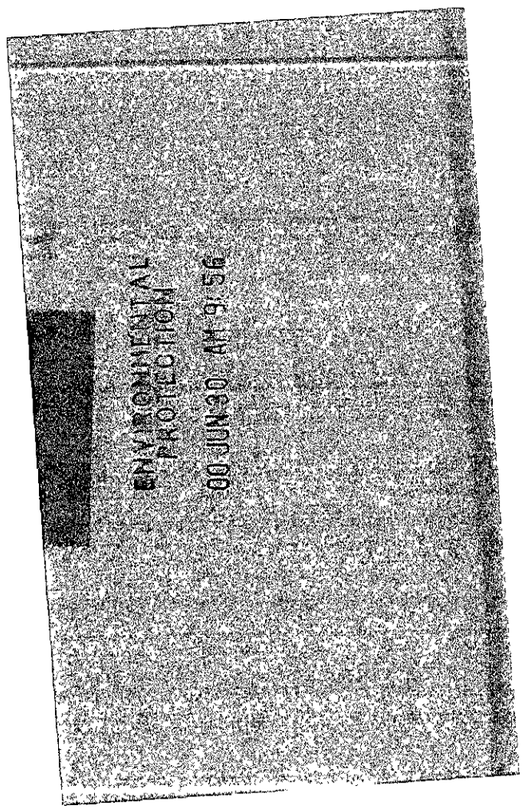
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM AT UNION PACIFIC RAILROAD TRAILER-ON-FLAT-CAR (UPTOFC) SITE



VISION 2000
OAKLAND, CALIFORNIA

PREPARED FOR

PORT OF OAKLAND

530 WATER ST. OAKLAND, CALIFORNIA

BY

DAMES & MOORE
A DAMES & MOORE GROUP COMPANY

TRENCH-TITLE DWG
T=1 06-20-00

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

NO	REVISIONS	DATE	APP'D

REVIEWED _____ FACILITIES DEPARTMENT
REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

DRAWN SLD/RB
DESIGNED _____ REG. ENGINEER NO.
CHECKED _____ REG. ENGINEER NO.
REVIEWED _____ REG. ENGINEER NO.

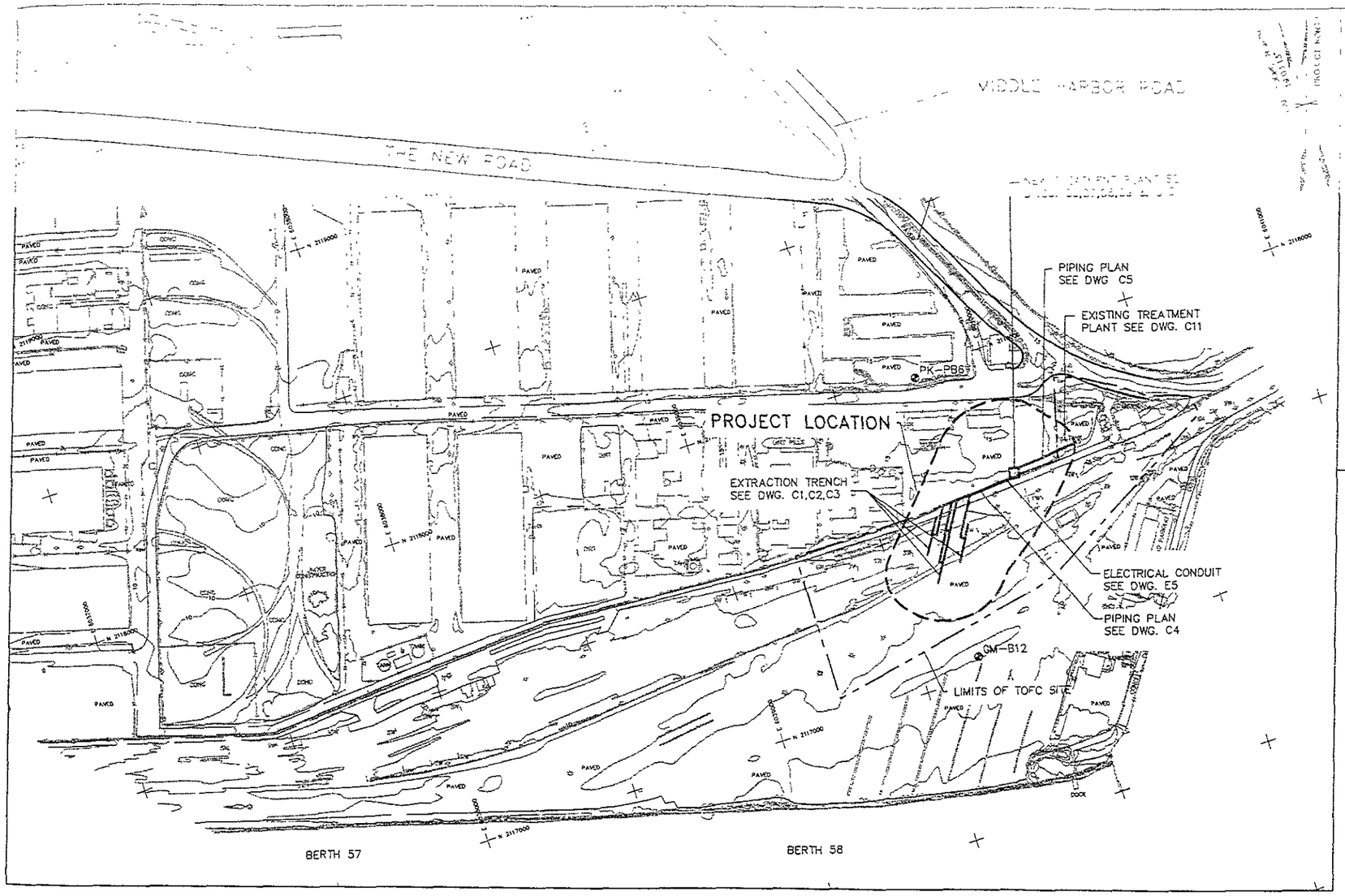
PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER
APPROVED _____ REG. ENGINEER NO.
RECOMMENDED _____ REG. ENGINEER NO.

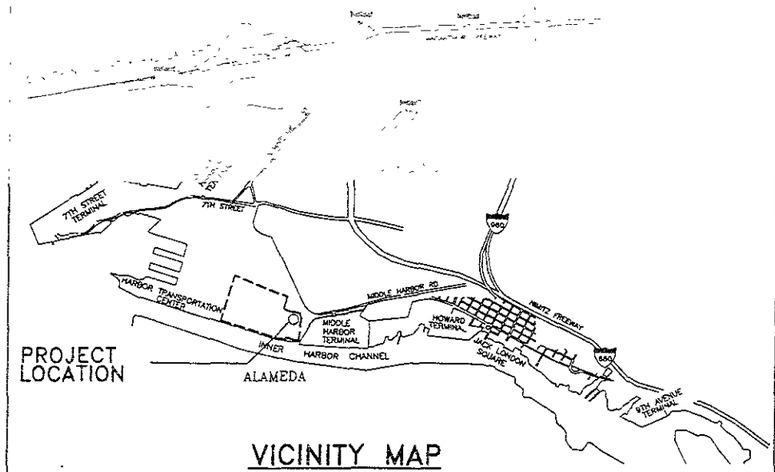
URS
Dames & Moore
JOB # 02501-029

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
TITLE SHEET

DATE 06-01-00
SCALE NO SCALE
SHEET OF SHEETS
AA-3676 G-1



LOCATION AND INDEX MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

DRAWING INDEX

TRENCH-COVER.dwg
1=1 05-19-00

CAUTION: THIS PLAN MAY BE REDUCED 0 1" 2" ORIGINAL SCALE

REFERENCES:
"PORT OF OAKLAND DATUM" IS 3.20 BELOW MEAN SEA LEVEL

CAUTION: CHECK TRACING FOR LATEST REVISIONS

NO	REVISIONS	DATE	APP'D

REVIEWED _____ FACILITIES DEPARTMENT
REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

DRAWN SLD
DESIGNED _____ REG. ENGINEER NO
CHECKED _____ REG ENGINEER NO
REVIEWED _____ REG ENGINEER NO

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER
APPROVED _____ REG. ENGINEER NO.
RECOMMENDED _____ REG ENGINEER NO
REG ENGINEER NO

URS Dames & Moore
JOB# 02801-029

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
VICINITY MAP, LOCATION AND INDEX MAP, AND DRAWING INDEX

DATE 06-01-00
SCALE NO SCALE
SHEET OF SHEETS
AA-3676 G-2

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS AND ELEVATIONS SHOWN ON THE PLANS AND SHALL NOTIFY PORT REPRESENTATIVE OF ANY DISCREPANCIES FOR CORRECTIVE ACTION PRIOR TO PROCEEDING WITH WORK.

2. THE CONTRACTOR SHALL COMPARE ALL PLANS FOR CONFORMANCE AS TO THE LAYOUT OF DIMENSIONS AND ELEVATIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PORT REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK. IN CASE OF DISCREPANCIES BETWEEN THE PLANS AND THE SPECIFICATIONS, THE PORT REPRESENTATIVE SHALL BE CONSULTED BEFORE PROCEEDING WITH WORK.

3. CONTRACTOR SHALL REVIEW THE CONSTRUCTION PLANS FOR ADJACENT WORK WITHIN OR ALONG PUBLIC ACCESS AND REAL FACILITIES PRIOR TO STARTING WORK. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE PORT REPRESENTATIVE AND CONFLICTS OR ISSUES REQUIRING COORDINATION WITH ADJACENT CONTRACTOR.

4. THE PORT REPRESENTATIVE SHALL BE NOTIFIED OF ANY UNANTICIPATED CONDITIONS THAT ARE ENCOUNTERED AND WILL DETERMINE WHETHER DESIGN CHANGES WILL BE REQUIRED.

5. ELEVATIONS SHOWN ON THESE PLANS ARE REFERENCED FROM THE PORT OF OAKLAND'S DATUM (PD).

6. SEE SPECIFICATIONS FOR INFORMATION NOT GIVEN IN THESE GENERAL NOTES OR SHOWN ON THESE PLANS.

7. EXISTING SURVEY AND PHOTOGRAMMETRY OF THE AREA WAS PERFORMED BY PORT OF OAKLAND IN NOVEMBER, 1999. FIELD NOTES ARE IN PORT FILES AND ARE AVAILABLE FOR REVIEW.

8. GEOTECHNICAL DESIGN OF CONTAINER YARD AND GATE IS BASED ON THE DRAFT GEOTECHNICAL DESIGN RECOMMENDATION FOR CONSTRUCTION OF PROPOSED BERTHS 57/58 CONTAINER YARD, DATED 12-7-99, PREPARED BY GOLDER ASSOCIATES, INC. & KLEINFELDER, INC. FOR THE PORT OF OAKLAND. SUPPLEMENTS THERETO ARE AVAILABLE FOR INFORMATION ONLY AT THE PORT'S OFFICE. VERIFY SITE AND SUBSURFACE CONDITIONS PRIOR TO COMMENCING WORK.

9. PROJECT GRID SYSTEM. COORDINATES, BEARINGS AND DISTANCES SHOWN ARE ON PROJECT COORDINATE SYSTEM WHICH IS AN ARBITRARY SYSTEM THAT IS ROTATED 19°03'13" CLOCKWISE FROM CALIFORNIA COORDINATE SYSTEM ZONE 3.
ORIGIN @ N 2,117,679.11, E 6,036,590.21 - SEE SHEET G8 AND G7, PREPARED BY MOFFATT & NICHOL, AVAILABLE FOR REVIEW AT THE PORT'S OFFICE

10. STORM WATER POLLUTION PLAN: CONFORM TO PORT APPROVED STORM WATER POLLUTION PREVENTION PROGRAM.

11. UNAUTHORIZED PLAN CHANGES AND USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR OR BE LIABLE FOR UNAUTHORIZED USES OF OR CHANGES TO THESE PLANS. ALL CHANGES TO THE PLANS MUST BE REQUESTED IN WRITING TO THE ENGINEER AND MUST HAVE PRIOR APPROVAL BY URS/DAMES & MOORE.

12. EXISTING UNDERGROUND FACILITIES: EXISTING UNDERGROUND UTILITIES AND FACILITIES DATA SHOWN OR REFERRED TO ARE PER RECORDS ONLY. VERIFY LOCATIONS OF AFFECTED UTILITIES AND FACILITIES IN THE FIELD PRIOR TO COMMENCING CONSTRUCTION AND EXPOSE THESE SO THAT THEY MAY BE ACCURATELY LOCATED BY SURVEY AND, IF NECESSARY, HAVE THE PLANS REVISED.

13. CONFORMS: VERIFY LOCATIONS AND ELEVATIONS OF EXISTING FACILITIES TO WHICH NEW FACILITIES WOULD CONNECT PRIOR TO COMMENCING WORK SO THAT, IF NECESSARY, ADJUSTMENTS MAY BE MADE TO PROVIDE FOR SMOOTH CONFORMS AND TRANSITIONS.

14. FUTURE GROUND ELEVATION SHOWN ARE FINAL FINISHED GRADE TO BE CONSTRUCTED BY OTHERS.

15. RIM ADJUSTMENTS TO FINISHED PAVING AND GRADING: FINISHED PAVING AND GRADING INCLUDES ADJUSTING RIMS OF SUMP BOXES TO FINISHED GRADES.

16. UTILITY COORDINATION: PRIOR TO COMMENCING WORK, VERIFY LOCATIONS AND CONNECTIONS OF WATER, ELECTRICAL, TELEPHONE AND OTHER UTILITIES, WITH THE PORT REPRESENTATIVE.

17. MAINTAIN SERVICES DURING DEMOLITION AND CONSTRUCTION. SEQUENCE CONSTRUCTION AND CONDUCT DEMOLITION AND CONSTRUCTION OPERATIONS IN THE MANNER SUCH AS TO MAINTAIN CONTINUITY OF UTILITY SERVICES, ACCESS, DRAINAGE AND SAFETY SERVICES TO EXISTING FACILITIES REQUIRING THESE SERVICES. NOTIFY PORT REPRESENTATIVE AT LEAST SEVEN (7) DAYS IN ADVANCE OF WORK UNLESS OTHERWISE APPROVED IN ADVANCE BY PORT REPRESENTATIVE. OBTAIN APPROVAL IN ADVANCE OF INTERRUPTION OF ANY UTILITY SERVICES.

18. UNDERGROUND FACILITIES: NOTIFY CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND MAINTAINING SAFE CLEARANCES FROM OVERHEAD ELECTRICAL LINES AT ALL TIMES AND WHERE HAZARDOUS CONDITIONS EXIST FOR TAKING THE NECESSARY PRECAUTIONS AGAINST INJURY AND DAMAGE.

INSPECTION NOTES

CONSTRUCTION INSPECTION LISTED BELOW WILL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIAL INSPECTION. SPECIAL INSPECTION IS IN ADDITION TO INSPECTION REQUIRED BY SECTION 106 OF THE 1997 UNIFORM BUILDING CODE.

1. SPECIAL INSPECTION SHALL BE PERFORMED BY A QUALIFIED PERSON EMPLOYED BY THE PORT OR STAFF OF AN APPROVED INSPECTION AGENCY EMPLOYED BY THE PORT.

2. ALL WELDING WORK SHALL BE PERFORMED BY A CONTINUOUS BASIS UNLESS OTHERWISE NOTED.

3. THE CONTRACTOR SHALL NOTIFY THE PORT REPRESENTATIVE AT LEAST TWO WORKING DAYS PRIOR TO WHEN WORK REQUIRING SPECIAL INSPECTION IS AVAILABLE FOR INSPECTION. ALL WORK PERFORMED WITHOUT THE REQUIRED INSPECTION MAY BE REQUIRED TO BE REMOVED AND REPLACED AT THE DIRECTION OF THE PORT REPRESENTATIVE. REMOVAL AND REPLACEMENT OF THIS WORK SHALL BE PERFORMED BY THE CONTRACTOR AT NO COST OR SCHEDULE IMPACT.

4. THE CONTRACTOR SHALL PROVIDE THE SPECIAL INSPECTOR ACCESS TO APPROVED CONSTRUCTION DOCUMENTS AT THE JOB-SITE.

5. THE CONTRACTOR SHALL RETAIN AT THE JOB-SITE ALL SPECIAL INSPECTION RECORDS SUBMITTED BY THE SPECIAL INSPECTOR AND MAKE THEM AVAILABLE TO THE SPECIAL INSPECTOR UPON REQUEST.

6. AN INSPECTION PROGRAM SHALL BE DEVELOPED BY THE CONTRACTOR A MINIMUM OF TWO WEEKS PRIOR TO THE INITIATION OF WORK IN ORDER TO DEFINE THE LEVEL OF INSPECTION AND TESTING REQUIRED. THE INSPECTION PROGRAM SHALL INCLUDE A SPECIAL INSPECTION AND TESTING SCHEDULE APPROVED BY THE PORT AND WILL REMAIN WITH THE PROJECT FOR ITS DURATION.

7. DAILY AND WEEKLY SPECIAL INSPECTION REPORTS WILL BE SUBMITTED BY EACH INSPECTOR TO THE PORT REPRESENTATIVE AND CONTRACTOR IN ACCORDANCE WITH THE DIRECTION OF THE INSPECTION PROGRAM.

8. THE CONTRACTOR SHALL PROVIDE THE TEST AND/OR INSPECTION FIRM WITH AN ACCURATE CONSTRUCTION SCHEDULE TO FACILITATE THE PROPER COORDINATION OF WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE TESTING AND/OR INSPECTION FIRM OF ANY CHANGES TO THE CONSTRUCTION SCHEDULE.

SPECIAL INSPECTION DESCRIPTION

1. CONCRETE: ALL CAST-IN-PLACE AS SHOWN IN THE STRUCTURAL DRAWINGS AND AS SPECIFIED IN SPECIFICATION SECTION 3300.

2. DRILLED-IN-ANCHORS: ANCHORS INSTALLED IN CONCRETE.

3. REINFORCING STEEL: DURING PLACING OF REINFORCING STEEL FOR ALL CONCRETE REQUIRED TO HAVE SPECIAL INSPECTION BY ITEM 1 ABOVE.

4. STRUCTURAL WELDING: ALL STRUCTURAL STEEL AND REINFORCING STEEL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, LATEST EDITION. WELDING PROCEDURE SPECIFICATION (WPS) APPROVED BY THE PORT REPRESENTATIVE AND WELDER QUALIFICATIONS SHALL BE AVAILABLE ON THE JOB SITE FOR REVIEW BY THE INSPECTOR.

5. SPECIAL GRADING: EXCAVATION AND FILLING: THE SPECIAL INSPECTOR AND/OR GEOTECHNICAL PORT REPRESENTATIVE OF RECORD WILL OBSERVE THE PREPARATION OF EXISTING GROUND TO RECEIVE FILL; OBSERVE PLACEMENT OF ALL FILL AND BACKFILL; TEST FILL AND BACKFILL COMPACTION AND VERIFY THAT THE SOIL STRATUM INTENDED FOR STRUCTURAL BEARING IS ADEQUATE.

GENERAL ABBREVIATIONS

@	AT
A	AMP OR AMPERE
AB	ANCHOR BOLT
AC	ABOVE CURB, ASPHALT CONCRETE, AIR CONDITIONING
ACP	ASPHALT CONCRETE PAVEMENT
ADJ	ADJUSTABLE
AF	AMP FRAME
AIC	AMPS INTERRUPTING CAPACITY
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APPD	APPROVED
ASHI	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
AZ	AZIMUTH
BOT	BOTTOM
BR	BRONZE, BRASS
BFV	BUTTERFLY VALVE
BLDG	BUILDING
BM	BENCH MARK
CI	CAST IRON
℄	CENTER LINE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CS	CARBON STEEL (SCHEDULE 40) CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CNTL	CONTROL
CO	CLEANOUT
CONC	CONCRETE
CONN	CONNECTION
CONT.	CONTACTOR
CP	CONTROL PANEL
CR	CONTROL RELAY
CTR	CENTER
CT'S	CURRENT TRANSFORMER
CU	COPPER
CU FT	CUBIC FOOT
CU IN.	CUBIC INCH
CY	CUBIC YARD
DIP	DUCTILE IRON PIPE
DB	DIRECT BURIED
DC	DIRECT CURRENT
DIA	DIAMETER
DWG	DRAWING
EF	EACHFACE
ECR	EMERGENCY CONTOL RELAY
E	EAST, EASTING
EA	EACH
EF	EXHAUST FAN
EL	ELEVATION
ELB	ELBOW
ELEC.	ELECTRIC, ELECTRICAL
ENGR	ENGINEER
ET	EQUALIZATION TANK
EW	EACH WAY, EXTRACTION WELL
EWP	EXTRACTION WELL PUMP
EWTB	EACH WAY TOP & BOTTOM
EXIST.	EXISTING
FC	FLEXIBLE COUPLING, FAIL CLOSED
FG	FINISH GRADE
FIG.	FIGURE
FLA	FULL LOAD AMPERES
FLUOR	FLUORESCENT
FNSH	FINISH
FT	FOOT OR FEET
FVNR	FULL-VOLTAGE NON-REVERSING
FVR	FULL-VOLTAGE REVERSING
F	DEGREE FAHRENHEIT
GW	GROUNDWATER
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GCS	GALVANIZED CARBON STEEL
GFI	GROUND FAULT INTERUPTER
GND	GROUND
GPM	GALLONS PER MINUTE
GWE	GROUNDWATER EXTRACTION
HWL	HIGH WATER LEVEL
HDD	HORIZONTAL DIRECTIONAL DRILLING
HDPE	HIGH-DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
HMS	HAND MOMENTARY SWITCH
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HT	HOLDING TANK
H.V.	HIGH VOLTAGE
IE	INVERT ELEVATION
ID	INSIDE DIAMETER
IN.	INCH
J-BOX	JUNCTION BOX
JT	JOINT
KCM	THOUSAND CIRCULAR-MILS
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT-HOUR
L	LEFT, ANGLE LENGTH
LF	LINEAR FEET
LIQUID	LIQUID-PHASE GRANULAR ACTIVATED CARBON
LP	LIGHTING PANEL
LT	LIGHTING
LTS	LIGHTS
LWL	LOW WATER LEVEL
MA	MILLIAMP OR AMPERE
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MS	MOTOR STARTER SIZE
MTR	MOTOR
MW	MONITORING WELL
N	NORTH, NORTHING, NEUTRAL, NEW
N.I.C.	NOT IN CONTRACT
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
NO	NORMALLY OPEN
NO.	NUMBER, NUMBERING
NTS	NOT TO SCALE
OWS	OIL/WATER SEPARATOR
OC	ON CENTER
OD	OUTSIDE DIAMETER
OG	ORIGINAL GROUND
OH	OVERHEAD ELECTRIC
OL	OVERLOAD RELAY
OO	ON-OFF
OOA	ON-OFF-AUTO
OPNG	OPENING
OA	OFF-AUTO
P	POLE
P&ID	PROCESS FLOW & INSTRUMENTATION DIAGRAM
PB	PULL BOX
PC	PHOTO-CELL
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PREFAB	PREFABRICATED
PROP.	PROPERTY
PSI	POUNDS PER SQUARE INCH
PSID	POUNDS PER SQUARE INCH, DIFFERENTIAL
PSIG	POUNDS PER SQUARE INCH, GAUGE
PVC	POLYVINYL CHLORIDE
PVDF	POLYVINYLIDENE FLUORIDE
PWR	POWER
PZ	PIEZOMETER
REINF	REINFORCE, REINFORCEMENT
RD	ROAD
RECEPT	RECEPTACLE
REQD	REQUIRED
REV	REVERSE
R/W	RIGHT-OF-WAY
RTM	RUN TIME METER
S	SOUTH
SCH	SCHEDULE
SD	STORM DRAIN
SA	SHUTDOWN ALARM
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
SCH	SCHEDULE
SDR	STANDARD DIMENSION RATIO
SECT	SECTION
SHT	SHEET
SP	SUMP PUMP
SPEC	SPECIFICATIONS
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
SW	SWITCH
TB	TERMINAL BOX, TOP AND BOTTOM
TBD	TO BE DETERMINED
TDR	TIME DELAY RELAY
TJB	TERMINAL JUNCTION BOX
T&B	TOP AND BOTTOM
TOS	TOP OF SLAB
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES INC.
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
V	VOLTIMETER, VOLT, VALVE
VA	VOLT-AMPS
W	WATTS, WEST
W/	WITH
W/O	WITHOUT
W/P	WEATHER-PROOF
W/PW	WITH PULLWIRE
WHM	WATTHOUR METER
XFMR	TRANSFORMER

INSTRUMENTATION ABBREVIATIONS

AA	AUDIBLE ALARM
AE	CONDUCTIVITY ELEMENT
AT	CONDUCTIVITY TRANSMITTER
AIC	CONDUCTIVITY ALARM CONTROL
CP	CONTROL PANEL
DPAH	DIFFERENTIAL PRESSURE ALARM HIGH
DPAHH	DIFFERENTIAL PRESSURE ALARM HIGH HIGH
DPC	DIFFERENTIAL PRESSURE CONTROL
DPI	DIFFERENTIAL PRESSURE INDICATOR
DPSH	DIFFERENTIAL PRESSURE SWITCH HIGH
DPSHH	DIFFERENTIAL PRESSURE SWITCH HIGH HIGH
FAL	FLOW ALARM LOW
FAH	FLOW ALARM HIGH
FC	FLOW CONTROL
FE	FLOW ELEMENT
FIS	FLOW INDICATOR/RECORDER
FI	FLOW INDICATOR
FQ	FLOW TOTALIZER
FQI	FLOW TOTALIZER/INDICATOR
FQIR	FLOW TOTALIZER/INDICATOR/RECORDER
FT	FLOW TRANSMITTER
HMI	HUMAN MACHINE INTERFACE
HS	HAND SWITCH
LAH	LEVEL ALARM HIGH
LAK	LEVEL ALARM SETPOINT
LAL	LEVEL ALARM LOW
LAHH	LEVEL ALARM HIGH HIGH
LC	LEVEL CONTROL
LI	LEVEL INDICATOR
LIR	LEVEL INDICATOR/RECORDER
LKL	LEVEL CONTROL SETPOINT LOW
LKH	LEVEL CONTROL SETPOINT HIGH
LSH	LEVEL SWITCH HIGH
LSHL	LEVEL SWITCH HIGH/LOW (FLOAT SWITCH)
LSHH	LEVEL SWITCH HIGH HIGH
LT	LEVEL TRANSMITTER
PAH	PRESSURE ALARM HIGH
PAHH	PRESSURE ALARM HIGH HIGH
PC	PRESSURE CONTROL
PI	PRESSURE INDICATOR
PL	EVENT LIGHT
PSH	PRESSURE SWITCH HIGH
PSHH	PRESSURE SWITCH HIGH HIGH
RTM	RUN TIME METER
SC	SPEED CONTROL
SI	SPEED INDICATOR
SIK	SPEED INDICATOR/CONTROL SETPOINT
VFD	VARIABLE FREQUENCY DRIVE
XC	ON/OFF CONTROL
YA	ALARM INDICATOR (SCADA OR HMI)
YI	STATUS INDICATOR (SCADA OR HMI)
YZ	ACTUATOR (SCADA OR HMI)

URS Dames & Moore

JOB# 02501-029

TRENCH-G3.DWG
1=1 05-15-00

REFERENCES:

REVISIONS NO		DATE	APP'D

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DRAWN SLD

DESIGNED _____ REG ENGINEER NO.

