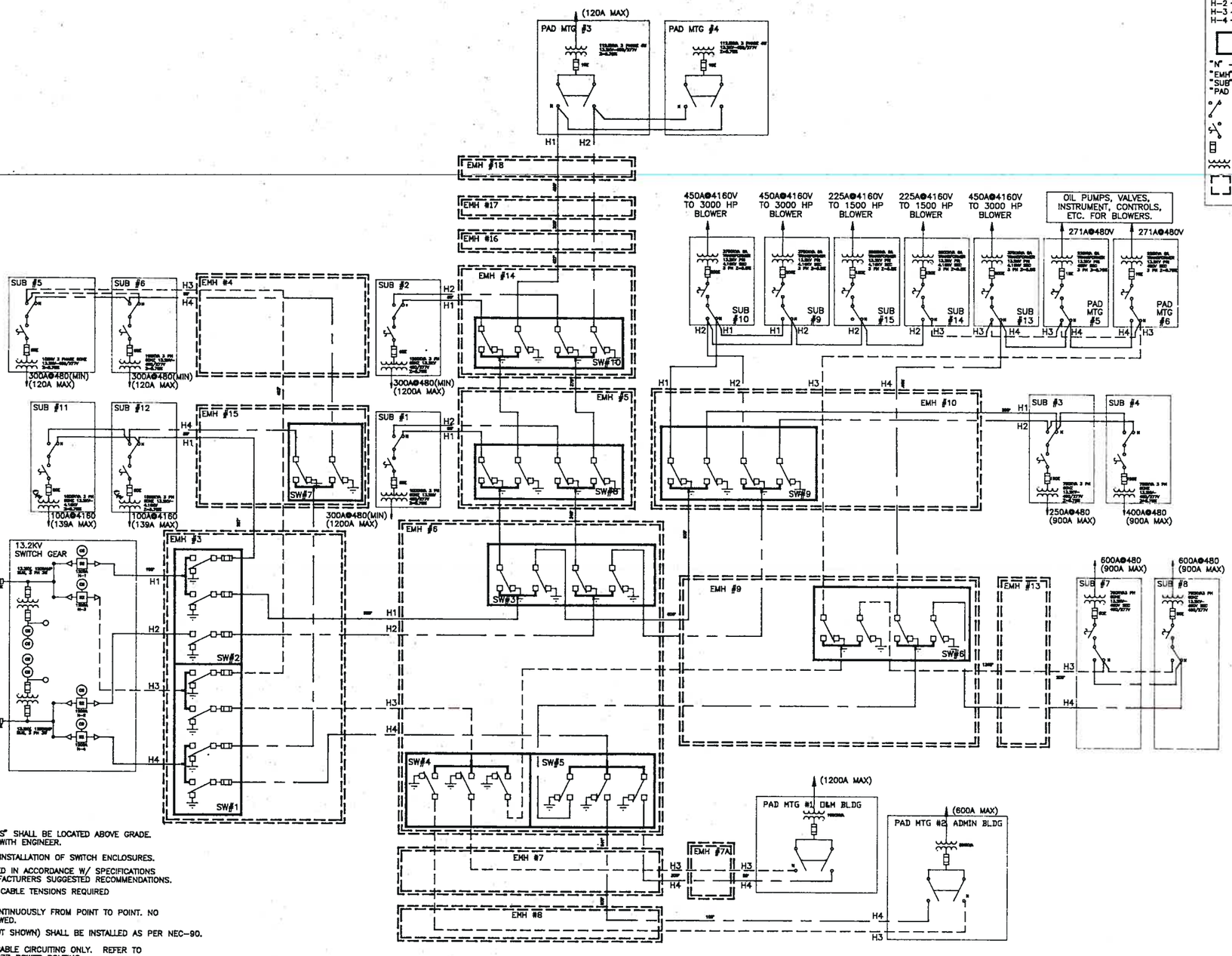
DRAWING TITLE: ONE LINE DIAGRAM

PROJECT TITLE: DOS RIOS WASTEWATER TREATMENT PLANT ELECTRICAL ENHANCEMENTS

SHEET 3 OF 8

9101841

DR 92-0534



LEGEND

- H-1
- H-2
- H-3
- H-4
- NEW SF6 SWITCH
- "N" – NORMAL SWITCH POSTION
- "EMH" – ELECTRICAL MANHOLE
- "SUB" – SUBSTATION
- "PAD MTG" – PAD MOUNTING
- 13.2KV–600A–3P SELECTOR SW NON–LOAD BREAK(TYP.)
- 13.2KV–800A–3P FUSED AIR INTERRUPTER SW LOAD–BREAK(TYP.)
- 3–200A SF–6 FUSE
- TRANSFORMER
- ELECTRICAL MANHOLE
- 2 WAY, 1 SWITCHED SF6 SW, 200A
- 3 WAY, 2 SWITCHED SF6 SW, 200A
- 4 WAY, 3 SWITCHED SF6 SW, 200A

NOTES:

1. NEW SF–6 "SWITCH ENCLOSURES" SHALL BE LOCATED ABOVE GRADE. LOCATION TO BE COORDINATED WITH ENGINEER.
2. REFER TO DETAIL SHEETS FOR INSTALLATION OF SWITCH ENCLOSURES.
3. ALL CABLES SHALL BE INSTALLED IN ACCORDANCE W/ SPECIFICATIONS AND IN ACCORDANCE W/ MANUFACTURERS SUGGESTED RECOMMENDATIONS.
4. REFER TO SPECIFICATIONS FOR CABLE TENSIONS REQUIRED FOR PROPER INSTALLATION.
5. ALL CABLES SHALL BE RUN CONTINUOUSLY FROM POINT TO POINT. NO CABLE SPLICES SHALL BE ALLOWED.
6. ALL GROUNDS & NEUTRALS (NOT SHOWN) SHALL BE INSTALLED AS PER NEC–90.
7. THIS SHEET REFERS TO 15KV CABLE CIRCUITING ONLY. REFER TO DRAWINGS 2 AND 3 FOR 480/277 POWER ROUTING.

9101842

DR 92-0534

PROJECT RE-ISSUED DUE TO SAWS MERGER

PROJECT NO.	
ACAD FILE	DRAW\MVBLOCK
BASE DATE	MARCH 1, 1992
SCALE	N.T.S

REV.	BY	DESCRIPTION	DATE

DESIGNED BY	DATE
DRAWN BY N.F.	DATE MARCH 1, 1992
CHECKED BY	DATE
APPROVED BY O.M.	DATE JUNE 29, 1993

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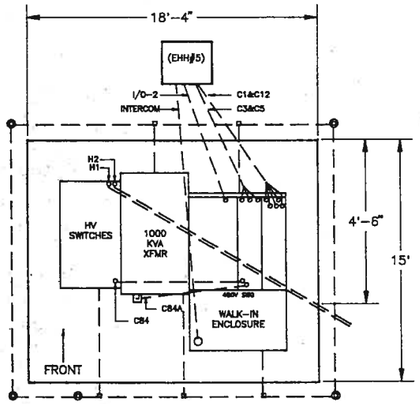
TEL (210)349–2255 • FAX (210)349–2448

STATE OF TEXAS — OSCAR MIRAMONTES — 55413 — REGISTERED PROFESSIONAL ENGINEER
DATE: 6/29/93

DRAWING TITLE
BLOCK DIAGRAM

PROJECT TITLE
DOS RIOS WASTEWATER TREATMENT PLANT ELECTRICAL ENHANCEMENTS

SHEET 4 OF 8



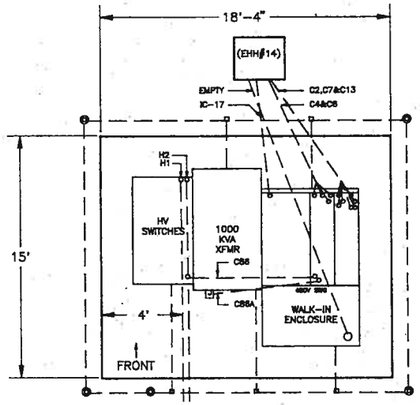
1 / 8 SUBSTATION NO. 1 PLAN

N.T.S.

FUSED AIR INTERRUPTER SWITCH AND SELECTOR SWITCH	1000 KVA TRANSFORMER	TRANSITION	MAIN BUS METERS	MCC B BKR
			MCC PS-1 BKR	MCC SG-1 BKR
		DIST. PNL 12-CKT	MCC RS-1 BKR	BLANK
			TC-1	BLANK

2 / 8 SUBSTATION NO. 1 FRONT VIEW

N.T.S.



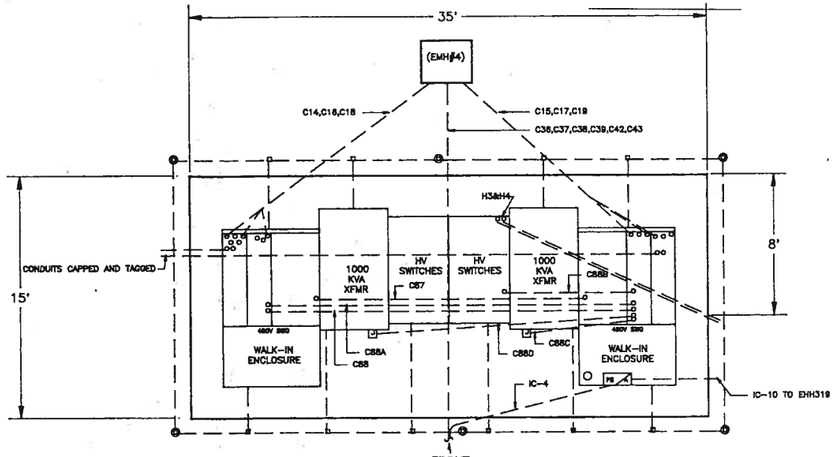
3 / 8 SUBSTATION NO.2 PLAN

N.T.S.

FUSED AIR INTERRUPTER SWITCH AND SELECTOR SWITCH	1000 KVA TRANSFORMER	TRANSITION	MAIN BUS METERS	MCC B BKR
			MCC PS-2 BKR	MCC SG-2 BKR
		DIST. PNL 12-CKT	MCC RS-2 BKR	MCC RS-2A BKR
			TC-1	BLANK

4 / 8 SUBSTATION NO.2 FRONT VIEW

N.T.S.



US-5 ⟷ US-6

5 / 8 UNIT SUBSTATION PLAN

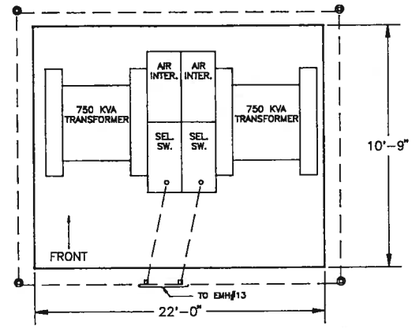
N.T.S.

MAIN BUS METERS	BLANK	TRANSITION	1000 KVA TRANSFORMER	FUSED AIR INTERRUPTER SWITCH AND SELECTOR SWITCH	FUSED AIR INTERRUPTER SWITCH AND SELECTOR SWITCH	1000 KVA TRANSFORMER	TRANSITION	MAIN BUS METERS	BLANK
MCC PD-1 BKR	MCC FT-1 BKR							MCC PD-2 BKR	MCC PD-4 BKR
MCC PD-3 BKR	BLANK	ATS						MCC FT-2 BKR	BLANK
BLANK	TC-5	DIST. PNL 12-CKT					I/O PD-6	TC-6	

US-5 ⟷ US-6

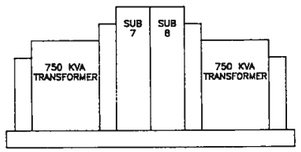
6 / 8 UNIT SUBSTATION FRONT VIEW

N.T.S.



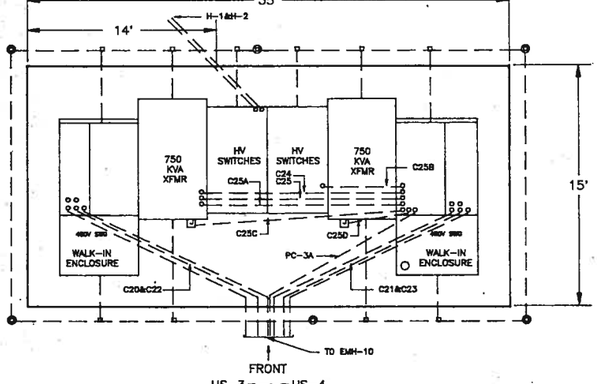
11 / 8 SUBSTATIONS NO. 7 AND 8 PLAN

N.T.S.



12 / 8 SUBSTATIONS NO. 7 AND 8 FRONT VIEW

N.T.S.



US-3 ⟷ US-4

7 / 8 UNIT SUBSTATION PLAN

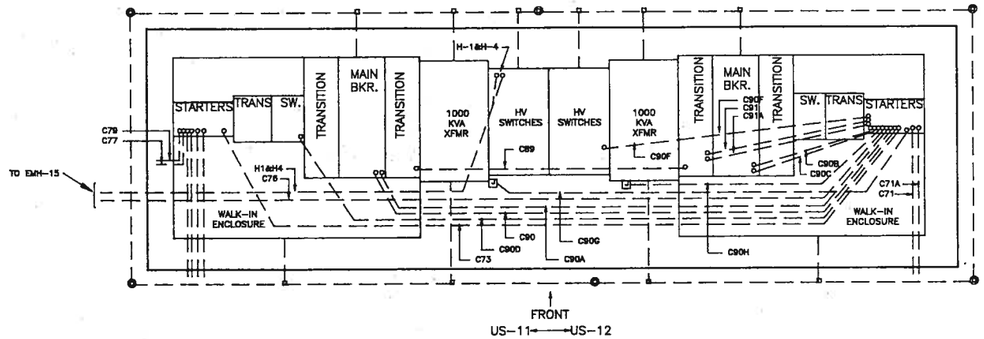
N.T.S.

BLANK	TRANSITION	750 KVA TRANSFORMER	FUSED AIR INTERRUPTER SWITCH AND SELECTOR SWITCH	FUSED AIR INTERRUPTER SWITCH AND SELECTOR SWITCH	750 KVA TRANSFORMER	TRANSITION	MAIN BUS METERS
MCC AT-1 BKR	CPT					CPT	MCC AT-2 BKR
MCC RS-3 BKR	ATS						MCC RS-4 BKR
BLANK	DIST. PNL 12-CKT					I/O PD-8	BLANK

US-3 ⟷ US-4

8 / 8 UNIT SUBSTATION FRONT VIEW

N.T.S.



US-11 ⟷ US-12

9 / 8 UNIT SUBSTATION PLAN

N.T.S.

PRE AERATION BLOWER NO.1	TRANSITION	SWITCH F-1	TRANSITION	MAIN BKR. CT'S PT'S & RELAYS	TRANSITION	1000 KVA TRANSFORMER	FUSED AIR INTERRUPTER SWITCH AND SELECTOR SWITCH	FUSED AIR INTERRUPTER SWITCH AND SELECTOR SWITCH	1000 KVA TRANSFORMER	TRANSITION	MAIN BKR. CT'S PT'S & RELAYS	TRANSITION	SWITCH F-2	TRANSITION	TC-12
PRE AERATION BLOWER NO.3					ATS					I/O HPM-2					PRE AERATION BLOWER NO.2
					DIST. PNL 12-CKT										

US-11 ⟷ US-12

10 / 8 UNIT SUBSTATION FRONT VIEW

N.T.S.

PROJECT RE-ISSUED DUE TO SAWS MERGER

PROJECT NO.	
ACAD FILE	DRWG DETAIL-2
BASE DATE	MARCH 1, 1992
SCALE	N.T.S

REV.	BY	DESCRIPTION	DATE

DESIGNED BY	DATE
DRAWN BY	DATE
N.F.	MARCH 1, 1992
CHECKED BY	DATE
APPROVED BY	DATE
O.M.	JUNE 29, 1993

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TEL (210)349-2255 • FAX (210)349-2448

STATE OF TEXAS — OSCAR MIRAMONTES — 55413 — REGISTERED PROFESSIONAL ENGINEER
DATE: 6/29/93

DRAWING TITLE: DETAIL

PROJECT TITLE: DOS RIOS WASTEWATER TREATMENT PLANT ELECTRICAL ENHANCEMENTS

SHEET 8 OF 8

DR 92-0534

RABEL ROAD

AUXILARY GATE (CONTRACT 1)

CHAIN-LINK FENCE (CONTRACT 1)

UNITS OF CONSTRUCTION SLUDGE DRYING BEDS ⚠

BY OTHERS

SLUDGE HAUL ROAD ROAD "C-C"

BILLING TRANSFER LINE (CONTRACT 1)

DRAINAGE CHANNEL "D"

SLUDGE STORAGE AREA

FUTURE SALADO CREEK TRANSFER LINE (CONTRACT 4)

MAIN DRAINAGE CHANNEL (CONTRACT 3)

DRAINAGE OUTFALL (CONTRACT 3)

90'0" C.P.S.E. PIPELINE EGM'T

RIP-RAP

PULL BOX

(5) TYPE 'N' LIGHTS (CONTRACT 3)

FUTURE SECONDARY DIGESTERS (CONT. 4)

SLUDGE STORAGE TANKS

PRIMARY SLUDGE DIGESTERS

(2) TYPE 'M' CHEMICAL (CONT. 2)

(SETTLING TANK (CONTRACT 4)

SUBSTATION NO. 9 10, 10, 10, 0, 18 PAD MTG. S & C (CONTRACT NO. 2)

SECOND STAGE

FUTURE SECOND STAGE (CONTRACT 4)

FIRST STAGE (CONT. 2)

ASD

AERATION

SETTLING

TANKS

COMPRESSOR BUILDING

FUTURE EFFLUENT FILTERS (CONTRACT 4)

CHLORINE CONTACT TANKS (CONTRACT 2)

FUTURE CHLORINE CONTACT TANKS (EXTENSION CONTRACT 4)

RIP-RAP

OUTFALL (CONTRACT 2)

DISINFECTION FACILITY (CONTRACT 2)

RIP-RAP

DRAINAGE OUTFALL (CONTRACT 1)

HEADWORKS CONTRACT 3

SCALE (CONT. 3)

GUARD HOUSE (CONT. 3)

MAIN CHANNEL (CONTRACT 3)

13.2 KV SWITCHGEAR

EXIST. CPS TEMP. SERVICE POLE

VALLEY RD. (CONTRACT #1)

MAIN GATE ENTRANCE (CONTRACT 1)

CONTRACT NO 1

OPERATIONS & MAINTENANCE BLDG. (CONTRACT #1)

ADMINISTRATION BLDG. (CONTRACT #1)

CONTRACT NO 1 & 2. EXISTING

CONTRACT NO 3

(20) - 1"=30'-0" POWER DISTRIB & AREA LTG DWG

LEGEND ⚠

- LIMITS OF CONSTRUCTION SLUDGE DRYING BEDS
- (N.I.C.) SLUDGE DRYING BEDS NOT IN CONTRACT

PROJECT RECORD

			EFG	App.
		DELETED SLUDGE DRY BEDS		
	AS-BUILT	ADDED LEGEND AND L.O.C.S.D.B.		
1	P-26-80	AD-3 11-9-84 ROWS A-L, 12-39		Revisions

Drawing No. 410N-69.237-1

SUBMITTED BY: CH2M HILL

San Antonio Water System

CONTRACT NO. 3

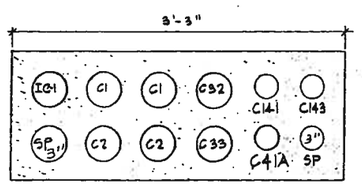
DOS RIOS FACILITY

GENERAL

SITE PLAN-ELECTRICAL FACILITIES

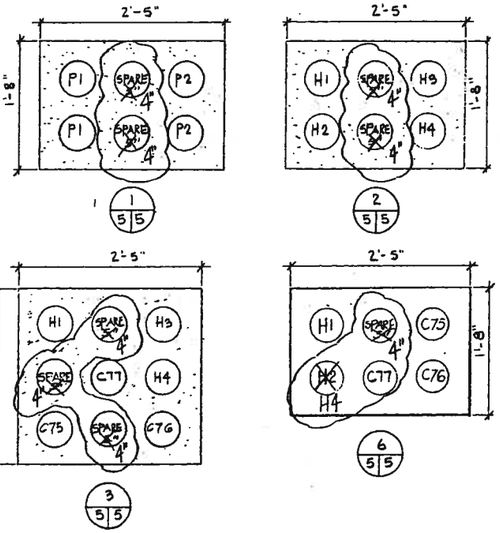
100#3

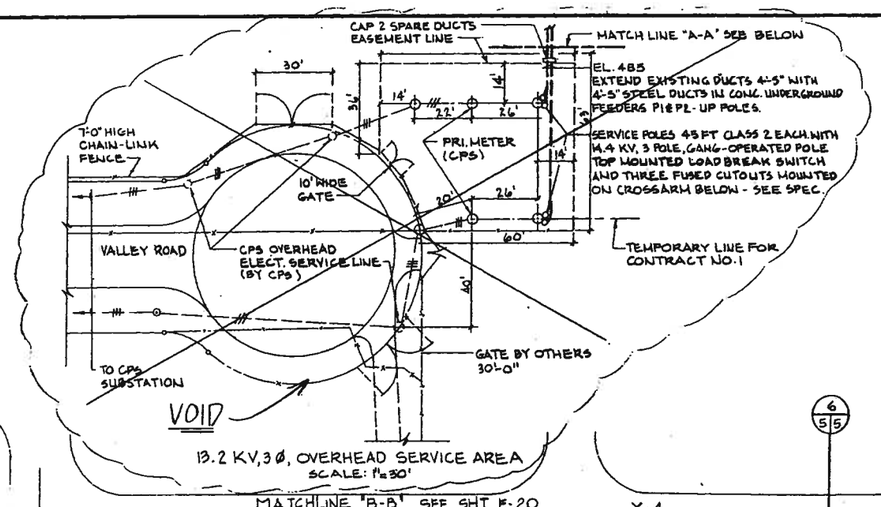
Sheet E-4 of E-58



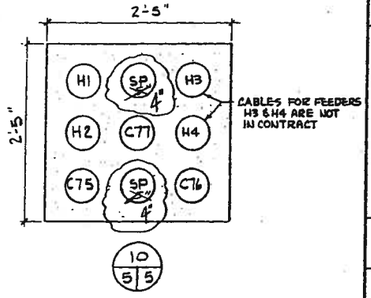
5/5 DUCT BANK CONFIGURATIONS

NOT TO SCALE (TYP.)



