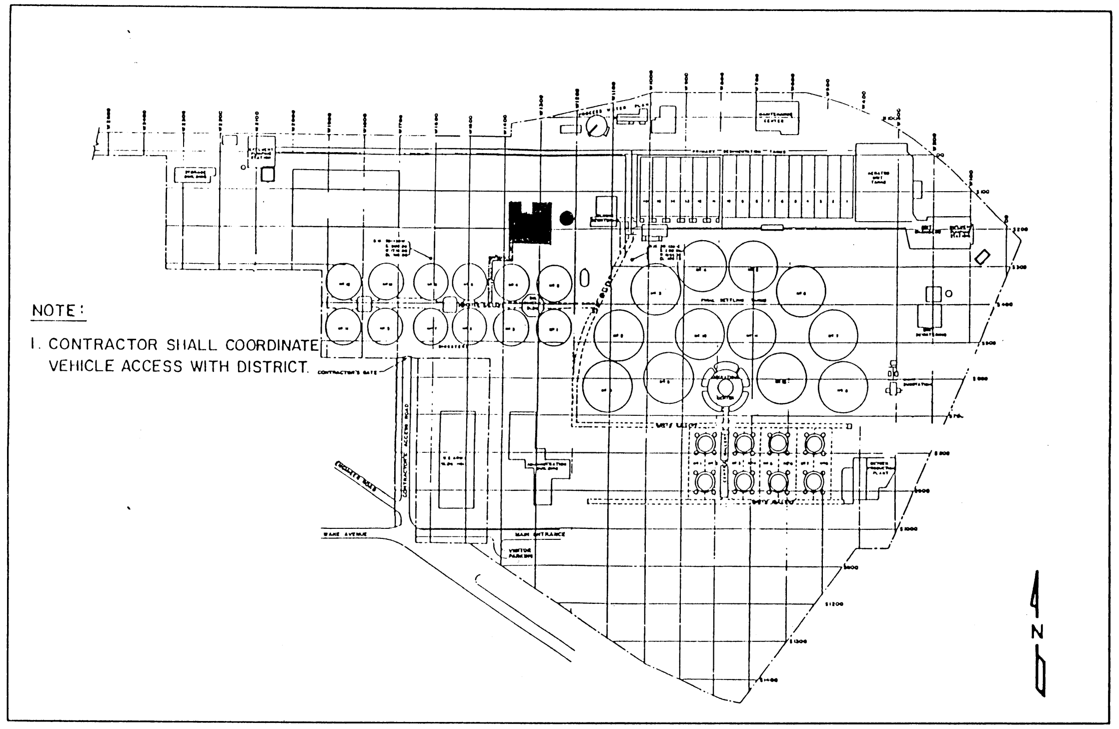
MAIN PLANT GASLINE
FOR EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT NO. 1
SPECIFICATION NO. SD-189A
VOLUME III, PART 3

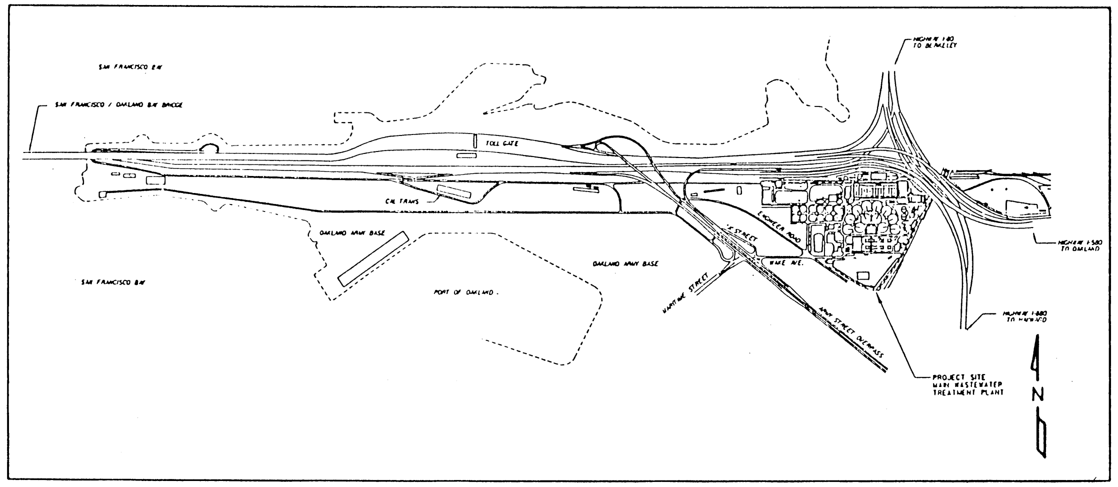
EBMUD

OAKLAND, CALIFORNIA



NOTE:
1. CONTRACTOR SHALL COORDINATE VEHICLE ACCESS WITH DISTRICT.