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PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER _____ REG ENGINEER NO

APPROVED _____ REG ENGINEER NO

RECOMMENDED _____ REG ENGINEER NO

VISION 2000

CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM

GENERAL NOTES AND ABBREVIATIONS

DATE 06-01-00

SCALE NONE

SHEET OF SHEETS

AA-3676 | G-3

P&ID LEGEND

INSTRUMENTATION SYMBOLS

- LOCALLY MOUNTED
- PANEL MOUNTED
- ON-OFF HAND SWITCH
- ON-OFF AUTO SWITCH
- OFF-AUTO HAND SWITCH
- HAND-OFF-AUTO HAND SWITCH
- RESET HAND SWITCH
- ON-OFF PANEL LIGHT
- PLC FUNCTION
- HMI FUNCTION

X=DEVICE TYPE Y=LOCATION Z=LOOP NUMBER

LINES SYMBOLS

- PRIMARY PROCESS FLOW
- SECONDARY PROCESS FLOW
- ANALOG SIGNAL(mAdc, etc.)
- DISCRETE SIGNAL (ON/OFF, ETC.)
- X = NUMBER OF SIGNALS
- COMPRESSED AIR

PRIMARY ELEMENT SYMBOLS

- SUBMERSIBLE PRESSURE TRANDUCER
- TURBINE FLOWMETER
- INTERLOCK

FLUID MEDIUM DESIGNATIONS

FLUID MEDIUM ABBREVIATIONS	FLUID MEDIUM
CA	COMPRESSED AIR
OWSP	OWS PRODUCT
OWSW	OWS WATER
RW	RAW WATER
SP	SUMP PRODUCT
SW	SUMP WATER
TW	TREATED GROUNDWATER
UW	UNTREATED GROUNDWATER
OZN	OZONE GAS
BIO	BIOCIDE
FW	FILTERED WATER
PW	PAD WATER

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1=1 06-09-00

MECHANICAL LEGEND

EQUIPMENT

- VARIABLE SPEED GROUNDWATER EXTRACTION PUMP
- VARIABLE SPEED CENTRIFUGAL PUMP
- DIAPHRAGM PUMP
- SP-X SUMP PUMP
- C-X AIR COMPRESSOR
- PS-X PRODUCT SKIMMER
- O-X OZONE SYSTEM

EQUIPMENT DESIGNATION LEGEND

C	AIR COMPRESSOR	OWS	OIL/WATER SEPARATOR
DP	DIAPHRAM PUMP	PS	PRODUCT SKIMMER
EP	EXTRACTION PUMP	SP	SUMP PUMP
F	BAG FILTER	T	TANK
GAC	GRANULAR ACTIVATED CARBON UNIT		

PIPE LINE DESIGNATIONS

6" – GCS – CA

- 6" — NOMINAL PIPE DIAMETER
- GCS — MATERIAL
- CA — FLUID MEDIUM

PIPING MATERIAL DESIGNATIONS

CAH	–	COMPRESSED AIR HOSE
CS40	–	CARBON STEEL SCHEDULE 40
DIP	–	DUCTILE IRON PIPE
GCS	–	GALVANIZED CARBON STEEL
GCS40	–	GALVANIZED CARBON STEEL SCHEDULE 40
GS	–	GALVANIZED STEEL
PVC	–	POLYVINYL CHLORIDE
PVC80	–	POLYVINYL CHLORIDE SCHEDULE 80
PVC40	–	POLYVINYL CHLORIDE SCHEDULE 40
HOSE	–	RUBBER HOSE
PVDF	–	POLYVINYLIDENE FLUORIDE

PIPING COMPONENTS

- DRAIN
- DRESSER COUPLING
- UNION
- ELBOW UP
- ELBOW DOWN
- FLANGE CONNECTION
- FLEXIBLE CONNECTION
- PIPE CAP OR STUBOUT
- QUICK DISCONNECT COUPLING (FEMALE)
- QUICK DISCONNECT COUPLING (MALE)
- 90° ELBOW / 45° ELBOW
- TEE
- BLIND FLANGE
- TRANSITION FITTING
- TEE UP
- HOSE BARB WITH COCK
- SAMPLE FITTING
- SAMPLE/PRESSURE ASSEMBLY

VALVE SYMBOLS AND LEGEND

GV	GATE VALVE
BFV	BUTTERFLY VALVE
GLV	GLOBE VALVE
BV	BALL VALVE (N.O.)
BV	BALL VALVE (N.C.)
CV	CHECK VALVE
SV-1	SAMPLING VALVE
VPRV	VACUUM/PRESSURE RELIEF VALVE
VRV	VACUUM RELIEF VALVE
PRV	PRESSURE RELIEF OR ANTI-SIPHON VALVE
ARV	AIR RELIEF VALVE
SDV	SOLENOID VALVE
MBV	MOTORIZED BALL VALVE

NOTE: VALVE SHOWN OPEN IS NORMALLY OPEN
VALVE SHOWN SOLID IS NORMALLY CLOSED.

ELECTRICAL LEGEND

LIGHTING & POWER PLANS

- LIGHTING FIXTURE
- FLOODLIGHT (LUMINAIRE, WALL MOUNTED TYPE w PHOTOCELL
- ARE FLOOR LUMINAIRE (LETTER DENOTES TYPE)
- DUPLEX 120V RECEPTACLE (W, P = WEATHERPROOF
- QUAD 120V RECEPTACLE
- POWER RECEPTACLE (250V)
- SINGLE POLE SWITCH
- DISCONNECT SWITCH
- PUSHBUTTON CONTROL STATION
- PHOTO CELL
- JUNCTION BOX OR PULL BOX
- MOTOR
- MOTOR STARTER COIL
- THERMOSTAT
- POWER PANEL OR LIGHTING PANEL
- MOTOR CONTROL CENTER
- CONDUIT ROUTED EXPOSED OR CONCEALED ABOVE GRADE.
- CONDUIT ROUTED BELOW GRADE.
- CONDUIT OR CIRCUIT CONTINUED FURTHER ON IN RUN.
- CONDUIT TURNING UP.
- CONDUIT TURNING DOWN.
- CONDUIT TERMINATED AND CAPPED.
- GROUND CABLE
- A-11,13 HOME RUN TO PANEL, ARROWHEADS INDICATE NO. OF CIRCUITS (ie: CKT. NOS. 11 & 13, TO PANEL "A".)
- TELEPHONE CO. U/G PULLBOX
- ELECTRICAL UTILITY U/G PULLBOX
- HANDHOLE
- GROUND ROD
- GROUNDING POINT

ELEMENTARY DIAGRAMS

- PLC OUTPUT
- PLC INPUT
- PUSHBUTTON SWITCH
- SELECTOR SWITCH (2 POSITION)
- SELECTOR SWITCH (3 POSITION)
- PILOT LIGHT (G=GREEN LENS) (R=RED LENS) (W=WHITE LENS)
- RELAY OR MOTOR STARTER CONTACT (NORMALLY OPEN N.O.)
- RELAY OR MOTOR STARTER CONTACT (NORMALLY CLOSE N.C.)
- LEVEL SWITCH (SHOWN N.C.)
- PRESSURE SWITCH (SHOWN N.C.)
- FUSE
- CIRCUIT BREAKER
- FUSED DISCONNECT SWITCH
- OVERLOAD RELAY

DRAWING REFERENCE LEGEND

- A / X X — SECTION IDENTIFICATION LETTER; DWG NUMBER ON WHICH SECTION IS DRAWN; DWG NUMBER FROM WHICH SECTION IS TAKEN
- A / – — SECTION IDENTIFICATION LETTER; SECTION IS TAKEN AND DRAWN ON SAME DWG
- 2 / C2 C1 — DETAIL IDENTIFICATION NUMBER; DWG NUMBER ON WHICH DETAIL IS DRAWN; DWG NUMBER FROM WHICH DETAIL IS TAKEN
- 2 / – — DETAIL IDENTIFICATION NUMBER; DETAIL IS TAKEN AND DRAWN ON SAME DWG

URS
Dames & Moore
JOB# 02801-029

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

NO	REVISIONS	DATE	APP'D

REVIEWED ____ FACILITIES DEPARTMENT
REVIEWED ____ CONSTRUCTION DEPARTMENT
REVIEWED ____ VISION 2000 DEPARTMENT

DRAWN SLD/ RB
DESIGNED ____ REG ENGINEER NO
CHECKED ____ REG ENGINEER NO.
REVIEWED ____ REG ENGINEER NO

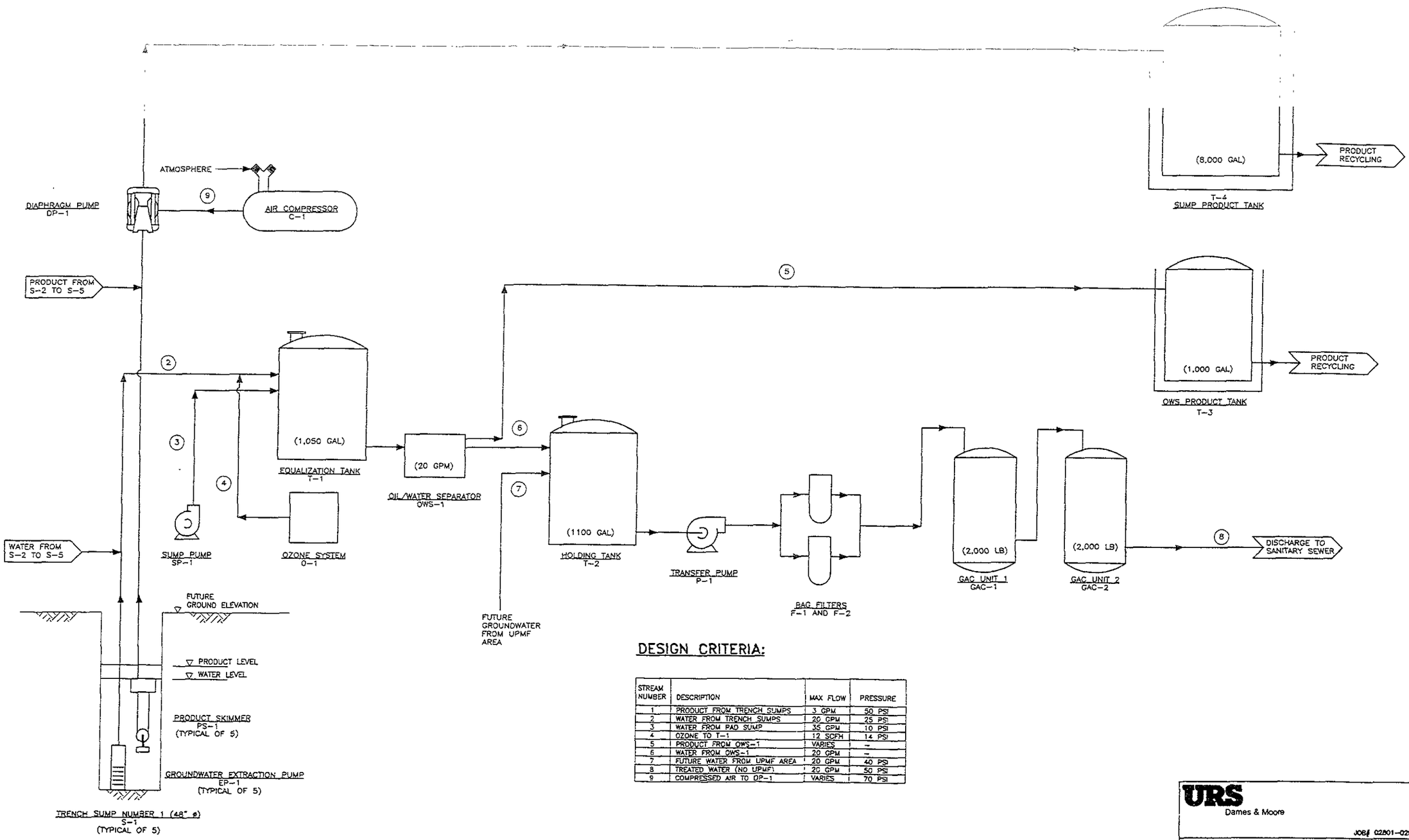
PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER
APPROVED ____ REG ENGINEER NO
RECOMMENDED ____ REG ENGINEER NO

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
LEGEND AND SYMBOLS

DATE 6-01-00
SCALE AS NOTED
SHEET ____ OF ____ SHEETS

G-4



DESIGN CRITERIA:

STREAM NUMBER	DESCRIPTION	MAX FLOW	PRESSURE
1	PRODUCT FROM TRENCH SUMPS	3 GPM	50 PSI
2	WATER FROM TRENCH SUMPS	20 GPM	25 PSI
3	WATER FROM PAD SUMP	35 GPM	10 PSI
4	OZONE TO T-1	12 SCFH	14 PSI
5	PRODUCT FROM OWS-1	VARIES	-
6	WATER FROM OWS-1	20 GPM	-
7	FUTURE WATER FROM UPMF AREA	20 GPM	40 PSI
8	TREATED WATER (NO UPMF)	20 GPM	50 PSI
9	COMPRESSED AIR TO DP-1	VARIES	70 PSI

TRENCH-P1.DWG
1=1 05-09-00

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

NO	REVISIONS	DATE	APP'D

REVIEWED _____ FACILITIES DEPARTMENT
REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

DRAWN SLD
DESIGNED _____ REG. ENGINEER NO
CHECKED _____ REG ENGINEER NO
REVIEWED _____ REG ENGINEER NO

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER
APPROVED _____ REG ENGINEER NO
RECOMMENDED _____ REG. ENGINEER NO
REG ENGINEER NO

URS
Dames & Moore
JOB# 02801-029

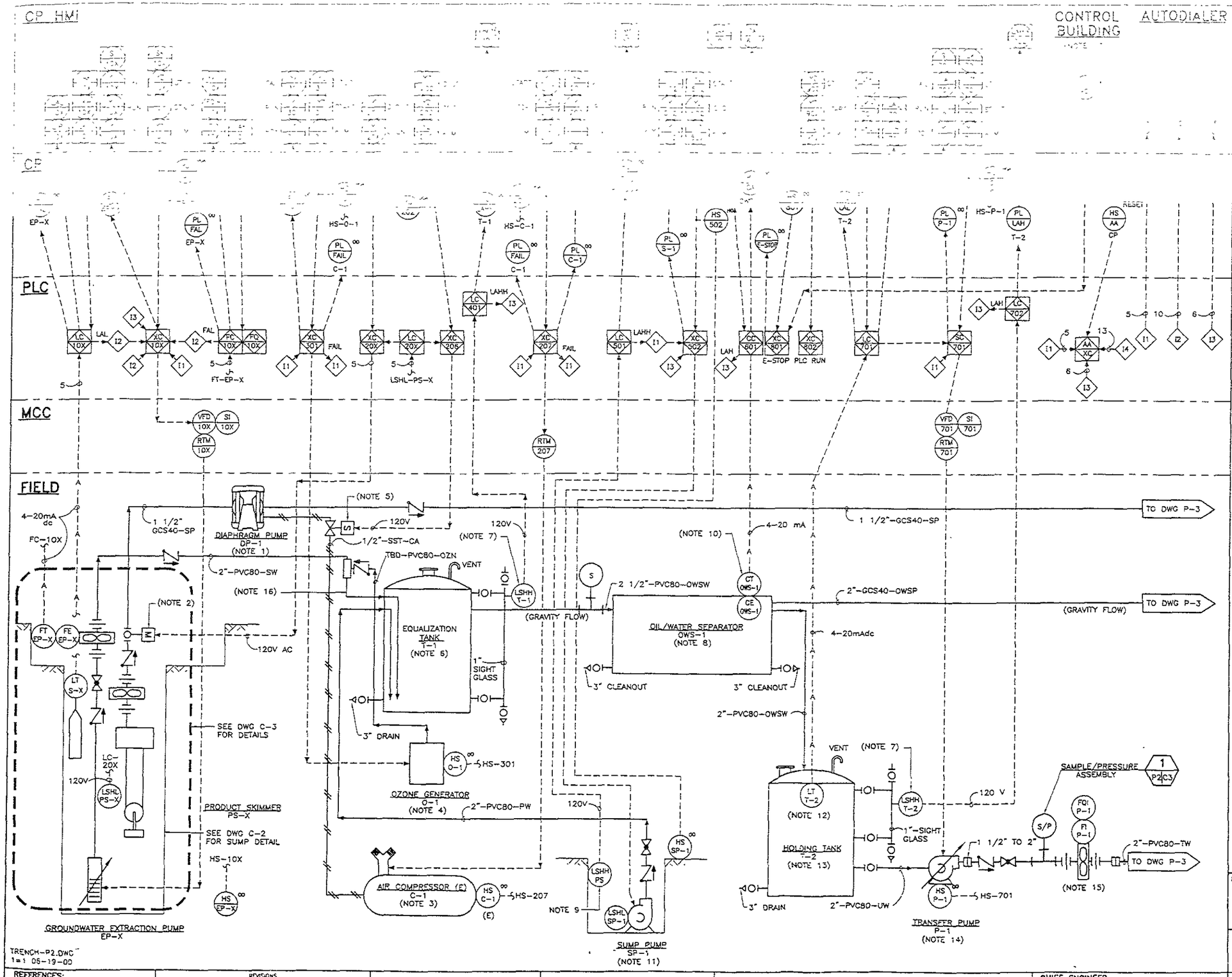
VISION 2000

CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM

PROCESS FLOW DIAGRAM AND DESIGN CRITERIA

DATE 06-01-00
SCALE AS NOTED
SHEET OF SHEETS

AA-3676 | P-1



AUTODIALER NOTES:

1. [illegible]
2. [illegible]
3. INSTALL EXISTING AIR DIAPHRAGM PUMP PER SPECIFICATIONS SECTION [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. MC TIGHE MODEL PGCO-30 OIL/WATER SEPARATOR WITH FRAME AND SEISMIC RESTRAINT SYSTEM (OR APPROVED EQUAL). INSTALL PER SPECIFICATIONS SECTION 11501.
9. OMEGA LV-70 (OR APPROVED EQUAL) LEVEL SWITCH MOUNTED 3" FROM TOP OF SUMP ON SIDE WALL.
10. GREAT LAKES 3422 CONDUCTIVITY ELEMENT AND 697 TRANSMITTER INTRINSICALLY SAFE (OR APPROVED EQUAL).
11. GRUNDFOS MODEL EF33 (OR APPROVED EQUAL) SUMP PUMP WITH INTEGRAL FLOAT SWITCH.
12. MILLITRONICS PROBE LEVEL TRANSMITTER (OR APPROVED EQUAL) INSTALL PER MANUFACTURER'S DIRECTIONS.
13. POLY PROCESSING MODEL 07-U TANK (OR APPROVED EQUAL). PROVIDE ALL REQUIRED FITTINGS AND SEISMIC RESTRAINT SYSTEM PER SPECIFICATION SECTION 15175.
14. GRUNDFOS MODEL HS150-5050 CENTRIFUGAL PUMP (OR APPROVED EQUAL).
15. McMROMETER MODEL MW-500 (OR APPROVED EQUAL) FLOW INDICATOR/TOTALIZER.
16. OZONE DISTRIBUTION FITTING TO BE SUPPLIED BY O-1 VENDOR.
17. LOCATE WEATHERPROOF E-STOP SWITCH ON EXTERIOR OF CONTROL BUILDING AS SHOWN ON DRAWING E-2.

