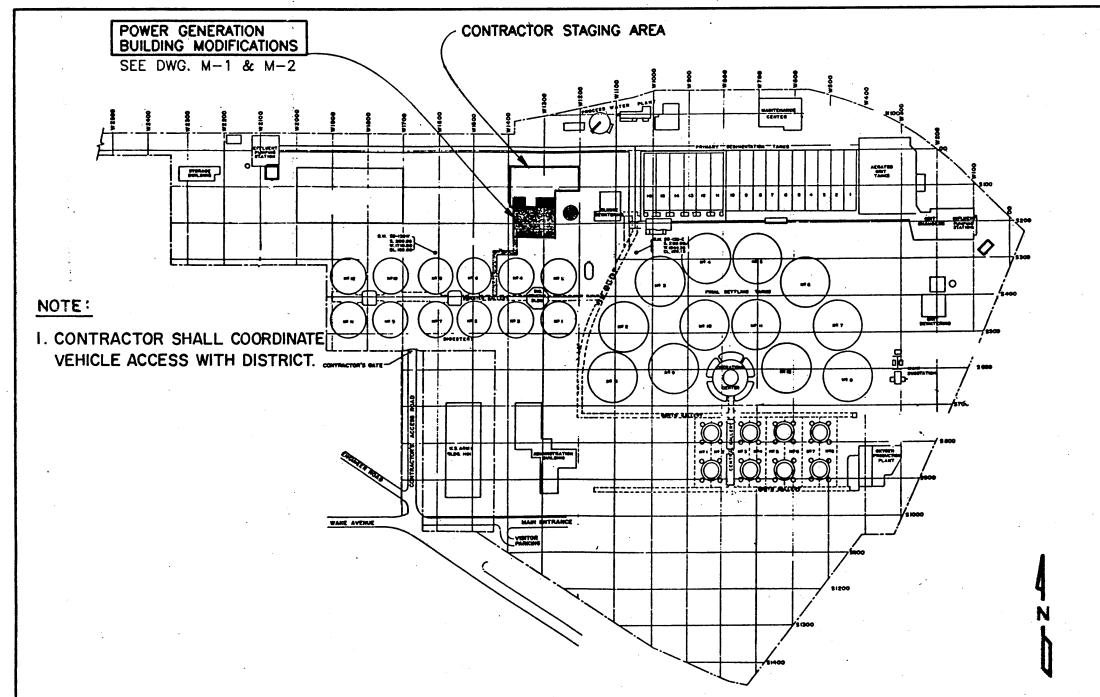


POWER GENERATION STATION MODIFICATIONS FOR EAST BAY MUNICIPAL UTILITY DISTRICT SPECIAL DISTRICT NO. 1

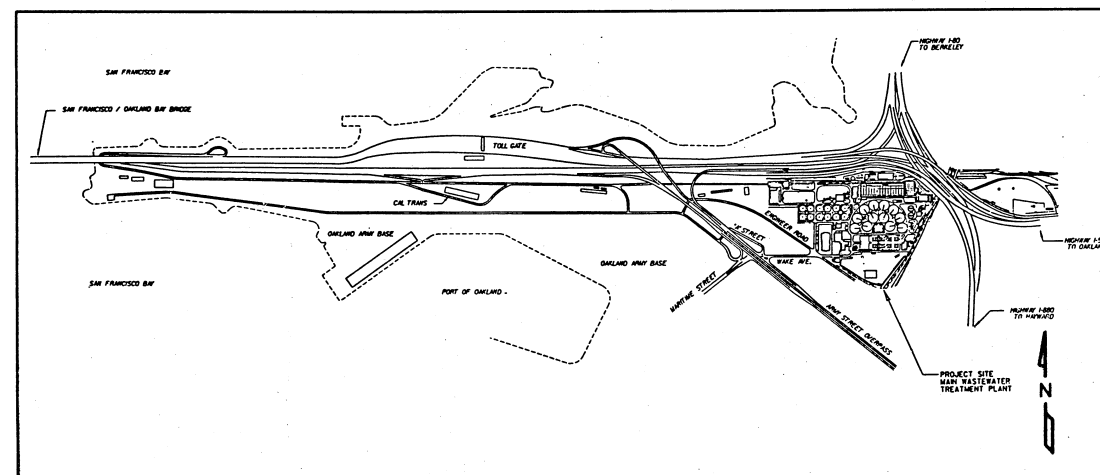
SPECIFICATION NO. SD-189A
VOLUME III, PART 1



OAKLAND, CALIFORNIA



SITE PLAN



LOCATION PLAN

INDEX OF DRAWINGS

SHEET NO.	DRAWING NO.	TITLE
1	T - 1	TITLE SHEET, SITE PLAN AND INDEX OF DRAWINGS.
2	G - 1	GENERAL ARRANGEMENT PLAN.
3	C - 1	UNDERGROUND FUEL OIL STORAGE TANK INSTALLATION, SECTION AND DETAILS.
4	S - 1	EQUIPMENT FOUNDATION AND MISC. FRAMING (LATER).
5	M - 1	P & ID'S AIR STARTING, FUEL STORAGE SYSTEM AND LEGEND.
6	M - 2	P & ID'S COOLING WATER SYSTEM.
7	M - 3	LOWER FLOOR PIPING PLAN I AND SECTION.
8	M - 4	LOWER FLOOR PIPING PLAN II AND SECTIONS.
9	M - 5	MAIN FLOOR PIPING PLAN (RADIATORS & STANDBY ENGINE GENERATOR).
10	M - 6	DEMOLITION PLAN.
11	M - 7	MISCELLANEOUS DETAILS AND EQUIPMENT SCHEDULE.
12	E - 1	MCC A SINGLE LINE DIAGRAM, ELEVATION, SYMBOLS AND LEGEND.
13	E - 2	ELEMENTARY DIAGRAMS AND MISCELLANEOUS BLOCK DIAGRAMS.
14	E - 3	LAYOUT - PLANS, ELEV. 96'-0" AND 110'-0".
15	E - 4	SECTIONS AND DETAILS.
15A	A2 - E1	MISCELLANEOUS ELECTRICAL DIAGRAMS AND LIGHTING CONTROL SCHEMATIC.

PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY R. De RUNA
DESIGN CHECK BY G. TIPTON / J.B.
DRAWN BY S. KONG
SR. PROJ. ENGR. J.R. LINDAHL
APPROVED [Signature]
PROJECT NO. 3-16-92

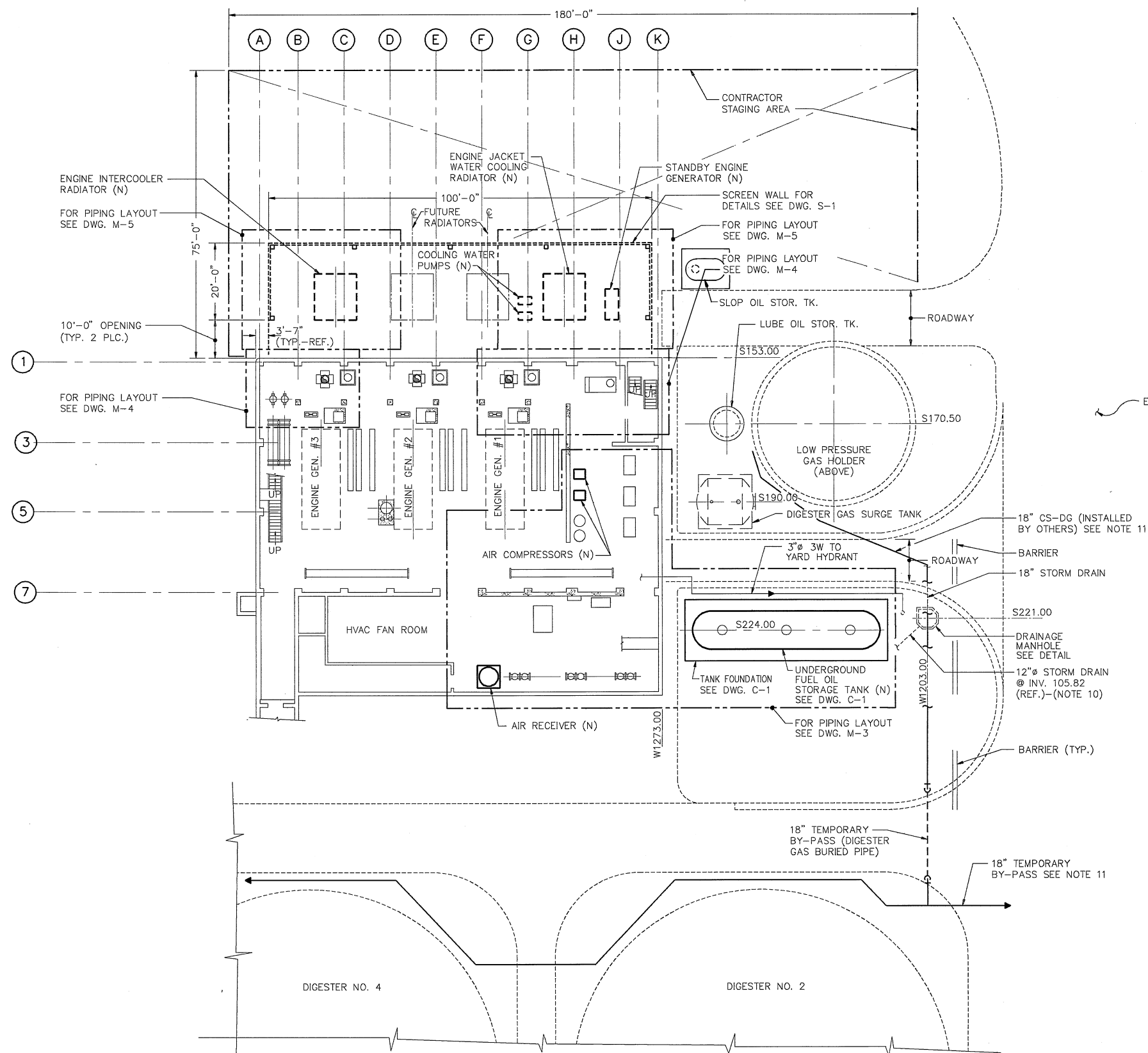


PROJECT ENGR. [Signature]
R.P.E. NO. 446809
PROJECT MGR. [Signature]
R.P.E. NO. 430914
WORK OF SUPPORT SERVICES [Signature]
R.P.E. NO. 446809
WORK OF WASTEWATER [Signature]
R.P.E. NO. 446809

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, CALIFORNIA

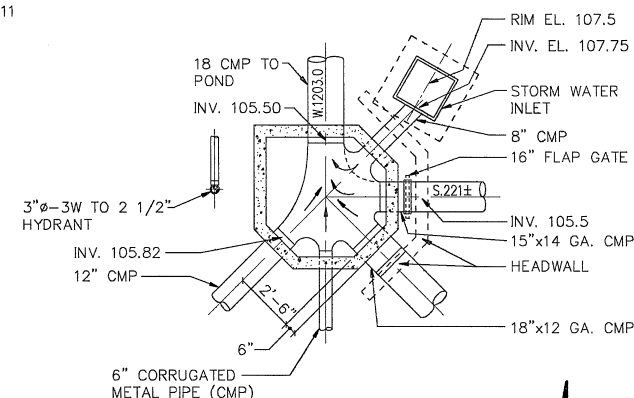
TITLE SHEET, SITE PLAN
INDEX OF DRAWINGS

DRAWN BY SK
SCALE NONE
DATE 11-22-91
DRAWING NO. 3554/T-1
SHEET 1 OF 15



GENERAL NOTES:

1. INFORMATION ON PLANS IS BASED ON BEST AVAILABLE AT TIME OF PREPARATION. CONTRACTOR MUST VERIFY ALL PERTINENT ACTUAL CONDITIONS IN FIELD. AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. CONTRACTOR SHALL USE DILIGENCE AND CAUTION TO AVOID DAMAGING EXISTING UTILITIES AND PIPING. ACTUAL LOCATIONS AND ELEVATIONS MAY VARY FROM THOSE SHOWN.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT THE JOB SITE AND COORDINATE WITH OTHER CONTRACTORS BEFORE PROCEEDING WITH FABRICATION AND INSTALLATION.
4. THE CONTRACTOR SHALL NOTE THAT NOT ALL EXISTING PIPING AND EQUIPMENT HAS BEEN SHOWN. ONLY EQUIPMENT ON THE POWER GENERATION BUILDING AFFECTED BY THE NEW WORK IS SHOWN IN DETAIL. UNLESS OTHERWISE SHOWN ALL WORK PERTINENT TO THE FUEL OIL STORAGE, COMPRESSED AIR SUPPLY, COOLING WATER SYSTEM AND EMERGENCY GENERATOR ARE FOUND IN DRAWINGS C-1, M-3, M-4 AND M-5.
5. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY PIPE HANGERS AND SUPPORTS, EXPANSION JOINTS, ANCHORS GUIDES AND SLEEVES REQUIRED FOR PROPER SYSTEM OPERATION. PROVIDE SEISMIC BRACING AND ANCHORS PER SPECIFICATION SECTION 01900.
6. FOR EQUIPMENT REMOVAL, SEE M-6. FOR NEW CONNECTIONS, EQUIPMENT SELECTIONS & INSTALLATION WORK, SEE P & ID M-1 & M-2 AND DRAWINGS C-1, S-1, M-3, M-4, M-5 AND M-7. FOR ELECTRICAL INSTALLATION SEE E-1, E-2, E-3 AND E-4.
7. CONTRACTOR SHALL PROVIDE FUEL OIL HOSE CONNECTION TO THE EXISTING F.O. SYSTEM WHILE EXISTING F.O. TANK IS OUT OF SERVICE. THE HOSE CONNECTIONS SHOWN SHALL BE LEFT IN PLACE WHEN CONSTRUCTION IS COMPLETE.
8. EQUIPMENT AND BUILDING OUTLINES SHOWN IN SOLID LINES IN THIS DWG. ARE LOCATED AT PLAN ELEVATION 96'-0" AND THOSE SHOWN IN DOTTED LINES ARE LOCATED AT PLAN ELEVATION 110'-0".
9. ALL EQUIPMENT, PIPING, MATERIALS, ETC. SHOWN ARE EXISTING UNLESS NOTED AS NEW (N). ALL NEW WORK SHALL BE PROVIDED BY THE CONTRACTOR.
10. PROVIDE PROTECTION FOR STORM DRAIN DURING EXCAVATION, CONSTRUCTION, AND BACKFILL.
11. 18" DIGESTER GAS BY-PASS PIPE TO BE INSTALLED BY OTHERS, AND REMAIN IN PLACE DURING THE DURATION OF THE PGS STANDALONE MODIFICATIONS PROJECT. PIPE CONTAIN LOW PRESSURE, FLAMMABLE GAS. THEREFORE CAUTION SHALL BE USED WHEN WORKING AROUND IT.



EXISTING DRAINAGE MANHOLE
DETAIL @ EL. 108.5
NO SCALE

GENERAL ARRANGEMENT PLAN—ELEV. 96'-0"

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



1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

[illegible]

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY	R. De RUNA
DESIGN CHECK BY	G. TIPTON / J.B.
DRAWN BY	S. KONG
SR. PROJ. ENGR.	J.R. LINDAHL
APPROVED	
	
PRINCIPAL IN CHARGE, R.P.E. NO. M021371 3-16-92	

EBMUD	PROJECT ENGR. <i>Connie Reidinger</i> R.P.E. NO. <i>C41829</i>
	PROJECT MGR. R.P.E. NO. <i>C31466 Marilyn L. Miller</i>
	MGR. OF SUPPORT SERVICES R.P.E. NO. <i>C30916 Michael Platter</i>
	MGR. OF WASTEWATER R.P.E. NO. <i>C26955 Robert T. Bishop</i>