SITE PLAN



LOCATION PLAN

INDEX OF DRAWINGS

DRAWING NO.	TITLE
SD189A-C-1	PIPE LAYOUT SHEET 1 OF 4
SD189A-C-2	PIPE LAYOUT SHEET 2 OF 4
SD189A-C-3	PIPE LAYOUT SHEET 3 OF 4
SD189A-C-4	PIPE LAYOUT SHEET 4 OF 4

NO	DATE	REVISION	BY	REC	APP
	12/1/93	IN SERVICE 24 JUN 93 AS BUILT INSP. CRA	RW	MJ	TBS
0	3-16-92	ISSUED FOR BID	BJD		

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 3

DESIGNED BY	BJD
DESIGN CHECK BY	TBS
DRAWN BY	RDW
SR PROJ ENGR	MLM
APPROVED	
PRINCIPAL-IN-CHARGE, R.P.E. NO C	

EBMUD

PROJECT ENGR Barbara J Dunlap
R.P.E. NO. 42000

PROJECT MGR
R.P.E. NO Marilyn L. Miller

MGR OF SUPPORT SERVICES
R.P.E. NO C30976 Michael J Wallis

MGR. OF WASTEWATER
R.P.E. NO. C26855 Walter J. Bishop

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

MAIN PLANT GASLINE

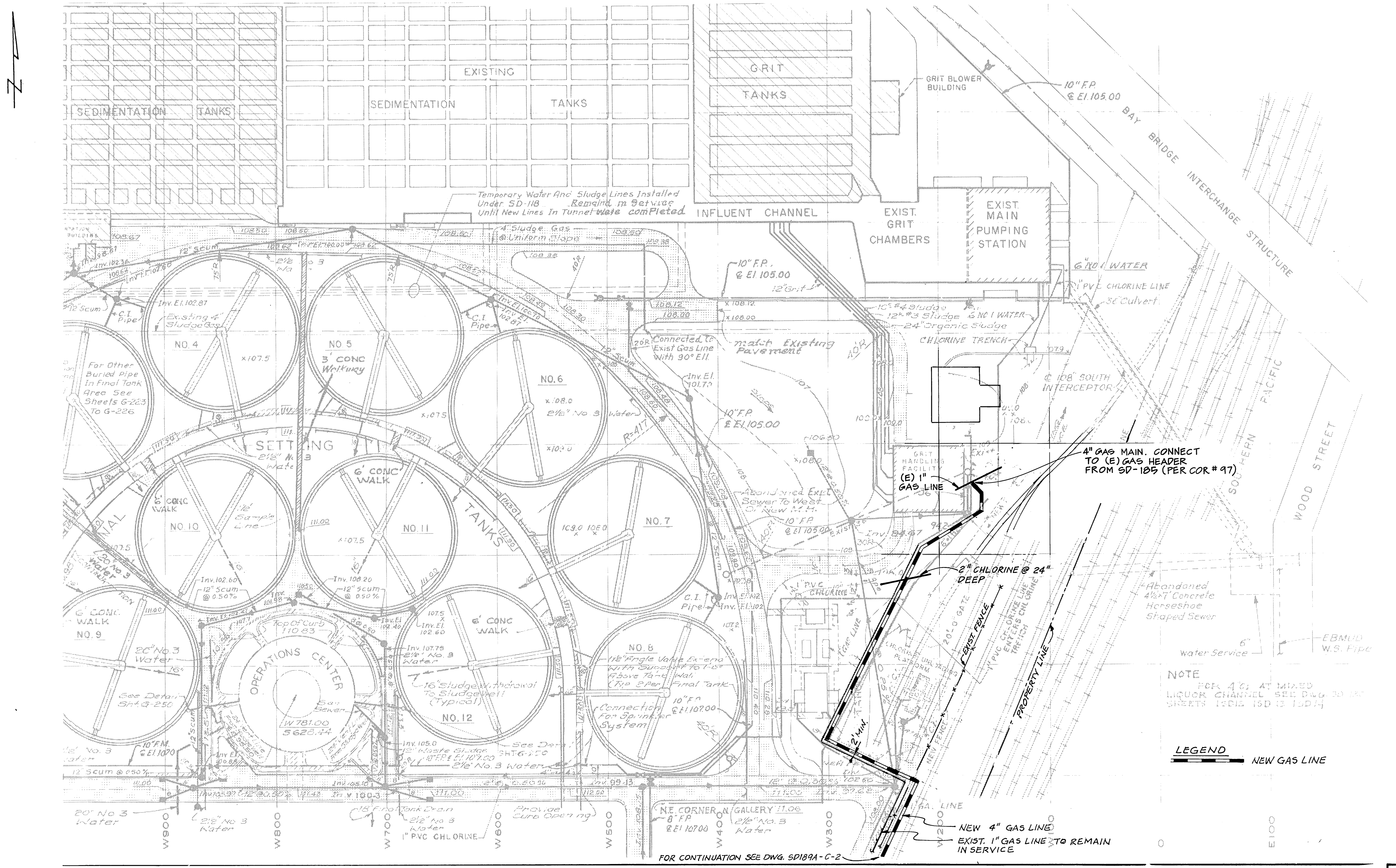
TITLE SHEET, SITE PLAN
INDEX OF DRAWINGS

