

ENGINEERING DESIGN REPORT SUBMITTAL

TERMINAL 91 TANK FARM CLEANUP

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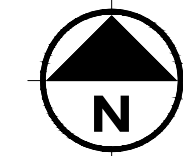
MAJOR CONTRACT	
RECOMMENDED FOR APPROVAL	
_____	DATE
_____	DATE
_____	DATE
APPROVED BY	
_____	DATE
WORK ORDER NO. 104528	PROJECT NO. 91-1401

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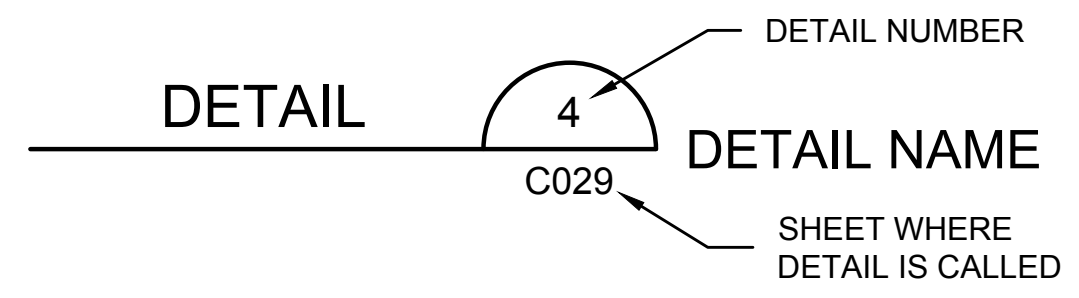
VICINITY MAP

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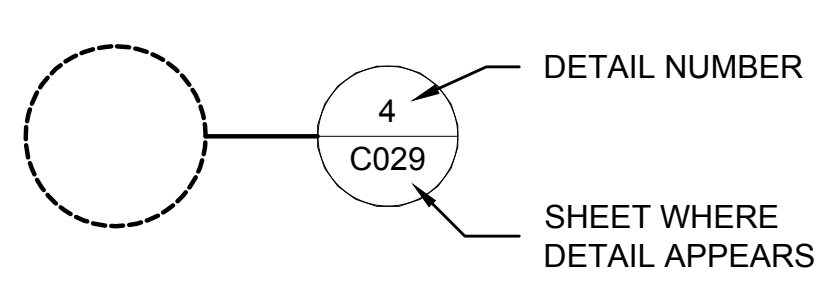


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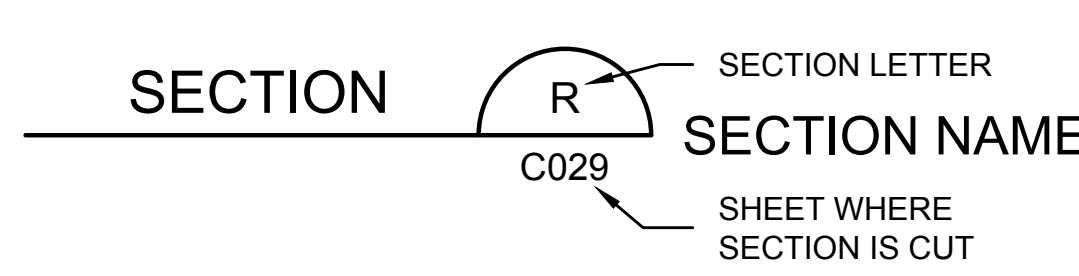


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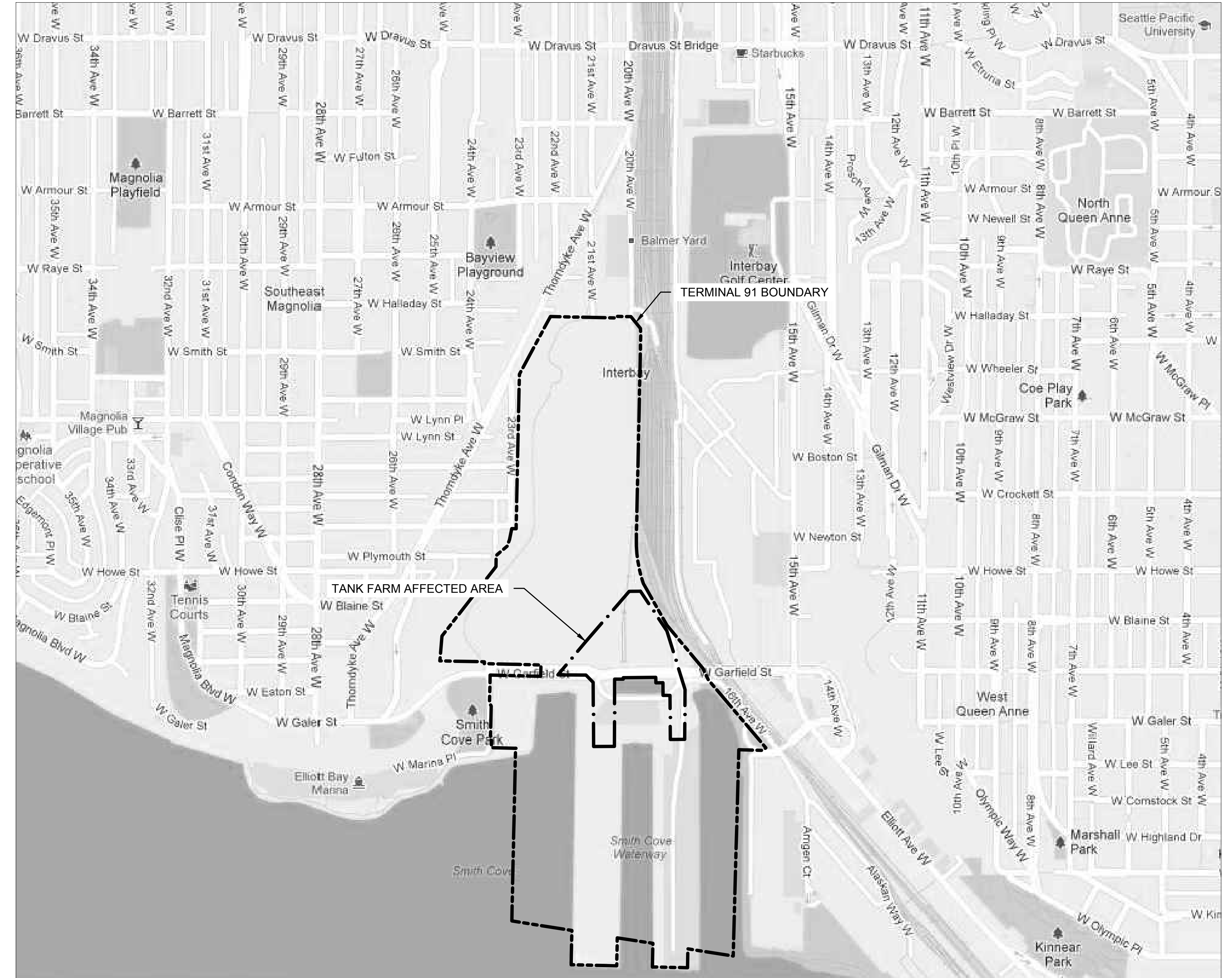
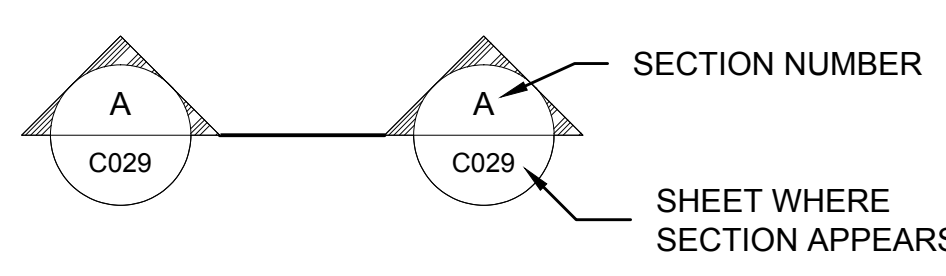


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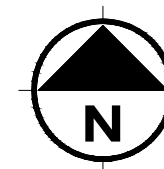


SHEET WHERE SECTION IS CUT:



PROJECT MAP

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PROJECT ENGR/ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER: FRED CHOU
PROJECT ENGINEER: FRED CHOU
DESIGN ENGINEER: FRED CHOU
DRAFTER: FRED CHOU
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP
SHEET TITLE: VICINITY AND SITE MAPS GENERAL

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 G001

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GENERAL NOTES:

1. PROCURE AND CONFORM TO ALL REQUIRED CONSTRUCTION PERMITS.
2. PERFORM ALL WORK NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND PROVIDE A COMPLETED PROJECT.
3. ANY INSPECTION BY THE PORT OR OTHER AGENCIES SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, APPLICABLE CODES AND AGENCY REQUIREMENTS.
4. ERECT AND MAINTAIN BARRICADES, WARNING SIGNS AND TRAFFIC CONES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), INCLUDING WASHINGTON AMENDMENTS. MAINTAIN ACCESS TO ROADS AND BUILDINGS AT ALL TIMES. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE AND APPROVED PRIOR TO ANY CONSTRUCTION ACTIVITY.
5. CONTRACTOR SHALL BE LICENSED AND BONDED IN STATE OF WASHINGTON.
6. MANAGE CONSTRUCTION ACTIVITIES TO ENSURE THAT ROADWAYS AND RIGHT-OF-WAYS IN THE TANK FARM AFFECTED AREA ARE KEPT CLEAN OF MUD, DUST AND DEBRIS AND THAT MUD, DUST AND DEBRIS ARE NOT TRACKED ONTO OTHER PARTS OF TERMINAL 91. DUST ABATEMENT MEASURES SHALL BE IMPLEMENTED BY THE CONTRACTOR IN ACCORDANCE WITH SECTION 02083.

SURVEY NOTES:

1. UNIT OF MEASUREMENTS: US SURVEY FEET.
2. HORIZONTAL DATUM: SEATTLE TIDE LANDS GRID SYSTEM AND THE NAD GRID.
3. VERTICAL DATUM: MEAN LOWER LOW WATER (MLLW) DATUM.
4. LOCATE AND MARK ALL EXISTING PROPERTY AND ROADWAY MONUMENTS PRIOR TO CONSTRUCTION. ANY MONUMENTS DISTURBED DURING CONSTRUCTION OF THE PROJECT SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.

UTILITIES:

1. THE LOCATIONS AND DESCRIPTIONS OF UTILITIES SHOWN ON THE DRAWINGS, ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. NEITHER THE ENGINEER NOR THE PORT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS.
2. FIELD VERIFY LOCATION, DEPTH, TYPE AND SIZE OF ALL EXISTING UTILITIES IN WORK AREAS. EXPOSE POTENTIAL UTILITY CONFLICTS FAR ENOUGH AHEAD OF CONSTRUCTION TO MAKE NECESSARY CONSTRUCTION MODIFICATIONS.
3. PROTECT UTILITIES NOT SCHEDULED FOR DECOMMISSIONING. REPAIR ANY DAMAGE TO SAME AT CONTRACTOR'S EXPENSE.
4. MAINTAIN ONE COMPLETE SET OF APPROVED DRAWINGS ON THE CONSTRUCTION SITE AT ALL TIMES AND RECORD THE LOCATIONS AND DEPTHS OF ALL UTILITIES ENCOUNTERED. KEEP THESE FIELD RECORD DRAWINGS UP TO DATE AT ALL TIMES AND AVAILABLE FOR INSPECTION BY THE OWNER UPON REQUEST. FAILURE TO CONFORM TO THIS REQUIREMENT MAY RESULT IN DELAY OF PAYMENT AND/OR FINAL ACCEPTANCE OF THE PROJECT.
5. SUBMIT A CLEAN SET OF FIELD RECORD DRAWINGS TO THE OWNER UPON COMPLETION OF CONSTRUCTION.
6. INSTALL 14 GAUGE COLOR CODED TRACER WIRE ON ALL NON-METALLIC

UTILITIES:

7. MARK THE END OF ALL UTILITY STUBS WITH A 2 IN. X 4 IN. COLOR CODED TAG WIRED TO THE PIPE STUB.
8. DECOMMISSION MONITORING WELLS & VAPOR MONITORING POINTS IN ACCORDANCE WITH CHAPTER 173-160 WAC AND SECTION 02227.
9. PORT REQUIRES 72-HOUR, MINIMUM NOTICE TO SHUT DOWN ANY UTILITIES.

GRADING & DRAINAGE:

1. FINISH PAVEMENT GRADES AT TRANSITION TO EXISTING PAVEMENT OR FEATHER PAST JOINTS WITH EXISTING PAVEMENT AS REQUIRED TO PROVIDE A SMOOTH, FREE-DRAINING SURFACE.
2. ADJUST ALL EXISTING OR CONSTRUCTED MANHOLES, CLEANOUTS, MONUMENTS, GAS VALVES, WATER VALVES AND SIMILAR STRUCTURES TO MATCH FINISH GRADES.
3. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, DO NOT CONSTRUCT CUT OR FILL SLOPES STEEPER THAN 2H:1V.

TESTING AND INSPECTION:

1. ENSURE THAT ALL REQUIRED, OR NECESSARY, INSPECTIONS ARE COMPLETED BY THE OWNER'S AUTHORIZED INSPECTORS PRIOR TO PROCEEDING WITH SUBSEQUENT WORK, WHICH COVERS, OR IS DEPENDENT ON, THE WORK TO BE INSPECTED. FAILURE TO OBTAIN NECESSARY INSPECTION(S) AND APPROVAL(S) SHALL RESULT IN THE CONTRACTOR BEING FULLY RESPONSIBLE FOR ALL PROBLEMS ARISING FROM UNINSPECTED WORK.

ABBREVIATIONS:

AC	ASPHALT CONCRETE
AOC	AREA OF CONTAMINATION
APP'D	APPROVED
APPROX	APPROXIMATE
BLDG	BUILDING
BMP	BEST MANAGEMENT PRACTICE
CB	CATCH BASIN
CDF	CONTROLLED DENSITY FILL
C/L	CENTER LINE
CITY	CITY OF SEATTLE
CONC	CONCRETE
DI	DUCTILE IRON
DIA.	DIAMETER
E	EAST, EASTING
ECOLOGY	WASHINGTON DEPARTMENT OF ECOLOGY
EG	EXISTING GROUND
FT	FEET, FOOT
FW	FIRE WATER
G	GAS
H	HIGH
HOR	HORIZONTAL
IE	INVERT ELEVATION
IN	INCH, INCHES
MAX	MAXIMUM
MDO	MARINE DIESEL OIL
MIN	MINIMUM
MLLW	MEAN LOWER LOW WATER
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
MW	MONITORING WELL
N	NORTH, NORTHING
NTS	NOT TO SCALE
OWS	OIL WATER SEPARATOR
P	POWER
PORT	PORT OF SEATTLE
PVC	POLYVINYL CHLORIDE
S	SOUTH
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
STA	STATION
STL	STEEL
SWMU	SOLID WASTE MANAGEMENT UNIT
T-91	TERMINAL 91
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TFA	TANK FARM AREA
TFAA	TANK FARM AFFECTED AREA
TFLP	TANK FARM LEASE PARCEL
TYP.	TYPICAL
V	VERTICAL
W	WEST/WATER
WAC	WASHINGTON ADMINISTRATIVE CODE
'	FEET
"	INCHES
#	NUMBER
# + ##	STATION NUMBER

SYMBOL LEGEND:

	BACKFLOW PREVENTOR
	BOLLARD
	CARD READER
	CATCH BASIN STORM SEWER
	CLEAN OUT SANITARY SEWER
	CONTROL POINT
	DECK DRAIN
	ELECTRICAL JUNCTION BOX
	ELECTRICAL MANHOLE
	ELECTRICAL PANEL
	FIRE HYDRANT
	FIRE HOLES IN DECK
	FUEL PIT
	GUARD POST
	MAGNOLIA BRIDGE COLUMN
	MANHOLE UNKNOWN
	MANHOLE COMBINATION
	MANHOLE ELECTRIC
	MANHOLE SANITARY SEWER
	MANHOLE STORM DRAIN
	MANHOLE TELEPHONE
	MANHOLE WATER
	MANHOLE METRO
	MONITORING WELL
	MONITORING WELL OR VAPOR PROBE TO DECOMMISSION
	ROOF DRAIN
	TELEPHONE HANDHOLE
	OBSERVED PETROLEUM SEEP
	PHONE CABLE UNDERGROUND
	PHONE, ELECTRICAL, UNDERGROUND
	TEST HOLE
	GAS VALVE
	WATER VALVE
	NATURAL GAS VALVE
	MISCELLANEOUS VAULT
	WATER METER
	WATER SPIGOT

LEGEND:

	AREA OF CONTAMINATION (AOC)
	BULKHEAD, BULKHEAD ANCHORAGE
	CUTOFF WALL
	DIESEL
	FENCE
	FIRE FOAM
	FIRE WATER
	FUEL
	GEOGRID
	GEOTEXTILE
	NATURAL GAS
	POWER
	POWER UNVERIFIED
	RAILROAD TRACKS
	SANITARY SEWER
	SANITARY SEWER UNVERIFIED
	SECURED ZONE
	STORM
	T-91 BOUNDARY
	TFA BOUNDARY
	TFAA BOUNDARY
	TFLP BOUNDARY / SWMU 30 BOUNDARY
	TELEPHONE, FIBER OPTIC
	TELEPHONE UNVERIFIED
	UNKNOWN PIPE
	WATER
	WATER UNVERIFIED

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DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
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REVISIONS									
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DESIGN ENGINEER: -----
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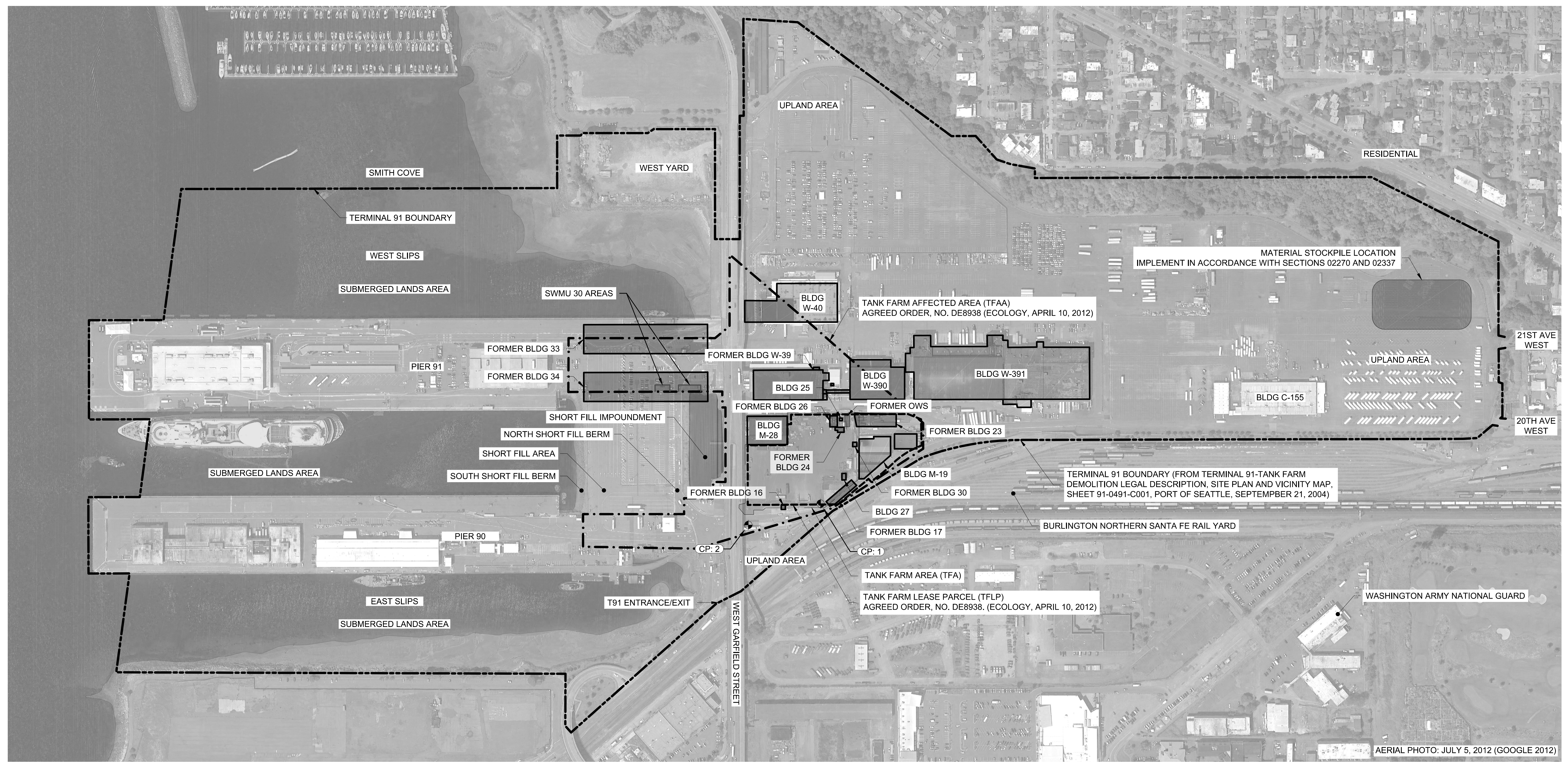
Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

SHEET TITLE: **GENERAL NOTES, ABBREVIATIONS AND LEGEND**
GENERAL

WORK PROJECT NO. MC - 0317586 - WP104528
CONSULTANT'S NO. 948.007.003
PORT OF SEATTLE NO. 91-1401 G002

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AERIAL PHOTO: JULY 5, 2012 (GOOGLE 2012)

SITE PLAN



CONTROL POINT TABLE - CONTROL POINT INFORMATION PROVIDED BY PORT				
POINT #	DESCRIPTION	ELEVATION	NORTHING	EASTING
1	POS CONTROL POINT (PK NAIL) ON 2013-03-01	19.48'	34966.38	21034.45
2	POS CONTROL POINT (PK NAIL) ON 2013-03-01	17.81'	34674.16	21120.51

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R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

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PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

SHEET TITLE: **SITE PLAN GENERAL**

WORK PROJECT NO.
MC - 0317586 - WP104528

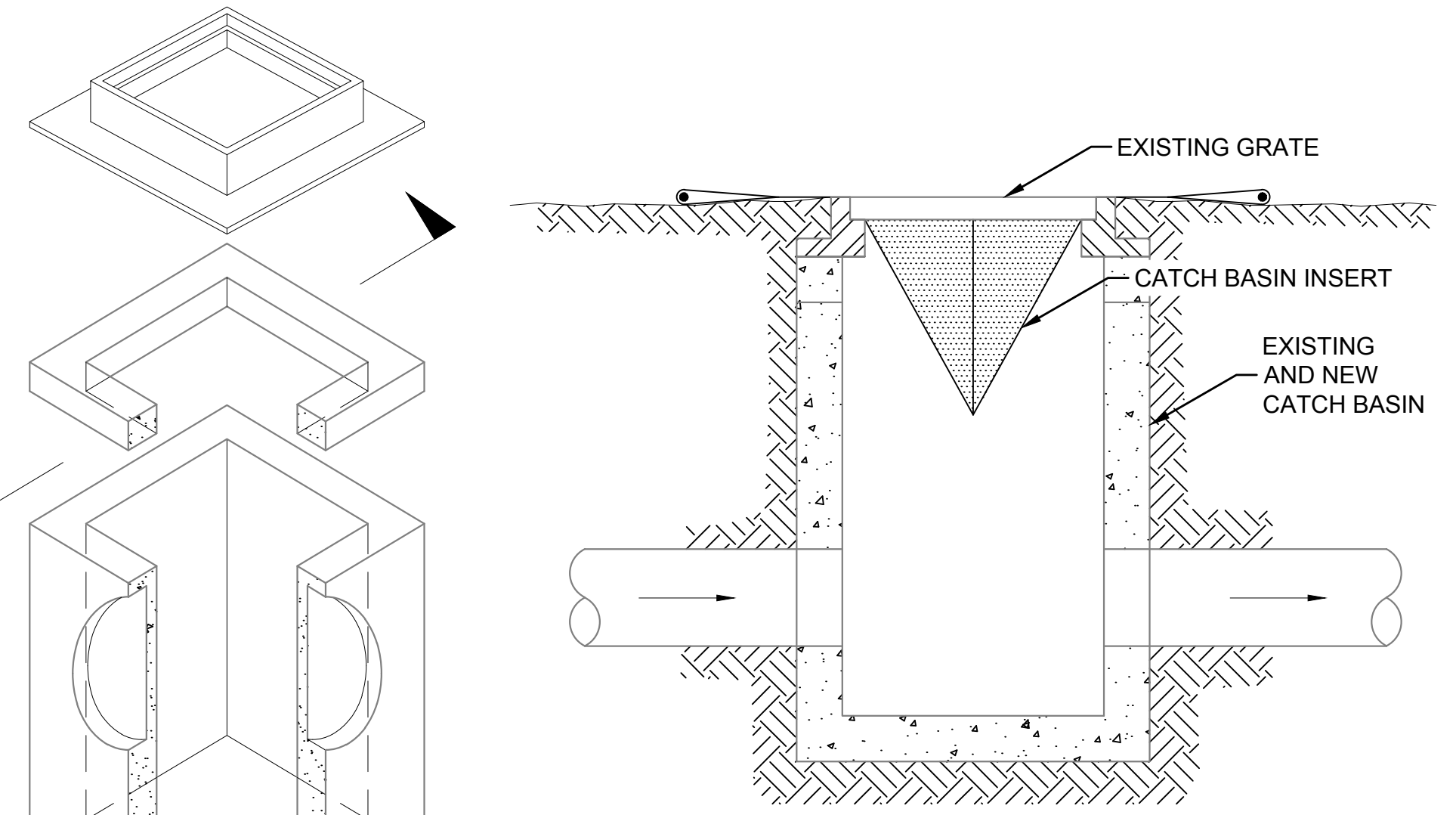
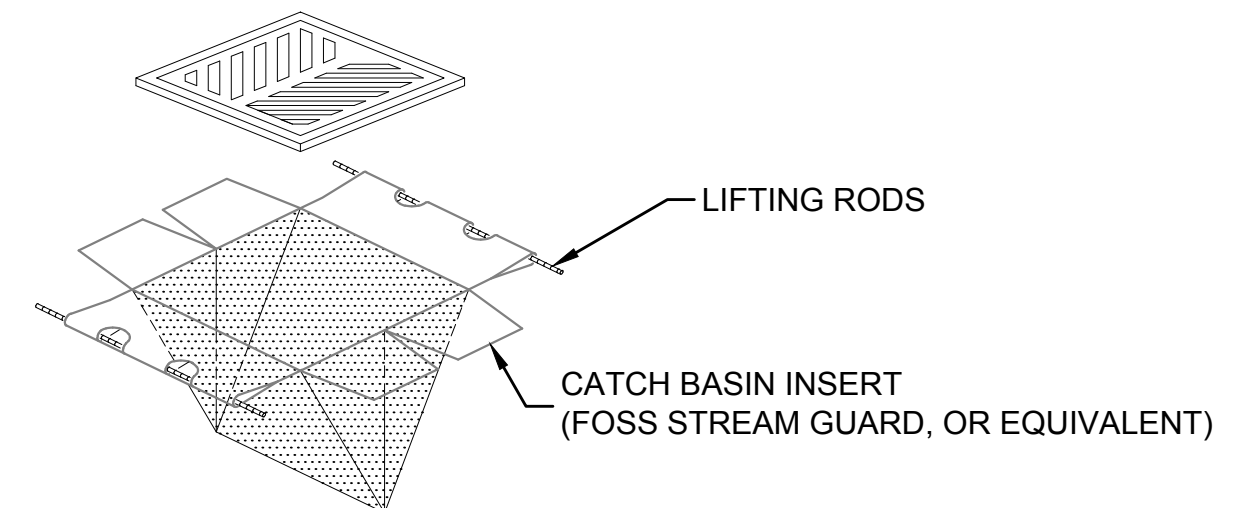
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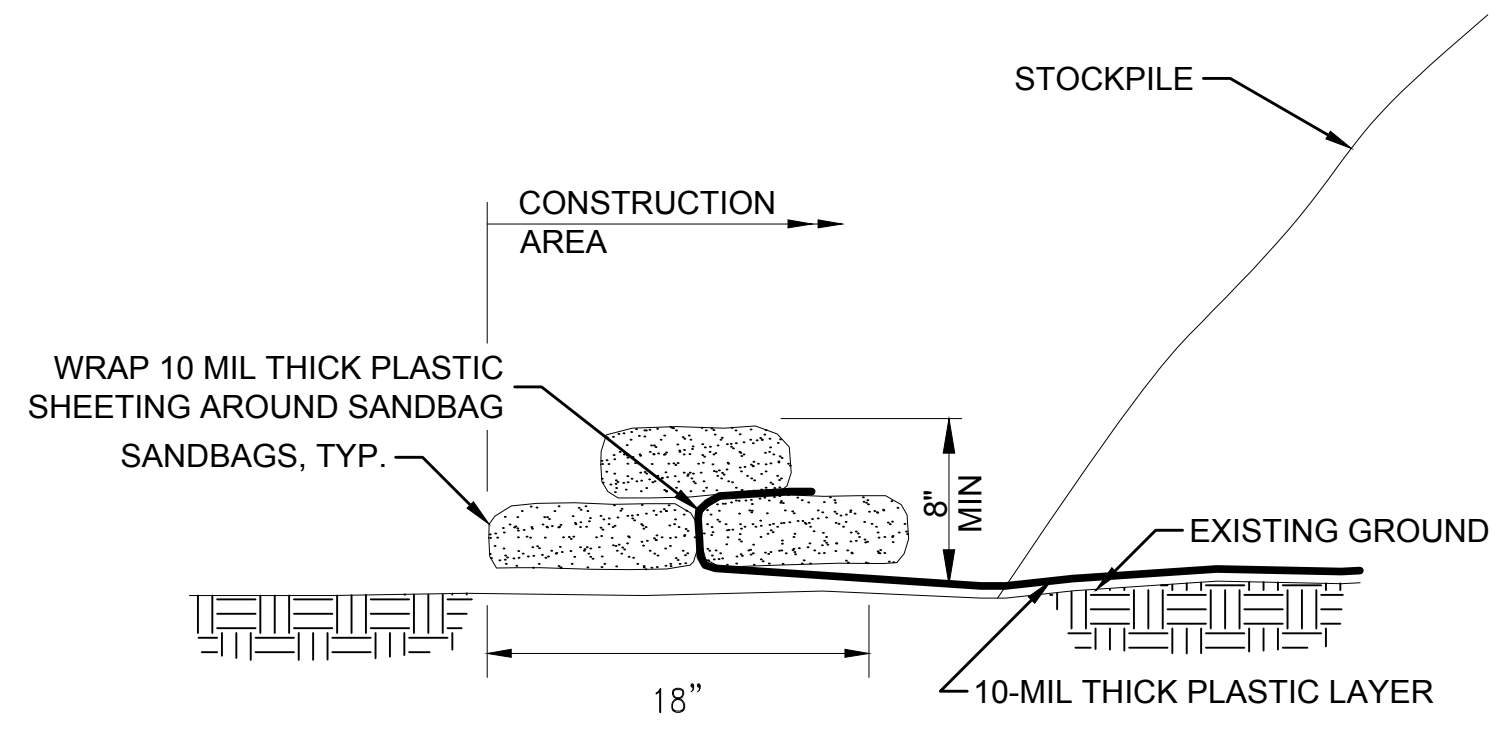
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TEMPORARY EROSION/SEDIMENTATION CONTROL (TESC) NOTES