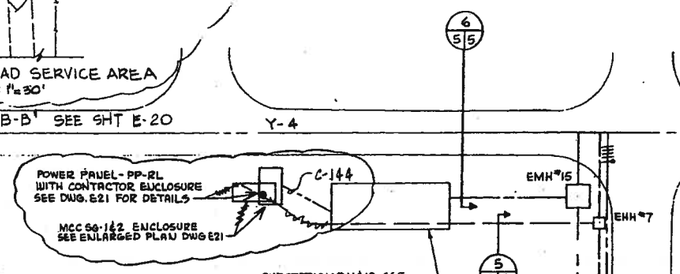


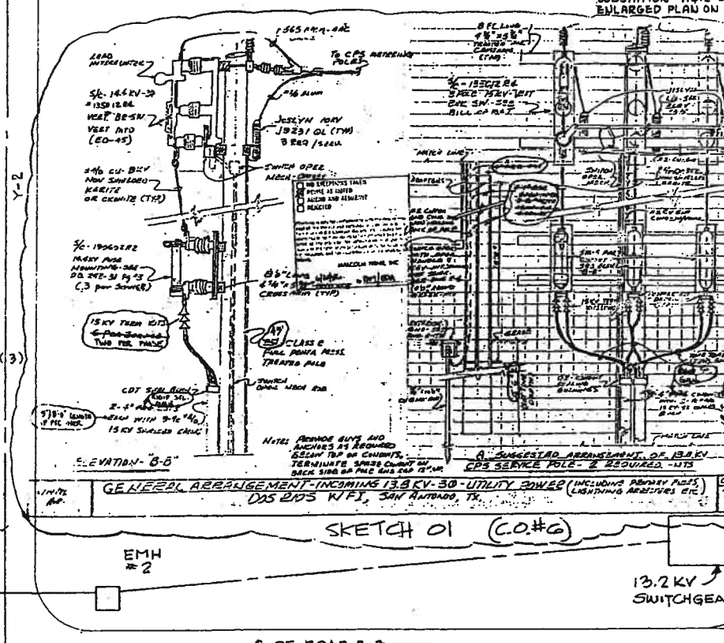
13.2 KV, 3 Ø, OVERHEAD SERVICE AREA
SCALE: 1"=30'

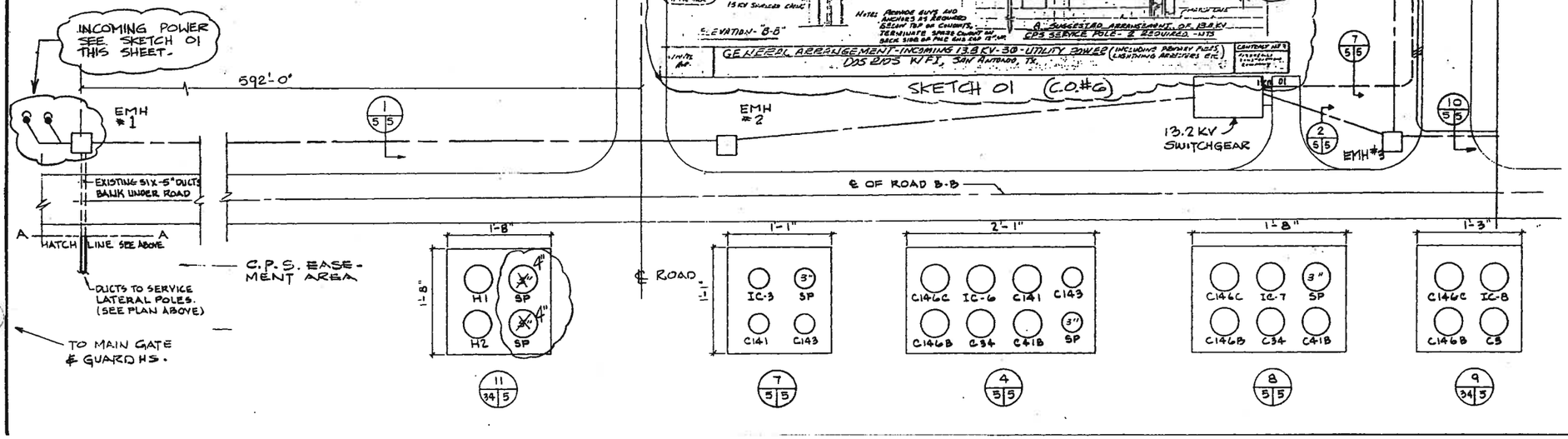


MATCHLINE 'B-B' SEE SHT E-20

Y-4







NOTES:

ALL DUCT BANK CONFIGURATIONS SHOWN ON DWG E-5, E-20, E-34, & E-47 ARE 1'-4" DEEP, INCLUDING 3" OF SAND ON ALL SIDES UNLESS NOTED OTHERWISE.

ALL DUCT BANK CONFIGURATION DIMENSIONS ARE ROUNDED TO NEAREST INCH. FOR COMPLETE BURRIED DUCT BANK INSTALLATION.

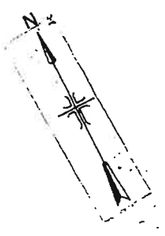
REFER TO DRAWING E-5X FOR "AS-BUILT" CONDITIONS

RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.

MALCOLM PIRNIE, INC.

Date 6/88 By MGM



No.	Date	Revisions	Appd.

CURTIS NEAL & ASSOCIATES, INC. CONSULTING ENGINEERS 118 E. COMMERCE SAN ANTONIO, TEXAS 78205

Date: NOV 1983
Designed by K. MACNAMARA
Drawn by MCHARDISON
Checked by C.E.N.
Scale: 1" = 30'

MALCOLM PIRNIE

Drawing No. 410N-83.238-0

CONTRACT NO. 3

DOS RIOS FACILITY

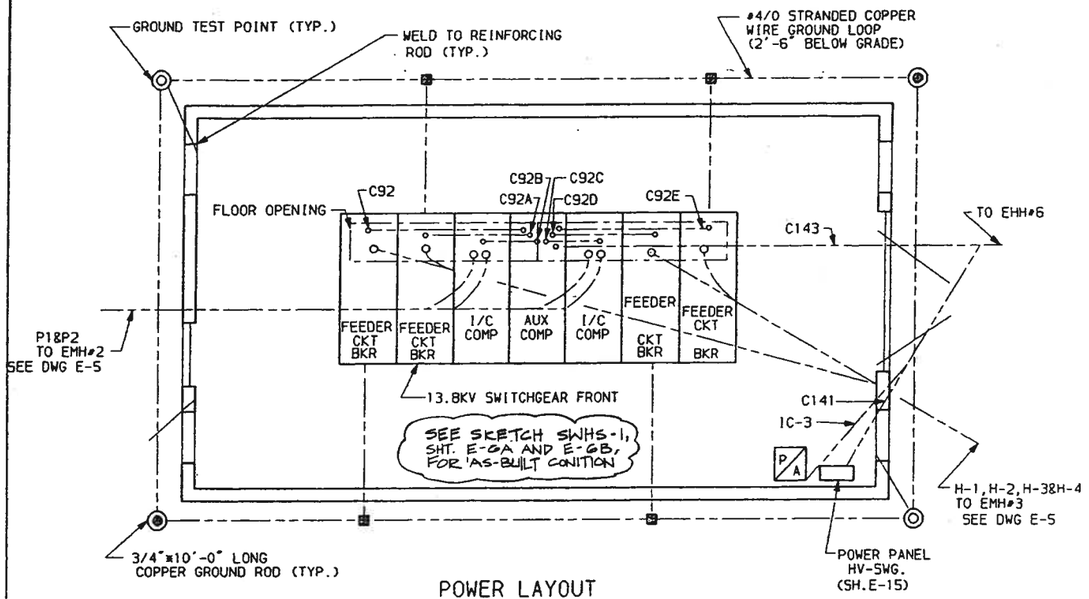
GENERAL

POWER DISTRIBUTION & AREA LIGHTING

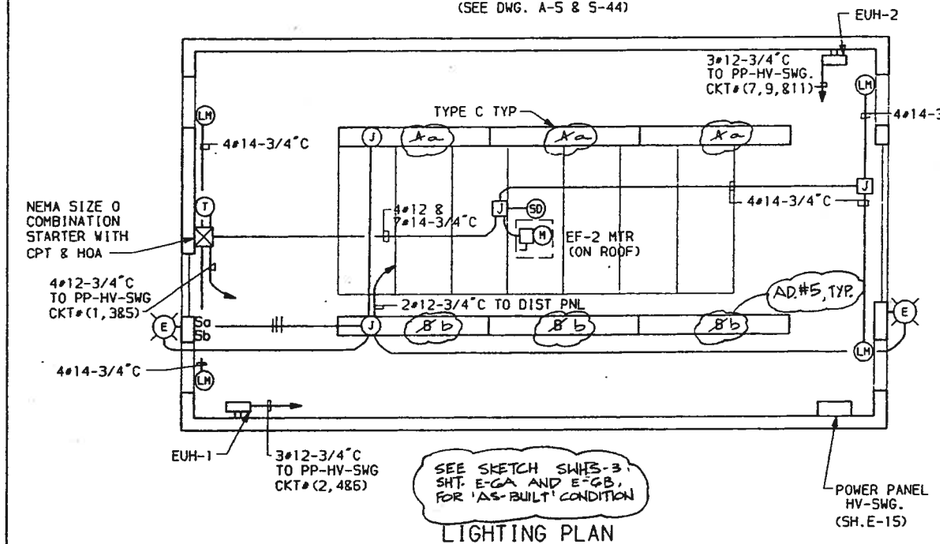
SAN ANTONIO WASTEWATER FACILITIES IMPROVEMENTS

Sheet E-5 of E-58

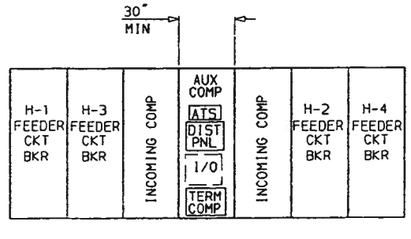
DR 83-8502



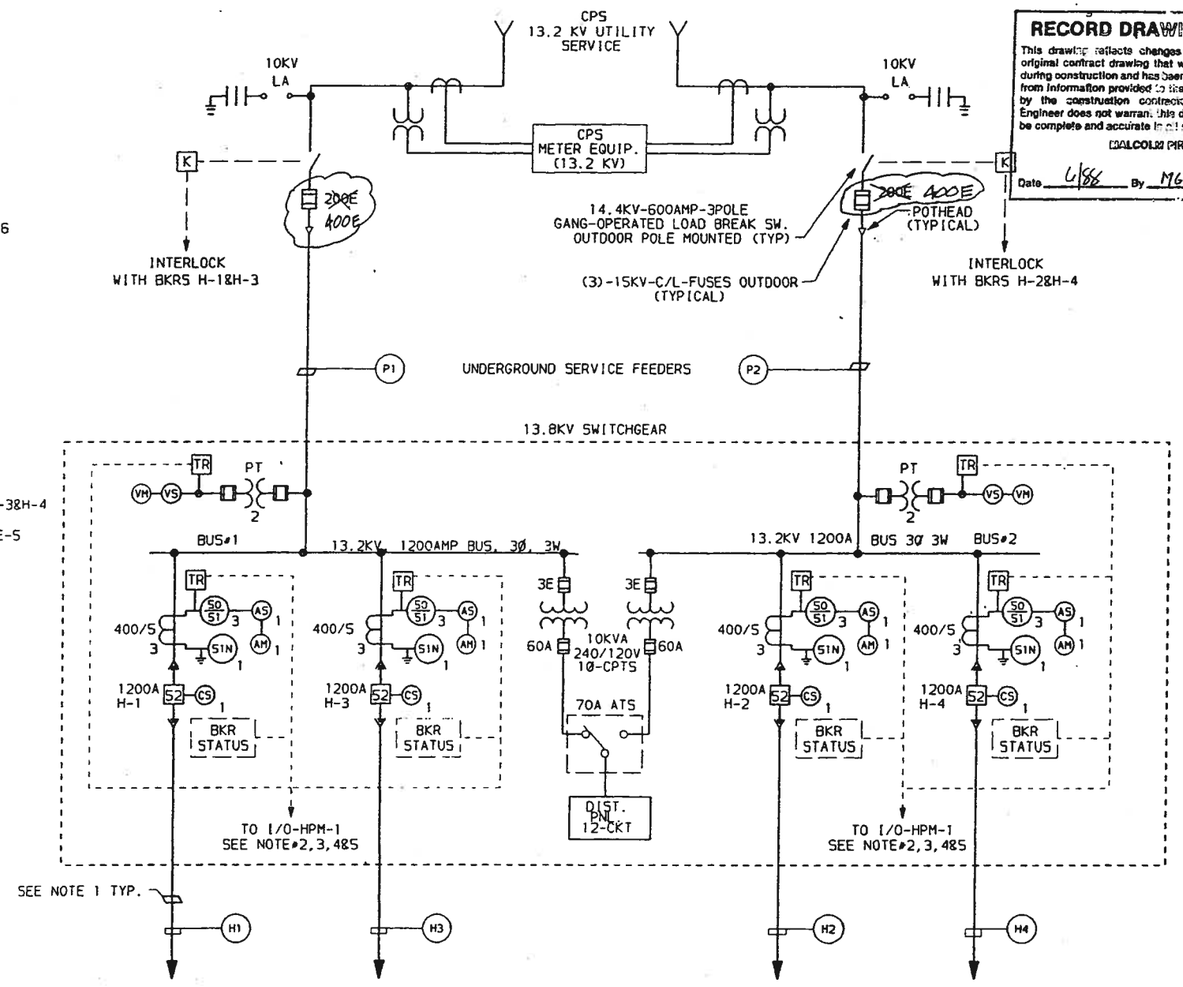
POWER LAYOUT
HIGH VOLTAGE SWITCHGEAR BLDG.
SCALE: 1/4"=1'-0"
(SEE DWG. A-5 & S-44)



LIGHTING PLAN
HIGH VOLTAGE SWITCHGEAR BLDG.
SCALE: 1/4"=1'-0"
(SEE DWG. A-5 & S-44)

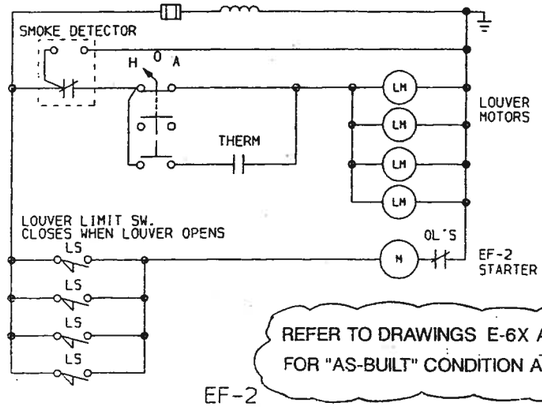


13.2KV SWITCHGEAR FRONT
(N.T.S)



13KV PRIMARY SERVICE AND FEEDER SCHEDULE:

P1	2 SETS OF 3-1/C # 4/0 15KV SHIELDED & 1 #4/0 GND -2-4" CONDUITS
P2	2 SETS OF 3-1/C # 4/0 15KV SHIELDED & 1 #4/0 GND -2-4" CONDUITS
H1	1 SET OF 3-1/C # 4/0 15KV SHIELDED & 1 #4/0 GND -1-4" CONDUIT
H2	1 SET OF 3-1/C # 4/0 15KV SHIELDED & 1 #4/0 GND -1-4" CONDUIT
H3	1 SET OF 3-1/C # 4/0 15KV SHIELDED & 1 #4/0 GND -1-4" CONDUIT
H4	1 SET OF 3-1/C # 4/0 15KV SHIELDED & 1 #4/0 GND -1-4" CONDUIT



REFER TO DRAWINGS E-6X AND E-6XA FOR "AS-BUILT" CONDITION AND SKETCHES

NOTE:
1. CABLE SHALL BE ONE CONTINUOUS SIZE FROM CIRCUIT BREAKER TO EACH SUBSTATION OR PAD MOUNT XFMR REFER TO DWG E2 FOR LOADS ASSOCIATED WITH EACH FEEDER.
2. SUBSTATION VENDOR SHALL PROVIDE TERMINAL COMPARTMENT WITH 35 TERMINALS OF WHICH 15 ARE ISOLATED TERMINALS FOR SIGNALS OF TRANSDUCERS.
3. SUBSTATION VENDOR SHALL PROVIDE CONTROL WIRING TROUGH THRU EACH SWITCHGEAR COMPARTMENT FOR BREAKER STATUS WIRING.
4. CONTRACTOR SHALL EXTEND CIRCUIT BREAKER STATUS WIRING VIA WIRE TROUGH AND TERMINATE ON TERMINAL STRIP OF TERMINAL COMPARTMENT.
5. CONTRACTOR SHALL ARRANGE AUXILIARY COMPARTMENT OF SWITCHGEAR SUCH THAT I/O-HPM-1 PROVIDED UNDER CONTRACT#2, CAN BE INSTALLED IN SWITCHGEAR UNDER CONTRACT NO.2.

RECORD DRAWINGS
This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). This Engineer does not warrant this drawing to be complete and accurate in all respects.
MALCOLM PIRNIE, INC.
Date 6/88 By M6M

Drawing No. 410N-83.239-0

MALCOLM PIRNIE

Date: NOV 1983
Designed by: FS
Drawn by: FS
Checked by: [illegible]
Scale: NO SCALE

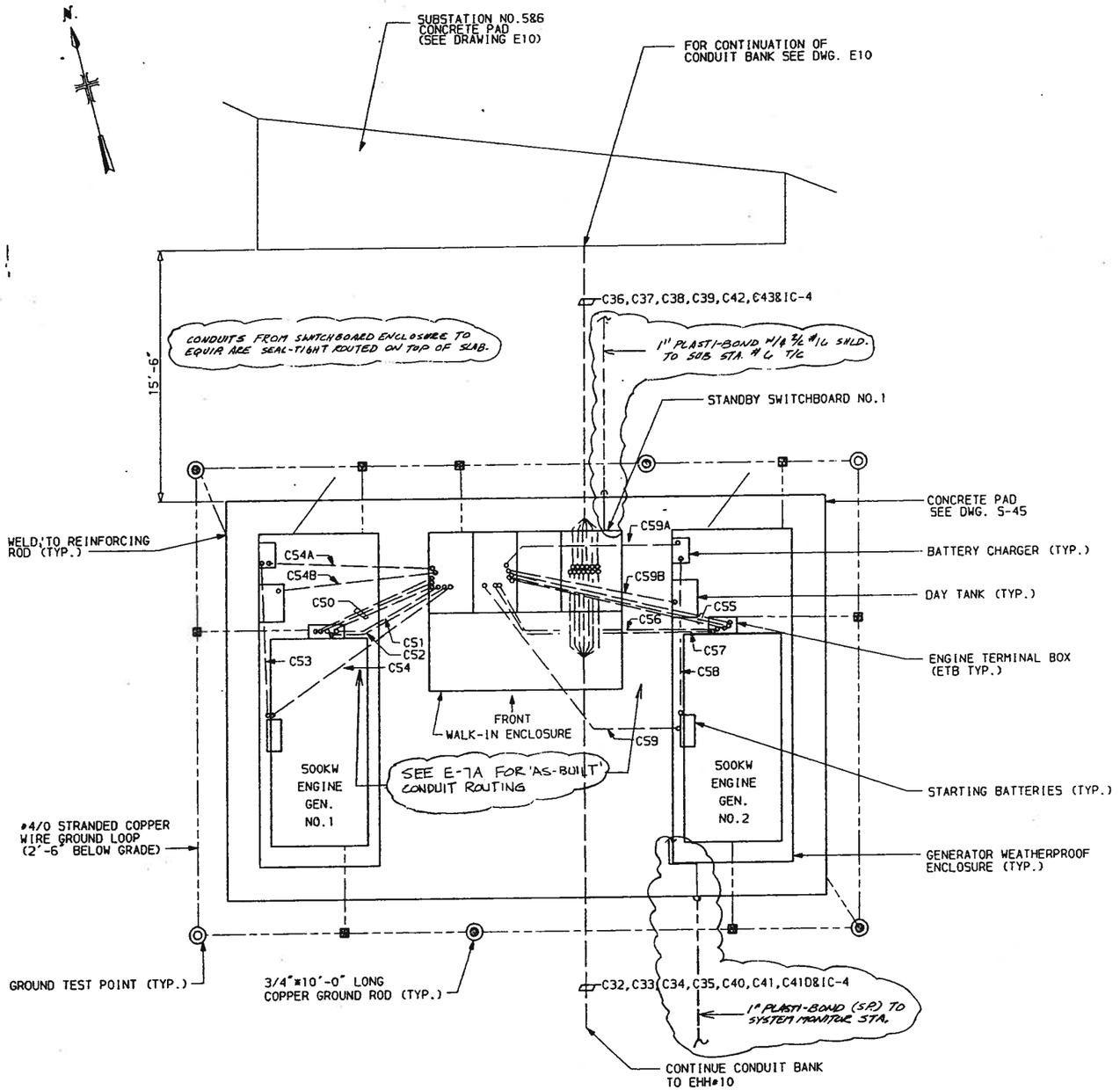
STATE OF TEXAS ROBERT F. SOWERS 49416 REGISTERED PROFESSIONAL ENGINEER

WATER & WASTEWATER IMPROVEMENTS
SAN ANTONIO

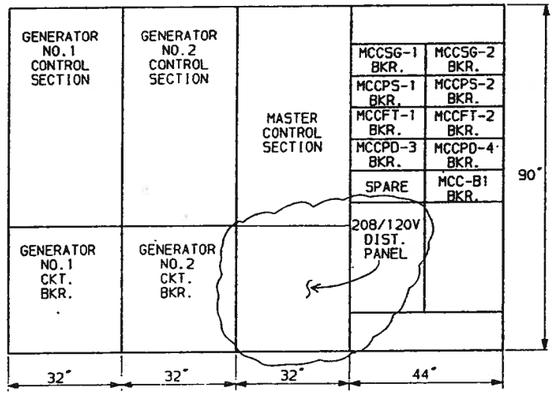
CONTRACT NO.3
DOS RIOS FACILITY
GENERAL
13.2 KV DISTRIBUTION SWITCHGEAR

Sheet E-6
of E-58

DR 83-6502



STANDBY GENERATOR NO.1&2 LAYOUT
SCALE= 1/4"=1'-0"



STANDBY SWITCHBOARD NO.1.
FRONT VIEW
(NOT TO SCALE)

NOTE: DEMENSIONS DEPEND ON EQUIPMENT SELECTED.

RECORD DRAWINGS
This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrent this drawing to be complete and accurate in all respects.
MALCOLM PIRNIE, INC.
Date 6/84 By MGM

REFER TO DRAWING E-7X FOR "AS-BUILT" CONDITION

No.	Date	Revisions	App.

Drawing No. 410N-83.240-0

MALCOLM PIRNIE

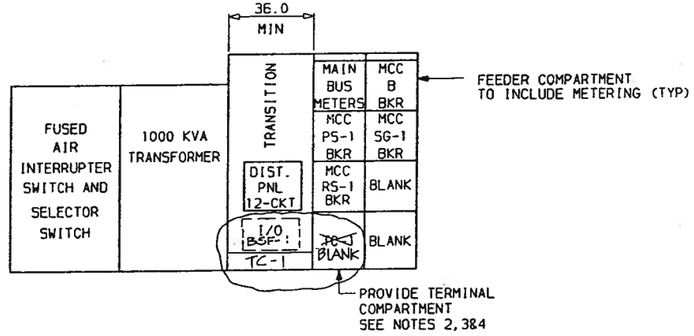
Date: NOV 1983
Designed by: FS
Drawn by: FS
Checked by:
Scale: NO SCALE

Water Resources Improvements
San Antonio

CONTRACT NO.3
DOS RIOS FACILITY
GENERAL
STANDBY GENERATORS #1 & #2

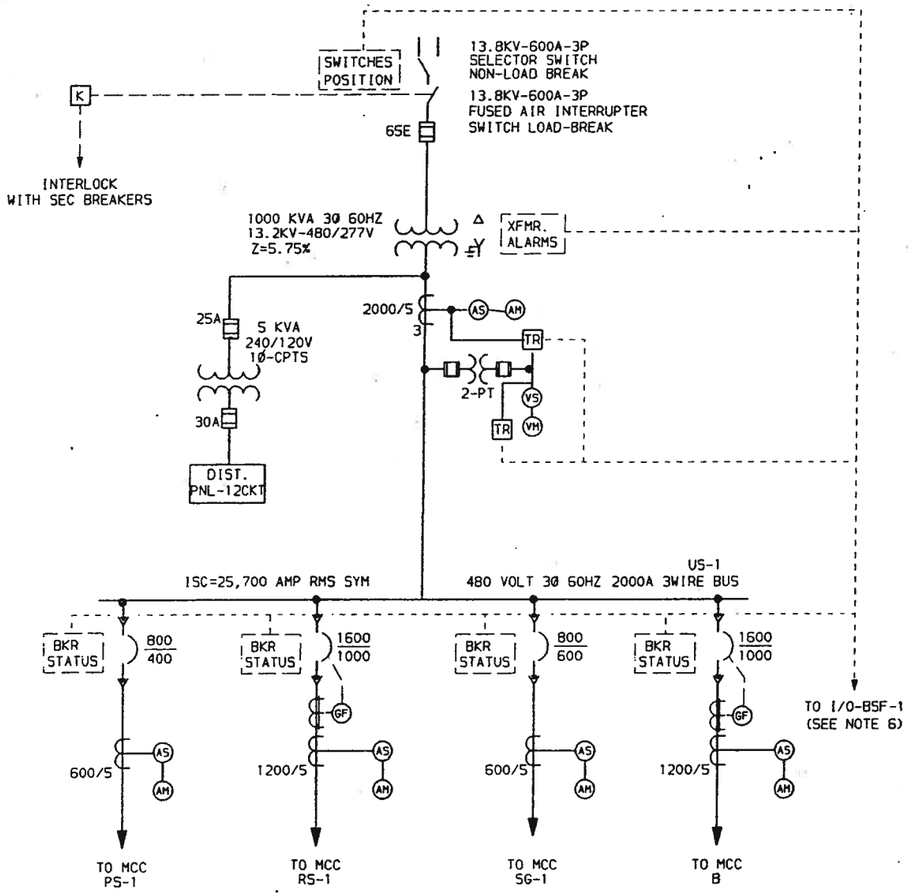
Sheet E-7
of E-58

DR 83-6502



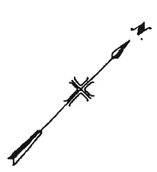
SUBSTATION NO.1 FRONT VIEW

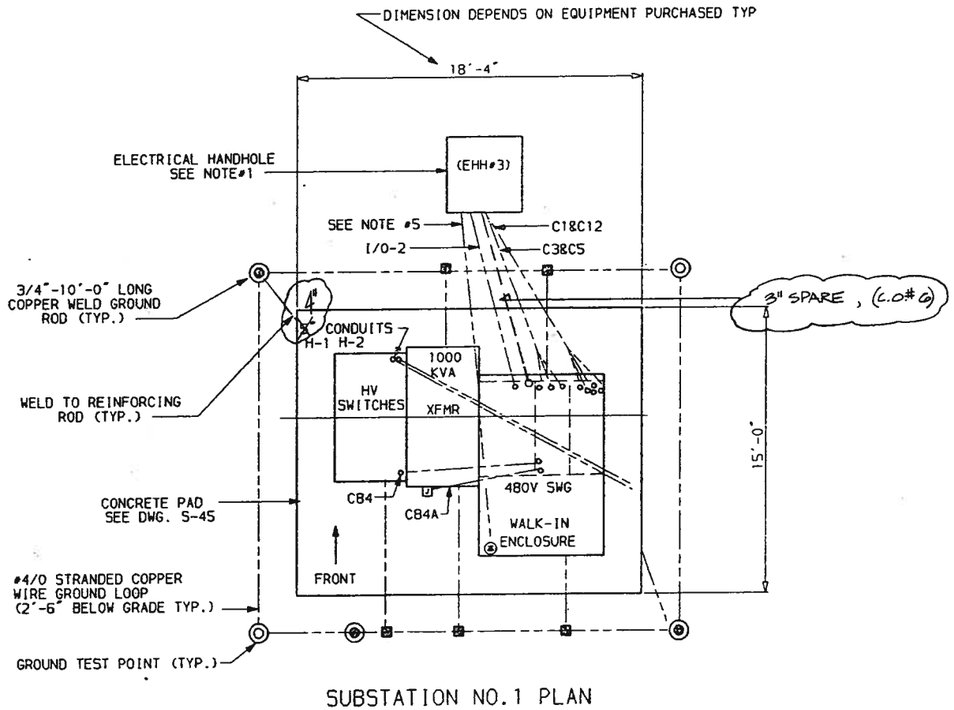
SCALE: 3/8"=1'-0"



ONE LINE DIAGRAM

SUB#1





SUBSTATION NO.1 PLAN

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

RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.