DRAWN BY
SCALE NONE
DATE

DRAWING NO. SD189A-T-1
SHEET OF

JOB NO [illegible] FILE NO FILE

23


EXISTING SEDIMENTATION TANKS
SEDIMENTATION TANKS
GRIT TANKS
GRIT BLOWER BUILDING
10" F.P. ℄ El 105.00
BAY BRIDGE INTERCHANGE STRUCTURE
Temporary Water And Sludge Lines Installed Under SD-118 Remain In Service Until New Lines In Tunnel are completed
INFLUENT CHANNEL
EXIST. GRIT CHAMBERS
EXIST. MAIN PUMPING STATION
6" No 1 WATER
1" PVC CHLORINE LINE
36" Culvert
4" Sludge Gas @ Uniform Slope
Connected to Exist Gas Line With 90° Ell.
Match Existing Pavement
CHLORINE TRENCH
℄ 108" SOUTH INTERCEPTOR
SOUTHERN PACIFIC
WOOD STREET
4" GAS MAIN. CONNECT TO (E) GAS HEADER FROM SD-185 (PER COR # 97)
(E) 1" GAS LINE
GRIT HANDLING FACILITY
2" CHLORINE @ 24" DEEP
EXIST. FENCE
20'-0" GATE
PROPERTY LINE
Abandoned 4½×7' Concrete Horseshoe Shaped Sewer
6" Water Service
EBMUD W.S. Pipe
NOTE
FOR 4" C. AT MIXED LIQUOR CHANNEL SEE DWG. 30-... SHEETS 12D... 15D 15 ... 19D...
LEGEND
NEW GAS LINE
2' MIN.
NEW 4" GAS LINE
EXIST. 1" GAS LINE TO REMAIN IN SERVICE
FOR CONTINUATION SEE DWG. SD189A-C-2
NO. 4
NO. 5
NO. 6
NO. 7
NO. 8
NO. 9
NO. 10
NO. 11
NO. 12
SETTLING TANKS
OPERATIONS CENTER
6' CONC WALK
3' CONC Walkway
For Other Buried Pipe In Final Tank Area See Sheets G-223 To G-226
12" Scum
Existing 4" Sludge Gas
C.I. Pipe
Abandoned Exist. Sewer To West Of New M.H.
16" Sludge & Chemical To Sludgewell (Typical)
Connection For Sprinkler System
N.E. CORNER N. GALLERY 111.06
Provide Curb Opening
20" No 3 Water
2½" No 3 Water
1" PVC CHLORINE
W900
W800
W700
W600
W500
W400
W300
W200
E100

EAST BAY MUNICIPAL UTILITY DISTRICT
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OAKLAND, CALIFORNIA

MAIN PLANT GASLINE

PIPE LAYOUT

SHEET 1 OF 4

NO.	DATE	REVISION	BY	REC.	APP.
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POWER GENERATION STATION
MODIFICATIONS
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DESIGNED BY
DESIGN CHECKED BY
DRAWN BY
SR. PROJ. ENGR.
APPROVED
PRINCIPAL-IN-CHARGE, R.P.E. NO. C