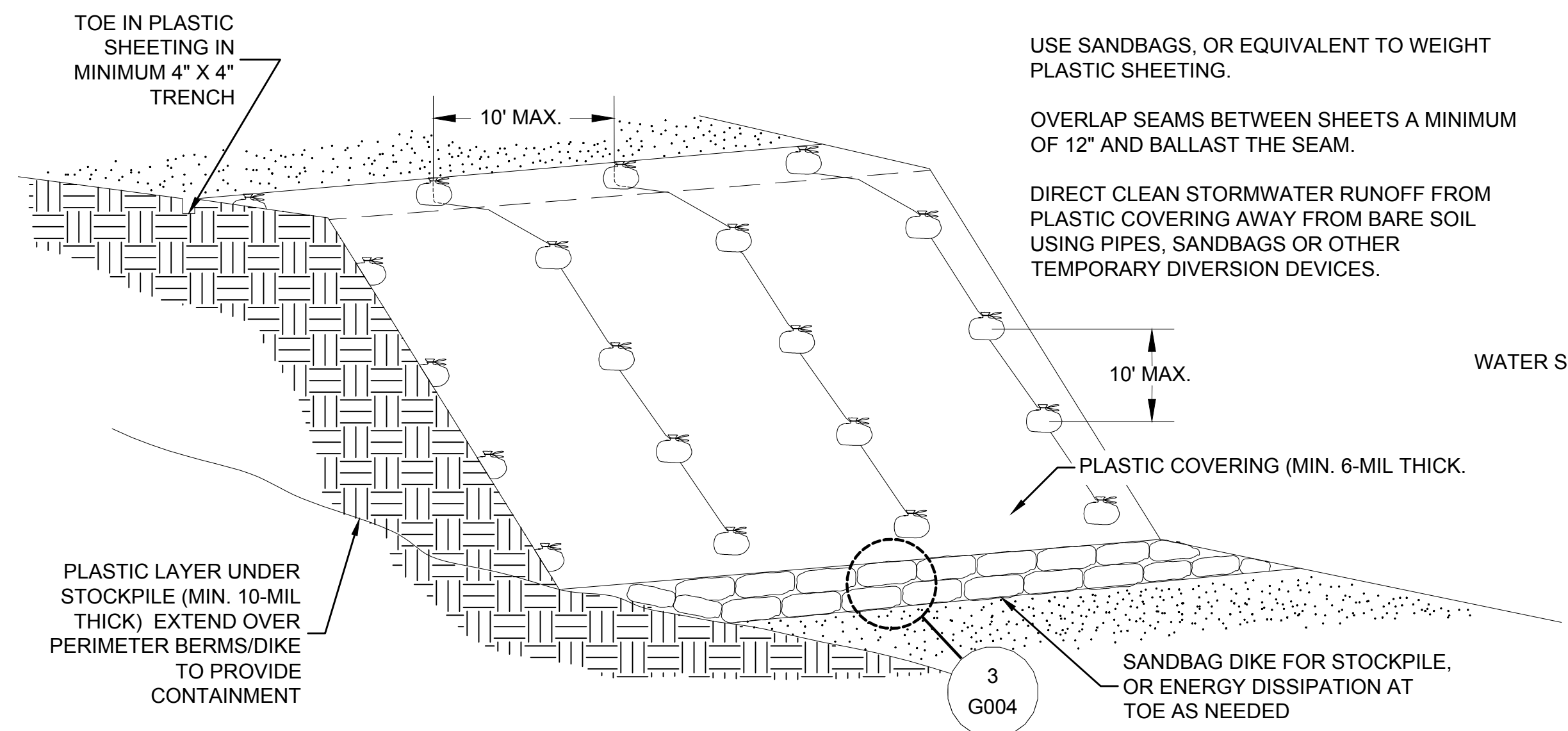
1. IMPLEMENT TEMPORARY EROSION/SEDIMENTATION CONTROL (TESC) MEASURES PER SECTION 02270.
2. THE IMPLEMENTATION OF THE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
3. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE IMPLEMENTED IN CONJUNCTION WITH ALL CONSTRUCTION ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER ELLIOTT BAY OR ADJACENT PROPERTIES OR VIOLATE APPLICABLE STANDARDS.
4. THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, UPGRADE THESE TESC FACILITIES (E.G. ADDITIONAL SUMPS, ADDITION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED TO MAINTAIN SITE CONDITIONS.
5. PROVIDE AND MAINTAIN TEMPORARY SEDIMENTATION COLLECTION FACILITIES TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE NATURAL OR PUBLIC DRAINAGE SYSTEM. AS CONSTRUCTION PROGRESSES AND UNEXPECTED (SEASONAL) CONDITIONS OCCUR, MORE SILTATION WATER QUALITY FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL OF THE PROJECT. THEREFORE, DURING THE COURSE OF CONSTRUCTION, ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED AND PROVIDE ADDITIONAL FACILITIES AND BMP'S THAT MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES.
6. INSPECT THE TESC FACILITIES DAILY AND MAINTAIN AS NECESSARY, OR AS DIRECTED BY THE PORT OF SEATTLE, TO ENSURE THEIR CONTINUED FUNCTIONING AND EFFECTIVENESS.
7. IF SEDIMENT IS TRANSPORTED ONTO ANY ROADWAY SURFACE, CLEAN THOROUGHLY AT THE END OF EACH DAY, OR SOONER IF DEEMED NECESSARY BY THE ENGINEER. REMOVE SEDIMENT FROM ROADS BY A METHOD APPROVED BY THE PORT OF SEATTLE AND TRANSPORT TO A CONTROLLED SEDIMENT DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED, AS REQUIRED BY THE ENGINEER.
8. IMMEDIATELY STABILIZE WITH PLASTIC COVERING ANY AREAS OF EXPOSED SOILS, THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON (OCTOBER 1 TO APRIL 30) OR SEVEN DAYS DURING THE DRY SEASON (MAY 1 TO SEPTEMBER 30).
9. DO NOT ALLOW MORE THAN ONE FOOT OF SEDIMENT TO ACCUMULATE WITHIN A CATCH BASIN. CLEAN ALL CATCH BASINS AND CONVEYANCE LINES PRIOR TO PAVING. DO NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
10. REFER TO THE CITY OF SEATTLE DIRECTOR'S RULE 6-93, BEST MANAGEMENT PRACTICES IN THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON CONSTRUCTION, VOLUME II, AND ALL OTHER APPLICABLE REGULATIONS TO ACCOMPLISH CONTROL OF POTENTIALLY HAZARDOUS POLLUTANTS AND SEDIMENTS.
11. DO NOT FLUSH CONCRETE BY-PRODUCTS FROM CONCRETE TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. CONCRETE TRUCK AREA SHALL BE APPROVED BY THE PORT OF SEATTLE. RE-CLEAN OR RELAY DOWNSTREAM STORM SEWER SYSTEM IF REQUIRED, AS DETERMINED BY THE PORT OF SEATTLE.
12. PASS ALL DRAINAGE WATER FROM DISTURBED AREAS THROUGH A SEDIMENT TRAP OR OTHER APPROPRIATE SEDIMENT REMOVAL BMP'S BEFORE COLLECTING THE WATER FOR TREATMENT. DO NOT ALLOW UNTREATED WATER THAT HAS CONTACTED EXPOSED CONTAMINATED SITE SOIL TO LEAVE THE SITE. ESTABLISH SEDIMENT CONTROLS INTENDED TO TRAP SEDIMENT ON SITE BEFORE OTHER LAND DISTURBING ACTIVITIES TAKE PLACE.
13. DO NOT PERMIT ANY CONSTRUCTION TRAFFIC TO TRACK SOIL OUTSIDE SECURED ZONE LIMITS. MAINTAIN AN INSPECTION ACTIVITY TO QUICKLY IDENTIFY ANY POTENTIAL MATERIAL TRACKED OFF THE SITE. IN THE EVENT THAT SITE SOIL IS TRACKED ONTO SURROUNDING ROADWAYS, CLEAN THOROUGHLY IMMEDIATELY UPON DISCOVERY INCLUDING BUT NOT LIMITED TO ADJACENT DITCHES/DRAINAGES THAT MAY HAVE BECOME CONTAMINATED BY THE ACTIVITY. COMPLETE THIS WORK AT NO ADDITIONAL COST TO THE CONTRACT (CONTRACTOR WILL BE RESPONSIBLE FOR ANY FINES IMPOSED AS A RESULT OF SOIL TRACKED OUTSIDE SECURED ZONE LIMITS). REMOVE ANY SPILLED SOIL FROM THE ROAD BY A METHOD TO BE APPROVED BY OWNER. PLACE COLLECTED SOILS IN THE SOIL STOCKPILING AREA FOR DISPOSAL.
14. TREAT WATER THAT IS COLLECTED FROM SITE DEWATERING OPERATIONS OR COLLECTED SURFACE WATER THAT HAS COME IN CONTACT WITH ANY CONTAMINATED SURFACE PRIOR TO DISCHARGE AND MANAGE PER SECTION 02245.
15. MINIMIZE EROSION FROM SLOPES. DESIGN AND CONSTRUCT CUT AND FILL SLOPES IN A MANNER THAT WILL MINIMIZE EROSION. DIVERT STORMWATER RUN-ON AWAY FROM SLOPES AND UNDISTURBED AREAS.
16. PREVENT ON-SITE EROSION BY STABILIZING ALL EXPOSED AND UNWORKED SOILS, INCLUDING STOCKPILES. COVER STOCKPILES IF RAIN EVENTS ARE POSSIBLE, DURING PRECIPITATION EVENTS, AND DURING NON-WORKING HOURS. STABILIZE SOIL STOCKPILES FROM EROSION. PROTECT WITH SEDIMENT TRAPPING MEASURES AND LOCATE AWAY FROM STORM DRAIN INLETS, WATERWAYS, AND DRAINAGE CHANNELS. NON-STOCKPILED SOILS, SHALL BE COVERED FROM OCTOBER 1 TO APRIL 30, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN TWO DAYS. FOR NON-STOCKPILED SOILS, FROM MAY 1 TO SEPTEMBER 30, NO SOILS SHALL REMAIN EXPOSED FOR MORE THAN SEVEN DAYS. STABILIZE SOILS AT THE END OF THE SHIFT. BEFORE THE COMPLETION OF THE PROJECT, PERMANENTLY STABILIZE ALL EXPOSED SOILS THAT HAVE BEEN DISTURBED DURING CONSTRUCTION.
17. DEPLOY OIL BOOM PROTECTION ACROSS SHORT FILL IMPOUNDMENT, IN A NORTH SOUTH DIRECTION, PRIOR TO INITIATING WORK IN THE NORTH SWMU 30 AREA. NOTIFY THE PORT IF SEEPAGE IS OBSERVED.
18. INSPECT THE SURFACE OF SHORT FILL IMPOUNDMENT AND THE OIL BOOM WEEKLY FOR SIGNS OF PETROLEUM PRODUCT SEEPING FROM SWMU 30 AND DAILY DURING EXCAVATION.



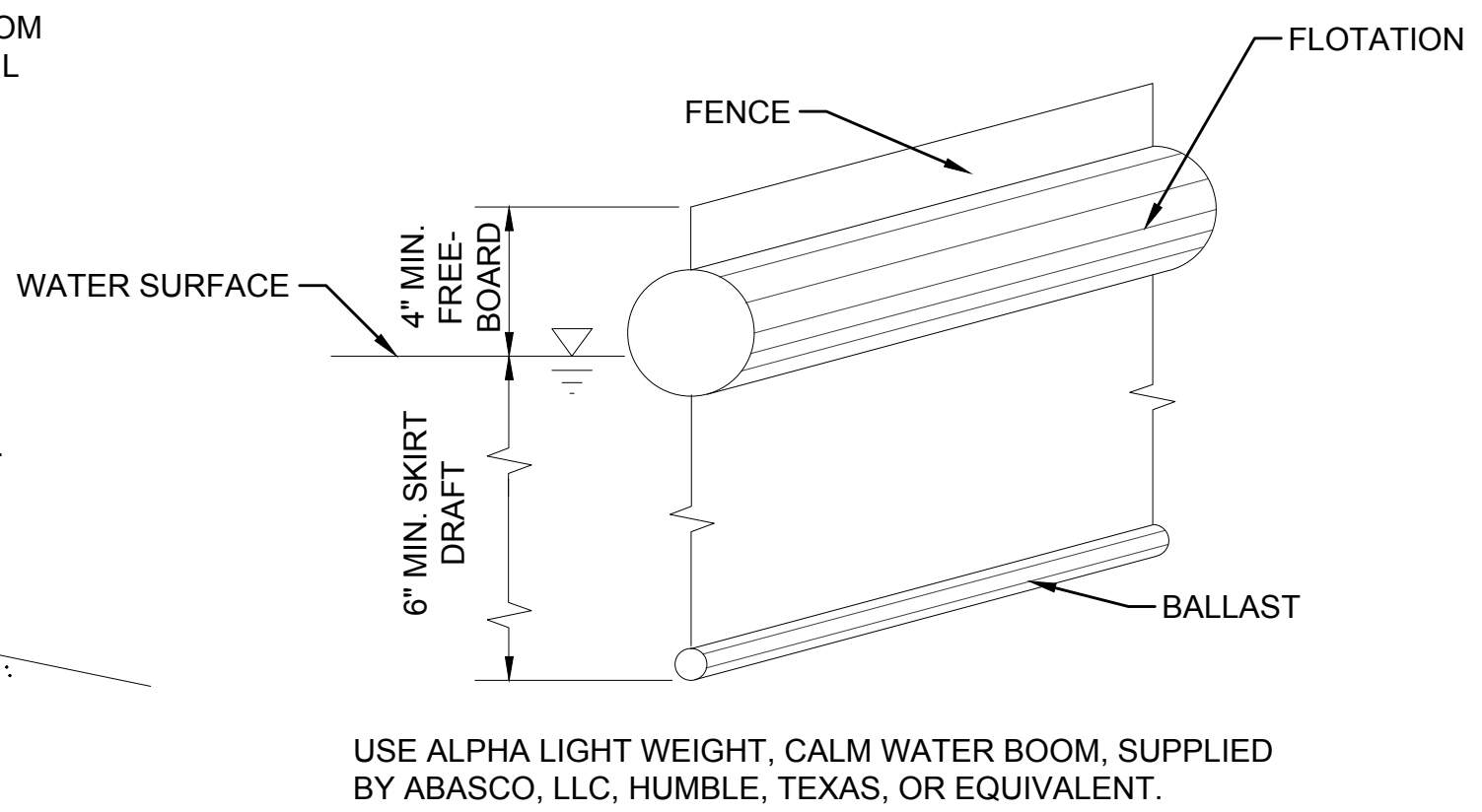
DETAIL 1
N.T.S. C004,C013 **TYP. INLET PROTECTION**



DETAIL 3
N.T.S. G004 **TYP. DIKE**



DETAIL 2
N.T.S. **STOCKPILES**



DETAIL 4
N.T.S. C004 **OIL BOOM PROTECTION**

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PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR: ARCH.
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

SHEET TITLE: **TESC NOTES AND DETAILS 1-4 GENERAL**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 G004

C:\CIVIL_3D\PROJECTS\PORT OF SEATTLE\PRODUCTION DRAWINGS\CONSTRUCTION DRAWINGS\PIPE DECOMMISSIONING\CONSTRUCTION PLANS - STANDARD\1911401C001.DWG - PLOTTED: 7/10/2013 11:04 AM ON ANSI FULL BLEED D. (34.00 X 22.00 INCHES)



- NOTES:
1. PIPELINE DECOMMISSIONING OUTSIDE THE TANK FARM AREA - EXPOSE, CLEAN, GROUT, CAP AND BACKFILL PIPELINES PER SECTION 02224 OF THE TECHNICAL SPECIFICATIONS.
 2. PIPELINE DECOMMISSIONING INSIDE THE TANK FARM AREA - EXPOSE, CLEAN, REMOVE, DECONTAMINATE, LOAD AND STOCKPILE OR DISPOSE, PER SECTIONS 02211 AND 02224 OF THE TECHNICAL SPECIFICATIONS.
 3. SEE SHEET C003 FOR PIPELINE FLAG NOTES

CALL 2 DAYS BEFORE YOU DIG
1-800-424-5555

0 50' 100'
GRAPHICAL SCALE

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

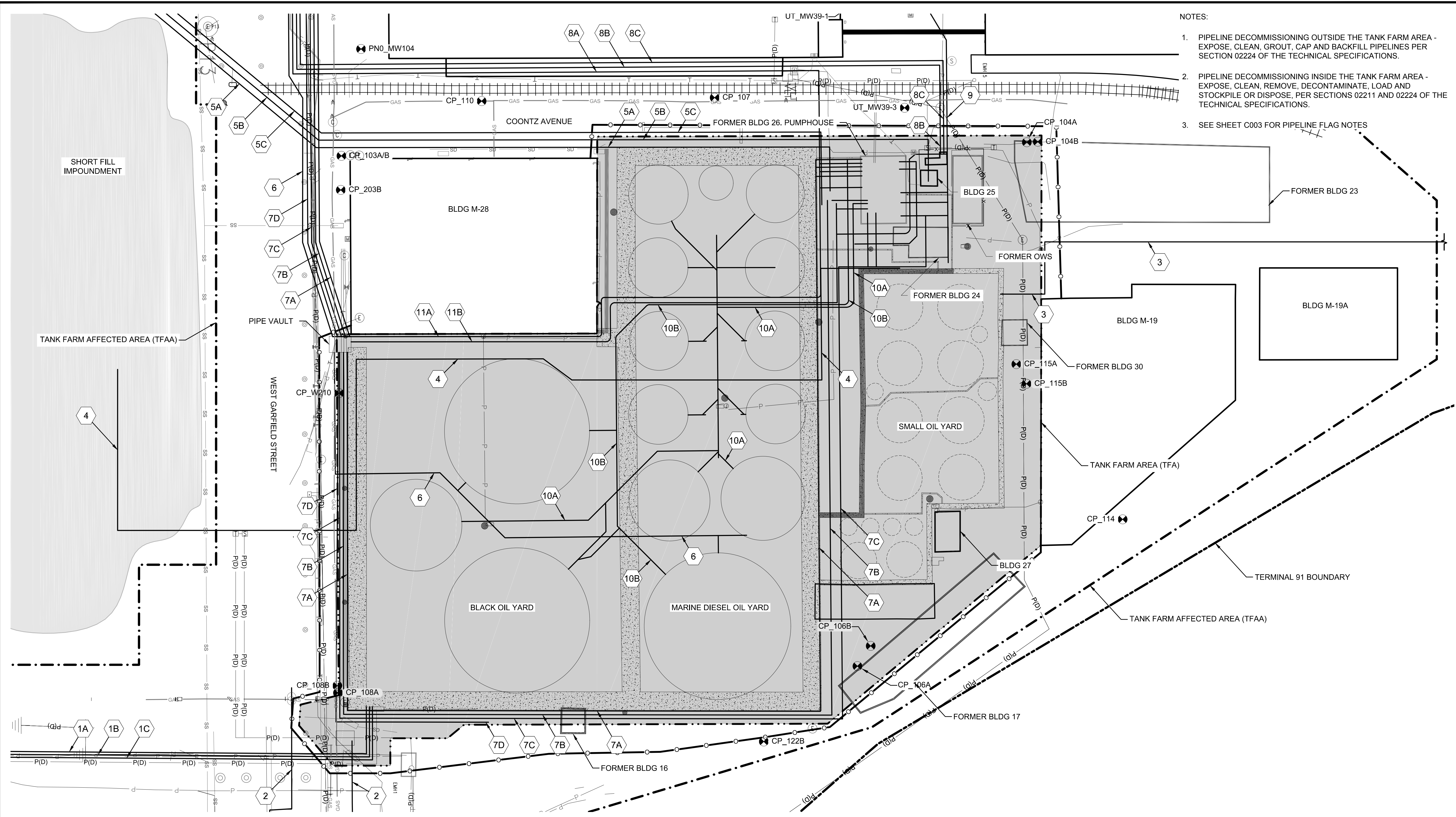
SHEET TITLE: **PIPELINES INSIDE TFAA PIPELINE DECOMMISSIONING**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

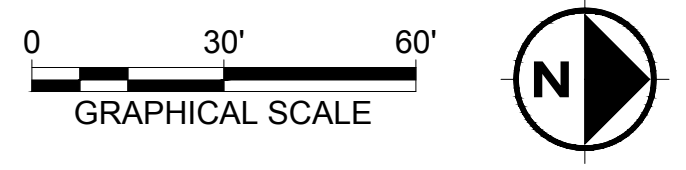
PORT OF SEATTLE NO.
91-1401 C001

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- NOTES:
- 1. PIPELINE DECOMMISSIONING OUTSIDE THE TANK FARM AREA - EXPOSE, CLEAN, GROUT, CAP AND BACKFILL PIPELINES PER SECTION 02224 OF THE TECHNICAL SPECIFICATIONS.
 - 2. PIPELINE DECOMMISSIONING INSIDE THE TANK FARM AREA - EXPOSE, CLEAN, REMOVE, DECONTAMINATE, LOAD AND STOCKPILE OR DISPOSE, PER SECTIONS 02211 AND 02224 OF THE TECHNICAL SPECIFICATIONS.
 - 3. SEE SHEET C003 FOR PIPELINE FLAG NOTES

CALL 2 DAYS BEFORE YOU DIG
1-800-424-5555




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4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER: FRED CHOU
PROJECT ENGINEER: FRED CHOU
DESIGN ENGINEER: FRED CHOU
DRAFTER: FRED CHOU
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

**PORT OF SEATTLE**

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

SHEET TITLE: **PIPELINES INSIDE TANK FARM AREA
PIPELINE DECOMMISSIONING**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C002

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FLAG NOTE NO. FOR SHEETS C001 AND C002	DESCRIPTION	PIPE SIZES / TYPES	ESTIMATED PIPE LENGTH INSIDE TFAA (FT)	HISTORICAL CONTENTS	REFERENCE DRAWING SHEET NUMBER
1A, 1B & 1C	DRAWINGS INDICATE THREE OIL PIPELINES ORIGINATE AT THE SOUTHEAST CORNER OF THE TANK FARM AND RUN SOUTH TO PIER 90. THE DRAWINGS INDICATE THE PIPELINES WERE CUT AND CAPPED AT THE SOUTHEAST CORNER OF THE TANK FARM AND SECTIONS OF THE PIPELINES WERE REMOVED INSIDE FUEL VAULTS ON PIER 90.	1A: 10-IN. DIA.	1,140	DIESEL	RO16, RO17
		1B: 6-IN. DIA.	1,140	DIESEL	
		1C: 12-IN. DIA.	1,140	FUEL	
2	DRAWINGS INDICATE A SINGLE FUEL LINE RUNS SOUTH TO PIER 90 WITH ONE BRANCH RUNNING EAST IN THE TFAA AREA. THE NORTH END OF THE PIPE IS UNCERTAIN WITH TWO POSSIBLE CONNECTIONS RUNNING WEST TOWARDS THE SOUTHEAST CORNER OF THE TANK FARM.	UNKNOWN.	1,480	UNKNOWN	
3	DRAWING INDICATES FUEL AND STEAM LINES RUN NORTH FROM THE NORTHWEST CORNER OF THE SMALL OIL YARD, TURN WEST NEAR THE SOUTHWEST CORNER OF BUILDING M-19, THEN RUN NORTH AN UNDETERMINED DISTANCE.	UNKNOWN.	320	STEAM AND UNKNOWN OIL	R018
4	DRAWING INDICATES A DIESEL PIPELINE ORIGINATES IN THE NORTHWEST CORNER OF THE TANK FARM, RUNS THROUGH THE TANK FARM MAKING 6 CHANGES IN DIRECTION, EXITS THE SOUTH SIDE OF THE TANK FARM, CROSSES WEST GARFIELD STREET, AND TURNS WEST FOR AN UNDETERMINED LENGTH ALONG THE SOUTH SIDE OF WEST GARFIELD STREET.	5-IN. DIA. INSIDE THE TANK FARM.	540	DIESEL	R019
		3-IN. DIA. CROSSING WEST GARFIELD ST.	150		
		4-IN. DIA. RUNNING WEST ALONG WEST GARFIELD ST.	110		
5A, 5B & 5C	DRAWINGS INDICATE THREE PARALLEL PIPELINES (POTENTIALLY INSTALLED IN A CONCRETE CHANNEL) ORIGINATE ON THE NORTH AND SOUTH SIDES OF FORMER BUILDING 26 (PUMP HOUSE), RUN WEST FOR A SHORT DISTANCE, TURN SOUTH TO THE SOUTHWEST CORNER OF BUILDING M-28, CROSS WEST GARFIELD STREET DIAGONALLY, RUN WEST TO THE NORTH END OF PIER 91, TURN WEST FOR A SHORT DISTANCE, TURN SOUTH ON PIER 91 TO THE WEST SIDE OF FORMER BUILDING 33, THEN TURN EAST FOR A SHORT DISTANCE AT THE SOUTH SIDE OF THE TFAA, WHERE EXTENSIONS TO THE EDGE OF THE FORMER DOCK ARE INDICATED. THE PIPELINES CONTINUE SOUTH AND MAY MAKE SEVERAL CHANGES IN DIRECTION ON PIER 91. PIPELINES MAY HAVE BEEN DECOMMISSIONED SOUTH OF THE TFAA.	5A: 12-IN. DIA. ORIGINATES AT THE SOUTHWEST CORNER OF FORMER BUILDING 26 (PUMP HOUSE).	1,300	FUEL	R019, R020
		5B: 10-IN. DIA. ORIGINATES JUST NORTH OF BUILDING 25.	1,300	DIESEL	
		5C: 6-IN. DIA. ORIGINATES JUST SOUTH OF THE 12-IN. DIA. FUEL LINE.	1,300	SLUDGE	
6	DRAWING INDICATES A FUEL PIPELINE ORIGINATES IN THE MARINE DIESEL OIL YARD, RUNS SOUTH AND SOUTHWEST THROUGH THE BLACK OIL YARD, EXITS THE SOUTH SIDE OF THE TANK FARM, TURNS WEST ALONG THE SOUTH SIDE OF THE TANK FARM (PARALLEL TO OTHER PIPELINES), THROUGH A PIPELINE VAULT AT THE SOUTHEAST CORNER OF BUILDING M-28, CONTINUES WESTERLY, AND TURNS SOUTH NEAR THE SOUTHWEST CORNER OF BUILDING W-39 ONTO PIER 91. PIPELINE MAY HAVE BEEN DECOMMISSIONED SOUTH OF THE TFAA.	6-IN. DIA. INSIDE TANK FARM AND ALONG WEST GARFIELD ST. 8-IN. DIA. ON PIER 91.	1,820	FUEL	R021
7A, 7B & 7C	DRAWING INDICATES THAT THREE PIPELINES ORIGINATE AT FORMER BUILDING 26 (PUMP HOUSE), RUN EAST ON THE NORTH SIDE OF THE MARINE DIESEL OIL YARD CONTAINMENT WALL, TURN SOUTH ALONG THE EAST SIDE OF THE TANK FARM, TURN WEST ALONG THE SOUTH SIDE OF THE TANK FARM, THROUGH A PIPELINE VAULT AT THE SOUTHEAST CORNER OF BUILDING M-28, CONTINUE WESTERLY AND TURN SOUTH NEAR THE SOUTHWEST CORNER OF BUILDING W-39 ONTO PIER 91. THESE PIPELINES MAY HAVE BEEN DECOMMISSIONED SOUTH OF THE TFAA.	7A: 8-IN. DIA.	2,500	FUEL	R021
		7B: 6-IN. DIA.	2,500	DIESEL	
		7C: 4-IN. DIA. BECOMES 6-IN. DIA. NEAR SOUTHEAST CORNER OF TANK FARM.	2,500	DIESEL	
7D	DRAWING INDICATES ONE PIPELINE ORIGINATES NEAR THE SOUTHEAST CORNER OF THE TANK FARM, AND RUNS PARALLEL TO PIPELINES 7A, 7B AND 7C. THE ORIGINATION POINT OF THIS PIPELINE MAY HAVE BEEN A VALVE VAULT LOCATED NEAR THE SOUTHEAST CORNER OF THE TANK FARM. THIS PIPELINE MAY HAVE BEEN DECOMMISSIONED SOUTH OF THE TFAA.	4-IN. DIA.	1,960	UNUSED	R021
8A, 8B & 8C	DRAWING INDICATES THREE PARALLEL PIPELINES ORIGINATE ON THE NORTH AND SOUTH SIDES OF FORMER BUILDING 26 (PUMP HOUSE), RUN WEST ACROSS COONTZ AVENUE, TURN SOUTH AND RUN UNDER THE LOADING DOCK OF BUILDING W-39 TO THE SOUTHEAST CORNER OF BUILDING W-39, CROSS PIPELINES 7A, 7B, 7C AND 7D, TURN WEST AND RUN PARALLEL TO PIPELINES 6, 7A, 7B, 7C AND 7D TO NEAR THE SOUTHWEST CORNER OF BUILDING W-39 AND SOUTH ONTO PIER 91. THE PIPELINES MAY HAVE BEEN DECOMMISSIONED SOUTH OF THE TFAA.	8A: 8-IN. DIA.	1,700	FUEL	R021
		8B: 4-IN. DIA.	1,760	UNUSED	
		8C: 4-IN. DIA.	1,760	UNUSED	
9	DRAWING INDICATES A PIPELINE ORIGINATES JUST NORTH OF FORMER BUILDING 26 (PUMP HOUSE), RUNS ACROSS COONTZ AVENUE, TURNS SOUTHWEST DIAGONALLY TO THE NORTHWEST CORNER OF BUILDING W-39, TURNS SOUTH PAST THE SOUTHWEST CORNER OF BUILDING W-39 AND ONTO PIER 91, WHERE IT RUNS PARALLEL TO THE OTHER PIPELINES ON PIER 91. THIS PIPELINE MAY HAVE BEEN DECOMMISSIONED SOUTH OF THE TFAA.	6-IN. DIA. INSIDE TANK FARM. 8-IN. DIA. OUTSIDE TANK FARM.	2,060	DIESEL	R021
10A & 10B	DRAWING INDICATES SUCTION PIPELINES ORIGINATING AT FORMER BUILDING 26 (PUMP HOUSE) AND CONNECTED BY DISTRIBUTION PIPELINES TO FORMER TANKS IN THE BLACK OIL YARD.	10A: 16-IN. DIA. SUCTION LINE.	600	DIESEL	R021
		10B: 16-IN. DIA. SUCTION LINE.	440	FUEL	R021
11A & 11B	DRAWING INDICATES DISCHARGE PIPELINES ORIGINATING AT FORMER BUILDING 26 (PUMP HOUSE) AND CONNECTING TO OTHER PIPELINES IN THE PIPELINE VAULT AT THE SOUTHEAST CORNER OF BUILDING M-28.	11A: 12-IN. DIA. DISCHARGE LINE.	400	FUEL	R021
		11B: 12-IN. DIA. DISCHARGE LINE.	400	DIESEL	R021