INTERLOCKS:

I1 = SYSTEM SUTDOWN (5)
- SUMP LAHH
- T-4 LAHH
- O-1 FAIL
- T-3 LAHH
- C-1 FAIL

I2 = GROUNDWATER EXTRACTION PUMP SHUTDOWN (10)
- TRENCH SUMP LAL (5)
- EP FAL (5)

I3 = GROUNDWATER EXTRACTION PUMPS AND PAD SUMP PUMP SHUTDOWN (6)
- T-1 LAHH
- F-1 DPAHH
- GAC PAHH
- T-2 LAHH
- F-2 DPAHH
- OWS-1 CA

I4 = AUDIBLE ALARM (13)
- I1 (4)
- F-1 DPAH
- GAC PAH
- I3 (6)
- F-2 DPAH

I5 = ACTIVATE AUTODIALER (20)
- SEE SCHEDULE BELOW

ABBREVIATIONS:

A/M	= AUTO/MANUAL
CP	= CONTROL PANEL
HMI	= HUMAN-MACHINE INTERFACE (MOUNTED ON CP)
MCC	= MOTOR CONTROL CENTER
PS	= PAD SUMP
RDY	= READY
YZ	= ACTUATOR (HMI)
YI	= STATUS INDICATOR (HMI)
YA	= ALARM INDICATOR (HMI)
X	= 1-5
XC	= ON/OFF CONTROL
(E)	= EXISTING

AUTODIALER SCHEDULE:

CHANNEL	ALARM	LOCATION	I-LOCK	CHANNEL	ALARM	LOCATION	I-LOCK
1	LAHH	PAD SUMP	1	12	FAL	TRENCH SUMP-2	2
2	LAHH	T-3	1	13	FAL	TRENCH SUMP-3	2
3	LAHH	T-4	1	14	FAL	TRENCH SUMP-4	2
4	FAIL	C-1	1	15	FAL	TRENCH SUMP-5	2
5	FAIL	O-1	1	16	LAHH	T-1	3
6	LAL	TRENCH SUMP-1	2	17	LAHH	T-2	3
7	LAL	TRENCH SUMP-2	2	18	DPAHH	F-1	3
8	LAL	TRENCH SUMP-3	2	19	DPAHH	F-2	3
9	LAL	TRENCH SUMP-4	2	20	PAHH	GAC UNITS	3
10	LAL	TRENCH SUMP-5	2	21	CA	OWS-1	3
11	FAL	TRENCH SUMP-1					

URS
Dames & Moore
Job# 02801-022

TRENCH-P2.DWG
1=1 05-19-00

REFERENCES:

REVISIONS			
NO		DATE	APP'D

CAUTION: CHECK TRACING FOR LATEST REVISIONS

REVIEWED _____ FACILITIES DEPARTMENT
REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

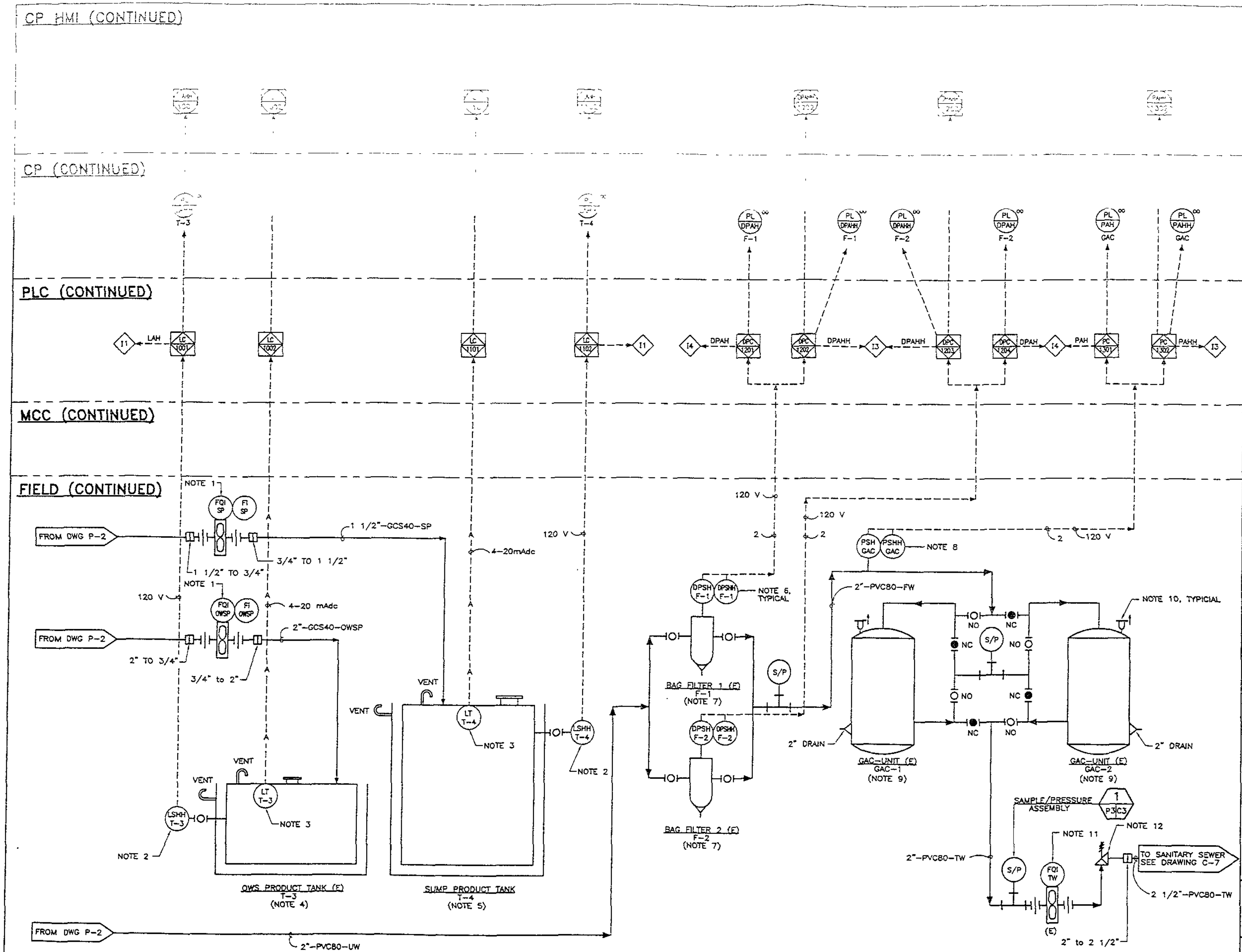
DRAWN SLD
DESIGNED AJF
CHECKED _____ REG. ENGINEER NO.
REVIEWED _____ REG. ENGINEER NO.

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER
APPROVED _____ REG. ENGINEER NO.
RECOMMENDED _____ REG. ENGINEER NO.

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
PROCESS FLOW AND INSTRUMENTATION DIAGRAM - SHEET 1

DATE 06-01-00
SCALE AS NOTED
SHEET OF SHEETS
AA-3676 | P-2



TRENCH-P3.dwg
1=1 06-09-00

NOTES:

1. OMEGA MODEL FTB-32 FLOW METER (OR APPROVED EQUAL). INSTALL PER SPECIFICATIONS SECTION 15173
2. FLOTECT MODEL L6-EPB-3SDA INTRINSICALLY SAFE (OR APPROVED EQUAL). INSTALL PER MANUFACTURER'S DIRECTIONS
3. MULTRONICS PROBE LEVEL TRANSMITTER INTRINSICALLY SAFE (OR APPROVED EQUAL). INSTALL PER MANUFACTURER'S DIRECTIONS
4. INSTALL EXISTING STORAGE TANK PER SPECIFICATIONS SECTION 13570
5. ACE SADDLE [illegible] GALLON DOUBLE-WALLED ABOVE GROUND DIESEL STORAGE TANK (OR APPROVED EQUAL). PROVIDE ALL FITTINGS AND SEISMIC RESTRAINT SYSTEM PER SPECIFICATION SECTION 15175
6. DWYER MODEL 4021S INDICATOR/SWITCH (OR APPROVED EQUAL). INSTALL WITH 1/4" SST TUBING. SET POINTS: – DPSH: [illegible] psig
   – DPSHH: 14 psig
7. INSTALL EXISTING BAG FILTERS PER SPECIFICATIONS SECTION 13570.
8. DWYER MODEL 43260S (OR APPROVED EQUAL). INSTALL WITH 1/4" SST TUBING. SET POINTS: – PDH: 15 psig
   – PDHH: 25 psig
9. RETROFIT AND REINSTALL EXISTING GAC VESSELS PER SPECIFICATIONS SECTION 13570.
10. APCO MODEL 143C AIR RELEASE/VACUUM VALVE (OR APPROVED EQUAL).
11. INSTALL EXISTING FLOW TOTALIZER PER SPECIFICATIONS SECTION 13570.
12. PLAST-O-MATIC MODEL RVT 200B-PV ANTI-SIPHON PRESSURE RELIEF VALVE (OR APPROVED EQUAL). INSTALL PER MANUFACTURER'S DIRECTIONS.

INTERLOCKS:

I1 = SYSTEM SUTDOWN (5)
- SUMP LAHH
- T-3 LAHH
- T-4 LAHH
- C-1 FAIL
- O-1 FAIL

I3 = GROUNDWATER EXTRACTION PUMPS AND PAD SUMP PUMP SHUTDOWN (6)
- T-1 LSHH
- T-2 LSHH
- F-1 DPAHH
- F-2 DPAHH
- GAC PAHH
- OWS-1 CA

I4 = AUDIBLE ALARM (13)
- I1 (4)
- I3 (6)
- F-1 DPAH
- F-2 DPAH
- GAC PAH

ABBREVIATIONS:

CP	= CONTROL PANEL
HMI	= HUMAN-MACHINE INTERFACE (MOUNTED ON CP)
MCC	= MOTOR CONTROL CENTER
(E)	= EXISTING

URS
Dames & Moore

JOB# 02801-029

REFERENCES:

CAUTION:
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REVISIONS			
NO		DATE	APP'D

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REVIEWED ______ CONSTRUCTION DEPARTMENT
REVIEWED ______ VISION 2000 DEPARTMENT

DRAWN SLD
DESIGNED AJF
CHECKED ______ REG. ENGINEER NO.
REVIEWED ______ REG. ENGINEER NO.

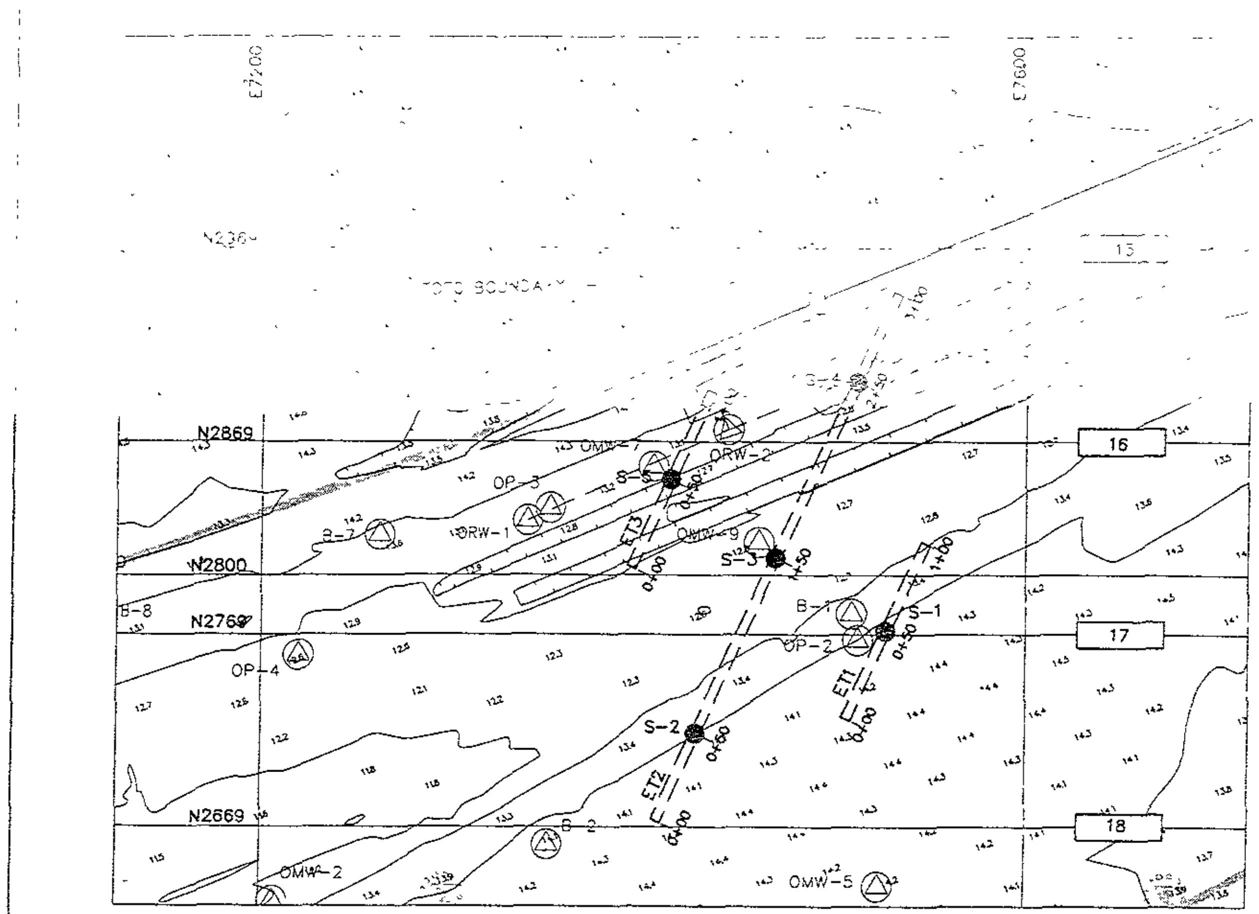
PORT OF OAKLAND

530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER ______ REG. ENGINEER NO.
APPROVED ______ REG. ENGINEER NO.
RECOMMENDED ______ REG. ENGINEER NO.

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
PROCESS FLOW AND INSTRUMENTATION DIAGRAM – SHEET 2

DATE 06-01-00
SCALE AS NOTED
SHEET OF SHEETS
AA-3676 | P-3



PLAN

0 50 100
SCALE IN FEET

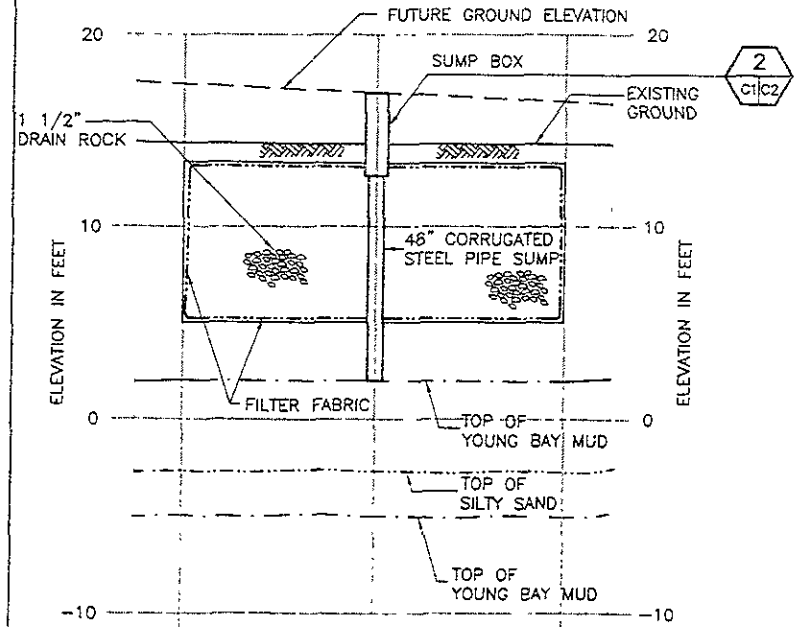
EXTRACTION TRENCH LAYOUT TABLE

TRENCH	STATION*	CALIFORNIA COORDINATES NORTHING	EASTING
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
ET1	STA 1+00	2117423.41	6039831.77
ET2	STA 0+00	2117332.30	6039653.26
ET2	STA 0+50	2117368.66	6039687.56
ET2	STA 1+50	2117441.39	6039756.21
ET2	STA 2+50	2117514.64	6039824.93
ET2	STA 3+00	2117550.38	6039859.27
ET3	STA 0+00	2117461.21	6039683.77
ET3	STA 0+50	2117497.55	6039718.11
ET3	STA 1+00	2117533.90	6039752.44

* ALONG CENTER LINE OF TRENCH

NOTES:

1. ELEVATIONS REFERENCED TO THE PORT OF [illegible] DATUM. [illegible] = +3.202 FT
2. [illegible] BOUNDARIES FOR EXISTING FILL AND BAY MUD [illegible] ARE FROM THE BEST INFORMATION AVAILABLE AND ARE CONSIDERED APPROXIMATE. EXACT BOUNDARIES [illegible] GUARANTEED.
3. SEE SHEET [illegible] FOR DEMOLITION ITEMS.
4. [illegible]

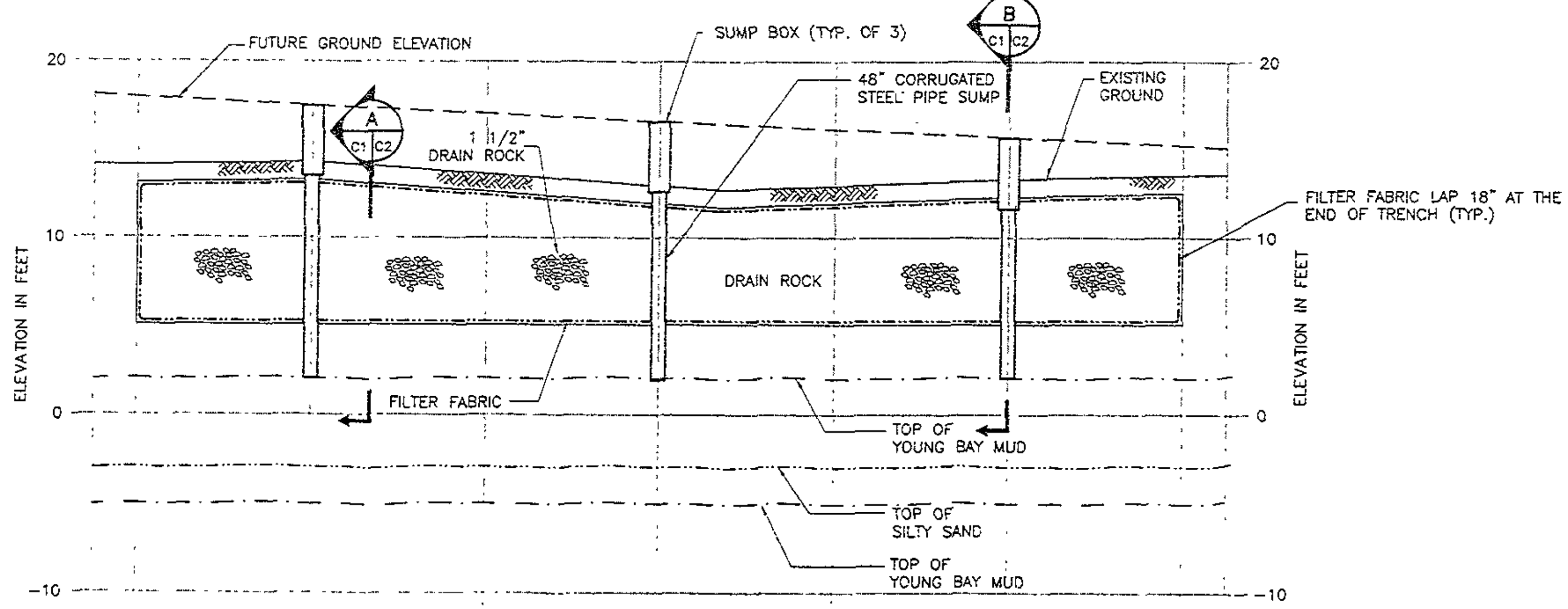


PROFILE

ET1 (ET3 SIMILAR)

0 10 20 30 40 50
HORIZONTAL SCALE IN FEET

0 5
VERTICAL SCALE IN FEET



PROFILE

ET2

0 10 20 30 40 50
HORIZONTAL SCALE IN FEET

0 5
VERTICAL SCALE IN FEET

CAUTION: THIS PLAN MAY BE REDUCED 0 1" 2" ORIGINAL SCALE

URS
Dames & Moore
JOB# 02801-029

TRENCH-C1
1=1 06-16-00

REFERENCES:
"PORT OF OAKLAND DATUM" IS 3.20' BELOW MEAN SEA LEVEL

CAUTION:
CHECK TRACING FOR LATEST REVISIONS

REVISIONS			
NO		DATE	APP'D

REVIEWED ______ FACILITIES DEPARTMENT
REVIEWED ______ CONSTRUCTION DEPARTMENT
REVIEWED ______ VISION 2000 DEPARTMENT

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DESIGNED ______ REG. ENGINEER NO.
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REVIEWED ______ REG. ENGINEER NO.

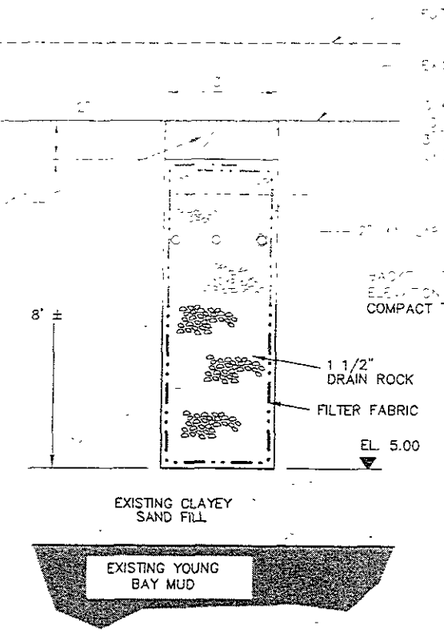
PORT OF OAKLAND

530 WATER ST. OAKLAND, CALIFORNIA

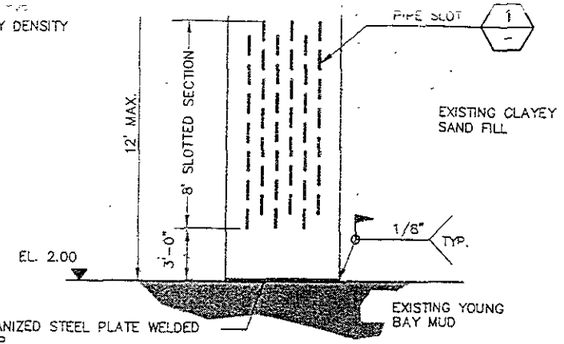
CHIEF ENGINEER ______ REG. ENGINEER NO.
APPROVED ______ REG. ENGINEER NO.
RECOMMENDED ______ REG. ENGINEER NO.

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
EXTRACTION TRENCH PLAN AND PROFILES

DATE 06-01-00
SCALE AS NOTED
SHEET OF SHEETS
AA-3676 C-1

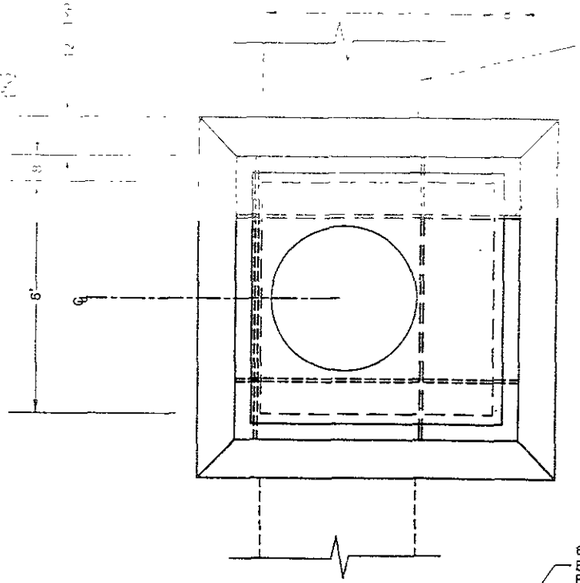


A C1|C2 **TYPICAL SECTION**
EXTRACTION TRENCH
NOT TO SCALE

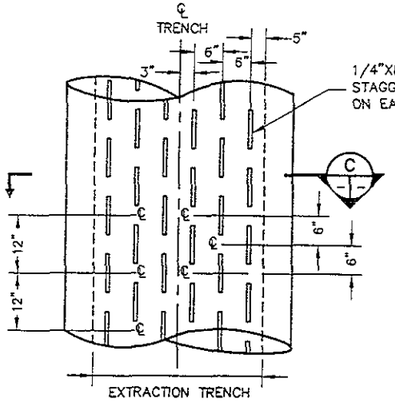


B C1|C2 **TYPICAL SECTION**
EXTRACTION SUMP
NOT TO SCALE

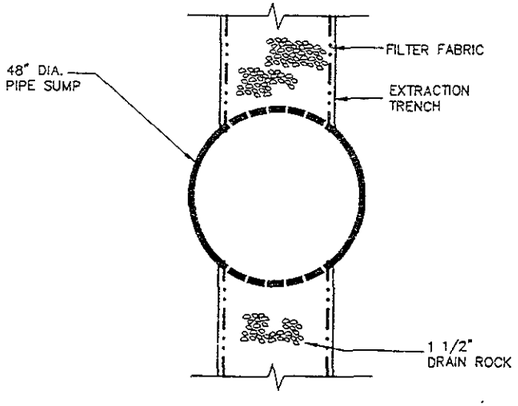
NOTE:
GEOSYNTHETIC FABRIC REQUIRED AT SUMP BOTTOM IF BAY MUD ENCOUNTERED. INSTALL FABRIC PRIOR TO 6" OF PEA GRAVEL BEDDING FOR SUMP.