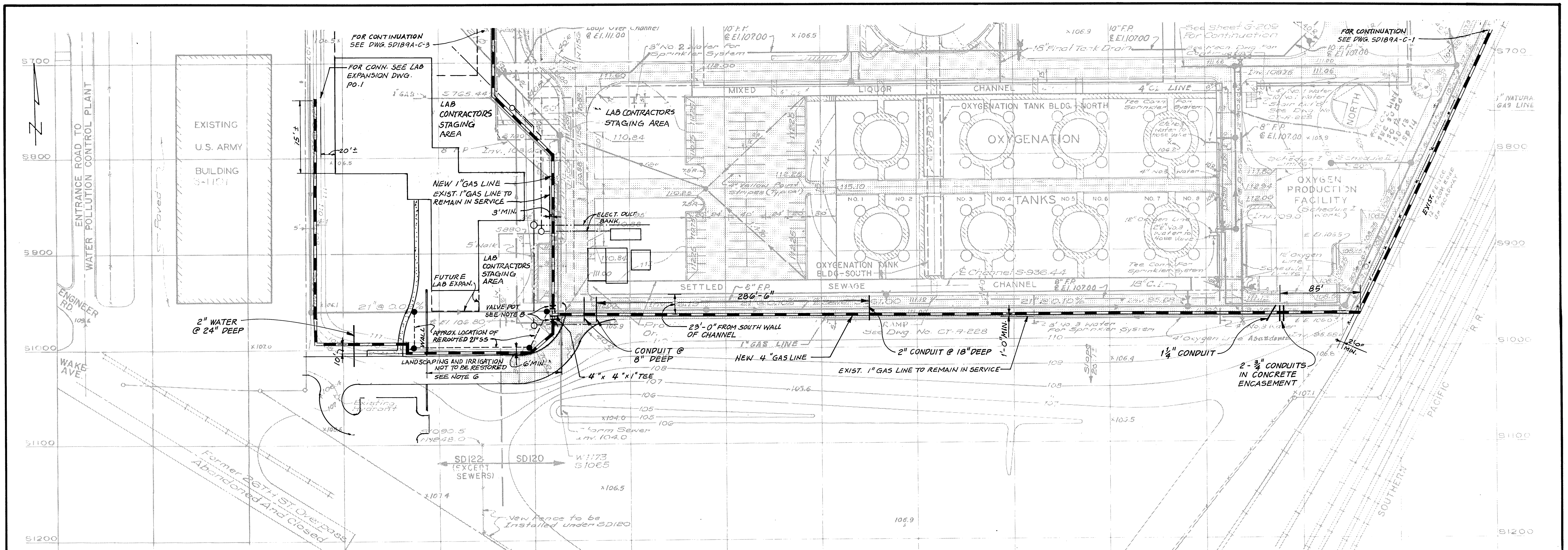
EBMUD

PROJECT ENG. R.P.E. No. C 42000 Burke J. Duty
PROJECT MGR. R.P.E. No. C 31966 Marilyn A. Miller
MGR. OF SUPPORT SERVICES R.P.E. No. C 30976 Michael Walker
MANAGER OF WASTEWATER R.P.E. NO. C 26855 Walter J. Bishop

DRAWN BY R M EBY
SCALE 1" = 50'
DATE 31 MAR 92

DRAWING No. SD189A-C-1
SHEET OF

SD-167 1 10/87


FOR CONTINUATION SEE DWG. SD189A-C-3
FOR CONN. SEE LAB EXPANSION DWG. PO.1
FOR CONTINUATION SEE DWG. SD189A-C-1
LAB CONTRACTORS STAGING AREA
LAB CONTRACTORS STAGING AREA
LAB CONTRACTORS STAGING AREA
EXISTING U.S. ARMY BUILDING S-1101
ENTRANCE ROAD TO WATER POLLUTION CONTROL PLANT
ENGINEER RD.
WAKE AVE.
15'±
20'±
NEW 1" GAS LINE
EXIST. 1" GAS LINE TO REMAIN IN SERVICE
3' MIN.
ELECT. DUCT BANK
FUTURE LAB EXPAN.
VALVE POT SEE NOTE 8
APPROX. LOCATION OF REROUTED 21" SS
WALL
2" WATER @ 24" DEEP
10'
LANDSCAPING AND IRRIGATION NOT TO BE RESTORED
SEE NOTE 6
6' MIN.
4" x 4" x 1" TEE
CONDUIT @ 8" DEEP
286'-6"
23'-0" FROM SOUTH WALL OF CHANNEL
NEW 4" GAS LINE
2" CONDUIT @ 18" DEEP
1'-0" MIN.
EXIST. 1" GAS LINE TO REMAIN IN SERVICE
1¼" CONDUIT
2 - ¾" CONDUITS IN CONCRETE ENCASEMENT
85'
2'-0" MIN.
EXIST. FENCE
MIXED LIQUOR CHANNEL
OXYGENATION TANK BLDG.-NORTH
OXYGENATION TANKS
NO. 1
NO. 2
NO. 3
NO. 4
NO. 5
NO. 6
NO. 7
NO. 8
OXYGENATION TANK BLDG-SOUTH
SETTLED SEWAGE CHANNEL
OXYGEN PRODUCTION FACILITY
NORTH
1" NATURAL GAS LINE
SOUTHERN PACIFIC R.R.
Former 26th St. Overpass Abandoned And Closed
New Fence to be Installed under SD120
SD122 (EXCEPT SEWERS)
SD120
Existing Hydrant
Storm Sewer
S700
S800
S900
S1000
S1100
S1200
S1300
S1400
S1500
S1600
W1500
W1400
W1300
W1200
W1100
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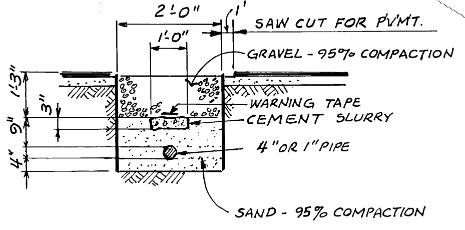
W900
W800
W700
W600
W500
W400



TYPICAL TRENCH DETAIL

N.T.S.

NOTES

1. JUST PRIOR TO PAVEMENT RESTORATION, SAWCUT EXIST PAVEMENT BACK TO SOUND, UNDISTURBED PAVEMENT ALONG NEAT, STRAIGHT LINES. RESTORE EXIST. PVM'T. BY INSTALLING NEW SUBBASE, BASE AND ASPHAUT CONCRETE TO MATCH THE EXIST. PAVEMENT SECTION.