APPROXIMATE TOTAL (FT) 30,320



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Engineering & Environmental Services

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4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT MANAGER:
R. NORTH/B. O'NEAL
DESIGNER:
R. NORTH
DRAWN BY:
S. MCCOY
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED BY:
R. NORTH
CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL


REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU
PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
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DATE:
2013-07-08
CHECKED/APPROVED BY:
FRED CHOU



PORT OF SEATTLE

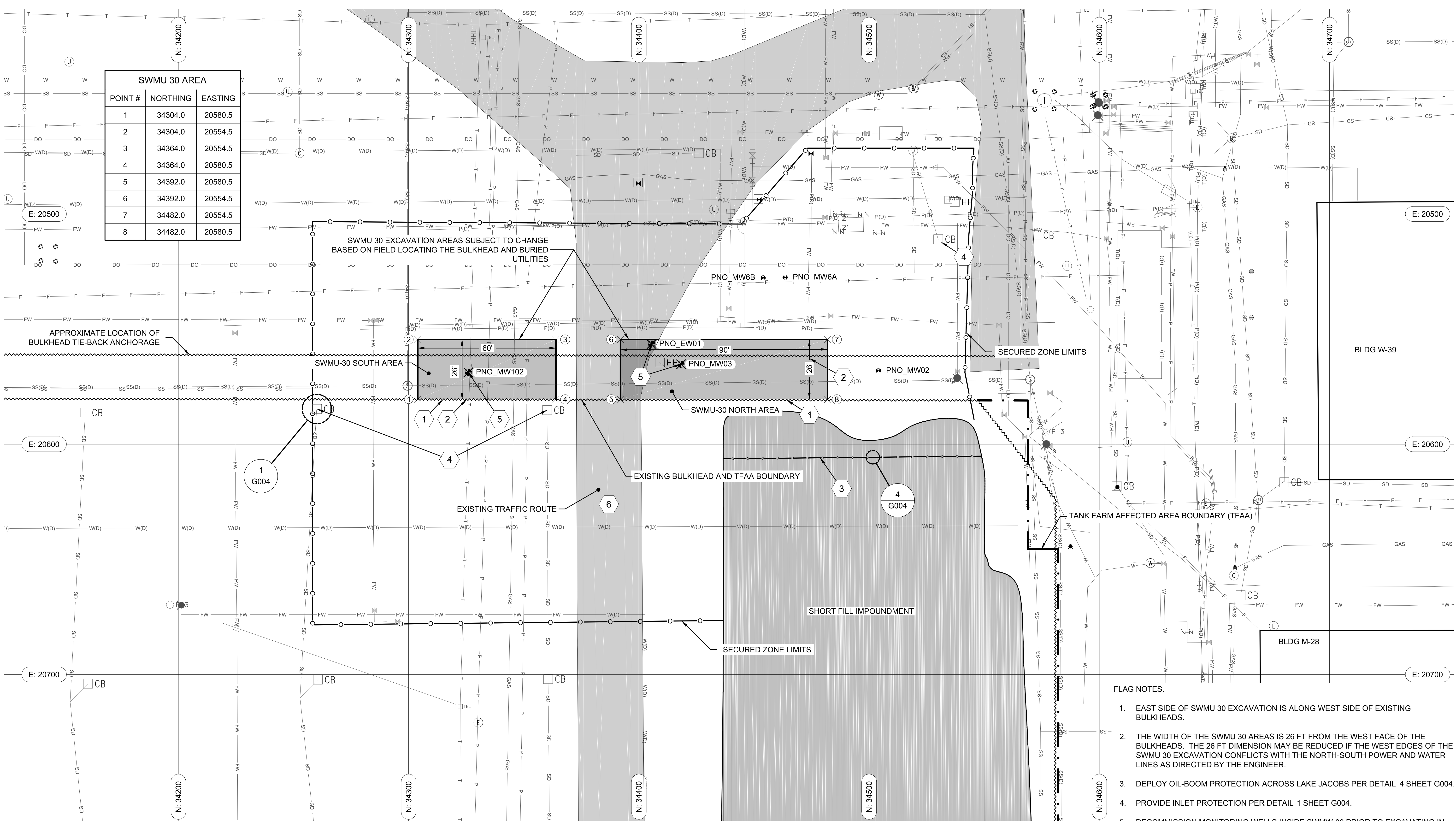
PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

SHEET TITLE: **FUEL TRANFER PIPELINES FLAG NOTES
PIPELINE DECOMMISSIONING**

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 C003

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SWMU 30 AREA		
POINT #	NORTHING	EASTING
1	34304.0	20580.5
2	34304.0	20554.5
3	34364.0	20554.5
4	34364.0	20580.5
5	34392.0	20580.5
6	34392.0	20554.5
7	34482.0	20554.5
8	34482.0	20580.5



- FLAG NOTES:**
- EAST SIDE OF SWMU 30 EXCAVATION IS ALONG WEST SIDE OF EXISTING BULKHEADS.
 - THE WIDTH OF THE SWMU 30 AREAS IS 26 FT FROM THE WEST FACE OF THE BULKHEADS. THE 26 FT DIMENSION MAY BE REDUCED IF THE WEST EDGES OF THE SWMU 30 EXCAVATION CONFLICTS WITH THE NORTH-SOUTH POWER AND WATER LINES AS DIRECTED BY THE ENGINEER.
 - DEPLOY OIL-BOOM PROTECTION ACROSS LAKE JACOBS PER DETAIL 4 SHEET G004.
 - PROVIDE INLET PROTECTION PER DETAIL 1 SHEET G004.
 - DECOMMISSION MONITORING WELLS INSIDE SWMU-30 PRIOR TO EXCAVATING IN ACCORDANCE WITH CHAPTER 173-160 WAC AND SECTION 02227.
 - REROUTE TRAFFIC TO SOUTH OF SECURE ZONE DURING SWMU 30 CONSTRUCTION.

CALL 2 DAYS BEFORE YOU DIG
1-800-424-5555

0 20' 40'
GRAPHICAL SCALE

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Engineering & Environmental Services

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4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR/ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS									
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PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

SHEET TITLE: **SITE PLAN AND TESC SWMU 30**

WORK PROJECT NO.
MC - 0317586 - WP104528

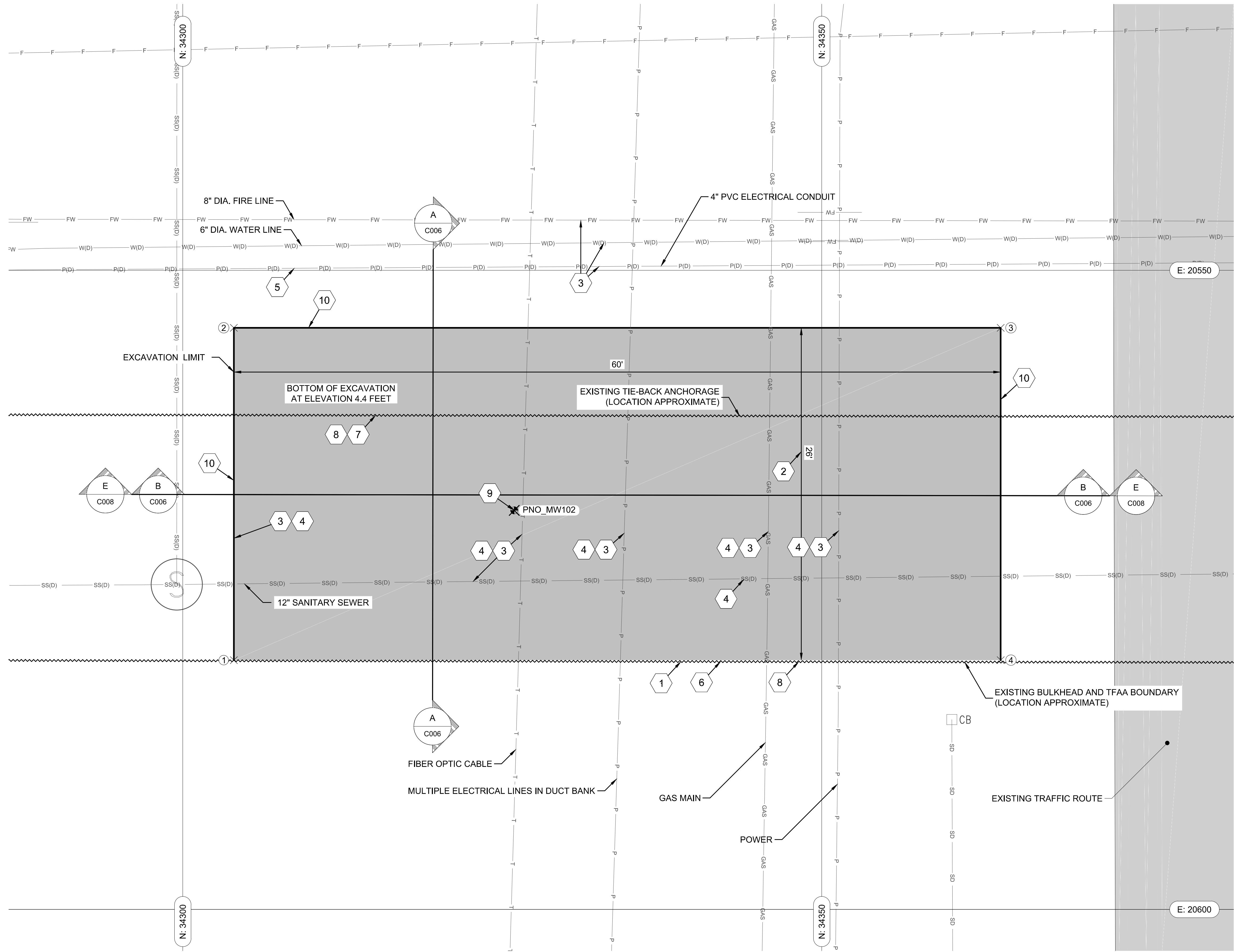
CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C004

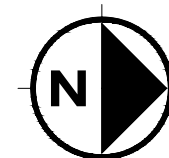
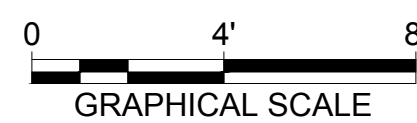
FLAG NOTES:

- EAST EXCAVATION LIMIT OF SWMU 30-SOUTH AREA IS THE WEST FACE OF BULKHEAD. THE LOCATION IS ESTIMATED.
- THE 26 FT EXCAVATION WIDTH MAY BE REDUCED IF THE WEST EDGE OF THE EXCAVATION CONFLICTS WITH THE NORTH-SOUTH POWER AND WATER LINES, AS DIRECTED BY THE ENGINEER.
- VERIFY UTILITY LOCATIONS, DEPTHS AND SIZES (INCLUDING SANITARY SEWER, FIBER OPTICS, ELECTRICAL IN DUCTBANK, GAS MAIN, WATER LINES AND POWER LINES).
- SUPPORT ALL UTILITIES IN PLACE DURING EXCAVATION.
- 4" PVC CONDUIT LOCATED DURING EXCAVATION OF WATER METER VALVES. THE LOCATION OF THE CONDUIT IS APPROXIMATE.
- VERIFY BULKHEAD LOCATION, CONSTRUCTION, DEPTH, AND SIZES. ORIGINAL WOODEN BULKHEADS WERE EITHER RETROFITTED (AS SHOWN IN THE SECTION VIEWS) OR ENTIRELY REPLACED WITH 12 TO 14 FT DEEP CONCRETE BULKHEADS.
- TIE-BACK ANCHORAGE LOCATION IS APPROXIMATE. VERIFY LOCATION.
- BULKHEAD MAY BE REMOVED OR LEFT IN PLACE. REMOVE TIE BACKS AND ANCHORAGE.
- DECOMMISSION MONITORING WELL PRIOR TO EXCAVATING IN ACCORDANCE WITH CHAPTER 173-160 WAC AND SECTION 02227.
- SAW CUT ASPHALT AROUND PERIMETER OF EXCAVATION.

SWMU 30 AREA		
POINT #	NORTHING	EASTING
1	34304.0	20580.5
2	34304.0	20554.5
3	34364.0	20554.5
4	34364.0	20580.5



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4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENDR ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: TERMINAL 91 TANK FARM CLEANUP

SHEET TITLE: EXCAVATION PLAN
SWMU 30 - SOUTH AREA

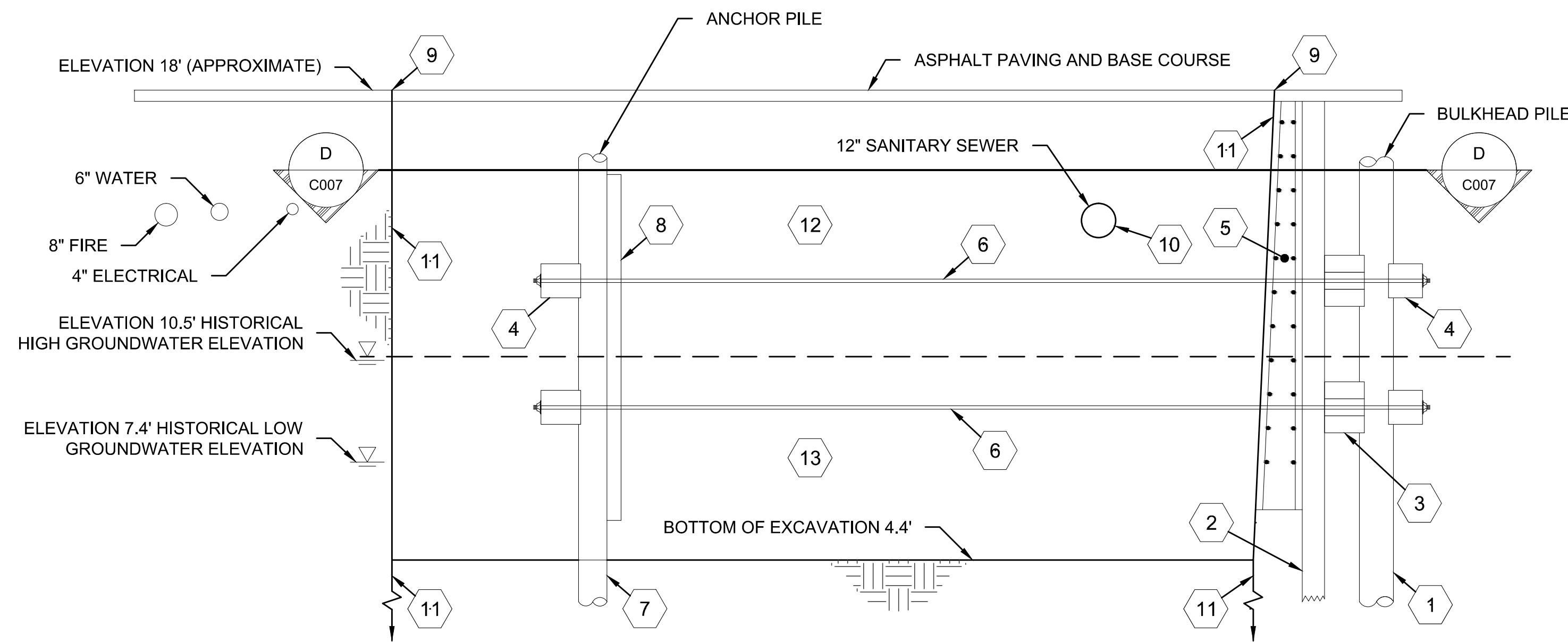
WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C005

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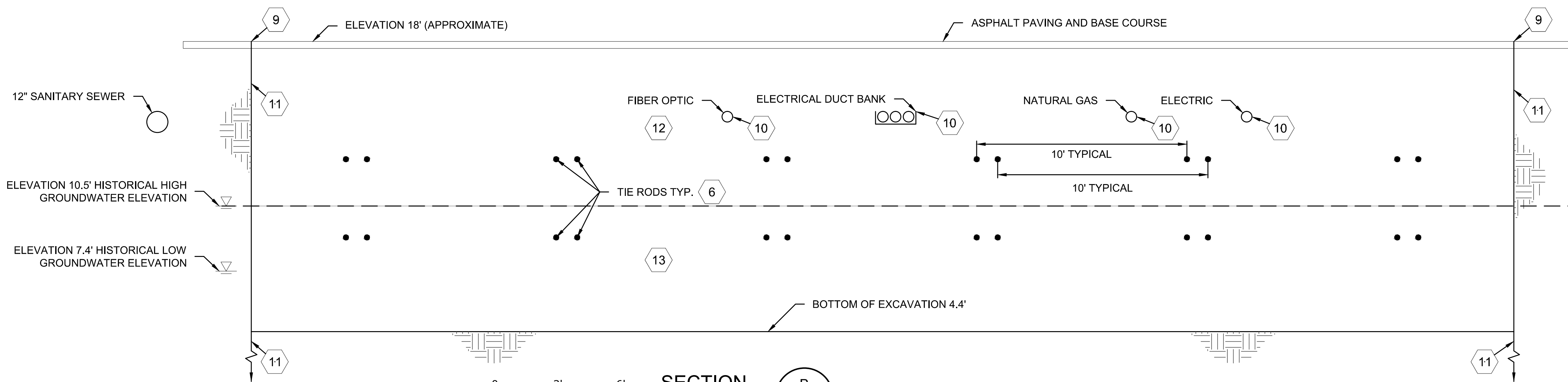
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0 3' 6' GRAPHICAL SCALE SECTION A SWMU 30-SOUTH AREA C005

NOTES:

1. EXISTING UTILITY DEPTHS UNKNOWN. FIELD LOCATE AND POT HOLE FOR UTILITIES PRIOR TO GENERAL EXCAVATION.
2. CREOSOTE TREATED WOOD BULKHEAD MAY NOT EXIST AT ALL LOCATIONS. BOTTOM ELEVATION ESTIMATED TO BE -5 FT MLLW.
3. CREOSOTE TREATED WOOD WALER ASSEMBLY CONSTRUCTED WITH THREE 6 IN. X 14 IN. WALES (BOARDS). 6 FT LONG WALES AT EACH PILE ARE SANDWICHED BY TWO UP TO 30 FT LONG WALES.
4. CREOSOTE TREATED WOOD BLOCK. 3 FT X 12 IN. X 14 IN.
5. REINFORCED CONCRETE BULKHEAD. 12 FT TO 14 FT HIGH.
6. TWO TIE RODS AT EACH PILE (ONE ON EACH SIDE) AT EACH ELEVATION. TIE ROD DIAMETERS ARE 1-1/8 IN. TO 1-5/8 IN. DIA. DEPTHS ESTIMATED TO BE 5.5 FT AND 9.5 FT BELOW GROUND SURFACE. CUT AND REMOVE AT THE FACE OF BULKHEAD AS NECESSARY FOR SOIL REMOVAL.
7. CREOSOTE TREATED WOOD ANCHOR PILES AT 10 FT ON CENTER. TOP ELEVATION AND LENGTH UNKNOWN. REMOVE.
8. 9 FT HIGH, CREOSOTE TREATED, WOOD LAGGING BETWEEN ANCHOR PILES. TOP AND BOTTOM OF LAGGING DEPTHS BELOW GROUND SURFACE ARE UNKNOWN. REMOVE.
9. SAWCUT ASPHALT.
10. SUPPORT ALL UTILITIES IN PLACE DURING CONSTRUCTION.
11. CONTRACTOR TO DESIGN AND INSTALL TEMPORARY SHORING TO SUPPORT EXCAVATION, MINIMIZE LATERAL DEFLECTIONS, CONTROL GROUNDWATER AND BASE HEAVE AND SUPPORT UTILITIES TO REMAIN IN PLACE. DESIGN TO BE STAMPED BY AN ENGINEER LICENSED IN THE STATE OF WASHINGTON. SUBMIT SHORING DESIGN AS A PRE-CONSTRUCTION SUBMITTAL.
12. MANAGE SOIL ABOVE ELEVATION 10.5 FT AS SOIL IN ACCORDANCE WITH SECTION 02333, UNLESS DESIGNATED AS HIGHLY CONTAMINATED SOIL.
13. MANAGE ALL SOIL EXCAVATED BELOW ELEVATION 10.5 FT AS HIGHLY CONTAMINATED SOIL IN ACCORDANCE WITH SECTION 02333.



0 3' 6' GRAPHICAL SCALE SECTION B SWMU 30-SOUTH AREA C005

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4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR/ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

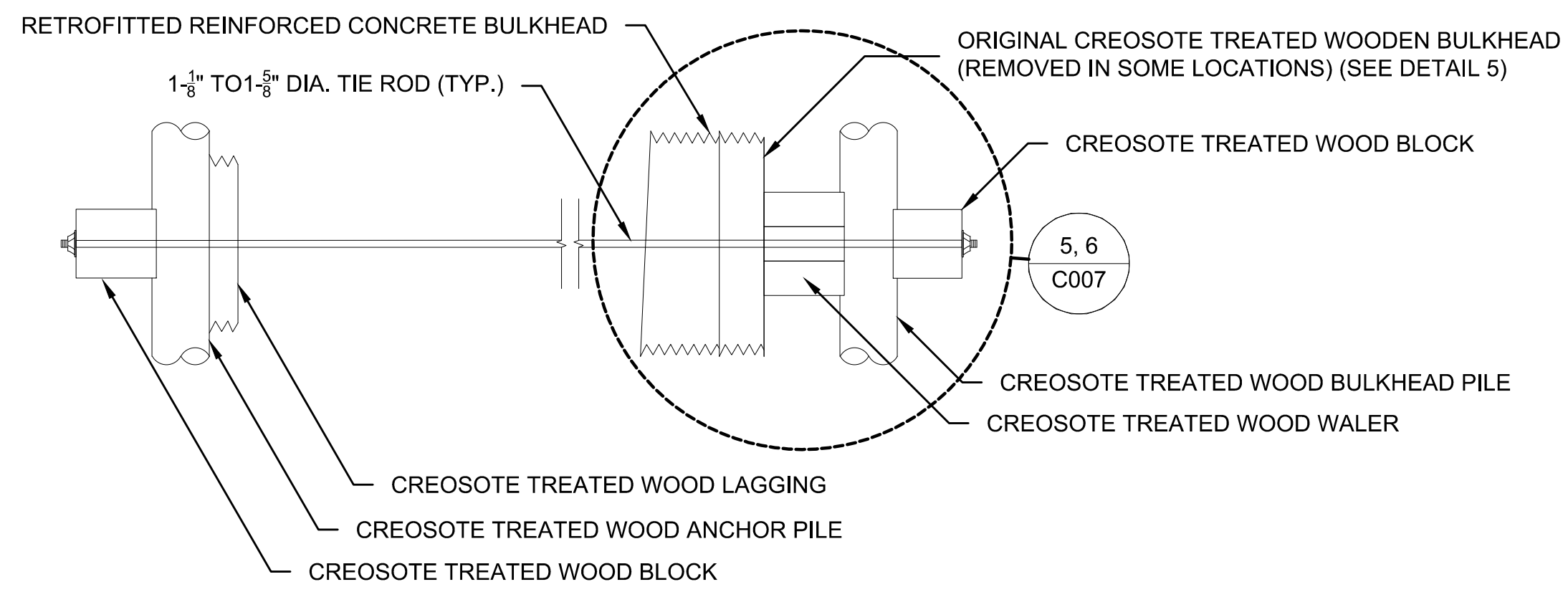
REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER: FRED CHOU
PROJECT ENGINEER: FRED CHOU
DESIGN ENGINEER: FRED CHOU
DRAFTER: FRED CHOU
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

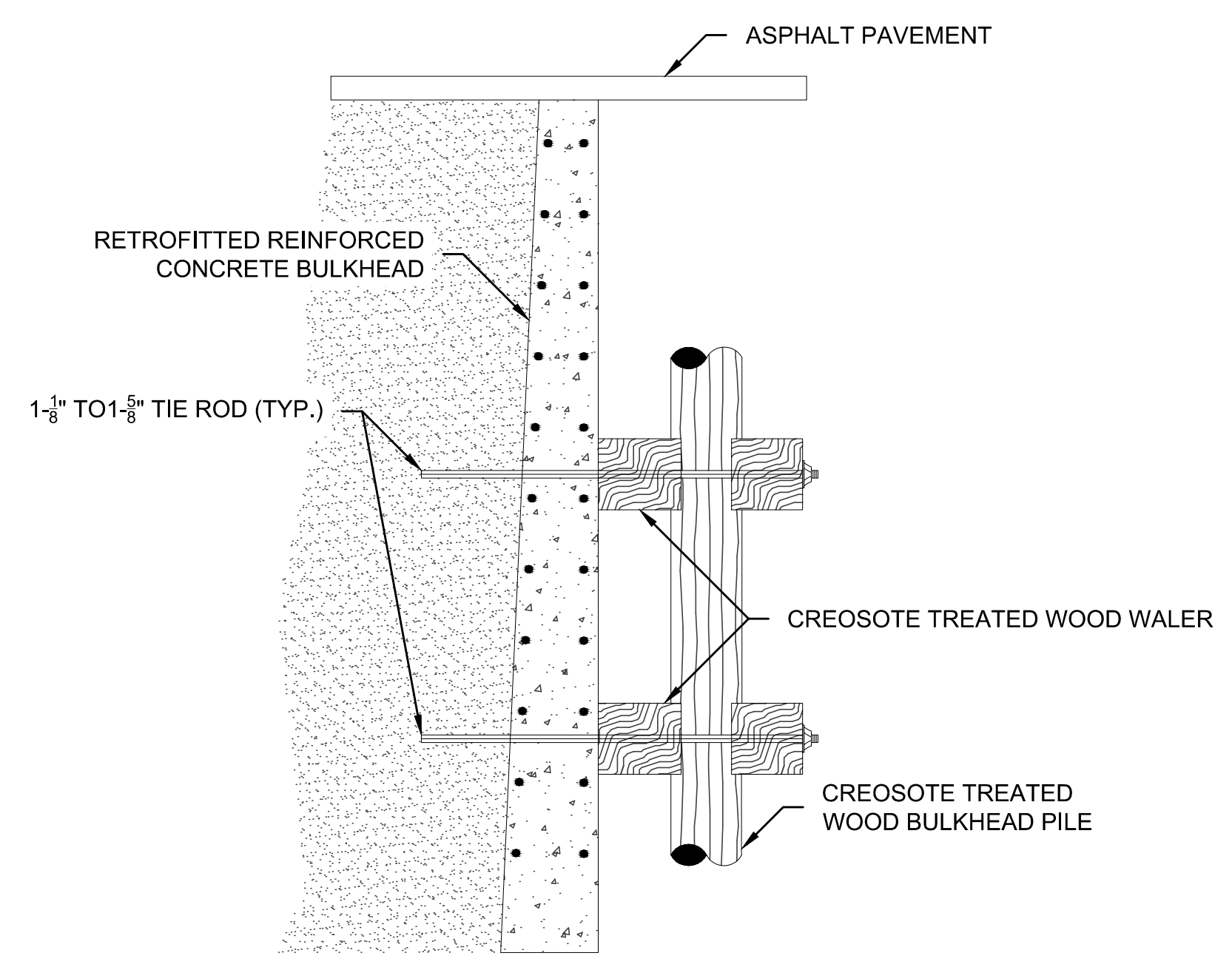
Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP
SHEET TITLE: SECTIONS A AND B SWMU 30 - SOUTH AREA