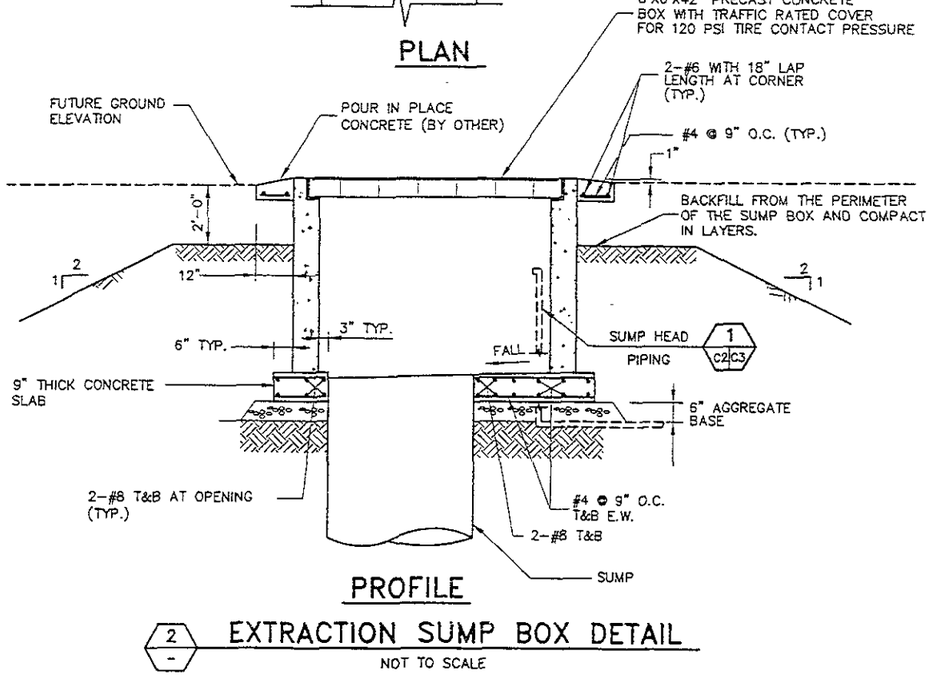
PLAN



1/- **PIPE SLOT DETAIL**
NOT TO SCALE



C/- **EXTRACTION SUMP SECTION**
NOT TO SCALE



PROFILE

2/- **EXTRACTION SUMP BOX DETAIL**
NOT TO SCALE

trench-details.dwg --
1=1 06-20-00

CAUTION: THIS PLAN MAY BE REDUCED
0 1" 2"
ORIGINAL SCALE

URS Dames & Moore
JOB# 02801-029

REFERENCES:
"PORT OF OAKLAND DATUM" IS 3.20' BELOW MEAN SEA LEVEL

CAUTION: CHECK TRACING FOR LATEST REVISIONS

REVISIONS			
NO		DATE	APP'D

REVIEWED _____ FACILITIES DEPARTMENT
REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

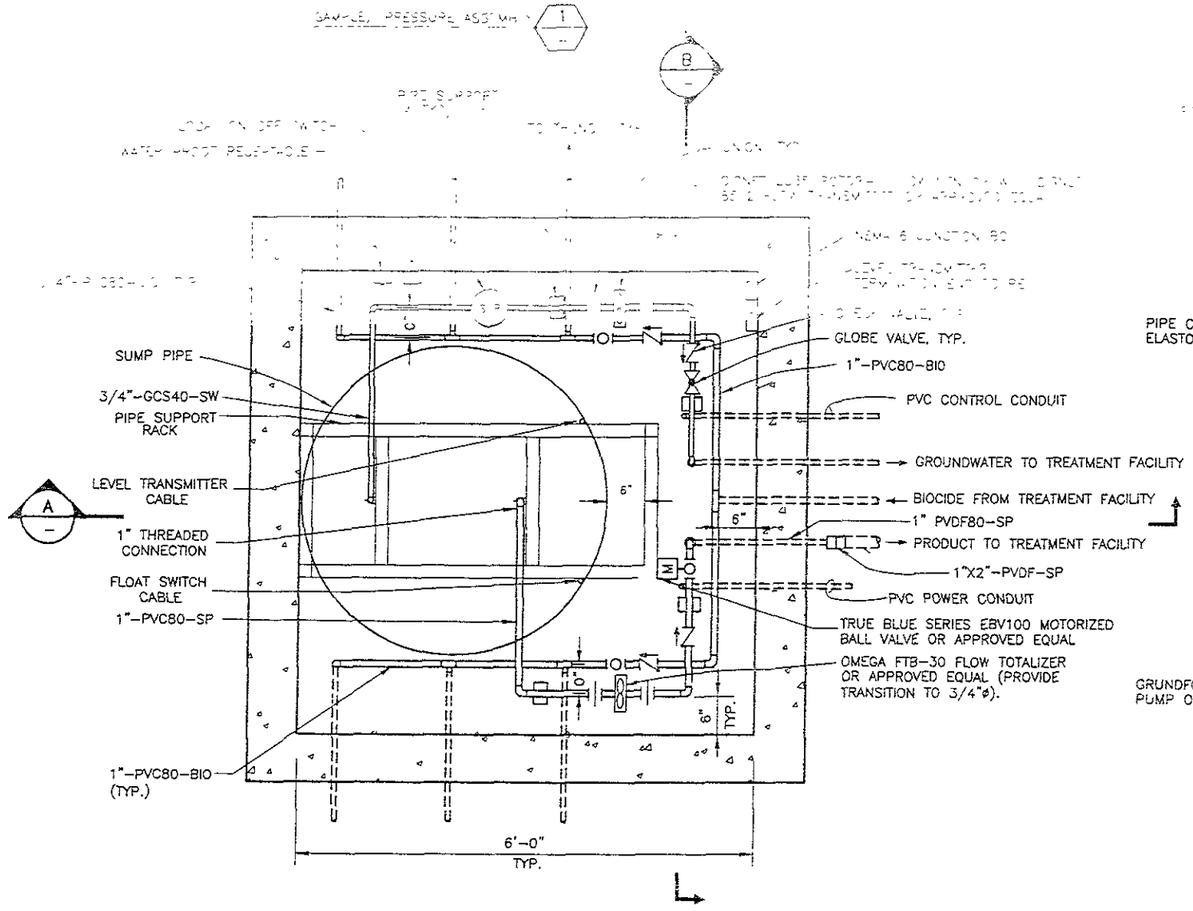
DRAWN SLD/PR
DESIGNED _____ REG. ENGINEER NO
CHECKED _____ REG. ENGINEER NO
REVIEWED _____ REG. ENGINEER NO

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER
APPROVED _____ REG. ENGINEER NO
RECOMMENDED _____ REG. ENGINEER NO

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
EXTRACTION TRENCH AND SUMP SECTIONS AND DETAILS

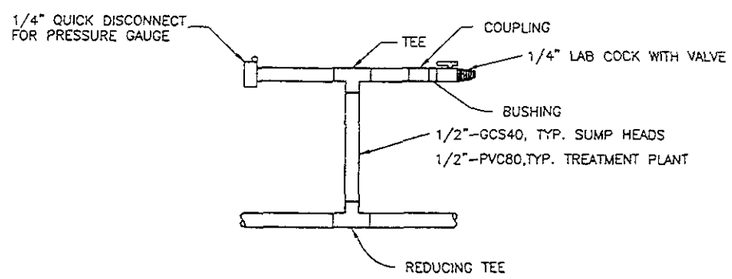
DATE 6-01-00
SCALE AS NOTED
SHEET OF SHEETS
AA-3676 C-2



SUMP HEAD PIPING PLAN

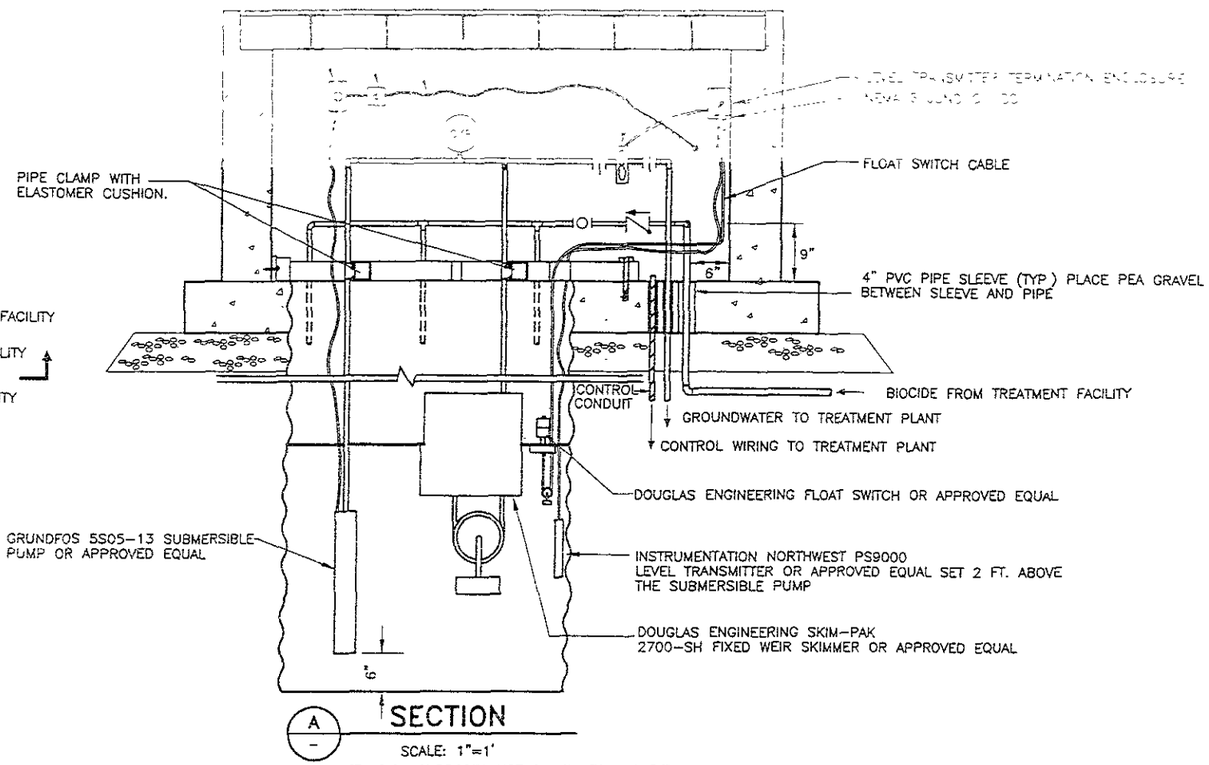
SCALE: 1"=1'

NOTE: CABLE AND FLEXIBLE CONDUIT NOT SHOWN FOR CLARITY (SEE SECTIONS FOR CABLE & FLEXIBLE CONDUIT)



SAMPLE/ PRESSURE ASSEMBLY

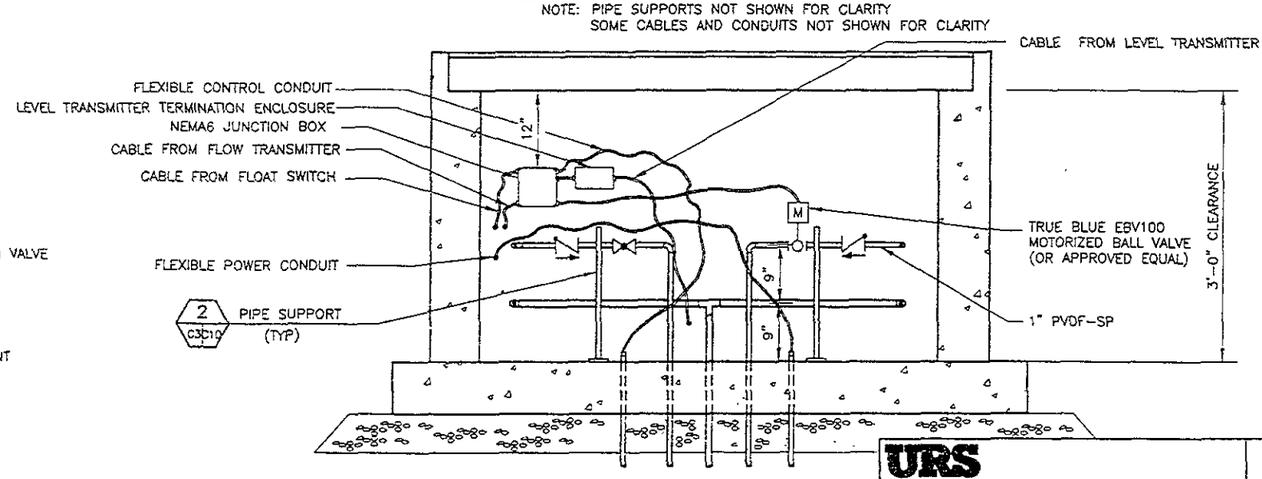
NOT TO SCALE



SECTION

SCALE: 1"=1'

NOTE: PIPE SUPPORTS NOT SHOWN FOR CLARITY
SOME CABLES AND CONDUITS NOT SHOWN FOR CLARITY



SECTION

SCALE: 1"=1'

CAUTION: THIS PLAN MAY BE REDUCED

ORIGINAL SCALE

URS Dames & Moore

JOB# 02801-029

TRENCH-C3.dwg
1=1 05-20-00

REFERENCES:

REVISIONS			
NO		DATE	APP'D

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REVIEWED _____ FACILITIES DEPARTMENT

REVIEWED _____ CONSTRUCTION DEPARTMENT

REVIEWED _____ VISION 2000 DEPARTMENT

DRAWN RB/PR/DF

DESIGNED _____ REG. ENGINEER NO.

CHECKED _____ REG. ENGINEER NO.

REVIEWED _____ REG. ENGINEER NO.

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER

APPROVED _____ REG. ENGINEER NO.

RECOMMENDED _____ REG. ENGINEER NO.

VISION 2000

CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM

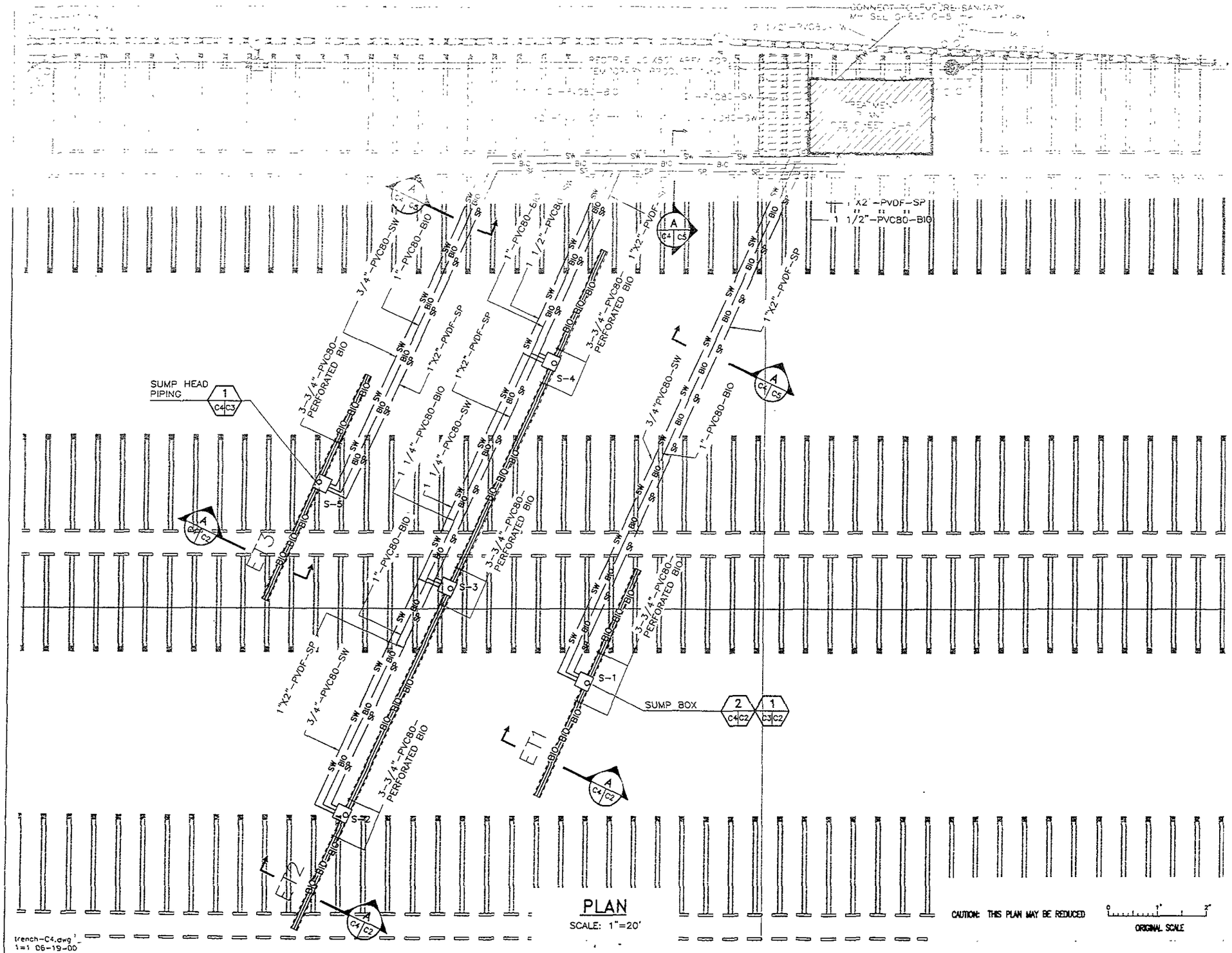
EXTRACTION SUMP, HEAD PIPING PLAN, SECTIONS AND DETAILS

DATE 08-01-00

SCALE

SHEET OF SHEETS

AA-3676 | C-3



PLAN

SCALE: 1"=20'

CAUTION: THIS PLAN MAY BE REDUCED

0 1" 2"

ORIGINAL SCALE

trench-C4.dwg
1=1 06-19-00

NOTES:

1. PROVIDE FULL RESTRAINTS FOR ALL PIPES TO RESIST HYDROSTATIC PRESSURE.
2. REFER TO DRAWING E-2 FOR ELECTRICAL CONDUIT LOCATIONS.
3. ALL PIPES LAID WITH A 1%± SLOPE PARALLEL TO THE FINISH GRADE.

LEGEND

PROPOSED FACILITIES

- SP — DOUBLE-WALLED SUMP PRODUCT PIPE
- SW — SUMP WATER PIPE
- BIO — BIOCIDE PIPE
- EXTRACTION TRENCH
- S-2 — EXTRACTION SUMP AND CONCRETE SUMP BOX

URS Dames & Moore

JOB# 02501-023

REFERENCES:

REVISIONS			
NO		DATE	APP'D

CAUTION: CHECK TRACING FOR LATEST REVISIONS

REVIEWED _____ FACILITIES DEPARTMENT

REVIEWED _____ CONSTRUCTION DEPARTMENT

REVIEWED _____ VISION 2000 DEPARTMENT

DRAWN SLD/PR

DESIGNED _____

CHECKED _____

REVIEWED _____

REG. ENGINEER NO

PORT OF OAKLAND

530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER

APPROVED _____ REG. ENGINEER NO

RECOMMENDED _____ REG. ENGINEER NO

VISION 2000

CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM

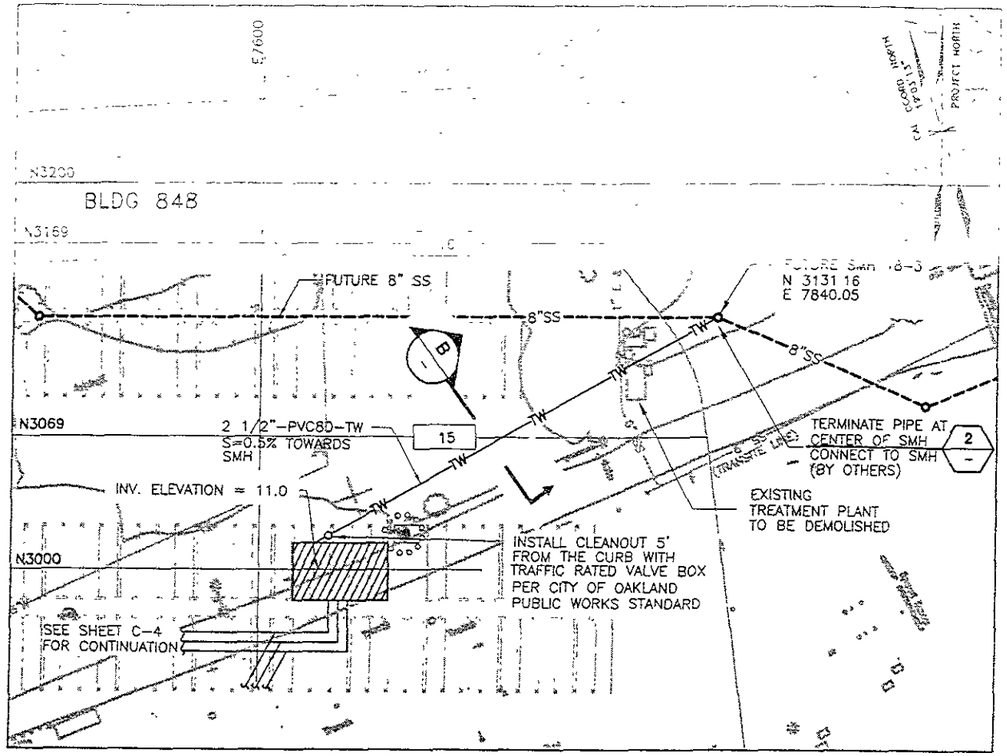
PIPING PLAN DETAILS
SHEET 1

DATE 6-01-00

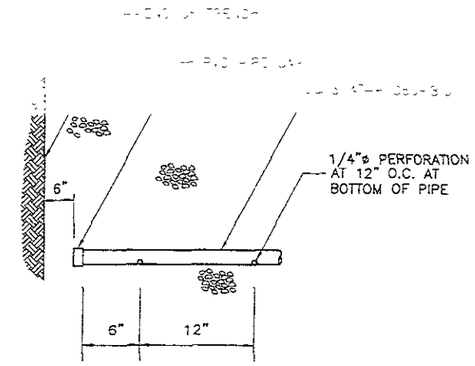
SCALE AS NOTED

SHEET OF SHEETS

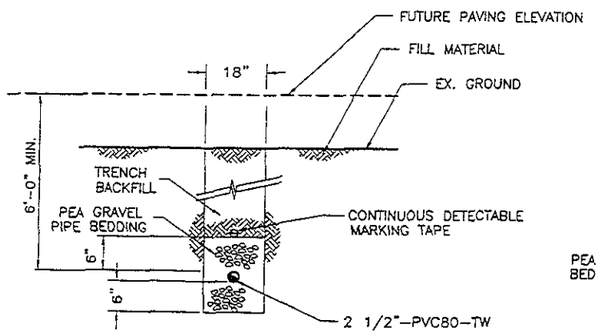
AA-3676 | C-4



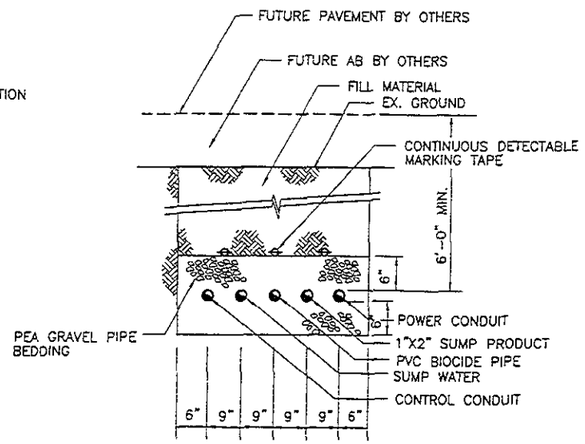
PLAN
SCALE: 1"=40'



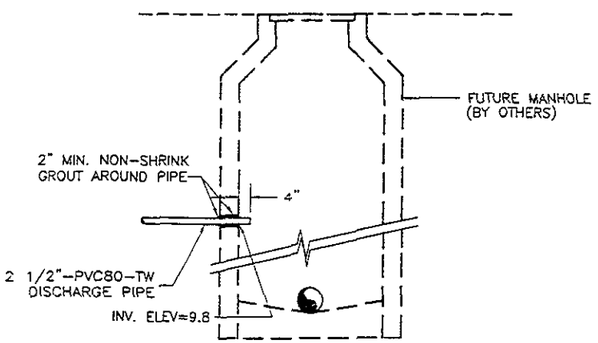
1/C2|C5 PERFORATED BIOCIDE PIPE DETAIL
NOT TO SCALE



B/- TYPICAL PIPE TRENCH
NOT TO SCALE



A/C4|C5 TYPICAL PIPE TRENCH
NOT TO SCALE



2/- SEWER MANHOLE CONNECTION
(BY OTHERS)
NOT TO SCALE

TRENCH-C5 DWG
1=1 6-19-00

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

REVISIONS NO		DATE	APP'D

REVIEWED _____ FACILITIES DEPARTMENT
REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

DRAWN RS
DESIGNED _____
CHECKED _____ REG. ENGINEER NO.
REVIEWED _____ REG. ENGINEER NO.