2. ~~A MINIMUM SIDE SLOPE OF 1.5 HORIZ TO 1 VERT. IS REQUIRED. FLATTER SIDEWALL SLOPES SHALL BE USED WHERE THE SOIL IS UNSTABLE, WHERE REQ'D BY SAFTY REGULATIONS, WHERE REQ'D TO PREVENT EROSION OR SLOUGING OF SOIL INTO THE TRENCH, OR WHERE THE TRENCH EXCAVATION WORK IS DONE IN OR NEAR BAY MUD.~~

3. ~~SHORED OR SHEETPILED EXCAVATIONS ARE REQ'D FOR EXCAVATION OF DEPTH LESS THAN 5' IF THE ENVELOPE OF A 1.5 TO 1 SIDE SLOPE WOULD CONTAIN AN EXIST. PIPE, UTILITY OR STRUCTURE, SHORING AND SHEETPILES SHALL BE SOLID AND CONTINUOUS TO PREVENT SOILS FROM ENTERING THE TRENCH.~~

4. INSTALL YELLOW WARNING TAPE WITH METALIC STRIP WITH "BURIED GAS LINE" WRITTEN ON IT.

5. CEMENT SLURRY MIX SHALL HAVE A 28 DAY STRENGTH OF A MIN. 2000 PSI.

6. LANDSCAPE, IRRIGATION, SIDEWALK, CURB AND GUTTER WHKH ARE DISTURBED SHALL BE REPLACED IN KIND EXCEPT WHERE INDICATED ON DRAWINGS.

7. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF EXISTING GAS LINE. AND UTILITIES.

8. SEE VALVE POT INSTALLATION DETAIL 321-A, EBMUD STANDARD DRAWINGS.

9. FIELD ADJUSTMENTS OF ALIGMENT OF UP TO TWO FEET SHOULD BE INCLUDED IN CONTRACTORS BID.

10. GRAVEL SHALL BE ¾" OR SMALLER WELL GRADED GRANULAR. SAND SHALL BE CLEAN SOUND AND DURABLE NATURAL SAND. SAND SHALL HAVE AN EQUIVALENT VALUE OF NOT LESS THAN 30 AS DETERMINED BY CALIFORNIA TEST 217. SAND SHALL CONFORM TO THE FOLLOWING GRADING WHEN TESTED IN ACCORDANCE WITH ASTM C136

SIEVE SIZE	PERCENT PASSING
¾"	100
No. 4	90-100
No. 20	0-60
No. 200	0-15

11. MAXIMUM LENGTH OF OPEN TRENCH SHALL NOT EXCEED THE AMOUNT OF PIPE TO BE INSTALLED IN A SINGLE DAY. NO TRENCH SHALL BE LEFT OPEN AT THE END OF THE WORK DAY.

12. ALL ACCESS ROADS MUST REMAIN OPEN AT ALL TIMES UNLESS WRITTEN APPROVAL OF DISTRICT IS OBTAINED 5 WORKING DAYS PRIOR TO CLOSURE.

LEGEND

▬ ▬ NEW GAS LINE

NO.	DATE	REVISION	BY	REC.	APP.
	12/1/93	IN SERVICE 24 JUN 93 AS BUILT INSP. CRB	RW	KPJ	7JS

POWER GENERATION STATION
MODIFICATIONS
SPECIFICATION NO. SD-189A
VOLUME III, PART 3

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

EBMUD
PROJECT ENG. R.P.E. No. C 42000 Babu J. Daly
PROJECT MGR. R.P.E. No. C 31966 Marilyn L. Miller
MGR. OF SUPPORT SERVICES R.P.E. No. C 30976 Michael J. Wallis
MANAGER OF WASTEWATER R.P.E. NO. C 26855 Walter J. Bishop