WORK PROJECT NO. MC - 0317586 - WP104528
CONSULTANT'S NO. 948.007.003
PORT OF SEATTLE NO. 91-1401 C006

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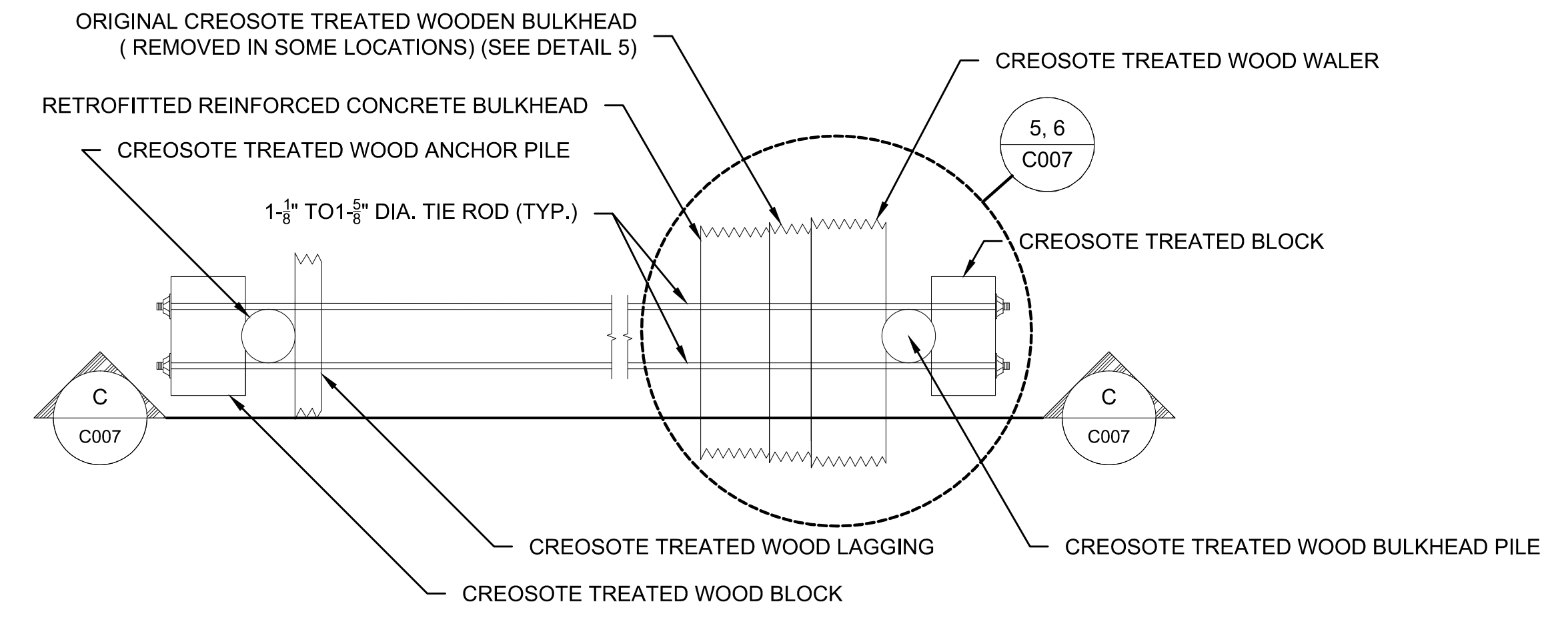


SECTION C
N.T.S. SIDE VIEW OF BULKHEAD AND ANCHOR ASSEMBLY

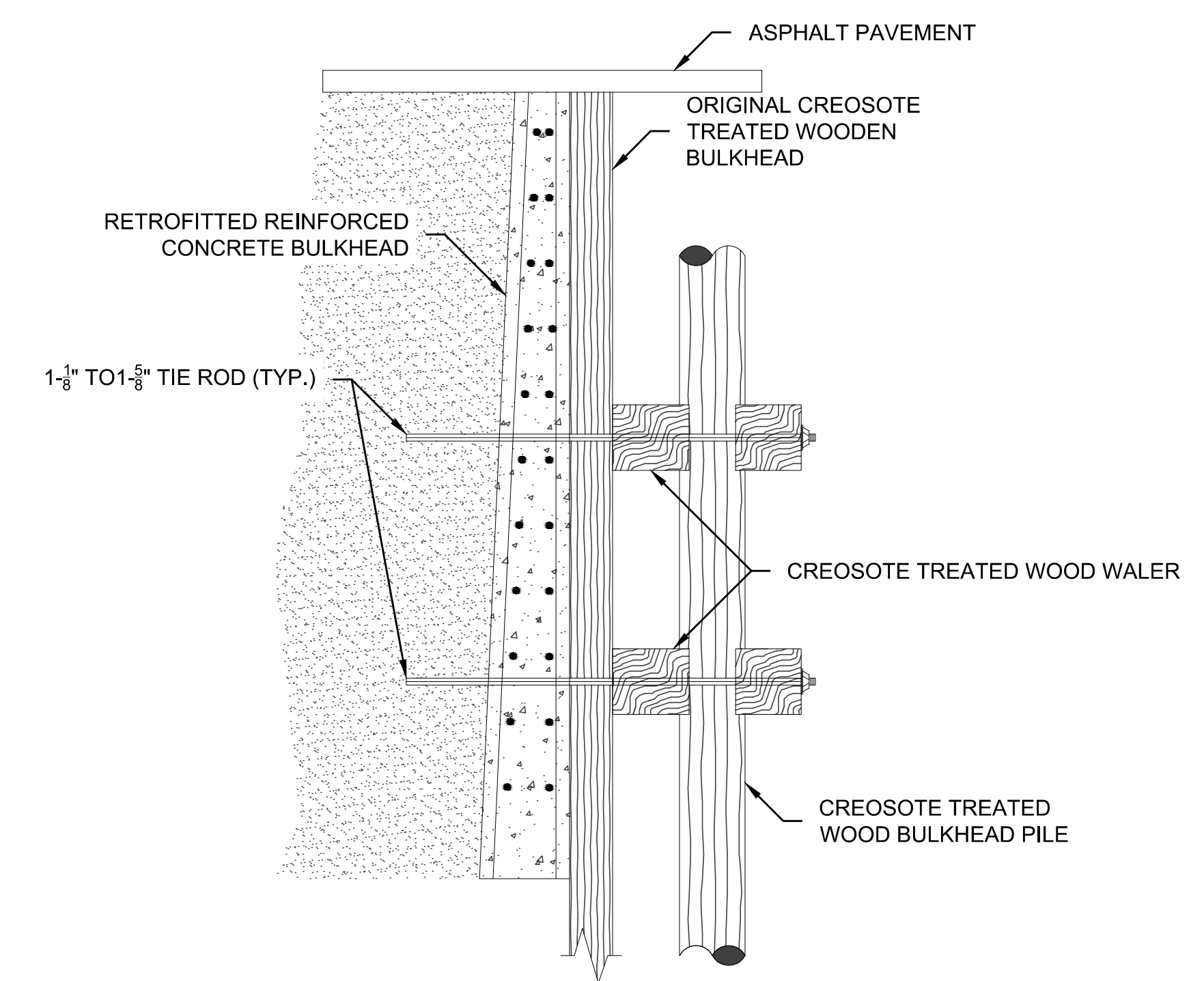


NOTE: HEIGHT OF BULKHEAD RELATIVE TO ASPHALT IS ESTIMATED. FIELD LOCATE.

DETAIL 5
N.T.S. BULKHEAD & ANCHOR ASSEMBLY CONSTRUCTED WITHOUT ORIGINAL WOODEN BULKHEAD



SECTION D
N.T.S. TOP VIEW OF BULKHEAD AND ANCHOR ASSEMBLY



NOTE: HEIGHT OF BULKHEAD RELATIVE TO ASPHALT IS ESTIMATED. FIELD LOCATE.

DETAIL 6
N.T.S. BULKHEAD AND ANCHOR ASSEMBLY CONSTRUCTED BEHIND EXISTING WOOD BULKHEAD

NOTE:
1. DETAIL 6 REPRESENTS TYPICAL EXPECTED BULKHEAD DETAIL BASED ON HISTORICAL INFORMATION. IN SOME LOCATIONS WOODEN BULKHEAD COMPONENT MAY HAVE BEEN REMOVED AS SHOWN ON DETAIL 5.

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DESIGNER:
R. NORTH
DRAWN BY:
S. MCCOY
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AS SHOWN
DATE:
2013-07-08
CHECKED BY:
R. NORTH
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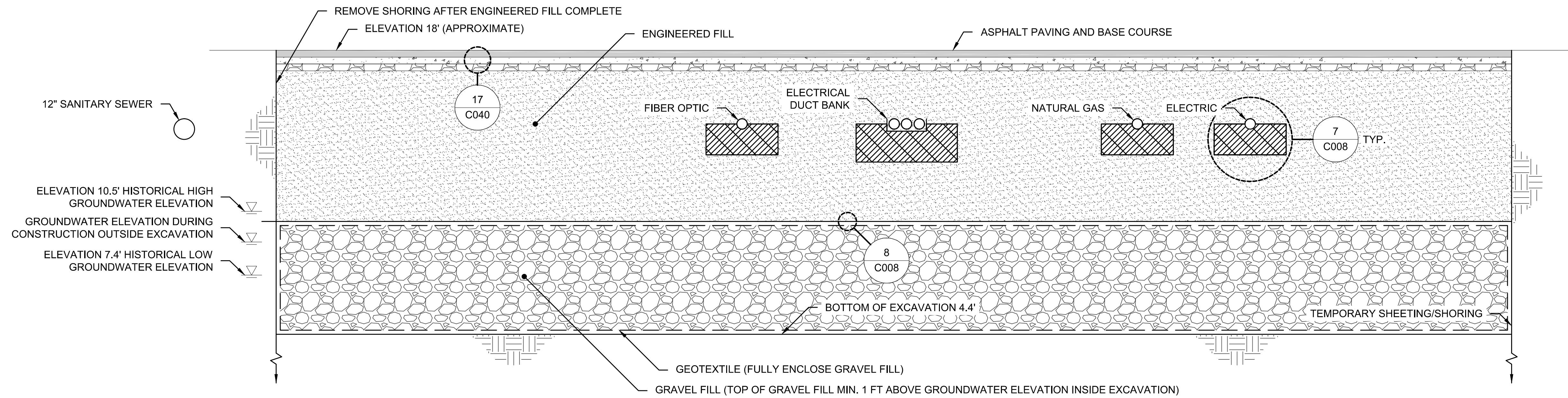
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PROJECT ENGINEER:
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DRAFTER:
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FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP

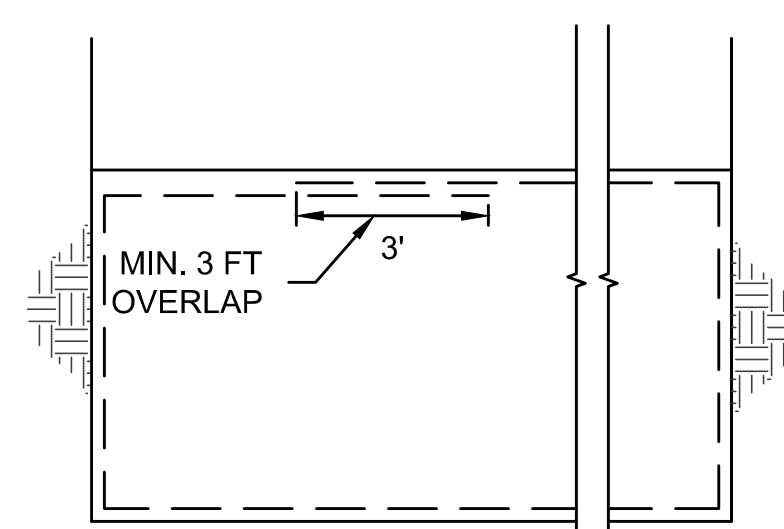
SHEET TITLE: **DETAILS 5 AND 6 AND SECTIONS C AND D**
SWMU 30 - SOUTH AREA

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 C007

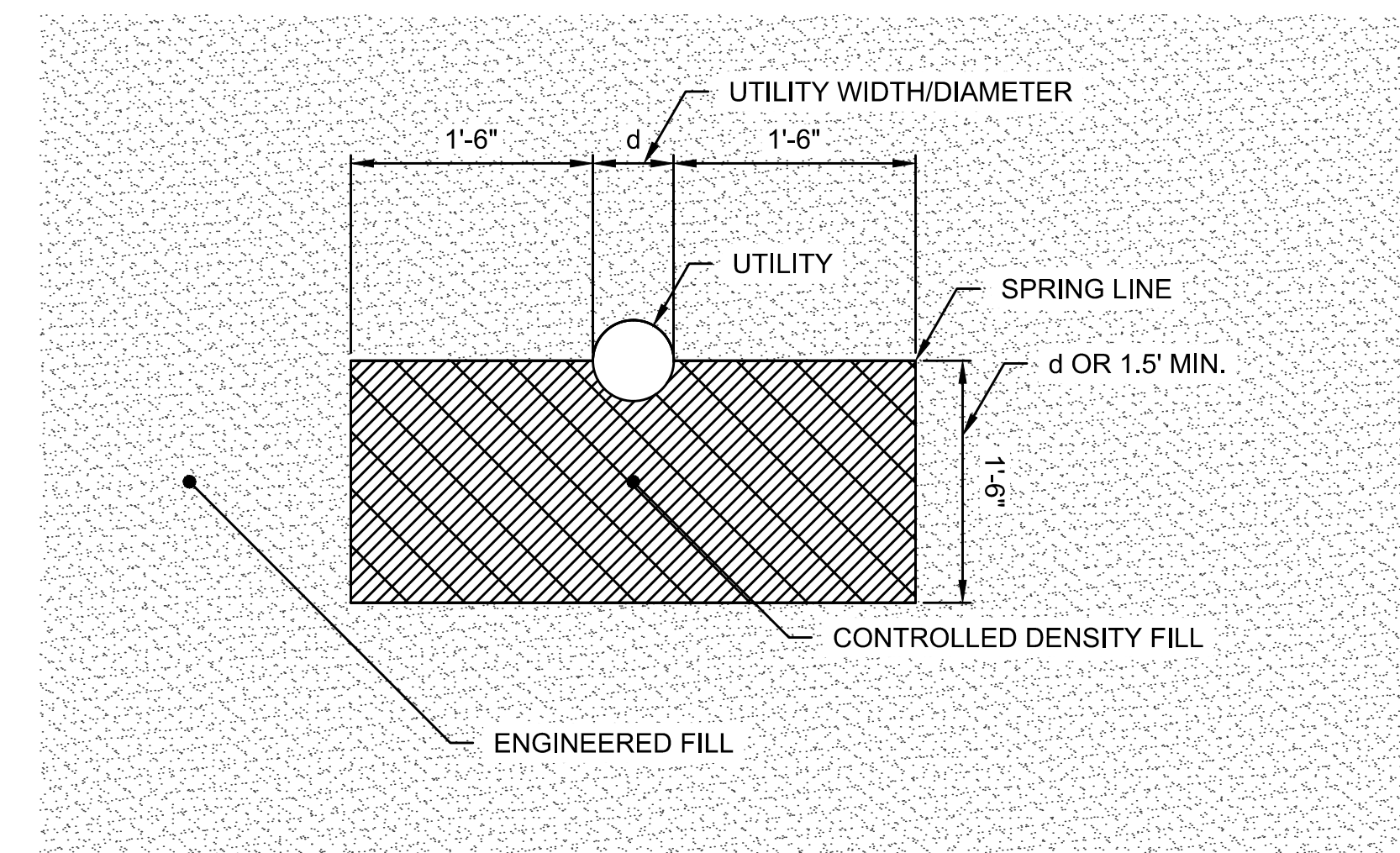
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0 3' 6' GRAPHICAL SCALE SECTION E SOUTH SWMU 30 - BACKFILL C005



DETAIL 8 GEOTEXTILE OVERLAP N.T.S. C008



DETAIL 7 BACKFILL AROUND UTILITIES N.T.S. C008

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PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
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DATE:
2013-07-08
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FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP
SHEET TITLE: EXCAVATION BACKFILL DETAILS 7 & 8 AND SECTION E SWMU 30 - SOUTH AREA

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 C008

FLAG NOTES:

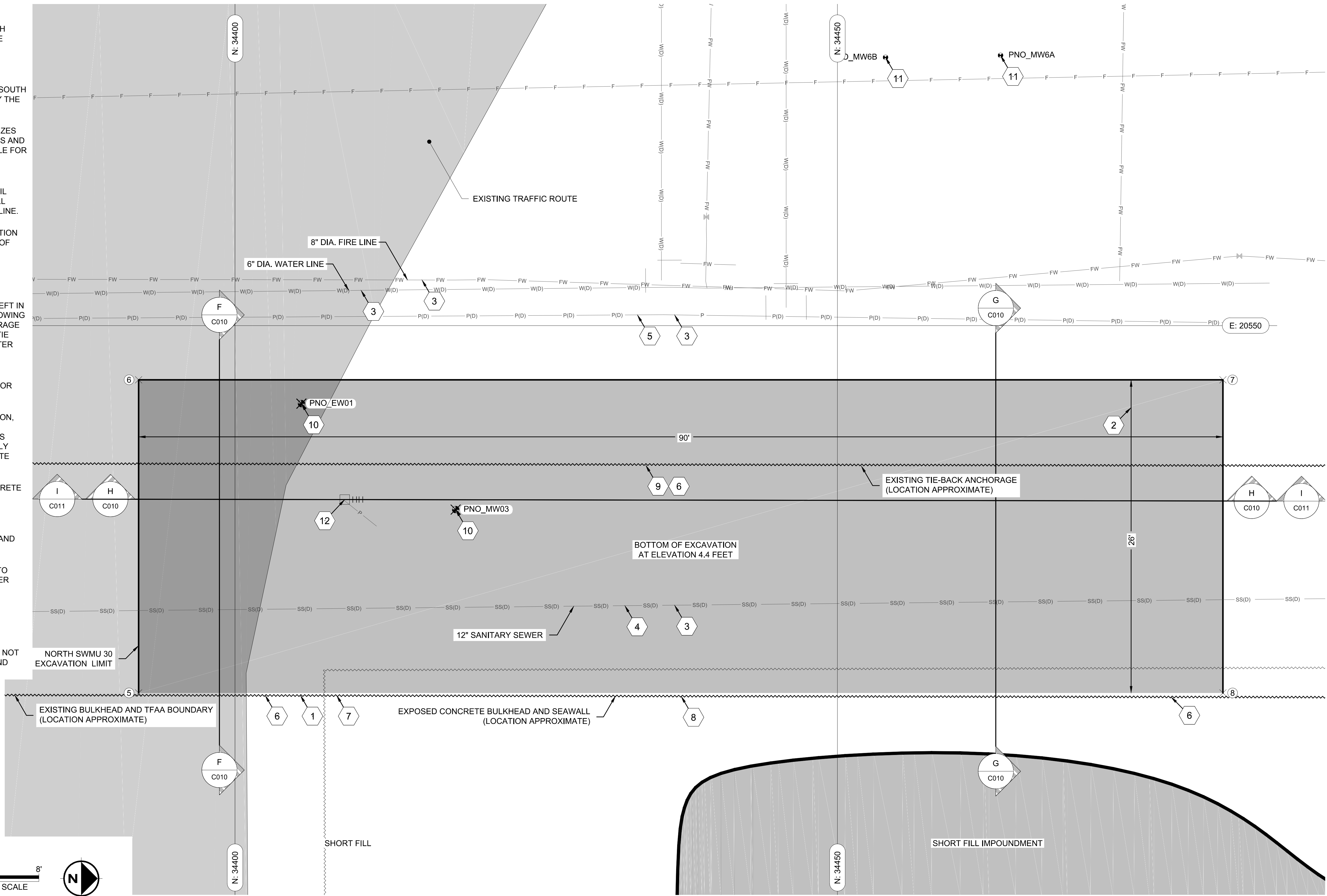
- EAST EXCAVATION LIMIT OF SWMU 30-NORTH AREA IS THE WEST SIDE OF BULKHEAD. THE LOCATION IS ESTIMATED.
- THE 26 FEET EXCAVATION WIDTH MAY BE REDUCED IF THE WEST EDGE OF THE EXCAVATION CONFLICTS WITH THE NORTH-SOUTH POWER AND WATER LINES, AS DIRECTED BY THE ENGINEER.
- VERIFY UTILITY LOCATIONS, DEPTHS AND SIZES (INCLUDING SANITARY SEWER, POWER LINES AND WATER LINES). FIELD LOCATE AND POT HOLE FOR UTILITIES PRIOR TO GENERAL EXCAVATION.
- SUPPORT UTILITIES DURING EXCAVATION. FOLLOWING GENERAL EXCAVATION AND SOIL BACKFILL, PLACE CONTROLLED DENSITY FILL AROUND ALL UTILITIES BELOW THE SPRING LINE.
- 4" PVC CONDUIT LOCATED DURING EXCAVATION OF WATER METER VALVES. THE LOCATION OF THE CONDUIT IS APPROXIMATE.
- SOUTH OF N:34425, REMOVE TIE RODS AND ANCHORAGE.

NORTH OF N:34425, THE TIE RODS MAY BE LEFT IN PLACE, OR REMOVED AND REPLACED FOLLOWING EXCAVATION. LEAVE THE TIE BACK ANCHORAGE IN PLACE AND INSPECT CONDITION OF ALL TIE RODS AND ANCHORAGES DURING AND AFTER EXCAVATION.

INSPECTION TO BE COORDINATED BY THE ENGINEER TO DETERMINE IF TIE RODS AND/OR ANCHORAGE NEED REPLACING.
- VERIFY BULKHEAD LOCATION, CONSTRUCTION, DEPTH, AND SIZE. ORIGINAL WOODEN BULKHEADS WERE EITHER RETROFITTED (AS SHOWN IN THE SECTION VIEWS) OR ENTIRELY REPLACED WITH 12 TO 14 FT DEEP CONCRETE BULKHEADS.
- PROTECT SHORT FILL IMPONDMENT CONCRETE SEAWALL AND BULKHEAD. FIELD VERIFY CONSTRUCTION AND DIMENSIONS.
- TIE-BACK ANCHORAGE LOCATION IS APPROXIMATE. VERIFY LOCATION, DEPTH, AND SIZE.
- DECOMMISSION MONITORING WELL PRIOR TO EXCAVATING IN ACCORDANCE WITH CHAPTER 173-160 WAC.
- PROTECT MONITORING WELL.
- APPROXIMATE LOCATION OF UNIDENTIFIED ELECTRICAL BOX OBSERVED IN THE FIELD. ASSOCIATED BURIED ELECTRICAL LINE HAS NOT BEEN LOCATED. REMOVE DURING WORK AND RE-INSTALL FOLLOWING BACKFILL.

SWMU 30 AREA		
POINT #	NORTHING	EASTING
5	34392.0	20580.5
6	34392.0	20554.5
7	34482.0	20554.5
8	34482.0	20580.5

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PORTLAND, OREGON 97239
(503) 922-2522

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DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
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R. NORTH

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R. NORTH/B. O'NEAL

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Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

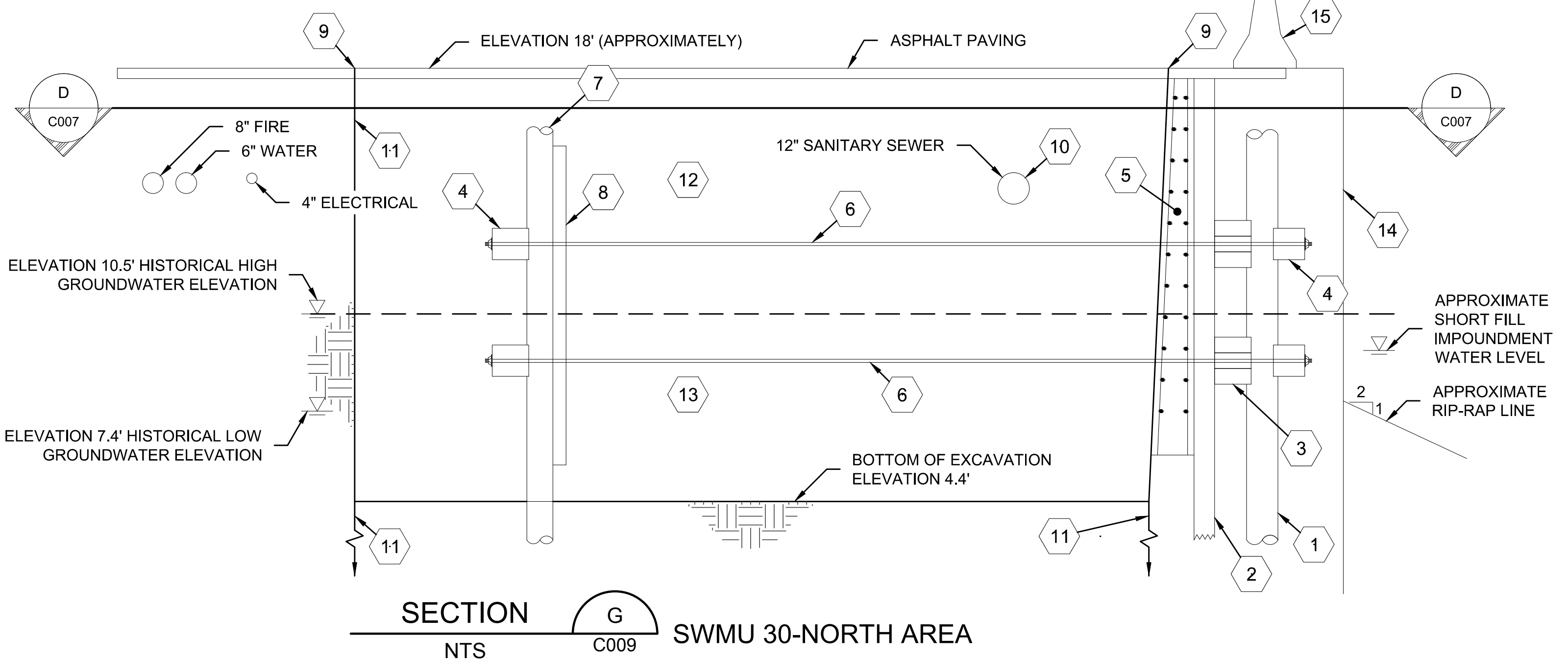
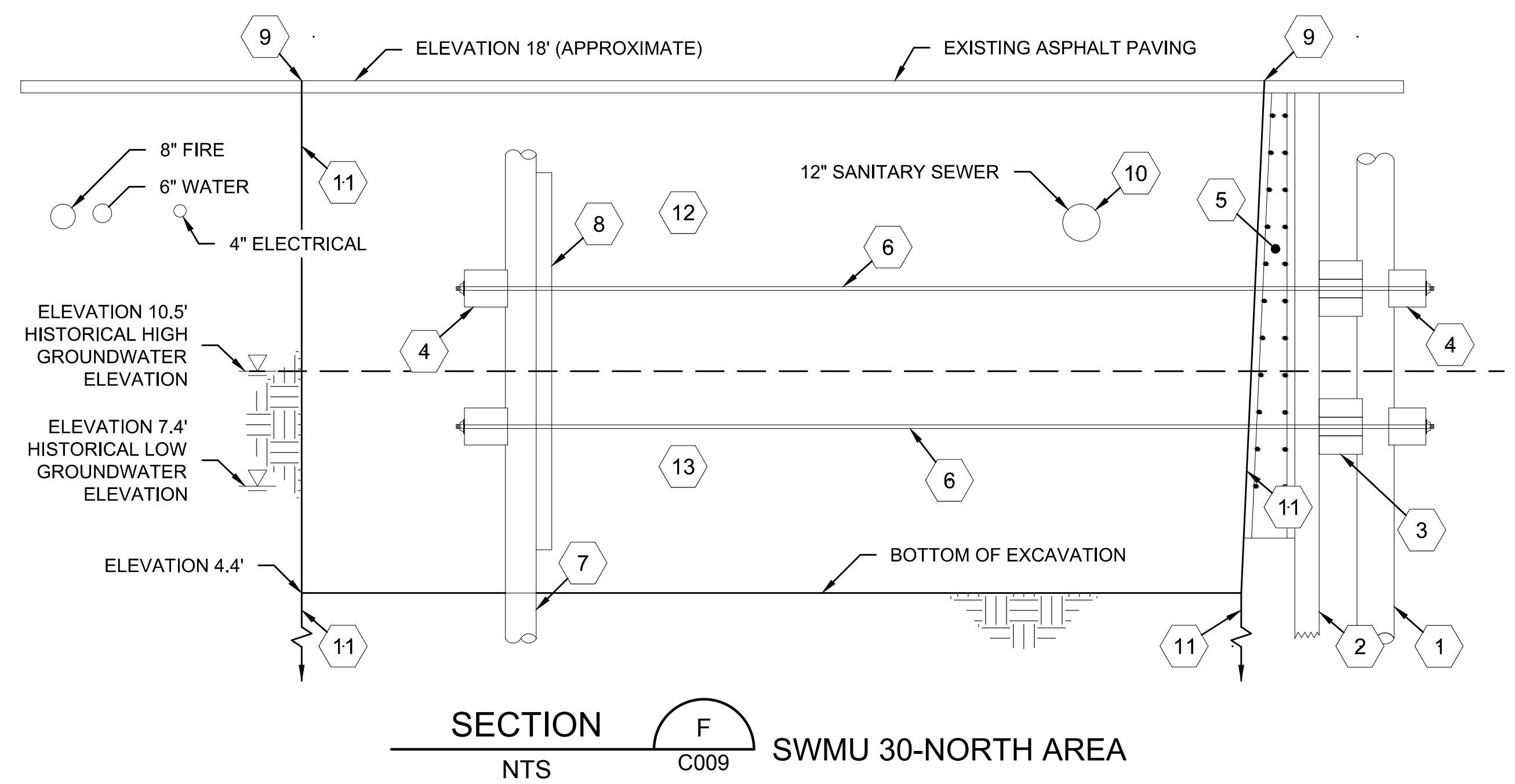
SHEET TITLE: **EXCAVATION PLAN
SWMU 30 - NORTH AREA**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

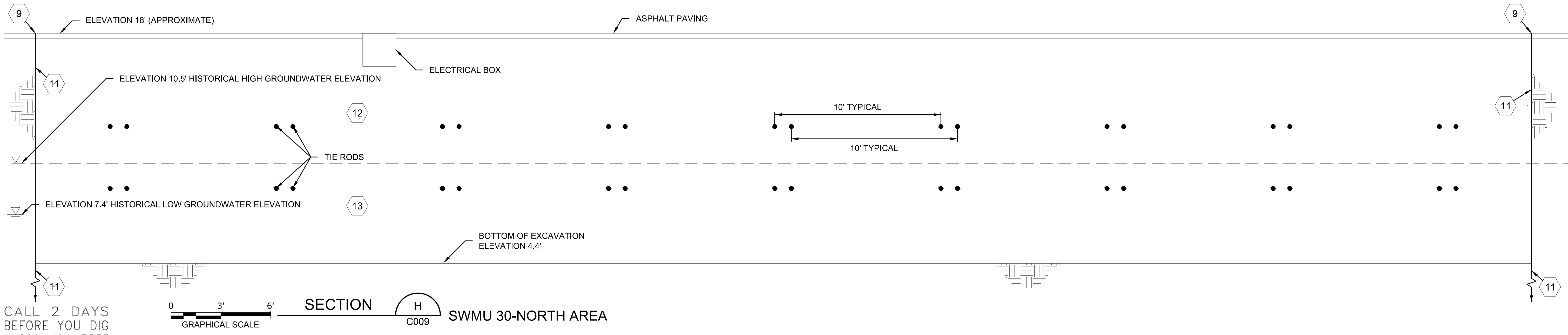
PORT OF SEATTLE NO.
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- NOTES:
- EXISTING UTILITY DEPTHS UNKNOWN. FIELD LOCATE AND POT HOLE FOR UTILITIES PRIOR TO GENERAL EXCAVATION.
- FLAG NOTES:
- CREOSOTE TREATED BULKHEAD PILES AT 10 FT ON CENTER. DEPTH UNKNOWN.
 - CREOSOTE TREATED BULKHEAD. MAY NOT EXIST AT ALL LOCATIONS. BOTTOM ELEVATION ESTIMATED TO BE -5 FT.
 - CREOSOTE TREATED WALER ASSEMBLY CONSTRUCTED WITH THREE 6 IN. X 14 IN. WALES (BOARDS). 6 FT LONG WALES AT EACH PILE ARE SANDWICHED BY TWO 30 FT LONG WALES.
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- CREOSOTE TREATED ANCHOR PILES AT 10 FT ON CENTER. TOP ELEVATIONS AND PILE LENGTH UNKNOWN. REMOVE SOUTH OF N. 34425.
- 9 FT HIGH, CREOSOTE TREATED WOODEN LAGGING BETWEEN ANCHOR PILES. TOP AND BOTTOM OF LAGGING DEPTHS BELOW GROUND SURFACE ARE UNKNOWN. REMOVE SOUTH OF N. 34425.
- SAWCUT ASPHALT.
- SUPPORT SANITARY SEWER DURING CONSTRUCTION. DEPTH UNKNOWN.
- CONTRACTOR TO DESIGN AND INSTALL TEMPORARY SHORING TO SUPPORT EXCAVATION, MINIMIZE LATERAL DEFLECTIONS, CONTROL GROUNDWATER AND BASE HEAVE AND SUPPORT UTILITIES TO REMAIN IN PLACE. DESIGN TO BE STAMPED BY AN ENGINEER LICENSED IN THE STATE OF WASHINGTON. SUBMIT SHORING DESIGN AS A PRE-CONSTRUCTION SUBMITTAL IN ACCORDANCE WITH SECTION 02333.
- MANAGE SOIL EXCAVATED ABOVE ELEVATION 10.5 FT AS SOIL IN ACCORDANCE WITH SECTION 02333, UNLESS DESIGNATED AS HIGHLY CONTAMINATED SOIL.
- MANAGE ALL SOIL EXCAVATED BELOW ELEVATION 10.5 FT AS HIGHLY CONTAMINATED SOIL IN ACCORDANCE WITH SECTION 02333.
- SHORT FILL IMPOUNDMENT CONCRETE SEAWALL. CONSTRUCTION, DIMENSIONS, AND INTEGRATION WITH THE BULKHEAD ASSEMBLY IS UNKNOWN.
- JERSEY BARRIER AND FENCE. LOCATIONS RELATIVE TO BULKHEAD ARE UNKNOWN.