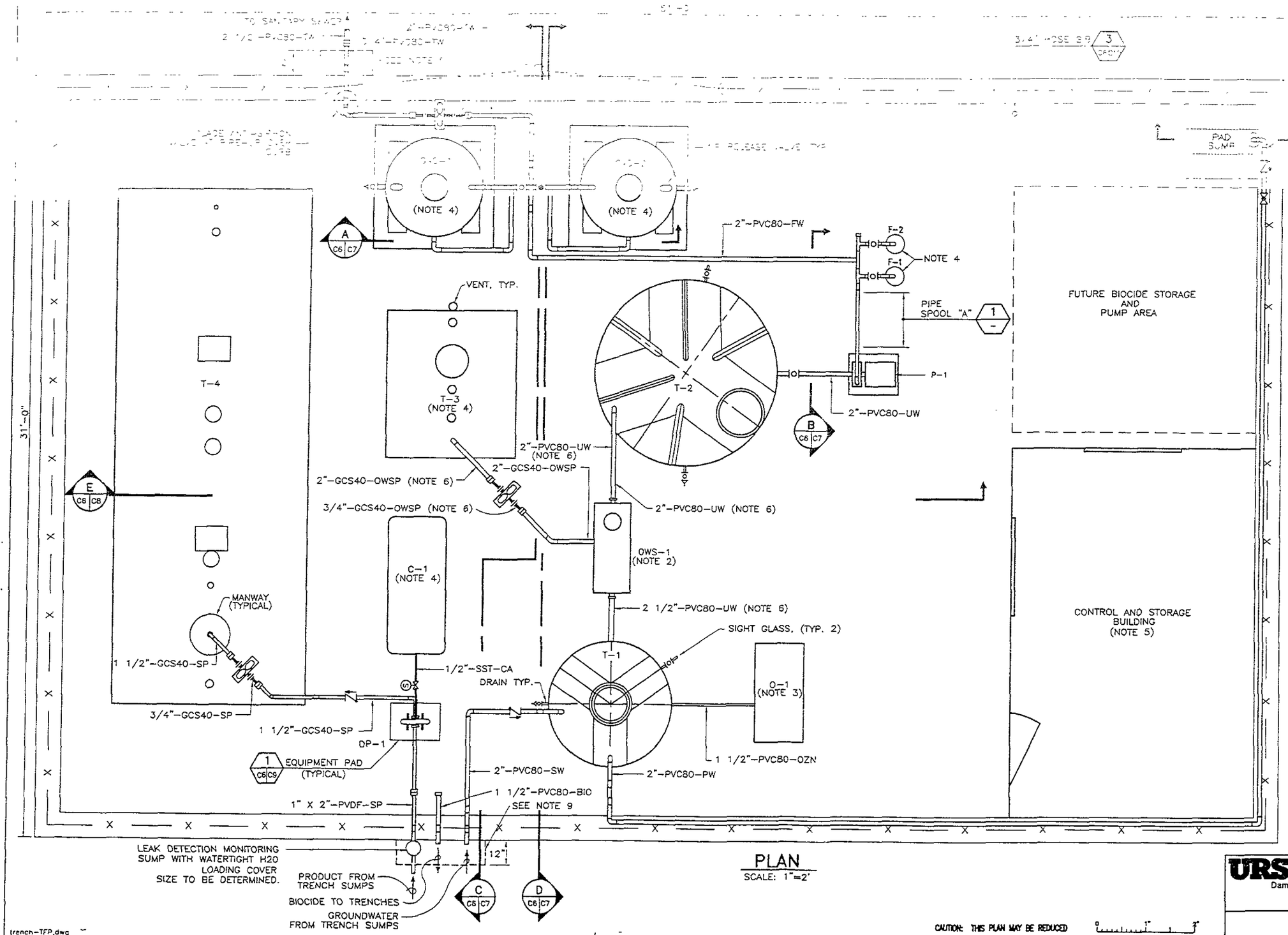
PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER
APPROVED _____ REG. ENGINEER NO.
RECOMMENDED _____ REG. ENGINEER NO.

URS Dames & Moore
JOB# 02801-029

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
PIPING PLAN AND DETAILS – SHEET 2

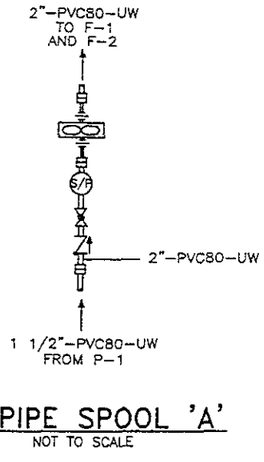
DATE 6-01-00
SCALE: AS NOTED
SHEET OF SHEETS
AA-3676 | C-5



PLAN
SCALE: 1"=2'

NOTES:

1. PROVIDE VERTICAL AND HORIZONTAL PIPE SUPPORTS AS SHOWN AND PER SPECIFICATIONS
2. PROVIDE 4 ø HIGH STEEL FRAME FOR OWS-1 PER SPECIFICATION SECTION 11300
3. PROVIDE EQUIPMENT SUPPORTS FOR C-1 PER SPECIFICATION SECTION 11374
4. INSTALL EXISTING EQUIPMENT ACCORDING TO SPECIFICATIONS SECTION 11370
5. BUTLER PREFABRICATED METAL BUILDING (OR APPROVED EQUAL) WITH INTERIOR LIGHTING, EXTERIOR LIGHTING, EXHAUST FANS, WINDOWS, AND SWING DOOR. INSTALL ON LEVEL PAD PER DETAIL OF DRAWING C-7.
6. PROVIDE GRAVITY PIPES WITH A MINIMUM OF 1/4" PER FOOT SLOPE. SEE SHEET C-9.
7. PROVIDE A VENTILATED WEATHER-PROOF ENCLOSURE FOR C-1.
8. PROVIDE SUPPORT FOR ALL PIPES. SEE SHEET C-10.
9. PROVIDE GCS CAGE TO PROTECT PIPES AND CONDUITS OUTSIDE CURB. CAGES TO ATTACH TO CURB WITH HINGED FASTENERS.



1 PIPE SPOOL 'A'
NOT TO SCALE

CAUTION: THIS PLAN MAY BE REDUCED
0 1" 2"
ORIGINAL SCALE

URS
Dames & Moore
JOB# 02801-029

trench-TFP.dwg
1.1 06-20-00

REFERENCES:

REVISIONS			
NO		DATE	APP'D

CAUTION: CHECK TRACING FOR LATEST REVISIONS

REVIEWED _____ FACILITIES DEPARTMENT
REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

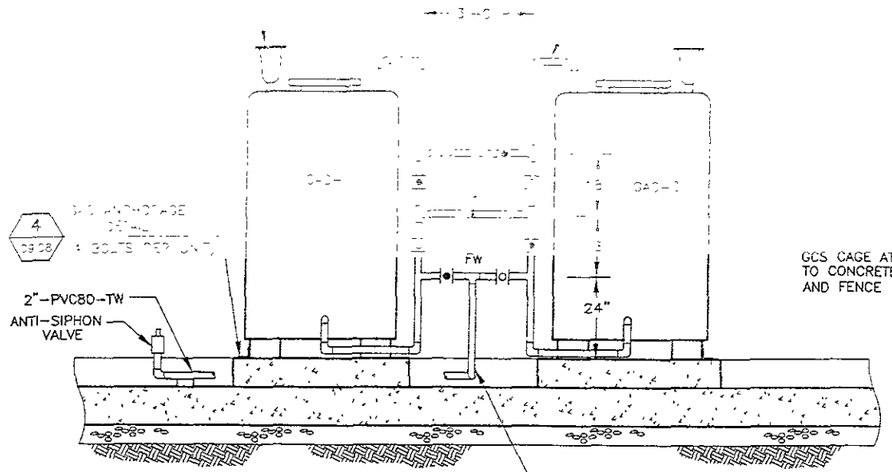
DRAWN: SLD
DESIGNED _____ REG. ENGINEER NO
CHECKED _____ REG. ENGINEER NO
REVIEWED _____ REG. ENGINEER NO

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER _____ REG. ENGINEER NO
APPROVED _____ REG. ENGINEER NO
RECOMMENDED _____ REG. ENGINEER NO.

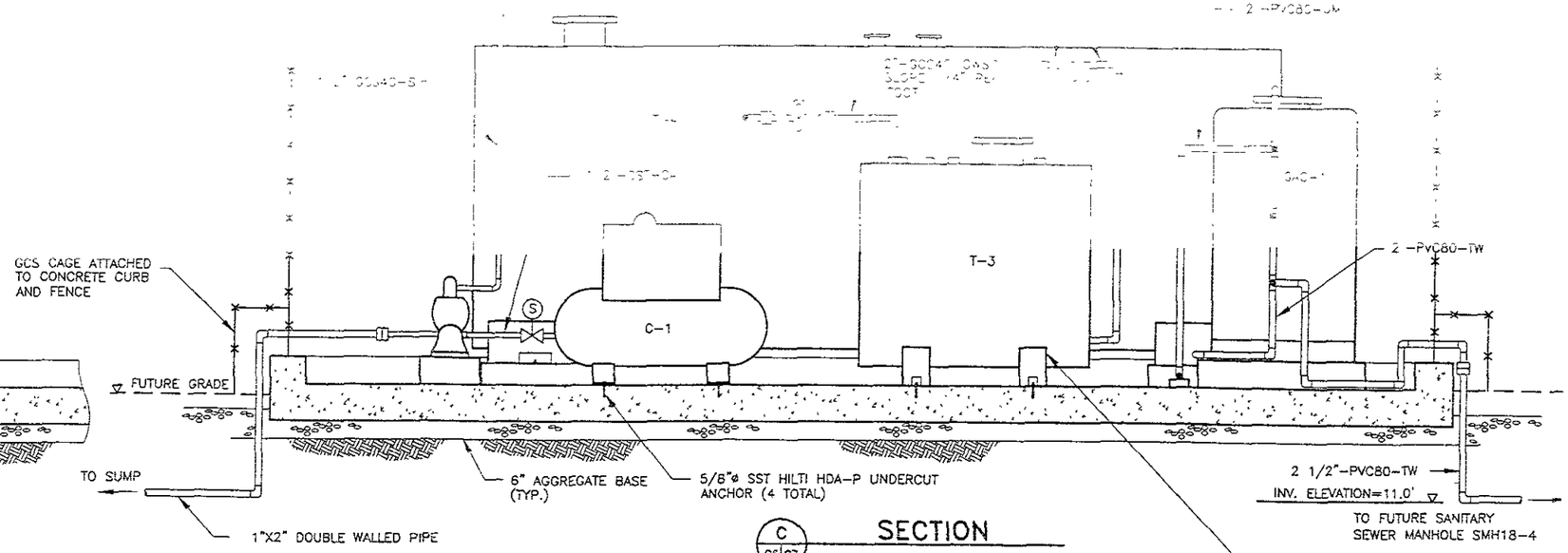
VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
TREATMENT PLANT LAYOUT

DATE 06-01-00
SCALE: AS NOTED
SHEET OF SHEETS
AA-3676 | C-6



A C6|C7 **SECTION**

SCALE. 1"=2"

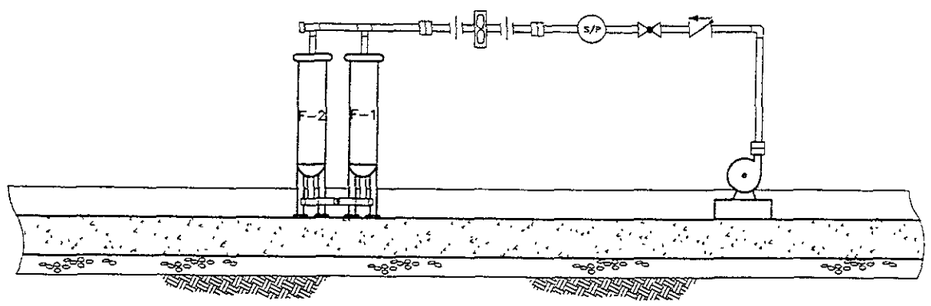


C C6|C7 **SECTION**

SCALE: 1"=2'

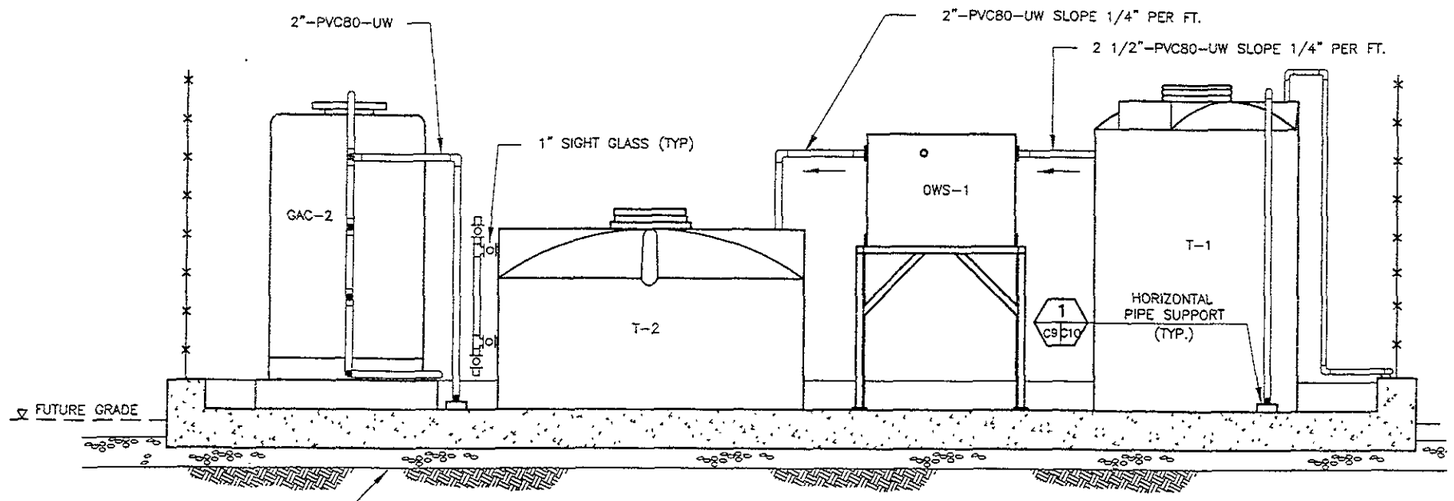
NOTE:

1. ELECTRICAL NOT SHOWN FOR CLARITY



B C6|C7 **SECTION**

SCALE: 1"=2'



D C6|C7 **SECTION**

SCALE: 1"=2'

TRENCH-C9.DWG
1=1 5-20-00

CAUTION: THIS PLAN MAY BE REDUCED

0 1" 2"

ORIGINAL SCALE

URS Dames & Moore

JOB# 02801-029

REFERENCES:	REVISIONS NO		DATE	APP'D
CAUTION: CHECK TRACING FOR LATEST REVISIONS				

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REVIEWED ____ CONSTRUCTION DEPARTMENT

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DRAWN SLD/RB

DESIGNED ____ REG. ENGINEER NO.

CHECKED ____ REG. ENGINEER NO.

REVIEWED ____ REG. ENGINEER NO.

PORT OF OAKLAND

530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER

APPROVED ____ REG. ENGINEER NO.

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VISION 2000

CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM

TREATMENT PLANT SECTIONS

DATE 5-01-00

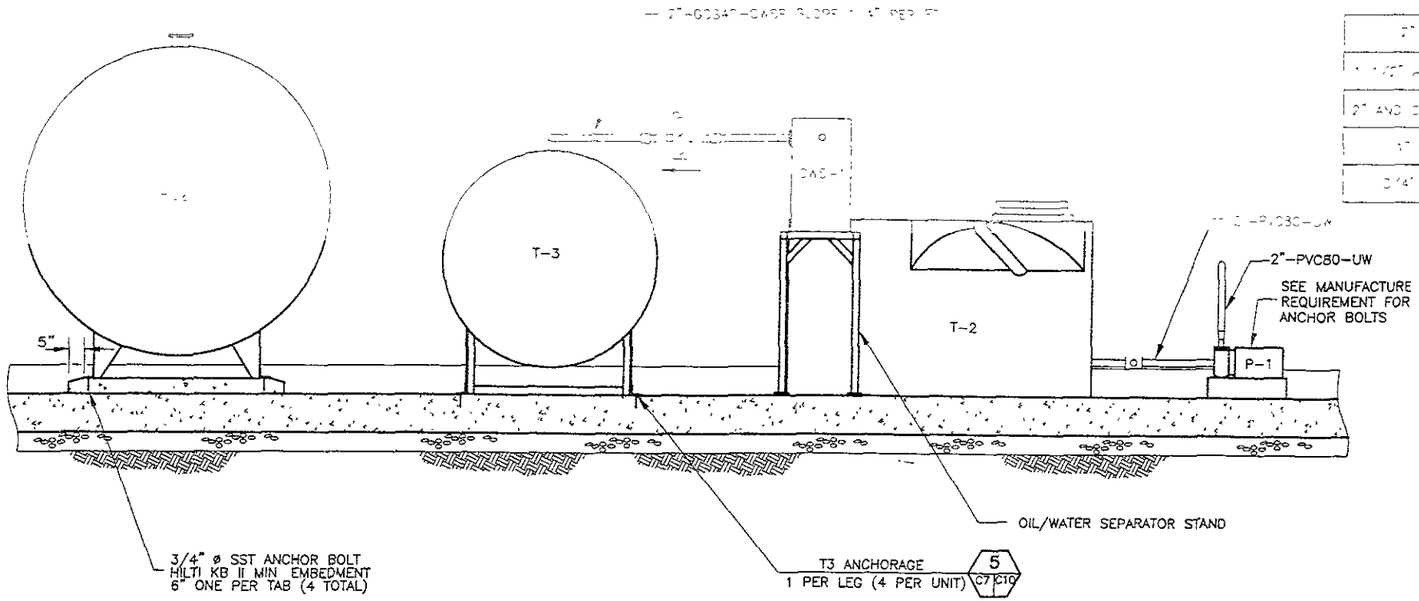
SCALE: AS NOTED

SHEET ____ OF ____ SHEETS

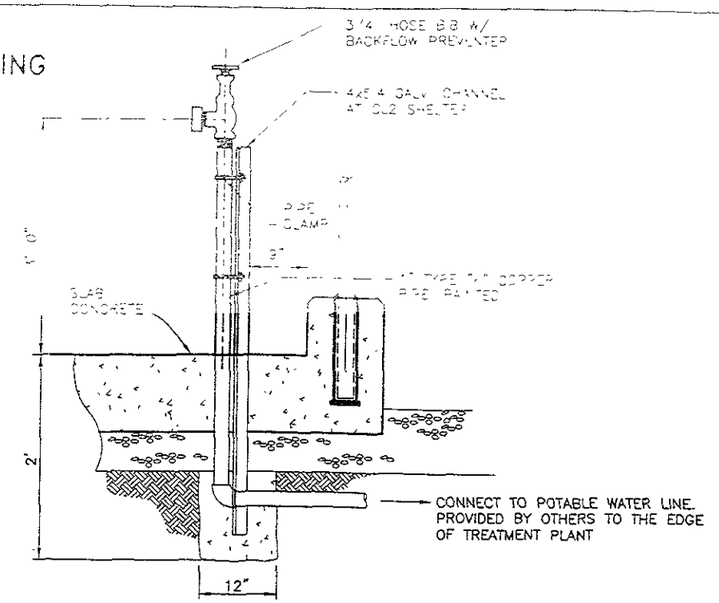
AA-3676 | C-7

MAXIMUM PIPE SUPPORT SPACING

2" PVC SCH 80	6 FT
1 1/2" AND 1" PVC SCH 80	5 FT
2" AND 3/4" GCS SCH 40	10 FT
1" GCS SCH 40	8 FT
3/4" GCS SCH 40	7 FT



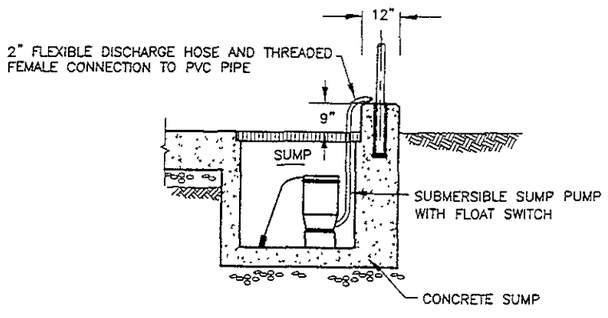
E C6 C8 **SECTION**
NOT TO SCALE



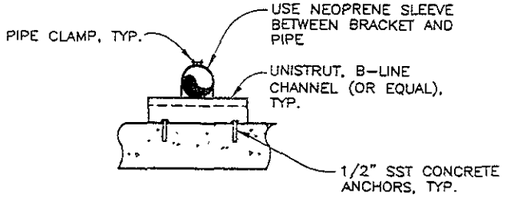
3 C6 C10 **HOSE BIB DETAIL**
NOT TO SCALE

NOTE:

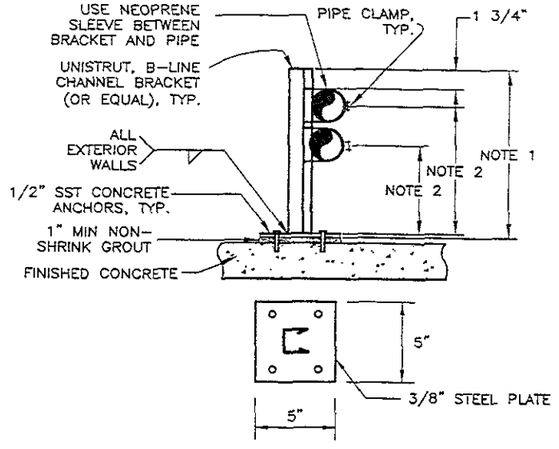
ELECTRICAL NOT SHOWN FOR CLARITY



F C6 C8 **TREATMENT PLANT SUMP PUMP**
NOT TO SCALE



1 C9 C10 **HORIZONTAL PIPE SUPPORT (TYP.)**
NOT TO SCALE



2 C3 C10 **VERTICAL PIPE SUPPORT (TYP.)**
NOT TO SCALE

NOTES:

1. LENGTH IS DEPENDENT ON PIPE(S) SPACING AND DISTANCE OF PIPE(S) FROM THE FINISHED CONCRETE.
2. LENGTH WELL BE DETERMINED IN FIELD BASED ON EQUIPMENT INLET AND OUTLET LOCATIONS.
3. USE 1 5/8"X1 5/8" CHANNELS.