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, CALIFORNIA

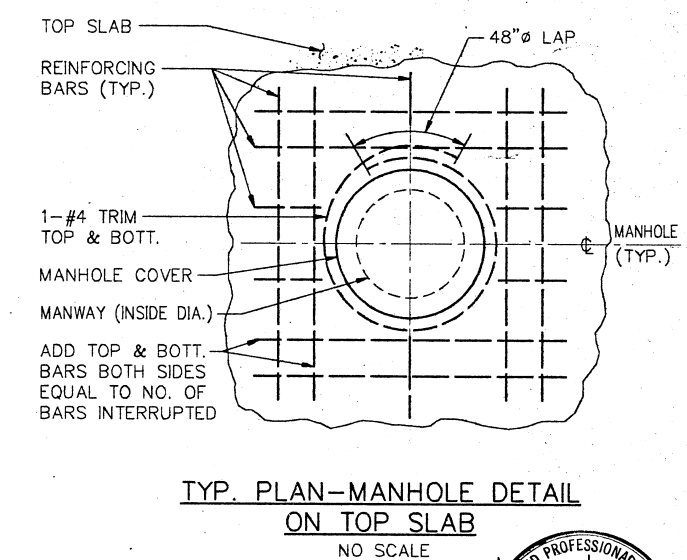
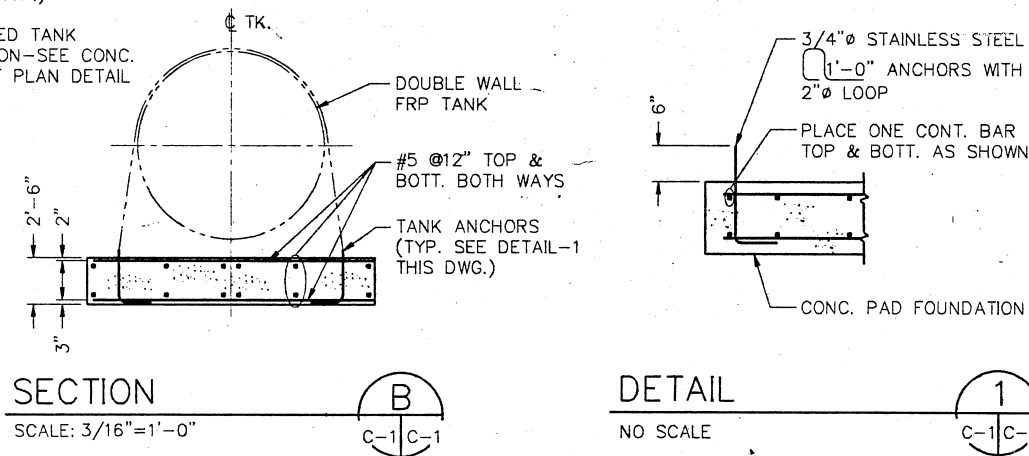
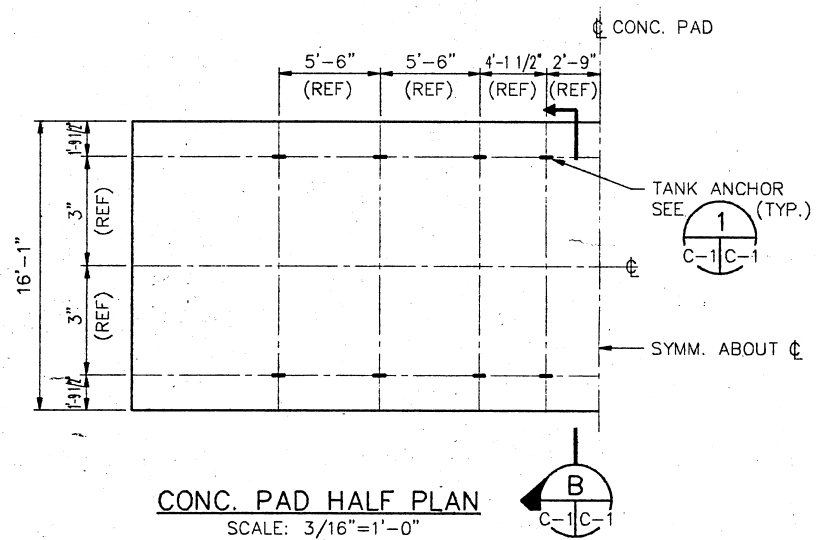
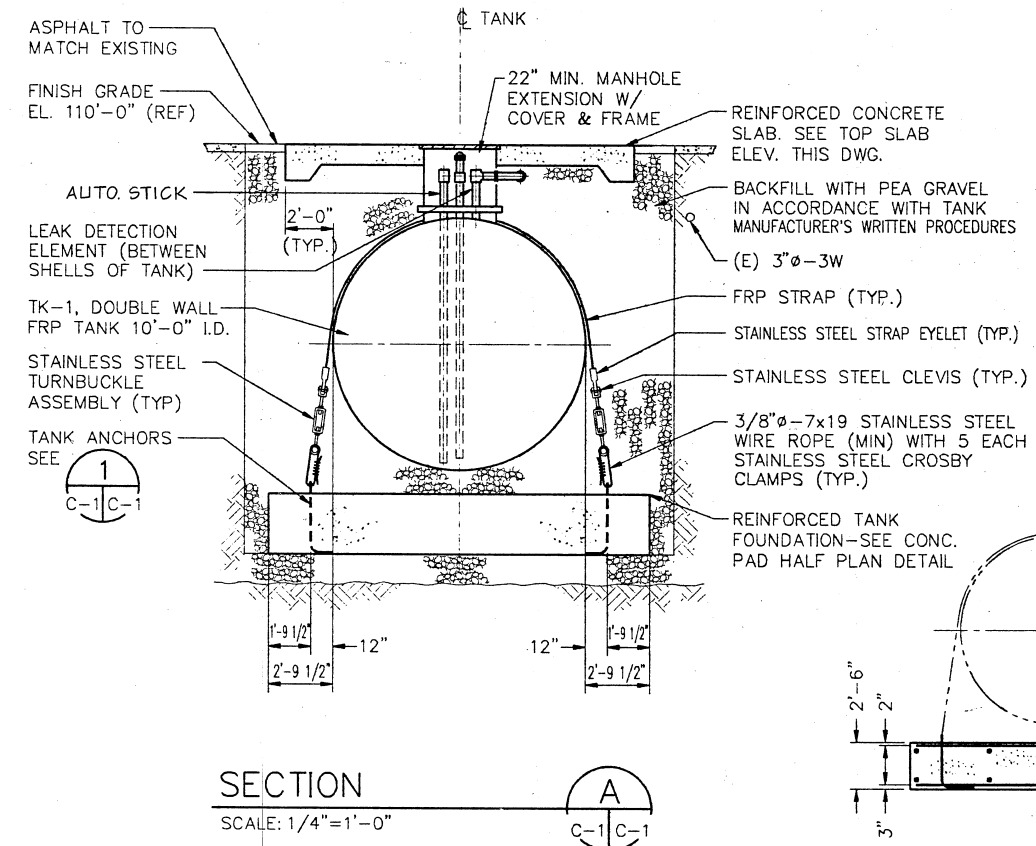
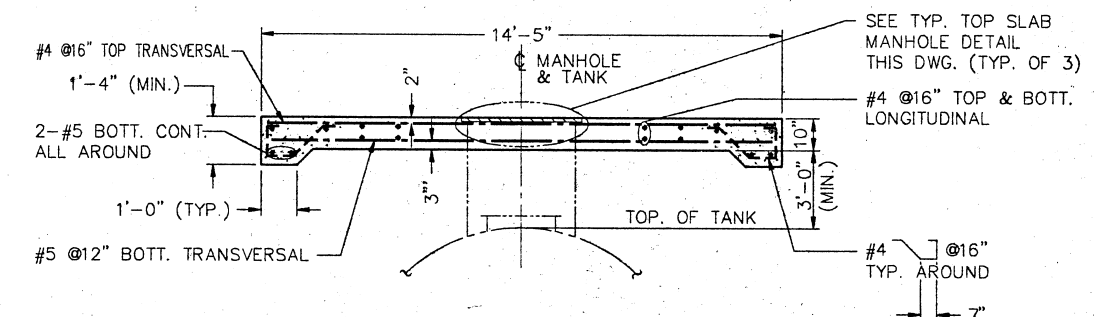
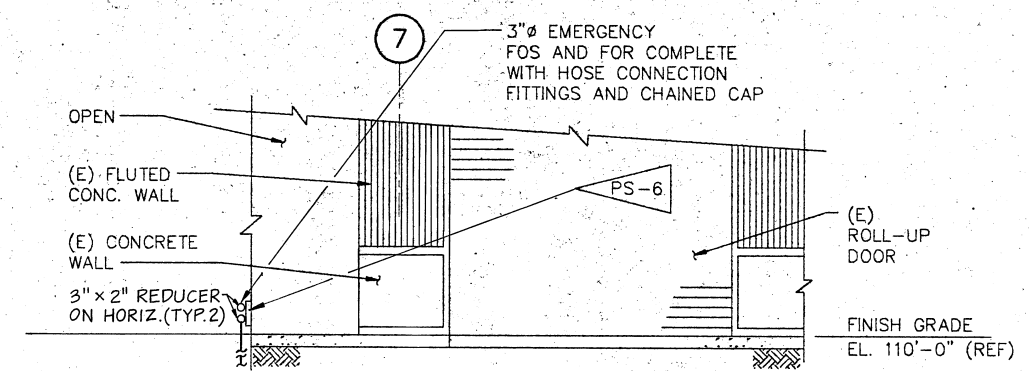
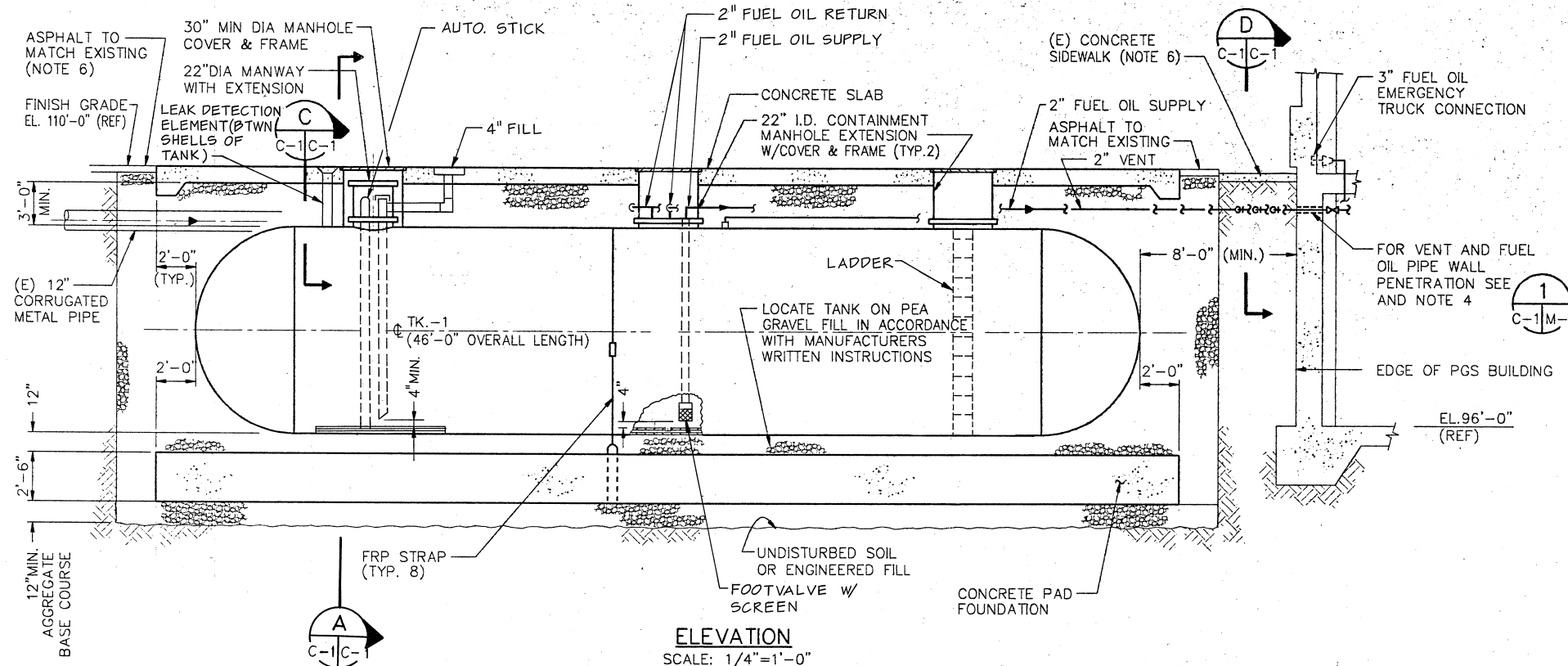
MECHANICAL

GENERAL ARRANGEMENT

DRAWN BY	SK
SCALE	1/16"=1'-0"
DATE	11-22-91

DRAWING NO.
3554/G-1

SHEET 2 OF 15



- NOTES:**
1. FOR EXCAVATION, BACKFILLING, COMPACTION, AND CONCRETE FOUNDATION REQUIREMENTS, SEE SPECS.
 2. VERIFY WITH TANK SUPPLIER THE NUMBER OF FRP STRAPS AND ANCHOR LOCATIONS.
 3. TANK DIMENSIONS ARE BASED ON A SPECIFIC VENDOR'S STANDARD TANK. VERIFY ALL DIMENSIONS WITH PARTICULAR TANK TO BE FURNISHED AND MAKE ADJUSTMENTS TO DIMENSIONS AS REQUIRED FOR APPROVAL BY THE ENGINEER.
 4. CHIP-OUT EXISTING WALL SLEEVES AND PROVIDE NEW SLEEVES. TERMINATE SECONDARY CONTAINMENT INSIDE BUILDING AND PROVIDE GLAND SEALS WITH VENTS.
 5. ALL BURIED METAL NOT CONCRETE IMBEDDED TO BE STAINLESS STEEL UNLESS NOTED OTHERWISE.
 6. DAMAGE CAUSED DURING CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION.

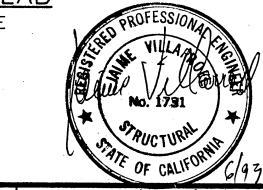
JOB NO. 3554A103 FILE NO.

PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

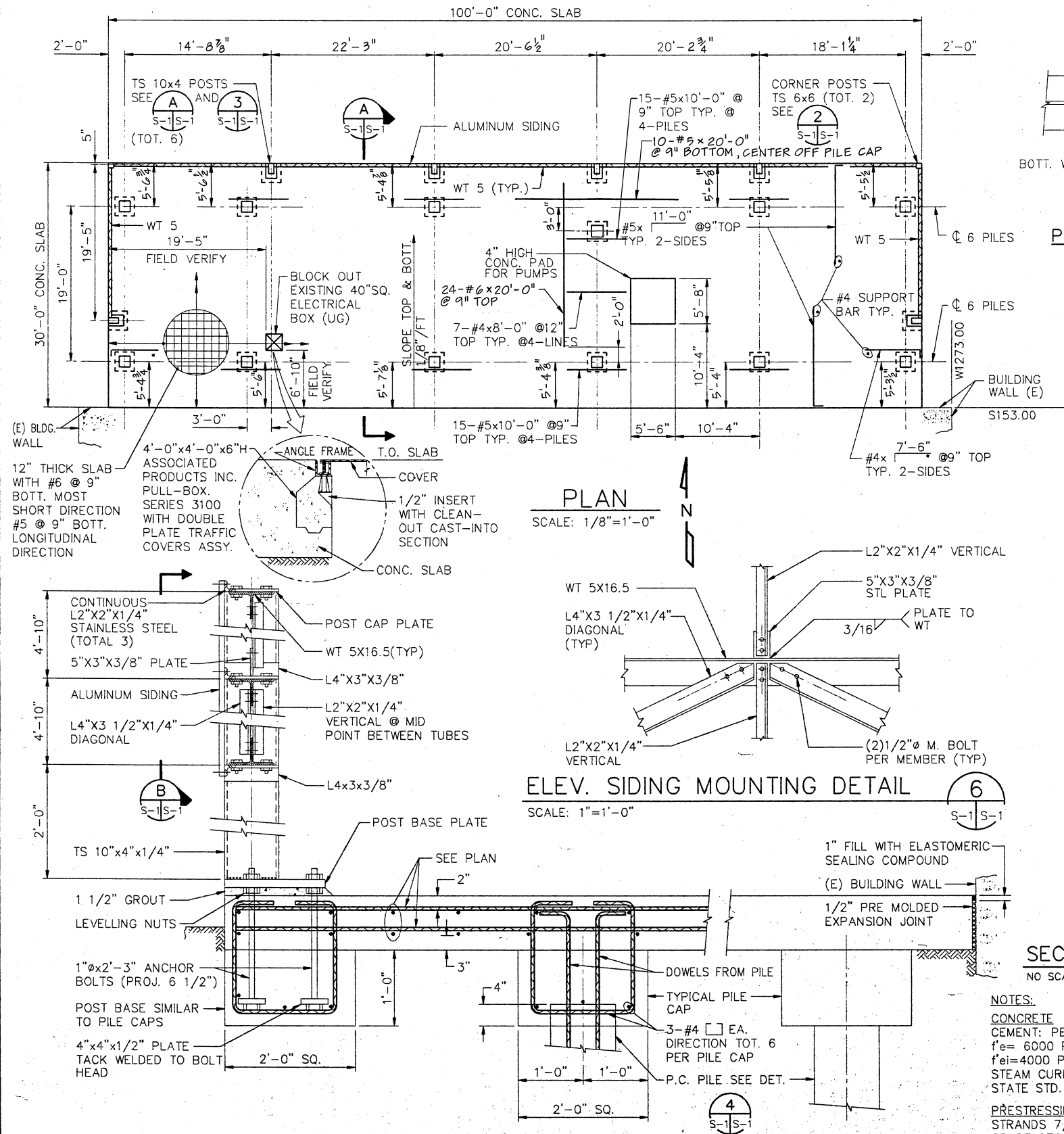
NO.	DATE	REVISION	BY	REC.	APP.
12/11/93	IN SERVICE	AS BUILT	CPA	RW	HPJ
0	3-16-92	ISSUED FOR BID	REB		

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY R. De RUNA
DESIGN CHECK BY G. TIPTON / J. V.
DRAWN BY C. ZHANG
SR. PROJ. ENGR. J.R. LINDAHL
APPROVED [Signature] 2-16-92
PRINCIPAL-IN-CHARGE, R.P.E. NO. 4021371



EAST BAY MUNICIPAL UTILITY DISTRICT SPECIAL DISTRICT NO. 1 OAKLAND, CALIFORNIA	
MECHANICAL	
UNDERGROUND FUEL OIL STORAGE TANK INSTALLATION, SECTION & DETAILS	
DRAWN BY CZ SCALE AS SHOWN DATE 11-22-91	DRAWING NO. 3554/C-1 SHEET 3' OF 15



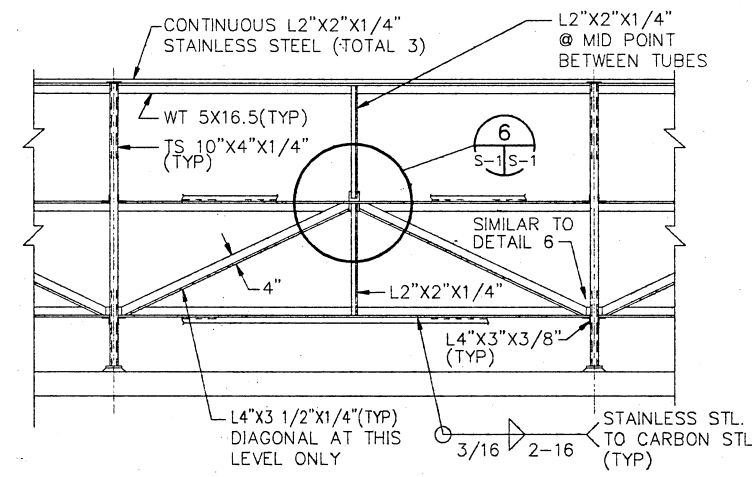
PLAN AT MID-POST

TOP PLAN

PLAN AT BASE

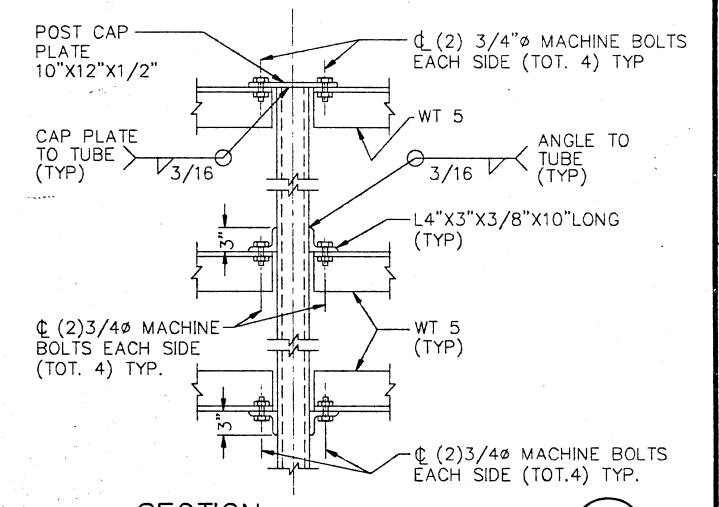
PLAN-CORNER POST DETAIL

SCALE: 1"=1'-0"



PLAN-POST MOUNTING DETAIL

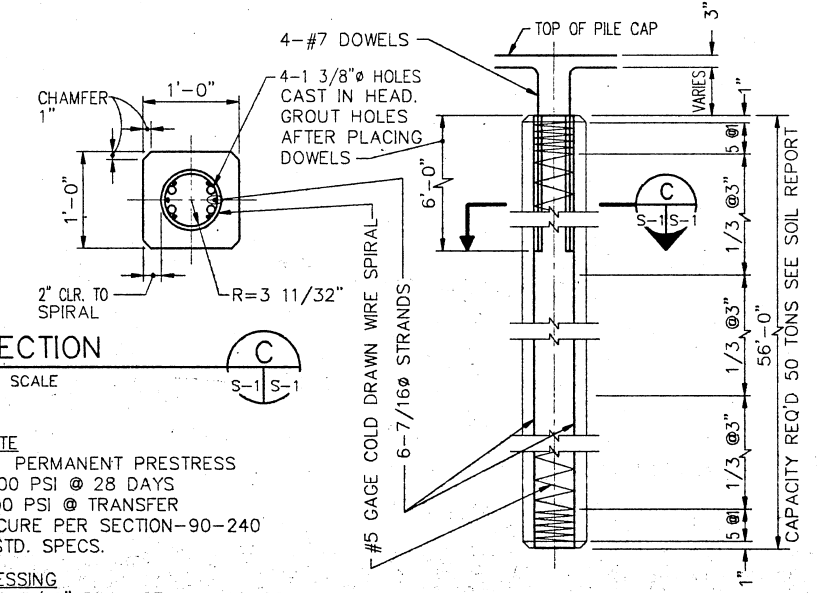
SCALE: 1"=1'-0"



NOTES:
CONCRETE
CEMENT: PERMANENT PRESTRESS
f'_c = 6000 PSI @ 28 DAYS
f'_{ci} = 4000 PSI @ TRANSFER
STEAM CURE PER SECTION-90-240
STATE STD. SPECS.
PRESTRESSING
STRANDS 7/16" DIA. ASTM A-416-68
GRADE 270
NOM. AREA STRAND = 0.15 IN²
MIN. BREAKING STRENGTH = 31000#
INITIAL TENSION = 22600# STRAND
WORKING FORCE = 18600#
EFF. PRESTRESS = 720 PSI

ELEV.-TYP. P.C. PILE DETAIL

NO SCALE



EAST BAY MUNICIPAL UTILITY DISTRICT SPECIAL DISTRICT NO. 1 OAKLAND, CALIFORNIA	
MECHANICAL	
EQUIPMENT FOUNDATION AND MISCELLANEOUS FRAMING	
DRAWN BY: CZ	DRAWING NO.: 3554/S-1
SCALE: AS SHOWN	SHEET: 4 OF 15
DATE: 11-22-91	

JOB NO. 3554A103 FILE NO.

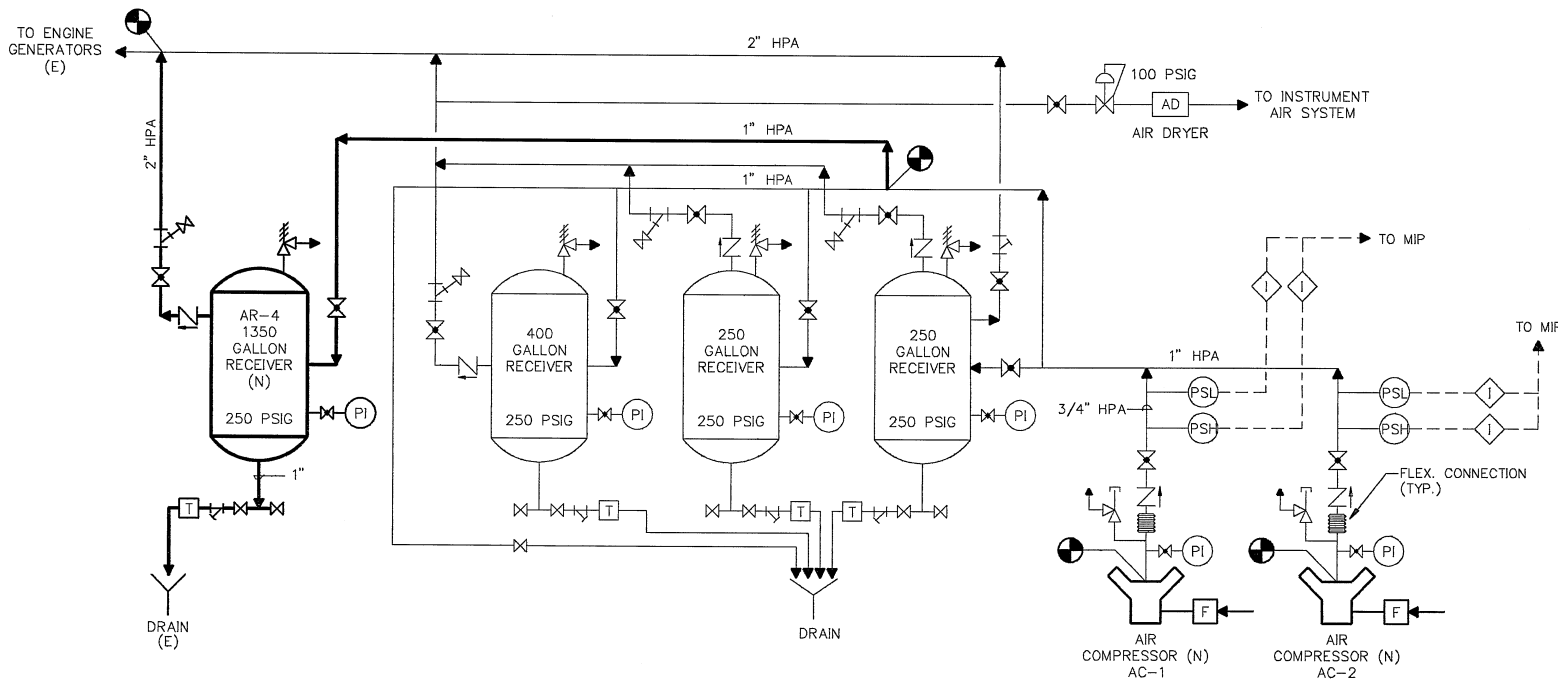
PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

NO.	DATE	ISSUED FOR	REVISION	BY	REC.	APP.
0	3-16-92	ISSUED FOR BID		RJR		
1	12/1/93	IN SERVICE	24 JUN 93	AS BUILT		
2						
3						
4						
5						
6						
7						
8						
9						
10						