MALCOLM PIRNIE, INC.

Date 1/88 By MGM

NOTE:

1 FOR ACTUAL LOCATION AND SIZE OF ELECTRICAL HANDHOLE NO.3 REFER TO DRAWINGS E-14 & E-34.

2 SUBSTATION VENDOR SHALL TERMINATE STATUS WIRING FROM MCC CKT. BREAKERS&TRANSDUCER SIGNALS ON TERMINAL STRIPS OF TERMINAL COMPARTMENT.UTILIZE ONE COMMON SIDE FOR EACH GROUP OF SIGNALS FROM EACH CKT. BREAKER.IDENTIFY ALL WIRING AT TERMINATIONS. PROVIDE 40 TERMINALS IN TC-1.

3 TRANSDUCER SIGNALS SHALL BE ISOLATED FROM REMAINING TERMINALS.PROVIDE 6 ISOLATED TERMINALS IN TC-1.

4 SUBSTATION VENDOR SHALL PROVIDE (1)-1"&(1)-2" INSULATING BUSHINGS BETWEEN TERMINAL COMPARTMENT AND ITS RESPECTIVE TRANSITION COMPARTMENT.

5 PROVIDE 1-1/4" EMPTY CONDUIT FOR CONTRACT#2 INTERCOM INTERCONNECTIONS,CONNECT TO JUNCTION BOX IN EHH#3.REFER TO INTERCOM BLOCK DIAGRAM.

6 CONTRACTOR SHALL ARRANGE TRANSITION COMPARTMENT SUCH THAT I/O PROVIDED UNDER CONTRACT#2 CAN BE INSTALLED UNDER CONTRACT #2 IN COMPARTMENT.

Drawing No. 410N-83.241-0

App. | No. | Revisions | Date

MALCOLM PIRNIE

Date: NOV 1983
Designed by: FS
Drawn by: FS
Checked by:
Scale: NO SCALE

STATE OF TEXAS — ROBERT KONNER, JR. — 47446 — REGISTERED PROFESSIONAL ENGINEER

Watershed Facilities Improvements

San Antonio

CONTRACT NO.3

DOS RIOS FACILITY

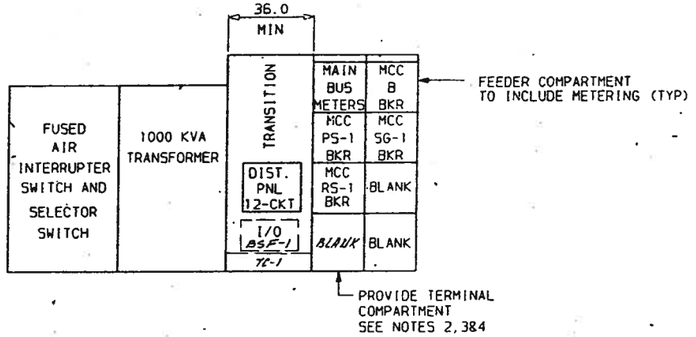
GENERAL

SUBSTATION #1

Sheet E-8

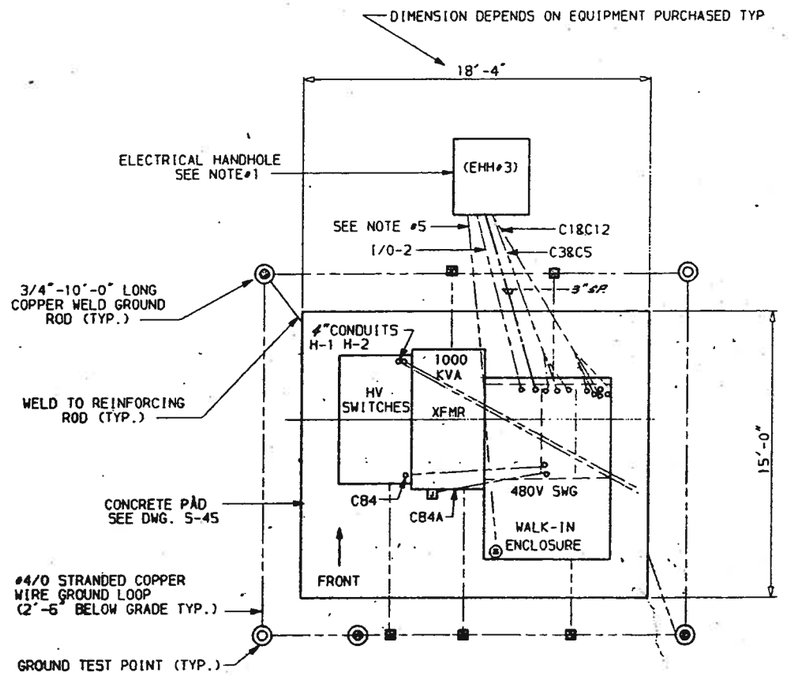
of E-58

DR 83-6502



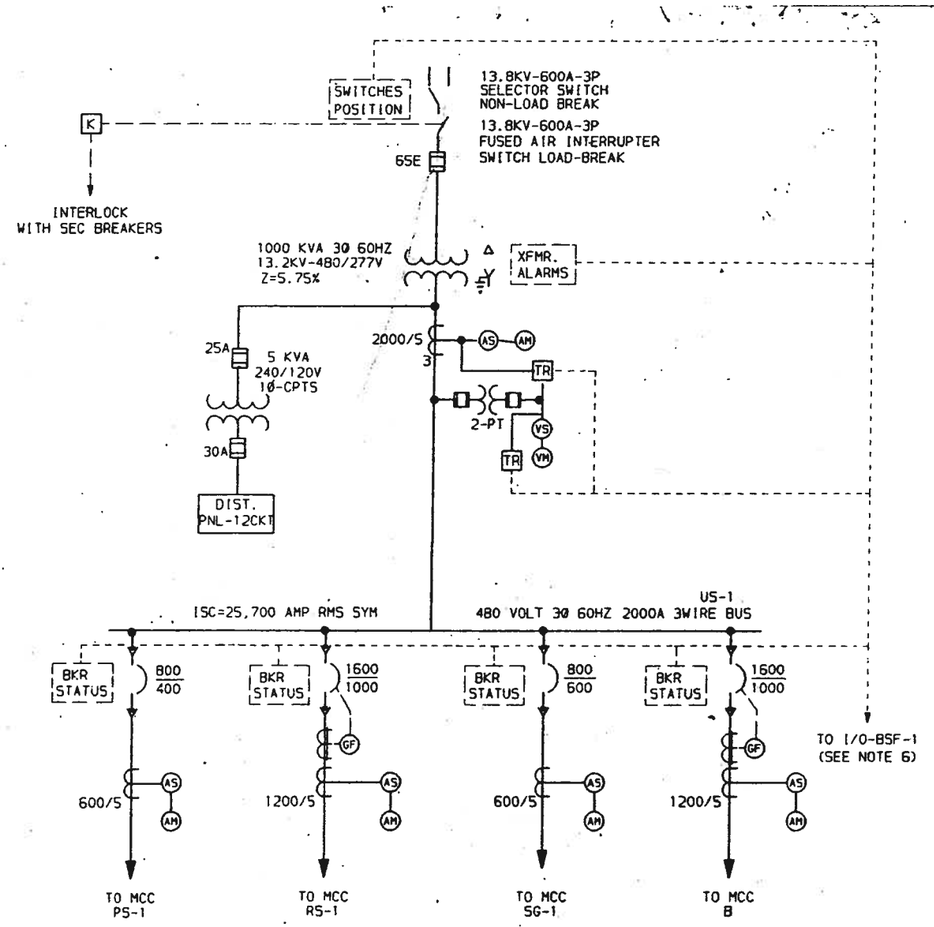
SUBSTATION NO.1 FRONT VIEW

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



SUBSTATION NO.1 PLAN

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



ONE LINE DIAGRAM

SUB#1

NOTE:
1 FOR ACTUAL LOCATION AND SIZE OF ELECTRICAL HANDHOLE NO.3 REFER TO DRAWINGS E-14 & E-34.

2 SUBSTATION VENDOR SHALL TERMINATE STATUS WIRING FROM MCC CKT. BREAKERS&TRANSDUCER SIGNALS ON TERMINAL STRIPS OF TERMINAL COMPARTMENT.UTILIZE ONE COMMON SIDE FOR EACH GROUP OF SIGNALS FROM EACH CKT. BREAKER. IDENTIFY ALL WIRING AT TERMINATIONS. PROVIDE 40 TERMINALS IN TC-1.

3 TRANSDUCER SIGNALS SHALL BE ISOLATED FROM REMAINING TERMINALS. PROVIDE 6 ISOLATED TERMINALS IN TC-1.

4 SUBSTATION VENDOR SHALL PROVIDE (1)-1"&(1)-2" INSULATING BUSHINGS BETWEEN TERMINAL COMPARTMENT AND ITS RESPECTIVE TRANSITION COMPARTMENT.

5 PROVIDE 1-1/4" EMPTY CONDUIT FOR CONTRACT#2 INTERCOM INTERCONNECTIONS, CONNECT TO JUNCTION BOX IN EHH#3. REFER TO INTERCOM BLOCK DIAGRAM.

6 CONTRACTOR SHALL ARRANGE TRANSITION COMPARTMENT SUCH THAT I/O PROVIDED UNDER CONTRACT#2 CAN BE INSTALLED UNDER CONTRACT #2 IN COMPARTMENT.

PROJECT RECORD

No.	Date	Revisions	App.
1	4/25/85	AS-BUILT	

Drawing No. 41ON-83.241-0

Water Resources Facilities Improvements

San Antonio

CONTRACT NO.3

DOS RIOS FACILITY

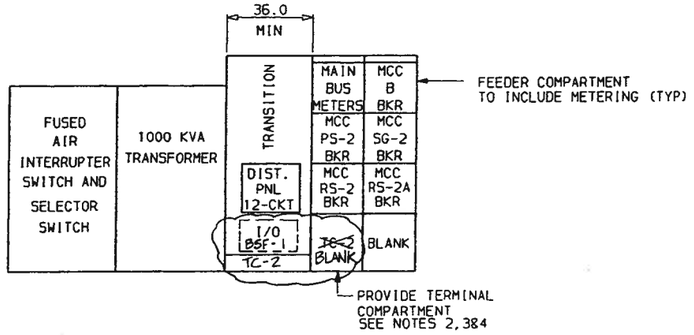
GENERAL

SUBSTATION #1

Sheet E-8

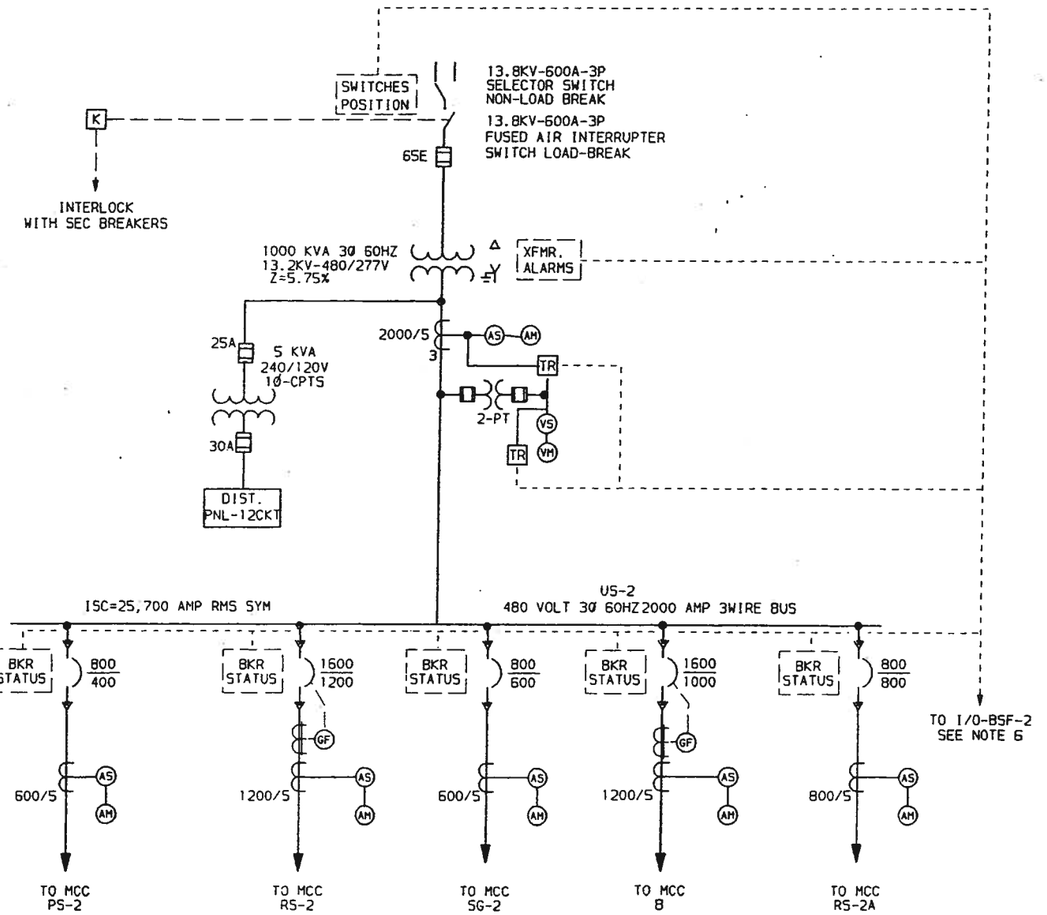
of E-58

DR 83-6502



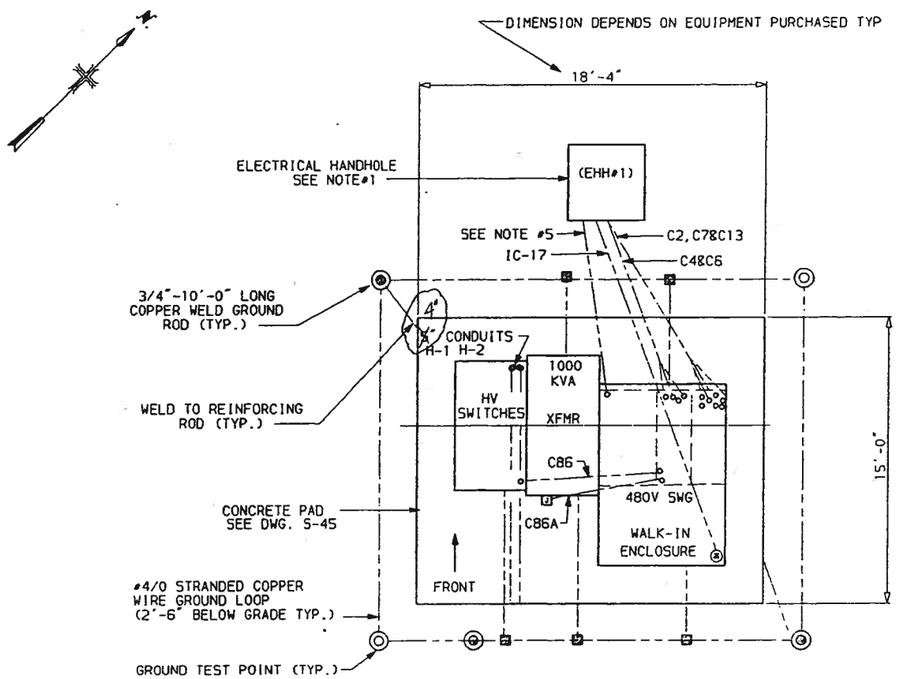
SUBSTATION NO.2 FRONT VIEW

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



ONE LINE DIAGRAM

SUB#2



SUBSTATION NO.2 PLAN

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

RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.

MALCOLM PIRNIE, INC.

Date 6/84 By MGM

NOTE:

1 FOR ACTUAL LOCATION AND SIZE OF ELECTRICAL HANDHOLE NO.1 REFER TO DRAWINGS E-14 &E-34.

2 SUBSTATION VENDOR SHALL TERMINATE STATUS WIRING FROM MCC CKT. BREAKERS&TRANSDUCER SIGNALS ON TERMINAL STRIPS OF TERMINAL COMPARTMENT. UTILIZE ONE COMMON SIDE FOR EACH GROUP OF SIGNALS FROM EACH CKT. BREAKER. IDENTIFY ALL WIRING AT TERMINATIONS. PROVIDE 40 TERMINALS IN TC-2.

3 TRANSDUCER SIGNALS SHALL BE ISOLATED FROM REMAINING TERMINALS. PROVIDE 6 ISOLATED TERMINALS IN TC-2.

4 SUBSTATION VENDOR SHALL PROVIDE (1)-1"&(1)-2" INSULATING BUSHINGS BETWEEN TERMINAL COMPARTMENT AND ITS RESPECTIVE TRANSITION COMPARTMENT.

5 PROVIDE 1" EMPTY CONDUIT FOR CONTRACT#2 I/O INTERCONNECTIONS, TERMINATE IN EHH#1.

6 CONTRACTOR SHALL ARRANGE TRANSITION COMPARTMENT SUCH THAT I/O PROVIDED UNDER CONTRACT#2 CAN BE INSTALLED UNDER CONTRACT #2 IN COMPARTMENT.

DR 83-6502

Drawing No. 410N-83.242-0

No. | Date | Revisions | App.

MALCOLM PIRNIE

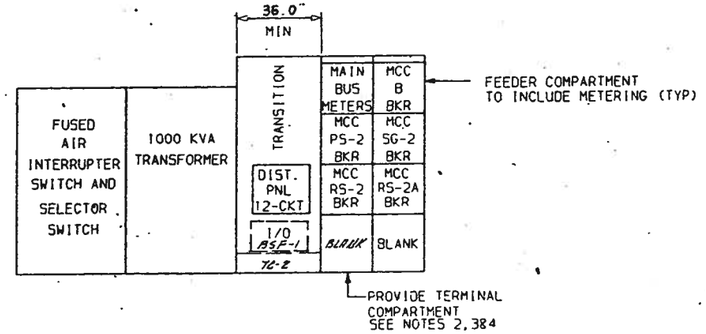
Date: NOV 1983
Designed by: FS
Drawn by: FS
Checked by: [illegible]
Scale: NO SCALE

STATE OF TEXAS — REGISTERED PROFESSIONAL ENGINEER — MARTIN G. MCNAMEE — 67176

Wastewater Facilities Improvements
San Antonio

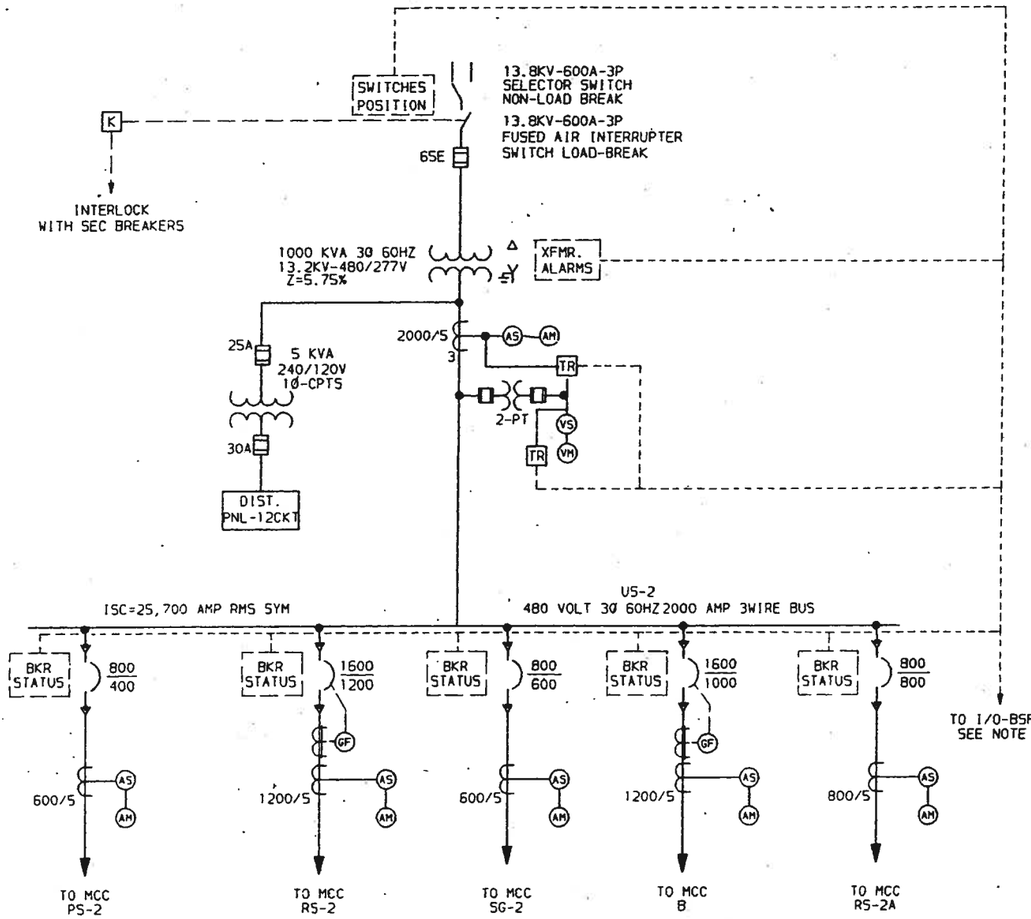
CONTRACT NO.3
DOS RIOS FACILITY
GENERAL
SUBSTATION #2

Sheet E-9
of E-58



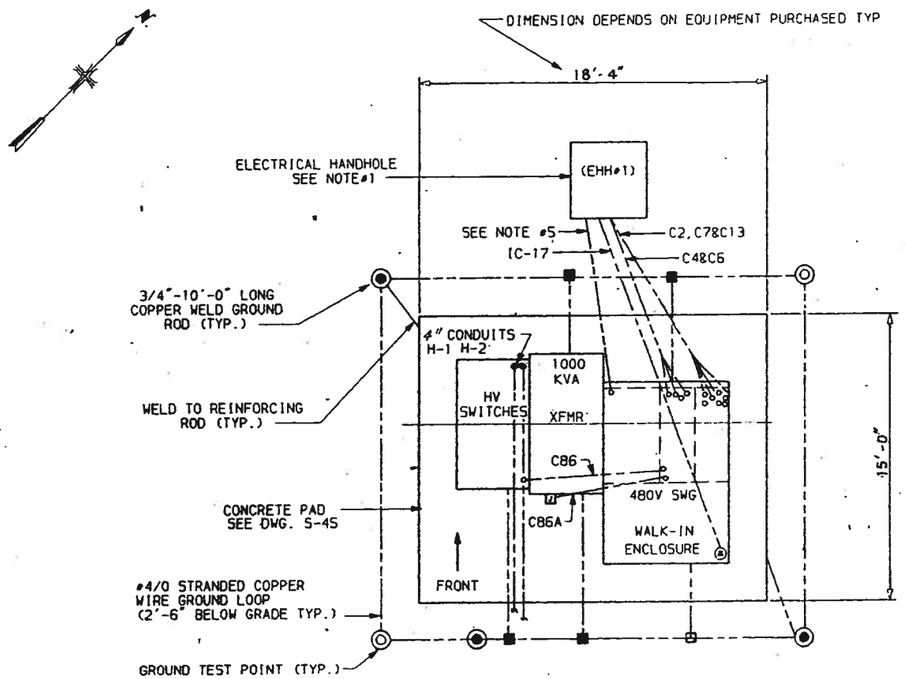
SUBSTATION NO.2 FRONT VIEW

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



ONE LINE DIAGRAM

SUB#2



SUBSTATION NO.2 PLAN

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

NOTE:
1 FOR ACTUAL LOCATION AND SIZE OF ELECTRICAL HANDHOLE NO.1 REFER TO DRAWINGS E-14 &E-34.