TRENCH-C10.DWG
1=1 06-19-00

CAUTION: THIS PLAN MAY BE REDUCED

0 1" 2"
ORIGINAL SCALE

URS Dames & Moore
JOB # 02801-029

REFERENCES:

NO	REVISIONS	DATE	APP'D

CAUTION: CHECK TRACING FOR LATEST REVISIONS

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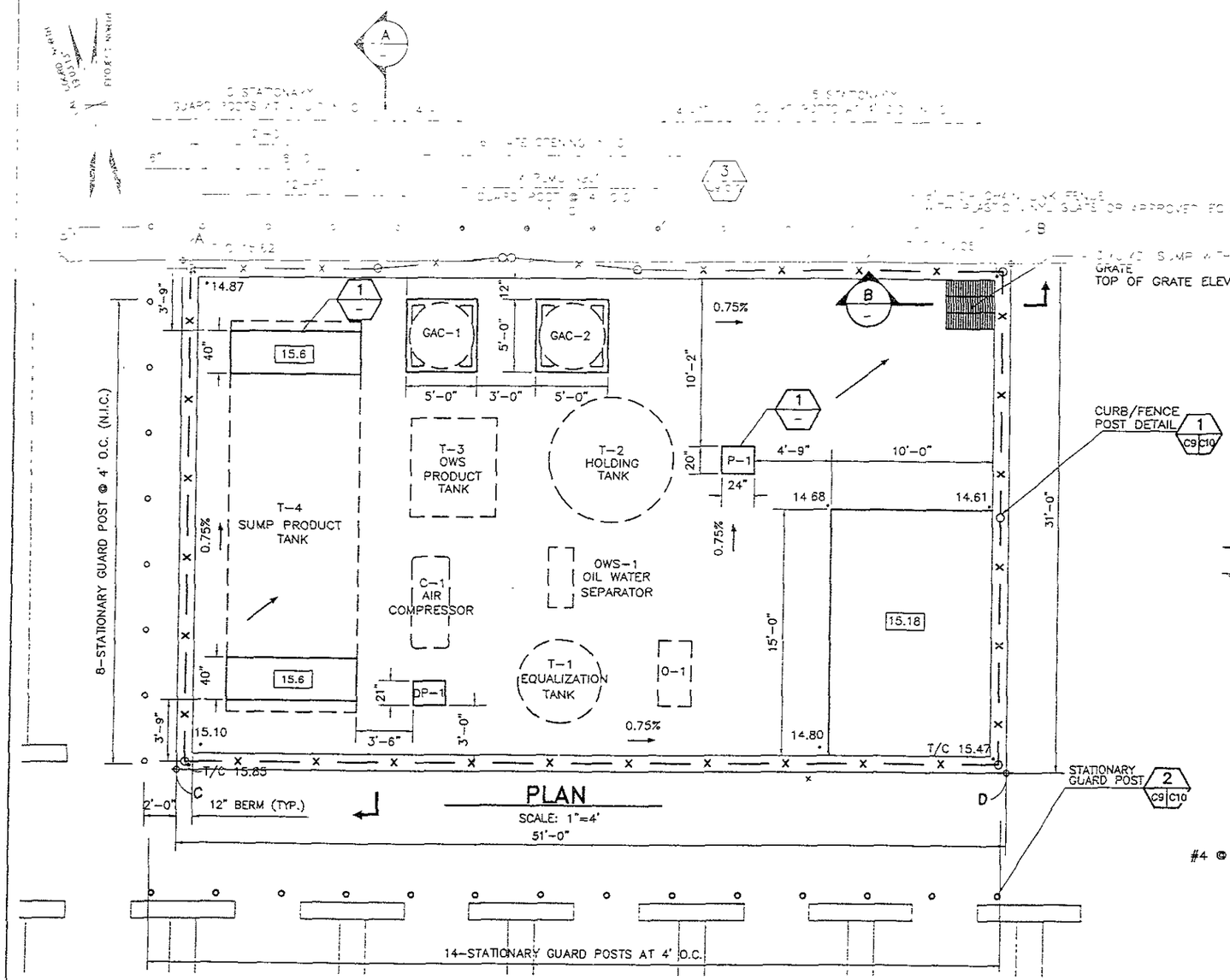
DRAWN SLD/RB
DESIGNED ____ REG. ENGINEER NO
CHECKED ____ REG. ENGINEER NO
REVIEWED ____ REG. ENGINEER NO

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER ____ REG. ENGINEER NO
APPROVED ____ REG. ENGINEER NO.
RECOMMENDED ____ REG. ENGINEER NO

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
TREATMENT PLANT SECTIONS AND DETAILS

DATE 6-01-00
SCALE AS NOTED
SHEET ____ OF ____ SHEETS
AA-3676 C-8



PLAN

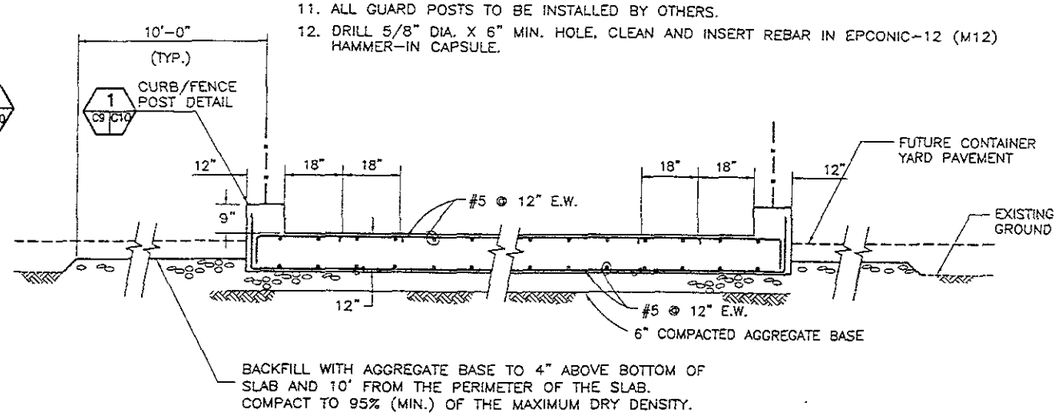
SCALE: 1"=4'

CONCRETE SLAB LAYOUT TABLE

	CALIFORNIA COORDINATES	
	NORTHING	EASTING
A	2117587.41	6039961.58
B	2117570.76	6040009.78
C	2117558.10	6039951.46
D	2117541.46	6039999.66

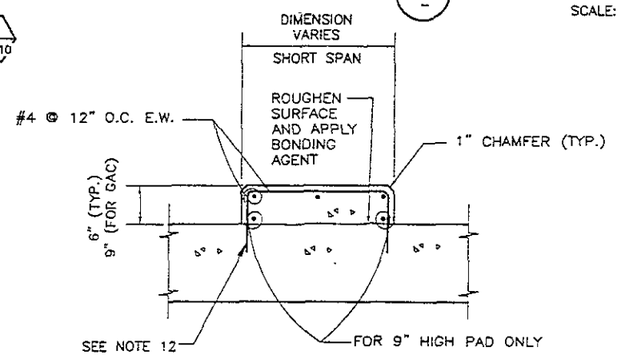
NOTES:

1. VERIFY ALL DIMENSIONS PRIOR TO BEGINNING CONCRETE CONSTRUCTION. COMPARE TO EQUIPMENT DIMENSIONS.
2. ALL CONCRETE SHALL DEVELOP A COMPRESSIVE STRENGTH, f'c, OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE SPECIFIED.
3. ALL EXPOSED CORNERS OR EDGES SHALL BE FORMED WITH A 1" CHAMFER U.N.O. OTHERWISE NOTED ON DRAWINGS.
4. CONCRETE FORMWORK SHALL REMAIN IN PLACE UNTIL CONCRETE HAS ATTAINED 85% OF THE SPECIFIED 28 DAY STRENGTH OR AS APPROVED BY THE ENGINEER.
5. REINFORCING STEEL SHALL BE NEW DEFORMED STEEL BARS ASTM A 615, GRADE 60.
6. ALL CONCRETE REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES, ACI 315.
7. BAR COVERAGE SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON DRAWINGS: CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH, 3"; OTHER, 2".
8. CONTRACTOR SHALL SUBMIT REINFORCING BAR DETAILS FOR REVIEW PRIOR TO FABRICATION. FABRICATE FROM APPROVED DRAWINGS ONLY.
9. REINFORCING AND INSERTS SHALL BE RIGIDLY HELD IN PLACE PRIOR TO PLACING CONCRETE.
10. REFER TO SPECIFICATIONS FOR COMPLETE REQUIREMENTS.
11. ALL GUARD POSTS TO BE INSTALLED BY OTHERS.
12. DRILL 5/8" DIA. X 6" MIN. HOLE, CLEAN AND INSERT REBAR IN EPCONIC-12 (M12) HAMMER-IN CAPSULE.



A TYPICAL SECTION

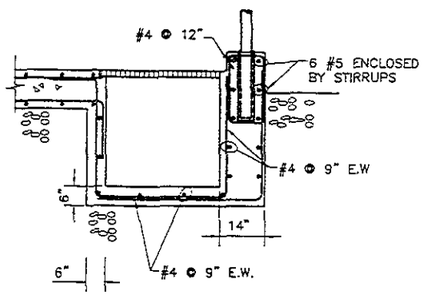
SCALE: 1"=2'



1 TYPICAL EQUIPMENT PAD DETAIL

(T-4, GAC-1, DP1, P1, AND CONTROL BUILDING)

SCALE: 1"=1'



B TYPICAL SECTION

SCALE: 1"=2'

CAUTION: THIS PLAN MAY BE REDUCED — 0, 1", 2" — ORIGINAL SCALE

URS Dames & Moore

JOB# 02801-029

TRENCH-CONC.DWC
1=1 06-20-00

REFERENCES:

REVISIONS			
NO		DATE	APP'D

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REVIEWED ____ CONSTRUCTION DEPARTMENT
REVIEWED ____ VISION 2000 DEPARTMENT

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DESIGNED ____ REG. ENGINEER NO.
CHECKED ____ REG. ENGINEER NO.
REVIEWED ____ REG. ENGINEER NO.

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER ____ REG. ENGINEER NO.
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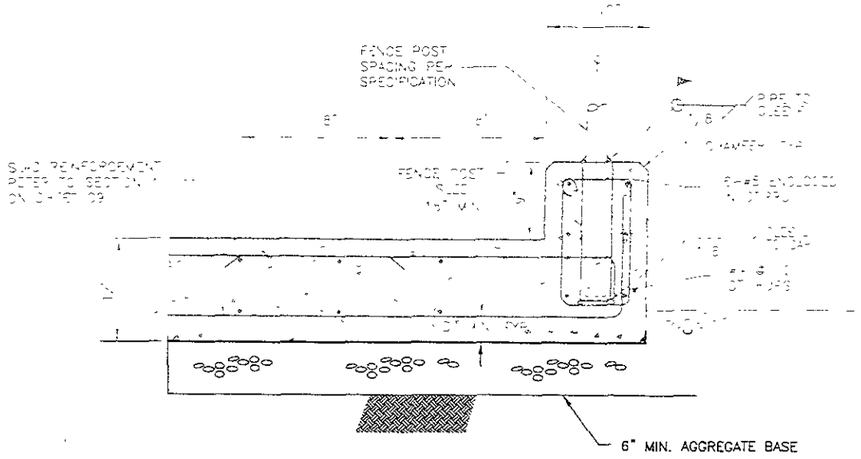
VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
CONCRETE SLAB, SECTIONS, AND STRUCTURAL DETAILS

DATE 06-01-00
SCALE AS NOTED
SHEET ____ OF ____ SHEETS

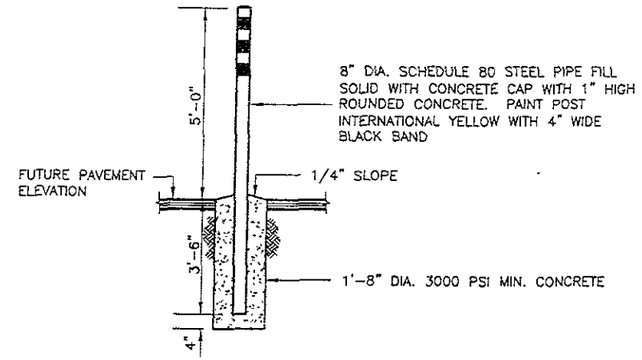
AA-3676 C-9



TYPICAL CURB FENCE POST DETAIL

1 / C9:C10

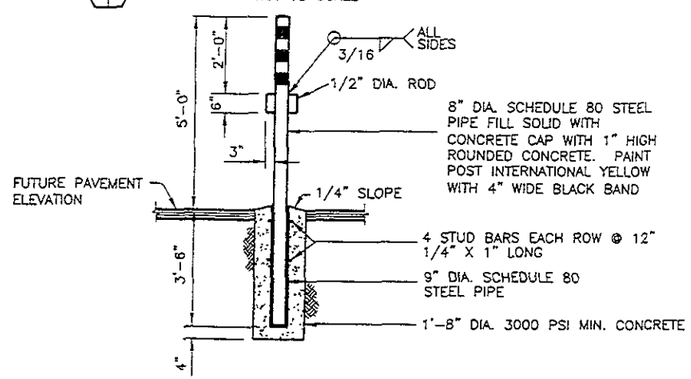
NOT TO SCALE



STATIONARY GUARD POST DETAIL (N.I.C.)

2 / C9:C10

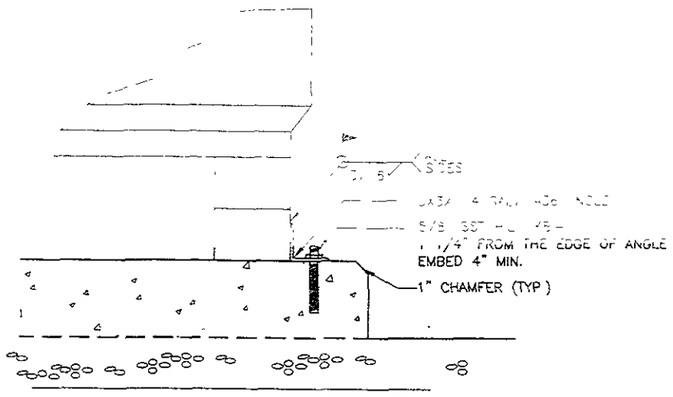
NOT TO SCALE



REMOVABLE GUARD POST DETAIL (N.I.C.)

3 / C9:C10

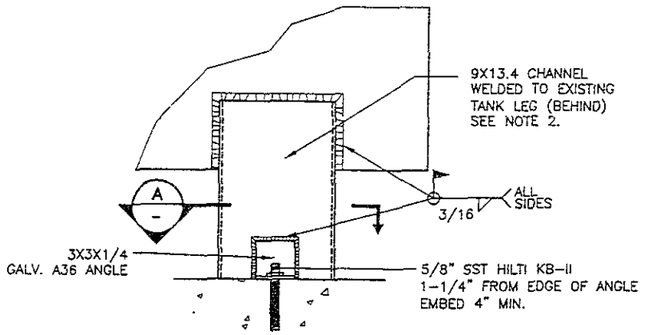
NOT TO SCALE



GAC ANCHORAGE DETAIL

4 / C7:C10

NOT TO SCALE



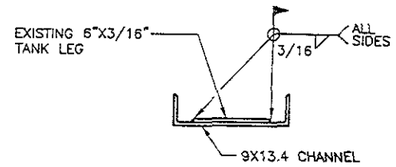
T-3 ANCHORAGE DETAIL

5 / C7:C10

NOT TO SCALE

NOTE:

1. ANCHORAGE DETAIL APPLIES TO BOTH LGAC AND DIESEL TANK. VERIFY DIMENSIONS IN FIELD. FIELD LOCATE ANCHORS BASED ON DIRECTION FROM ENGINEER.
2. FIELD CUT & FIT 9 X 13.4 CHANNEL TO CONFORM TO CONTOUR OF TANK.



SECTION

A / -

NOT TO SCALE

TRENCH-CB.dwg
1=1 06-20-00

CAUTION: THIS PLAN MAY BE REDUCED

0 10 20

ORIGINAL SCALE

URS Dames & Moore

JOB# 02501-029

REFERENCES:	REVISIONS					
	NO		DATE	APP'D		
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REVIEWED _____ CONSTRUCTION DEPARTMENT

REVIEWED _____ VISION 2000 DEPARTMENT

DRAWN RB/sld

DESIGNED _____ REG. ENGINEER NO.

CHECKED _____ REG. ENGINEER NO.

REVIEWED _____ REG. ENGINEER NO.

PORT OF OAKLAND

530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER _____ REG. ENGINEER NO.

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RECOMMENDED _____ REG. ENGINEER NO.

VISION 2000

CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM

STRUCTURAL AND MISCELLANEOUS DETAILS

DATE 06-01-00

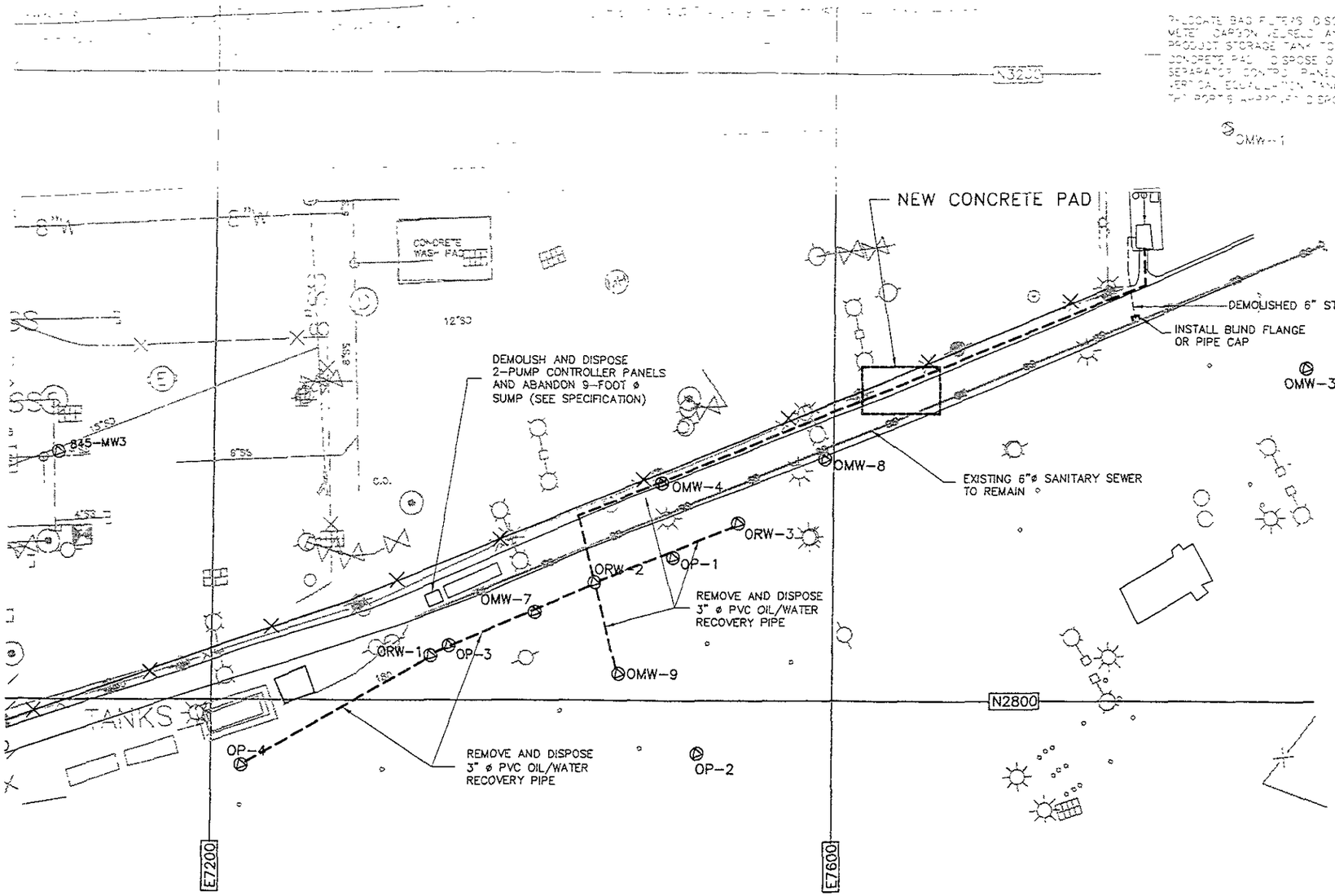
SCALE

SHEET OF SHEETS

AA-3676 C-10

NOTES:

1. RELOCATE BAG FILTERS, DISCHARGE FLOW METER, CARBON VESSELS AND STEEL PRODUCT STORAGE TANK TO THE NEW CONCRETE PAD. DISPOSE OIL/WATER SEPARATOR CONTROL PANELS, DRUMS AND VERTICAL EQUALIZATION TANK OFFSITE AT THE PORT'S APPROVED DISPOSAL FACILITIES.
2. EXISTING 8" SANITARY SEWER AND THE OIL & H2O/WATER RECOVERY PIPE SHOWN ARE BASED ON THE BEST AVAILABLE INFORMATION AND SHOULD BE CONSIDERED AS APPROXIMATE. CONTRACTOR NEED TO POT HOLE TO KNOW THE EXACT.
3. DEMOLISH WELLS ORW-1, ORW-2, ORW-3, ORW-4 AND OMW-9 INCLUDING WELL HEAD AND DISPOSED ALL MATERIAL OFFSITE. PROTECT ALL OTHER WELLS NOT INDICATED FOR DEMOLITION.
3. DEMOLISHED AND DISPOSE EXISTING TREATMENT PLANT CONCRETE SLAB, CHAIN LINK FENCE, PIPING, AND ALL APPURTENANCES OFFSITE.



PLAN
SCALE: 1" = 40'

CAUTION: THIS PLAN MAY BE REDUCED 0 1" 2" ORIGINAL SCALE

TRENCH-C11.DWG - 1=1 06-19-00

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

NO	REVISIONS	DATE	APP'D

REVIEWED _____ FACILITIES DEPARTMENT
REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

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DESIGNED _____ REG. ENGINEER NO.
CHECKED _____ REG. ENGINEER NO.
REVIEWED _____ REG. ENGINEER NO.

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER _____ REG. ENGINEER NO.
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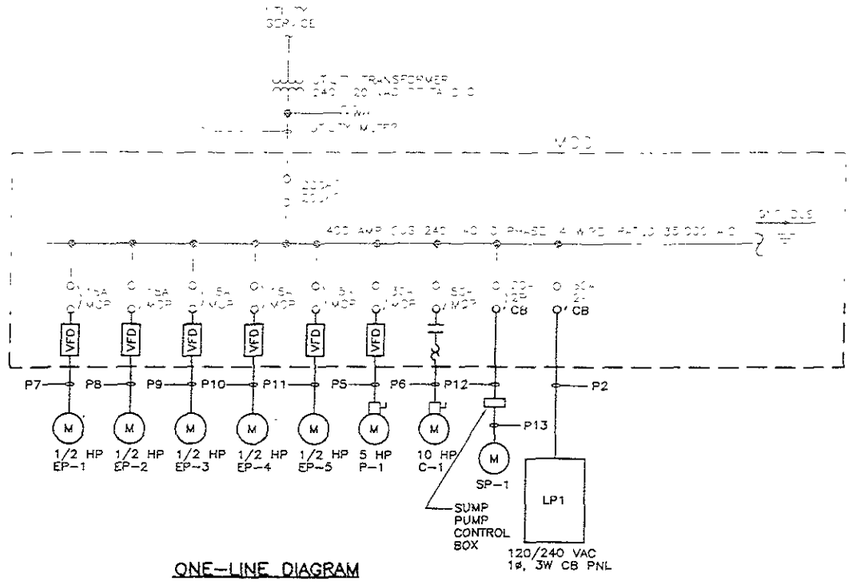
RECOMMENDED _____ REG. ENGINEER NO.

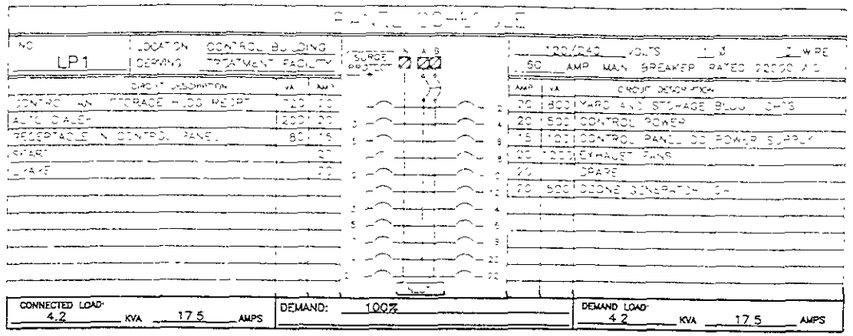
URS Dames & Moore
JOB# 02801-029

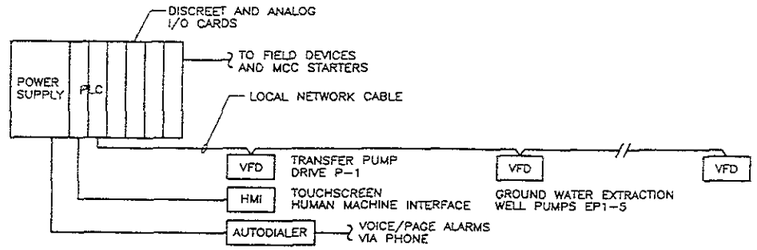
VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
DEMOLITION PLAN

DATE 06-01-00
SCALE AS SHOWN
SHEET OF SHEETS
AA-3676 C-11



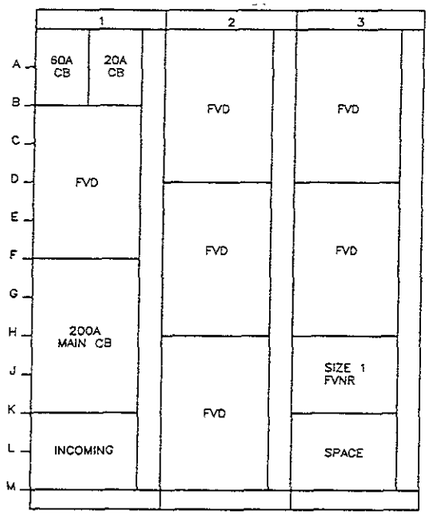
ONE-LINE DIAGRAM





CONTROL SYSTEM BLOCK DIAGRAM

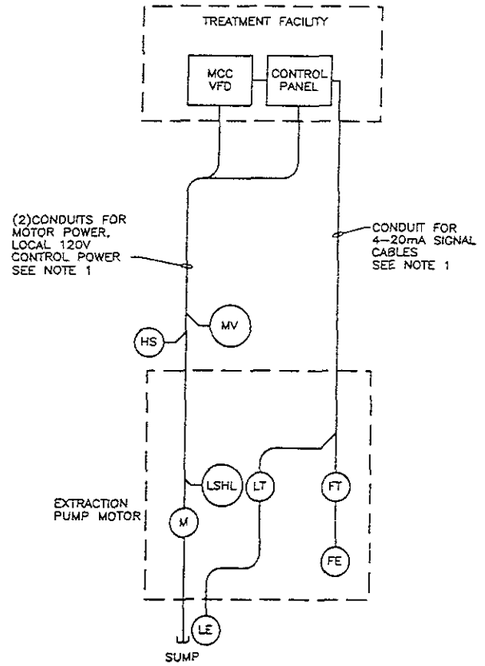
SCALE: N.T.S.