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY: R. De RUNA
DESIGN CHECK BY: G. TIPTON / J. V.
DRAWN BY: C. ZHANG
SR. PROJ. ENGR.: J.R. LINDAHL
APPROVED: [Signature]
PRINCIPAL IN CHARGE, R.P.E. NO. 0021371

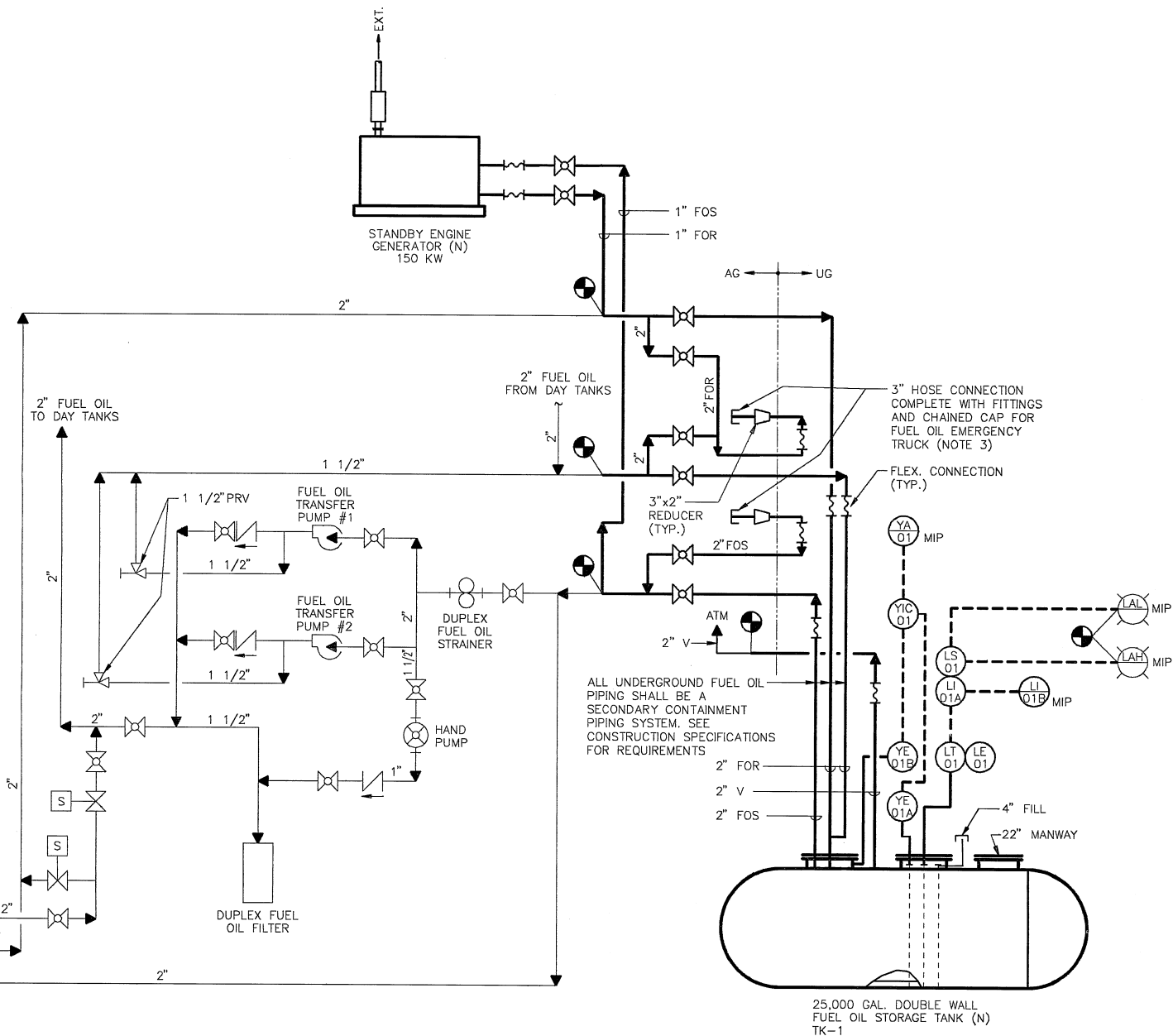
PROJECT ENGR.: [Signature]
R.P.E. NO. 046209
PROJECT MGR.: [Signature]
R.P.E. NO. 031966
MGR. OF SUPPORT SERVICES: [Signature]
R.P.E. NO. 039976
MGR. OF WASTE: [Signature]
R.P.E. NO. 039976
[Signature]
[Signature]



ENGINE AIR STARTING SYSTEM P & ID

MECHANICAL GENERAL NOTES:

- EQUIPMENT ANCHOR BOLT SIZES AND LOCATIONS ARE BASED ON VENDOR DATA FOR TYPICAL SPECIFIED EQUIPMENT. CONTRACTOR SHALL VERIFY ANCHOR BOLT SIZES AND LOCATIONS WITH VENDORS OF EQUIPMENT ACTUALLY FURNISHED. FOR TYPICAL ANCHOR BOLT INSTALLATION DETAIL SEE 1 M-1 M-5
- FOR PIPE SUPPORT DETAILS SEE DRAWING M-7.
- PROVIDE IDENTIFICATION ON EACH HOSE CONNECTION (IE OIL SUPPLY; OIL RETURN) MOUNTED ON BUILDING WALL.



FUEL OIL STORAGE SYSTEM P & ID

LEGEND			
SYMBOL	IDENTIFICATION	ABBREVIATION	IDENTIFICATION
	DETAIL IDENTIFICATION	FS	FLOW SWITCH
	DRAWING NO. WHERE DETAIL IS DRAWN	AC	AIR COMPRESSOR
	DRAWING NO. WHERE DETAIL IS CALLED OUT	AG	ABOVE GROUND
	SECTION IDENTIFICATION	AR	AIR RECEIVER
	DRAWING NO. WHERE SECTION IS DRAWN	ATM	ATMOSPHERE
	DRAWING NO. WHERE SECTION IS CALLED OUT	CWP	COOLING WATER PUMP
	GATE VALVE	CONC.	CONCRETE
	GLOBE VALVE	CONT.	CONTINUOUS
	BALL VALVE	(E)	EXISTING
	BUTTERFLY VALVE	EL/ELEV.	ELEVATION
	CHECK VALVE	F.O.	FUEL OIL
	THREE WAY VALVE	FOR	FUEL OIL RETURN
	AUTOMATIC DRIP TRAP	FOS	FUEL OIL SUPPLY
	WYE TYPE STRAINER	FRP	FIBERGLASS REINFORCE PLASTIC
	BREAK POINT INTERFACE BETWEEN EXISTING SYSTEM AND NEW WORK BY CONTRACTOR	FS	FLOW SWITCH
	EXISTING EQUIPMENT TO BE REMOVED	GEN.	GENERATOR
	FILTER SILENCER	HHWR	HEATING HOT WATER RETURN
	EXISTING EQUIPMENT OUTLINE, PIPING	HHWS	HEATING HOT WATER SUPPLY
	NEW EQUIPMENT OUTLINE, PIPING	HPA	HIGH PRESSURE AIR
	FUTURE EQUIPMENT OUTLINE, PIPING	HS	HAND SWITCH
	BUTT WELD	ICWR	INTERCOOLER COOLING WATER RETURN
	MOTOR	ICWS	INTERCOOLER COOLING WATER SUPPLY
	INTERLOCK	REF	REFERENCE
	REDUCER / INCREASER	LAH	LEVEL ALARM HIGH
	PIPE SUPPORT	LAL	LEVEL ALARM LOW
	FLEXIBLE CONNECTION	LE	LEVEL ELEMENT
	ELECTRICAL CONTROL SIGNAL	LI	LEVEL INDICATOR
		PRV	PRESSURE RELIEF VALVE
		LT	LEVEL TRANSMITTER
		LS	LEVEL SWITCH
		MIP	MASTER INSTRUMENT PANEL
		(N)	NEW
		PI	PRESSURE INDICATOR
		PSH	PRESSURE SWITCH HIGH
		PSL	PRESSURE SWITCH LOW
		RT	RADIATOR
		TK	TANK
		T.O.C.	TOP OF CONCRETE
		TYP.	TYPICAL
		UG	UNDERGROUND
		V	VENT
		3W	NO. 3 WATER
		YE	DETECTION ELEMENT (LEAKAGE)
		YIC	DETECTION INDICATION CONTROLLER (LEAKAGE)
		TAH	TEMPERATURE ALARM HIGH
		TI	TEMPERATURE INDICATOR
		TS	TEMPERATURE SWITCH
		BOTT.	BOTTOM
		TOT.	TOTAL
		HPDG	HIGH PRESSURE DIGESTER GAS

PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS

1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY R. De RUNA
DESIGN CHECK BY G. TIPTON / J.B.
DRAWN BY L. WANG
SR. PROJ. ENGR. J.R. LINDAHL
APPROVED [Signature]
PRINCIPAL IN CHARGE R.P.E. NO. M021371

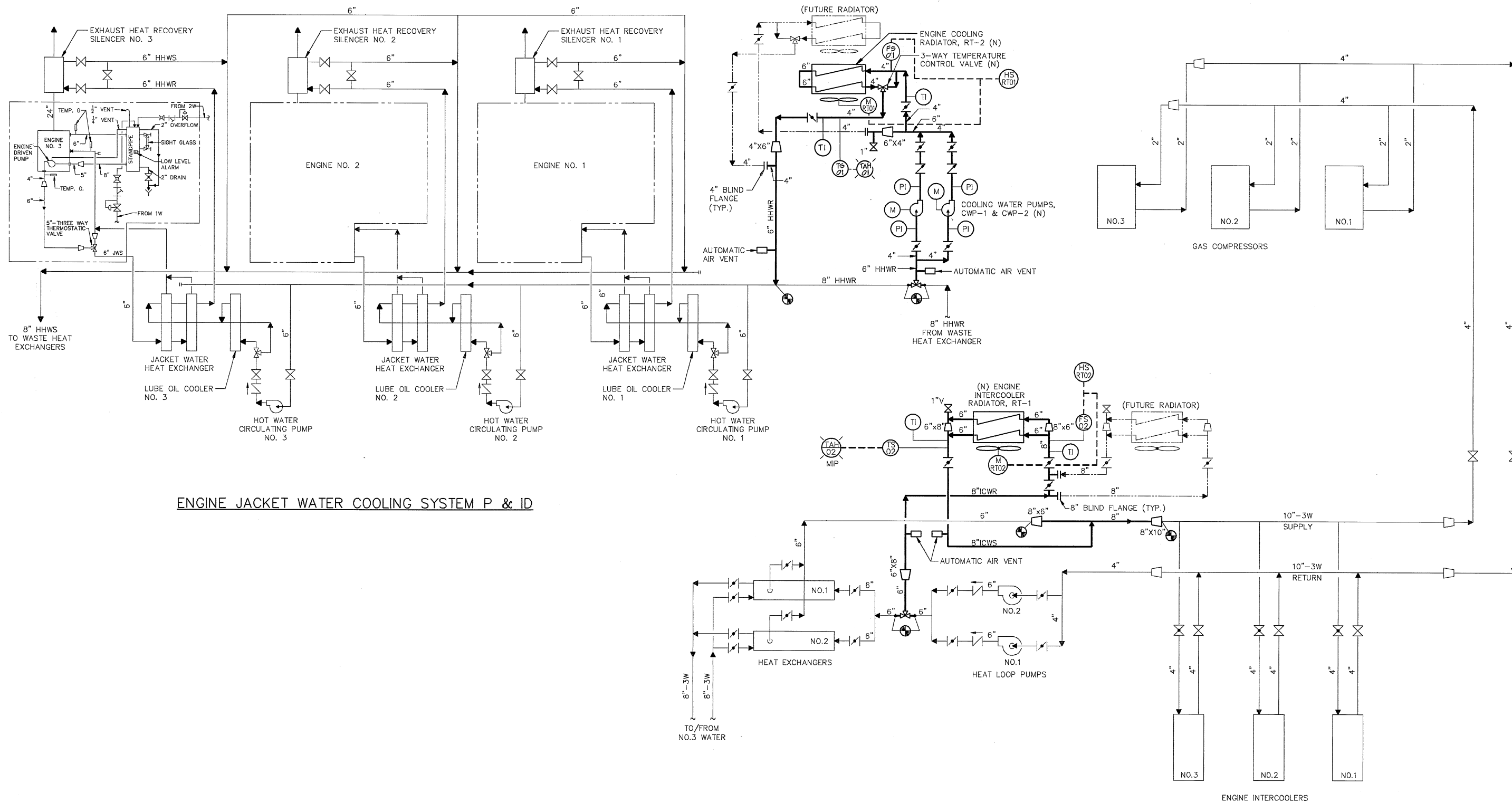


EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, CALIFORNIA

MECHANICAL

P & ID'S AIR STARTING AND
FUEL STORAGE SYSTEM & LEGEND

DRAWN BY LW
SCALE NONE
DATE 11-22-91
DRAWING NO. 3554/M-1
SHEET 5 OF 15



ENGINE JACKET WATER COOLING SYSTEM P & ID

ENGINE INTERCOOLER COOLING WATER SYSTEM P & ID



PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

NO.	DATE	REVISION	BY	REC.	APP.
0	3-16-92	ISSUED FOR BID	REB		
1	12/11/93	IN SERVICE 24 JUN 95 AS BUILT	REB		

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY R. De RUNA
DESIGN CHECK BY G. TIPTON / J. B.
DRAWN BY L. WANG
SR. PROJ. ENGR. J.R. LINDAHL
APPROVED [Signature]
PRINCIPAL-ENGINEER, R.P.E. NO. M021371

PROJECT ENGR. Connie Riedinger
PROJECT MGR. R.P.E. NO. M014243
MGR. OF SUPPORT SERVICES R.P.E. NO. M030116
MGR. OF WASTEWATER R.P.E. NO. M020858
[Signature] Walter F. Buhge

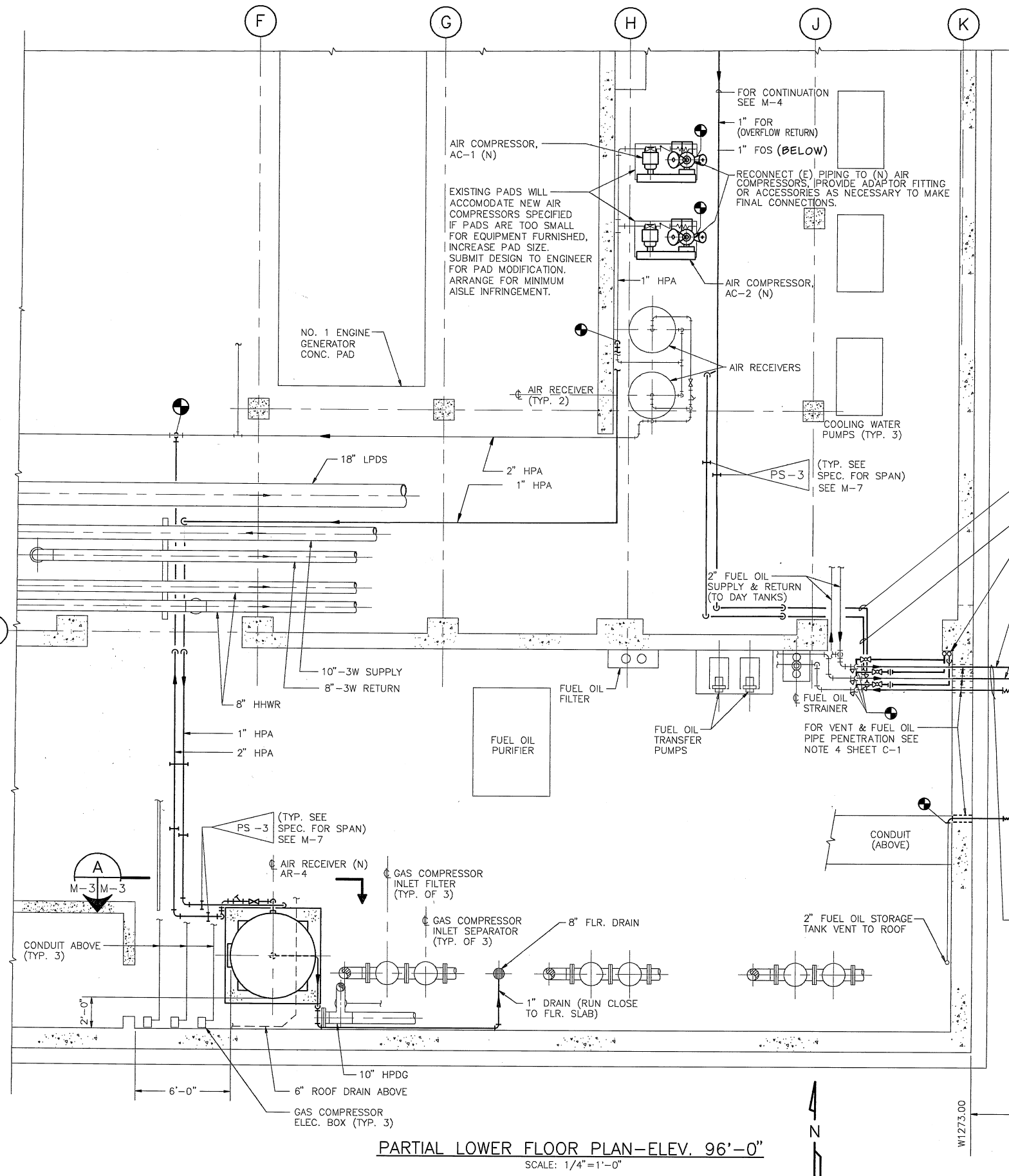
EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, CALIFORNIA

MECHANICAL

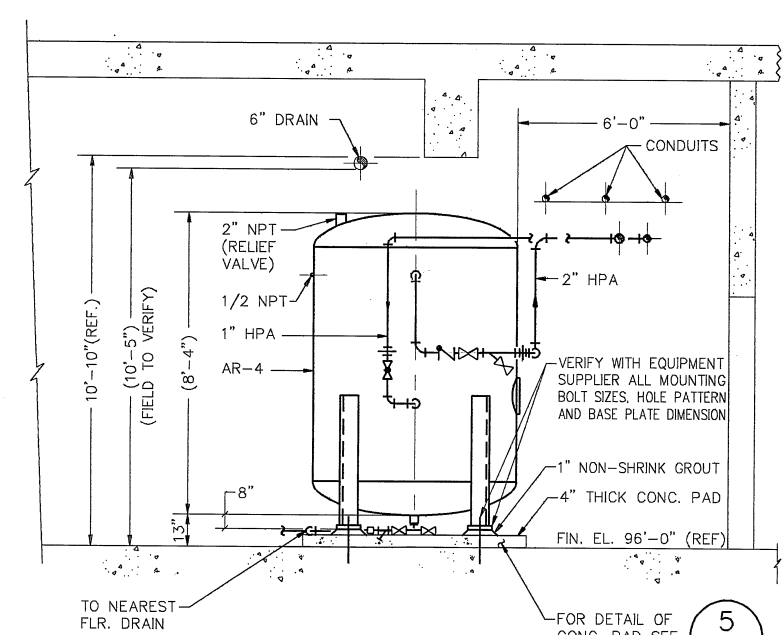
P & ID'S COOLING WATER
SYSTEM

DRAWN BY TM
SCALE NONE
DATE 11-22-91
DRAWING NO. 3554/M-2
SHEET 6 OF 15

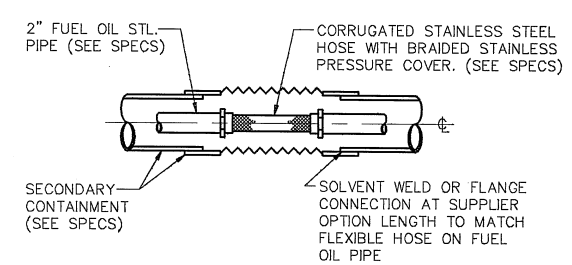
JOB NO. 3554A103
FILE NO.



