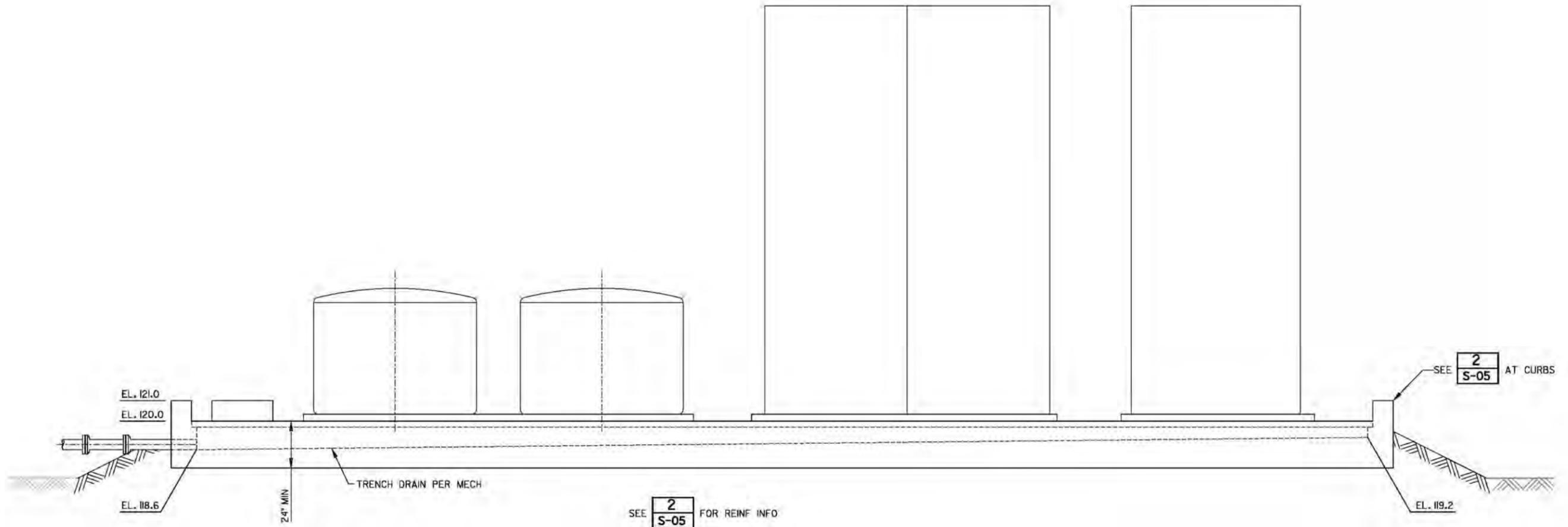






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2/14/2005



SEE 

2
S-05

 FOR REINF INFO

SEE 

2
S-05

 AT CURBS

SECTION 

1
S-03

DRAWING NO. S-04	POINT LOMA WASTE WATER TREATMENT PLANT BIOLOGICAL AERATED FILTER PILOT STUDY
SHEET NO. 16	
	SECTION - 1
	CITY OF SAN DIEGO, CALIFORNIA SHEET 16 OF 22 SHEETS
	WATER W.O. NA SEWER W.O. NA



**WARNING**  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

<b>BROWN AND CALDWELL</b>	
SUBMITTED	PROJECT MANAGER
APPROVED	DATE
APPROVED	DATE
SCALE	HORIZONTAL 3/8" = 1'-0"
	VERTICAL NONE

**METROPOLITAN WASTEWATER DEPARTMENT**  
City of San Diego



DRAWING STATUS									
NO.	DATE	REQ.	REVISION DESCRIPTION	DRAWN	CKD	APD	PE	EM	QA/QC

PROJECT MANAGER	DATE	DESIGN ENGINEER
DESCRIPTION	BY	APPROVED
		DATE
		FILED
CONTRACTOR		DATE STARTED
INSPECTOR		DATE COMPLETED
		00000-16-D