MCC LAYOUT

NO TO SCALE

LOCATION	NAMEPLATE DESCRIPTION
1AL	LIGHTING PANEL LP-1
1AR	SUMP PUMP
1C	TRANSFER PUMP
1G	MAIN CIRCUIT BREAKER
1L	INCOMING LUGS
2A	EXTRACTION GROUND WATER PUMP NO. 1
2E	EXTRACTION GROUND WATER PUMP NO. 2
2J	EXTRACTION GROUND WATER PUMP NO. 3
3A	EXTRACTION GROUND WATER PUMP NO. 4
3E	EXTRACTION GROUND WATER PUMP NO. 5
3J	COMPRESSOR
3L	(BLANK)



TRENCH SUMP POWER AND SIGNAL BLOCK DIAGRAM (TYPICAL FOR 5)

SCALE: N.T.S.

NOTES:

1. SEE DRAWINGS E-6 FOR CONDUIT AND WIRE SIZES FOR POWER AND CONTROLS TO TREATMENT FACILITY AND EXTRACTION WELL PUMPS.

ELECTRICAL-E1
1=1 6-20-00

URS Dames & Moore

JOB# 02801-029

REFERENCES:

REVISIONS NO		DATE	APP'D

CAUTION: CHECK TRACING FOR LATEST REVISIONS

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REVIEWED ____ CONSTRUCTION DEPARTMENT

REVIEWED ____ VISION 2000 DEPARTMENT

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DESIGNED KTP

CHECKED MDW REG. ENGINEER NO.

REVIEWED ____ REG. ENGINEER NO.

PORT OF OAKLAND

530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER ____ REG. ENGINEER NO.

APPROVED ____ REG. ENGINEER NO.

RECOMMENDED ____ REG. ENGINEER NO.

VISION 2000

CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM

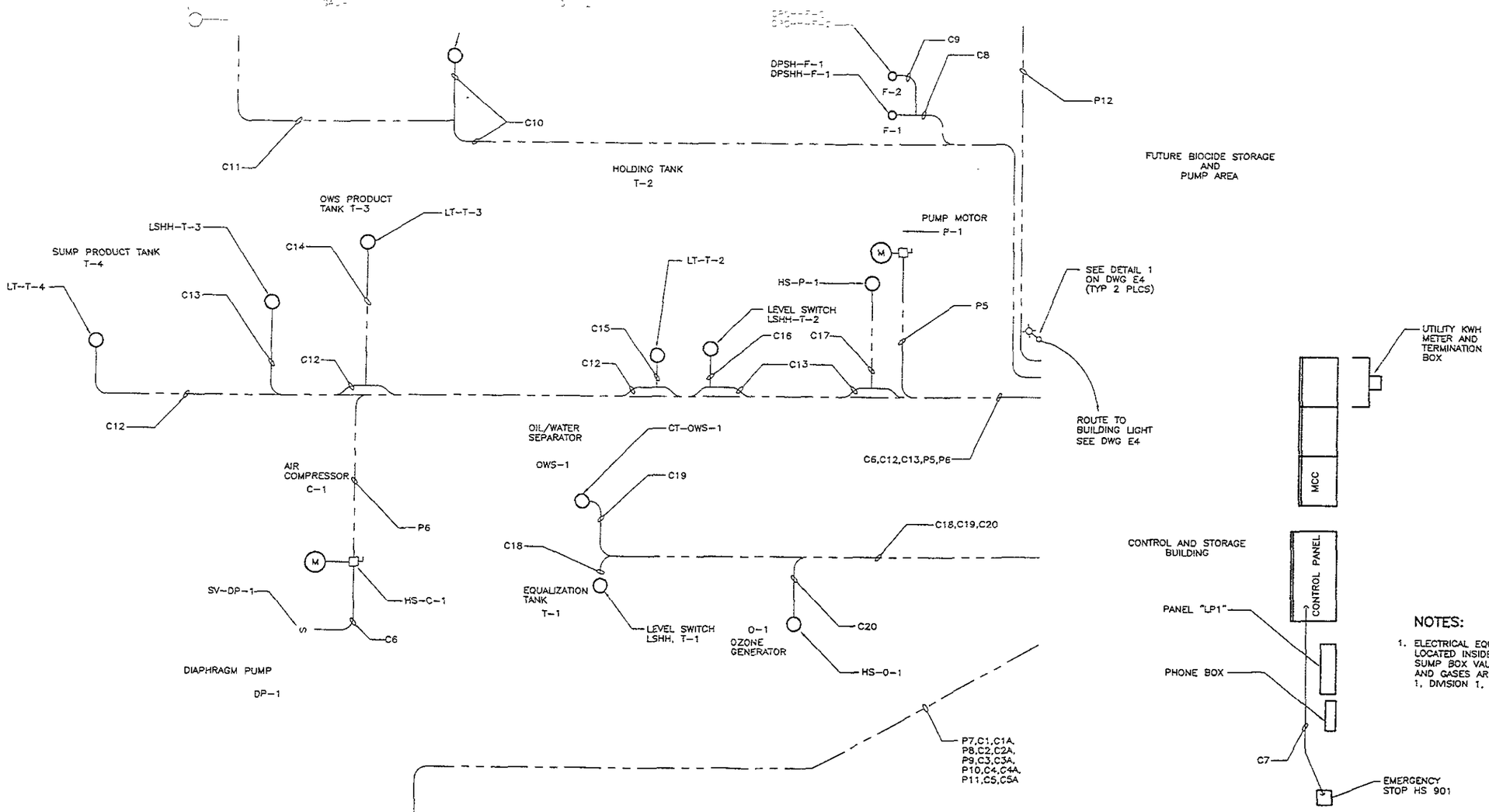
ONE-LINE DIAGRAM AND PANEL SCHEDULES

DATE 6-01-00

SCALE: 1 = 1

SHEET OF SHEETS

AA-3676 E-1



NOTES:

1. ELECTRICAL EQUIPMENT, CONDUIT AND WIRE LOCATED INSIDE OF UNDERGROUND STRUCTURES, SUMP BOX VAULTS AND TANKS WHERE PRODUCT AND GASES ARE PRESENT SHALL BE RATED CLASS 1, DIVISION 1, FOR HAZARDOUS AREAS.

TREATMENT FACILITY PLAN – UNDERGROUND CONDUIT LAYOUT

SCALE: 1/2" = 1'-0"

ELECTRICAL-E2
1=1 6-20-00

URS
Dames & Moore

JOB# 02801-029

REFERENCES:

CAUTION:
CHECK TRACING FOR LATEST REVISIONS

REVISIONS			
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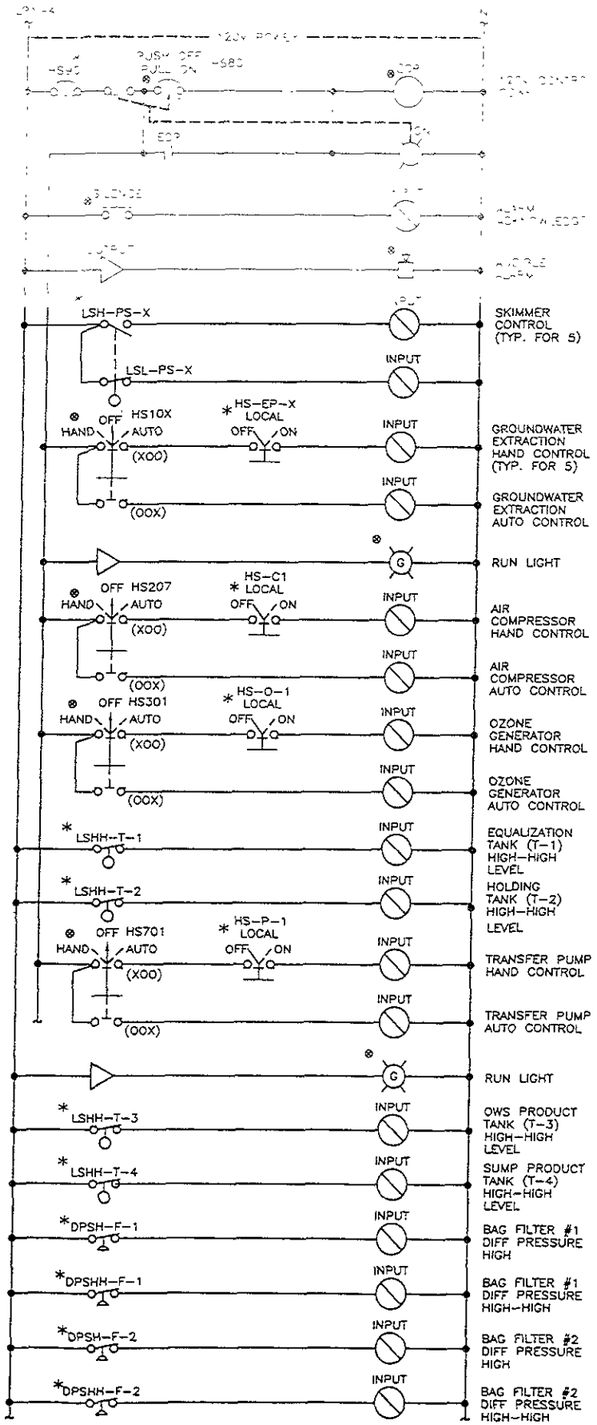
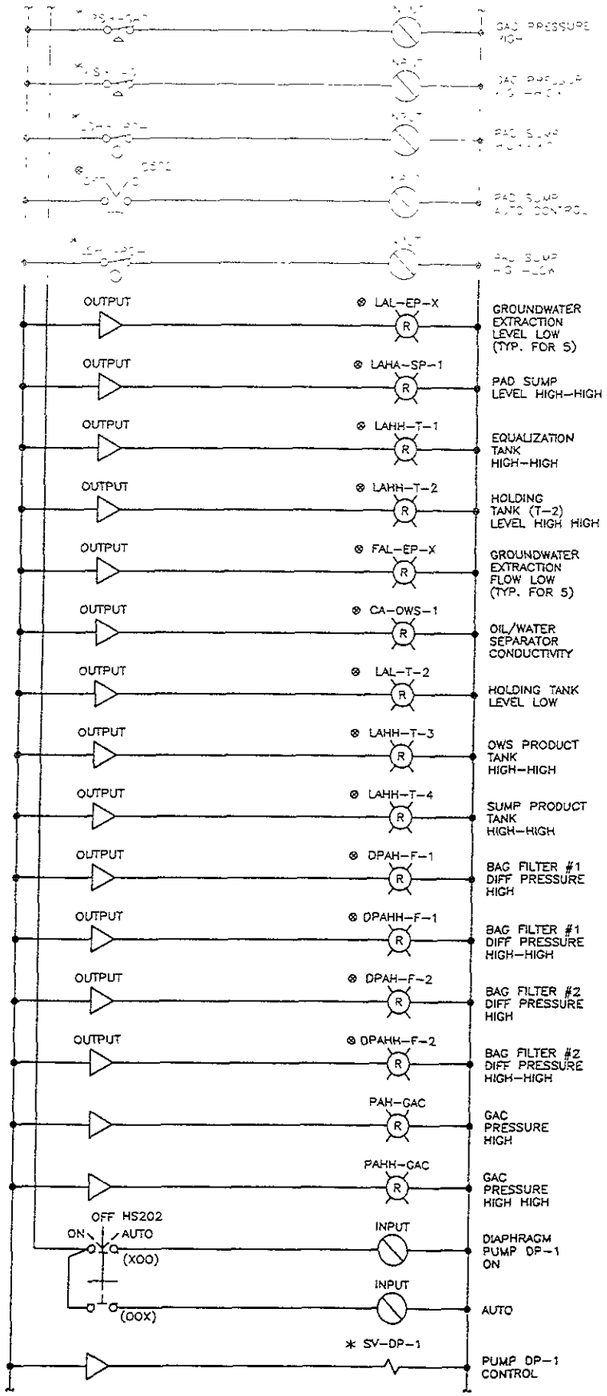
PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

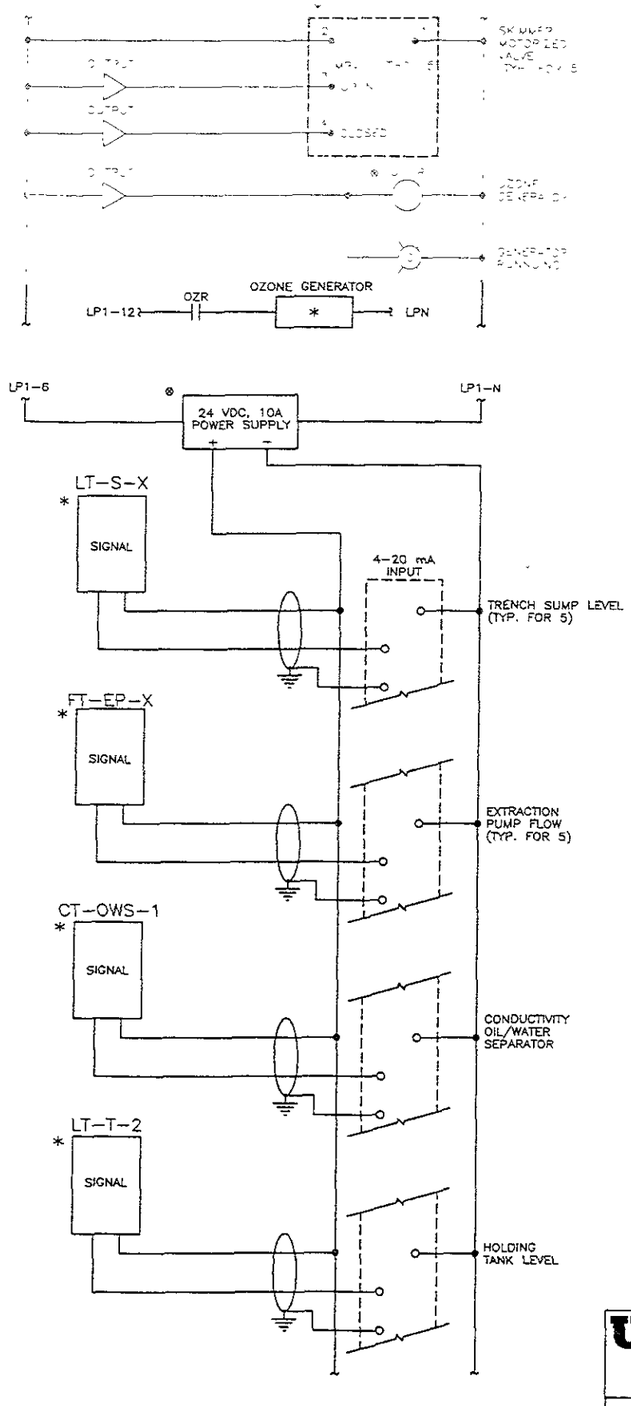
CHIEF ENGINEER _____ REG. ENGINEER NO.
APPROVED _____ REG. ENGINEER NO.
RECOMMENDED _____ REG. ENGINEER NO.

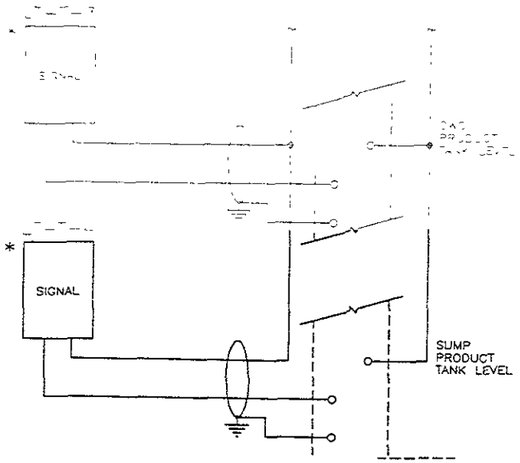
VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
UNDERGROUND CONDUITS AND EQUIPMENT LAYOUTS

DATE 6-01-00
SCALE 1"=2'-0"
SHEET OF SHEETS
AA-3676 E-2









LEGEND

⊗ = DEVICE IN CONTROL PANEL

□ = DEVICE IN MCC

* = DEVICE LOCATED IN FIELD

NOTES:

1.) SIGNAL WIRE (4–20mA) SHOWN LOOP POWERED FROM INPUT TERMINALS. IF VENDOR SUPPLIED EQUIPMENT REQUIRES EXTERNAL POWER, THE CONTRACTOR SHALL PROVIDE AND INSTALL THE 24VDC POWER SUPPLY CONDUIT AND WIRE.

ELECTRICAL-E3
1=1 6-20-00

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

REVISIONS			
NO		DATE	APP'D

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REVIEWED _____ CONSTRUCTION DEPARTMENT

REVIEWED _____ VISION 2000 DEPARTMENT

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PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

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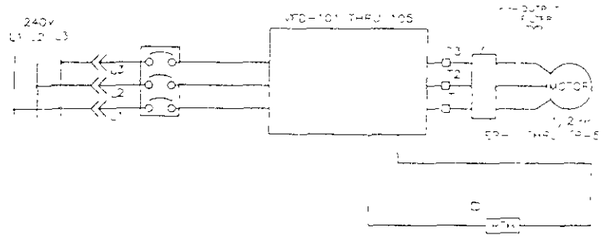
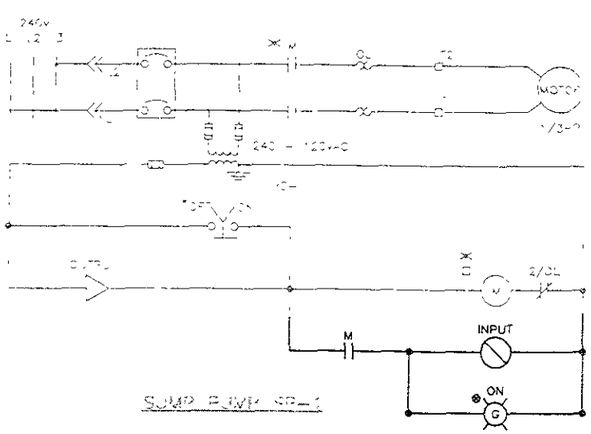
RECOMMENDED _____ REG. ENGINEER NO.

URS Dames & Moore
JOB# 02801-029

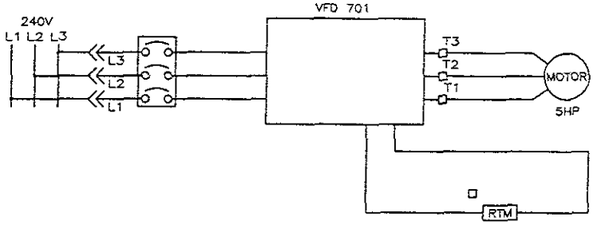
VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
ELEMENTARY DIAGRAMS

DATE 6-01-00
SCALE 1 = 1
SHEET OF SHEETS
AA-3676 E-3

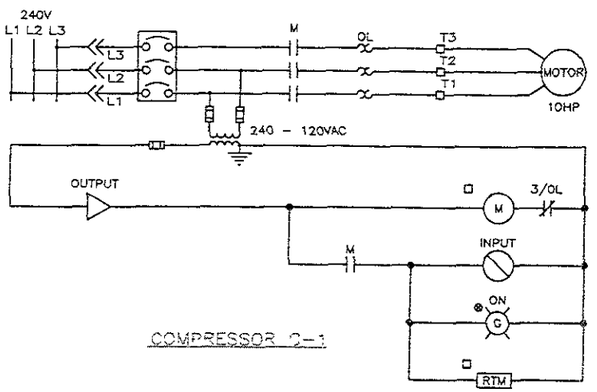




SUMP PUMP SP-1



TRANSFER PUMP P-1
SEE NOTE 2.



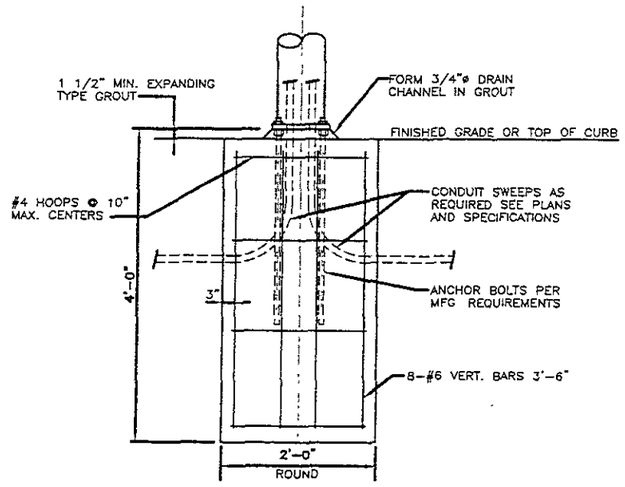
COMPRESSOR C-1

LEGEND

⊗ = DEVICE IN CONTROL PANEL

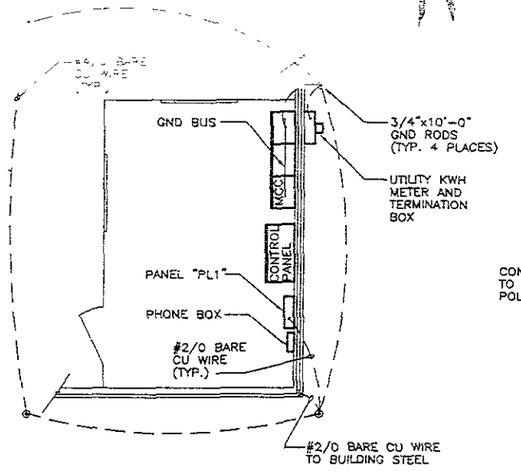
□ = DEVICE IN MCC

✳ = DEVICE LOCATED IN FIELD

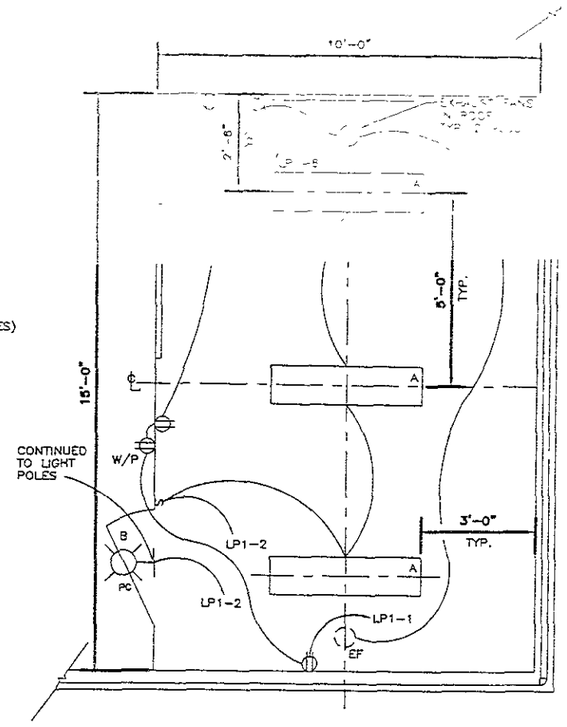


DETAIL - 1
POLE MOUNTING DETAIL
(N.T.S.)