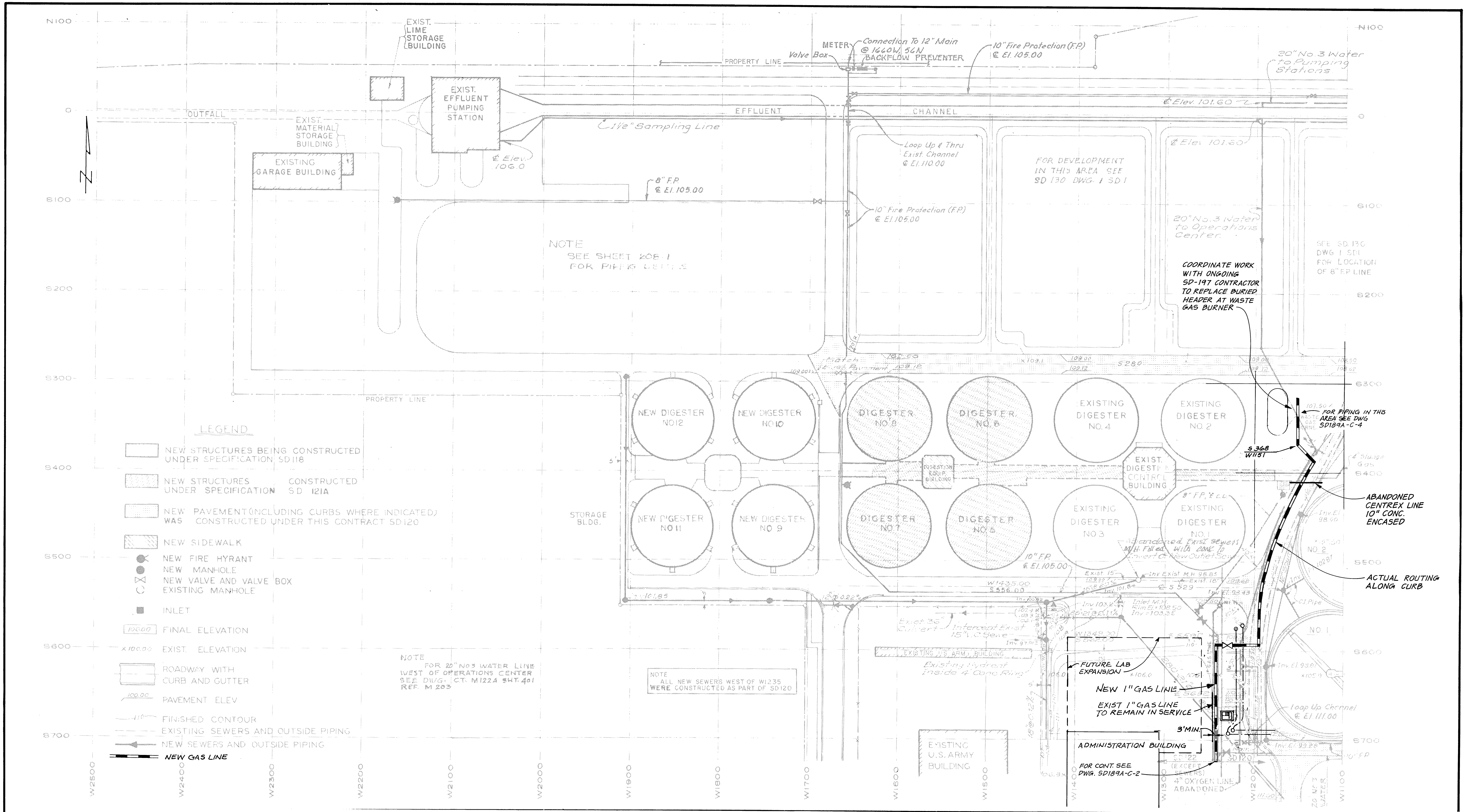
EAST BAY MUNICIPAL UTILITY DISTRICT
SPECIAL DISTRICT No. 1
OAKLAND, CALIFORNIA

MAIN PLANT GASLINE
PIPE LAYOUT
SHEET 2 OF 4

DRAWN BY R M EBY
SCALE 1" = 50'
DATE 31 MAR 92
DRAWING No. SD189A-C-2
SHEET OF

25

SD-167 1 10/87


N100
EXIST. LIME STORAGE BUILDING
METER
Valve Box
Connection To 12" Main @ 1660W, 56N
BACKFLOW PREVENTER
PROPERTY LINE
10" Fire Protection (F.P.) ℄ El. 105.00
20" No. 3 Water to Pumping Stations
EXIST. EFFLUENT PUMPING STATION
OUTFALL
EFFLUENT
CHANNEL
℄ Elev. 101.60
1½" Sampling Line
EXIST. MATERIAL STORAGE BUILDING
EXISTING GARAGE BUILDING
℄ Elev. 106.0
Loop Up & Thru Exist. Channel ℄ El. 110.00
FOR DEVELOPMENT IN THIS AREA SEE SD 130 DWG. 1 SD1
8" F.P. ℄ El. 105.00
10" Fire Protection (F.P.) ℄ El. 105.00
20" No. 3 Water to Operations Center
NOTE SEE SHEET 208-1 FOR PIPING DETAILS
SEE SD 130 DWG 1 SD1 FOR LOCATION OF 8" F.P. LINE
COORDINATE WORK WITH ONGOING SD-197 CONTRACTOR TO REPLACE BURIED HEADER AT WASTE GAS BURNER
PROPERTY LINE
NEW DIGESTER NO 12
NEW DIGESTER NO 10
DIGESTER NO 8
DIGESTER NO 6
EXISTING DIGESTER NO 4
EXISTING DIGESTER NO 2
FOR PIPING IN THIS AREA SEE DWG SD189A-C-4
S368 W1151
DIGESTION EQUIP. BUILDING
EXIST. DIGESTION CONTROL BUILDING
STORAGE BLDG.
NEW DIGESTER NO 11
NEW DIGESTER NO 9
DIGESTER NO 7
DIGESTER NO 5
EXISTING DIGESTER NO 3
EXISTING DIGESTER NO 1
ABANDONED CENTREX LINE 10" CONC. ENCASED
10" F.P. ℄ El. 105.00
W1435.00 S556.00
ACTUAL ROUTING ALONG CURB
EXISTING U.S. ARMY BUILDING
FUTURE LAB EXPANSION
NEW 1" GAS LINE
EXIST 1" GAS LINE TO REMAIN IN SERVICE
3' MIN.
ADMINISTRATION BUILDING
FOR CONT. SEE DWG. SD189A-C-2
4" OXYGEN LINE ABANDONED
Loop Up Channel ℄ El. 111.00
EXISTING U.S. ARMY BUILDING
NOTE FOR 20" NO3 WATER LINE WEST OF OPERATIONS CENTER SEE DWG. CT. M1224 SHT. 401 REF. M 203
NOTE ALL NEW SEWERS WEST OF W1235 WERE CONSTRUCTED AS PART OF SD120
S100
S200
S300
S400
S500
S600
S700
W2500
W2400
W2300
W2200
W2100
W2000
W1900
W1800
W1700
W1600
W1500
W1400
W1300
W1200
W1100