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DESIGNER:
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DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

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R. NORTH

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PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

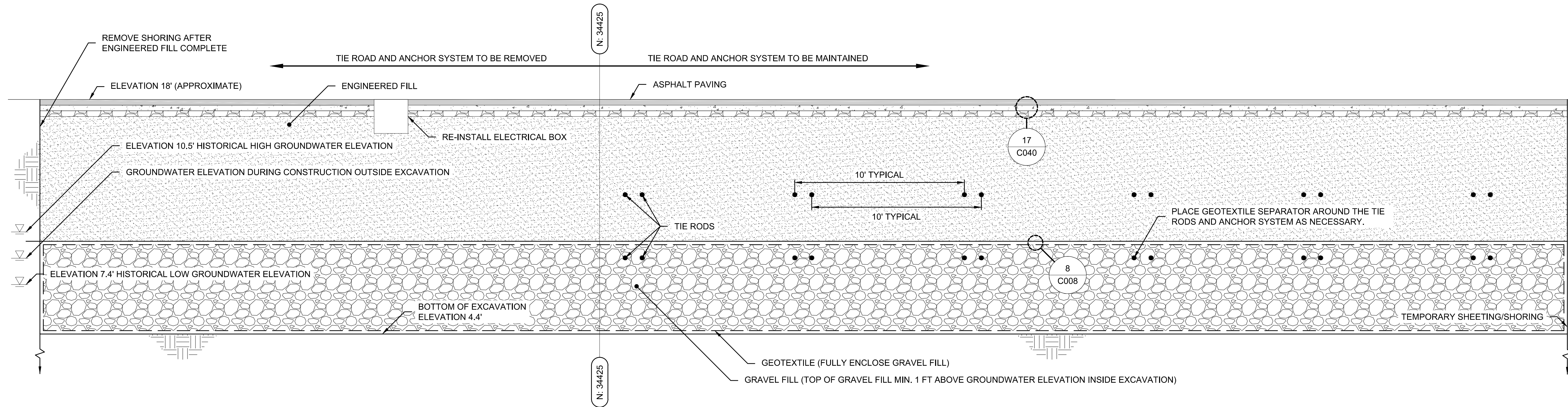
SHEET TITLE: **SECTIONS F-H
SWMU 30 - NORTH AREA**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C010

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0 3' 6' GRAPHICAL SCALE SECTION I NORTH SWMU 30 - BACKFILL C009

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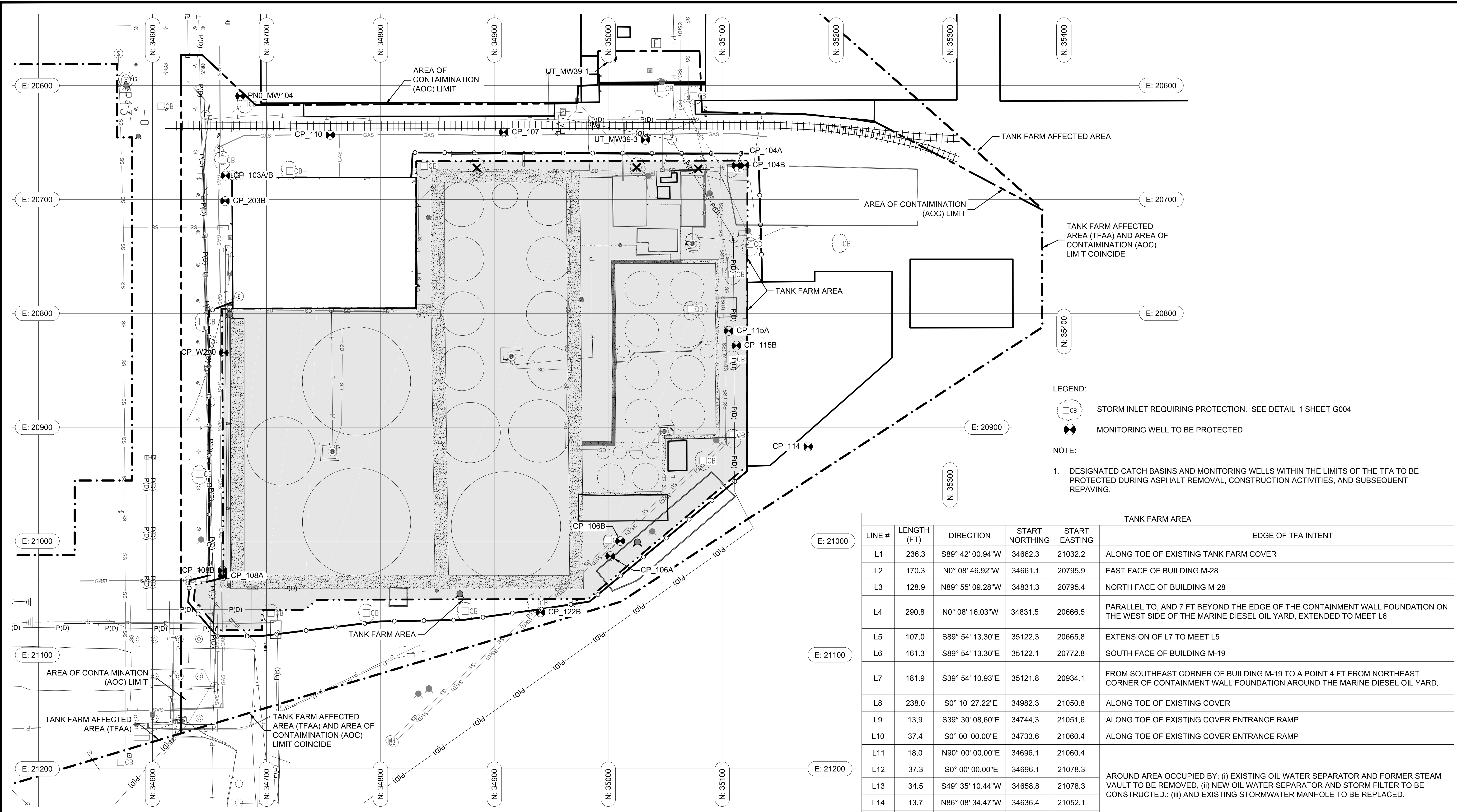
SHEET TITLE: EXCAVATION BACKFILL SECTION I SWMU 30 - NORTH AREA

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
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LEGEND:

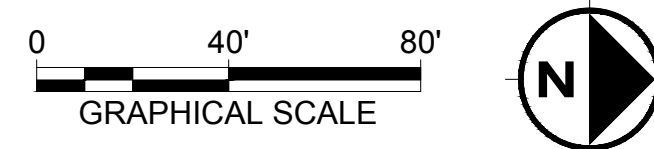
STORM INLET REQUIRING PROTECTION. SEE DETAIL 1 SHEET G004
 MONITORING WELL TO BE PROTECTED

NOTE:

1. DESIGNATED CATCH BASINS AND MONITORING WELLS WITHIN THE LIMITS OF THE TFA TO BE PROTECTED DURING ASPHALT REMOVAL, CONSTRUCTION ACTIVITIES, AND SUBSEQUENT REPAVING.

TANK FARM AREA					
LINE #	LENGTH (FT)	DIRECTION	START NORTHING	START EASTING	EDGE OF TFA INTENT
L1	236.3	S89° 42' 00.94"W	34662.3	21032.2	ALONG TOE OF EXISTING TANK FARM COVER
L2	170.3	N0° 08' 46.92"W	34661.1	20795.9	EAST FACE OF BUILDING M-28
L3	128.9	N89° 55' 09.28"W	34831.3	20795.4	NORTH FACE OF BUILDING M-28
L4	290.8	N0° 08' 16.03"W	34831.5	20666.5	PARALLEL TO, AND 7 FT BEYOND THE EDGE OF THE CONTAINMENT WALL FOUNDATION ON THE WEST SIDE OF THE MARINE DIESEL OIL YARD, EXTENDED TO MEET L6
L5	107.0	S89° 54' 13.30"E	35122.3	20665.8	EXTENSION OF L7 TO MEET L5
L6	161.3	S89° 54' 13.30"E	35122.1	20772.8	SOUTH FACE OF BUILDING M-19
L7	181.9	S39° 54' 10.93"E	35121.8	20934.1	FROM SOUTHEAST CORNER OF BUILDING M-19 TO A POINT 4 FT FROM NORTHEAST CORNER OF CONTAINMENT WALL FOUNDATION AROUND THE MARINE DIESEL OIL YARD.
L8	238.0	S0° 10' 27.22"E	34982.3	21050.8	ALONG TOE OF EXISTING COVER
L9	13.9	S39° 30' 08.60"E	34744.3	21051.6	ALONG TOE OF EXISTING COVER ENTRANCE RAMP
L10	37.4	S0° 00' 00.00"E	34733.6	21060.4	ALONG TOE OF EXISTING COVER ENTRANCE RAMP
L11	18.0	N90° 00' 00.00"E	34696.1	21060.4	AROUND AREA OCCUPIED BY: (i) EXISTING OIL WATER SEPARATOR AND FORMER STEAM VAULT TO BE REMOVED, (ii) NEW OIL WATER SEPARATOR AND STORM FILTER TO BE CONSTRUCTED.; (iii) AND EXISTING STORMWATER MANHOLE TO BE REPLACED.
L12	37.3	S0° 00' 00.00"E	34696.1	21078.3	
L13	34.5	S49° 35' 10.44"W	34658.8	21078.3	
L14	13.7	N86° 08' 34.47"W	34636.4	21052.1	
L15	25.7	N13° 52' 37.71"W	34637.4	21038.4	

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PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

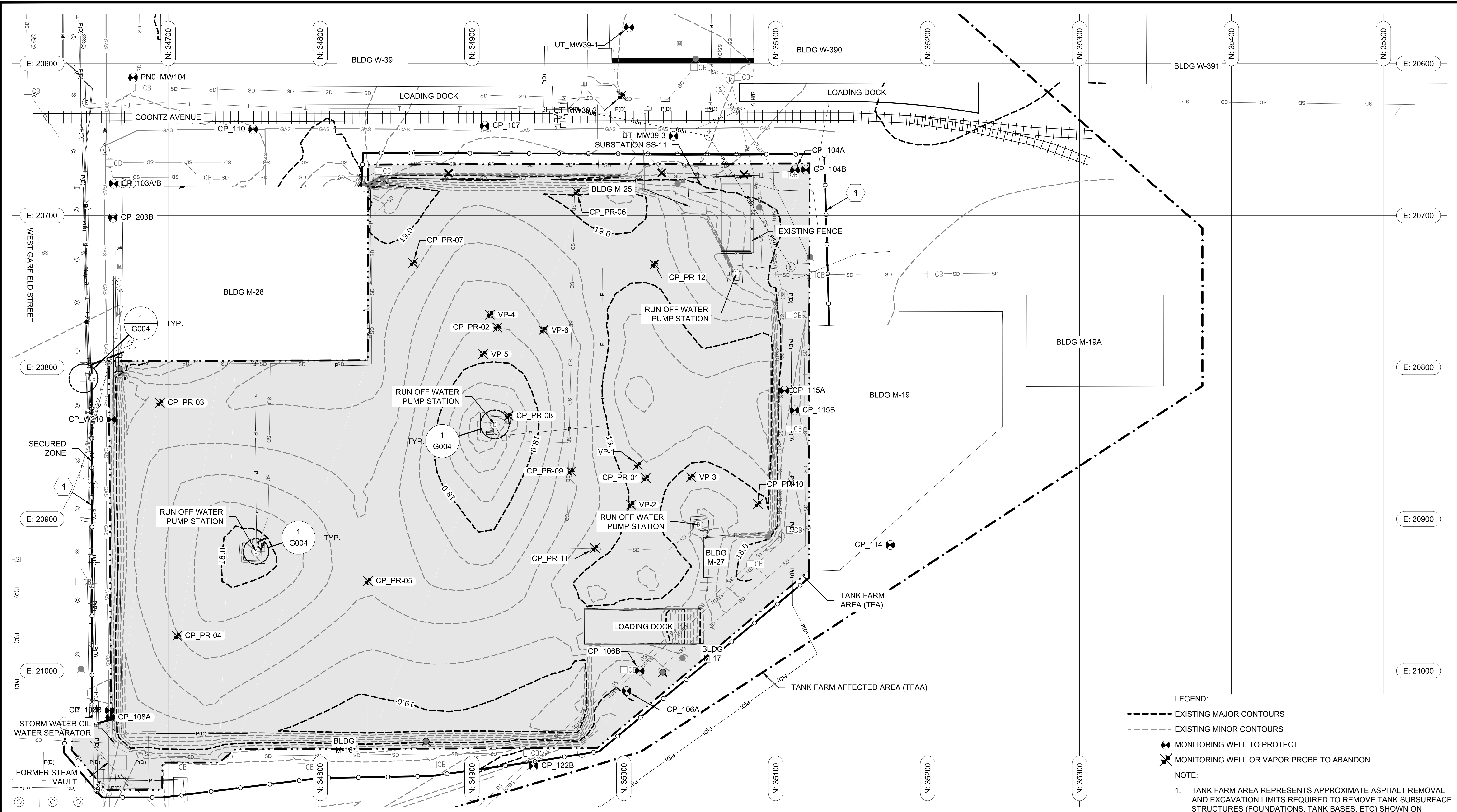
SHEET TITLE: **AREA OF CONTAMINATION & TANK FARM AREA LIMITS
TANK FARM AREA - PREPARATION**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

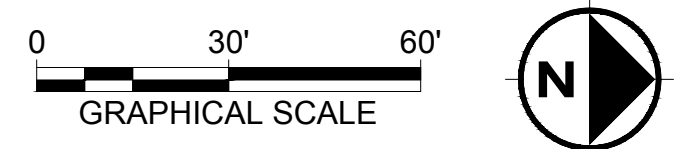
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91-1401 C012

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- LEGEND:**
- EXISTING MAJOR CONTOURS
 - - - EXISTING MINOR CONTOURS
 - ⊗ MONITORING WELL TO PROTECT
 - ⊗ MONITORING WELL OR VAPOR PROBE TO ABANDON
- NOTE:**
- TANK FARM AREA REPRESENTS APPROXIMATE ASPHALT REMOVAL AND EXCAVATION LIMITS REQUIRED TO REMOVE TANK SUBSURFACE STRUCTURES (FOUNDATIONS, TANK BASES, ETC) SHOWN ON SHEETS C017 AND C018.
- FLAG NOTES:**
- ESTABLISH SECURED ZONE FENCING PRIOR TO STARTING DEMOLITION WORK.

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PROJECT ENGR/ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS						
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

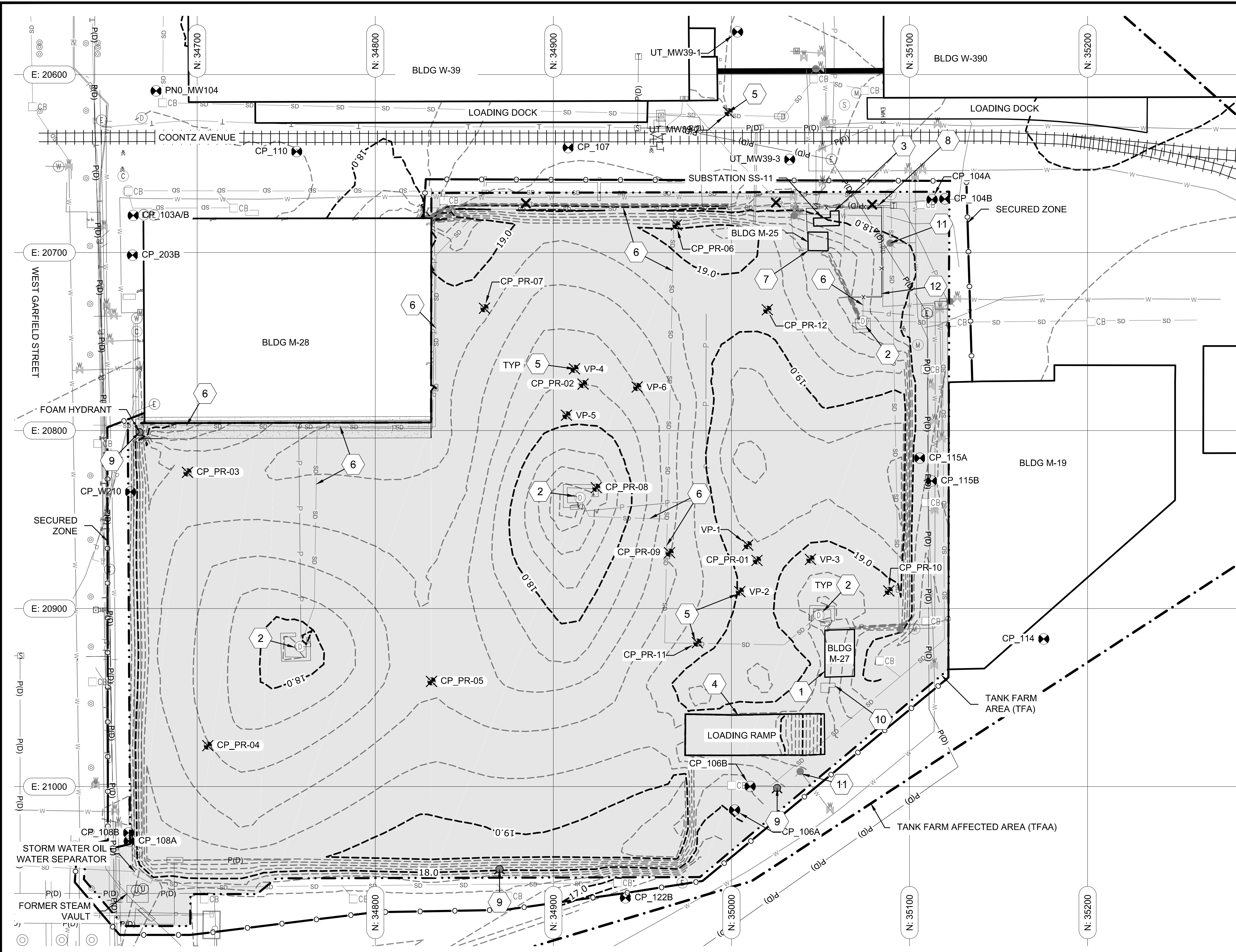
SHEET TITLE: **STAGE 1 - SITE CONTROLS AND TESC TANK FARM AREA - PREPARATION**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C013

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NOTES:

1. ESTABLISH SECURED ZONE PRIOR TO STARTING WORK.
2. PRIOR TO INITIATING BELOW GRADE ACTIVITIES IN A CLEANUP WORK AREA, ESTABLISH EXCLUSION ZONE, CONTAMINANT REDUCTION ZONE AND SUPPORT ZONE WITHIN THE SECURED ZONE.
3. PROTECT ALL UTILITIES AND STRUCTURES NOT FLAGGED FOR DEMOLITION.
4. CHECK WITH PORT THAT ALL ELECTRICAL WORK ASSOCIATED WITH SUBSTATION 11 HAS BEEN COMPLETED PRIOR TO STARTING WORK.
5. PROVIDE OSHA-APPROVED FALL PROTECTION AROUND ALL SUBSURFACE EXCAVATIONS UNTIL COMPLETED, IN ACCORDANCE WITH SECTION 01860.
6. CONDUCT REGULATED MATERIALS ABATEMENT PRIOR TO COMMENCING ABOVE GROUND STRUCTURE DEMOLITION. SEE SECTIONS 02075, 02081, 02082, 02083 AND 02085 AND SHEET HA001 AND SHEET HA002.

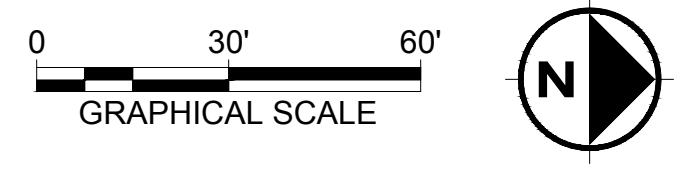
FLAG NOTES:

1. DEMOLISH BUILDING M-27. REMOVE ELECTRICAL AND PERFORM HAZARDOUS MATERIAL ABATEMENT PRIOR TO BUILDING DEMOLITION.
2. DEMOLISH STORMWATER VAULTS IN COORDINATION WITH SEQUENCING OF CLEANUP WORK AREAS. MAINTAIN OPERATION OF EACH VAULT PRIOR TO REMOVAL. PROVIDE TEMPORARY POWER FROM NEW POWER SUBSTATION TO BE CONSTRUCTED PRIOR TO DEMOLITION OF SUBSTATION 11. COORDINATE PROVISION OF TEMPORARY POWER WITH PORT. PORT REQUIRES MINIMUM 5-DAY NOTICE. REMOVE AND SALVAGE PUMPS.
3. DEMOLISH ELECTRICAL SUBSTATION 11 FOLLOWING PORT REMOVAL OF ELECTRICAL POWER COMPONENTS SEE SHEET HA002.
4. DEMOLISH LOADING RAMP.
5. ABANDON MONITORING WELLS (13) AND VAPOR MONITORING POINTS (6) IN ACCORDANCE WITH CHAPTER 173-160 WAC AND SECTION 02227.
6. DEMOLISH ABOVE GROUND STEEL STORMWATER PIPES.
7. DEMOLISH BUILDING M-25.
8. DISCONNECT AND CAP ABOVE GROUND STORMWATER PIPE CONNECTION TO SANITARY SEWER.
9. DEMOLISH FOAM HYDRANT AND ASSOCIATED PIPES.
10. DEMOLISH MISCELLANEOUS PIPING FROM SURFACE VAULT, AND DEMOLISH VAULT.
11. PROTECT FIRE HYDRANT AND SURROUNDING CONCRETE BASE.
12. DEMOLISH EXISTING FENCING PROXIMATE TO FORMER OIL-WATER SEPARATOR.

LEGEND:

- EXISTING MAJOR CONTOURS
- - - EXISTING MINOR CONTOURS
- ⊗ MONITORING WELL TO PROTECT
- ⊗ MONITORING WELL OR VAPOR PROBE TO ABANDON

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DESIGNER:
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DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

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FRED CHOU

PROJECT ENGINEER:

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DATE:
2013-07-08

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FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

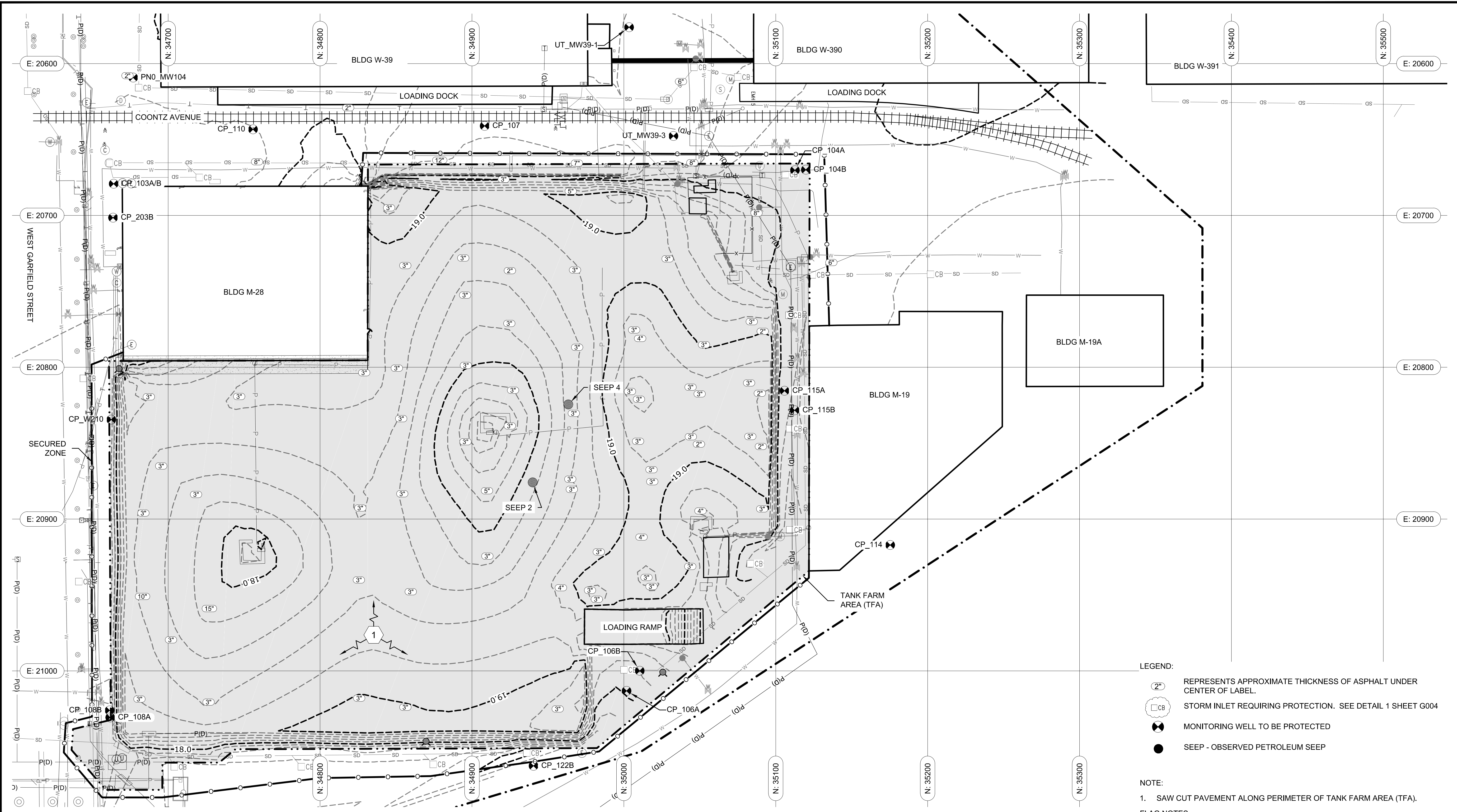
SHEET TITLE: **STAGE 2 - ABOVE GROUND STRUCTURE DEMOLITION
TANK FARM AREA - PREPARATION**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C014

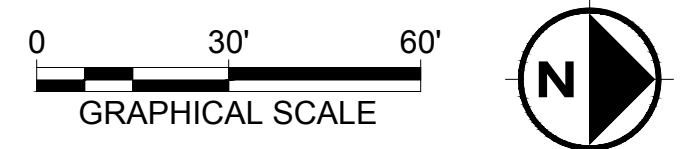
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- LEGEND:**
- 2" REPRESENTS APPROXIMATE THICKNESS OF ASPHALT UNDER CENTER OF LABEL.
 - CB STORM INLET REQUIRING PROTECTION. SEE DETAIL 1 SHEET G004
 - MONITORING WELL TO BE PROTECTED
 - SEEP - OBSERVED PETROLEUM SEEP

- NOTE:**
- SAW CUT PAVEMENT ALONG PERIMETER OF TANK FARM AREA (TFA).
- FLAG NOTES:**
- REMOVE PAVEMENT FROM TANK FARM AREA (TFA). MANAGE PER SECTION 0222.