2 SUBSTATION VENDOR SHALL TERMINATE STATUS WIRING FROM MCC CKT. BREAKERS&TRANSDUCER SIGNALS ON TERMINAL STRIPS OF TERMINAL COMPARTMENT.UTILIZE ONE COMMON SIDE FOR EACH GROUP OF SIGNALS FROM EACH CKT. BREAKER. IDENTIFY ALL WIRING AT TERMINATIONS. PROVIDE 40 TERMINALS IN TC-2.

3 TRANSDUCER SIGNALS SHALL BE ISOLATED FROM REMAINING TERMINALS.PROVIDE 6 ISOLATED TERMINALS IN TC-2.

4 SUBSTATION VENDOR SHALL PROVIDE (1)-1"&(1)-2" INSULATING BUSHINGS BETWEEN TERMINAL COMPARTMENT AND ITS RESPECTIVE TRANSITION COMPARTMENT.

5 PROVIDE 1" EMPTY CONDUIT FOR CONTRACT#2 I/O INTERCONNECTIONS, TERMINATE IN EHH#1.

6 CONTRACTOR SHALL ARRANGE TRANSITION COMPARTMENT SUCH THAT I/O PROVIDED UNDER CONTRACT#2 CAN BE INSTALLED UNDER CONTRACT #2 IN COMPARTMENT.

PROJECT RECORD

DR 83-6502

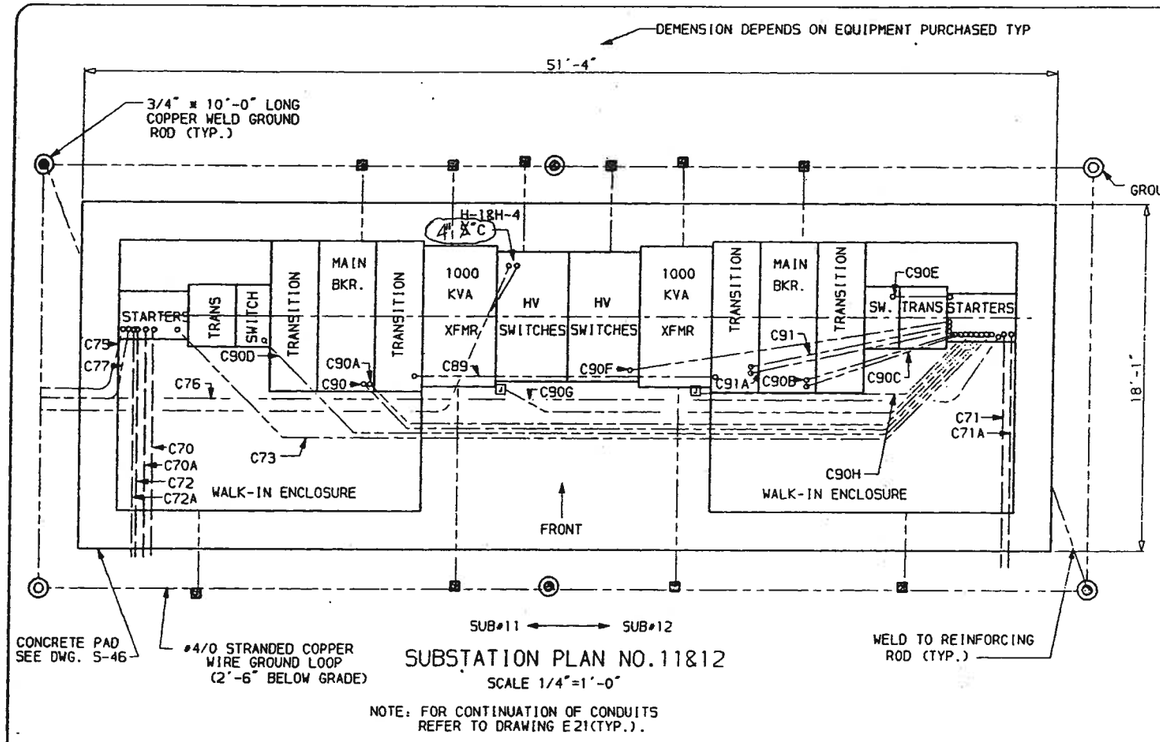
No.	Date	Revisions	App.
1	7.25.88	AS-BUILT	

Drawing No.
410N-83.242-0

CITY PUBLIC SERVICE BOARD
SAN ANTONIO, TEXAS

CONTRACT NO.3
DOS RIOS FACILITY
GENERAL
SUBSTATION #2

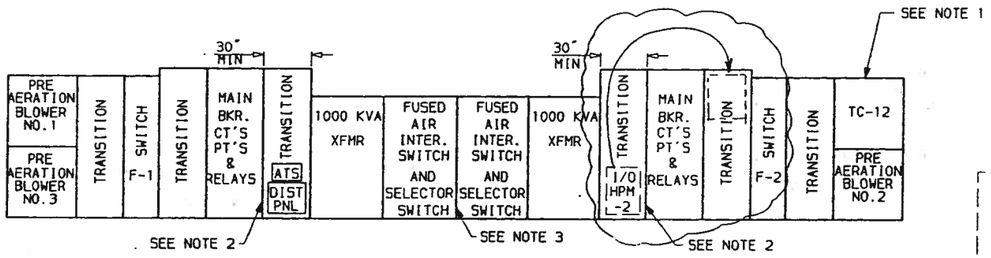
Sheet E-9
of E-58



SUBSTATION PLAN NO.11&12

SCALE 1/4"=1'-0"

NOTE: FOR CONTINUATION OF CONDUITS REFER TO DRAWING E21(TYP.).



SUB#11 ⟷ SUB#12

SUBSTATION FRONT NO.11&12

SCALE 1/4"=1'-0"

NOTES:

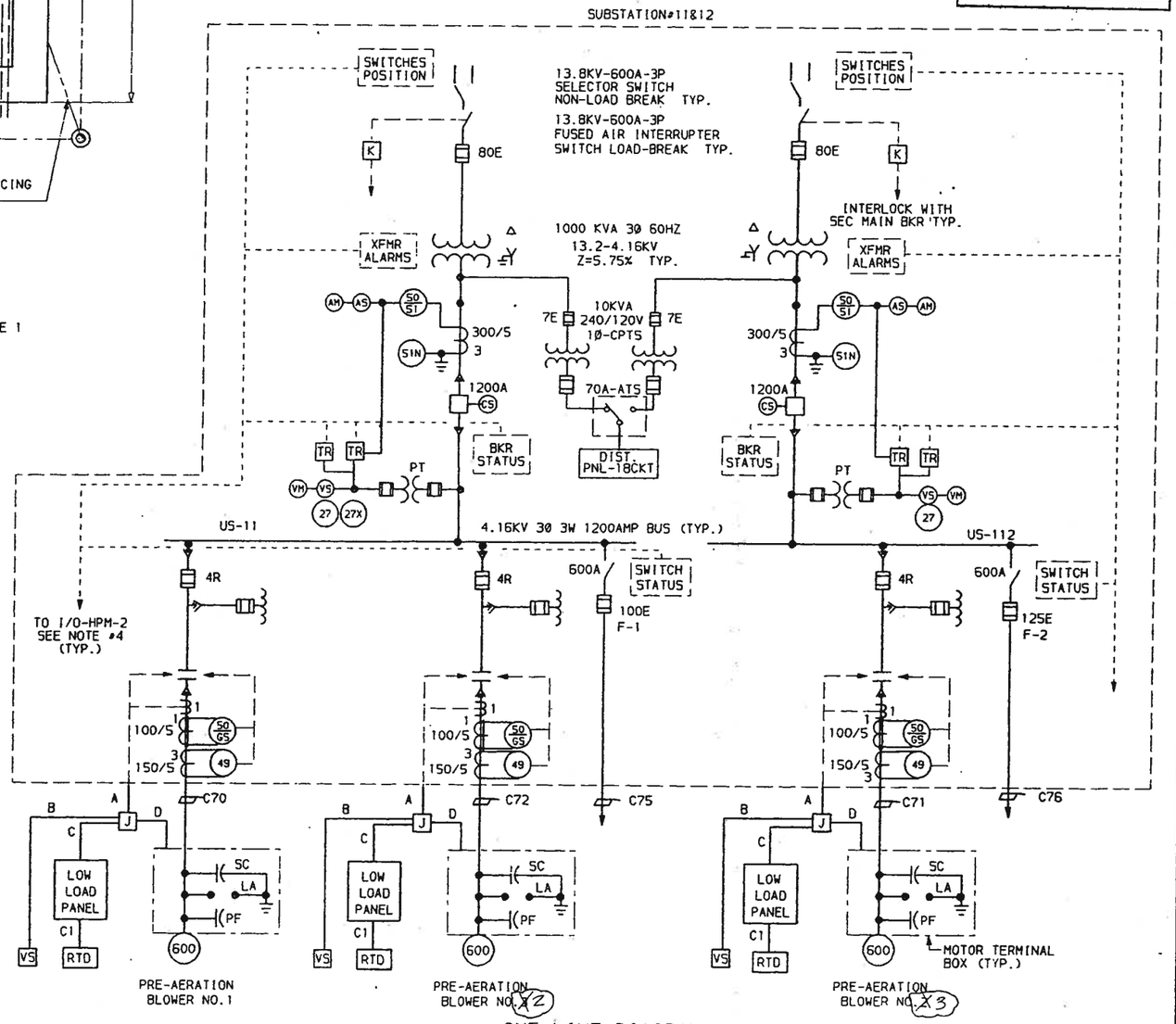
1 PROVIDE TERMINAL COMPARTMENT WITH 80 TERMINALS INCLUDING 10 ISOLATED TERMINALS FOR TRANSDUCER SIGNALS.

2 SUBSTATION VENDOR SHALL PROVIDE (1)-1" INSULATING BUSHING BETWEEN MAIN CKT BREAKER COMPARTMENT AND TRANSISTION COMPARTMENT.

3 SUBSTATION VENDOR SHALL PROVIDE THRU-WALL BARRIER BETWEEN PRIMARY SWITCH COMPARTMENTS FOR HIGH VOLTAGE CABLE CONNECTIONS BETWEEN SWITCHES. REFER TO DWG.E2 FOR CABLE REQUIREMENTS. PROVIDE 1" INSULATING BUSHING BETWEEN SWITCH COMPARTMENTS FOR STATUS WIRING.

4 CONTRACTOR SHALL ARRANGE TRANSITION COMPARTMENT SUCH THAT I/O PROVIDED UNDER CONTRACT#2 CAN BE INSTALLED UNDER CONTRACT #2 IN COMPARTMENT.

REFER TO DRAWINGS E-10XA AND E-11X FOR "AS-BUILT" CONDITION AND SKETCHES



ONE LINE DIAGRAM

RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects

MALCOLM PIRNIE, INC.

Date 6/88 By MGM

Drawing No. 410N-83.244-0

App. | No. | Revisions | Date

MALCOLM PIRNIE

Date: NOV 1983
Designed by: FS
Drawn by:
Checked by:
Scale: NO SCALE

STATE OF TEXAS ROBERT BRUNER JR. 17446 REGISTERED PROFESSIONAL ENGINEER

Wastewater Facilities Improvements
San Antonio

CONTRACT NO.3
DOS RIOS FACILITY
GENERAL
SUBSTATION #11 & #12

Sheet E-11 of E-58

DR 83-6502

CONDUIT NO.	CONDUIT SIZE IN.	CABLE QTY.	CABLE SIZE	FROM	VIA	TO	PURPOSE	REMARKS
C1	[2]-3	6	350MCM	SUBSTATION #1		MCC-SG-1	POWER	PARALLEL FEED
		2	1/0	SUBSTATION #1		MCC-SG-1	GND	
C2	[2]-3	6	350MCM	SUBSTATION #2		MCC-SG-2	POWER	PARALLEL FEED
		2	1/0	SUBSTATION #2		MCC-SG-2	GND	
C3	3	3	500MCM	SUBSTATION #1		MCC-PS-1	POWER	
		1	2	SUBSTATION #1		MCC-PS-1	GND	
C3A	2	3	250MCM	MCC-PS-1		MCC-PS-1A	POWER	
	1	4		MCC-PS-1		MCC-PS-1A	GND	
C4	3	3	500MCM	SUBSTATION #2		MCC-PS-2	POWER	
		1	2	SUBSTATION #2		MCC-PS-2	GND	
C4A	2	3	250MCM	MCC-PS-2		MCC-PS-2A	POWER	
	1	4		MCC-PS-2		MCC-PS-2A	GND	
C5	[2]-3			SUBSTATION #1		MCC-RS-1	POWER	[SEE NOTE 3&6]
				SUBSTATION #1		MCC-RS-1	GND	
C6	[3]-3			SUBSTATION #2		MCC-RS-2	POWER	[SEE NOTE 1&6]
				SUBSTATION #2		MCC-RS-2	GND	
C7	[2]-3			SUBSTATION #2		MCC-RS-2A	POWER	[SEE NOTE 1&6]
				SUBSTATION #2		MCC-RS-2A	GND	
C12	[3]-3	9	500MCM	SUBSTATION #1		MCC-B	POWER	PARALLEL FEED
		3	1/0	SUBSTATION #1		MCC-B	GND	
C13	[3]-3	9	500MCM	SUBSTATION #2		MCC-B	POWER	PARALLEL FEED
		3	1/0	SUBSTATION #2		MCC-B	GND	
C14	[2]-3	6	350MCM	SUBSTATION #5		MCC-PD-1	POWER	PARALLEL FEED
		2	1/0	SUBSTATION #5		MCC-PD-1	GND	
C15	[2]-3	6	350MCM	SUBSTATION #6		MCC-PD-2	POWER	PARALLEL FEED
		2	1/0	SUBSTATION #6		MCC-PD-2	GND	
C16	[3]-3	9	500MCM	SUBSTATION #5		MCC-PD-3	POWER	PARALLEL FEED
		3	4/0	SUBSTATION #5		MCC-PD-3	GND	
C17	[3]-3	9	500MCM	SUBSTATION #6		MCC-PD-4	POWER	PARALLEL FEED
		3	4/0	SUBSTATION #6		MCC-PD-4	GND	
C18	[3]-3			SUBSTATION #5		MCC-FT-1	POWER	[SEE NOTE 4&6]
				SUBSTATION #5		MCC-FT-1	GND	
C19	[3]-3			SUBSTATION #6		MCC-FT-2	POWER	[SEE NOTE 4&6]
				SUBSTATION #6		MCC-FT-2	GND	
C32	3	3	500MCM	STBY SWBD #1		MCC-SG-1	POWER	
		1	2	STBY SWBD #1		MCC-SG-1	GND	
C33	3	3	500MCM	STBY SWBD #1		MCC-SG-2	POWER	
		1	2	STBY SWBD #1		MCC-SG-2	GND	
C34	3	3	500MCM	STBY SWBD #1		MCC-PS-1	POWER	
		1	2	STBY SWBD #1		MCC-PS-1	GND	
C35	3	3	500MCM	STBY SWBD #1		MCC-PS-2	POWER	
		1	2	STBY SWBD #1		MCC-PS-2	GND	
C36	3			STBY SWBD #1		MCC-FT-1	POWER	[SEE NOTE 4&6]
				STBY SWBD #1		MCC-FT-1	GND	
C37	3			STBY SWBD #1		MCC-FT-2	POWER	[SEE NOTE 4&6]
				STBY SWBD #1		MCC-FT-2	GND	
C38	3	3	350MCM	STBY SWBD #1		MCC-PD-3	POWER	
		1	2	STBY SWBD #1		MCC-PD-3	GND	
C39	3	3	350MCM	STBY SWBD #1		MCC-PD-4	POWER	
		1	2	STBY SWBD #1		MCC-PD-4	GND	
C40	[2] 3			STBY SWBD #1	[ATS]	MCC-B1	POWER	[SEE NOTE 2&6]
				STBY SWBD #1		MCC-B1	GND	
C41	3	48	12	STBY SWBD #1		HANDHOLE #8	GEN START & CT'L	
C41A	2	24	12	HANDHOLE #8		MCC-SG-1	GEN START & CT'L	2-SPARE
C41B	2	12	12	HANDHOLE #8		MCC-PS-1	GEN START & CT'L	2-SPARE
C41C	2	12	12	HANDHOLE #8		MCC-PS-2	GEN START & CT'L	2-SPARE
C41D	3			STBY SWBD #1		MCC-B1	GEN START	[SEE NOTE 2&6]
C42	2	24	12	STBY SWBD #1		MCC-PD-3	GEN START & CT'L	
		4	8	STBY SWBD #1		MCC-PD-3	208/120V-PWR	LP-PD4 VIA C345
		1	10	STBY SWBD #1		MCC-PD-3	GND	
C43	2			STBY SWBD #1		MCC-FT-1	GEN START & CT'L	[SEE NOTE 4&6]
C50	[3]-3	9	500MCM	GEN #1		STBY SWBD #1	STBY POWER	
		3	2/0	GEN #1		STBY SWBD #1	GND	
C51	1-1/4	25	12	GEN #1		STBY SWBD #1	ENGINE MTD DEV	TO CONT PNL #1
		4	12	GEN #1		STBY SWBD #1	JACKET & SP HEAT	TO CONT PNL #1
C52	3/4	8	14	GEN #1		STBY SWBD #1	ENGINE MTD CT'S	TO CONT PNL #1
C53	3/4	2	8	BATTERY CHARGER		STARTING BATTERIES	DC POWER	
C54	3/4	2	8	STRTNG BATTERIES		STBY SWBD #1	DC POWER	TO CONT PNL #1
C54A	3/4	2	12	BATTERY CHARGER		STBY SWBD #1	FAIL SIGNAL	TO CONT PNL #1
		2	12	BATTERY CHARGER		STBY SWBD #1	120 V PWR	TO DIST PNL
C54B	3/4	2	12	DAY TANK #1		STBY SWBD #1	120 V PWR	TO DIST PNL
		2	12	DAY TANK #1		STBY SWBD #1	LE VEL IND	TO CONT PNL #1
C55	[3]-3	9	500MCM	GEN #2		STBY SWBD #1	STBY POWER	
		3	2/0	GEN #2		STBY SWBD #1	GND	
C56	1-1/4	25	12	GEN #2		STBY SWBD #1	ENGINE MTD DEVS	TO CONT PNL #2