CONTROL CERTIFICATION  
188-1692  
LAMBERT COORDINATES

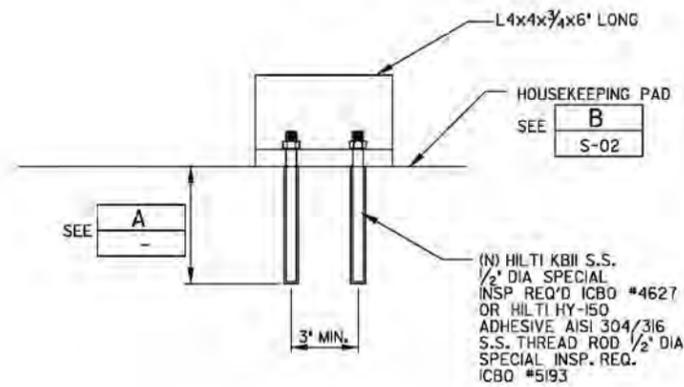


MECHANICAL/ELECTRICAL/MEDICAL ANCHORAGE SCHEDULE				
UNIT DESIGNATION	UNIT DESCRIPTION	ANCHORAGE (SEE NOTE 2,4&5)	MAX. UNIT WT.	REFERENCE
(A)	DENSADEG PILOT PLANT	(8) 1/2" DIA X 6" EMB	45,000*	B S-02
(B)	DENSADEG INFLUENT TANK	(8) 1/2" DIA X 6" EMB	21,000*	B S-02
(C)	BIOFOR CLEARWELL TANK	(8) 1/2" DIA X 6" EMB	15,000*	B S-02
(D)	BIOFOR-C (3-FT COL)	(4) 1/2" DIA X 6" EMB	24,000*	B S-02
(E)	BIOFOR-N (1-FT COL)	(4) 1/2" DIA X 6" EMB	12,000*	B S-02
(F)	BIOSTYR PILOT PLANT	(4) 1/2" DIA X 6" EMB	13,245*	B S-02
(G)	BIOSTYR CLEARWELL TANK	(8) 1/2" DIA X 6" EMB	12,600*	B S-02
(H)	BAF INFLUENT TANK	(8) 1/2" DIA X 6" EMB	35,500*	B S-02
(J)	MAIN BACKWASH STORAGE TANK	(8) 1/2" DIA X 6" EMB	35,500*	B S-02

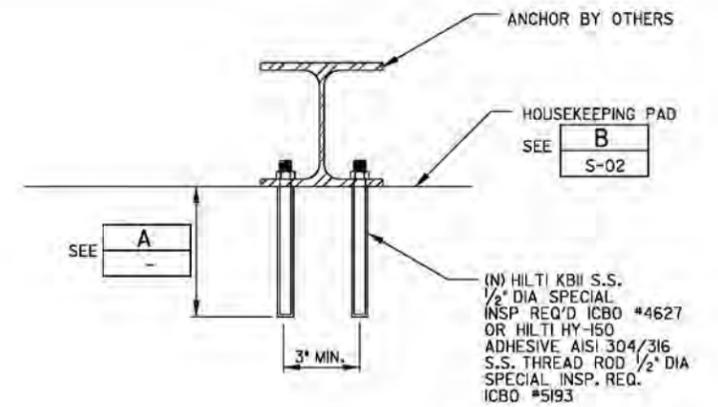
**NOTES:**

- USE HARDWARE AS INDICATED OR APPROVED EQUAL. ANY SUBSTITUTIONS MUST BE APPROVED BY THE ENGINEER OF RECORD.
- HILTI HIT HY-150, ICBO #5193 WHERE INDICATED.
- WHEN INSTALLING DRILLED-IN ANCHORS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS.
- IF EQUIPMENT DOES NOT HAVE SUFFICIENT NUMBER OF SYMMETRICALLY LOCATED ANCHORAGE POINTS DRILL AND TAP THE REQUIRED NUMBER OF EQUALLY SPACED HOLES TO LOCATE ANCHOR BOLTS.
- AT LEAST ONE ANCHOR BOLT SHALL BE LOCATED AT THE CORNERS OF THE EQUIPMENT WHERE OCCUR.