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FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

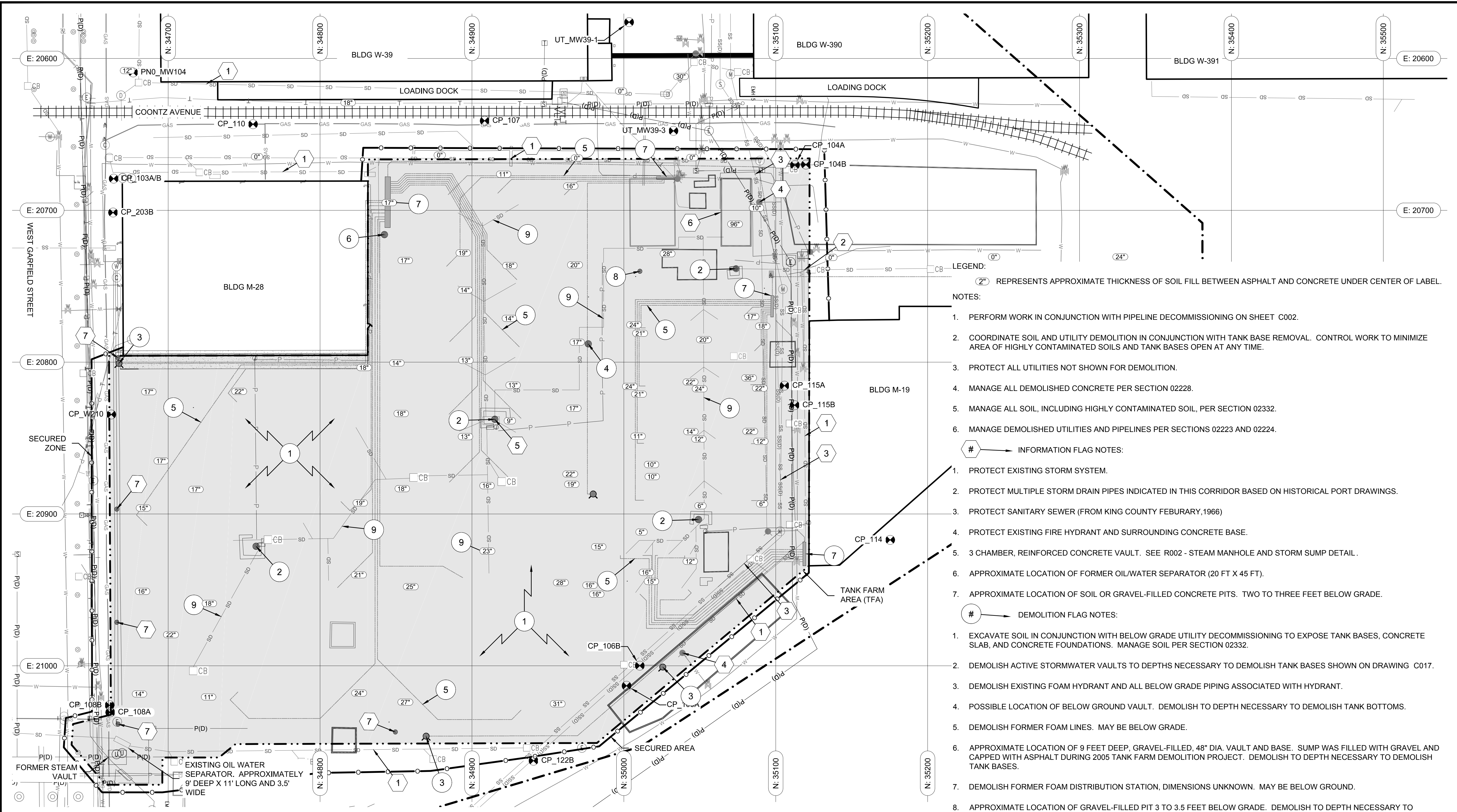
SHEET TITLE: **STAGE 3 - PAVEMENT REMOVAL
TANK FARM AREA - PREPARATION**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

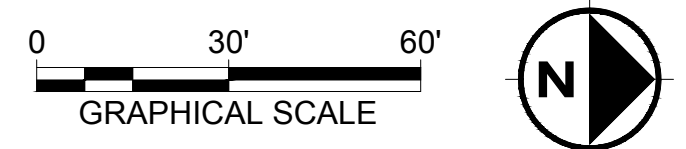
PORT OF SEATTLE NO.
91-1401 C015

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- LEGEND:**
 (2") REPRESENTS APPROXIMATE THICKNESS OF SOIL FILL BETWEEN ASPHALT AND CONCRETE UNDER CENTER OF LABEL.
- NOTES:**
- PERFORM WORK IN CONJUNCTION WITH PIPELINE DECOMMISSIONING ON SHEET C002.
 - COORDINATE SOIL AND UTILITY DEMOLITION IN CONJUNCTION WITH TANK BASE REMOVAL. CONTROL WORK TO MINIMIZE AREA OF HIGHLY CONTAMINATED SOILS AND TANK BASES OPEN AT ANY TIME.
 - PROTECT ALL UTILITIES NOT SHOWN FOR DEMOLITION.
 - MANAGE ALL DEMOLISHED CONCRETE PER SECTION 02228.
 - MANAGE ALL SOIL, INCLUDING HIGHLY CONTAMINATED SOIL, PER SECTION 02332.
 - MANAGE DEMOLISHED UTILITIES AND PIPELINES PER SECTIONS 02223 AND 02224.
- #** INFORMATION FLAG NOTES:
- PROTECT EXISTING STORM SYSTEM.
 - PROTECT MULTIPLE STORM DRAIN PIPES INDICATED IN THIS CORRIDOR BASED ON HISTORICAL PORT DRAWINGS.
 - PROTECT SANITARY SEWER (FROM KING COUNTY FEBRUARY, 1966)
 - PROTECT EXISTING FIRE HYDRANT AND SURROUNDING CONCRETE BASE.
 - 3 CHAMBER, REINFORCED CONCRETE VAULT. SEE R002 - STEAM MANHOLE AND STORM SUMP DETAIL.
 - APPROXIMATE LOCATION OF FORMER OIL/WATER SEPARATOR (20 FT X 45 FT).
 - APPROXIMATE LOCATION OF SOIL OR GRAVEL-FILLED CONCRETE PITS. TWO TO THREE FEET BELOW GRADE.
- #** DEMOLITION FLAG NOTES:
- EXCAVATE SOIL IN CONJUNCTION WITH BELOW GRADE UTILITY DECOMMISSIONING TO EXPOSE TANK BASES, CONCRETE SLAB, AND CONCRETE FOUNDATIONS. MANAGE SOIL PER SECTION 02332.
 - DEMOLISH ACTIVE STORMWATER VAULTS TO DEPTHS NECESSARY TO DEMOLISH TANK BASES SHOWN ON DRAWING C017.
 - DEMOLISH EXISTING FOAM HYDRANT AND ALL BELOW GRADE PIPING ASSOCIATED WITH HYDRANT.
 - POSSIBLE LOCATION OF BELOW GROUND VAULT. DEMOLISH TO DEPTH NECESSARY TO DEMOLISH TANK BOTTOMS.
 - DEMOLISH FORMER FOAM LINES. MAY BE BELOW GRADE.
 - APPROXIMATE LOCATION OF 9 FEET DEEP, GRAVEL-FILLED, 48" DIA. VAULT AND BASE. SUMP WAS FILLED WITH GRAVEL AND CAPPED WITH ASPHALT DURING 2005 TANK FARM DEMOLITION PROJECT. DEMOLISH TO DEPTH NECESSARY TO DEMOLISH TANK BASES.
 - DEMOLISH FORMER FOAM DISTRIBUTION STATION, DIMENSIONS UNKNOWN. MAY BE BELOW GROUND.
 - APPROXIMATE LOCATION OF GRAVEL-FILLED PIT 3 TO 3.5 FEET BELOW GRADE. DEMOLISH TO DEPTH NECESSARY TO DEMOLISH TANK BASES. DEMOLISH POSSIBLE REMAINING BURIED STORM DRAINS.
 - DEMOLISH POSSIBLE REMAINING BURIED STORM DRAINS.

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CHECKED/APPROVED BY:
 FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

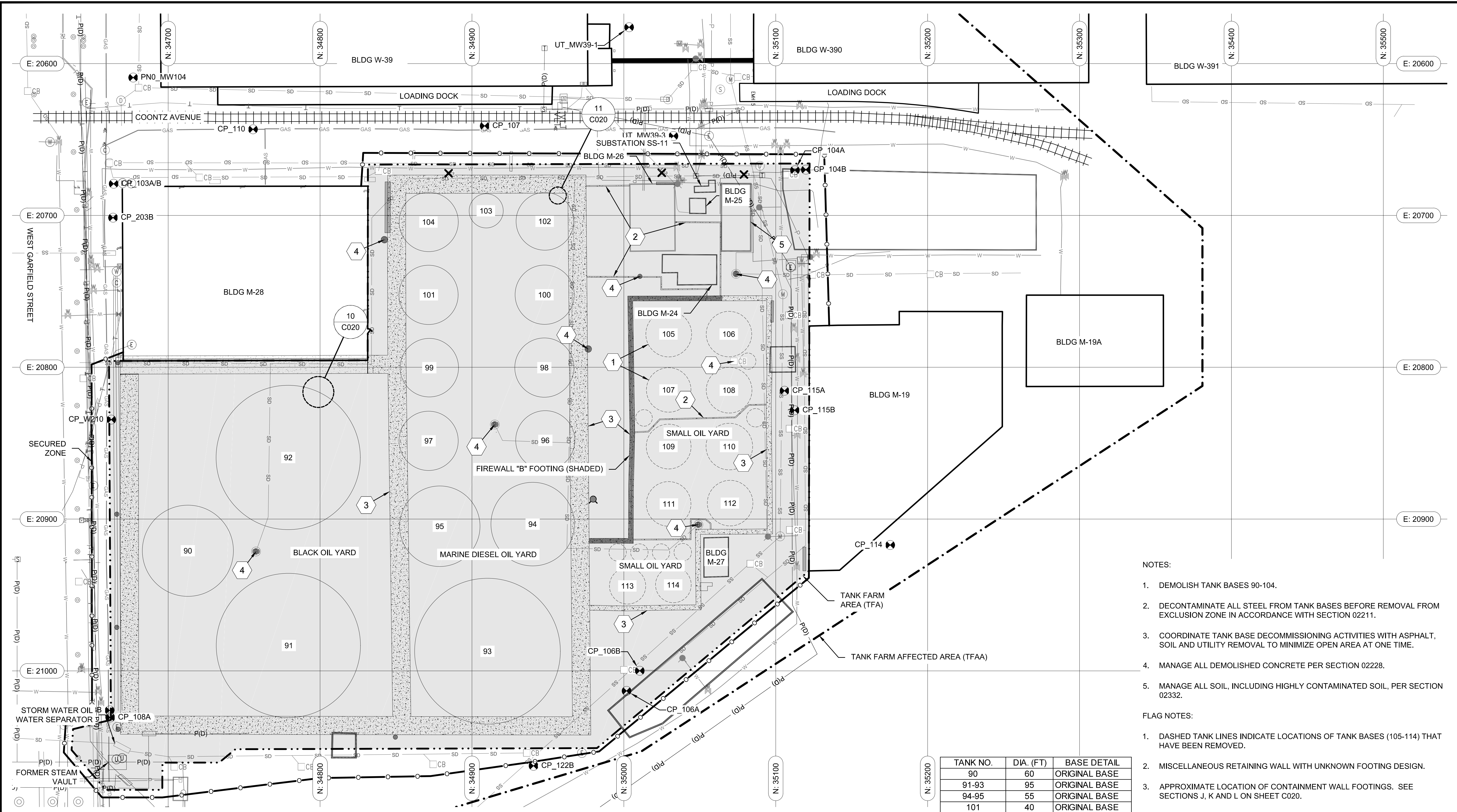
SHEET TITLE: **STAGE 4 - SOIL EXCAVATION AND UTILITY DEMOLITION TANK FARM AREA - PREPARATION**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C016

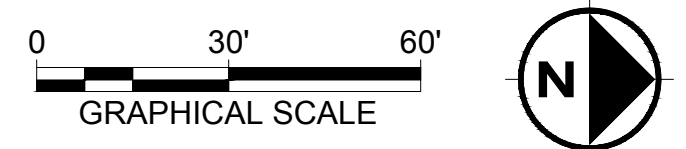
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- NOTES:**
- DEMOLISH TANK BASES 90-104.
 - DECONTAMINATE ALL STEEL FROM TANK BASES BEFORE REMOVAL FROM EXCLUSION ZONE IN ACCORDANCE WITH SECTION 02211.
 - COORDINATE TANK BASE DECOMMISSIONING ACTIVITIES WITH ASPHALT, SOIL AND UTILITY REMOVAL TO MINIMIZE OPEN AREA AT ONE TIME.
 - MANAGE ALL DEMOLISHED CONCRETE PER SECTION 02228.
 - MANAGE ALL SOIL, INCLUDING HIGHLY CONTAMINATED SOIL, PER SECTION 02332.
- FLAG NOTES:**
- DASHED TANK LINES INDICATE LOCATIONS OF TANK BASES (105-114) THAT HAVE BEEN REMOVED.
 - MISCELLANEOUS RETAINING WALL WITH UNKNOWN FOOTING DESIGN.
 - APPROXIMATE LOCATION OF CONTAINMENT WALL FOOTINGS. SEE SECTIONS J, K AND L ON SHEET C020.
 - APPROXIMATE LOCATIONS OF BELOW GRADE VAULTS, SUMPS OR PITS THAT EXTEND BELOW TANK BASE ELEVATIONS.
 - GRAVEL-FILLED FORMER OIL WATER SEPARATOR.

TANK NO.	DIA. (FT)	BASE DETAIL
90	60	ORIGINAL BASE
91-93	95	ORIGINAL BASE
94-95	55	ORIGINAL BASE
101	40	ORIGINAL BASE
96-100,102,104	40	REPLACED BASE
103	20	ORIGINAL BASE
105-112	30	ORIGINAL BASE
113-114	24	ORIGINAL BASE

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PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

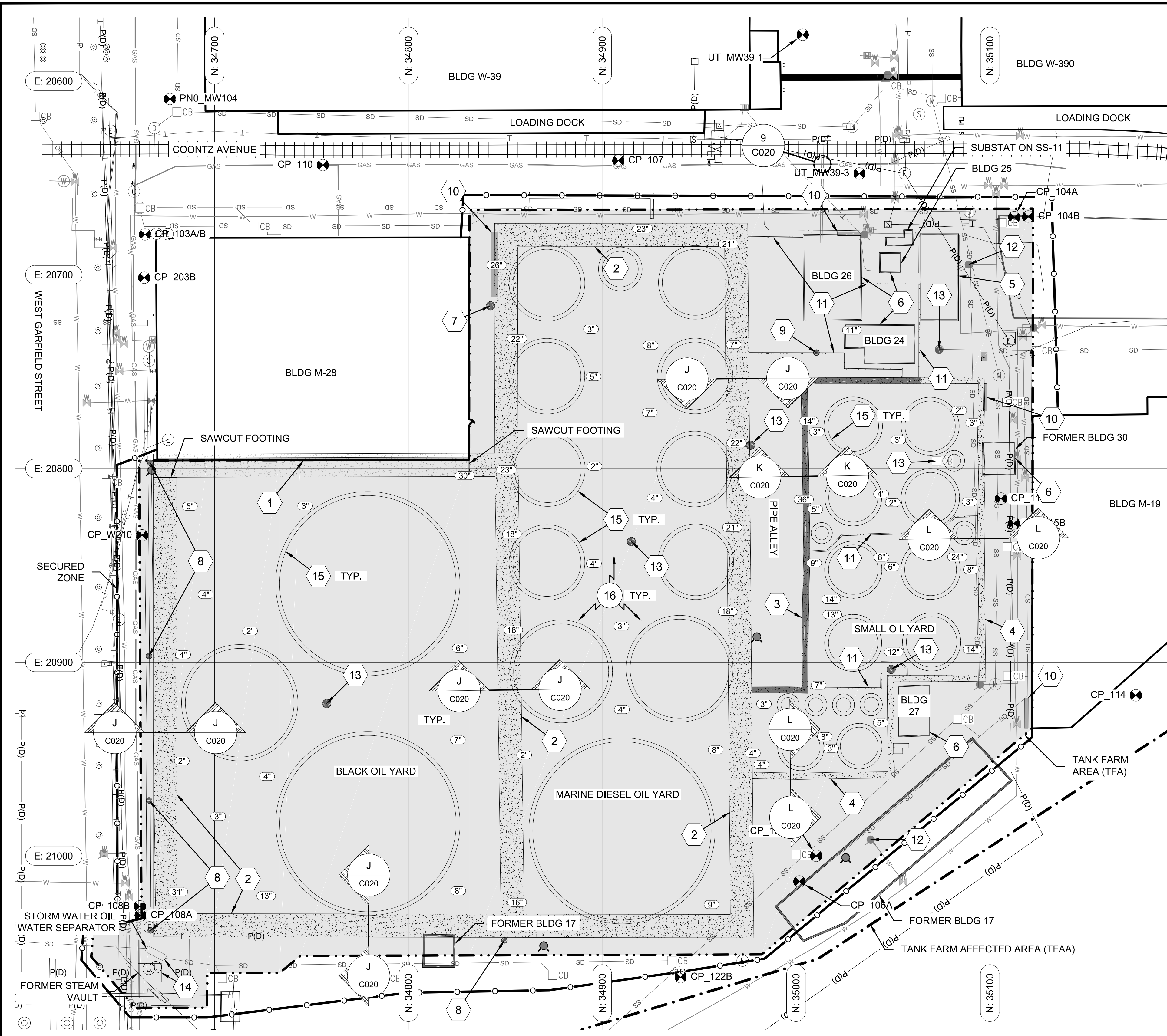
SHEET TITLE: **STAGE 5 - STEEL TANK BASE DEMOLITION TANK FARM AREA - PREPARATION**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
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DEMOLISH THE FOLLOWING CONCRETE STRUCTURES:

- BLACK OIL YARD CONTAINMENT WALL FOOTING
- MARINE DIESEL OIL YARD CONTAINMENT WALL FOOTING
- SMALL OIL YARD WALL A FOOTING
- SMALL OIL YARD WALL B FOOTING
- MISCELLANEOUS SMALL RETAIN WALL FOOTINGS
- FOUNDATIONS FOR BUILDINGS 24, 25, 26, 27 AND 30
- SUBSTATION 11
- 9 FT DEEP GRAVEL FILLED SUMP ADJACENT TO BUILDING M-28 - SEE FLAG NOTE 7
- GRAVEL FILLED OIL-WATER SEPARATOR
- 5 STORMWATER SUMP STRUCTURES. SEE FLAG NOTE 13.
- TANK BASE FOUNDATIONS
- CONCRETE SLAB BETWEEN TANK FOOTINGS
- 5 IDENTIFIED MISCELLANEOUS PITS. SEE FLAG NOTE 8
- FOAM DISTRIBUTION SYSTEM STRUCTURES
- OIL-WATER SEPARATOR
- FORMER STEAM VAULT

LEGEND:

②4" REPRESENTS APPROXIMATE THICKNESS OF CONCRETE UNDER CENTER OF LABEL BASE ON CORING.

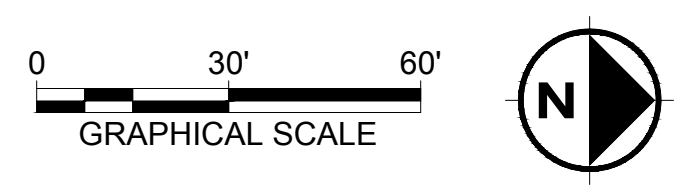
NOTES:

1. PROTECT ALL CONSTRUCTED FACILITIES OUTSIDE TANK FARM AREA THAT ARE NOT SCHEDULED FOR DEMOLITION.
2. MANAGE ALL DEMOLISHED CONCRETE PER SECTION 02228.
3. MANAGE ALL SOIL, INCLUDING HIGHLY CONTAMINATED SOIL, PER SECTION 02332.

FLAG NOTES:

1. DO NOT DEMOLISH EXISTING 15' HIGH CONCRETE RETAINING WALL AND FOOTING FORMING EAST SIDE OF BUILDING M-28. APPROXIMATELY 165 FEET LONG. SAWCUT FOOTING AT NORTH AND SOUTH ENDS.
2. DEMOLISH CONTAINMENT WALL AROUND BLACK OIL YARD AND MARINE DIESEL OIL YARD. SEE SECTION J ON SHEET C020.
3. DEMOLISH SMALL OIL YARD FIRE WALL B FOOTING (SHADED). SEE SECTION K ON SHEET C020.
4. DEMOLISH SMALL OIL YARD FIRE WALL A FOOTING. SEE SECTION L ON SHEET C020.
5. EXCAVATE FILL FROM INSIDE FORMER OIL/WATER SEPARATOR AND DEMOLISH CONCRETE WALLS AND FOOTING.
6. DEMOLISH FOOTINGS BELOW BUILDINGS 24, 25, 26, 27 AND 30.
7. DEMOLISH APPROXIMATELY 9' DEEP GRAVEL FILLED, 48" Ø CONCRETE SUMP AND BASE. PROVIDE SHORING TO CONTROL GROUNDWATER AND PROTECT BUILDING M-28. SUMP WAS FILLED AND CAPPED WITH ASPHALT DURING 2005 TANK FARM DEMOLITION PROJECT.
8. DEMOLISH PITS FILLED AND CAPPED WITH 3" ASPHALT CAP DURING 2005 TANK FARM DEMOLITION PROJECT.
9. DEMOLISH PIT FILLED APPROXIMATELY 3 TO 3.5 FEET BELOW SURROUNDING GRADE DURING 2005 TANK FARM DEMOLITION PROJECT.
10. DEMOLISH FOAM DISTRIBUTION STATION. DIMENSIONS UNKNOWN. LOCATION APPROXIMATE.
11. DEMOLISH MISCELLANEOUS RETAINING WALL WITH UNKNOWN FOOTING DESIGN.
12. PROTECT FIRE HYDRANT AND SURROUNDING CONCRETE PAD.
13. DEMOLISH SUMPS.
14. DEMOLISH OIL/WATER SEPARATOR, FORMER STEAM VAULT AND PIPING REQUIRED TO INSTALL STORM SYSTEM SHOWN ON SHEET C035.
15. DEMOLISH TANK RING BEAMS AND TANK FOOTINGS.
16. DEMOLISH CONCRETE SLAB LOCATED BETWEEN TANKS.

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PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

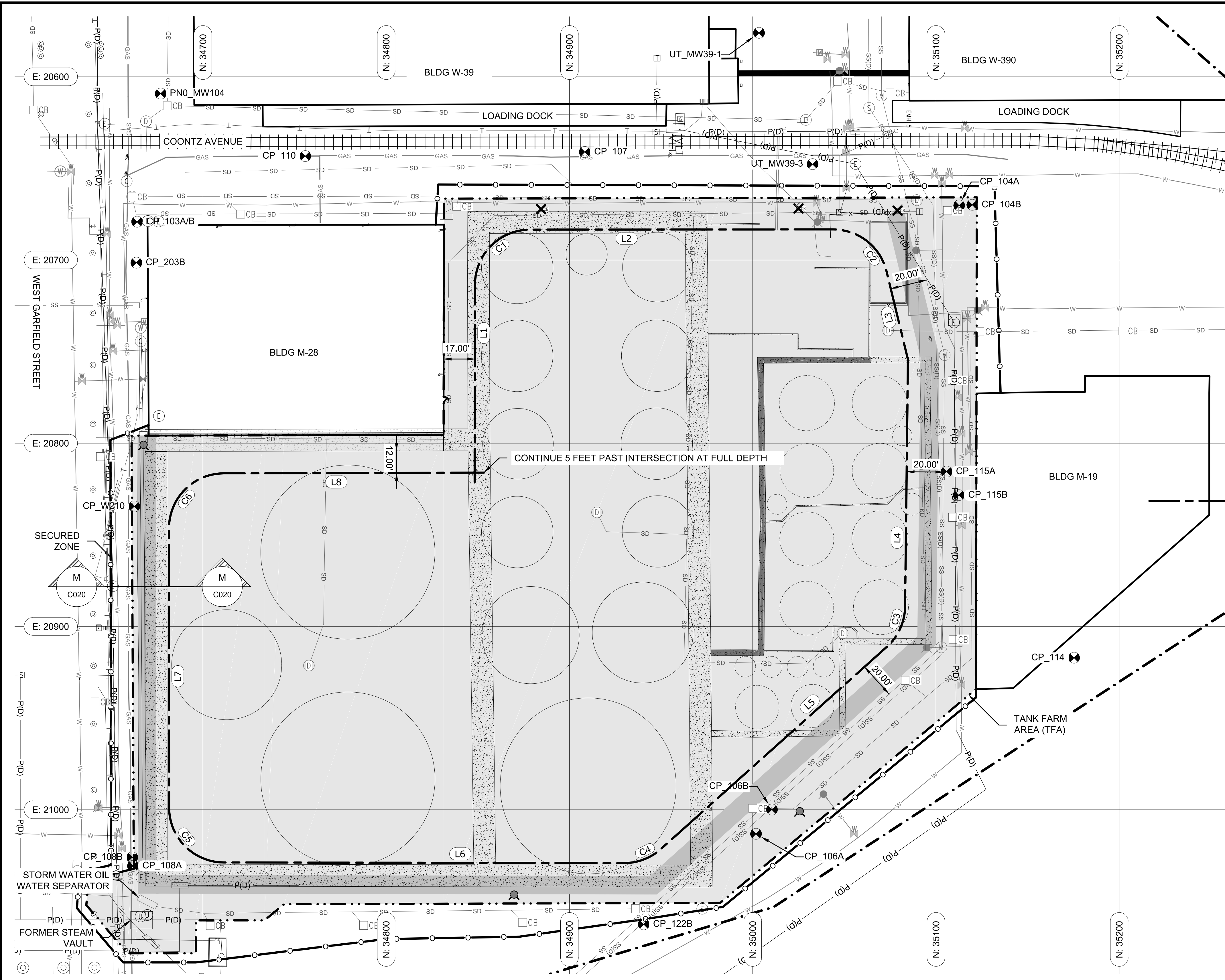
SHEET TITLE: **STAGE 6 - CONCRETE DEMOLITION
TANK FARM AREA - PREPARATION**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C018

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CUT OFF WALL CENTERLINE TABLE					
LINE #	LENGTH	DIRECTION	START POINT	END POINT	END STATION
L1	102.7	N89° 55' 09.3"W	(20816.1,34848.3)	(20713.4,34848.5)	1+02.7
L2	165.4	N0° 02' 40.0"W	(20683.4,34878.4)	(20683.3,35043.9)	3+15.2
L3	49.4	N76° 20' 32.5"E	(20706.2,35073.0)	(20754.2,35084.7)	4+04.5
L4	135.0	S89° 20' 28.5"E	(20754.2,35084.7)	(20889.1,35083.2)	5+39.5
L5	165.4	S41° 49' 29.8"E	(20911.2,35073.2)	(21021.5,34949.9)	7+29.8
L6	218.3	S0° 05' 23.3"W	(21029.1,34929.8)	(21028.8,34711.5)	9+70.1
L7	152.4	S89° 58' 35.4"W	(20998.8,34681.5)	(20846.4,34681.5)	11+69.5
L8	136.9	N0° 08' 46.9"W	(20816.4,34711.4)	(20816.1,34848.3)	13+53.5

CUT OFF WALL CURVE TABLE						
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT	END STATION
C1	30.0	47.1	N44° 58' 54.6"W	(20713.4,34848.5)	(20683.4,34878.4)	1+49.7
C2	30.0	40.0	N38° 08' 56.3"E	(20683.3,35043.9)	(20706.2,35073.0)	3+55.2
C3	30.0	24.9	S65° 34' 59.2"E	(20889.1,35083.2)	(20911.2,35073.2)	5+64.4
C4	30.0	21.9	S20° 52' 03.2"E	(21021.5,34949.9)	(21029.1,34929.8)	7+51.8
C5	30.0	47.1	S45° 01' 59.4"W	(21028.8,34711.5)	(20998.8,34681.5)	10+17.2
C6	30.0	47.1	N45° 05' 05.7"W	(20846.4,34681.5)	(20816.4,34711.4)	12+16.6

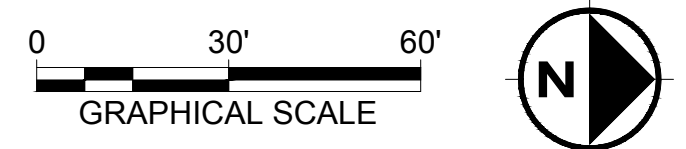
LEGEND:

--- ALIGNMENT OF EXPLORATORY TRENCH (COINCIDENT WITH ϵ OF CUTOFF WALL)

NOTES:

- PER SECTION 02335, EXCAVATE EXPLORATORY TRENCH ALONG THE CENTER LINE OF THE CUTOFF WALL FOLLOWING ALL OTHER TANK FARM AREA PREPARATION WORK.
- THE INTENT OF THE EXPLORATORY TRENCH IS TO EXPLORE FOR MAN-MADE OBJECTS (E.G. STRUCTURES, PIPELINES, AND UTILITIES) NOT ENCOUNTERED BY PRIOR WORK THAT COULD AFFECT THE CONSTRUCTION OF THE CUTOFF WALL.
- EXCAVATE EXPLORATORY TRENCH TO A MINIMUM ELEVATION OF 11 FEET.
- EXPLORATORY TRENCH NOT REQUIRED IF GENERAL STRUCTURE EXCAVATION DEPTH IS AT OR BELOW ELEVATION 11 FT ON THE ALIGNMENT.
- EXPLORATORY TRENCH MAY BE EXCAVATED AND BACKFILLED IN SECTIONS. OVERLAP SECTIONS TO ENSURE CONTINUITY.
- NOTIFY PORT IMMEDIATELY IF, AND DOCUMENT DETAILS OF, ANY PREVIOUSLY UNKNOWN STRUCTURE, UTILITY OR PIPELINE. OBTAIN ENGINEER'S APPROVAL BEFORE CONTINUING WITH EXPLORATORY TRENCH.
- MANAGE ANY HIGHLY CONTAMINATED SOILS EXCAVATED FROM THE EXPLORATORY TRENCH IN ACCORDANCE WITH SECTION 02332 OF THE TECHNICAL SPECIFICATIONS.
- BACKFILL EXPLORATORY TRENCH WITH SOIL FROM THE EXPLORATORY TRENCH. SUPPLEMENT WITH OTHER SOIL FROM TANK FARM AREA IF NECESSARY.
- FOLLOWING EXCAVATION AND BACKFILL OF EXPLORATORY TRENCH, PLACE ENGINEERED FILL THROUGHOUT TANK FARM AREA TO GRADES NECESSARY TO CONSTRUCT CUT OFF WALL. SEE SHEET C021 FOR CUTOFF WALL ELEVATIONS.