CONDUIT NO.	CONDUIT SIZE IN.	CABLE QTY.	CABLE SIZE	FROM	VIA	TO	PURPOSE	REMARKS
		4	12	GEN #2		STBY SWBD #1	JACKET & SP HEAT	TO CONT PNL #2
C57	3/4	8	14	GEN #2		STBY SWBD #1	ENGINE MTD CT'S	TO CONT PNL #2
C58	3/4	2	8	BATTERY CHARGER		STARTING BATTERIES	DC POWER	
C59	3/4	2	8	STRTNG BATTERIES		STBY SWBD #1	DC POWER	TO CONT PNL #2
C59A	3/4	2	12	BATTERY CHARGER		STBY SWBD #1	FAIL SIGNAL	TO CONT PNL #2
		2	12	BATTERY CHARGER		STBY SWBD #1	120 V PWR	TO DIST PNL
C59B	3/4	2	12	DAY TANK #2		STBY SWBD #1	120 V PWR	TO DIST PNL
		2	12	DAY TANK #2		STBY SWBD #1	LEVEL IND	TO CONT PNL #2
C70	2-1/2	3	2	SUBSTATION #11		PRE-AER BLWR MTR #1	POWER	5-KV
		1	6	SUBSTATION #11		PRE-AER BLWR MTR #1	GND	600V
C70A	1	3	14	SUBSTATION #11		JUNCTION BOX	CONTROL	~~SP HEAT&OVTEMP~~
C70B	3/4	3	14	JUNCTION BOX		VIBRATION SWITCH	CONTROL	33 ACTIVE (3 SP.
C70C	1 1/4	42	14	JUNCTION BOX		LOW-LOAD PANEL	CONTROL	39 ACTIVE (3 SP.
C70C1	3/4	3	14	LOW-LOAD PANEL		RTD DEVICE FRONT BEARING	~~CONTROL~~ BEARING TEMP.	
C70C2	3/4	3	14	" "		" REAR BEARING	~~BEARING~~ TEMP.	
C70D	3/4	4	14	JUNCTION BOX		MOTOR TERMINAL BOX	CONTROL WDG OVER TEMP.	
C71	2-1/2	3	2	SUBSTATION #12		PRE-AER BLWR MTR #2	POWER	5-KV
		1	6	SUBSTATION #12		PRE-AER BLWR MTR #2	GND	600V
C71A	1	3	14	SUBSTATION #12		JUNCTION BOX	CONTROL	~~SP HEAT&OVTEMP~~
C71B	3/4	3	14	JUNCTION BOX		VIBRATION SWITCH	CONTROL	33 ACTIVE (3 SP.
C71C	1 1/4	42	14	JUNCTION BOX		LOW-LOAD PANEL	CONTROL	39 ACTIVE (3 SP.
C71C1	3/4	3	14	LOW-LOAD PANEL		RTD DEVICE FRONT BEARING	~~CONTROL~~ BEARING TEMP.	
C71C2	3/4	3	14	" "		" REAR BEARING	~~BEARING~~ TEMP.	
C71D	3/4	4	14	JUNCTION BOX		MOTOR TERMINAL BOX	CONTROL WDG OVER TEMP.	
C72	2-1/2	3	2	SUBSTATION #11		PRE-AER BLWR MTR #3	POWER	5-KV
		1	6	SUBSTATION #11		PRE-AER BLWR MTR #3	GND	600V
C72A	1	3	14	SUBSTATION #11		JUNCTION BOX	CONTROL	~~SP HEAT&OVTEMP~~
C72B	3/4	3	14	JUNCTION BOX		VIBRATION SWITCH	CONTROL	33 ACTIVE (3 SP.
C72C	1 1/4	42	14	JUNCTION BOX		LOW-LOAD PANEL	CONTROL	39 ACTIVE (3 SP.
C72C1	3/4	3	14	LOW-LOAD PANEL		RTD DEVICE FRONT BEARING	~~CONTROL~~ BEARING TEMP.	
C72C2	3/4	3	14	" "		" REAR BEARING	~~BEARING~~ TEMP.	
C72D	3/4	4	14	JUNCTION BOX		MOTOR TERMINAL BOX	CONTROL WDG OVER TEMP.	
C73	1	14	14	SUBSTATION #12		SUBSTATION #11	STATUS	FROM BLW STARTER
C75	5	-	-	SUBSTATION #11		MCC-CAB2	POWER	[SEE NOTES 5&6]
C76	5	-	-	SUBSTATION #12		MCC-CAB2	POWER	[SEE NOTES 5&6]
C77	5	-	-	SUBSTATION #11		MCC-CAB2	INTERLOCK	[SEE NOTES 5&6]
C84	3/4	6	14	US-1 PRIM SW		TERMINAL COMP [TC-1]	STATUS	TERM ON TC-1
C84A	3/4	7	14	JB AT US-1 XFMR		TERMINAL COMP [TC-1]	ALARMS	TERM ON TC-1
C86	3/4	6	14	US-2 PRIM SW		TERMINAL COMP [TC-2]	STATUS	TERM ON TC-2
C86A	3/4	7	14	JB AT US-2 XFMR		TERMINAL COMP [TC-2]	ALARMS	TERM ON TC-2
C87	3/4	3	10	CONT PWR XFMR		AUTO TRANSFER SW	POWER	240/120V
C88	1-1/4	6	12	DIST PANEL	BUSHING	TERMINAL COMP [TC-6]	120V PWR	480V SWG DEVICE
		24	14	TERM COMP [TC-5]		TERMINAL COMP [TC-6]	STATUS	TERM ON TC-6
C88A	3/4	2-2/C	18[SH]	TERM COMP [TC-5]		TERMINAL COMP [TC-6]	SIGNAL	TERM ON TC-6
C88B	3/4	4	14	US-5 PRIM SW	BUSHING	TERMINAL COMP [TC-6]	STATUS	TERM ON TC-6
		6	14	US-6 PRIM SW		TERMINAL COMP [TC-6]	STATUS	TERM ON TC-6
C88C	3/4	7	14	JB AT US-6 XFMR		TERMINAL COMP [TC-6]	ALARMS	TERM ON TC-6
C88D	3/4	7	14	JB AT US-5 XFMR		TERMINAL COMP [TC-6]	ALARMS	TERM ON TC-6
C89	1	3	6	CPT AT SUB #12		AUTO TRANSFER SW	POWER	240/120V
		2	10	DIST PANEL	BUSHING	MAIN BKR AT SUB #12	CONTROL PWR	240V
C90	1	6	12	DIST PANEL	BUSHING	TERMINAL COMP [TC-12]	120V PWR	SWGR DEVICES
		6	14	MN BKR AT SUB#11		TERMINAL COMP [TC-12]	STATUS	TERM AT TC-12
C90A	3/4	2-2/C	18[SH]	MN BKR AT SUB#11		TERMINAL COMP [TC-12]	SIGNAL	TERM AT TC-12
C90B	3/4	6	14	MN BKR AT SUB#12		TERMINAL COMP [TC-12]	STATUS	TERM AT TC-12
C90C	3/4	2-2/C	18[SH]	MN BKR AT SUB#12		TERMINAL COMP [TC-12]	SIGNAL	TERM AT TC-12
C90D	3/4	3	14	FD SW AT SUB #11		TERMINAL COMP [TC-12]	STATUS	TERM AT TC-12
C90E	3/4	3	14	FD SW AT SUB #12		TERMINAL COMP [TC-12]	STATUS	TERM AT TC-12
C90F	3/4	4	14	SUB #11 PRIM SW	BUSHING	TERMINAL COMP [TC-12]	STATUS	TERM AT TC-12
		6	14	SUB #12 PRIM SW		TERMINAL COMP [TC-12]	STATUS	TERM AT TC-12
C90G	3/4	7	14	JB AT SUB #11 XFMR		TERMINAL COMP [TC-12]	ALARMS	TERM AT TC-12
C90H	3/4	7	14	JB AT SUB #12 XFMR		TERMINAL COMP [TC-12]	ALARMS	TERM AT TC-12
C91	2	-	-	TERM COMP [TC-12]		[/O-HPM-1	PWR & STATUS	EMPTY CONDUIT
C91A	1	-	-	TERM COMP [TC-12]		[/O-HPM-1	SIGNALS	EMPTY CONDUIT
C92	3/4	2/C	18[SH]	FEED H-1 COMP		AUX COMP TERMINALS	SIGNAL	I/O-HPM-1
C92A	3/4	2/C	18[SH]	FEED H-3 COMP		AUX COMP TERMINALS	SIGNAL	I/O-HPM-1
C92B	3/4	2/C	18[SH]	INCOMING COMP		AUX COMP TERMINALS	SIGNAL	I/O-HPM-1
C92C	3/4	2/C	18[SH]	INCOMING COMP		AUX COMP TERMINALS	SIGNAL	I/O-HPM-1
C92D	3/4	2/C	18[SH]	FEED H-2 COMP		AUX COMP TERMINALS	SIGNAL	I/O-HPM-1
C92E	3/4	2/C	18[SH]	FEED H-4 COMP		AUX COMP TERMINALS	SIGNAL	I/O-HPM-1

FOR NOTES SEE SHEET E-15A

RECORD DRAWINGS

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MALCOLM PIRNIE, INC.

Date 6/88 By MGM

DR 83-6502

Drawing No. 410N-83.245-0

No.	Revisions	Date	App.

MALCOLM PIRNIE

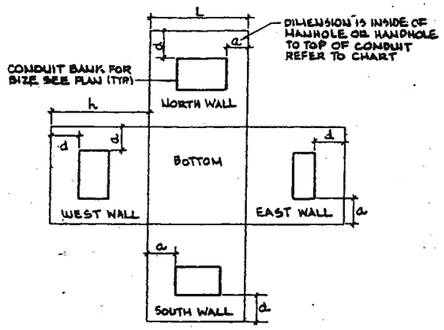
Date: NOV. 1983
Designed by: FS
Drawn by: MEH
Checked by: [illegible]
Scale: NO SCALE

STATE OF TEXAS — ROBERT SCHNEIDER JR. — 47446 — REGISTERED PROFESSIONAL ENGINEER

Watermarks
Reproducible
Microfilm
San Antonio

CONTRACT NO. 3
DOS RIOS FACILITY
GENERAL
CONDUIT & CABLE SCHEDULE

Sheet E-12
of E-58



MANHOLE OR HANDHOLE EXPLODED VIEW

NO SCALE

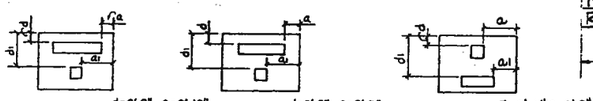
NOTE: ALL DIMENSIONS SHOWN IN MANHOLE AND HANDHOLE CHARTS ARE APPROXIMATE, ACTUAL DIMENSIONS TO BE FIELD DETERMINED.

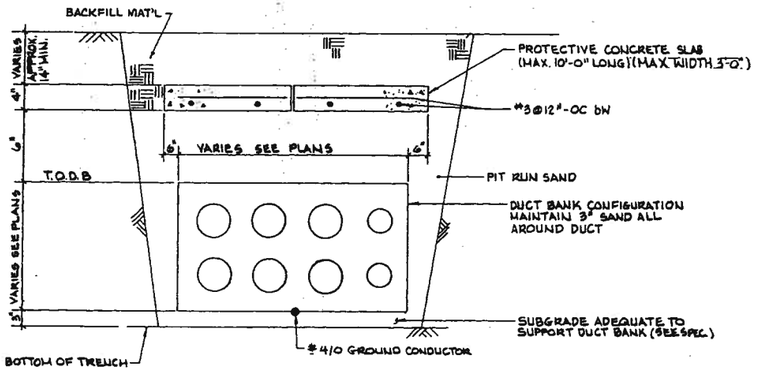
MANHOLE No.	NORTH WALL		SOUTH WALL		EAST WALL		WEST WALL		WALLS	
	d	a	d	a	d	a	d	a	h	L
1	—	—	2'-9"	3'-0"	0'-3"	3'-0"	—	—	7'-6"	8'-0"
2	—	—	—	—	2'-3"	3'-0"	0'-3"	3'-0"	7'-6"	8'-0"
3	1'-3"	3'-0"	—	—	0'-3"	3'-0"	0'-3"	3'-0"	7'-6"	8'-0"
4	0'-3"	3'-0"	2'-0"	3'-0"	—	—	—	—	7'-6"	8'-0"
5	1'-0"	3'-0"	—	—	—	—	—	—	7'-6"	8'-0"
14	—	—	1'-0"	3'-0"	2'-0"	2'-0"	—	—	7'-6"	8'-0"
15	0'-9"	3'-5"	2'-9"	3'-0"	—	—	0'-9"	3'-0"	7'-6"	8'-0"
16	4'-9"	3'-5"	1'-0"	3'-5"	—	—	—	—	7'-6"	8'-0"
17	1'-3"	3'-5"	2'-3"	3'-5"	—	—	—	—	7'-6"	8'-0"
18	1'-9"	3'-5"	1'-9"	3'-5	1'-3"	3'-5"	—	—	7'-6"	8'-0"
19	—	—	—	—	2'-3"	3'-5"	1'-3"	3'-5"	7'-6"	8'-0"
20	2'-3"	3'-5"	—	—	—	—	2'-3"	3'-5"	7'-6"	8'-0"

C.O.#6

AD. #3

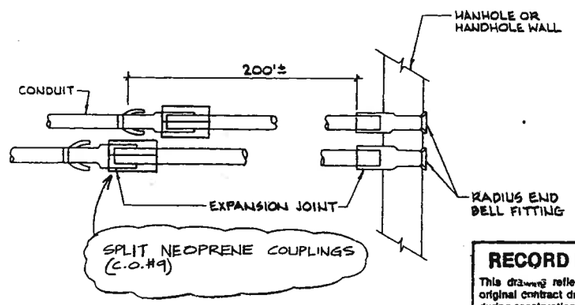
HANDHOLE NO	NORTH WALL		SOUTH WALL		EAST WALL		WEST WALL		WALLS	
	d	a	d	a	d	a	d	a	h	L
1	18"	18"	1'-3"	1'-2"	1'-3"	1'-2"	—	—	4'-0"	6'-0"
2	8'-3"	2'-2"	2'-3"	1'-9"	7'-3"	2'-3"	8'-3"	2'-8"	10'-0"	8'-0"
3	0'-9"	1'-9"	0'-9"	2'-0"	0'-9"	1'-9"	—	—	4'-0"	6'-0"
4	0'-3"	2'-0"	—	—	—	—	0'-3"	2'-9"	4'-0"	6'-0"
5	1'-9"	1'-5"	3'-9"	2'-0"	1'-9"	1'-10"	1'-9"	1'-5"	4'-0"	4'-0"
6	1'-9"	1'-2"	1'-0"	1'-6"	2'-9"	1'-5"	—	—	4'-0"	4'-0"
7	0'-9"	0'-10"	2'-9"	1'-5"	—	—	0'-9"	1'-2"	4'-0"	5'-0"
8	2'-6"	0'-7"	2'-6"	0'-10"	2'-6"	0'-10"	—	—	4'-0"	5'-0"
9	1'-3"	1'-1"	1'-3"	1'-3"	1'-3"	0'-9"	1'-3"	0'-7"	4'-0"	4'-0"
10	*	*	0'-9"	0'-7"	—	—	—	—	4'-0"	4'-0"
11	2'-3"	3'-0"	*	*	1'-3"	2'-6"	0'-9"	2'-2"	7'-6"	8'-0"
20	0'-9"	0'-9"	2'-4"	1'-8"	—	—	1'-3"	1'-0"	4'-0"	4'-0"
21	0'-9"	0'-6"	—	—	0'-9"	0'-6"	—	—	4'-0"	5'-0"
HG-1	0'-9"	1'-0"	1'-9"	2'-9"	0'-9"	1'-5"	0'-9"	1'-7"	4'-0"	4'-0"
HG-2	0'-9"	1'-6"	—	—	1'-0"	1'-6"	—	—	4'-0"	4'-0"
HG-3	0'-9"	1'-6"	1'-6"	0'-10"	0'-9"	0'-6"	—	—	4'-0"	4'-0"
HG-4	—	—	0'-9"	1'-6"	0'-9"	1'-6"	—	—	4'-0"	4'-0"
HG-5	—	—	0'-9"	1'-6"	3'-6"	1'-6"	—	—	4'-0"	4'-0"
PT-1	1'-9"	1'-6"	1'-9"	1'-6"	—	—	—	—	4'-0"	4'-0"
PT-2	1'-9"	1'-6"	1'-9"	1'-6"	—	—	—	—	4'-0"	4'-0"
PD-1	*	*	—	—	0'-3"	3'-3"	0'-3"	2'-1"	7'-6"	6'-0"
PD-2	1'-9"	1'-0"	1'-9"	0'-8"	0'-3"	3'-1"	0'-3"	1'-8"	7'-6"	6'-0"
PD-3	1'-9"	2'-6"	1'-9"	2'-6"	0'-3"	2'-5"	1'-3"	3'-6"	7'-6"	6'-0"
PD-4	—	—	0'-3"	2'-0"	0'-3"	0'-8"	2'-5"	0'-8"	4'-0"	4'-0"
PD-5	2'-0"	1'-9"	0'-3"	1'-9"	—	—	—	—	4'-0"	4'-0"
PD-6	0'-3"	1'-9"	0'-3"	2'-0"	0'-3"	2'-0"	—	—	4'-0"	4'-0"
SB-1	5'-5"	1'-9"	—	—	0'-9"	1'-9"	—	—	6'-0"	4'-0"
SB-2	0'-9"	2'-0"	1'-0"	1'-9"	—	—	0'-9"	1'-9"	4'-0"	4'-0"
SB-3	—	—	0'-9"	2'-0"	0'-9"	2'-0"	—	—	4'-0"	4'-0"
SB-4	0'-9"	2'-0"	1'-3"	2'-0"	0'-9"	1'-6"	0'-9"	2'-0"	4'-0"	4'-0"
SB-5	0'-9	2'-0"	0'-9"	2'-0"	—	—	—	—	4'-0"	4'-0"
SB-6	1'-0"	1'-4"	—	—	0'-9"	1'-4"	1'-9"	1'-6"	4'-0"	4'-0"
SB-7	0'-9"	2'-0"	1'-9"	2'-0"	1'-9"	1'-6"	1'-9"	1'-4"	4'-0"	4'-0"
SB-8	0'-9"	2'-0"	0'-9"	2'-0"	—	—	—	—	4'-0"	4'-0"
SB-9	1'-9"	2'-0"	—	—	1'-9"	1'-7"	1'-9"	1'-9"	4'-0"	4'-0"
SB-10	0'-9"	2'-0"	0'-9"	2'-0"	—	—	—	—	4'-0"	4'-0"
SB-11	—	—	—	—	1'-9"	1'-9"	0'-9"	1'-7"	4'-0"	4'-0"
SB-12	1'-9"	2'-0"	1'-9"	2'-0"	—	—	1'-9"	1'-9"	4'-0"	4'-0"
SB-13	0'-9"	2'-0"	0'-9"	2'-0"	—	—	—	—	4'-0"	4'-0"
HG-6	0'-9"	1'-0"	0'-9"	1'-0"	—	—	—	—	4'-0"	4'-0"





TYPICAL DETAIL OF UNDERGROUND DUCT INSTALLATION

NOT TO SCALE



RECORD DRAWINGS

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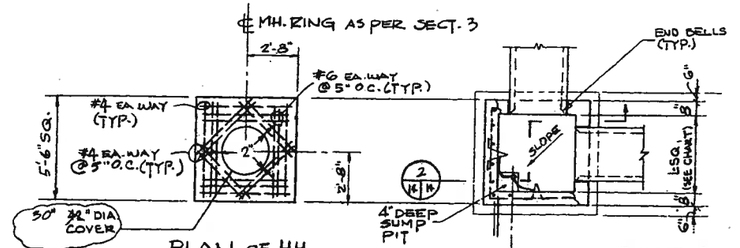
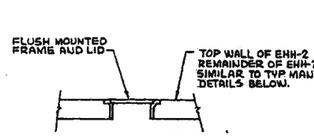
MALCOLM PIRNIE, INC.

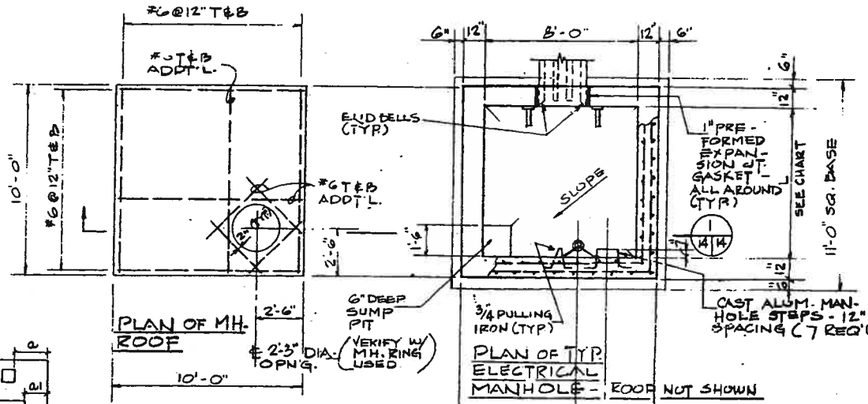
Date 6/88 By MLM

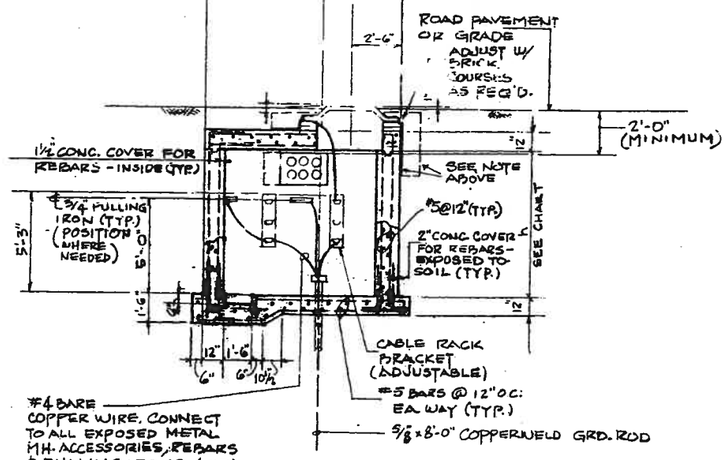




1 / 14 14 EHH-2 - DETAILS

2 / 14 14 ELECT. HANDHOLE





1 / 14 14 SECTION

CURTIS NEAL & ASSOCIATES, INC. CONSULTING ENGINEERS 1250 I.H. 35 SOUTH SAN ANTONIO, TEXAS 78205

Date: NOV. 1983
Designed by: MDK/KW
Drawn by: MDK/KW
Checked by: CEN/CN
Scale: 1/4" = 1'-0"

No.	Revisions	Date	App.

Drawing No. 410N-83.245-0
410N-83.246-0

MALCOLM PIRNIE

SAN ANTONIO WASTEWATER FACILITIES IMPROVEMENTS

CONTRACT NO. 3

DOS RIOS FACILITY
GENERAL
MANHOLE, HANDHOLE AND UNDERGROUND DUCT INSTALLATION DETAILS

Sheet E-14
of E-58

DR 83-65U2

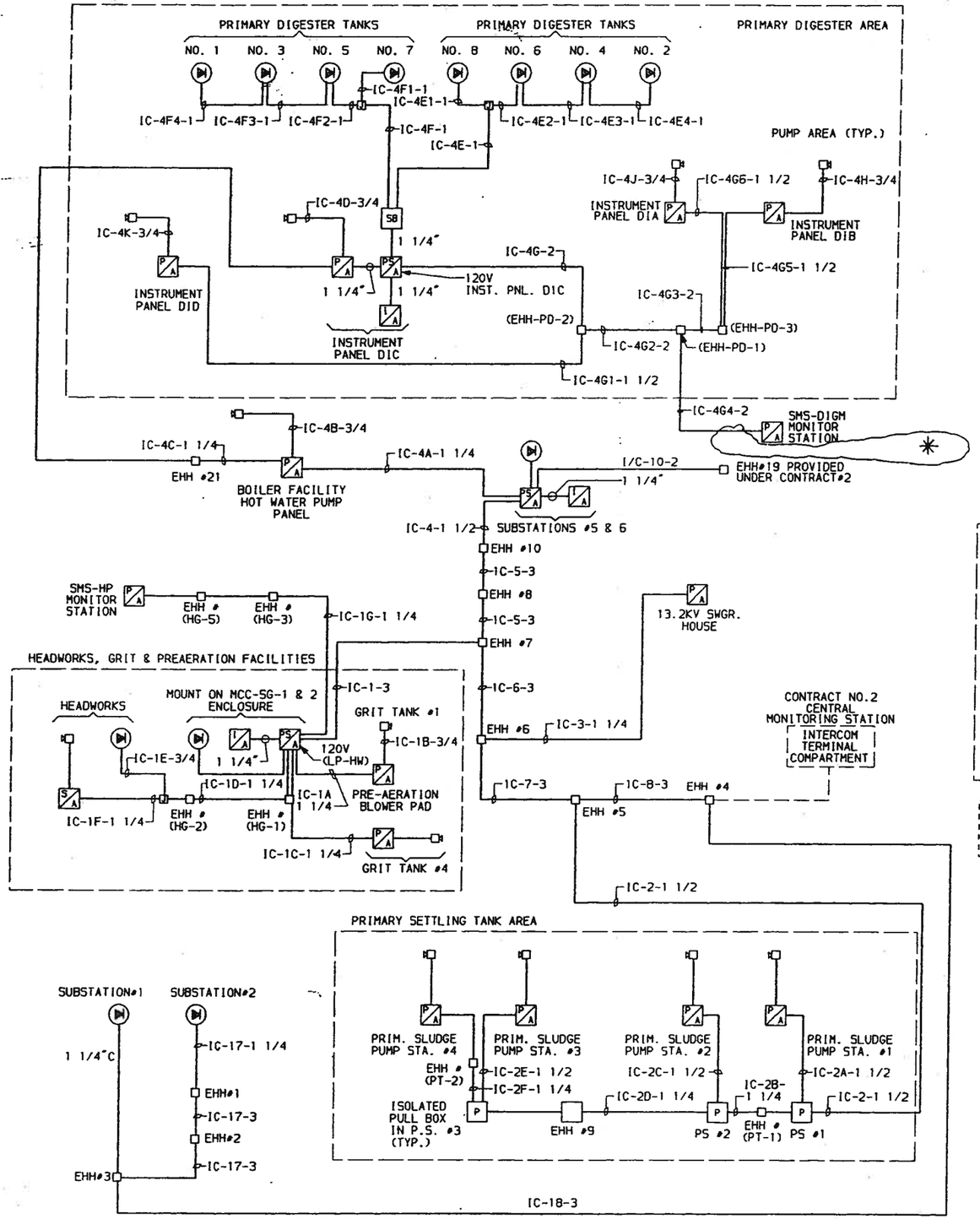
GENERAL NOTES

1. ALL INTERCONNECTION LINES BETWEEN EQUIPMENT REPRESENT CONDUIT ROUTING. FOR CONDUITS TAGGED IC-NUMBER-SIZE REFER TO PLAN DRAWINGS FOR ROUTING. ALL CONDUITS FOR INTERCOM SYSTEM NOT TAGGED IC-NUMBER-SIZE ARE LOCAL CONDUIT REQUIREMENTS OF 3/4" IN SIZE UNLESS NOTED OTHERWISE.

2. ALL INTERCOM EQUIPMENT SHOWN IN PLAN DRAWINGS ARE FOR LOCATIONS ONLY. EQUIPMENT AND CABLES TO BE PROVIDED UNDER CONTRACT NO.2.