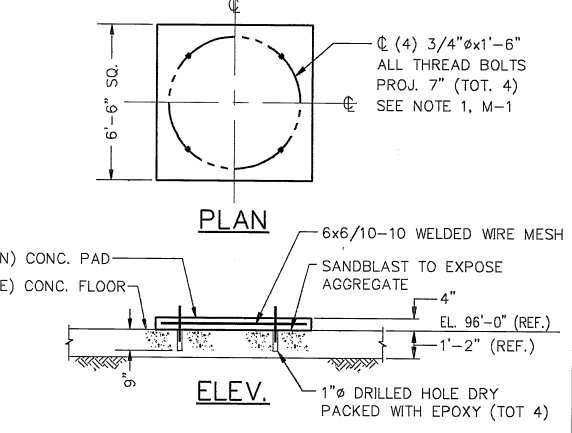
PARTIAL LOWER FLOOR PLAN-ELEV. 96'-0"
SCALE: 1/4"=1'-0"



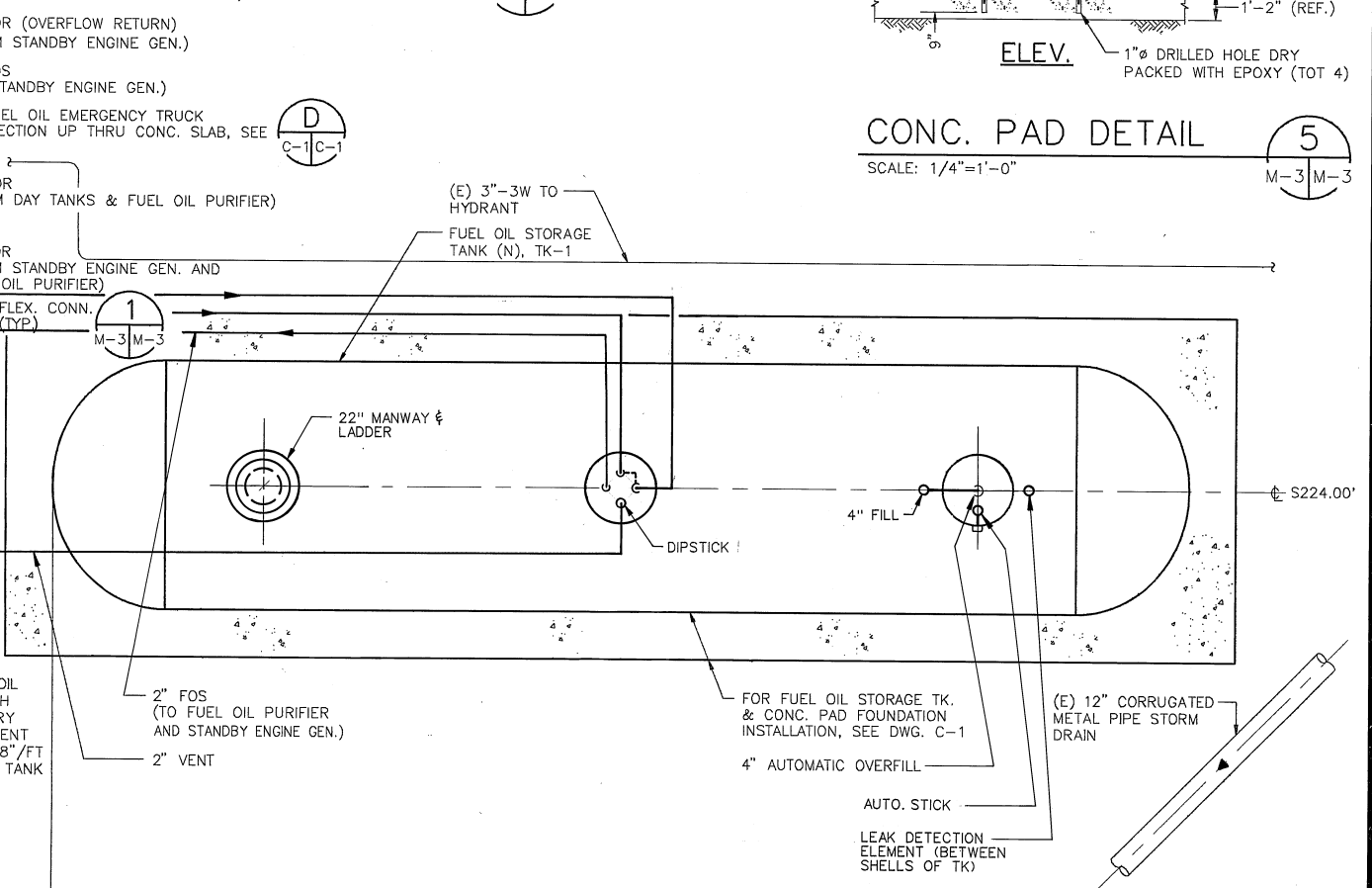
SECTION
SCALE: 3/8"=1'-0"
M-3 M-3



SECONDARY CONTAINMENT FLEXIBLE CONNECTION DETAIL
NOT TO SCALE
M-3 M-3



CONC. PAD DETAIL
SCALE: 1/4"=1'-0"
M-3 M-3



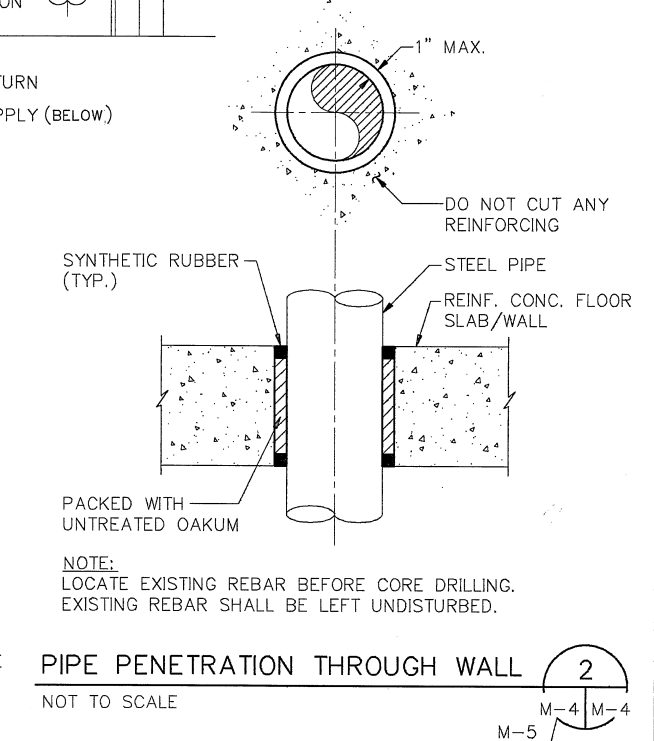
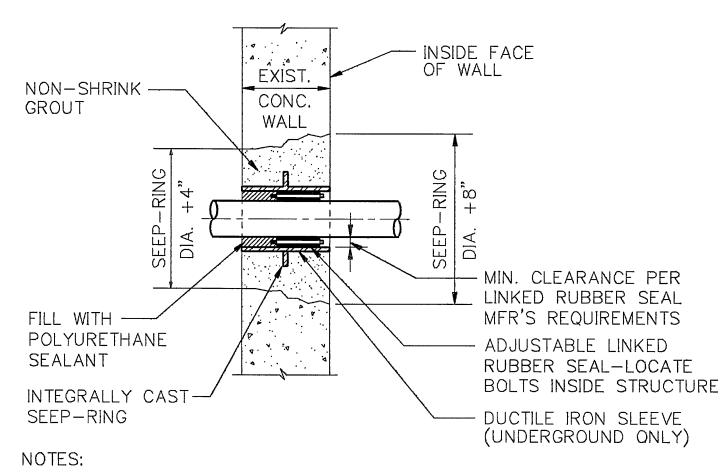
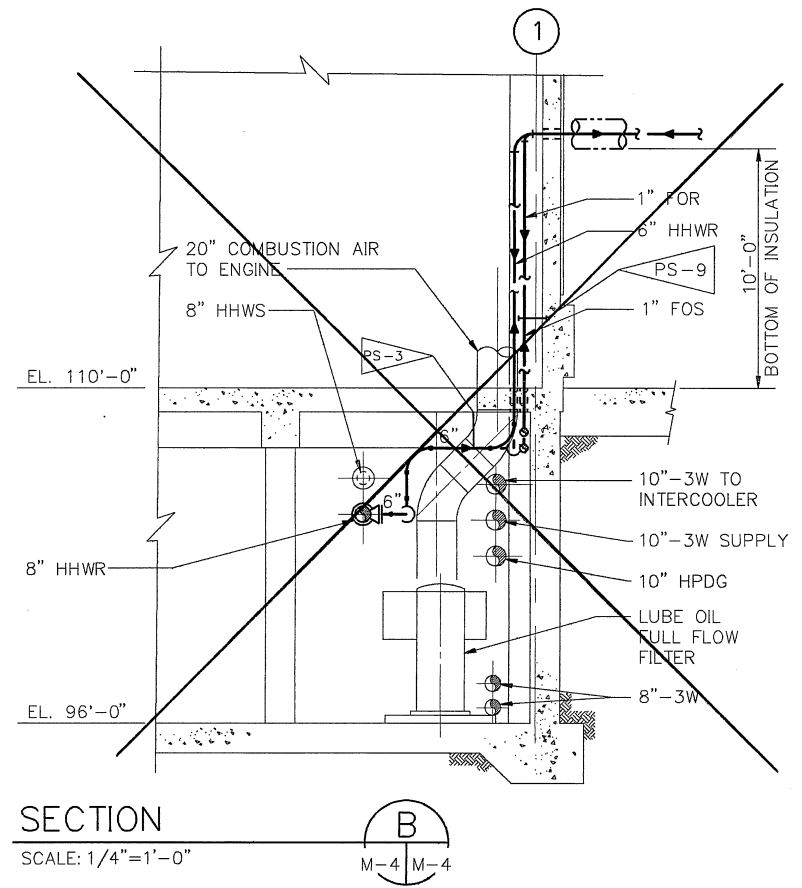
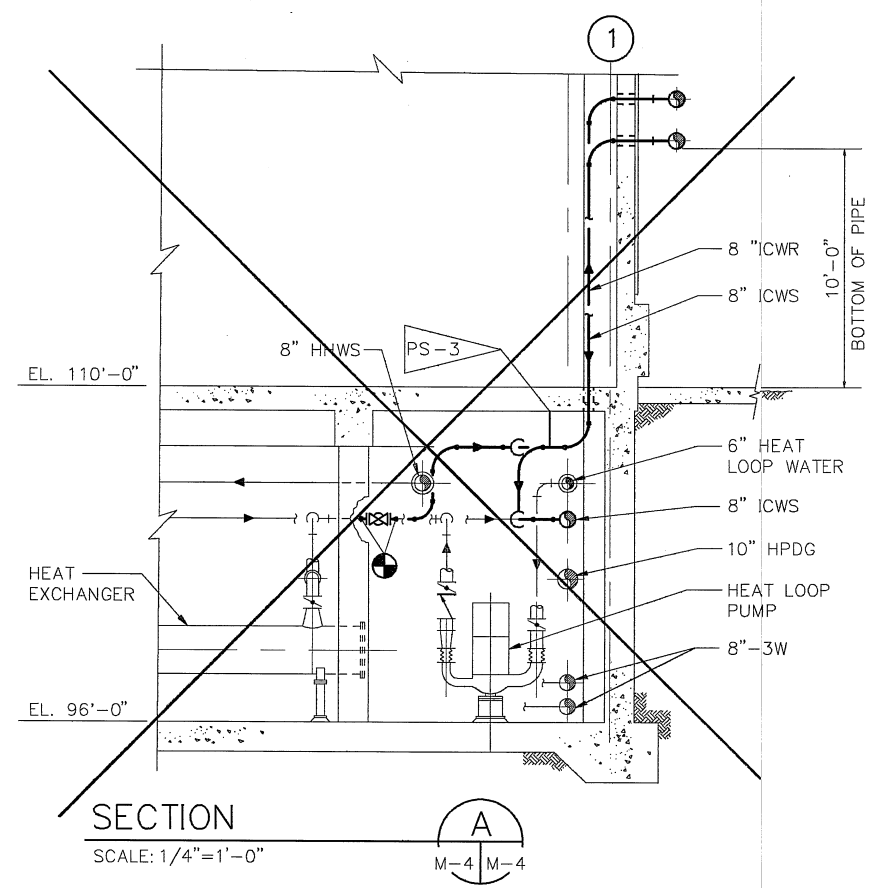
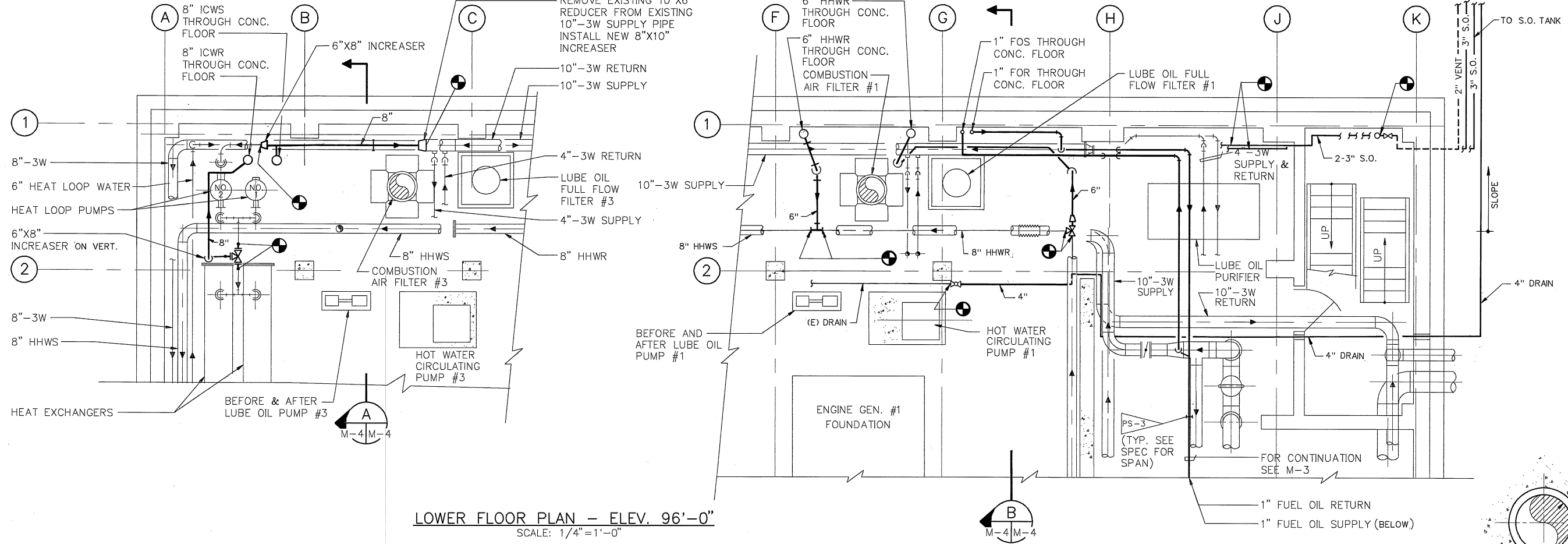
EAST BAY MUNICIPAL UTILITY DISTRICT SPECIAL DISTRICT NO. 1 OAKLAND, CALIFORNIA	
MECHANICAL	
LOWER FLOOR PIPING PLAN I AND SECTION	
DRAWN BY: CZ	DRAWING NO. 3554/M-3
SCALE: 1/4"=1'-0"	SHEET 7 OF 15
DATE: 11-22-91	

PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

NO.	DATE	REVISION	BY	REC.	APP.
0	3-18-92	ISSUED FOR BID	RGR		
1	12/1/93	IN SERVICE 24 JUN 94 AS BUILT	CBP	RW	MS
2	3-18-92	ISSUED FOR BID	RGR		

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY: R. De RUNA	PROJECT ENGR. CONNIE RISINGER
DESIGN CHECK BY: G. TIPTON / J.B.	R.P.E. NO. 24679
DRAWN BY: C. ZHANG	PROJECT MGR. MICHAEL J. MILLER
SR. PROJ. ENGR. J.R. LINDAHL	R.P.E. NO. 63970
APPROVED: [Signature]	MSR. OF SUPPORT SERVICES
PRINCIPAL-IN-CHARGE: R.P.E. NO. M021371	MSR. OF WASTEWATER



NOTES:

- BREAK OUT EXISTING WALL AND REMOVE ONLY ENOUGH REINFORCING STEEL TO INSTALL SLEEVE. APPLY WATERPROOF BONDING AGENT OVER EXISTING CONCRETE SURFACE BEFORE PLACING NON-SHRINK GROUT. DRY PACK FROM OUTSIDE WALL.
- WALL ABOVE GROUND SHALL BE CORE DRILLED AND WITH OUT DUCTILE IRON SLEEVES.

SLEEVE INSTALLATION THROUGH WALLS
(WATER BEARING) NOT TO SCALE



JOB NO. 3554A103
FILE NO.

PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

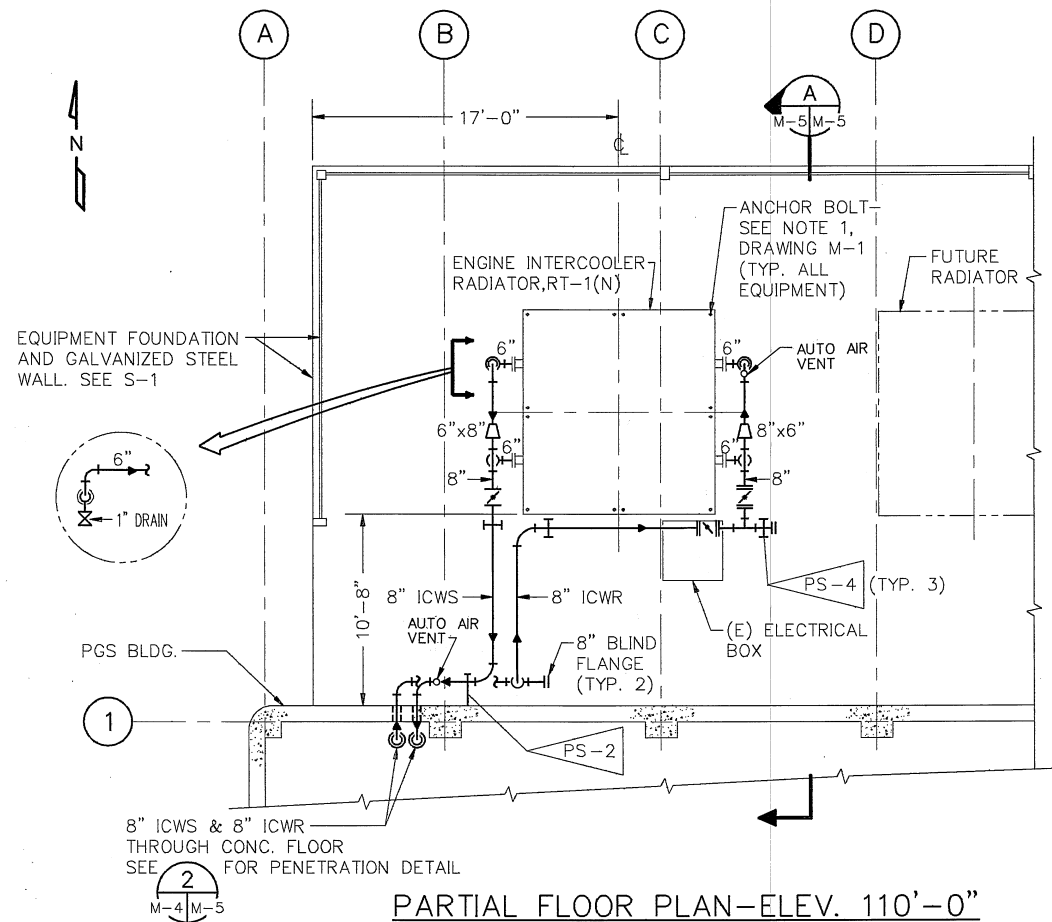
NO.	DATE	REVISION	BY	REC.	APP.
0	3-16-92	ISSUED FOR BID	AGR		
1	12/1/93	IN SERVICE 24 JUN 99 AS BUILT	RW	MD	733

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

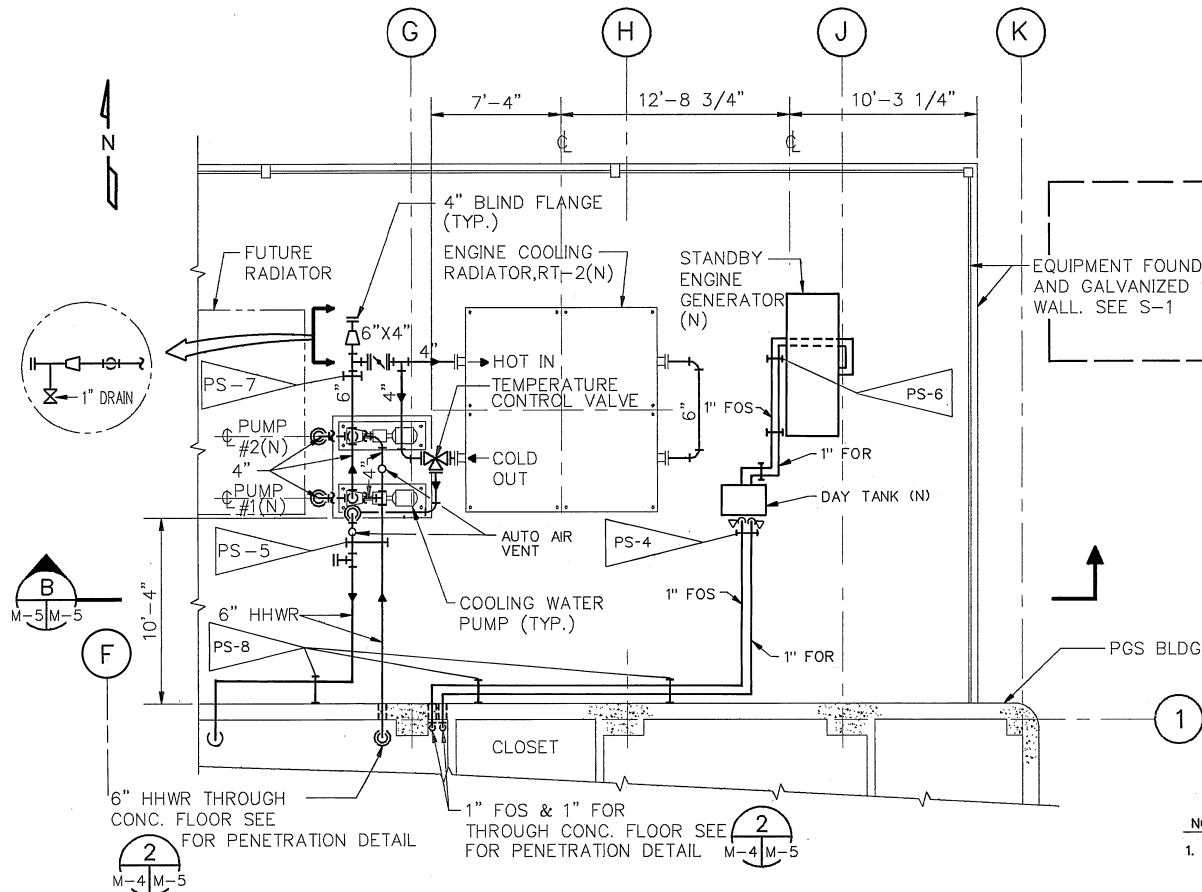
DESIGNED BY R. De RUNA
DESIGN CHECK BY G. TIPTON / J.B.
DRAWN BY S. KONG
SR. PROJ. ENGR. J.R. LINDAHL
APPROVED
PRINCIPAL-IN-CHARGE R.E. NO. M021371