CALL 2 DAYS BEFORE YOU DIG
1-800-424-5555



PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENR ARCH:
R. NORTH/B. O'NEAL
DESIGNER:
R. NORTH
DRAWN BY:
S. MCCOY
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED BY:
R. NORTH
CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

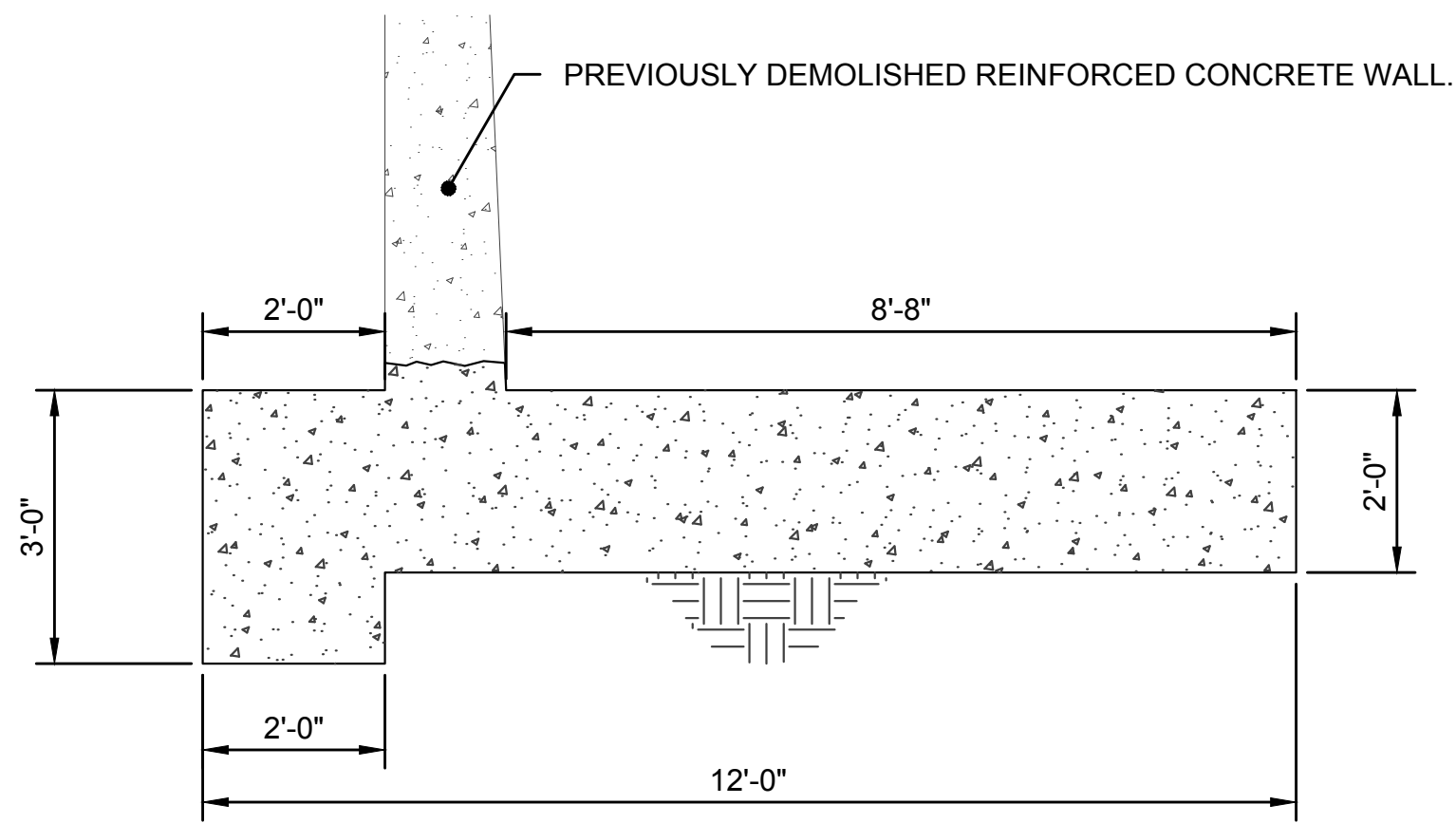
REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU
PROJECT ENGINEER:
DESIGN ENGINEER:
DRAFTER:
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED/APPROVED BY:
FRED CHOU

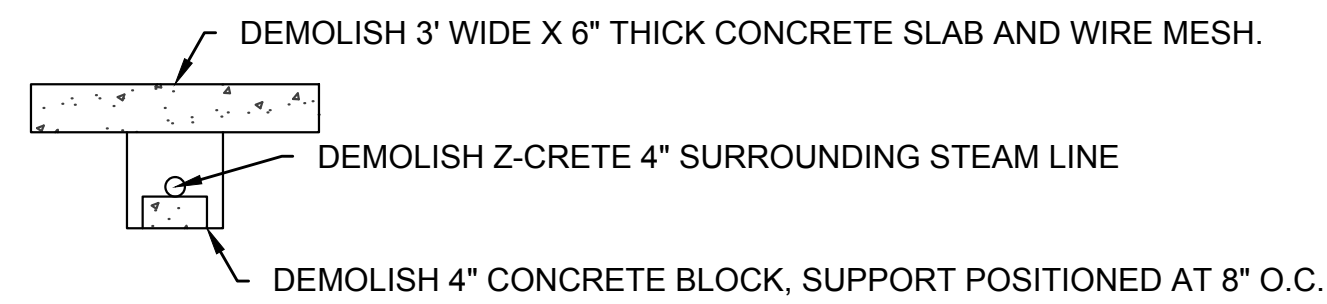
Port of Seattle PORT OF SEATTLE
PROJECT: **TERMINAL 91 TANK FARM CLEANUP**
SHEET TITLE: **STAGE 7 - EXPLORATORY TRENCH TANK FARM AREA - PREPARATION**

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 C019

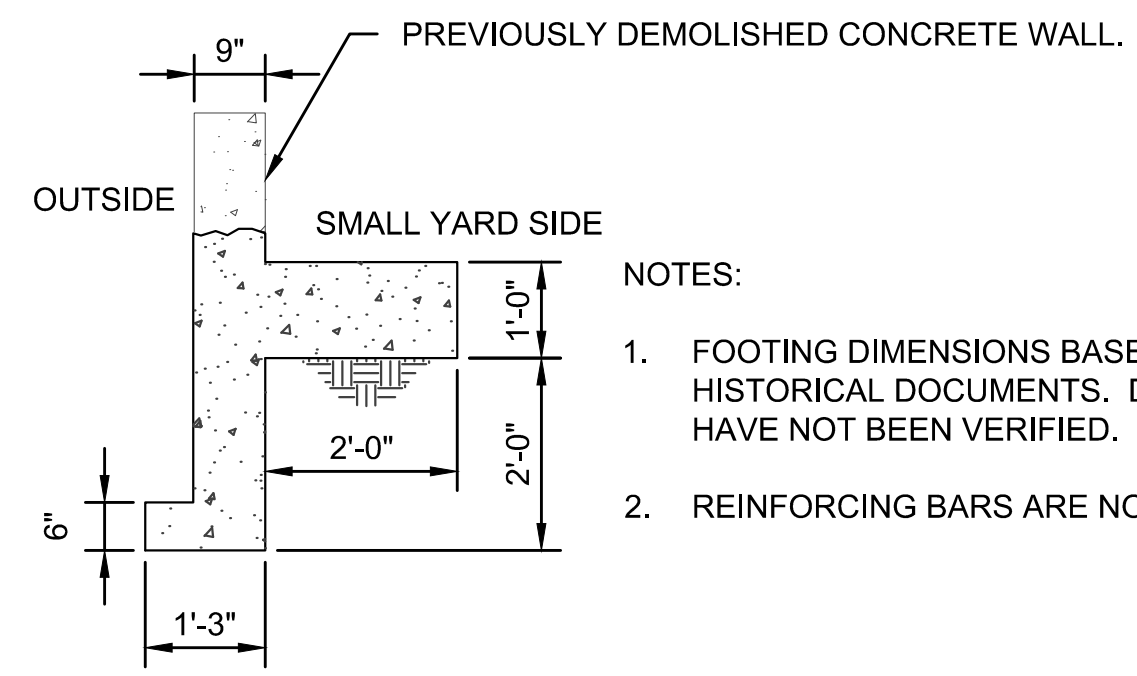
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SECTION J
N.T.S. C018 CONTAINMENT WALL FOOTING

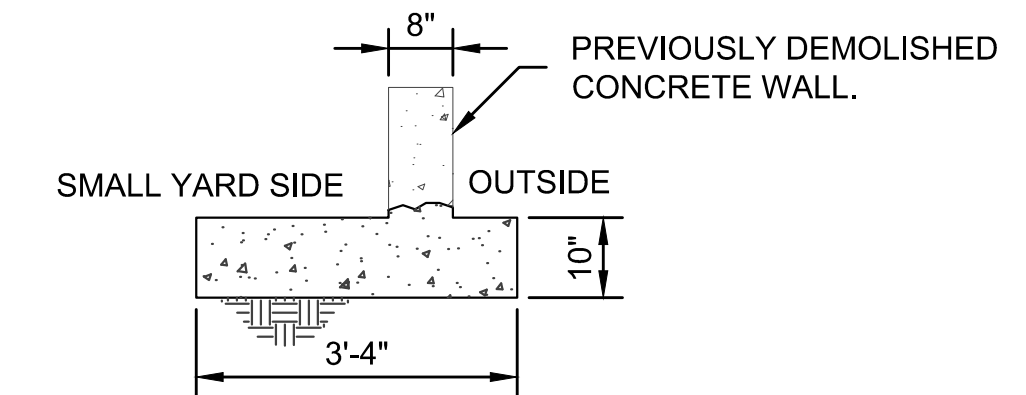


DETAIL 9
N.T.S. C018 STEAM PIPE STRUCTURE



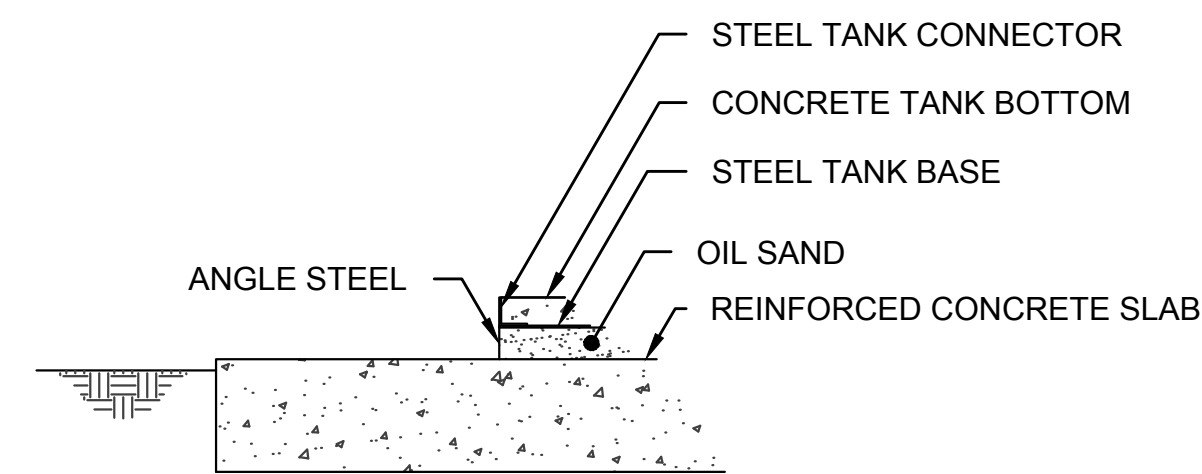
- NOTES:
1. FOOTING DIMENSIONS BASED ON HISTORICAL DOCUMENTS. DIMENSIONS HAVE NOT BEEN VERIFIED.
 2. REINFORCING BARS ARE NOT SHOWN.

SECTION K
N.T.S. C018 SMALL OIL YARD FIRE WALL B FOOTING



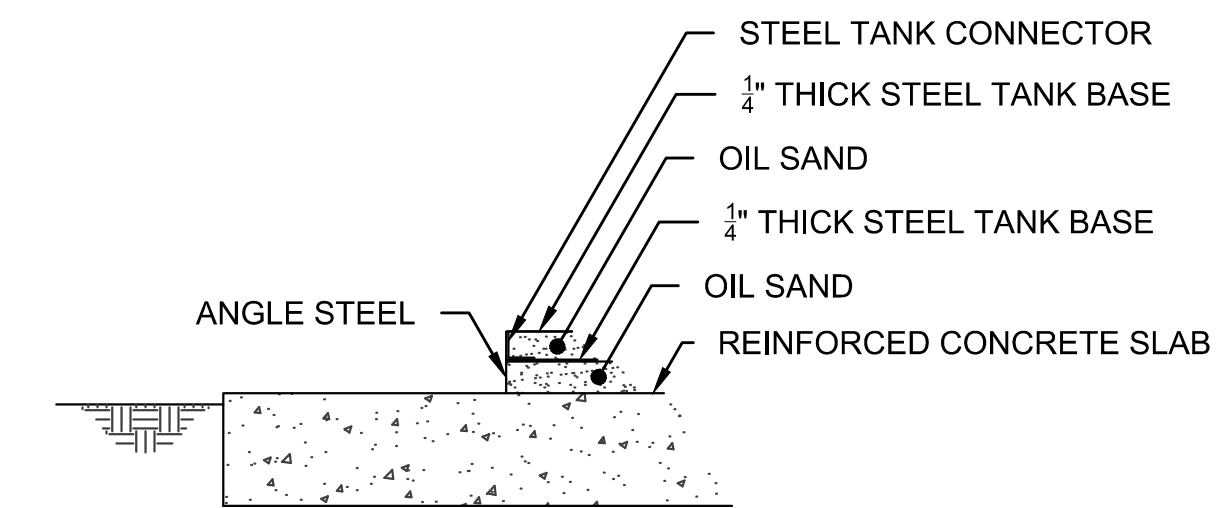
- NOTES:
1. FOOTING DIMENSIONS BASED ON HISTORICAL DOCUMENTS. DIMENSIONS HAVE NOT BEEN VERIFIED.
 2. REINFORCING BARS ARE NOT SHOWN.

SECTION L
N.T.S. C018 SMALL OIL YARD FIRE WALL A FOOTING



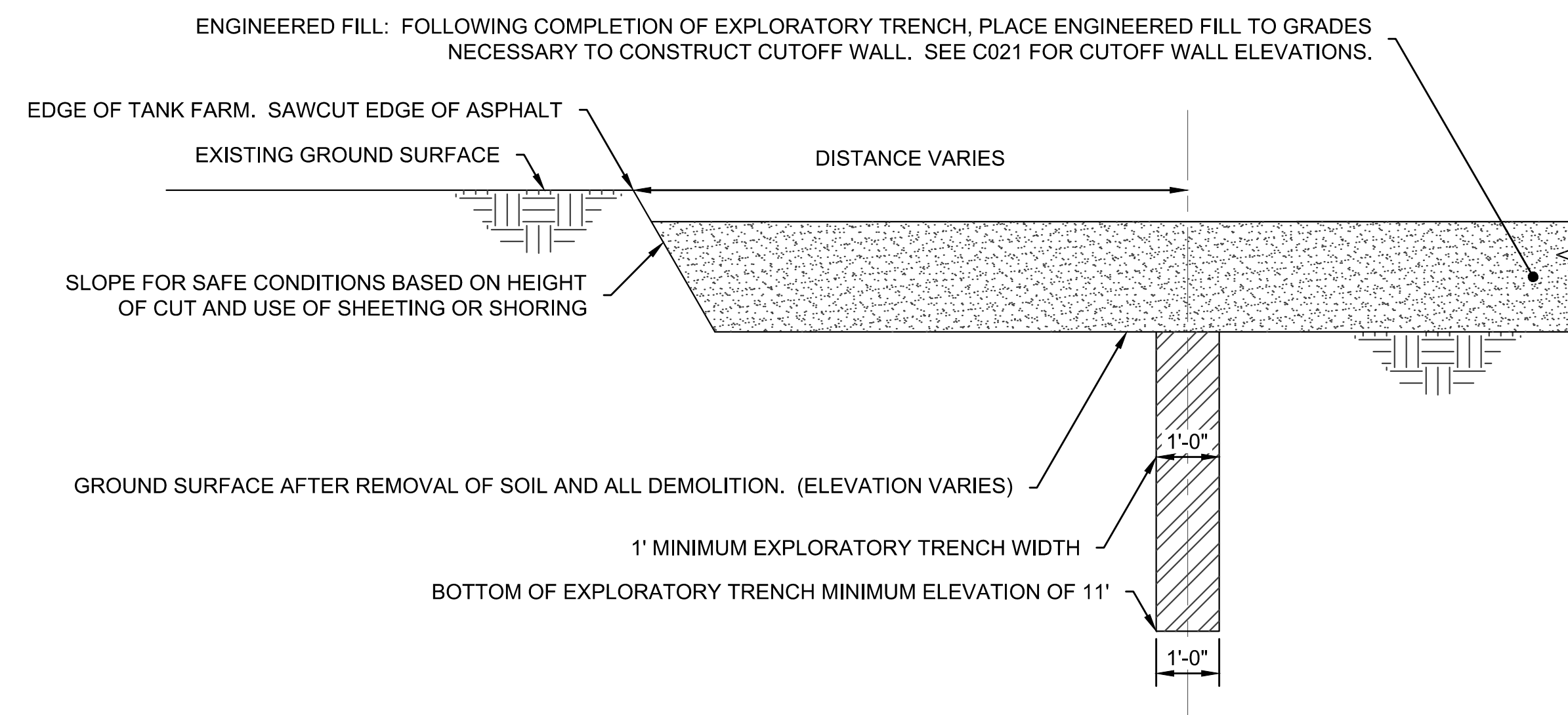
- NOTE:
1. REINFORCING BARS ARE NOT SHOWN.

DETAIL 10
N.T.S. C017 TYPICAL TANK BASE



- NOTE:
1. REINFORCING BARS ARE NOT SHOWN.

DETAIL 11
N.T.S. C017 TANK REPLACEMENT BASE



SECTION M
N.T.S. C019 EXPLORATORY TRENCH

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PORTLAND, OREGON 97239
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PROJECT ENDR ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

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FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
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DATE:
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CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: TERMINAL 91 TANK FARM CLEANUP

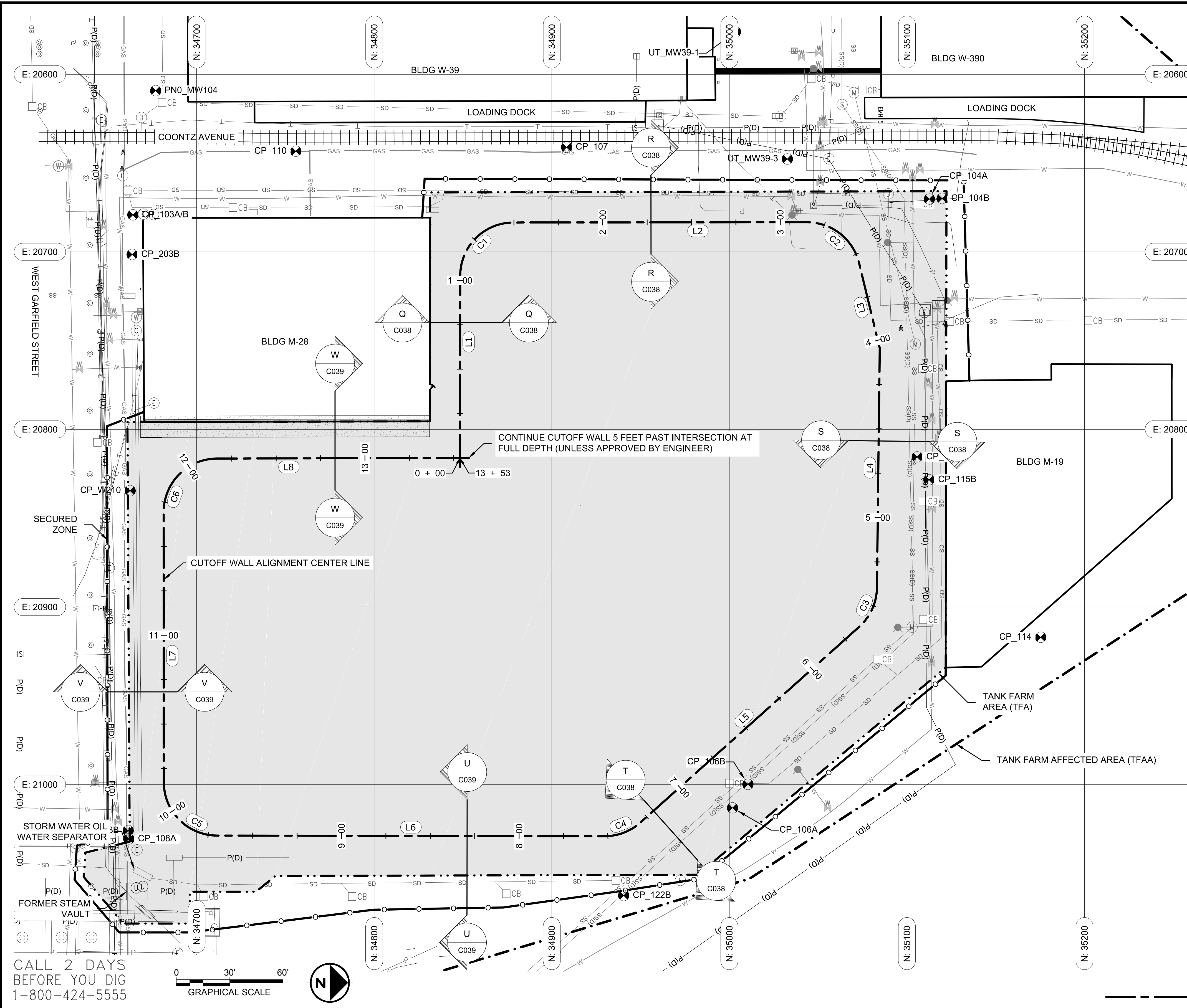
SHEET TITLE: DETAILS 9-11 AND SECTIONS J-M
TANK FARM AREA - PREPARATION

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
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LINE #	LENGTH	DIRECTION	START POINT	END POINT	END STATION	START STATION
L1	102.7	N89° 55' 09.3"W	(20816.1,34848.3)	(20713.4,34848.5)	1+02.7	0+00.0
L2	165.4	N0° 02' 40.0"W	(20683.4,34878.4)	(20683.3,35043.9)	3+15.2	1+49.7
L3	49.4	N76° 20' 32.5"E	(20706.2,35073.0)	(20754.2,35084.7)	4+04.5	3+55.2
L4	135.0	S89° 20' 28.5"E	(20754.2,35084.7)	(20889.1,35083.2)	5+39.5	4+04.5
L5	165.4	S41° 49' 29.8"E	(20911.2,35073.2)	(21021.5,34949.9)	7+29.8	5+64.4
L6	218.3	S0° 05' 23.3"W	(21029.1,34929.8)	(21028.8,34711.5)	9+70.1	7+51.8
L7	152.4	S89° 58' 35.4"W	(20998.8,34681.5)	(20846.4,34681.5)	11+69.5	10+17.2
L8	136.9	N0° 08' 46.9"W	(20816.4,34711.4)	(20816.1,34848.3)	13+53.5	12+16.6

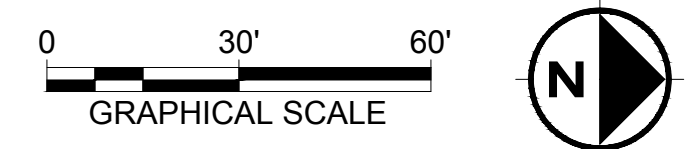
CURVE #	RADIUS	LENGTH	CHORD DIRECTION	START POINT	END POINT	END STATION
C1	30.0	47.1	N44° 58' 54.6"W	(20713.4,34848.5)	(20683.4,34878.4)	1+49.7
C2	30.0	40.0	N38° 08' 56.3"E	(20683.3,35043.9)	(20706.2,35073.0)	3+55.2
C3	30.0	24.9	S65° 34' 59.2"E	(20889.1,35083.2)	(20911.2,35073.2)	5+64.4
C4	30.0	21.9	S20° 52' 03.2"E	(21021.5,34949.9)	(21029.1,34929.8)	7+51.8
C5	30.0	47.1	S45° 01' 59.4"W	(21028.8,34711.5)	(20998.8,34681.5)	10+17.2
C6	30.0	47.1	N45° 05' 05.7"W	(20846.4,34681.5)	(20816.4,34711.4)	12+16.6

STATION	TOP ELE. (FEET)	BOTTOM ELE. (FEET)
0+00	15.5	-0.7
1+03	15.5	-0.7
2+14	15.6	-0.7
7+39	15.6	-0.7
10+28	15.2	-0.7
11+84	15.2	-0.7

CONTINUE CUTOFF WALL 5 FEET PAST INTERSECTION AT FULL DEPTH (UNLESS APPROVED BY ENGINEER)

CUTOFF WALL ALIGNMENT CENTER LINE

CALL 2 DAYS BEFORE YOU DIG
1-800-424-5555



LEGEND:
--- ALIGNMENT OF CUTOFF WALL (COINCIDENT WITH 1/2 OF EXPLORATORY TRENCH)

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR/ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