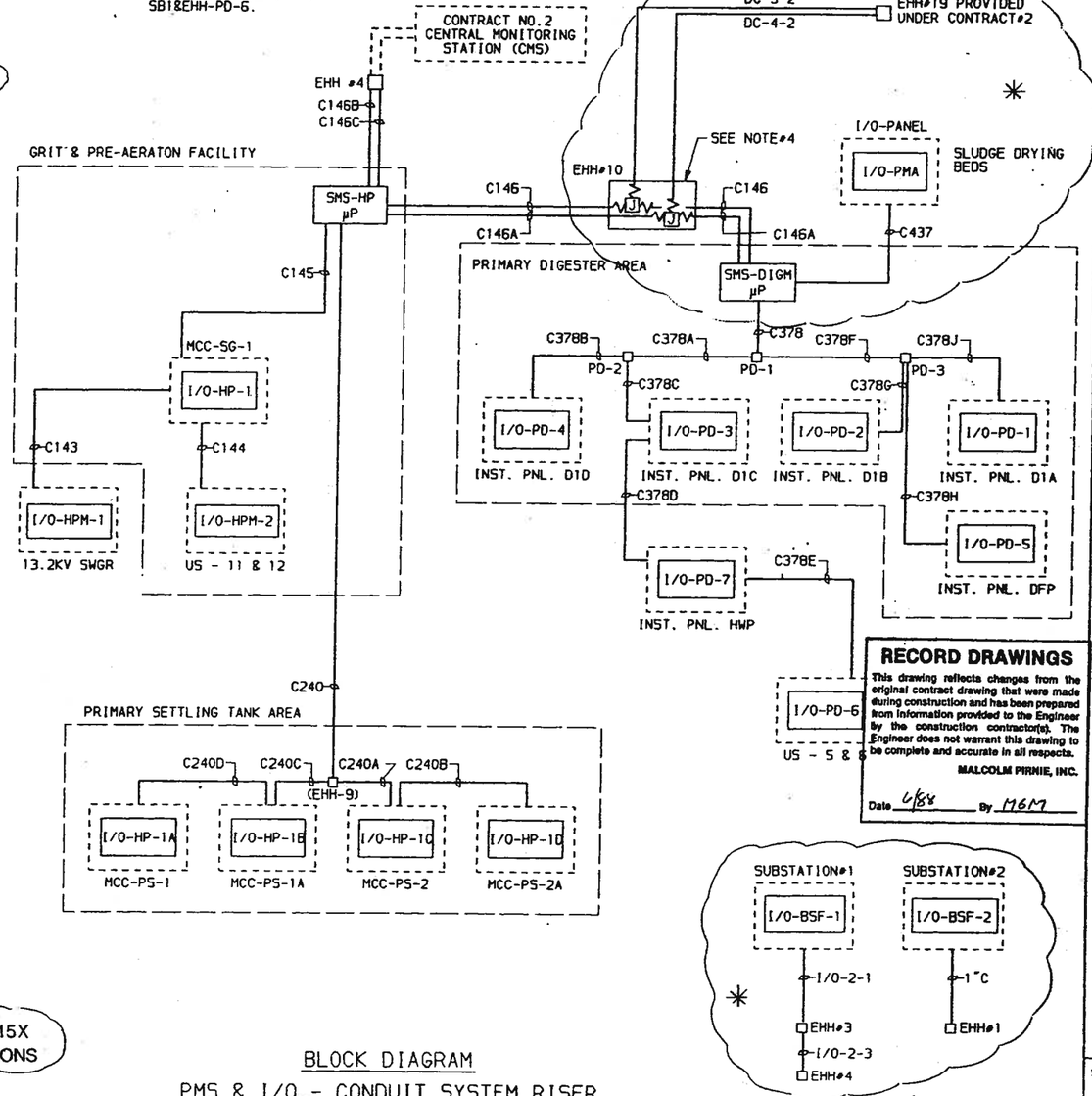
3. PROVIDE FLEXIBLE CONDUIT AND JUNCTION BOX IN ALL ELECTRICAL HANDHOLES FOR THE INTERCOM CONDUIT SYSTEM, SO CABLES WILL BE ISOLATED FROM THE POWER CONDUCTORS.

4. IN ORDER TO ISOLATE PSM&I/O CABLES FROM POWER CONDUCTORS THE FOLLOWING CONDUITS SHALL BE RUN CONTINUOUS THROUGH EACH ELECTRICAL HANDHOLE IDENTIFIED. PROVIDE FLEXIBLE CONDUIT AND JUNCTION BOX WITHIN HANDHOLES.
CABLES FURNISHED AND INSTALLED UNDER CONTRACT#2.
   A. C240 - EHH#8, [PROVIDE &CONNECT CONDUITS 240, 240A AND 240C IN EHH#9]
   B. C378D - EHH#21
   C. C143 - EHH#7, EHH#6
   D. C146B & C146C - EHH#8, EHH#7, EHH#6, EHH#5 [CAP IN EHH#4]
   E. C146 & C146A - EHH#20, EHH#10
   F. I/O-2 -EHH#3
   G. EHH-SB7, SB6, SB4, SB1, SB1&EHH-PD-6.



* REFER TO DRAWING E-15X FOR "AS-BUILT" CONDTIONS

BLOCK DIAGRAM
INTERCOM CONDUIT SYSTEM RISER



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MALCOLM PIRNIE, INC.
Date 6/84 By MBM

BLOCK DIAGRAM
PMS & I/O - CONDUIT SYSTEM RISER

DR 83-6502

Drawing No. 410N-83.249-0

No.	Revisions	Date	App.

MALCOLM PIRNIE

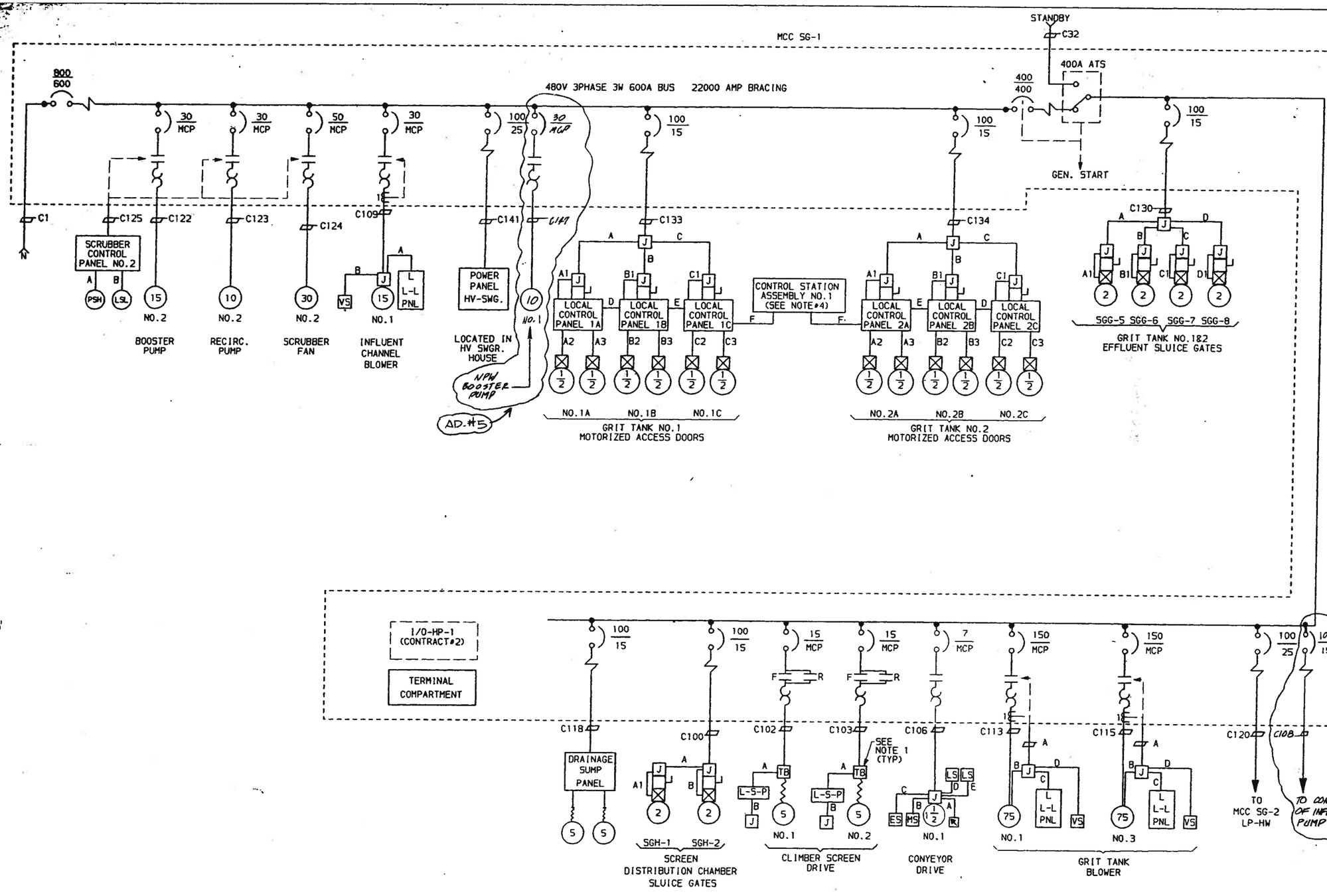
Date: NOV 1983
Designed by: FS
Drawn by: AA
Checked by:
Scale: NO SCALE

STATE OF TEXAS — ROBERT J. BONNER, JR. — 51880 — REGISTERED PROFESSIONAL ENGINEER

Wastewater Facilities Improvements
San Antonio

CONTRACT NO.3
DOS RIOS FACILITY
GENERAL
BLOCK DIAGRAMS, INTERCOM, PMS&I/O

Sheet E-15B
of E-58



RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.

MALCOLM PIRNIE, INC.

Date 6/84 By MGM

NOTES

1 CONTRACTOR SHALL PROVIDE TERMINAL BOX FOR WIRE TO CABLE TERMINATIONS FOR MOTOR CONNECTIONS ONLY. CABLE TO BE SUPPLIED BY SCREEN MANUFACTURER.

2 L-S-P INDICATES LOCAL SCREEN PANEL.

3 L L-L PNL INDICATES LOCAL LOW LOAD PANEL.

4 CONTRACTOR SHALL PROVIDE ONE OPEN-STOP-CLOSE OILTIGHT PUSHBUTTON PER PANEL, SIMILAR TO SPECIAL ASSEMBLY GE#CR2940 WITH NEMA 4 STAINLESS STEEL ENCLOSURE. PROVIDE LOCK-OUT FEATURE ON OPEN BUTTON TO PREVENT OPENING OF DOORS WHEN LOCKED.

DR 83-6502

App. | No. | Revisions | Date

Drawing No. 410N-83.250-0

MALCOLM PIRNIE

Date: NOV 1983
Designed by: FS
Drawn by: FS
Checked by: [illegible]
Scale: NO SCALE

STATE OF TEXAS — ALBERT L. HOWARD JR. — 17446 — REGISTERED PROFESSIONAL ENGINEER

Wastewater Facilities Improvements
San Antonio

CONTRACT NO.3

DOS RIOS FACILITY
SCREEN, GRIT, & PREAERATION FACILITIES
MCC SG-1 ONE-LINE

Sheet F-16 of F-58

MCC SG-1

480V 3PHASE 3W 600A BUS 22000 AMP BRACING

STANDBY C32

400A ATS

400/400

GEN. START

C1 — 600A

C125 — 30 MCP — SCRUBBER CONTROL PANEL NO.2 (A: PSH, B: LSL) — 15 — NO.2 BOOSTER PUMP

C122 — 30 MCP — 15 — NO.2 BOOSTER PUMP

C123 — 30 MCP — 10 — NO.2 RECIRC. PUMP

C124 — 50 MCP — 30 — NO.2 SCRUBBER FAN

C109 — 30 MCP — (B: VS, A: J) 15 — NO.1 INFLUENT CHANNEL BLOWER (L-L-L PNL)

C141 — 100/25 — POWER PANEL HV-SWG. — LOCATED IN HV SWGR. HOUSE

C147 — 30 MCP — 10 — NO.1 H/PV BOOSTER PUMP

C133 — 100/15 — (A, B, C) — LOCAL CONTROL PANEL 1A (A2, A3) — LOCAL CONTROL PANEL 1B (B2, B3) — LOCAL CONTROL PANEL 1C (C2, C3) — NO.1A NO.1B NO.1C — GRIT TANK NO.1 MOTORIZED ACCESS DOORS

CONTROL STATION ASSEMBLY NO.1 (SEE NOTE #4)

C134 — 100/15 — (A, B, C) — LOCAL CONTROL PANEL 2A (A2, A3) — LOCAL CONTROL PANEL 2B (B2, B3) — LOCAL CONTROL PANEL 2C (C2, C3) — NO.2A NO.2B NO.2C — GRIT TANK NO.2 MOTORIZED ACCESS DOORS

C130 — 100/15 — (A, B, C, D) — SGG-5 SGG-6 SGG-7 SGG-8 — GRIT TANK NO.1&2 EFFLUENT SLUICE GATES

I/O-HP-1 (CONTRACT #2)

TERMINAL COMPARTMENT

C118 — 100/15 — DRAINAGE SUMP PANEL — 5 5

C100 — 100/15 — (A, B) — SGH-1 SGH-2 — SCREEN DISTRIBUTION CHAMBER SLUICE GATES

C102 — 15 MCP (F, R) — L-S-P — 5 — NO.1

C103 — 15 MCP (F, R) — L-S-P — 5 — NO.2 — SEE NOTE 1 (TYP) — CLIMBER SCREEN DRIVE

C106 — 7 MCP — (LS, LS) — ES MS — NO.1 — CONVEYOR DRIVE

C113 — 150 MCP — 75 — NO.1

C115 — 150 MCP — 75 — NO.3 — GRIT TANK BLOWER

C120 — 100/25 — TO MCC SG-2 LP-HW

C108 — 100/15 — TO CONTROL PANEL OF INFLUENT SAMPLE PUMP

NOTES

1 CONTRACTOR SHALL PROVIDE TERMINAL BOX FOR SHIELDED CABLE TERMINATIONS FOR MOTOR CONNECTIONS ONLY CABLE TO BE SUPPLIED BY SCREEN MANUFACTURER.

2 L-S-P INDICATES LOCAL SCREEN PANEL.

3 L-L-L PNL INDICATES LOCAL LOW LEVEL PANEL.

4 CONTRACTOR SHALL PROVIDE ONE OPEN-RUN-CLOSE OPERATOR STATION PER PANEL LOCATED TO [illegible]

PROJECT RECORD

Drawing No. 41ON-83.250-0

AS-BUILT Revisions

No.	Date	Revisions	App.
1	5-1-86	AS-BUILT	

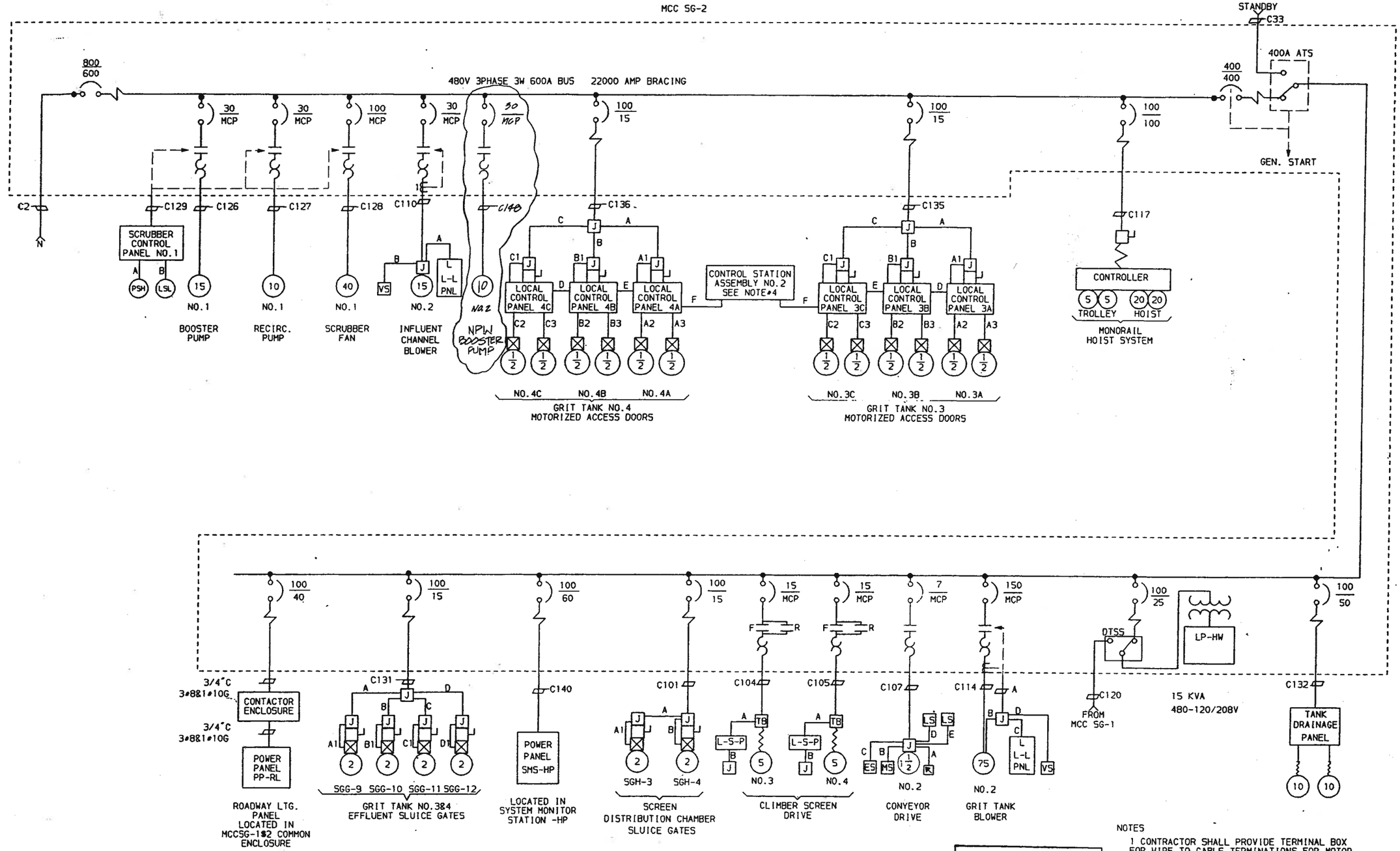
San Antonio Water System — Facilities Improvements

CONTRACT NO.3

DOS RIOS FACILITY
SCREEN, GRIT, & PREAERATION FACILITIES
MCC SG-1 ONE-LINE

Sheet [illegible] of [illegible]

DR 83-6502



NOTES

1 CONTRACTOR SHALL PROVIDE TERMINAL BOX FOR WIRE TO CABLE TERMINATIONS FOR MOTOR CONNECTIONS ONLY. CABLE TO BE SUPPLIED BY SCREEN MANUFACTURER.

2 L-S-P INDICATES LOCAL SCREEN PANEL.

3 L L-L PNL INDICATES LOCAL LOW LOAD PANEL.

4 CONTRACTOR SHALL PROVIDE ONE OPEN-STOP-CLOSE OILTIGHT PUSHBUTTON PER PANEL, SIMILAR TO SPECIAL ASSEMBLY GE#CR2940 WITH NEMA 4 STAINLESS STEEL ENCLOSURE. PROVIDE LOCK-OUT FEATURE ON OPEN BUTTON TO PREVENT OPENING OF DOORS WHEN LOCKED.

RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.

MALCOLM PIRNIE, INC.

Date 6/88 By MHT

DR 83-6502

No.	Revisions	Date	App.

Drawing No. 410N-83.251-0

MALCOLM PIRNIE

Date: NOV 1983
Designed by: FS
Drawn by: FS
Checked by: [illegible]
Scale: NO SCALE

STATE OF TEXAS — ROBERT H. TONNER, JR. — 57416 — REGISTERED PROFESSIONAL ENGINEER

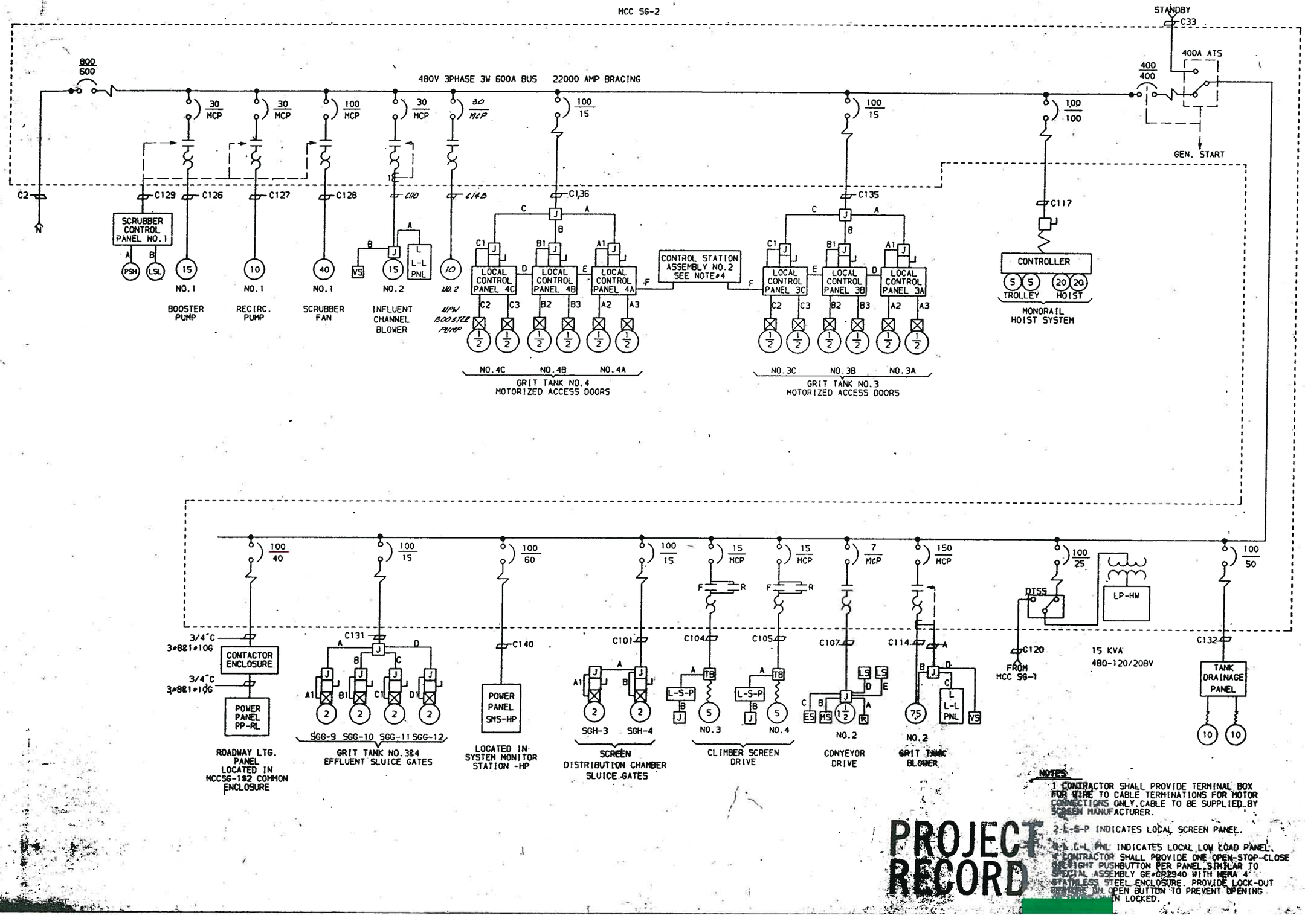
Wastewater Facilities Improvements

San Antonio

CONTRACT NO.3

DOS RIOS FACILITY
SCREEN, GRIT, & PREAERATION FACILITIES
MCC SG-2 ONE-LINE

Sheet E-17
of E-58



NOTES

1 CONTRACTOR SHALL PROVIDE TERMINAL BOX FOR WIRE TO CABLE TERMINATIONS FOR MOTOR CONNECTIONS ONLY. CABLE TO BE SUPPLIED BY SCREEN MANUFACTURER.

2 L-S-P INDICATES LOCAL SCREEN PANEL.

3 L-L PNL INDICATES LOCAL LOW LOAD PANEL.

4 CONTRACTOR SHALL PROVIDE ONE OPEN-STOP-CLOSE OILTIGHT PUSHBUTTON PER PANEL SIMILAR TO SPECIAL ASSEMBLY SE#C82940 WITH NEMA 4 STAINLESS STEEL ENCLOSURE. PROVIDE LOCK-OUT FEATURE ON OPEN BUTTON TO PREVENT OPENING WHEN LOCKED.