NOTE: CONTRACTOR SHALL VERIFY FROM THE POLE MANUFACTURER FOUNDATION REQUIREMENTS FOR POLE HEIGHT AND LOCATION



CONTROL AND STORAGE BUILDING-
EQUIPMENT AND GROUNDING LAYOUT
SCALE: 1/4" = 1'-0"



CONTROL AND STORAGE BUILDING-
LIGHTING AND POWER LAYOUT
SCALE: 1/2" = 1'-0"

LUMINAIRE SCHEDULE	
FIXTURE	DESCRIPTION
A	INDUSTRIAL FLUORESCENT SURFACE MOUNT FIXTURE. STEEL CLOSE TOP REFLECTOR WITH BAKED WHITE ENAMEL FINISH. 120 VOLT ELECTRONIC ENERGY EFFICENT BALLAST FOR (2) TUBE 32 WATT T-8 LAMPS COPPER LIGHTING METALUX ECIVM SERIES OR EQUAL.
B	WALL MOUNT DIE-CAST ALUMINUM HOUSING WITH GLASS LENS APPROVED WET LOCATIONS. PHOTOCELL CONTROL. 120 VOLT BALLAST FOR 100 WATT, HPS LAMP. COPPER LIGHTING LUMARK GLASS-PAK OR EQUAL.
C	POLE MOUNTED FLOOD LIGHT DIE CAST ALUMINUM HOUSING WITH GLASS LENS APPROVED FOR WET LOCATIONS. 120V BALLAST FOR 250 WATT, HPS LAMP COOPER LIGHTING, SERIES CCL POWER DRAWER OR EQUAL. SQUARE ALUMINUM POLE 15 FT WITH MOUNTING BASE AND HARDWARE.

NOTES:

1. UNDERGROUND CONDUIT LOCATIONS FOR ELECTRICAL SERVICE, PHONE SERVICE WILL BE FIELD DETERMINED. PROVIDE EMPTY CONDUITS OF 100'-0" FOR ELECTRICAL AND 250'-0" FOR PHONE.
2. CONTROL FOR VFD'S SHALL BE THROUGH LOCAL NETWORK CABLE, SEE SPECIFICATIONS.

ELECTRICAL-E4
1=1 6-20-00

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

NO	REVISIONS	DATE	APP'D

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REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

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DESIGNED KTP
CHECKED MDW REG. ENGINEER NO
REVIEWED _____ REG. ENGINEER NO

PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

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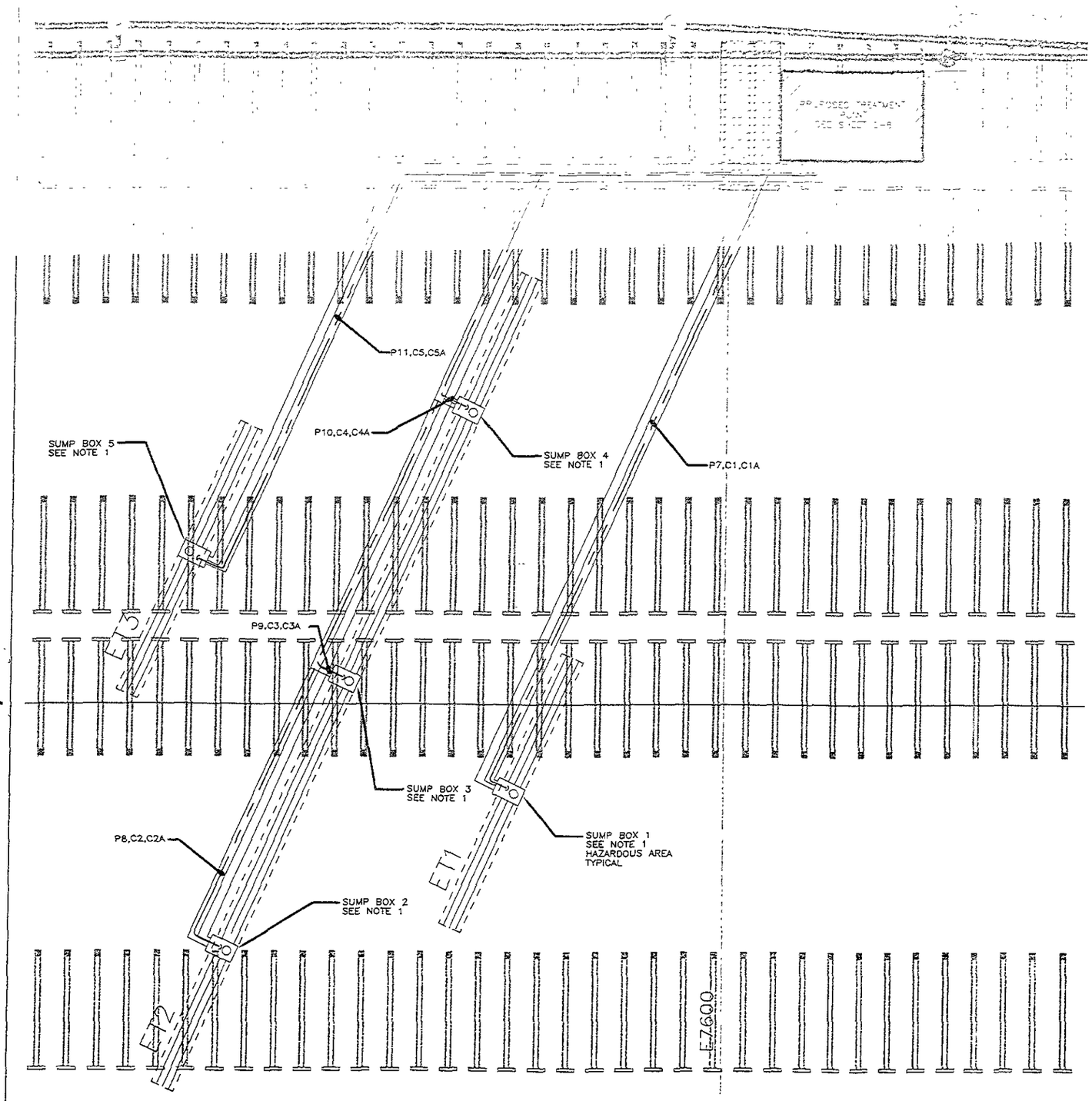
APPROVED _____ REG. ENGINEER NO.
RECOMMENDED _____ REG. ENGINEER NO

URS
Dames & Moore
JOB# 02801-029

VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
ELEMENTARY DIAGRAMS, GROUNDING, POWER AND LIGHTING LAYOUT

DATE 6-01-00
SCALE 1"=2'-0"
SHEET OF SHEETS
AA-3676 E-4



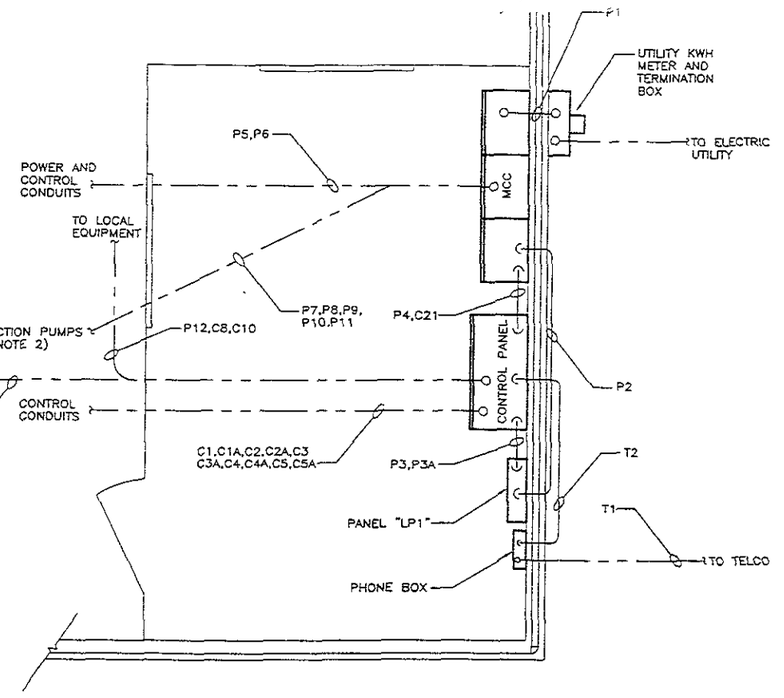
UNDERGROUND CONDUIT LAYOUT

SCALE: 1"=20'

CAUTION: THIS PLAN MAY BE REDUCED

0 1" 2"

ORIGINAL SCALE



CONTROL AND STORAGE BUILDING-UNDERGROUND CONDUIT LAYOUT

SCALE: 1/2" = 1'-0"

NOTES:

1. ELECTRICAL EQUIPMENT, CONDUIT AND WIRE LOCATED INSIDE OF UNDERGROUND STRUCTURES, SUMP BOX VAULTS AND TANKS WHERE PRODUCT AND GASES ARE PRESENT SHALL BE RATED CLASS 1, DIVISION 1, FOR HAZARDOUS AREAS
2. UNDERGROUND CONDUITS TO THE EXTRACTION WELL PUMPS WILL BE CONTINUED ON THIS DRAWING AND DWG E-2.
3. SEE DWG E1 FOR EXTRACTION WELL TYPICAL BLOCK DIAGRAM.

URS Dames & Moore

02801-029
JOB# 02801-029

ELECTRICAL-E5
1=1 6-19-00

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

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REVIEWED _____ CONSTRUCTION DEPARTMENT

REVIEWED _____ VISION 2000 DEPARTMENT

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DESIGNED KTP
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PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

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APPROVED _____ REG. ENGINEER NO.

RECOMMENDED _____ REG. ENGINEER NO.

VISION 2000

CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM

CONTROL AND STORAGE BUILDING, AND SITE UNDERGROUND CONDUIT LAYOUT

DATE 6-01-00
SCALE AS NOTED
SHEET OF SHEETS
AA-3676 E-5

CONDUIT NO	CONDUCTOR SIZE	QTY	SIZE	TYPE	CIRCUIT NO	FROM	TO	REMARKS
P1	2"	3	4/0	THWN	POWER	MCC	MCC	SIZE PER UTILITY
		2	THWN	NEUTRAL	METER			COMPANY
		1	THWN	GND				REQUIREMENTS
P2	3/4"	3	6	THWN	POWER	MCC	AUTODIALER	
		3	THWN	GND				
		1	THWN	NEUTRAL				
P3	3/4"	3	12	THWN	4,N,GND	PANEL "LP1"	CONTROL PANEL	AUTODIALER POWER
		3	12	THWN	2,N,GND			
		3	12	THWN	6,N,GND			OZONE GEN
P3A	3/4"	3	12	THWN	4,N,GND	PANEL "LP1"	CONTROL PANEL	CONTROL POWER
		3	12	THWN	6,N,GND			DC POWER SUPP.
P4	1"	2	12	THWN	POWER	MCC	CONTROL PANEL	CONT. IN P12 TO SUMP PUMP
		1	12	THWN	GND			
		12	14	THWN	CONTROL			MISC CONTROL
P5	3/4" PVC	3	10	THWN	POWER	MCC	TRANSFER PUMP P-1	
		1	10	THWN	GND			
P6	3/4" PVC	3	8	THWN	POWER	MCC	AIR COMPRESSOR C-1	
		1	10	THWN	GND			
P7	3/4" PVC	3	10	THWN	POWER	MCC	EXTRACTION PUMP #1	SEE NOTE 1
		1	12		GND			
P8	3/4" PVC	3	10	THWN	POWER	MCC	EXTRACTION PUMP #2	SEE NOTE 1
		1	12	THWN	GND			
P9	3/4" PVC	3	10	THWN	POWER	MCC	EXTRACTION PUMP #3	SEE NOTE 1
		1	12	THWN	GND			
P10	3/4" PVC	3	10	THWN	POWER	MCC	EXTRACTION PUMP #4	SEE NOTE 1
		1	12	THWN	GND			
P11	3/4" PVC	3	10	THWN	POWER	MCC	EXTRACTION PUMP #5	SEE NOTE 1
		1	12	THWN	GND			
P12	3/4"	2	12	THWN	POWER	CONTROL PANEL	SUMP PUMP CONTROL BOX	VIA P4
		1	12	THWN	GND			VIA P4
		10	14	THWN	CONTROL			(2) SPARE
P13	3/4" PVC	2	12	THWN	POWER	SUMP PUMP CONTROL BOX	SUMP PUMP SP-1	
		1	12	THWN	GND			
		5	14	THWN	CONTROL		LSHL-SP-1 LSHH-PS	(2) SPARE
C1	3/4" PVC	10	14	THWN	CONTROL	CONTROL PANEL	GROUNDWATER WELL PUMP #1	(2) SPARE
		1	14	THWN	GND			SEE NOTE 1
C1A	3/4" PVC					CONTROL PANEL	GROUNDWATER WELL PUMP #1	- - -
		1	2C/#18	SHLD	SIGNAL		LT-S-1,	
		1	2C/#18	SHLD	SIGNAL		FT-EP-1	
C2	3/4" PVC	10	14	THWN	CONTROL	CONTROL PANEL	GROUNDWATER WELL PUMP #2	(2) SPARE
		1	14	THWN	GND		-	SEE NOTE 1
C3	3/4" PVC	10	14	THWN	CONTROL	CONTROL PANEL	GROUNDWATER WELL PUMP #3	(2) SPARE
		1	14	THWN	GND			SEE NOTE 1
C3A	3/4" PVC					CONTROL PANEL	GROUNDWATER WELL PUMP #3	SEE NOTE 1
		1	2C/#18	SHLD	SIGNAL		LT-S-3	
		1	2C/#18	SHLD	SIGNAL		FT-EP-3	
C4	3/4" PVC	10	14	THWN	CONTROL	CONTROL PANEL	GROUNDWATER WELL PUMP #4	(2) SPARE
		1	14	THWN	GND			SEE NOTE 1
C4A	3/4" PVC					CONTROL PANEL	GROUNDWATER WELL PUMP #4	SEE NOTE 1
		1	2C/#18	SHLD	SIGNAL		LT-S-4	
		1	2C/#18	SHLD	SIGNAL		FT-EP-4	
C5	3/4" PVC	10	14	THWN	CONTROL	CONTROL PANEL	GROUNDWATER WELL PUMP #5	(2) SPARE
		1	14	THWN	GND			SEE NOTE 1
C5A	3/4" PVC					CONTROL PANEL	GROUNDWATER WELL PUMP #5	SEE NOTE 1
		1	2C/#18	SHLD	SIGNAL		LT-S-4	
		1	2C/#18	SHLD	SIGNAL		FT-EP-4	
C6	3/4" PVC	2	14	THWN	CONTROL	CONTROL PANEL	SV-DP-1	DIAPHRAGM PUMP
		1	14	THWN	GND			
		2	14	THWN	CONTROL		HS-C-1	AIR COMPRESSOR
C7	3/4"	2	14	THWN	CONTROL	CONTROL PANEL	E-STOP	
C8	3/4" PVC	3	14	THWN	CONTROL	CONTROL PANEL	BAG FILTER(F-1)	
		1	14	THWN	GND		DPSH-F-1 DPSHH-F-1	
		4	14	THWN	CONTROL		C9	CONDUIT "T"
C9	3/4" PVC	3	14	THWN	CONTROL	CONTROL PANEL	BAG FILTER(F-2)	VIA C8
		1	14	THWN	GND		DPSH-F-2 DPSHH-F-2	
C10	3/4" PVC	5	14	THWN	CONTROL	CONTROL PANEL	PSH-GAC	(2) SPARE
						-	PSHH-GAC	
		3	14	THWN	CONTROL		C11	CONDUIT "T"
C11	3/4" PVC	2	14	THWN	CONTROL	CONTROL PANEL	TANK-T-4	VIA C10
		1	14	THWN	GND		LSHH-T-4	
C12	3/4" PVC	1	2C/#18	SHLD	SIGNAL	CONTROL PANEL	LT-T-4	
		1	2C/#18	SHLD	LT-T-2		C15	CONDUIT "T"
		1	2C/#18	SHLD	LT-T-3		C14	CONDUIT "T"
C13	3/4" PVC	2	14	THWN	SIGNAL	CONTROL PANEL	LSHH-T-3	
		3	14	THWN	LSHH-T-2		C16	CONDUIT "T"
		2	14	THWN	HS-P-1		C17	CONDUIT "T"
		1	14	THWN	GND			
C14	3/4" PVC	1	2C/#18	SHLD	SIGNAL	CONTROL PANEL	LT-T-3	VIA C12
C15	3/4"	1	2C/#18	SHLD	SIGNAL	CONTROL PANEL	LT-T-2	VIA C12
C16	3/4"	2	14	THWN	CONTROL	CONTROL PANEL	LSHH-T-2	VIA C13
		1	14	THWN	GND			
C17	3/4" PVC	2	14	THWN	CONTROL	CONTROL PANEL	HS-GENERATOR	
			12	THWN	GND			
C21	1"	-	-	-	NETWORK CABLE	CONTROL PANEL	MCC	
T1	2" PVC	-	-	-	UTILITY PHONE	TELCO BOX	PHONE BOX	SIZE PER TELCO REQUIREMENTS
T2	1"	-	-	-	-	PHONE BOX	CONTROL PANEL	AUTODIALER

NOTES:

1. CONDUITS ENTERING A HAZARDOUS AREA SHALL BE GALVANIZED RIGID STEEL WITH APPROVED FITTINGS AND SEALS.
2. STUB-UPS AND ABOVE GROUND CONDUITS SHALL BE GALVANIZED RIGID STEEL.

ELECTRICAL-E6
1=1 6-20-00

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

NO	REVISIONS	DATE	APP'D

REVIEWED _____ FACILITIES DEPARTMENT
REVIEWED _____ CONSTRUCTION DEPARTMENT
REVIEWED _____ VISION 2000 DEPARTMENT

DRAWN KTP/RB
DESIGNED KTP
CHECKED MDW REG. ENGINEER NO
REVIEWED _____ REG. ENGINEER NO

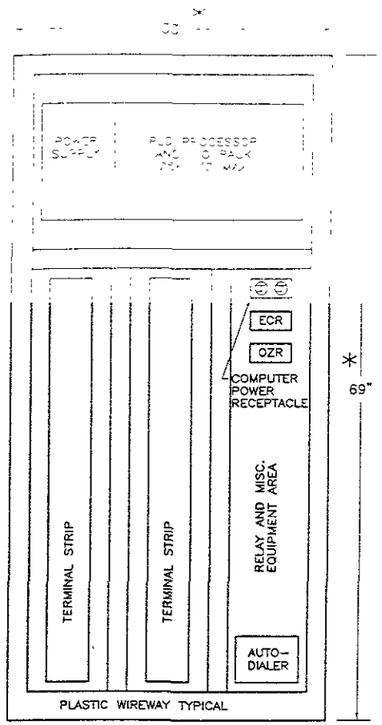
PORT OF OAKLAND
530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER
APPROVED _____ REG. ENGINEER NO.
RECOMMENDED _____ REG. ENGINEER NO.

URS Dames & Moore
JOB# 02501-029

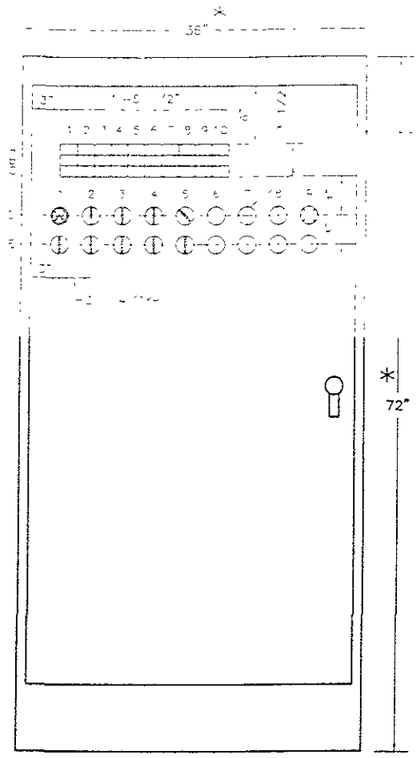
VISION 2000
CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM
CONDUIT AND CONDUCTOR SCHEDULE

DATE 6-01-00
SCALE: 1 = 1
SHEET OF SHEETS
AA-3676 E-6



BACKPANEL LAYOUT

DOOR REMOVED



P.C./EXTRACTION WELL CONTROL PANEL

FRONT PANEL LAYOUT

(*) INDICATES NORMINAL SIZE, SEE NOTE 2.

ALARM LIGHT BOX WINDOW SCHEDULE

LOCATION	ENGRAVING SCHEDULE
A1	EQUALIZATION TK HH
A2	HOLD TK LEVEL L
A3	HOLD TK LEVEL HH
A4	OWS CONDUCTIVITY
A5	OWS PRODUCT TANK HH
A6	SUMP PROD. TANK HH
A7	BAG FLTR. #1 PRES H.
A8	BAG FLTR. #1 PRES HH
A9	BAG FLTR. #2 PRES H
A10	BAG FLTR. #2 PRES HH
B1	GAC PRES H
B2	GAC PRES HH
B3	SUMP LEVEL HH
B4	(BLANK)
B5	(BLANK)
B6	(BLANK)
B7	(BLANK)
B8	(BLANK)
B9	(BLANK)
B10	(BLANK)
C1	EP-1 FLOW LOW
C2	EP-1 LEVEL LOW
C3	EP-2 FLOW LOW
C4	EP-2 LEVEL LOW
C5	EP-3 FLOW LOW
C6	EP-3 LEVEL LOW
C7	EP-4 FLOW LOW
C8	EP-4 LEVEL LOW
C9	EP-5 FLOW LOW
C10	EP-5 LEVEL LOW

DEVICE LEGEND

LOCATION	NAME PLATE DESCRIPTION	DEVICE
D1	CONTROL POWER	MOMENTARY PUSH-PULL UNIT - ILLUMINATED WHITE
D2	TRANSFER PUMP	3-POS MAINT. SELECTOR SW. - ILLUMINATED GREEN
D3	AIR COMPRESSOR	3-POS MAINT. SELECTOR SW. - ILLUMINATED GREEN
D4	OZONE GENERATOR	3-POS MAINT. SELECTOR SW. - ILLUMINATED GREEN
D5	PAD SUMP PUMP	2-POS MAINT. SELECTOR SW. - ILLUMINATED GREEN
D6	-	CLOSING BUTTON
D7	-	CLOSING BUTTON
D8	AUDIBLE ALARM	SONIC ALARM
D9	SILENCE ALARM	PUSH BUTTON N.O. CONTACT
E1	EXTRACTION EXTRACTION WELL #1	3-POS MAINT. SELECTOR SWITCH ILLUMINATED GREEN
E2	EXTRACTION EXTRACTION WELL #2	3-POS MAINT. SELECTOR SWITCH ILLUMINATED GREEN
E3	EXTRACTION EXTRACTION WELL #3	3-POS MAINT. SELECTOR SWITCH ILLUMINATED GREEN
E4	EXTRACTION EXTRACTION WELL #4	3-POS MAINT. SELECTOR SWITCH ILLUMINATED GREEN
E5	EXTRACTION EXTRACTION WELL #5	3-POS MAINT. SELECTOR SWITCH ILLUMINATED GREEN
E6	(BLANK)	CLOSING BUTTON
E7	(BLANK)	CLOSING BUTTON
E8	(BLANK)	CLOSING BUTTON
E9	(BLANK)	CLOSING BUTTON

NOTES:

1.) SWITCH LEGEND PLATE ENGRAVING SHALL BE AS INDICATED ON THE ELEMENTARY DIAGRAMS.

2.) ENCLOSURE SIZE WILL BE DICTATED BY CONTRACTORS PLC EQUIPMENT SIZE AND COOLING REQUIREMENTS.

T:\TECHDRAW\CAD\PORT OF OAKLAND\TRENCH DESIGN - TOFC\SUBMITTAL 2-060100\ELECTRICAL--RECD061600\E7.DWG Jun 20, 2000 - 10:02am

ELECTRICAL-E7
1=1 6-20-00 --

REFERENCES:

CAUTION: CHECK TRACING FOR LATEST REVISIONS

REVISIONS			
NO		DATE	APP'D

REVIEWED _____ FACILITIES DEPARTMENT

REVIEWED _____ CONSTRUCTION DEPARTMENT

REVIEWED _____ VISION 2000 DEPARTMENT

DRAWN KTP/RB

DESIGNED KTP

CHECKED MDW REG ENGINEER NO

REVIEWED _____ REG ENGINEER NO.

PORT OF OAKLAND

530 WATER ST. OAKLAND, CALIFORNIA

CHIEF ENGINEER

APPROVED _____ REG. ENGINEER NO

RECOMMENDED _____ REG ENGINEER NO

URS Dames & Moore

JOB# 02501-029

VISION 2000

CONSTRUCTION OF PRODUCT RECOVERY AND GROUNDWATER TREATMENT SYSTEM

CONTROL PANEL LAYOUT

DATE 6-01-00

SCALE 1 = 1

SHEET OF SHEETS

AA-3676 E-7