PROJECT ENGR. Connie Riedinger
R.E. NO. C4809
PROJECT MGR. Bruce Graydon, L. Miller
MGR. OF SUPPORT SERVICES R.E. NO. C30416
MGR. OF WASTEWATER R.E. NO. 020255
Written J. Bishop

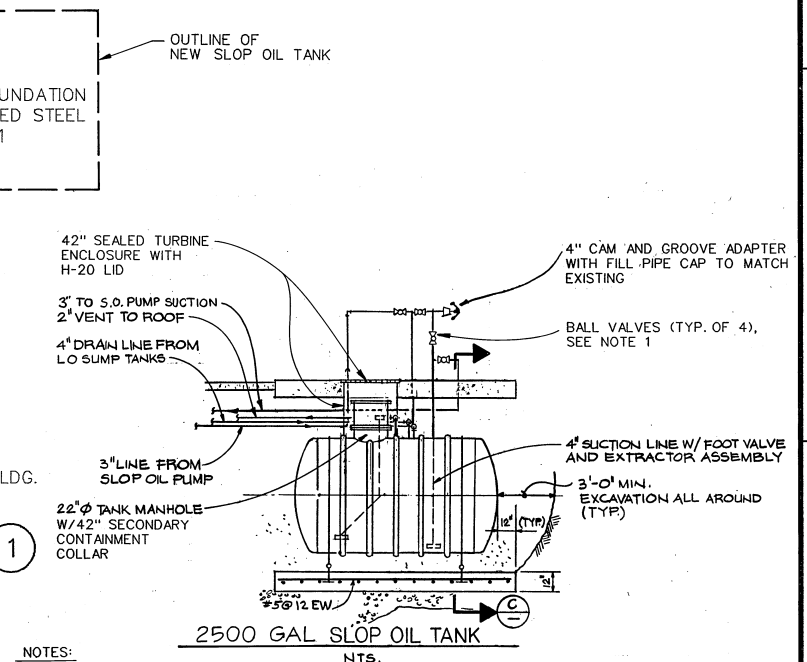
EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, CALIFORNIA
MECHANICAL
LOWER FLOOR PIPING PLAN II
AND SECTIONS
DRAWN BY SK
SCALE 1/4" = 1'-0"
DATE 11-22-91
DRAWING NO. 3554/M-4
SHEET 8 OF 15



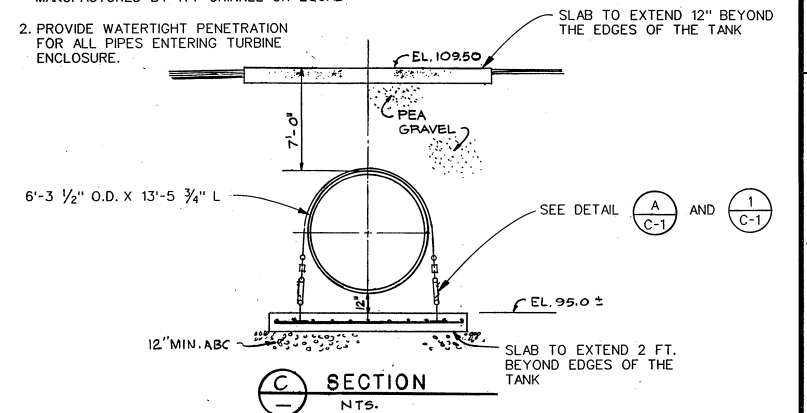
PARTIAL FLOOR PLAN-ELEV. 110'-0"
SCALE: 3/16"=1'-0"



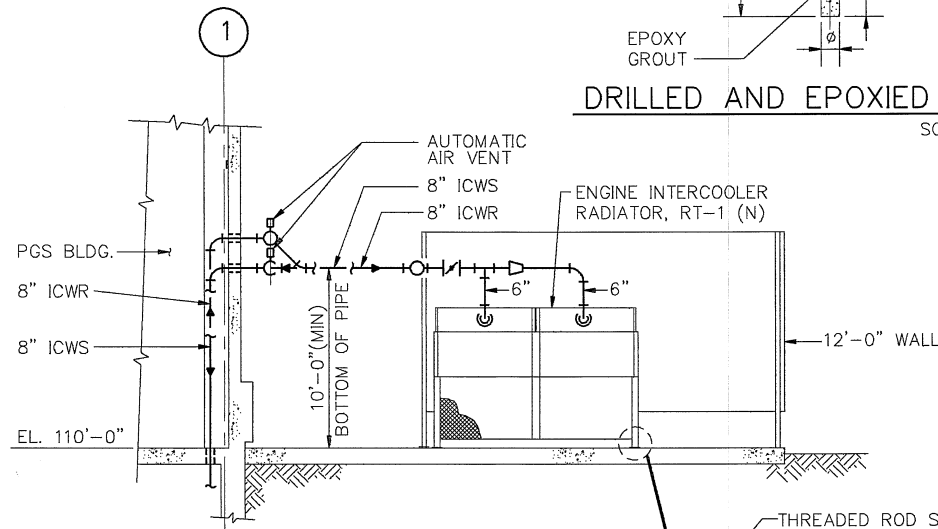
PARTIAL FLOOR PLAN-ELEV. 110'-0"
SCALE: 3/16"=1'-0"



- NOTES:
- THE VALVES SHALL BE FLANGED BALL VALVES WITH CARBON STEEL BODY, 316SS BALL AND STEM TEFLON SEATS AND SEALS AS MANUFACTURED BY ITT GRINNEL OR EQUAL.
 - PROVIDE WATERTIGHT PENETRATION FOR ALL PIPES ENTERING TURBINE ENCLOSURE.



SLOP OIL TANK AND PIPING

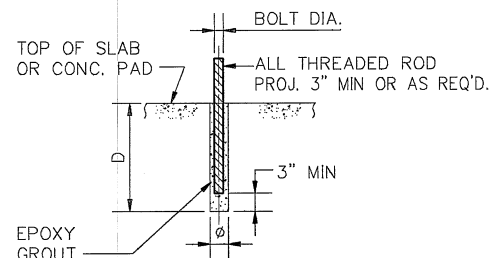


SECTION

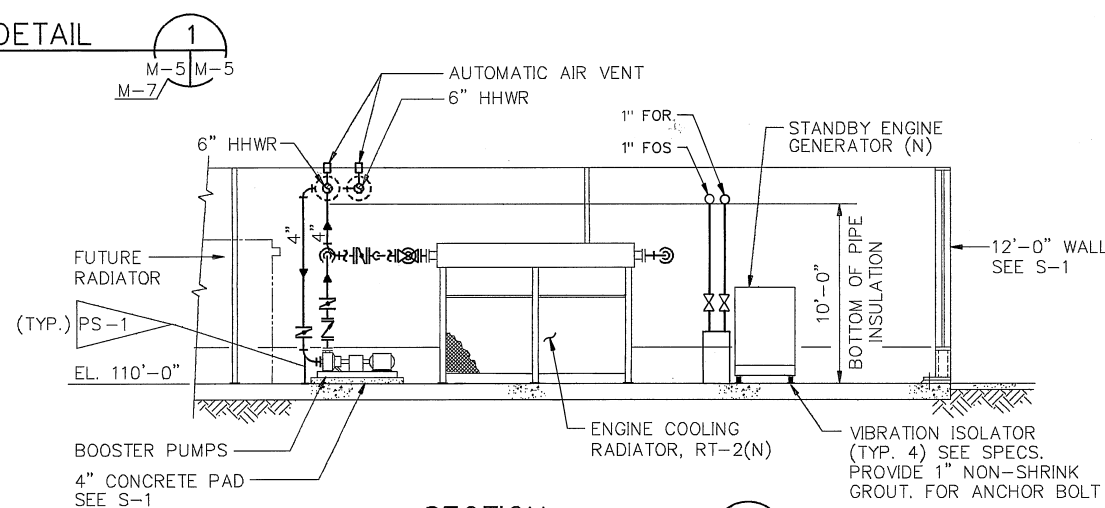
SCALE: 3/16"=1'-0"

DRILLED AND EPOXIED ANCHOR BOLT DETAIL

SCALE: NONE



BOLT DIA.	DRILLED HOLE Ø	D
1/2"	3/4"	5"
5/8"	7/8"	7"
3/4"	1"	9"



SECTION

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



EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, CALIFORNIA

MECHANICAL

MAIN FLOOR PIPING PLAN
(RADIATORS & EMERG. GENERATOR)

DRAWN BY: CZ
SCALE: 3/16"=1'-0"
DATE: 11-22-91
SHEET: 9 OF 15

PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS

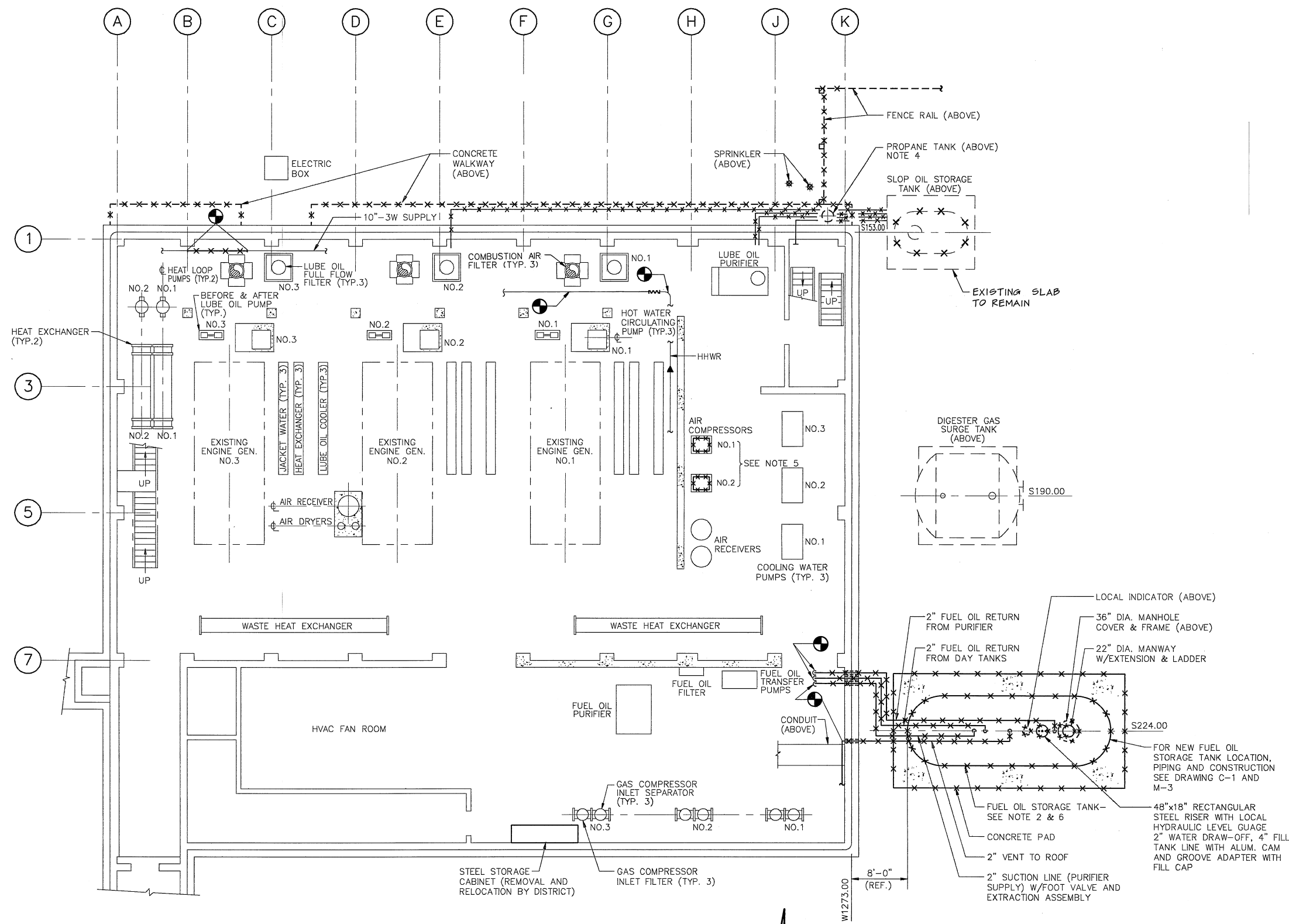
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY: R. De RUNA
DESIGN CHECK BY: G. TIPTON / J.B.
DRAWN BY: C. ZHANG
SR. PROJ. ENGR.: J.R. LINDAHL
APPROVED: [Signature]
PRINCIPAL IN CHARGE, R.P.E. NO. M021371

PROJECT ENGR.: [Signature]
R.P.E. NO. 04809
PROJECT MGR.: [Signature]
R.P.E. NO. C 30476
MGR. OF SUPPORT SERVICES: [Signature]
R.P.E. NO. C 30476
MGR. OF WASTEWATER: [Signature]
R.P.E. NO. C 26755

NO.	DATE	REVISION	BY	REC.	APP.
12/1/93	IN SERVICE	24 JUN 93	AS BUILT	INS.	
0	3-16-92	ISSUED FOR BID			



LOWER FLOOR PLAN-ELEV. 96'-0"
SCALE: 1/8"=1'-0"

GENERAL DEMOLITION NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF THE EXISTING FUEL OIL STORAGE TANK, CONCRETE SLAB ABOVE THE TANK AND CONCRETE FOUNDATION AND RELOCATION OF ALL INTERFERING OBSTACLES TO NEW CONSTRUCTION.
2. FOR EACH SERVICE CONNECTED TO REMOVED FUEL OIL STORAGE TANK, REMOVE ALL CONTROLS, INSTRUMENTS, ALARMS, PIPING AND ELECTRICAL WIRING AND CONDUIT NOT ESSENTIAL FOR NEW EQUIPMENT INSTALLATION, CAP ALL LINES AS REQUIRED.
3. EXERCISE EXTREME CARE WHEN REMOVING PARTS OF EXISTING SYSTEM SO AS NOT TO CAUSE DAMAGE TO THOSE PARTS WHICH ARE TO REMAIN AND BE CONNECTED.
4. REMOVE AND RELOCATE EXISTING PROPANE TANK. EXTEND (E) PIPING IF REQUIRED AND RECONNECT ALL FITTINGS. FOR NEW TANK LOCATION REFER TO EBMUD ENGINEER.
5. AIR COMPRESSORS MUST BE REMOVED INDIVIDUALLY. SECOND COMPRESSOR SHOULD NOT BE REMOVED UNTIL ONE NEW AIR COMPRESSOR IS INSTALLED AND OPERATIONAL.
6. CONTRACTOR MUST PROVIDE FUEL TRUCKS (SEE SPECS) FOR TEMPORARY FUEL SUPPLY UNTIL NEW TANK HAS BEEN INSTALLED AND FULLY TESTED AND ACCEPTED. EXISTING FUEL OIL SUPPLY LINE AND STORAGE TANK SHALL NOT BE DISCONNECTED UNTIL TEMPORARY CONNECTION TO FUEL TRUCK HAS BEEN MADE AND OPERATIONAL.



EAST BAY MUNICIPAL UTILITY DISTRICT SPECIAL DISTRICT NO. 1 OAKLAND, CALIFORNIA	
MECHANICAL	
DEMOLITION PLAN	
DRAWN BY: LW	DRAWING NO.: 3554/M-6
SCALE: 1/8"=1'-0"	SHEET 10 OF 15
DATE: 11-22-91	

PARSONS BRINCKERHOFF
ENGINEERS • PLANNERS • ARCHITECTS • CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

12/1/93	24 JUN 95	AS BUILT	CPB	RW	MJ	783
0	3-16-92	ISSUED FOR BID		RGR		
NO.	DATE	REVISION		BY	REC.	APP.

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY	R. De RUNA
DESIGN CHECK BY	G. TIPTON / J.B.
DRAWN BY	L. WANG
SR. PROJ. ENGR.	J.R. LINDAHL
APPROVED	<i>[Signature]</i>
PRINCIPAL IN CHARGE	R.P.E. NO. M021371

PROJECT ENGR.	Connie Riedinger
R.P.E. NO.	046804
PROJECT MGR.	Carrie Morgan L. Miller
R.P.E. NO.	050476
MGR. OF SUPPORT SERVICES	Michael Muller
R.P.E. NO.	020855
MGR. OF WASTEWATER	Walter F. Buhag
R.P.E. NO.	

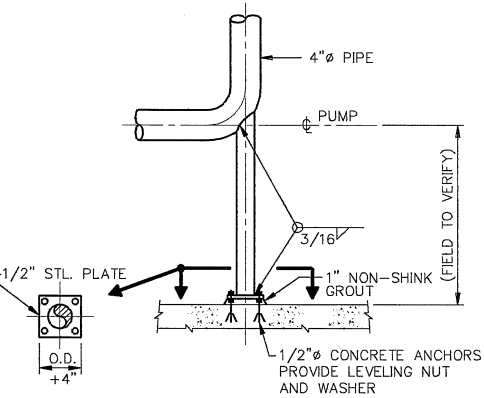
RADIATOR SCHEDULE																
MARK	SERVICE	LOCATION	FLOW GPM	FLUID	ALLOWABLE PRESSURE LOSS-PSI	HEAT REJECTION BTUH	TEMPERATURE -- °F			FAN MOTOR					REMARKS	
							AMBIENT	INLET	OUTLET	SEISMIC ZONE	HP	VOLTS	PH/HZ			TYPE
RT-1	ENGINE INTERCOOLER	YARD	650	WATER	2.0	1,700,000	77	96	90	4	50	460	3/60		TEFC	FOR FUTURE: HP=25, INLET=102°F OUTLET=96°F
RT-2	ENGINE COOLING	↓	300	↓	↓	7,600,000	89	190	139	↓	↓	↓	↓		↓	

TANK SCHEDULE											
MARK	SERVICE	LOCATION	CAPACITY (GAL.)	DIA. (FT.)	HT/LENGTH (FT.)	OPERATING PRESSURE	SUPPORTS	SEISMIC ZONE	TYPE	REMARKS	
AR-4	ENGINE START AIR	GAS COMP. SEPARATOR RM.	1350	5'-6"	9'-0" H	250 PSIG	LEG OR SKIRT & BASE RING HOLD DOWN STRAP	4	VERTICAL AIR RECEIVER	TANK SHALL HAVE ASME CODE STAMP (NOTE 1)	
TK-1	FUEL OIL STORAGE	YARD	25,000	10'-0" I.D.	46'-0" L			4	UNDERGROUND DOUBLE WALL	TANK SHALL HAVE UL LABEL (NOTE 3, C-1)	

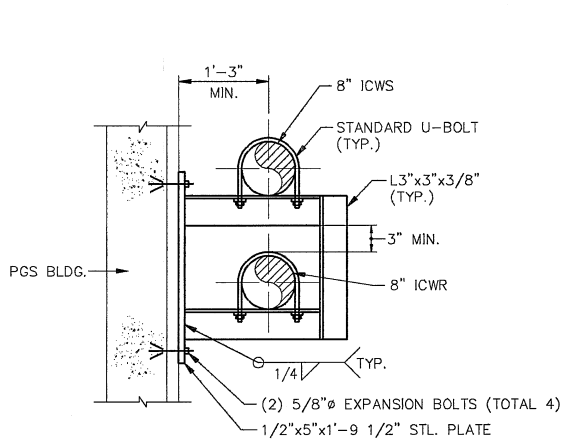
NOTE: 1. ACCESS TO BASEMENT IS THROUGH A HATCH IS 72 INCHES WIDE (+ INCHES LONG.) AIR RECEIVER INCLUDING NOZZLES SHALL FIT THROUGH THIS OPENING WITHOUT REQUIRING ROTATION OF TANK TO PROVIDE NOZZLE CLEARANCE.