PROJECT RECORD

DR 83-6502

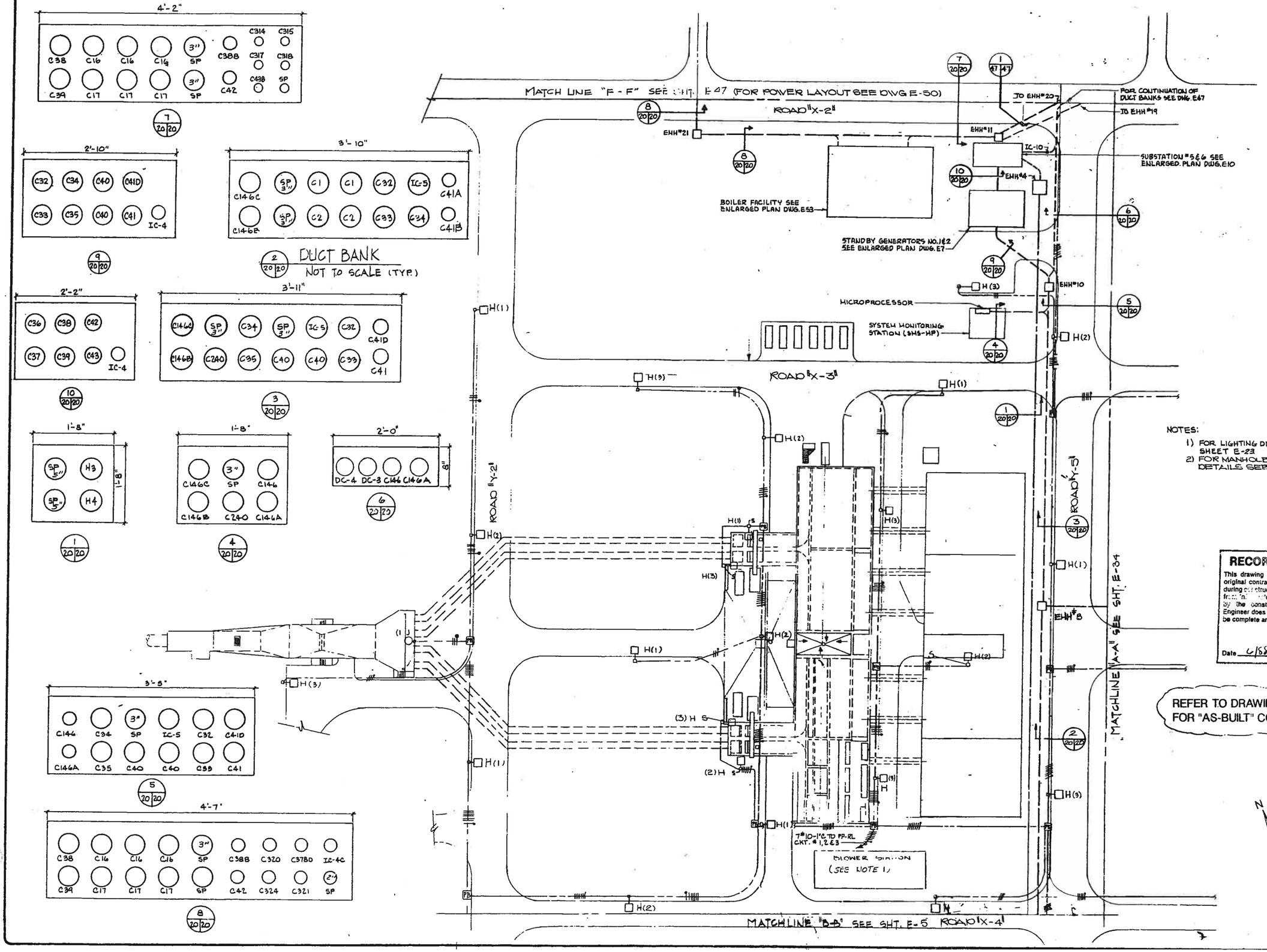
No.	Date	Revisions	App.
1	5-1-86	AF-Addl	

Drawing No. 41ON-83.251-0

Westinghouse Water Facilities Improvements San Antonio

CONTRACT NO.3
DOS RIOS FACILITY
SCREEN, GRIT, & PREAERATION FACILITIES
MCC SG-2 ONE-LINE

Sheet E-17 of E-58



Drawing No. 410N-83.254-0

App. | Revisions | Date | No.

MALCOLM PIRNIE

CNA CURTIS NEAL & ASSOCIATES, INC. CONSULTING ENGINEERS 1107 E. COMMERCE SAN ANTONIO, TEXAS 78205

Date: NOV. 1983
Designed by: MACHAVIAK
Drawn by: KARLSON
Checked by: G.E. HOX
Scale: 1" = 30'

STATE OF TEXAS — GEORGE E. HOX — 57744 — LICENSED PROFESSIONAL ENGINEER

ROBERT BONNER — 57744 — REGISTERED PROFESSIONAL ENGINEER

WASTEWATER FACILITIES IMPROVEMENTS

SAN ANTONIO

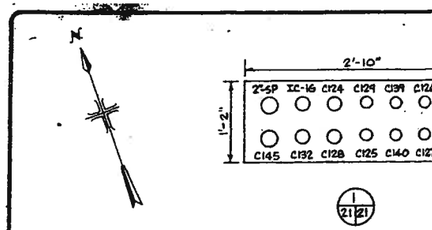
CONTRACT NO. 3

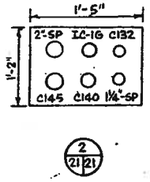
DOS RIOS FACILITY

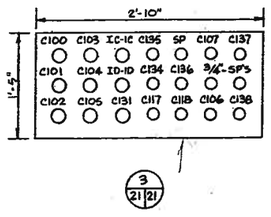
SCREEN, GRIT, & PREARATION FACILITIES
POWER DISTRIBUTION & AREA LIGHTING

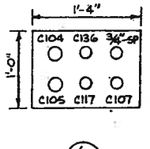
Sheet E-20
of E-58

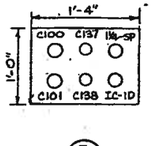
UK 83-0304

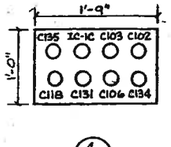


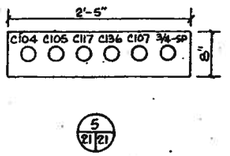


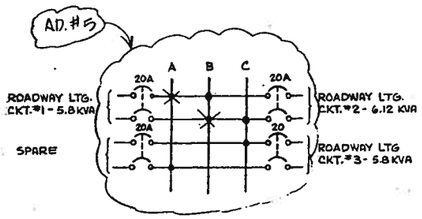


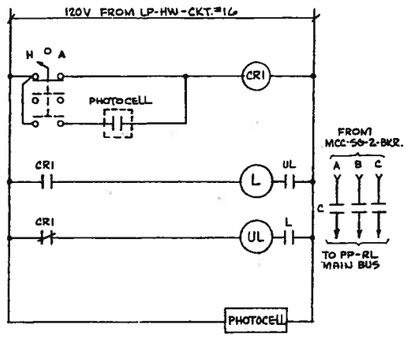




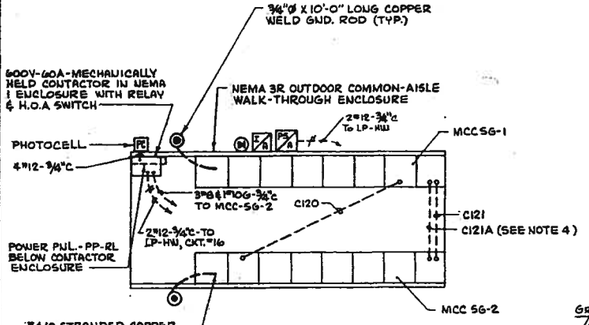




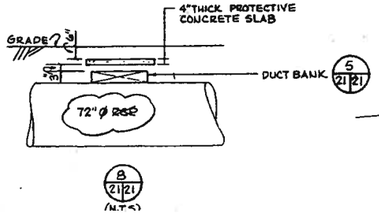


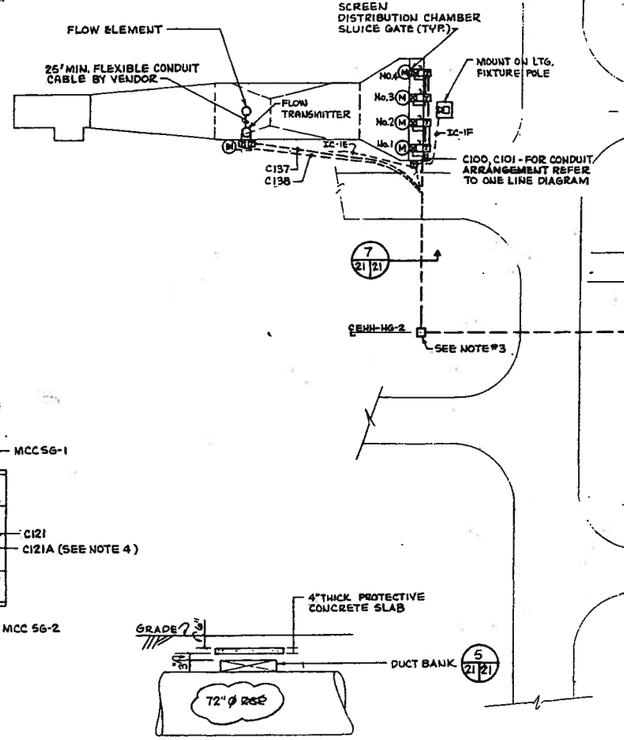


ROADWAY LTG.-CONTACTOR CONTROL



ENLARGED PLAN
MCC SG-1&2
SCALE: 1/4" = 1'-0"





1) ALL CONDUIT RUNS IN GRADE SHALL BE RIGID STEEL CONCRETE ENCASED. UNLESS NOTED OTHERWISE. RUNS SHALL BE APPROXIMATELY 2'-0" BELOW GRADE.

2) FOR CONTINUATION OF CONDUITS TO GRIT TANKS AND FOR GRIT TANK TYPICAL ARRANGEMENT REFER TO DWG. E22.

3) CONTRACTOR SHALL PROVIDE PULL BOX AND CONDUIT WITHIN HANDHOLE FOR CONDUIT C138, SO THAT SIGNAL CABLES WILL BE ISOLATED FROM ALL POWER CONDUCTORS.

4) CONTRACTOR SHALL COIL & TAG WIRES IN C121A AT MCC SG-1. PROVIDE SUFFICIENT SLACK FOR FUTURE TERMINATIONS AT I/O-HP-1.

5) CONTRACTOR SHALL PROVIDE PULL BOX AND CONDUIT WITHIN HANDHOLE FOR CONDUIT C145, SO THAT FUTURE I/O-CABLES WILL BE ISOLATED FROM ALL POWER CONDUCTORS.

6) DIMENSIONS OF DUCT BANKS ARE ROUNDED TO THE NEAREST INCH, RUN APPROX. 2'-0" BELOW GRADE UNLESS OTHERWISE NOTED.

REFER TO DRAWINGS E-21X AND E-27X FOR "AS-BUILT" CONDITION AND SKETCH

RECORD DRAWINGS

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MALCOLM PIRNIE, INC.

Date 6/84 By MGM

Drawing No. 410N-83.255-0

No. | Date | Revisions | App.

MALCOLM PIRNIE

Date: NOV 1983
Designed by: FS
Drawn by: FS
Checked by: [illegible]
Scale: 1"= 30'-0"

WASTEWATER FACILITIES IMPROVEMENTS

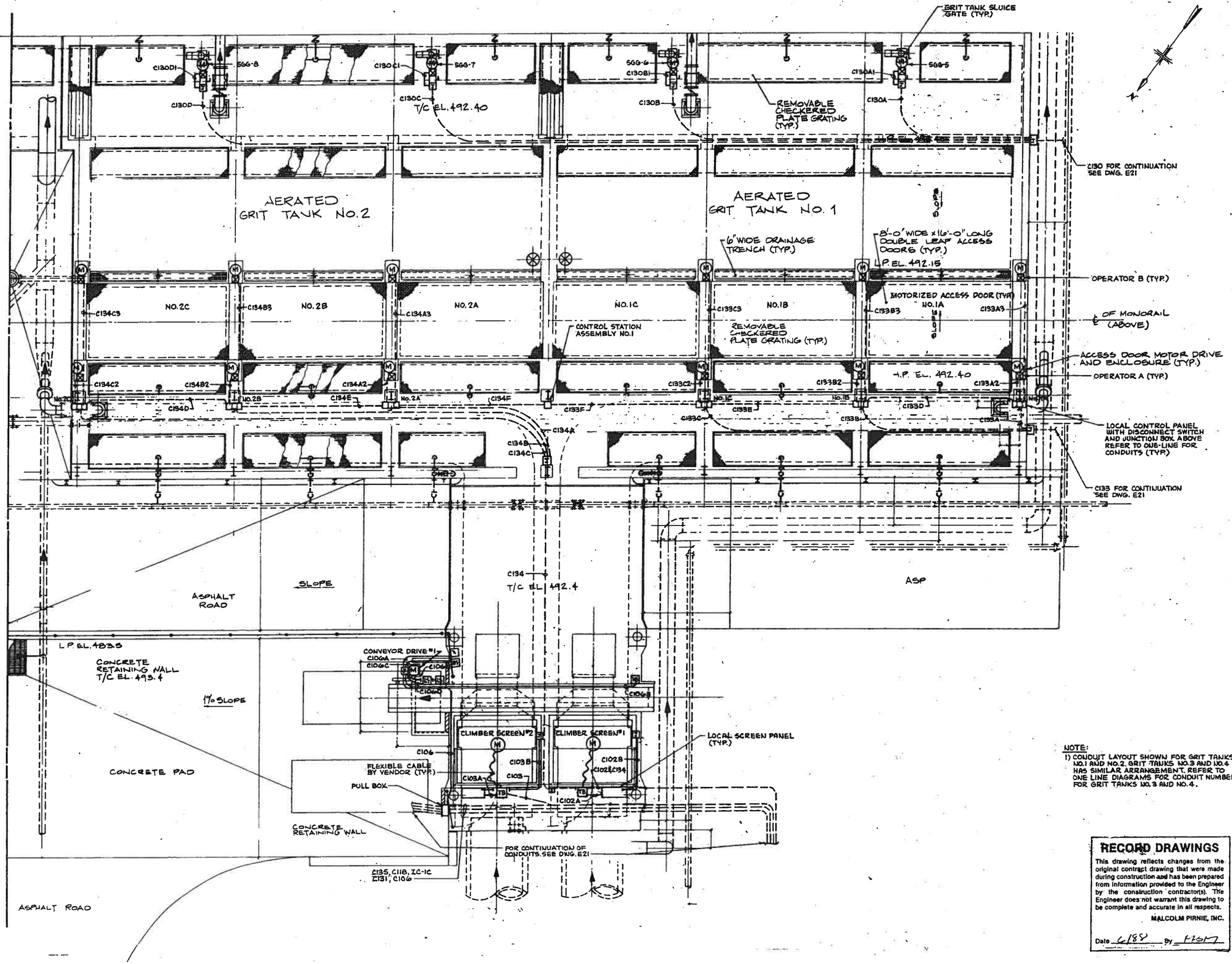
SAN ANTONIO

CONTRACT NO. 3

DOS RIOS FACILITY
SCREEN, GRIT, & PREARATION FACILITIES
HEADWORKS SCREEN & GRIT, & PREAERATION
POWER LAYOUT

Sheet E-21
of E-58

DR 83-6502



NOTE:
1) CONDUIT LAYOUT SHOWN FOR GRIT TANKS NO.1 AND NO.2. GRIT TANKS NO.3 AND NO.4 HAS SIMILAR ARRANGEMENT. REFER TO ONE LINE DIAGRAMS FOR CONDUIT NUMBERS FOR GRIT TANKS NO.3 AND NO.4.

RECORD DRAWINGS

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MALCOLM PIRNIE, INC.

Date 6/88 By MSM

DR 83-6502

Drawing No. 41ON-83.256-0

App. | No. | Date | Revisions

MALCOLM PIRNIE

Date: NOV /983
Designed by FS
Drawn by FS
Checked by
Scale 3/16" = 1'-0"

WASTEWATER FACILITIES IMPROVEMENTS

SAN ANTONIO

CONTRACT NO.3

DOS RIOS FACILITY
SCREEN, GRIT, & PREARATION FACILITIES
TYPICAL PLAN SCREEN & GRIT FACILITIES
POWER LAYOUT

Sheet E-22
of E-58

78" DRSR TO DISTRIBUTION CHAMBER OF PRIMARY SETTING TANK (TYP.)

TANK DRAINAGE PUMP STATION

NO. 4

NO. 3

NO. 2

PREAERATION TANK NO. 1

℄ OF DIVIDING WALL

ODOR CONTROL STATION

℄ OF DIVIDING WALL

54" DRSR (TYP.)

4" 2" 2" 4" 4" 2" 2" 4" 2" 4" BLOWER STATION

LIGHTING FIXTURES UNDER ROOF - SUSPEND FROM ROOF FRAMING

ROOF FRAMING

PROVIDE STEEL CHANNEL ACROSS FRAMING FOR FIXTURE SUPPORT.

20'0" N15

BOLLARDS

5#10-1½ TO LP-HN CKT. # (T&ST. 5

5#10-1½ TO LP-HN CKT. # (2&4)

CONC. PAD

AD #1 STEEL POST @ 10'-0" O.C.

GRIT CONTAINER

STAIRWAY

NO. 4

NO. 3

NO. 2

GRIT TANK NO. 1

BRACKET MOUNT ON MONORAIL SUPPORT AS REQ'D 14'-0" ABOVE TANK. "WP" RECEPTACLE 4'-0" ABOVE TANK. (TYP.)

℄ OF MONORAIL

5#10-3/4"c (TYP.)

ROADWAY

CONC. APRON (TYP.)

ROADWAY

72" DRSR FROM PARSHALL FLUME (TYP.)

ROAD

N

RECORD DRAWINGS

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MALCOLM PIRNIE, INC.

Date 6/84 By MGM

No.	Date	Revisions	App.

Drawing No. 41ON-83.257-0

MALCOLM PIRNIE

CMA CURTIS NEAL & ASSOCIATES, INC. CONSULTING ENGINEERS 1107 E. COMMERCE SAN ANTONIO, TEXAS 78205

Date: NOV 1983
Designed by: K.W.
Drawn by: A. MOSES
Checked by: C.E. NEAL
Scale 1/32"=1'-0"

STATE OF TEXAS CURTIS E. NEAL 47446 REGISTERED PROFESSIONAL ENGINEER

STATE OF TEXAS ROBERT M. KNOX 47446 REGISTERED PROFESSIONAL ENGINEER

WASTEWATER FACILITIES IMPROVEMENTS

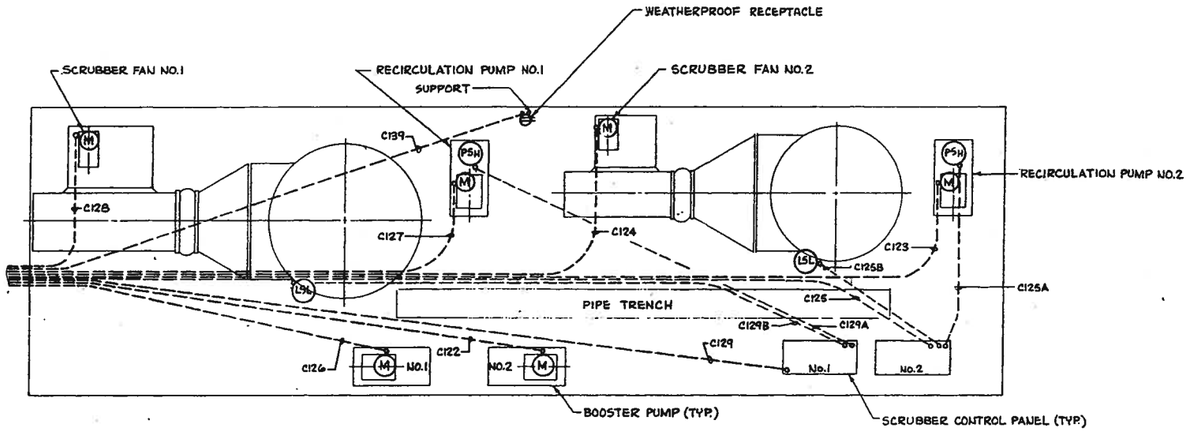
SAN ANTONIO

CONTRACT NO. 3

DOS RIOS FACILITY
PRIMARY SETTLING TANKS
GRIT TANKS & BLOWER STATION - LIGHTING PLAN

Sheet E-23
of E-58

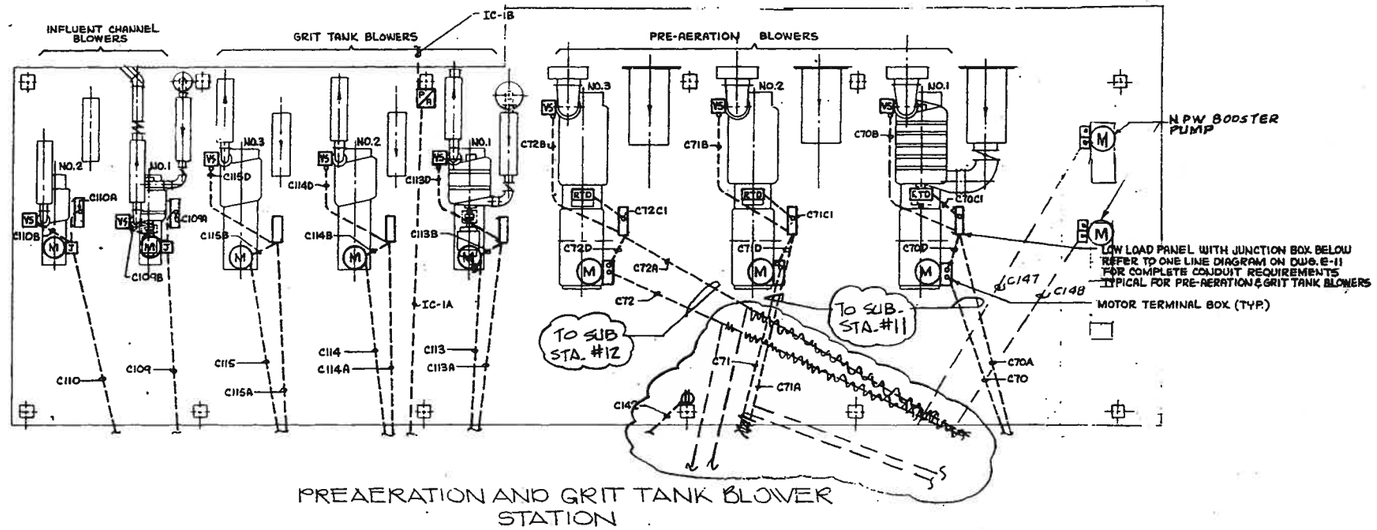
DR 83-6502



ODOR CONTROL SYSTEM

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

NOTE: FOR CONTINUATION OF CONDUITS SEE DWG. E21



PREAERATION AND GRIT TANK BLOWER STATION

SCALE: 3/16"=1'-0"

NOTE: FOR CONTINUATION OF CONDUITS SEE DWG. E21

RECORD DRAWINGS

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MALCOLM PIRNIE, INC.