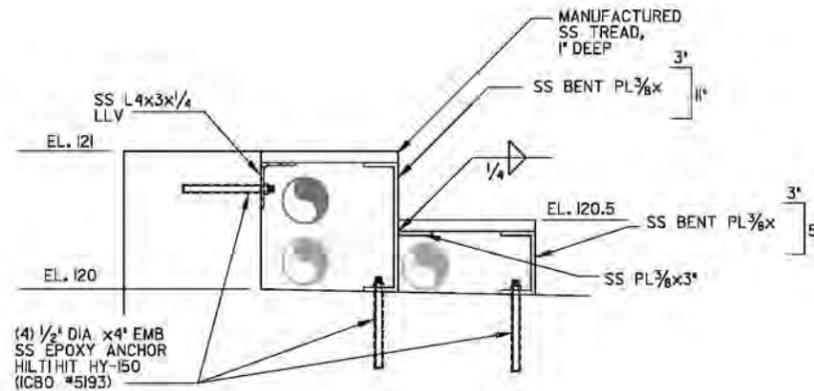
**EQUIPMENT ANCHORAGE SCHEDULE** A  
S-03



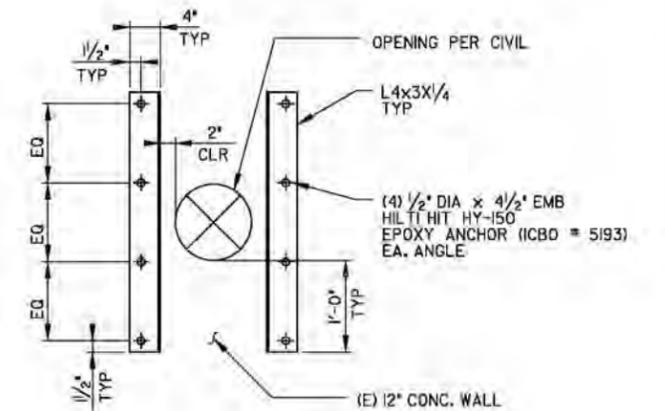
**SNUBBER ANCHORAGE DETAIL** B



**SNUBBER ANCHORAGE DETAIL** C



**STAIR SECTION** D



**CORE HOLE REINF** E  
M-5

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**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1\"/>

**BROWN AND CALDWELL**

SCALE: HORIZONTAL NO SCALE, VERTICAL NO SCALE

**METROPOLITAN WASTEWATER DEPARTMENT**  
City of San Diego



DRAWING STATUS							
NO.	DATE	REQ.	REVISION DESCRIPTION	DRAWN	CKD	APD	PE

DRAWING NO. S-06	POINT LOMA WASTE WATER TREATMENT PLANT BIOLOGICAL AERATED FILTER PILOT STUDY		
SHEET NO. 18	STRUCTURAL DETAILS		
CITY OF SAN DIEGO, CALIFORNIA		WATER W.O.	NA
SHEET 18 OF 22 SHEETS		SEWER W.O.	NA
PROJECT MANAGER: _____ DATE: _____			
CONTRACTOR: _____ DATE STARTED: _____			
INSPECTOR: _____ DATE COMPLETED: _____			
CONTR. CERTIFICATION: 188-1692 LAMBERT COORDINATES			00000-18-D