LEGEND

☐	NEW STRUCTURES BEING CONSTRUCTED UNDER SPECIFICATION SD118
▨	NEW STRUCTURES CONSTRUCTED UNDER SPECIFICATION SD 121A
▨	NEW PAVEMENT (INCLUDING CURBS WHERE INDICATED) WAS CONSTRUCTED UNDER THIS CONTRACT SD120
▨	NEW SIDEWALK
●	NEW FIRE HYRANT
●	NEW MANHOLE
⋈	NEW VALVE AND VALVE BOX
○	EXISTING MANHOLE
■	INLET
100.00	FINAL ELEVATION
x100.00	EXIST. ELEVATION
═	ROADWAY WITH CURB AND GUTTER
100.00	PAVEMENT ELEV
110	FINISHED CONTOUR
———	EXISTING SEWERS AND OUTSIDE PIPING
———	NEW SEWERS AND OUTSIDE PIPING
━━	NEW GAS LINE

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POWER GENERATION STATION
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VOLUME III, PART 3

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

EBMUD

PROJECT ENG. R.P.E. No. C 42000 Ral J Daly
PROJECT MGR. R.P.E. No. C 31966
MGR. OF SUPPORT SERVICES R.P.E. No. C30976 Michael Waller
MANAGER OF WASTEWATER R.P.E. NO C 26955 Walter J. Bishop

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

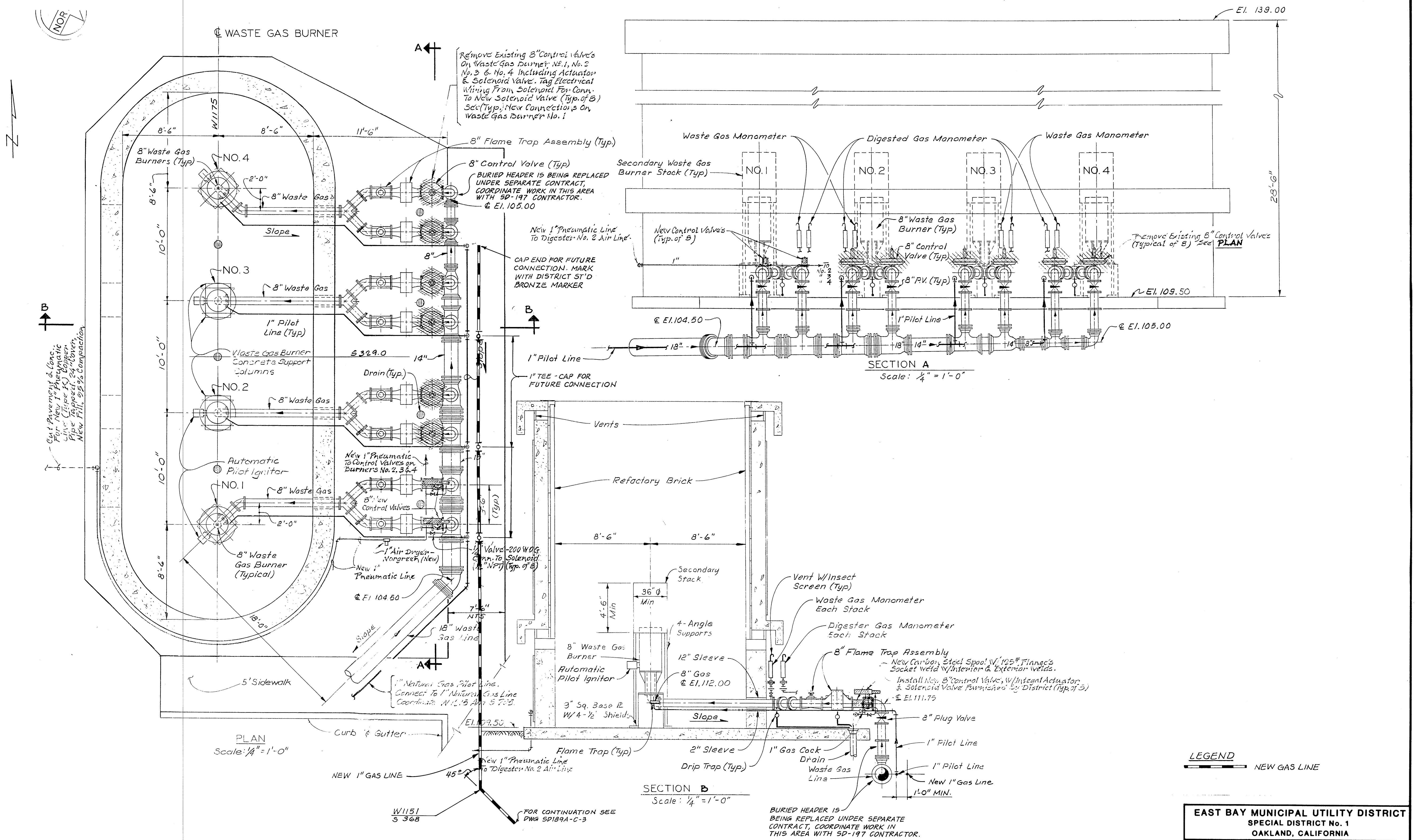
MAIN PLANT GASLINE
PIPE LAYOUT
SHEET 3 OF 4