PUMP SCHEDULE															
MARK	SERVICE	LOCATION	CAPACITY GPM	TOTAL HEAD-FT	AVAILABLE NPSH-FT	FLUID TEMP.	SEISMIC ZONE	TYPE	MOTOR					REMARKS	
									HP	RPM	VOLTS	PH/HZ	TYPE		
CWP-1	HHWR	YARD	300	85	6	190°F	4	CENTRIFUGAL END SUCTION	10	1760	460	3/60		TEFC	
CWP-2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓	

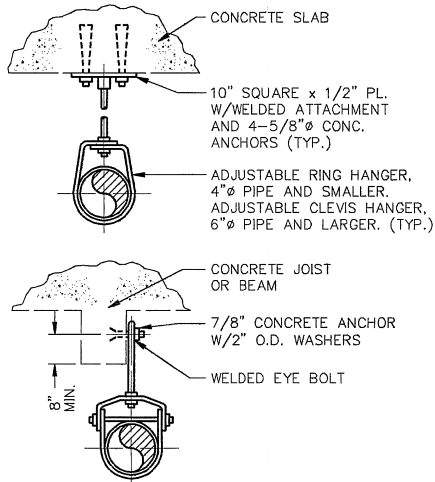
AIR COMPRESSOR SCHEDULE													
MARK	SERVICE	LOCATION	SEISMIC ZONE	CAPACITY PRESSURE	AMBIENT TEMP.	TYPE	MOTOR					REMARKS	
							HP	VOLTS	PH/HZ	RPM	TYPE		
AC-1	ENGINE START AIR	COMPRESSOR AREA	4	45 ACFM/250 PSIG	90°F	AIR COOLED	20	460	3/60	1760	TEFC	AIR COMPRESSORS SHALL MOUNT ON EXISTING CONCRETE FOUNDATIONS. MAX. BASE-PLATE OVERHUNG SHALL NOT EXCEED 3" ON ANY SIDE.	
AC-2	ENGINE START AIR	COMPRESSOR AREA	4	45 ACFM/250 PSIG	90°F	AIR COOLED	20	460	3/60	1760			



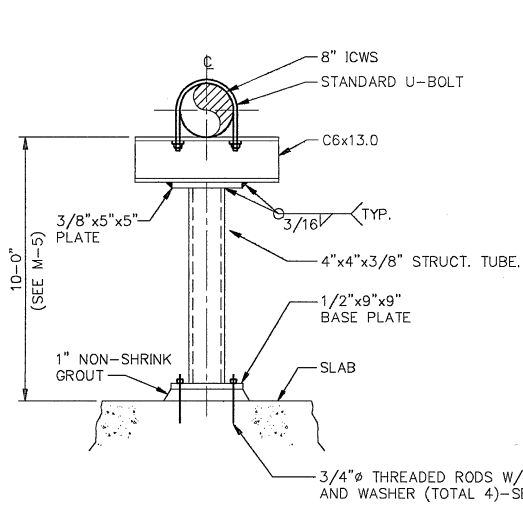
PIPE SUPPORT PS-1
NO SCALE



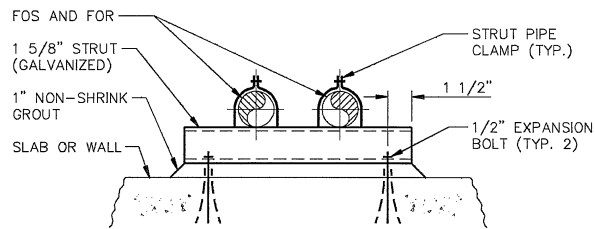
PIPE SUPPORT PS-2
NO SCALE



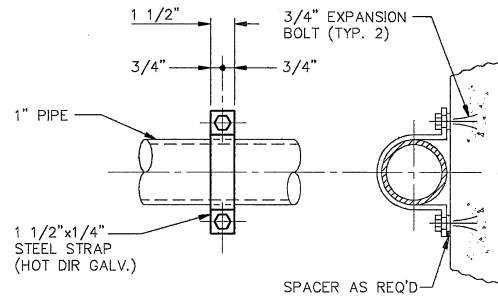
PIPE SUPPORT PS-3
NO SCALE



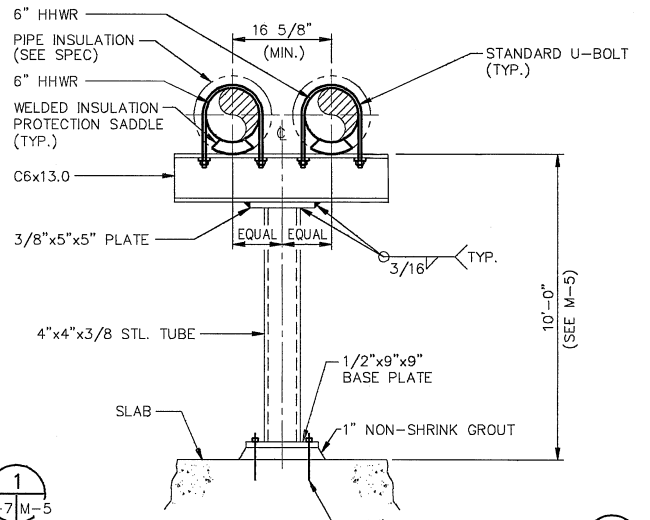
PIPE SUPPORT PS-4
NO SCALE



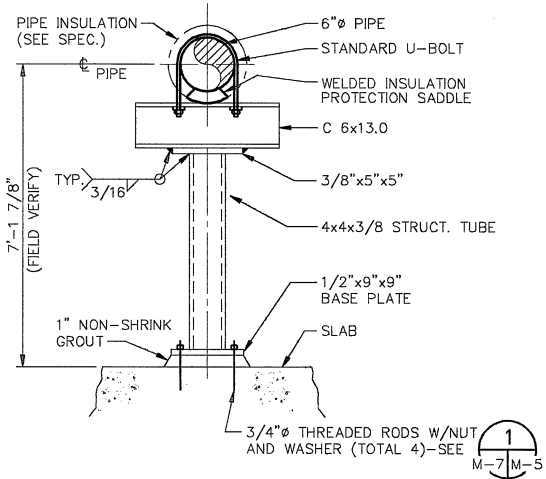
PIPE SUPPORT PS-6
NO SCALE



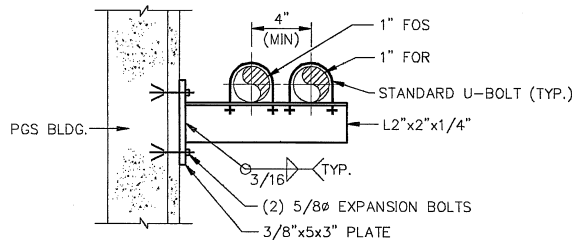
PIPE SUPPORT PS-9
NO SCALE



PIPE SUPPORT PS-5
NO SCALE



PIPE SUPPORT PS-7
NO SCALE



PIPE SUPPORT PS-8
NO SCALE



EAST BAY MUNICIPAL UTILITY DISTRICT SPECIAL DISTRICT NO. 1 OAKLAND, CALIFORNIA	
MECHANICAL	
MISCELLANEOUS DETAILS & EQUIPMENT SCHEDULE	
DRAWN BY: LW	DRAWING NO.: 3554/M-7
SCALE: NONE	SHEET: 11 OF 15
DATE: 11-22-91	

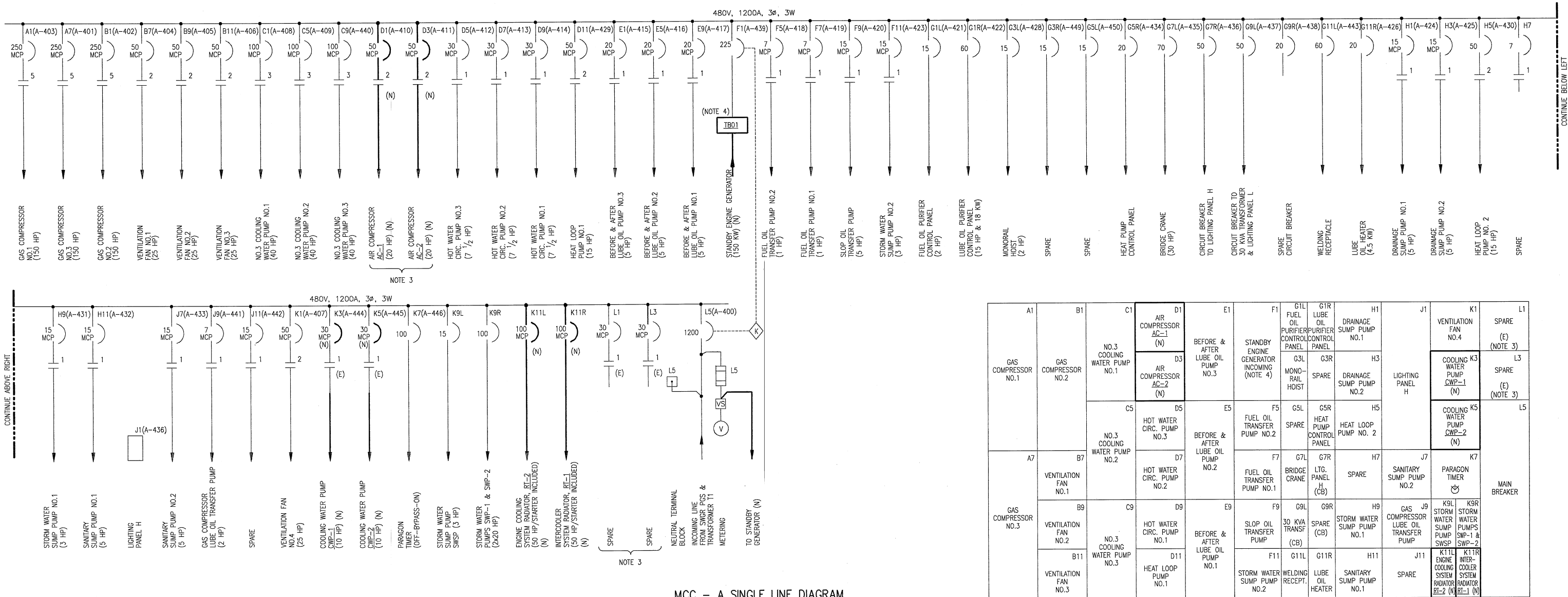
PARSONS BRINCKERHOFF
ENGINEERS • PLANNERS • ARCHITECTS • CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

NO.	DATE	REVISION	BY	REC.	APP.
0	12/11/93	ISSUED FOR BID	RW		
1	3-16-92	AS BUILT	RGR		

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY: R. De RUNA
DESIGN CHECK BY: G. TIPTON / J.B.
DRAWN BY: L. WANG
SR. PROJ. ENGR.: J.R. LINDAHL
APPROVED: [Signature]
PRINCIPAL IN CHARGE, R.P.E. NO. M021371

PROJECT ENGR.: [Signature]
R.P.E. NO. M014243
PROJECT MGR.: [Signature]
R.P.E. NO. M014243
MGR. OF SUPPORT SERVICES: [Signature]
R.P.E. NO. M014243
MGR. OF WASTEWATER: [Signature]
R.P.E. NO. M014243



A1	B1	C1	D1	E1	F1	G1L	G1R	H1	J1	K1	L1
GAS COMPRESSOR NO.1	GAS COMPRESSOR NO.2	NO.3 COOLING WATER PUMP NO.1	AIR COMPRESSOR AC-1 (N)	BEFORE & AFTER LUBE OIL PUMP NO.3	STANDBY ENGINE GENERATOR INCOMING (NOTE 4)	G3L FUEL OIL PURIFIER CONTROL PANEL	G3R LUBE OIL PURIFIER CONTROL PANEL	DRAINAGE SUMP PUMP NO.1	DRAINAGE SUMP PUMP NO.2	VENTILATION FAN NO.4	SPARE (E) (NOTE 3)
			AIR COMPRESSOR AC-2 (N)			G3L MONO-RAIL HOIST	G3R SPARE	H3 DRAINAGE SUMP PUMP NO.2		K3 COOLING WATER PUMP CWP-1 (N)	SPARE (E) (NOTE 3)
		C5	D5	E5	F5	G5L	G5R	H5		K5	L5
		NO.3 COOLING WATER PUMP NO.2	HOT WATER CIRC. PUMP NO.3	BEFORE & AFTER LUBE OIL PUMP NO.2	FUEL OIL TRANSFER PUMP NO.2	SPARE	HEAT PUMP CONTROL PANEL	HEAT LOOP PUMP NO. 2		K7	
A7	B7		D7		F7	G7L	G7R	H7	J7	K7	
GAS COMPRESSOR NO.3	VENTILATION FAN NO.1		HOT WATER CIRC. PUMP NO.2		FUEL OIL TRANSFER PUMP NO.1	BRIDGE CRANE	LTG. PANEL H (CB)	SPARE	SANITARY SUMP PUMP NO.2	PARAGON TIMER	MAIN BREAKER
	B9	C9	D9	E9	F9	G9L	G9R	H9	J9	K9	
	VENTILATION FAN NO.2	NO.3 COOLING WATER PUMP NO.3	HOT WATER CIRC. PUMP NO.1	BEFORE & AFTER LUBE OIL PUMP NO.1	SLOP OIL TRANSFER PUMP	30 KVA TRANSF (CB)	SPARE (CB)	STORM WATER SUMP PUMP NO.1	GAS COMPRESSOR LUBE OIL TRANSFER PUMP	K9R STORM WATER SUMP PUMP SWP-1 & SWSP	
			D11		F11	G11L	G11R	H11	J11	K11	
			HEAT LOOP PUMP NO.1		STORM WATER SUMP PUMP NO.2	WELDING RECEPT.	LUBE OIL HEATER	SANITARY SUMP PUMP NO.1	SPARE	K11R INTER-COOLER SYSTEM RADIATOR RT-2 (N)	

SYMBOLS		ABBREVIATIONS		NOTES	
	CIRCUIT BREAKER, LOW VOLTAGE, (15 INDICATES BREAKER RATING IN AMPERES)	A	AMPERE	LT	LEVEL TRANSMITTER
	COMBINATION MAGNETIC STARTER WITH MOTOR CIRCUIT PROTECTION (MCP) (1 INDICATES STARTER NEMA SIZE 15 INDICATES MCP RATING IN AMPERES)	B	BOTTOM	M	MOTOR, MAGNETIC STARTER
	CIRCUIT CONDUCTORS	BKR	BREAKER	MCC	MOTOR CONTROL CENTER
	CONTACT, NORMALLY OPEN	C	CONDUCTOR, CONDUIT	MCP	MOTOR CIRCUIT PROTECTOR
	CONTACT, NORMALLY CLOSED	CKT	CIRCUIT	MIP	MASTER INSTRUMENT PANEL
	SWITCH	CT	CURRENT TRANSFORMER	(N)	NEW
	FUSE	CPT	CONTROL POWER TRANSFORMER	N TO S	NORTH TO SOUTH
	GROUND	DP	DISTRIBUTION PANEL	NC	NORMALLY CLOSED
	METERS AND INSTRUMENTS (LETTER INDICATES TYPE, SEE ABBREVIATION)	DS	DISCONNECT SWITCH	NO	NORMALLY OPEN
	PRESSURE SWITCH, NORMALLY OPEN CONTACT	(E)	EXISTING	OL	OVERLOAD ELEMENT
	SELECTOR SWITCH	ELEC	ELECTRIC	PGS	POWER GENERATION STATION
	KIRK KEY	FS	FLOW SWITCH	PNL	PANEL
	VOLTMETER SWITCH	GEN	GENERATOR	SP	SPARE
	PHASE	GRND	GROUND	SRTR	STARTER
	NORMALLY OPEN TIME DELAYED CLOSING	HP	HORSEPOWER	SW	SWITCH
	THERMAL OVERLOAD ELEMENT	KVA	KILOVOLT-AMPERE	SWBD	SWITCHBOARD
	PILOT LIGHT (R-RED LENS)	KW	KILOWATT	SWGR	SWITCHGEAR
	MAGNETIC STARTER (COIL)	LE	LEVEL ELEMENT	YE	(LEAK) DETECTION SENSOR
	TEMPERATURE SWITCH NORMALLY OPEN CONTACT	LI	LEVEL INDICATOR	YIC	(LEAK) DETECTION INDICATING CONTROLLER
	FLOW SWITCH NORMALLY OPEN CONTACT	LO	LOCK OUT	YA	(LEAK) DETECTION ALARM

- MCC - A (PGS) IS LOCATED IN THE POWER GENERATION STATION.
- NEW STARTERS AND FEEDERS ARE INDICATED BY BOLD LINES. CONTRACTOR TO SUPPLY STARTERS AND MCP'S OF PROPER SIZE TO PROTECT MOTORS FURNISHED IF DIFFERENT THAN SHOWN.
- CONTRACTOR SHALL PUT EXISTING SIZE 1 STARTERS FROM COMPARTMENTS D1 & D3 IN SPACE L1 & L3. NEW SIZE 2 STARTERS SHALL BE INSTALLED IN COMPARTMENTS D1 & D3.
- FEEDER TO TB01 IS EXISTING.

- REFERENCE DRAWINGS
- SD 135, DRAWING JC-E-4, SINGLE LINE DIAGRAM - 480V, JOHN CAROLLO ENGINEERS.
 - SD 178, DRAWING E-3, SINGLE LINE DIAGRAMS AND SCHEDULE, JOHN CAROLLO ENGINEERS.
 - E-8 OF O & M MANUAL.



EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, CALIFORNIA

ELECTRICAL
MCC - A
SINGLE LINE DIAGRAM
ELEVATION, SYMBOLS AND LEGEND

DRAWN BY: SK
SCALE: NONE
DATE: 11-22-91

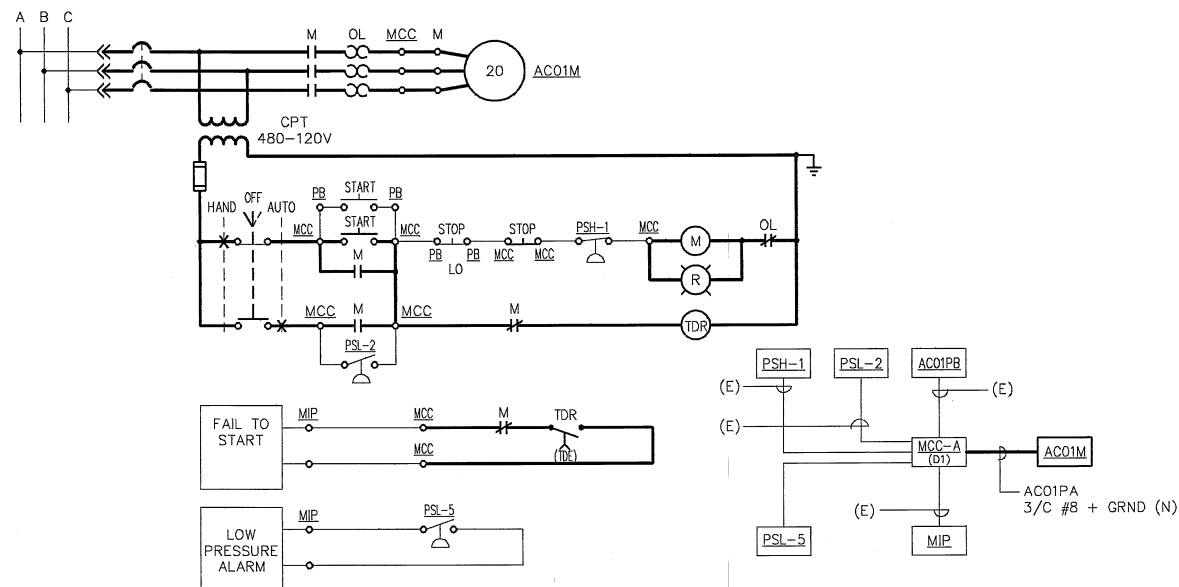
DRAWING NO.: 3554/E-1
SHEET 12 OF 15

PARSONS BRINCKERHOFF
ENGINEERS • PLANNERS • ARCHITECTS • CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

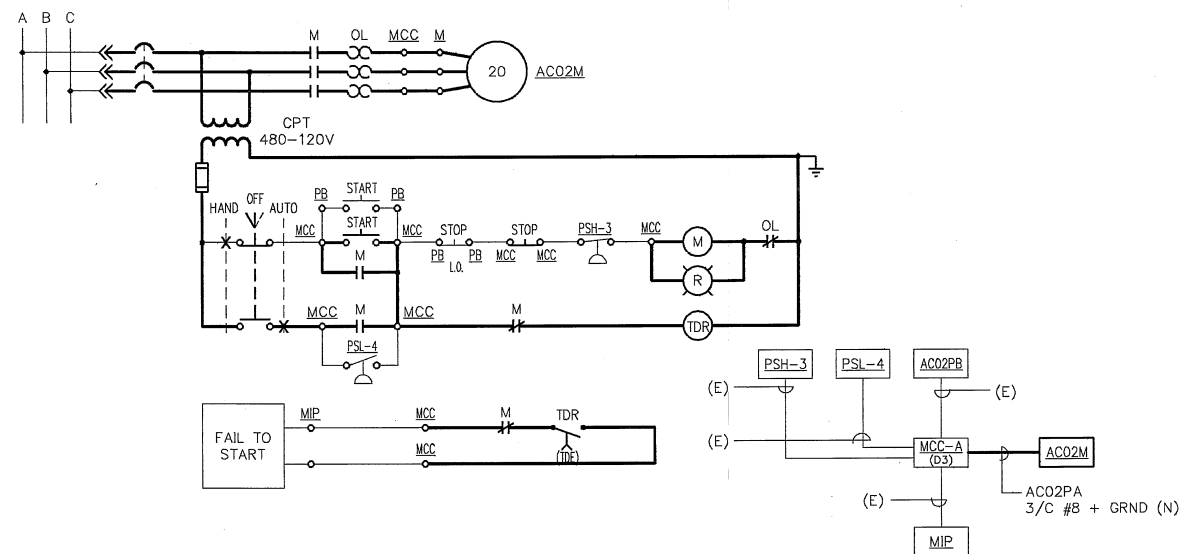
NO.	DATE	REVISION	BY	REC.	APP.
12/1/93	24 JUN 93	AS BUILT	CPG	RW	NPJ
0	3-16-92	ISSUED FOR BID			

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

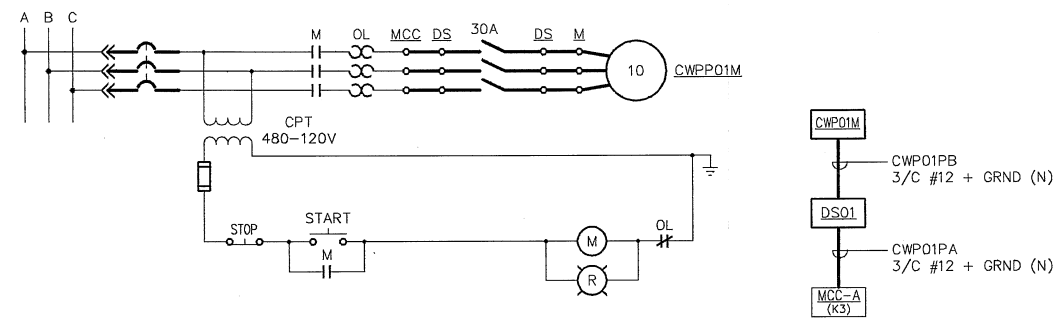
DESIGNED BY	A. BORGIA	PROJECT ENGR.	Leonard Ch-Ping Lee
DESIGN CHECK BY	J.R. LINDAHL, J.B. [initials]	R.P.E. NO.	03407
DRAWN BY	S. KONG	PROJECT MGR.	Michael [initials]
SR. PROJ. ENGR.	J.R. LINDAHL	R.P.E. NO.	03407
APPROVED	[Signature]	MGR. OF WASTEWATER	Michael [initials]
PRINCIPAL IN-CHARGE	R.P.E. NO. M021371	R.P.E. NO.	03407