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2/14/2005

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
			CIRCUIT BREAKER. TRIP RATING AND NUMBER OF POLES INDICATED.
			THREE POSITION SWITCH. MAINTAINED CONTACT FUNCTION MAY VARY AS NOTED ON DIAGRAMS. CENTER POSITION IS OFF
			TWO POSITION SWITCH. MAINTAINED CONTACT FUNCTION MAY VARY AS NOTED ON DIAGRAMS
			MOMENTARY CONTACT PUSHBUTTON. FUNCTION MAY VARY AS NOTED ON DIAGRAMS
			MOMENTARY CONTACT PUSHBUTTON WITH PROVISION FOR LOCKOUT.
			LOCKABLE DISCONNECT SWITCH. RATING AND DETAILS AS NOTED ON DRAWINGS.
			LIMIT SWITCH. NORMALLY OPEN
			LIMIT SWITCH. NORMALLY CLOSED
			TIME DELAY RELAY CONTACT. OFF DELAY, NORMALLY OPEN, TIME OPEN
			TIME DELAY RELAY CONTACT. OFF DELAY, NORMALLY CLOSED, TIME CLOSED
			TIME DELAY RELAY CONTACT. ON DELAY, NORMALLY OPEN, TIME CLOSED
			TIME DELAY RELAY CONTACT. ON DELAY, NORMALLY CLOSED, TIME OPEN
			SOLENOID OPERATED VALVE
			MOTOR CONTROL CENTER DRAWOUT STABS
			MOTOR STARTER WITH THERMAL OVERLOADS. NUMBER INDICATES NEMA SIZE
			MOTOR OVERLOAD CONTACT
			MOTOR, NUMBER INDICATES HORSEPOWER
			INDICATING LIGHT, PUSH-TO-TEST. LETTER INDICATES COLOR. R=RED B=BLUE G=GREEN A=AMBER W=WHITE
			CONTACTOR OR RELAY COIL. LETTER OR NUMBER IS DESIGNATION
			NORMALLY CLOSED CONTACT. LETTER OR NUMBER IS DESIGNATION
			NORMALLY OPEN CONTACT. LETTER OR NUMBER IS DESIGNATION
			RUNNING TIME METER, NON-RESETTABLE
			FUSE, NUMBER INDICATES RATING
			CONTROL TRANSFORMER. RATING AS NOTED ON DRAWINGS OR AS REQUIRED BASED ON LOAD SERVED.
			KILOWATT METER
			PRESSURE SWITCH. CONTACT ACTION AS NOTED ON DRAWINGS

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
			POWER TRANSFORMER. RATINGS AS NOTED ON DRAWINGS
			DUPLEX RECEPTACLE. 20A, SPEC GRADE GROUNDING TYPE. UNLESS OTHERWISE NOTED ON DRAWINGS.
			TELEPHONE OUTLET
			JUNCTION BOX OR CONDUIT FITTING AS NOTED OR REQUIRED.
			LEVEL SWITCH, CONTACT ACTION AS NOTED ON DRAWINGS
			CONTROL PANEL OR EQUIPMENT AS NOTED
			FLOW SWITCH, CONTACT ACTION AS NOTED ON DRAWINGS
			FLUSH TOGGLE SWITCH, SINGLE POLE, SINGLE THROW
			FLUSH TOGGLE SWITCH, THREE WAY
			FLUORESCENT FIXTURE. SEE LIGHTING SCHEDULE.
			LIGHTING FIXTURE, WALL MOUNTED SEE LIGHTING SCHEDULE
			MH-MANHOLE PB-PULLBOX HH-HANDHOLE OR AS NOTED ON DRAWINGS
			TELEPHONE CONDUIT. SIZE AS NOTED
			GROUNDING GRID OR GROUNDING CONDUCTOR SIZE AS REQUIRED OR AS NOTED ON DRAWINGS
			GROUND PIGTAIL. SIZE AS NOTED ON DRAWINGS
			EXOTHERMIC GROUND CONNECTION
			BOLTED GROUND CONNECTION
			CONDUIT BENDING UP
			CONDUIT BENDING DOWN
			UNDERGROUND OR CONCEALED CONDUIT
			EXPOSED CONDUIT.
			HOMERUN CONDUIT WITH 3 CONDUCTORS, NEUTRAL(S) AND GROUND, PANEL 'PB' - CIRCUITS 1,3,5. MINIMUM CONDUIT SIZE SHALL BE 3/4" UON. NO HASH MARKS INDICATES 3/4" (2) #12 + (1) #12G
			DRIVEN GROUND ROD/TEST WELL 3/4" X 10' CU CLAD STEEL
			PANELBOARD OR AS NOTED ON DRAWING
			LIQUIDTIGHT FLEXIBLE CONDUIT
			CONDUIT NUMBER 'XXX', REFER TO CONDUIT SCHEDULE FOR DESCRIPTION