Date 6/88 By MGM

Drawing No. 410N-83.258-0

MALCOLM PIRNIE

Rev. Nos. | Date

NOV 1983
Designed by FS
Drawn by FS
Checked by
Traced by AS NOTED

Wastewater Facilities Improvements

San Antonio

CONTRACT NO. 3

DOS RIOS FACILITY
SCREEN, GRIT, & PREAERATION FACILITIES
BLOWER & ODOR CONTROL INSTALLATIONS-
POWER LAYOUT

Sheet E-24
of E-58

DR 83-6502

CONDUIT NO.	CONDUIT SIZE IN.	CABLE QTY.	CABLE SIZE	FROM	VIA	TO	PURPOSE	REMARKS
C100	1-1/4	4	12	MCC-SG-1	JB & DISC	OPERATOR SGH-2	POWER & GND	
		20	14	MCC-SG-1		JUNCTION BOX	CONTROL & IND	
		4	14	MCC-SG-1		JUNCTION BOX	INTERLOCKS	CLIMBER SCREEN
C100A	1	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGH-1	POWER & GND	
		10	14	JUNCTION BOX		JUNCTION BOX	CONTROL & IND	
		2	14	JUNCTION BOX		JUNCTION BOX	INTERLOCKS	CLIMBER SCREEN
C100A1	3/4	12	14	JUNCTION BOX		OPERATOR SGH-1	CONT, IND & INT	
C100B	3/4	12	14	JUNCTION BOX		OPERATOR SGH-2		
C101	1-1/4	4	12	MCC-SG-2	JB & DISC	OPERATOR SGH-4	POWER & GND	
		20	14	MCC-SG-2		JUNCTION BOX	CONTROL & IND	
		4	14	MCC-SG-2		JUNCTION BOX	INTERLOCKS	CLIMBER SCREEN
C101A	1	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGH-3	POWER & GND	
		10	14	JUNCTION BOX		JUNCTION BOX	CONTROL & IND	
		2	14	JUNCTION BOX		JUNCTION BOX	INTERLOCKS	CLIMBER SCREEN
C101A1	3/4	12	14	JUNCTION BOX		OPERATOR SGH-3	CONT, IND & INT	
C101B	3/4	12	14	JUNCTION BOX		OPERATOR SGH-4		
C102	1-1/4	4	12	MCC-SG-1		TERMINAL BOX	POWER & GND	
		20	14	MCC-SG-1		TERMINAL BOX	CONTROL & IND	SPACE HEATER
		3	10	MCC-SG-1		TERMINAL BOX	120 V PWR & GND	LP-HW, VIA C121
C102A	1	18	14	TERMINAL BOX		LOCAL SCREEN PANEL	CONTROL & IND	
		3	10	TERMINAL BOX		LOCAL SCREEN PANEL	120 V PWR & GND	
C102B	3/4	8	14	LOCAL SCREEN PNL		SCREEN MTD JB	CONTROL	LIMIT SWITCHES
C103	1-1/4	4	12	MCC-SG-1		TERMINAL BOX	POWER & GND	
		20	14	MCC-SG-1		TERMINAL BOX	CONTROL & IND	SPACE HEATER
		3	10	MCC-SG-1		TERMINAL BOX	120 V PWR & GND	LP-HW, VIA C121
C103A	1	18	14	TERMINAL BOX		LOCAL SCREEN PANEL	CONTROL & IND	
		3	10	TERMINAL BOX		LOCAL SCREEN PANEL	120 V PWR & GND	
C103B	3/4	8	14	LOCAL SCREEN PNL		SCREEN MTD JB	CONTROL	LIMIT SWITCHES
C104	1-1/4	4	12	MCC-SG-2		TERMINAL BOX	POWER & GND	
		20	14	MCC-SG-2		TERMINAL BOX	CONTROL & IND	SPACE HEATER
		3	8	MCC-SG-2		TERMINAL BOX	120 V PWR & GND	FROM LP-HW
C104A	1-1/4	18	14	TERMINAL BOX		LOCAL SCREEN PANEL	CONTROL & IND	
		3	8	TERMINAL BOX		LOCAL SCREEN PANEL	120 V PWR & GND	
C104B	3/4	8	14	LOCAL SCREEN PNL		SCREEN MTD JB	CONTROL	LIMIT SWITCHES
C105	1-1/4	4	12	MCC-SG-2		TERMINAL BOX	POWER & GND	
		20	14	MCC-SG-2		TERMINAL BOX	CONTROL & INC	SPACE HEATER
		3	8	MCC-SG-2		TERMINAL BOX	120 V PWR & GND	FROM LP-HW
C105A	1-1/4	18	14	TERMINAL BOX		LOCAL SCREEN PANEL	CONTROL & IND	
		3	8	TERMINAL BOX		LOCAL SCREEN PANEL	120 V PWR & GND	
C105B	3/4	8	14	LOCAL SCREEN PNL		SCREEN MTD JB	CONTROL	LIMIT SWITCHES
C106	3/4	4	12	MCC-SG-1	JUNCTION BOX	CONVEYOR DRIVE 1	POWER & GND	
		8	14	MCC-SG-1		JUNCTION BOX	CONTROL & IND	
C106A	3/4	3	14	JUNCTION BOX		CONTROL STATION	CONTROL	
C106B	3/4	3	14	JUNCTION BOX		MOTION SWITCH	CONTROL	
C106C	3/4	2	14	JUNCTION BOX		PULL-CORD-STOP	CONTROL	
C106D	3/4	2	14	JUNCTION BOX		GUARD LIMIT SW	CONTROL	
C106E	3/4	2	14	JUNCTION BOX		BELT LIMIT SW	CONTROL	
C107	3/4	4	12	MCC-SG-2	JUNCTION BOX	CONVEYOR DRIVE 2	POWER & GND	
		8	14	MCC-SG-2		JUNCTION BOX	CONTROL & IND	
C107A	3/4	3	14	JUNCTION BOX		CONTROL STATION	CONTROL	
C107B	3/4	3	14	JUNCTION BOX		MOTION SWITCH	CONTROL	
C107C	3/4	2	14	JUNCTION BOX		PULL-CORD-STOP	CONTROL	
C107D	3/4	2	14	JUNCTION BOX		GUARD LIMIT SW	CONTROL	
C107E	3/4	2	14	JUNCTION BOX		BELT LIMIT SW	CONTROL	
C109	1-1/4	4	10	MCC-SG-1	JUNCTION BOX	INF BLOWER MOTOR 1	POWER & GND	
		12	14	MCC-SG-1		JUNCTION BOX	CONTROL	SPACE HEATER 2G ACTIVE & 2SP.
C109A	3/4	30	14	JUNCTION BOX MCC-SG-1		LOCAL LOW-LOAD PANEL	CONTROL	
C109B	3/4	3	14	JUNCTION BOX LOCAL CNTL. PNL		VIBRATION SWITCH	CONTROL	
C110	1	4	10	MCC-SG-2	JUNCTION BOX	INFL BLOWER MOTOR 2	POWER & GND	
		12	14	MCC-SG-2		JUNCTION BOX	CONTROL	SPACE HEATER 2G ACTIVE & 4SP.
C110A	3/4	30	14	JUNCTION BOX MCC-SG-2		LOCAL LOW-LOAD PANEL	CONTROL	
C110B	3/4	3	14	JUNCTION BOX LOCAL CNTL. PNL.		VIBRATION SWITCH	CONTROL	
C113	1-1/2	3	1/0	MCC-SG-1		GRIT BLOWER MOTOR 1	POWER	
		1	6	MCC-SG-1		GRIT BLOWER MOTOR 1	GND	
C113A	3/4	30	14	MCC-SG-1		JUNCTION BOX	CONTROL	2B ACTIVE & 2 SP. SP HEAT&OVTEMP 3G ACTIVE & 2 SP.
C113B	3/4	4	14	JUNCTION BOX		MOTOR	CONTROL	
C113C	3/4	38	14	JUNCTION BOX		LOCAL LOW-LOAD PANEL	CONTROL	
C113D	3/4	3	14	JUNCTION BOX		VIBRATION SWITCH	CONTROL	
C114	1-1/2	3	1/0	MCC-SG-2		GRIT BLOWER MOTOR 2	POWER	
		1	6	MCC-SG-2		GRIT BLOWER MOTOR 2	GND	
C114A	3/4	30	14	MCC-SG-2		JUNCTION BOX	CONTROL	2B ACTIVE & 2 SP. SP HEAT&OVTEMP 3G ACTIVE & 2 SP.
C114B	3/4	4	14	JUNCTION BOX		MOTOR	CONTROL	
C114C	3/4	38	14	JUNCTION BOX		LOCAL LOW-LOAD PANEL	CONTROL	
C114D	3/4	3	14	JUNCTION BOX		VIBRATION SWITCH	CONTROL	
C115	1-1/2	3	1/0	MCC-SG-1		GRIT BLOWER MOTOR 3	POWER	

CONDUIT NO.	CONDUIT SIZE IN.	CABLE QTY.	CABLE SIZE	FROM	VIA	TO	PURPOSE	2B ACTIVE & 2 SP. 3G ACTIVE & 2 SP. REMARKS
		1	6	MCC-SG-1		GRIT BLOWER MOTOR 3	GND	
C115A	3/4	30	14	MCC-SG-1		JUNCTION BOX	CONTROL	
C115B	3/4	4	14	JUNCTION BOX		MOTOR	CONTROL	SP HEAT&OVTEMP
C115C	3/4	38	14	JUNCTION BOX		LOCAL LOW-LOAD PANEL	CONTROL	
C115D	3/4	3	14	JUNCTION BOX		VIBRATION SWITCH	CONTROL	
C117	1	3	4	MCC-SG-2		MONORAIL DISCONNECT SW	POWER	
		1	8	MCC-SG-2		MONORAIL DISCONNECT SW	GND	
C118	1	4	12	MCC-SG-1		DRAINAGE SUMP PANEL	POWER & GND	
		12	14	MCC-SG-1		DRAINAGE SUMP PANEL	IND	
C120	3/4	3	10	MCC-SG01	DTSS	MCC-SG-2	LP-HW-PWR	FOR PNLS-C10283
C121	1-1/4	6	10	MCC-SG-2 (LP-HW)		MCC-SG-1	120V PWR & GND	FOR LCL PNLS VIA C10283
		12	12	MCC-SG-2		MCC-SG-1	GEN START & CONT	
C121A	2-1/2	100	14	MCC-SG-2		MCC-SG-1	STATUS	TO PC-HP-1
C122	3/4	3	10	MCC-SG-1		BOOSTER PUMP #2 MOTOR	POWER	
		1	12	MCC-SG-1		BOOSTER PUMP #2 MOTOR	GND	
		2	14	MCC-SG-1		BOOSTER PUMP #2 MOTOR	CONTROL	SPACE HEATER
C123	3/4	3	10	MCC-SG-1		RECIRC PUMP #2 MOTOR	POWER	
		1	12	MCC-SG-1		RECIRC PUMP #2 MOTOR	GND	
		2	14	MCC-SG-1		RECIRC PUMP #2 MOTOR	CONTROL	SPACE HEATER
C124	1-1/4	3	6	MCC-SG-1		SCRUBBER FAN #2 MOTOR	POWER	
		1	8	MCC-SG-1		SCRUBBER FAN #2 MOTOR	GND	
		4	14	MCC-SG-1		SCRUBBER FAN #2 MOTOR	CONTROL	SP HEAT&OVTEMP
C125	1	22	14	MCC-SG-1		SCRUBBER CONT PANEL #2	CONTROL & GND	1 #14 FOR GND
C125A	3/4	2	14	SCR CONT PNL #2		PRESSURE SWITCH	CONTROL	
C125B	3/4	2	14	SCR CONT PNL #2		LEVEL SWITCH	CONTROL	
C126	3/4	3	10	MCC-SG-2		BOOSTER PUMP #1 MOTOR	POWER	
		1	12	MCC-SG-2		BOOSTER PUMP #1 MOTOR	GND	
		2	14	MCC-SG-2		BOOSTER PUMP #1 MOTOR	CONTROL	SPACE HEATER
C127	3/4	3	10	MCC-SG-2		RECIRC PUMP #1 MOTOR	POWER	
		1	12	MCC-SG-2		RECIRC PUMP #1 MOTOR	GND	
		2	14	MCC-SG-2		RECIRC PUMP #1 MOTOR	CONTROL	SPACE HEATER
C128	1-1/4	3	4	MCC-SG-2		SCRUBBER FAN #1 MOTOR	POWER	
		1	8	MCC-SG-2		SCRUBBER FAN #1 MOTOR	GND	
		4	14	MCC-SG-2		SCRUBBER FAN #1 MOTOR	CONTROL	SP HEAT&OVTEMP
C129	1	22	14	MCC-SG-2		SCRUBBER CONT PANEL #1	CONTROL & NGD	1 #14 FOR GND
C129A	3/4	2	14	SCR CONT PNL #1		PRESSURE SWITCH	CONTROL	
C129B	3/4	2	14	SCR CONT PNL #1		LEVEL SWITCH	CONTROL	
C130	1-1/4	4	12	MCC-SG-1		JUNCTION BOX	POWER & GND	
		24	14	MCC-SG-1		JUNCTION BOX	INDICATION	
C130A	3/4	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGG-5	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	INDICATION	
C130A1	3/4	6	14	JUNCTION BOX		OPERATOR SGG-5	INDICATION	
C130B	3/4	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGG-6	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	INDICATION	
C130B1	3/4	6	14	JUNCTION BOX		OPERATOR SGG-6	INDICATION	
C130C	3/4	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGG-7	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	INDICATION	
C130C1	3/4	6	14	JUNCTION BOX		OPERATOR SGG-7	INDICATION	
C130D	3/4	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGG-8	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	INDICATION	
C130D1	3/4	6	14	JUNCTION BOX		OPERATOR SGG-8	INDICATION	
C131	1-1/4	4	12	MCC-SG-2		JUNCTION BOX	POWER & GND	
		24	14	MCC-SG-2		JUNCTION BOX	INDICATION	
C131A	3/4	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGG-9	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	INDICATION	
C131A1	3/4	6	14	JUNCTION BOX		OPERATOR SGG-9	INDICATION	
C131B	3/4	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGG-10	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	INDICATION	
C131B1	3/4	6	14	JUNCTION BOX		OPERATOR SGG-10	INDICATION	
C131C	3/4	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGG-11	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	INDICATION	
C131C1	3/4	6	14	JUNCTION BOX		OPERATOR SGG-11	INDICATION	
C131D	3/4	4	12	JUNCTION BOX	JB & DISC	OPERATOR SGG-12	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	INDICATION	
C131D1	3/4	6	14	JUNCTION BOX		OPERATOR SGG-12	INDICATION	
C132	1-1/4	4	8	MCC-SG-2		TANK DRAINAGE PANEL	POWER & GND	
		12	14	MCC-SG-2		TANK DRAINAGE PANEL	INDICATION	
C133	1	4	12	MCC-SG-1		JUNCTION BOX	POWER & GND	
		18	14	MCC-SG-1		JUNCTION BOX	INDICATION	
C133A	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 1A	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	INDICATION	
C133A1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 1A	INDICATION	
C133A2	3/4	3	12	LOCAL PANEL #1A		OPERATOR A	POWER	
		6	14	LOCAL PANEL #1A		OPERATOR A	CONTROL	LIMIT SW

RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.

MALCOLM PIRNIE, INC.

Date 6/88 By MEH

DR 83-6502

Drawing No. 41ON-83.259-0

No. | Date | Revisions | App.

MALCOLM PIRNIE

Date: NOV 1983
Designed by: FS
Drawn by: MEH
Checked by: [illegible]
Scale: NO SCALE

STATE OF TEXAS ROBERT E. HOWELL JR. 57746 REGISTERED PROFESSIONAL ENGINEER

Water Works Facilities Improvements

San Antonio

CONTRACT NO. 3

DOS RIOS FACILITY
SCREEN, GRIT & PREAERATION FACILITIES
CONDUIT & CABLE SCHEDULE

Sheet E-25
of E-58

CONDUIT NO.	CONDUIT SIZE IN.	CABLE QTY.	CABLE SIZE	FROM	VIA	TO	PURPOSE	REMARKS
C133A3	3/4	3	12	LOCAL PANEL #1A		OPERATOR B	POWER	
		6	14	LOCAL PANEL #1A		OPERATOR B	CONTROL	LIMIT SW
C133B	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 1B	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C133B1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 1B	IND	
C133B2	3/4	3	12	LOCAL PANEL #1B		OPERATOR A	POWER	
		6	14	LOCAL PANEL #1B		OPERATOR A	CONTROL	LIMIT SW
C133B3	3/4	3	12	LOCAL PANEL #1B		OPERATOR B	POWER	
		6	14	LOCAL PANEL #1B		OPERATOR B	CONTROL	LIMIT SW
C133C	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 1C	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C133C1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 1C	IND	
C133C2	3/4	3	12	LOCAL PANEL #1C		OPERATOR A	POWER	
		6	14	LOCAL PANEL #1C		OPERATOR A	CONTROL	LIMIT SW
C133C3	3/4	3	12	LOCAL PANEL #1C		OPERATOR B	POWER	
		6	14	LOCAL PANEL #1C		OPERATOR B	CONTROL	LIMIT SW
C133D	3/4	6	14	LOCAL PANEL #1A		LOCAL PANEL 1B	CONTROL	
C133E	3/4	12	14	LOCAL PANEL #1B		LOCAL PANEL 1C	CONTROL	
C133F	1	18	14	LOCAL PANEL #1C		CONTROL STA ASSEMBLY #1		
C134	1	4	12	MCC-SG-1		JUNCTION BOX	POWER & GND	
		18	14	MCC-SG-1		JUNCTION BOX	INDICATION	
C134A	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 2A	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C134A1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 2A	IND	
C134A2	3/4	3	12	LOCAL PANEL 2A		OPERATOR A	POWER	
		6	14	LOCAL PANEL 2A		OPERATOR A	CONTROL	LIMIT SW
C134A3	3/4	3	12	LOCAL PANEL 2A		OPERATOR B	POWER	
		6	14	LOCAL PANEL 2A		OPERATOR B	CONTROL	LIMIT SW
C134B	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 2B	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C134B1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 2B	IND	
C134B2	3/4	3	12	LOCAL PANEL 2B		OPERATOR A	POWER	
		6	14	LOCAL PANEL 2B		OPERATOR A	CONTROL	LIMIT SW
C134B3	3/4	3	(X12)	LOCAL PANEL 2B		OPERATOR B	POWER	
		6	14	LOCAL PANEL 2B		OPERATOR B	CONTROL	LIMIT SW
C134C	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 2C	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C134C1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 2C	IND	
C134C2	3/4	3	12	LOCAL PANEL 2C		OPERATOR A	POWER	
		6	14	LOCAL PANEL 2C		OPERATOR A	CONTROL	LIMIT SW
C134C3	3/4	3	(X12)	LOCAL PANEL 2B		OPERATOR B	POWER	
		6	14	LOCAL PANEL 2B		OPERATOR B	CONTROL	LIMIT SW
C134D	3/4	6	14	LOCAL PANEL 2C		LOCAL PANEL 2B	CONTROL	
C134E	3/4	12	14	LOCAL PANEL 2B		LOCAL PANEL 2A	CONTROL	
C134F	1	18	14	LOCAL PANEL 2A		CONTROL STA ASSEMBLY #1		
C135	1	4	(X12)	MCC-SG-2		JUNCTION BOX	POWER & GND	
		18	14	MCC-SG-2		JUNCTION BOX	IND	
C135A	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 3A	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C135A1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 3A	IND	
C135A2	3/4	3	12	LOCAL PANEL 3A		OPERATOR A	POWER	
		6	14	LOCAL PANEL 3A		OPERATOR A	CONTROL	LIMIT SW
C135A3	3/4	3	(X12)	LOCAL PANEL 3A		OPERATOR B	POWER	
		6	14	LOCAL PANEL 3A		OPERATOR B	CONTROL	LIMIT SW
C135B	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 3B	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C135B1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 3B	IND	
C135B2	3/4	3	12	LOCAL PANEL 3B		OPERATOR A	POWER	
		6	14	LOCAL PANEL 3B		OPERATOR A	CONTROL	LIMIT SW
C135B3	3/4	3	12	LOCAL PANEL 3B		OPERATOR B	POWER	
		6	14	LOCAL PANEL 3B		OPERATOR B	CONTROL	LIMIT SW
C135C	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 3C	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C135C1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 3C	IND	
C135C2	3/4	3	12	LOCAL PANEL 3C		OPERATOR A	POWER	
		6	14	LOCAL PANEL 3C		OPERATOR A	CONTROL	LIMIT SW
C135C3	3/4	3	(X12)	LOCAL PANEL 3C		OPERATOR B	POWER	
		6	14	LOCAL PANEL 3C		OPERATOR B	CONTROL	LIMIT SW
C135D	3/4	6	14	LOCAL PANEL 3A		LOCAL PANEL 3B	CONTROL	
C135E	3/4	12	14	LOCAL PANEL 3B		LOCAL PANEL 3C	CONTROL	
C135F	1	18	14	LOCAL PANEL 3C		CONTROL STA ASSEMBLY #2		
C136	1	4	12	MCC-SG-2		JUNCTION BOX	POWER & GND	
		18	14	MCC-SG-2		JUNCTION BOX	IND	
C136A	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 4A	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C136A1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 4A	IND	
C136A2	3/4	3	12	LOCAL PANEL 4A		OPERATOR A	POWER	
		6	14	LOCAL PANEL 4A		OPERATOR A	CONTROL	LIMIT SW
C136A3	3/4	3	12	LOCAL PANEL 4A		OPERATOR B	POWER	
		6	14	LOCAL PANEL 4A		OPERATOR B	CONTROL	LIMIT SW
C136B	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 4B	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C136B1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 4B	IND	
C136B2	3/4	3	12	LOCAL PANEL 4B		OPERATOR A	POWER	
		6	14	LOCAL PANEL 4B		OPERATOR A	CONTROL	LIMIT SW
C136B3	3/4	3	12	LOCAL PANEL 4B		OPERATOR B	POWER	
		6	14	LOCAL PANEL 4B		OPERATOR B	CONTROL	LIMIT SW
C136C	3/4	4	12	JUNCTION BOX	JB & DISC	LOCAL CONTROL PANEL 4C	POWER & GND	
		6	14	JUNCTION BOX		JUNCTION BOX	IND	
C136C1	3/4	6	14	JUNCTION BOX		LOCAL CONTROL PANEL 4C	IND	
C136C2	3/4	3	12	LOCAL PANEL 4C		OPERATOR A	POWER	
		6	14	LOCAL PANEL 4C		OPERATOR A	CONTROL	LIMIT SW
C136C3	3/4	3	12	LOCAL PANEL 4C		OPERATOR B	POWER	
		6	14	LOCAL PANEL 4C		OPERATOR B	CONTROL	LIMIT SW
C136D	3/4	6	14	LOCAL PANEL 4C		LOCAL PANEL 4B	CONTROL	
C136E	3/4	12	14	LOCAL PANEL 4B		LOCAL PANEL 4A	CONTROL	
C136F	1	18	14	LOCAL PANEL 4A		CONTROL STA ASSEMBLY #2		
C137	3/4	(X5)	12	MCC-SG-2 (LP-HW)		FLOW TRANSMITTER COMP. SAMPLER	POWER & GND	120V (1) SPARE
C138	3/4	2-2/C	18(SH)	MCC-SG-1		FLOW TRANSMITTER	SIGNAL	(1) SPARE
C139	3/4	3	8	MCC-SG-2 (LP-HW)		RECEPTACLE AT ODOR PAD	POWER & GND	120V
C140	1	3	4	MCC-SG-2		PP-SMS-HP	POWER	AT SMS
		1	8	MCC-SG-2		PP-SMS-HP	GND	
C141	2	3	8	MCC-SG-1		PP-HV-SWG	POWER	
		1	10	MCC-SG-1		PP-HV-SWG	GND	
C142	3/4	3	10	MCC-SG-2		BLOWER PAD RECEPTACLE	120V PWR & GND	
C143	1	-	-	MCC-SG-1		132 KV SWGR	FUT I/O	
C144	1	-	-	MCC-SG-1		SUB #12 TRAN COMP	FUT I/O	
C145	2	-	-	MCC-SG-1		SMS-HP	FUT I/O	
C146	2	-	-	SMS-DIGM		SMS-HP	FUT - PC	
C146A	2	-	-	SMS-DIGM		SMS-HP	FUT - PC	
C146B	2	-	-	SMS-HP		EHH #4	FUT CMS	
C146C	2	-	-	SMS-HP		EHH #4	FUT CMS	

C147-1
C147A
C148-1

(CONDUIT) "C148-1", (CABLE) "4-10 and 4-12" (AND PAIRED 12 CONT)
(FROM) "MCC-SG-2", (TO) "CL, SYSTEM
NEW BOOSTER PUMP", (PURPOSE)
"POWER & GND AND CONTROL",
(REMARKS) "S, SLO, FS & SPACE
HTR.".

RECORD DRAWINGS

This drawing reflects changes from the original contract drawing that were made during construction and has been prepared from information provided to the Engineer by the construction contractor(s). The Engineer does not warrant this drawing to be complete and accurate in all respects.

MALCOLM PIRNIE, INC.

Date 6/88 By MGM

DR 83-6502

Drawing No. 410N-83.260-0

No.	Revisions	Date	App.

MALCOLM PIRNIE

Date: NOV 1983
Designed by: FS
Drawn by: MEH
Checked by: [illegible]
Scale: NO SCALE

STATE OF TEXAS — REGISTERED — PROFESSIONAL ENGINEER — 47446 — CONRAD BOMMER

Water Works Facilities Improvements
San Antonio

CONTRACT NO. 3
DOS RIOS FACILITY
SCREEN, GRIT & PREAERATION FACILITIES
CONDUIT & CABLE SCHEDULE

Sheet E-26
of E-58