ELEMENTARY AND BLOCK DIAGRAMS FOR AIR COMPRESSOR AC-1

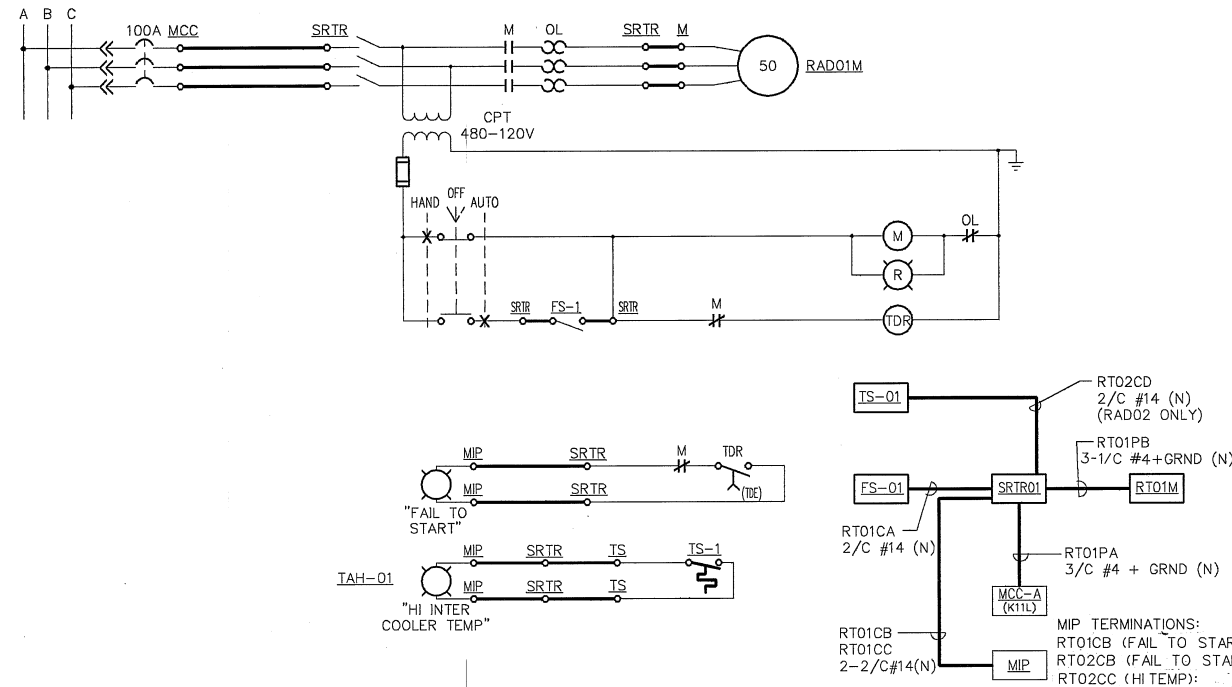


ELEMENTARY AND BLOCK DIAGRAMS FOR AIR COMPRESSOR AC-2



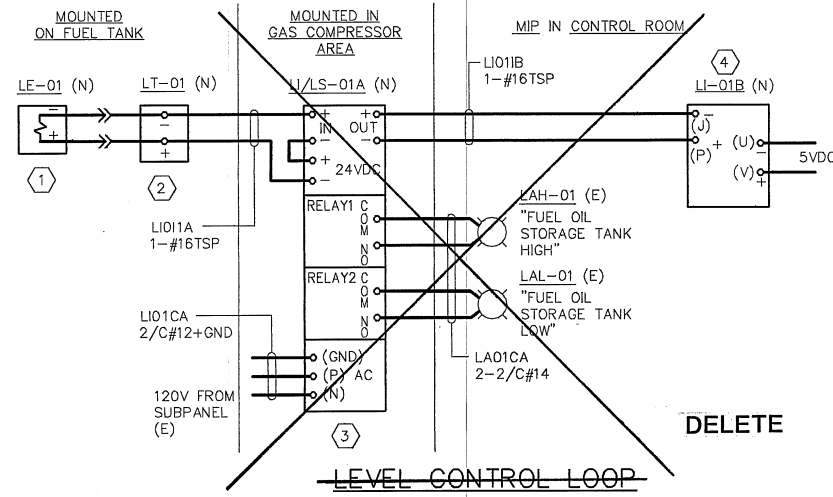
ELEMENTARY AND BLOCK DIAGRAMS FOR COOLING WATER PUMP CWP-1
(TYPICAL FOR COOLING WATER PUMP CWP-2-SEE ADAPTOR TABLE BELOW)

EQP'T NO.	DESCRIPTION	MCC A COMP.	CABLES
CWP01	COOLING WATER PUMP NO. 1	K3	CWP01PA, CWP01PB
CWP02	COOLING WATER PUMP NO. 2	K5	CWP02PA, CWP02PB



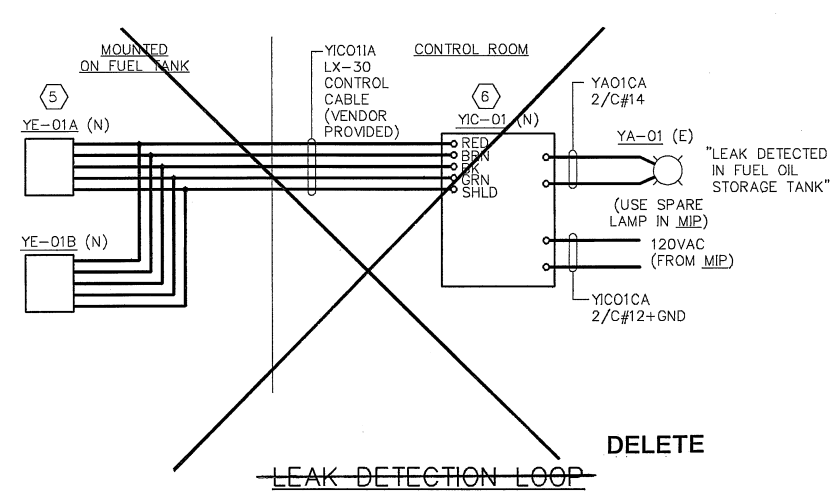
ELEMENTARY AND BLOCK DIAGRAMS FOR ENGINE COOLING SYSTEM RADIATOR RT-1
(TYPICAL FOR INTERCOOLER SYSTEM RADIATOR - SEE ADAPTOR TABLE BELOW)

EQP'T NO.	DESCRIPTION	MCC A	BKR COMP.	FLOW SWITCH FOR AUTO OP	TEMP SWITCH FOR HIGH ALARM	CABLES
RT-1	ENGINE COOLING SYSTEM RADIATOR	K11L		FS-01	TS-01	RT01PA, PB, CA, CB, CC
RT-2	INTERCOOLER SYSTEM RADIATOR	K11R		FS-02	TS-02	RT02PA, PB, CA, CB, CC



ITEM NO.	DESCRIPTION	MANUFACTURER OR EQUAL	MODEL NO.	FUNCTION	ENCLOSURE
1	LEVEL SENSOR	METRITAPE	LA-CR	LEVEL MEASURING SENSOR	INSERT IN INNER TANK
2	LEVEL TRANSMITTER	METRITAPE	SIGCON NO. 715	PROVIDES 4-20mADC SIGNAL TO LOCAL INDICATOR (GAUGE)	NEMA 4
3	LEVEL INDICATOR	NEWPORT	P6-0-2-4-FS	CONVERTS 4-20mADC SIGNAL FOR LOCAL INDICATION (IN GALS) AND REMOTE ALARM	NEMA 4
4	LEVEL INDICATOR	DIXSON, INC.	BE101	REPLACES EXISTING ANALOG GAUGE WITH INSUFFICIENT RANGE	MOUNTED ON MIP (REPLACES EXISTING "FUEL OIL STORAGE TANK LEVEL INDICATOR")
5	LEAK SENSORS	LEAK-X	NU-C4200-XOC NU-C4200-CC	LEAK DETECTION SENSOR	YE-01A-BOTTOM OF INNER TANK YE-01B-PIPE COLLAR
6	LEAK INDICATOR CONTROLLER	LEAK-X	M210	MONITORS LEAK DETECTION SENSORS & PROVIDES VISIBLE AND AUDIBLE ALARMS	MOUNTED IN CONVENIENT LOCATION IN CONTROL ROOM

FUEL OIL STORAGE TANK INSTRUMENTATION LOOP DIAGRAMS



EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, CALIFORNIA

ELECTRICAL

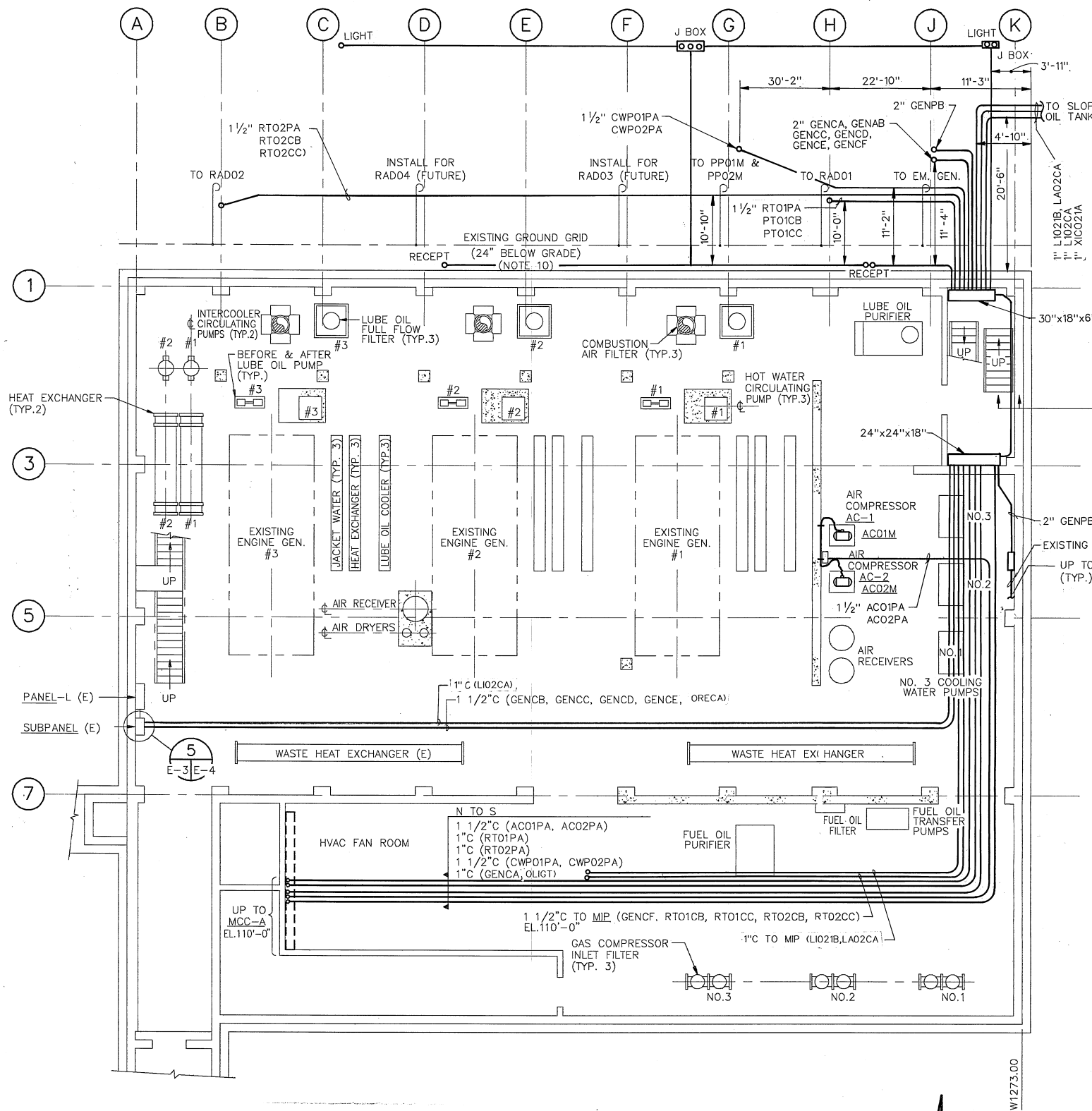
ELEMENTARY DIAGRAMS AND
MISCELLANEOUS BLOCK DIAGRAMS

DRAWN BY: LW
SCALE: NONE
DATE: 11-22-91
DRAWING NO.: 3554/E-2
SHEET: 13 OF 15

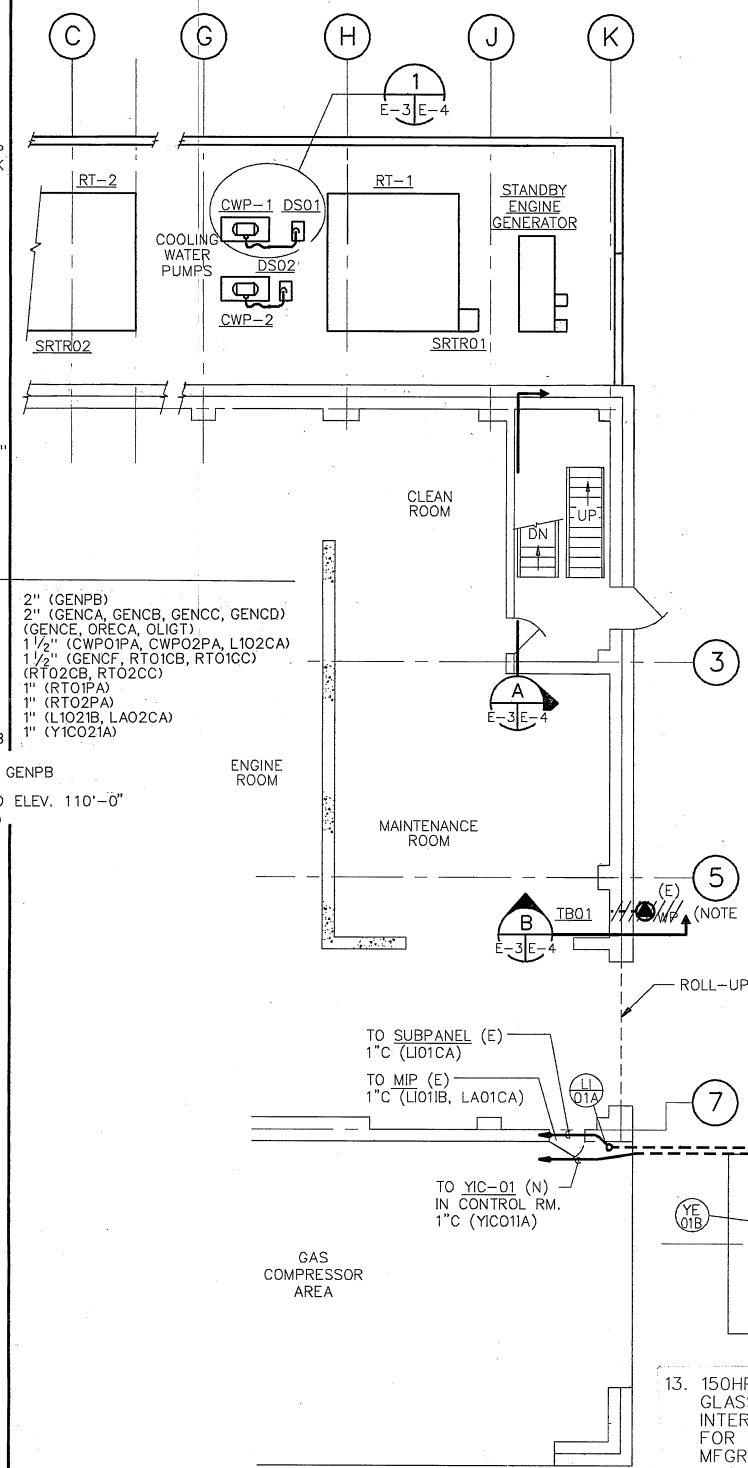
PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY: A. BORGIA
DESIGN CHECK BY: J.R. LINDAHL, J.B.
DRAWN BY: L. WANG
SR. PROJ. ENGR. J.R. LINDAHL
APPROVED: [Signature] 2-16-92
PRINCIPAL IN CHARGE, R.P.E. NO. M021371
PROJECT ENGR. [Signature]
PROJECT MGR. [Signature]
MGR. OF SUPPORT SERVICES [Signature]
MGR. OF WASTEWATER [Signature]



LOWER FLOOR PLAN - ELEV. 96'-0"
SCALE: 1/8"=1'-0"



MAIN FLOOR PARTIAL PLAN - ELEV. 110'-0"
SCALE: 1/8"=1'-0"

NOTES:

- FOR ELECTRICAL LEGEND AND GENERAL NOTES SEE DRAWING 3554/E-1.
- ONLY RELEVANT ELECTRICAL EQUIPMENT IS SHOWN.
- NEW EQUIPMENT AND CONDUIT ARE SHOWN IN HEAVY LINES ON PLAN. CROSSHATCHES INDICATE EQUIPMENT OR RACEWAY TO BE REMOVED. FOR ACTUAL EQUIPMENT LOCATION, SEE MECHANICAL PLAN DRAWINGS.
- ALL PENETRATIONS SHALL PRECLUDE DAMAGE TO OR DRILLING OF STRUCTURAL STEEL.
- CONTRACTOR SHALL INSTALL ALL NEW CONDUIT BY UTILIZING THE SHORTEST ROUTE AND AVOIDING UNNECESSARY BENDS. EXISTING CONDUIT RACKS SHALL BE USED WHERE POSSIBLE.
- CONTRACTOR SHALL ENSURE THAT ALL NEW AND RELOCATED ELECTRICAL EQUIPMENT & RACEWAY ARE EFFECTIVELY GROUND TO THE EXISTING BUILDING GROUND.
- ALL NEW CONDUIT SHALL BE 3/4" C RIGID GALVANIZED STEEL UNLESS INDICATED OTHERWISE.
- AFTER REMOVING 480V RECEPTACLE, CONTRACTOR SHALL TERMINATE CONDUCTORS IN TB01 AND SEAL WALL PENETRATION PER SECTION B ON DWG. E-4.
- CONTRACTOR SHALL SIZE J-BOXES AS REQUIRED.
- ALL STEEL MEMBERS, INCLUDING REBAR IN THE NEW CONCRETE PADS SHALL BE BONDED TO THE EXISTING GROUND GRID WITH #2/0 BARE COPPER CONDUCTOR USING EXOTHERMIC WELDS. #4/0 BARE COPPER GROUND PIGTAILS SHALL BE PROVIDED FOR ALL NEW EQUIPMENT ENCLOSURES.
- CONTRACTOR SHALL DISCONNECT AND REMOVE ALL CABLE TO THE EXISTING LEVEL GAUGE. BREAKER NO. 139 IN PANEL "L" SHALL BE NOTED AS A "SPARE" BREAKER ON THE PANEL SCHEDULE.
- OUTDOOR RATED RECEPTACLES, NEMA 4X USE #12 AWG, THWN WIRES.
- 150HPS, 277V FIXTURE, PRISMATIC GLASS GLASS REFRACTOR, NEOPRENE GASKETS, INTERNAL BALLAST UL LISTED, SUITABLE FOR WET LOCATIONS, WITH PHOTOCONTROL. MFR.: HOLOPHANE, HUBBELL OR EQUAL.
- OUTDOOR LIGHTING AND RECEPT'S LOCATIONS TO BE FIELD ADJUSTED.



EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
OAKLAND, CALIFORNIA

ELECTRICAL

LAYOUT - PLANS
ELEV. 96'-0" & 110'-0"

DRAWN BY SK
SCALE 1/8"=1'-0"
DATE 11-22-91
DRAWING NO. 3554/E-3
SHEET 14 OF 15

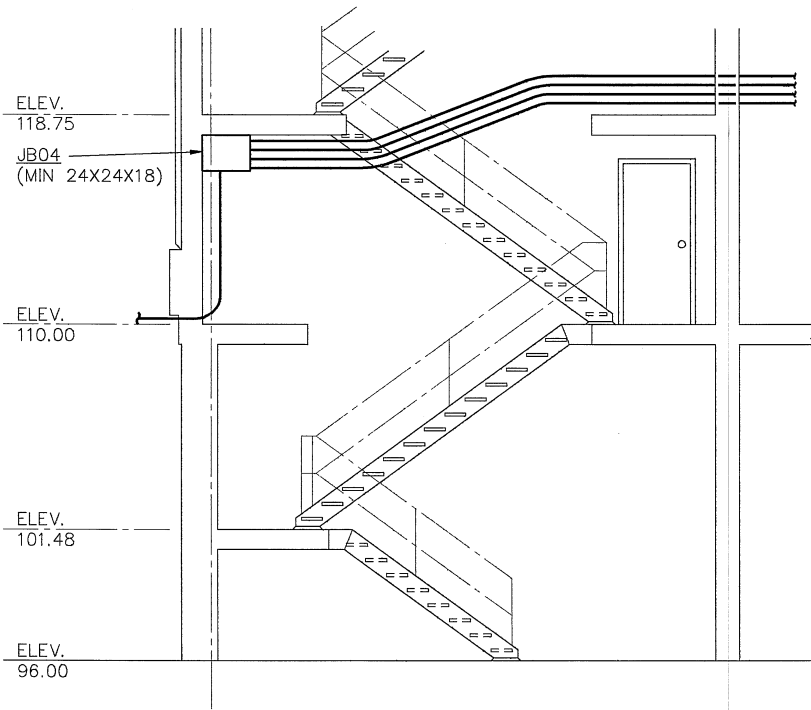
PARSONS BRINCKERHOFF
ENGINEERS-PLANNERS-ARCHITECTS-CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

NO.	DATE	REVISION	BY	REC.	APP.
1	12/1/93	IN SERVICE	AS BUILT		
2	15 MAY 92	INCORP. ADDEN. NO. 2			
3	3-16-92	ISSUED FOR BID			

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

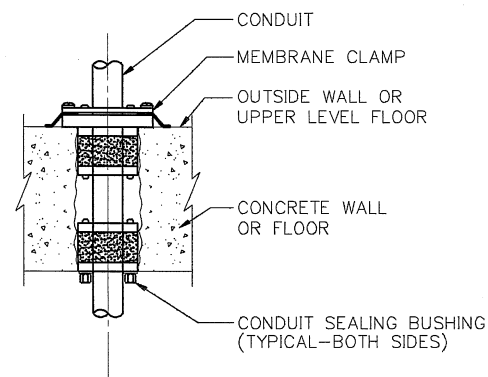
DESIGNED BY A. BORGIA
DESIGN CHECK BY J. R. LINDAHL, J.B.
DRAWN BY S. KONG
SR. PROJ. ENGR. J.R. LINDAHL
APPROVED
PRINCIPAL IN CHARGE, R.P.E. NO. M021371

PROJECT ENGR. *Conni Redinger*
R.P.E. NO. *00000*
PROJECT MGR. *Michael J. Miller*
R.P.E. NO. *00000*
MGR. OF SUPPORT SERVICES
R.P.E. NO. *00000*
MGR. OF WASTEWATER
R.P.E. NO. *00000*
Michael J. Miller



SECTION
NTS

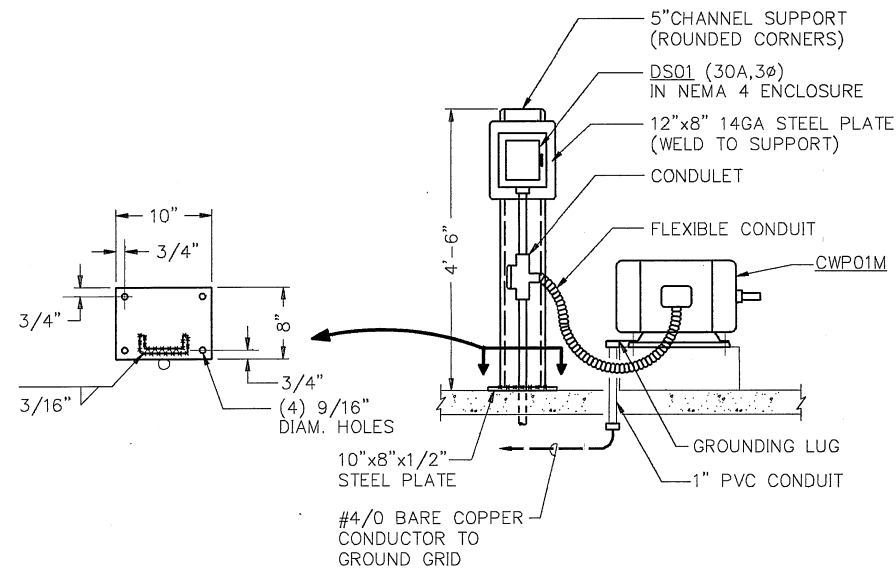
A
E-3|E-4



DETAIL - TYPICAL WALL
& SLAB PENETRATION

2
E-3|E-4

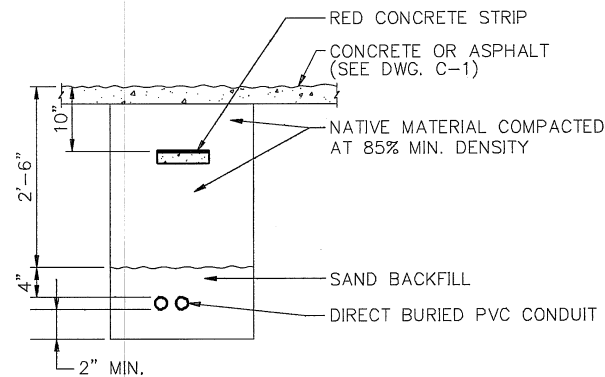
NTS



DETAIL - DS-01 MOUNTING

(TYPICAL FOR DS-02)
NTS

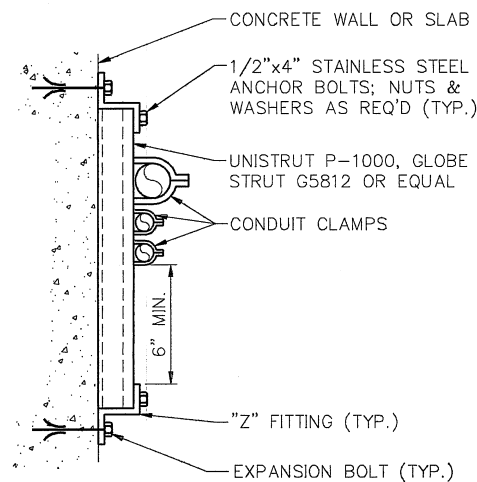
1
E-3|E-4



DETAIL - BURIED PVC CONDUIT

3
E-3|E-4

NTS



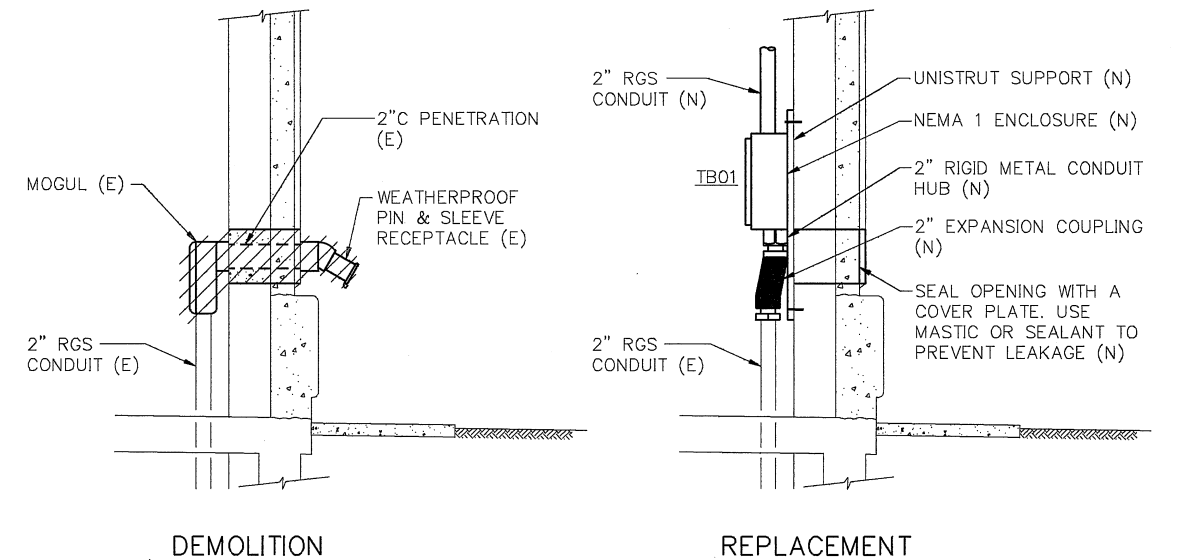
DETAIL - CONDUIT SUPPORT

(TYPICAL FOR ALL CONDUIT RUNS)

4
E-3|E-4

NOTES:

1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. CHANNEL AND ALL SUPPORT DEVICES TO BE HOT DIP GALVANIZED STEEL. FIELD COAT ALL CUTS, ETC. TO MATCH.
3. CHANNELS TO BE SPACED 5' MAXIMUM.



SECTION
NO SCALE

B
E-3|E-4

SUBPANEL (E)					
208Y/120V, 3Ø, 4W					
CIRCUIT NUMBER	BKR. RATING	LOADS	LOADS	BKR. RATING	CIRCUIT NUMBER
1	—	(SPACE)	(SPACE)	—	2
3	—	(SPACE)	(SPACE)	—	4
5	—	(SPACE)	(SPACE)	—	6
7	20A	GEN. #3 WIND. HTR.	MUX TRANSMITTER	20A	8
9	20A	GEN. #2 WIND. HTR.	GAS HOLDER INLET VLV	20A	10
11	20A	GEN. #1 WIND. HTR.	RF-2	20A	12
13	15A	INSTR. AIR DRYER	STNBY GEN. JACKET HTR. (N)	20A	14
15	20A	HEAT LOOP TIME RELAY	STNBY GEN. BATTERY CHRGR (N)	20A	16
17	20A		STNBY GEN. (SPACE HEATER) (N)	20A	18
19		LI / LS02 POWER (N)	LI/LS01 POWER (N)	20A	20
21		OUTDOOR RECEPT.	STNBY GEN. (SPARE) (N)	20A	22
23	—	(SPACE)	(SPACE)	—	24
25	—	(SPACE)	(SPACE)	—	26
27	—	(SPACE)	(SPACE)	—	28
29	—	(SPACE)	(SPACE)	—	30
31	—	(SPACE)	(SPACE)	—	32

DETAIL

5
E-3|E-4

NOTES:

1. FOR ELECTRICAL LEGEND SEE DWG. 3554/E-1.
2. FOR GENERAL NOTES SEE DWG. 3554/E-3.



EAST BAY MUNICIPAL UTILITY DISTRICT SPECIAL DISTRICT NO. 1 OAKLAND, CALIFORNIA	
ELECTRICAL	
SECTIONS & DETAILS	
DRAWN BY: DC/LW	DRAWING NO.: 3554/E-4
SCALE: NONE	SHEET: 15 OF 15
DATE: 11-22-91	

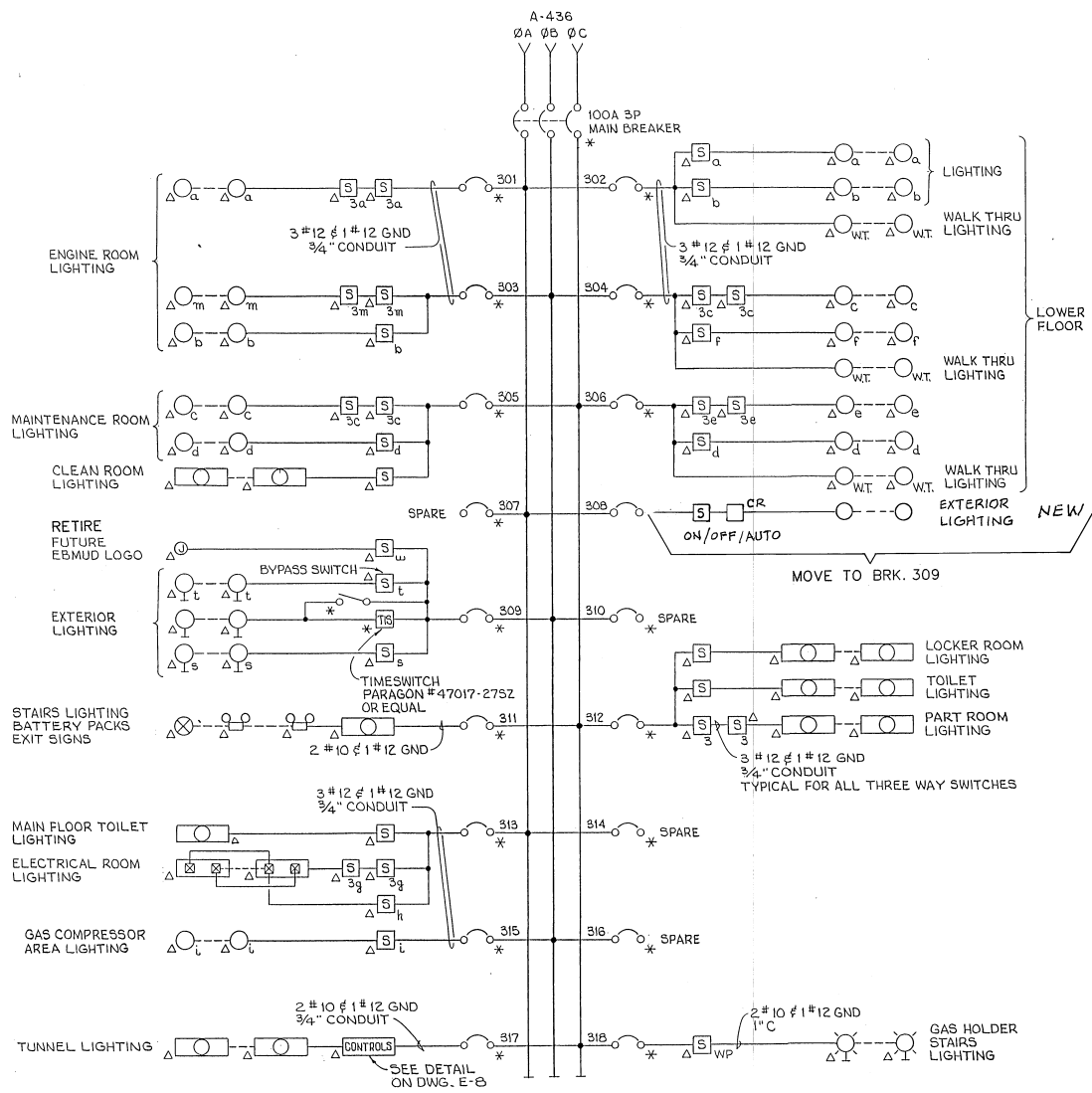
PARSONS BRINCKERHOFF
ENGINEERS • PLANNERS • ARCHITECTS • CONSTRUCTION MANAGERS
1068 MISSION STREET
SAN FRANCISCO, CALIFORNIA 94103

NO.	DATE	REVISION	BY	REC.	APP.
1	12/1/93	IN SERVICE 24 JUN 93 AS BUILT	INS.		
2	15 MAY 92	IN CORP. ADDEN. NO. 2	RW	MM	JS
3	3-16-92	ISSUED FOR BID	RYE	MM	JS

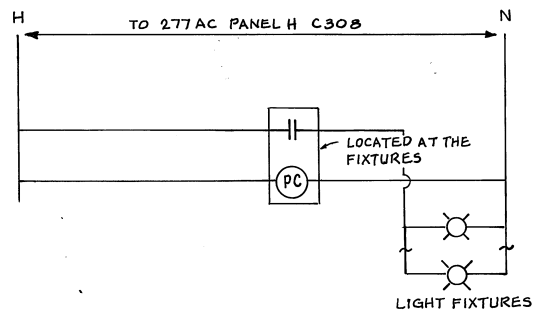
POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY: A. BORGIA	PROJECT ENGR. R.P.E. NO. 63966
DESIGN CHECK BY: J.R. LINDAHL, J.B. HAY	PROJECT MGR. R.P.E. NO. 63966
DRAWN BY: D. CHIN	MGR. OF SUPPORT-SERVICES R.P.E. NO. 63966
SR. PROJ. ENGR. J.R. LINDAHL	MGR. OF WASTEWATER R.P.E. NO. 63966
APPROVED: [Signature]	PROJECT IN-CHARGE R.P.E. NO. 6021371

PROJECT ENGR. R.P.E. NO. 63966	PROJECT MGR. R.P.E. NO. 63966
MGR. OF SUPPORT-SERVICES R.P.E. NO. 63966	MGR. OF WASTEWATER R.P.E. NO. 63966
PROJECT IN-CHARGE R.P.E. NO. 6021371	

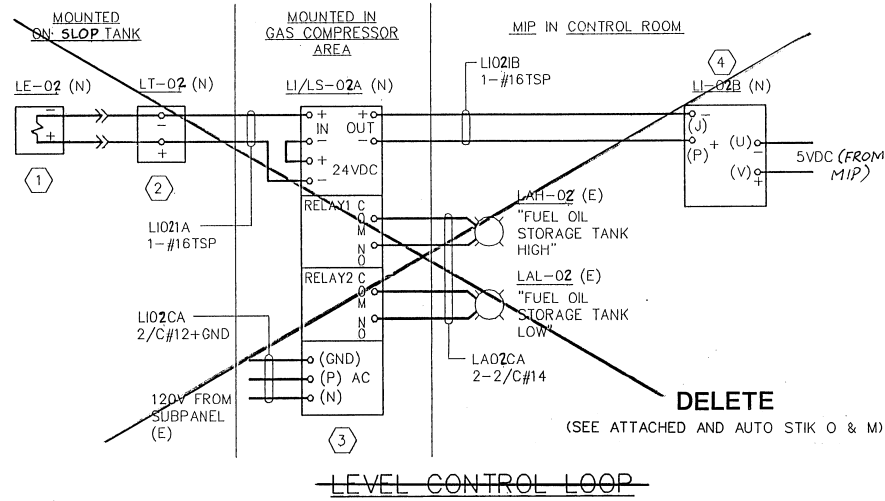


SINGLE LINE DIAGRAM LIGHTING PANEL "H"
(EXISTING PANEL MCGA)



LIGHTING CONTROL SCHEMATIC

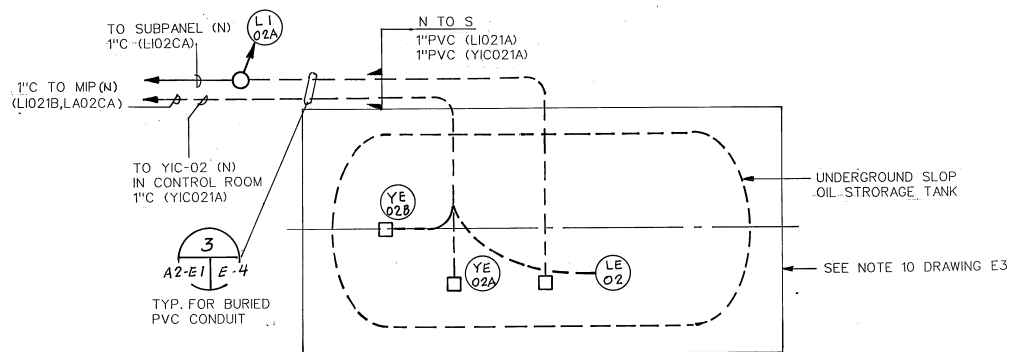
* CONTROL RELAY AND ON/OFF/AUTO SELECTOR SWITCH LOCATED AT MCC SPARE UNIT H7.



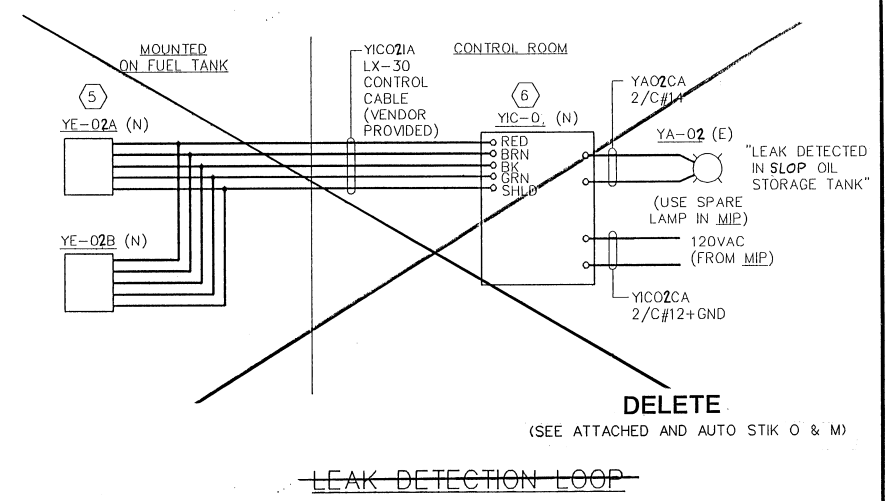
LEVEL CONTROL LOOP

ITEM NO.	DESCRIPTION	MANUFACTURER OR EQUAL	MODEL NO.	FUNCTION	ENCLOSURE
1	LEVEL SENSOR	METRITAPE	LA-CR	LEVEL MEASURING SENSOR	INSERT IN INNER TANK
2	LEVEL TRANSMITTER	METRITAPE	SIGCON NO. 715	PROVIDES 4-20mADC SIGNAL TO LOCAL INDICATOR (GAUGE)	NEMA 4
3	LEVEL INDICATOR	NEWPORT	P6-0-2-4-FS	CONVERTS 4-20mADC SIGNAL FOR LOCAL INDICATION (IN GALS) AND REMOTE ALARM	NEMA 4
4	LEVEL INDICATOR	DIXSON, INC.	BE101	NEW ANALOG GAUGE	MOUNTED ON MIP ("SLOP OIL STORAGE TANK" LEVEL INDICATOR)
5	LEAK SENSORS	LEAK-X	NU-C4200-XOC NU-C4200-CC	LEAK DETECTION SENSOR	YE-01A-BOTTOM OF INNER TANK YE-01B-PIPE COLLAR
6	LEAK INDICATOR CONTROLLER	LEAK-X	M210	MONITORS LEAK DETECTION SENSORS & PROVIDES VISIBLE AND AUDIBLE ALARMS	MOUNTED IN CONVENIENT LOCATION IN CONTROL ROOM

SLOP OIL STORAGE TANK INSTRUMENTATION LOOP DIAGRAMS



SLOP OIL TANK LAYOUT PLAN
N.T.S.



LEAK DETECTION LOOP

NO.	DATE	REVISION	BY	REC.	APP.
12/11/93	IN SERVICE	AS BUILT	RW	MS	MS
0	ISSUED FOR ADDN. NO. 2		RZE	MS	MS

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 1

DESIGNED BY	W. P. F. F.
DESIGN CHECKED BY	MS
DRAWN BY	MS
SR. PROJ. ENGR.	MS
APPROVED	MS
PRINCIPAL-IN-CHARGE, R.P.E. NO. C	

PROJECT ENG.	R.P.E. NO. C
PROJECT MGR.	R.P.E. NO. C
MGR. OF SUPPORT SERVICES	R.P.E. NO. C
MANAGER OF WASTEWATER	R.P.E. NO. C

EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT No. 1
OAKLAND, CALIFORNIA

ELECTRICAL
MISCELLANEOUS ELECTRICAL DIAGRAMS
AND LIGHTING CONTROL SCHEMATIC

DRAWN BY	R. M. EBY	DRAWING No.	A2-E1
SCALE	N.T.S.		
DATE	14 MAY 1992	SHEET	15A OF