CONDUIT PLAN	SINGLE LINE DIAGRAM	SCHEMATIC DIAGRAM	DESCRIPTION
			MANUAL MOTOR STARTER
			GROUND
			HEATER, RATING AS NOTED ON DRAWING
			HORN OR AUDIBLE SIGNAL
			PHASE
			TERMINAL
			MAGNETIC DOOR SWITCH
			CONDUIT STUB OUT
			FUSED DISCONNECT SWITCH, XX = AMP RATING

**GENERAL NOTES:**

- EXPOSED RACEWAYS SHALL BE RIGID GALVANIZED STEEL.
- UNDERGROUND RACEWAYS SHALL BE ROUTED 24" BELOW GRADE. RACEWAYS SHALL BE PVC SCHEDULE 40 AND ENCASED IN SLURRY AT ROADWAYS.

**STANDARD ABBREVIATIONS**

A	AMPERES	MIN	MINIMUM OR MINUTE
AC	ALTERNATING CURRENT	MLO	MAIN LUGS ONLY
AF	AMPERE FRAME	MOV	MOTOR OPERATED VALVE ACTUATOR
AFC	ABOVE FINISHED CONCRETE	MTG	MOUNTING
AFF	ABOVE FINISHED FLOOR	MTR	MOTOR
AFG	ABOVE FINISHED GRADE	N	NEUTRAL
AT	AMPERE TRIP	NA	NON-AUTOMATIC
ATS	AUTOMATIC TRANSFER SWITCH	NC	NORMALLY CLOSED
AUX	AUXILIARY	NCO	NORMALLY CLOSED, INSTANTANEOUS OPEN
AUTO	AUTOMATIC	NCTC	NORMALLY CLOSED, TIME CLOSE
AWG	AMERICAN WIRE GAUGE	NCTO	NORMALLY CLOSED, TIME OPEN
BC	BARE COPPER	NEC	NATIONAL ELECTRIC CODE
BD	BOARD	NIC	NOT IN CONTRACT
BKR	BREAKER	No	NUMBER
C	CONDUIT	NO	NORMALLY OPEN
CAB	CABINET	NOIC	NORMALLY OPEN, INSTANTANEOUS CLOSE
CB	CIRCUIT BREAKER	NOTC	NORMALLY OPEN, TIME CLOSE
CKT	CIRCUIT	NOTO	NORMALLY OPEN, TIME OPEN
CLG	CEILING	NP	NAMEPLATE
C.O.	CONDUIT ONLY	NTS	NOT TO SCALE
COMPT	COMPARTMENT	OL	OVERLOAD
COND	CONDUCTOR	OTT	OVERTEMP SWITCH
CONT	CONTROL	PB	PUSHBUTTON
CONTD	CONTINUED	PB	PULLBOX
CPT	CONTROL POWER TRANSFORMER	PC	PHOTOCELL
CP	CONTROL PANEL	PCV	PUMP CONTROL VALVE
CT	CURRENT TRANSFORMER	PMR	POWER MONITOR RELAY
CU	COPPER	PNL	PANEL
CR	CONTROL RELAY	POS	POSITION
DC	DIRECT CURRENT	PR	PAIR
DISC	DISCONNECT	PRI	PRIMARY
DISC SW	DISCONNECT SWITCH	PS	PRESSURE SWITCH
DPDT	DOUBLE POLE DOUBLE THROW	PT	POTENTIAL TRANSFORMER
DPST	DOUBLE POLE SINGLE THROW	PVC	POLYVINYL CHLORIDE
DWG	DRAWING	PVC/RGS	PVC JACKETED RIGID GALVANIZED STEEL CONDUIT
DS	DOOR SWITCH	PW	PART WINDING
EL,ELEV	ELEVATION	RCEP	RECEPTACLE
EMT	ELECTRICAL METALLIC TUBING	RGS	RIGID GALVANIZED STEEL CONDUIT
EO	ELECTRICALLY OPERATED	RTU	REMOTE TERMINAL UNIT
ES	EMERGENCY STOP	RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
	EXISTING	RVYD	REDUCED VOLTAGE WYE DELTA
	FURNISHED BY OWNER	SDG&E	SAN DIEGO GAS AND ELECTRIC COMPANY
FBO	FURNISHED BY OWNER	SEC	SECONDARY
FDR	FEEDER	SEL	SELECTOR
FIN	FINISHED	SP	SPARE
FLA	FULL LOAD AMPS	SPEC	SPECIFICATION
FLEX	FLEXIBLE	SS	STAINLESS STEEL
FM	FLOW METER	SPDT	SINGLE POLE DOUBLE THROW
FS	FLOW SWITCH	SPST	SINGLE POLE SINGLE THROW
FT OR F	FEET OR FOOT	ST	SHUNT TRIP
FT	FLOW TRANSMITTER	STA	STATION
FUT	FUTURE	STL	STEEL
FVNR	FULL VOLTAGE NON REVERSING	STP	SHIELDED TWISTED PAIR
GALV	GALVANIZED	STR	STARTER
GD	GAS DETECTORS	STT	SHIELDED TWISTED TRIPLET
GFI	GROUND FAULT INTERRUPTER	SV	SOLENOID VALVE
GFP	GROUND FAULT PROTECTION	SW	SWITCH
GND OR G	GROUND	SWBD	SWITCHBOARD
HH	HANDHOLE	TB	TERMINAL BOX
HOA	HAND/OFF/AUTO	TEL	TELEPHONE
HTR	HEATER	TEMP	TEMPERATURE
IC	INTERRUPTING CURRENT	TERM	TERMINAL
IN OR "	INCHES OR INCH	TM	TELEMETRY
IND	INDICATING	TS	TEMPERATURE SWITCH
INST	INSTANTANEOUS	TS2W	TWO SPEED TWO WINDING
INSTR	INSTRUMENT	TW/SH	TWISTED SHIELDED
INTLK	INTERLOCK	TYP	TYPICAL
JB OR J	JUNCTION BOX, CONDULET OR FITTING AS REQUIRED BY NEC. UNLESS OTHERWISE NOTED	UG	UNDERGROUND
		UON	UNLESS OTHERWISE NOTED
		V	VOLTS
		W	WATTS
		W/	WITH
		W/O	WITHOUT
		WP	WEATHERPROOF
		XFMR	TRANSFORMER
		XP	EXPLOSION PROOF
		ZS	POSITION SWITCH OR PROXIMITY SWITCH
		3W	THREE WIRE
		4W	FOUR WIRE