DRAWN BY R M EBY
SCALE 1" = 50'
DATE 31 MAR 92

DRAWING No. SD189A-C-3
SHEET OF

26

SD-167 1 10/87


NOR
℄ WASTE GAS BURNER
A
Remove Existing 8" Control Valves On Waste Gas Burner No. 1, No. 2 No. 3 & No. 4 Including Actuator & Solenoid Valve. Tag Electrical Wiring From Solenoid For Conn. To New Solenoid Valve (Typ. of 8) See (Typ.) New Connections On Waste Gas Burner No. 1
8'-6"
W1175
8'-6"
11'-6"
8" Flame Trap Assembly (Typ.)
8" Waste Gas Burners (Typ)
NO. 4
2'-0"
8" Waste Gas
8" Control Valve (Typ)
BURIED HEADER IS BEING REPLACED UNDER SEPARATE CONTRACT, COORDINATE WORK IN THIS AREA WITH SD-197 CONTRACTOR.
℄ El. 105.00
Slope
8"
CAP END FOR FUTURE CONNECTION. MARK WITH DISTRICT ST'D BRONZE MARKER
NO. 3
8" Waste Gas
1" Pilot Line (Typ)
B
Waste Gas Burner Concrete Support Columns
S 329.0
14"
1" Pilot Line
1" TEE - CAP FOR FUTURE CONNECTION
Cut Pavement & Conc. For New 1" Pneumatic Line (Type K) Copper Pipe Tapped. 24" Cover, New Fill, 95% Compaction
Drain (Typ.)
NO. 2
8" Waste Gas
Automatic Pilot Ignitor
New 1" Pneumatic To Control Valves on Burners No. 2, 3 & 4
18"
NO. 1
8" Waste Gas
8" New Control Valves
3'-6" (Typ)
2'-0"
1" Air Dryer - Norgreen (New)
1/4" Valve - 200 WOG Conn. To Solenoid (1/4" NPT) (Typ. of 8)
8" Waste Gas Burner (Typical)
New 1" Pneumatic Line
℄ El 104.50
10'-0"
10'-0"
8'-6"
8'-6"
18'-0"
7'-6" NTS
Slope
18" Waste Gas Line
A
5' Sidewalk
1" Natural Gas Pilot Line. Connect To 1" Natural Gas Line Coordinate W 1.15 And S 7.05.
El. 109.50
Curb & Gutter
PLAN
Scale: 1/4" = 1'-0"
New 1" Pneumatic Line To Digester No. 2 Air Line
NEW 1" GAS LINE
45°
W1151
S 368
FOR CONTINUATION SEE DWG SD189A-C-3
El. 139.00
28'-6"
Waste Gas Manometer
Digested Gas Manometer
Waste Gas Manometer
Secondary Waste Gas Burner Stack (Typ)
NO. 1
NO. 2
NO. 3
NO. 4
New 1" Pneumatic Line To Digester No. 2 Air Line
New Control Valves (Typ. of 8)
8" Waste Gas Burner (Typ)
8" Control Valve (Typ)
Remove Existing 8" Control Valves (Typical of 8) See PLAN
1"
To No. 2, 3, 4
8" P.V. (Typ)
El. 109.50
℄ El. 104.50
1" Pilot Line
℄ El. 105.00
18"
18"
14"
14"
8"
SECTION A
Scale: 1/4" = 1'-0"
Vents
Refactory Brick
8'-6"
8'-6"
Secondary Stack
36" Ø Min
4'-6" Min
4-Angle Supports
Vent W/ Insect Screen (Typ)
Waste Gas Manometer Each Stack
Digester Gas Manometer Each Stack
8" Flame Trap Assembly
New Carbon Steel Spool W/ 125# Flange's Socket Weld W/ Interior & Exterior Welds.
Install New 8" Control Valve, W/ Integal Actuator & Solenoid Valve Furnished By District (Typ. of 8)
℄ El. 111.75
8" Waste Gas Burner
Automatic Pilot Ignitor
12" Sleeve
8" Gas ℄ El. 112.00
9" Sq. Base & W/ 4-1/2" Shields
Slope
8" Plug Valve
1" Pilot Line
Flame Trap (Typ)
2" Sleeve
1" Gas Cock
Drain
Drip Trap (Typ.)
Waste Gas Line
1" Pilot Line
New 1" Gas Line
1'-0" MIN.
SECTION B
Scale: 1/4" = 1'-0"
BURIED HEADER IS BEING REPLACED UNDER SEPARATE CONTRACT, COORDINATE WORK IN THIS AREA WITH SD-197 CONTRACTOR.

LEGEND

▬ ▭ ▬ NEW GAS LINE

EAST BAY MUNICIPAL UTILITY DISTRICT
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MAIN PLANT GASLINE

PIPE LAYOUT

SHEET 4 OF 4

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SHEET OF

27

SD-167 1 10/87