**WARNING**  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.

**BROWN AND CALDWELL**

SUBMITTED: PROJECT NUMBER: DATE: \_\_\_\_\_  
APPROVED: BROWN AND CALDWELL: DATE: \_\_\_\_\_

SCALE: HORIZONTAL NONE  
VERTICAL NONE

**METROPOLITAN WASTEWATER DEPARTMENT**  
City of San Diego

**DRAWING STATUS**

NO.	DATE	REQ.	REVISION DESCRIPTION	DRAWN	CKD	APD	PE	EM	QA/QC

DRAWING NO. E-01  
SHEET NO. 19

POINT LOMA WASTE WATER TREATMENT PLANT  
BIOLOGICAL AERATED FILTER PILOT STUDY

**ELECTRICAL SYMBOLS AND ABBREVIATIONS**

CITY OF SAN DIEGO, CALIFORNIA  
SHEET 19 OF 22 SHEETS

WATER W.O. NA  
SEWER W.O. NA

PROJECT MANAGER: \_\_\_\_\_ DATE: \_\_\_\_\_  
DESCRIPTION: \_\_\_\_\_ BY: \_\_\_\_\_ APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_ FILMED: \_\_\_\_\_  
DESIGN ENGINEER: \_\_\_\_\_

CONTROL CERTIFICATION  
188-1692  
LAMBERT COORDINATES

CONTRACTOR: \_\_\_\_\_ DATE STARTED: \_\_\_\_\_  
INSPECTOR: \_\_\_\_\_ DATE COMPLETED: \_\_\_\_\_

00000-19-D