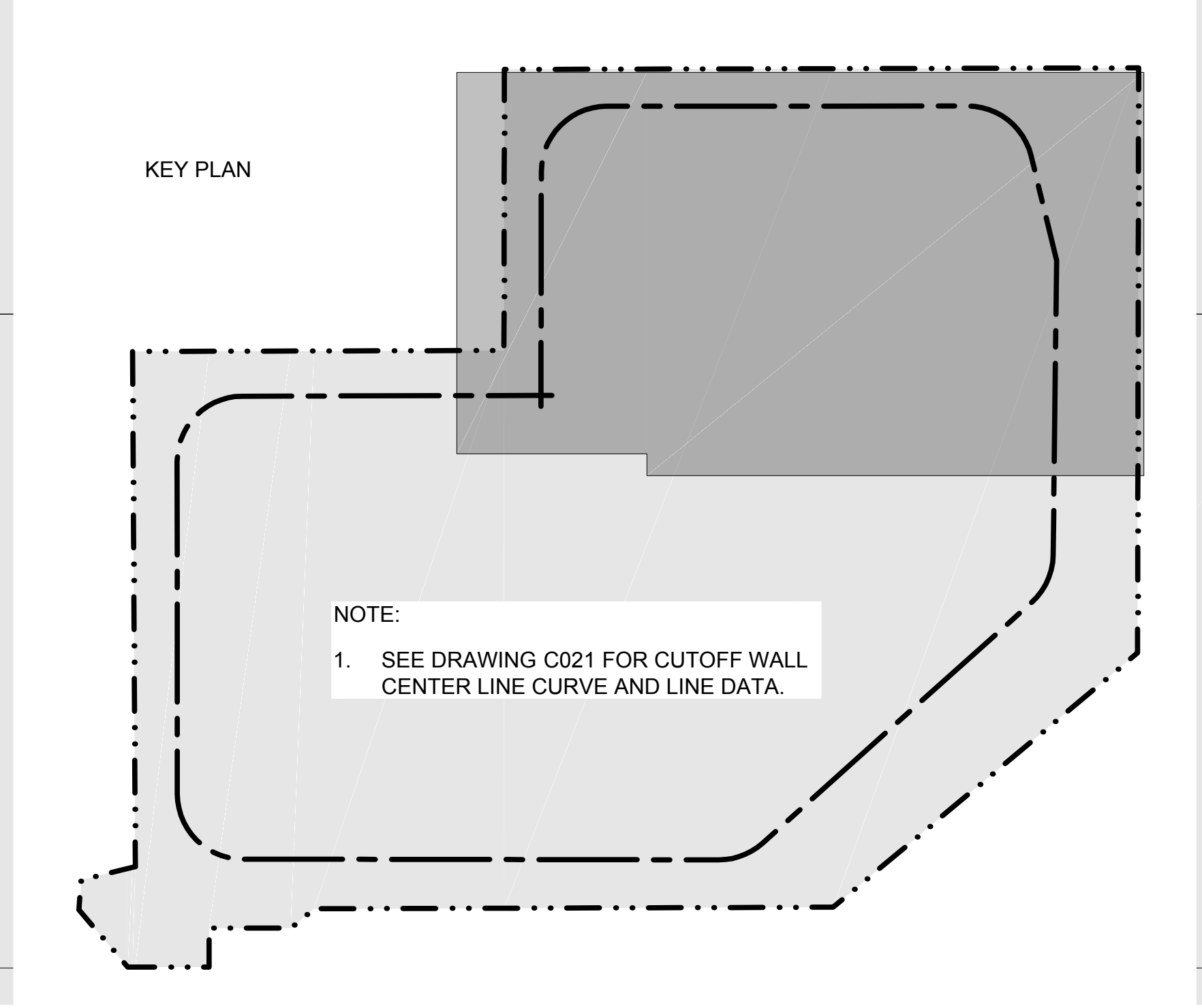
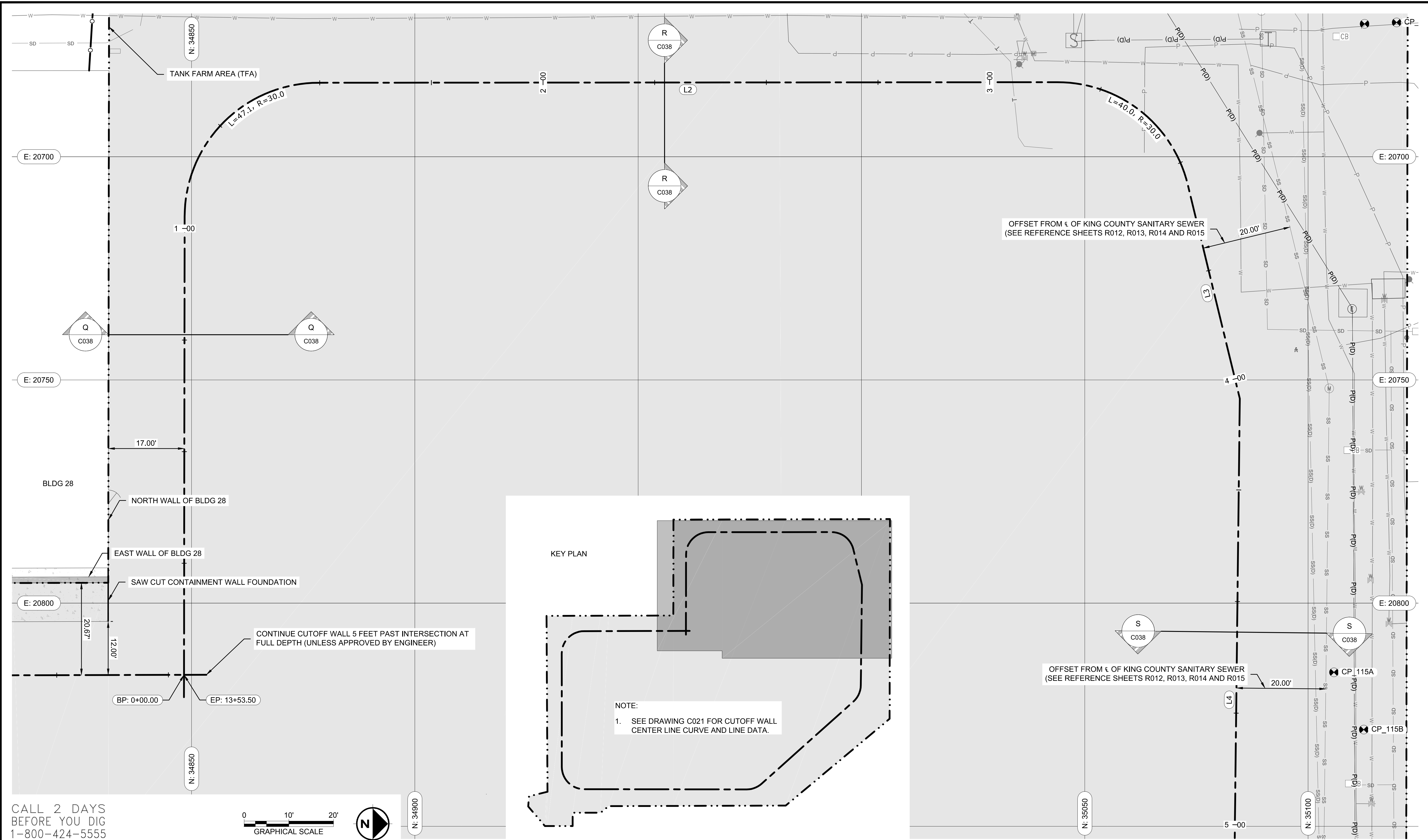
SHEET TITLE: **CUTOFF WALL SITE PLAN
TANK FARM AREA - CUTOFF WALL CONSTRUCTION**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C021

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Engineering & Environmental Services

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PORTLAND, OREGON 97239
(503) 922-2522

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R. NORTH

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S. MCCOY

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AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

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NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

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FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
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DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

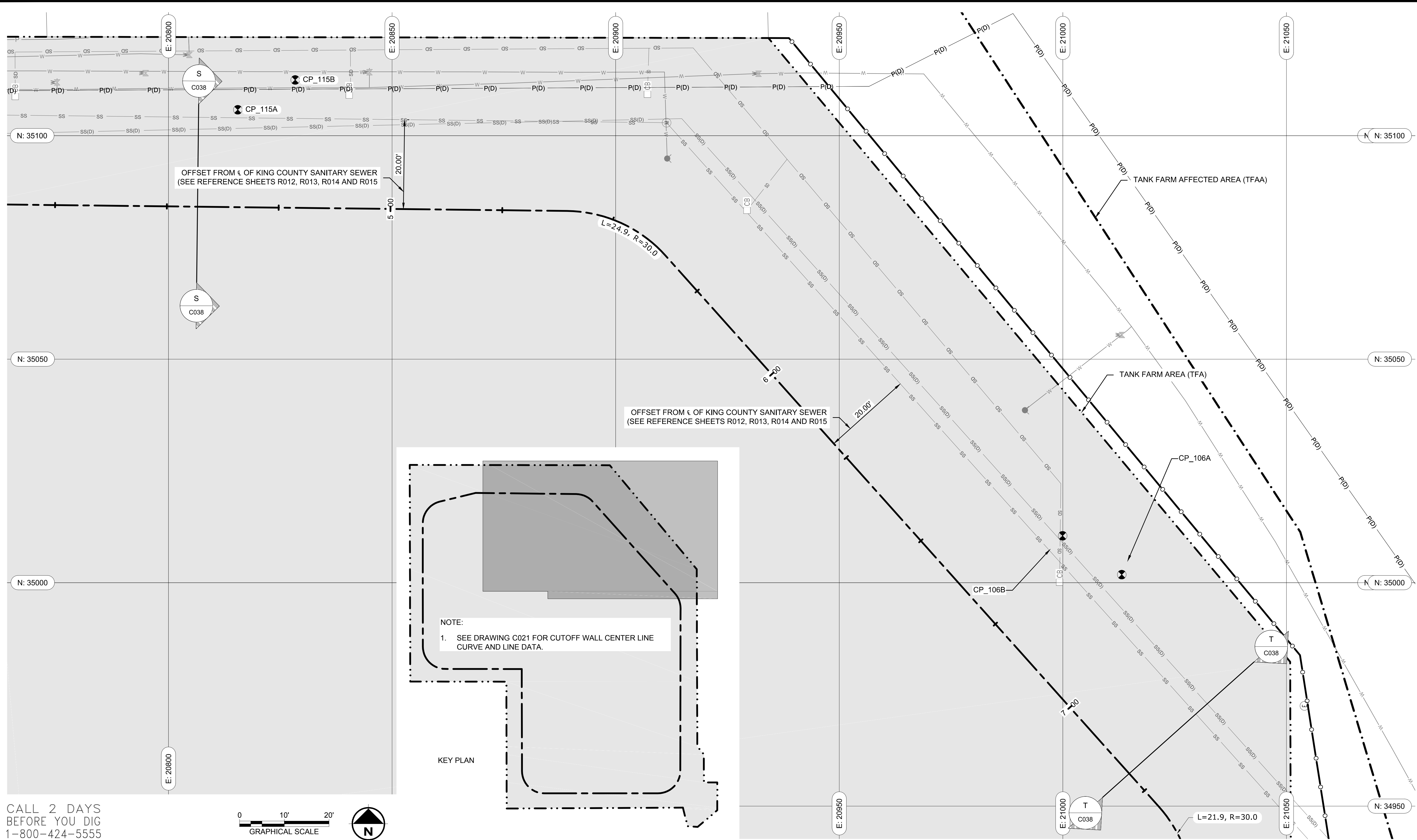
SHEET TITLE: **CUTOFF WALL STATION 0+00 TO 5+00
TANK FARM AREA - CUTOFF WALL CONSTRUCTION**

WORK PROJECT NO.
MC - 0317586 - WP104528

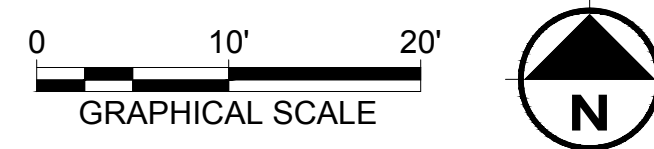
CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C022

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PROJECT ENGR/ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

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PROJECT ENGINEER:

DESIGN ENGINEER:

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FRED CHOU

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PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

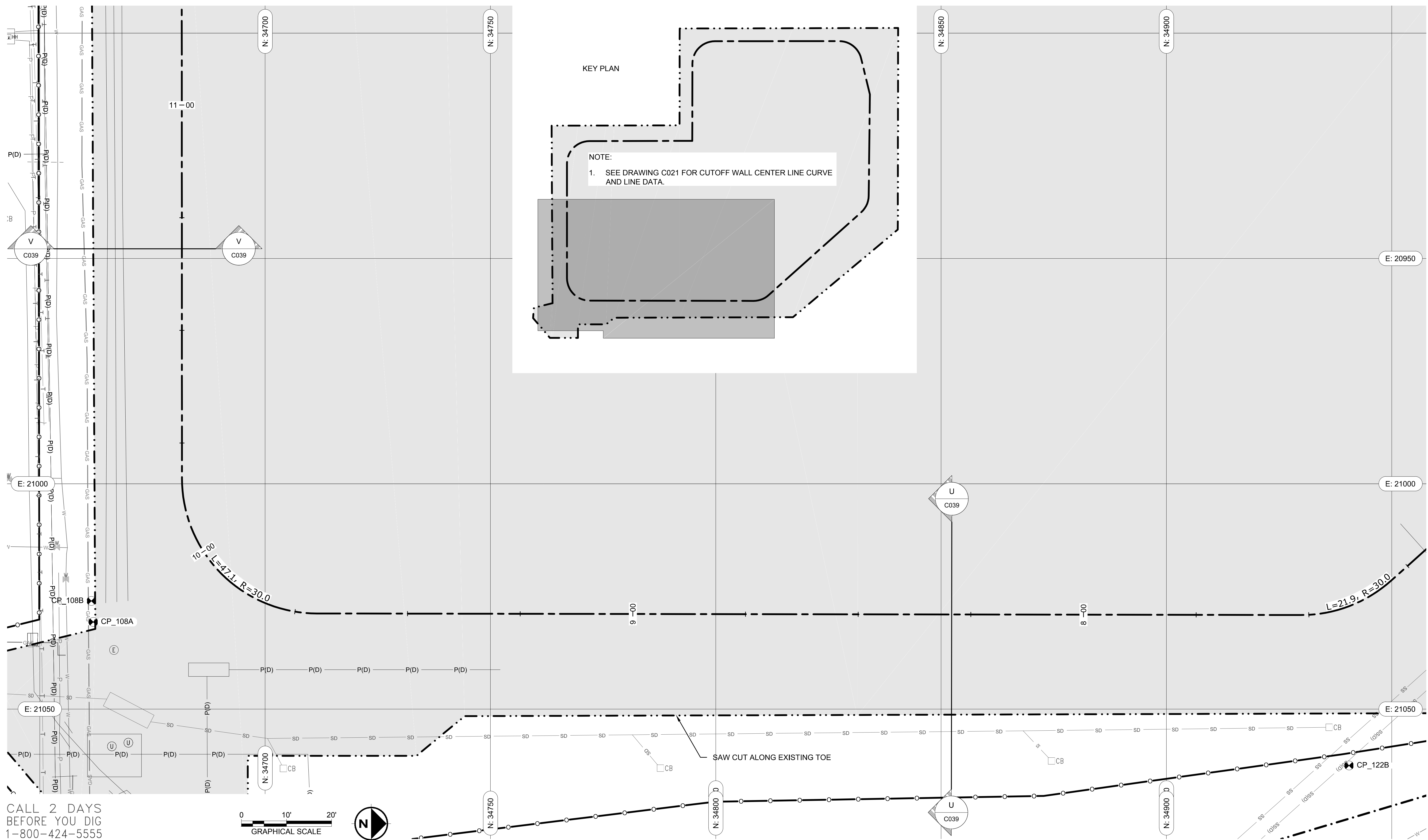
SHEET TITLE: **CUTOFF WALL STATION 5+00 TO 7+50
TANK FARM AREA - CUTOFF WALL CONSTRUCTION**

WORK PROJECT NO.
MC - 0317586 - WP104528

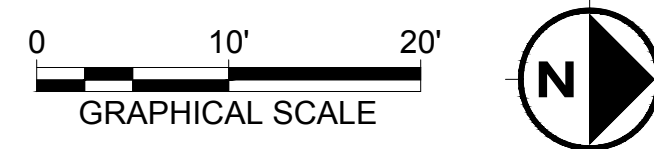
CONSULTANT'S NO.
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PORT OF SEATTLE NO.
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PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENDR ARCH:
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DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

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FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

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FRED CHOU

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PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

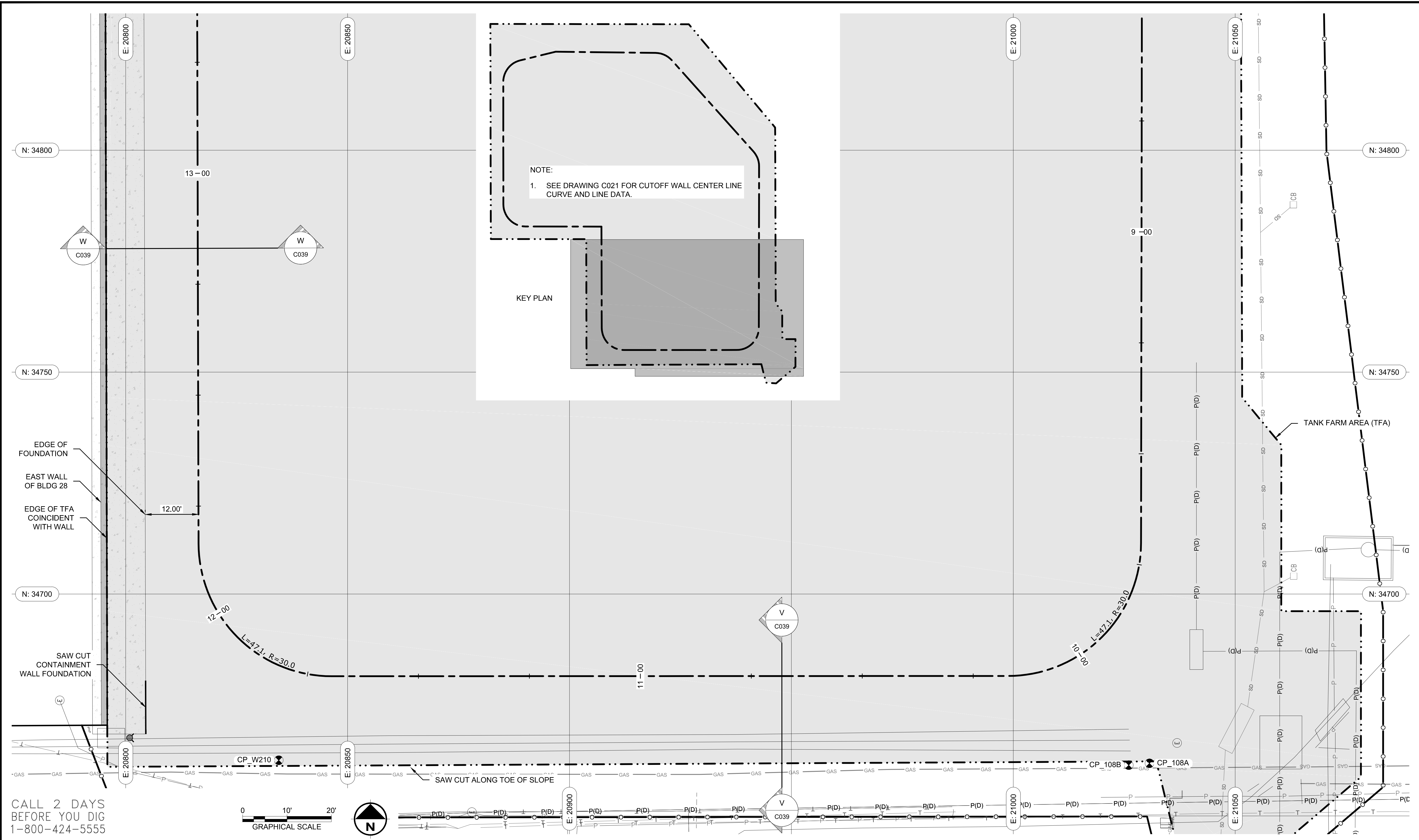
SHEET TITLE: **CUTOFF WALL STATION 7+50 TO 11+00
TANK FARM AREA - CUTOFF WALL CONSTRUCTION**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C024

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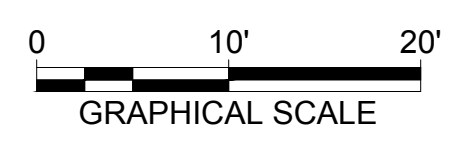


NOTE:
1. SEE DRAWING C021 FOR CUTOFF WALL CENTER LINE CURVE AND LINE DATA.

KEY PLAN

EDGE OF FOUNDATION
EAST WALL OF BLDG 28
EDGE OF TFA COINCIDENT WITH WALL
SAW CUT CONTAINMENT WALL FOUNDATION

CALL 2 DAYS BEFORE YOU DIG
1-800-424-5555



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FRED CHOU
PROJECT ENGINEER:
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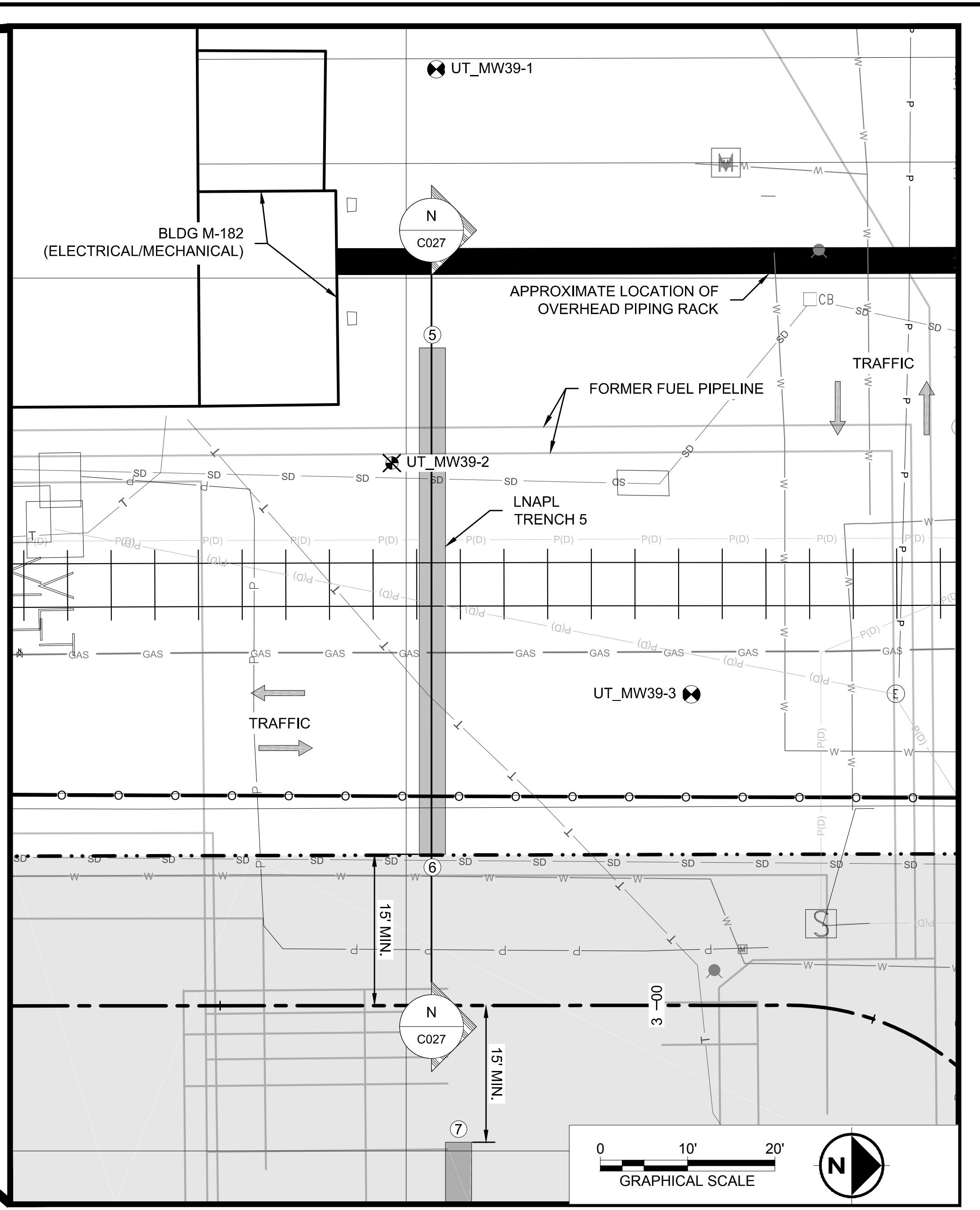
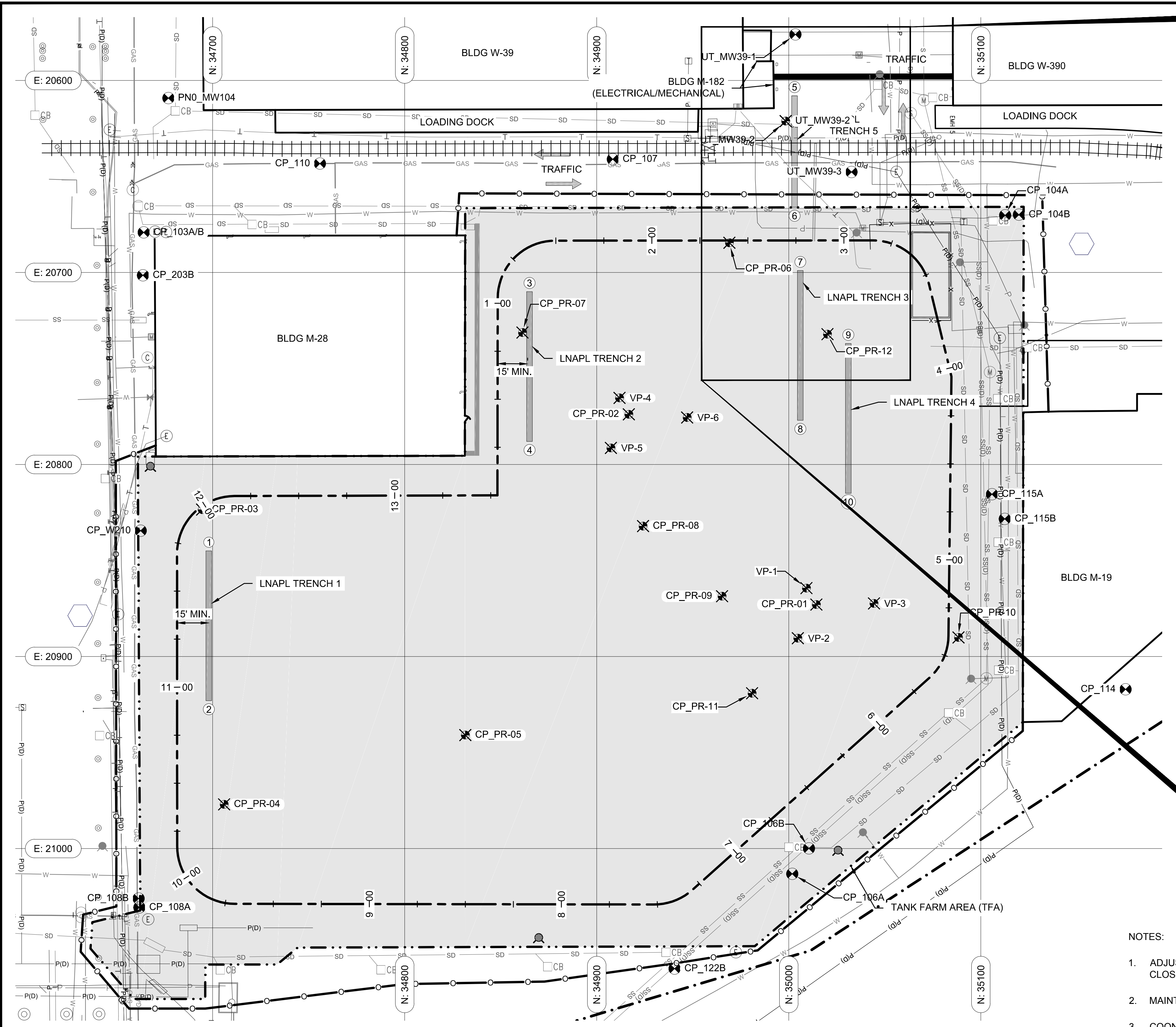
Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP
SHEET TITLE: **CUTOFF WALL STATION 11+00 TO 13+00
TANK FARM AREA - CUTOFF WALL CONSTRUCTION**

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
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PORT OF SEATTLE NO.
91-1401 C025

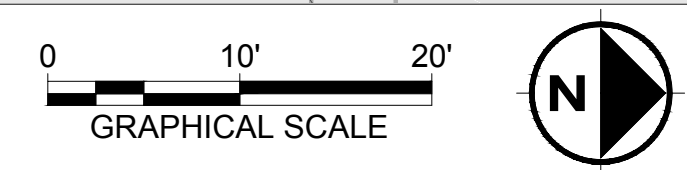
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NOTES:

1. ADJUST SECURED ZONE DURING CONSTRUCTION OF LNAPL TRENCH 5. COORDINATE CLOSURE OF COONTZ AVENUE WITH PORT.
2. MAINTAIN EXISTING TRAFFIC PATTERNS IN COONTZ AVENUE.
3. COONTZ AVENUE SHALL REMAIN OPEN TO TRAFFIC OUTSIDE OF THE SECURED ZONE. COMPLETE CLOSURE IS LIMITED TO A SINGLE PERIOD OF 3 CONSECUTIVE BUSINESS DAYS FOR LNAPL TRENCH 5 WORK.
4. FORMER FUEL PIPELINE LOCATIONS SHOWN ONSHEET C001 - PIPELINES INSIDE TFAA.

LNAPL TRENCH NUMBER	TRENCH GRAVEL ELEVATION	
	BOTTOM (MAX)	TOP (MIN)
1	6.3	15.7
2	6.3	15.7
3	6.3	15.7
4	6.3	15.7
5	6.3	15.1

LNAPL TRENCH END POINTS		
POINT #	NORTHING	EASTING
1	34698.0	20845.0
2	34698.0	20923.0
3	34865.0	20710.0
4	34865.0	20788.0
5	35003.0	20608.0
6	35003.0	20666.0
7	35006.0	20699.0
8	35006.0	20777.0
9	35031.0	20737.0
10	35031.0	20815.0

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PORTLAND, OREGON 97239
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S. MCCOY
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R. NORTH/B. O'NEAL

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FRED CHOU
PROJECT ENGINEER:
DESIGN ENGINEER:
DRAFTER:
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DATE:
2013-07-08
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FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

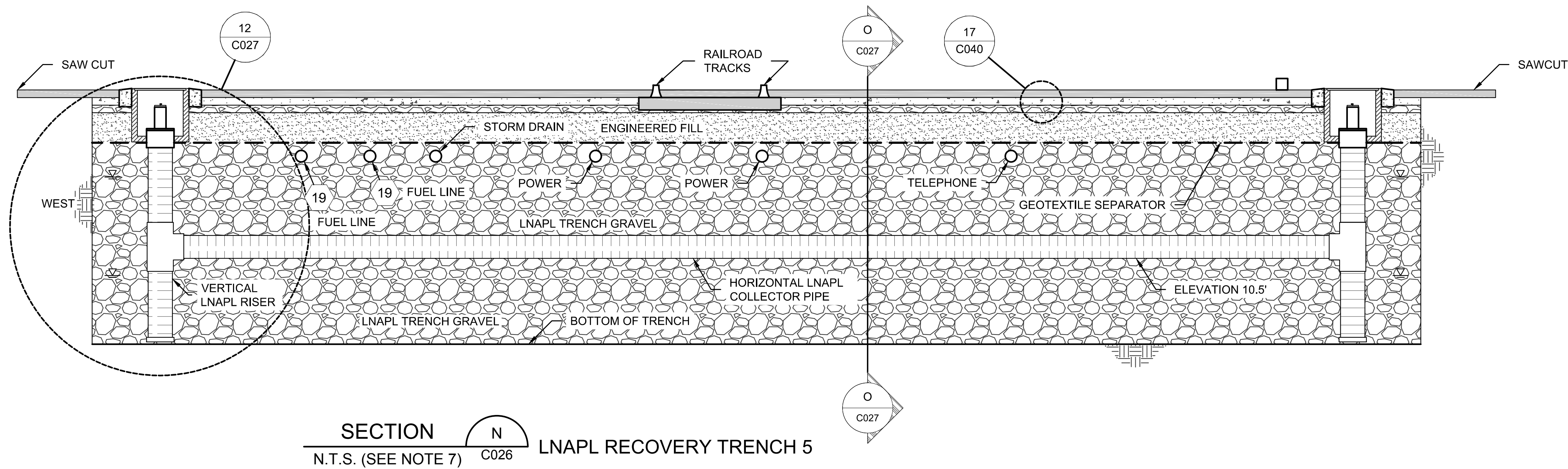
SHEET TITLE: **PLAN VIEW
TANK FARM AREA - LNAPL RECOVERY TRENCHES**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C026

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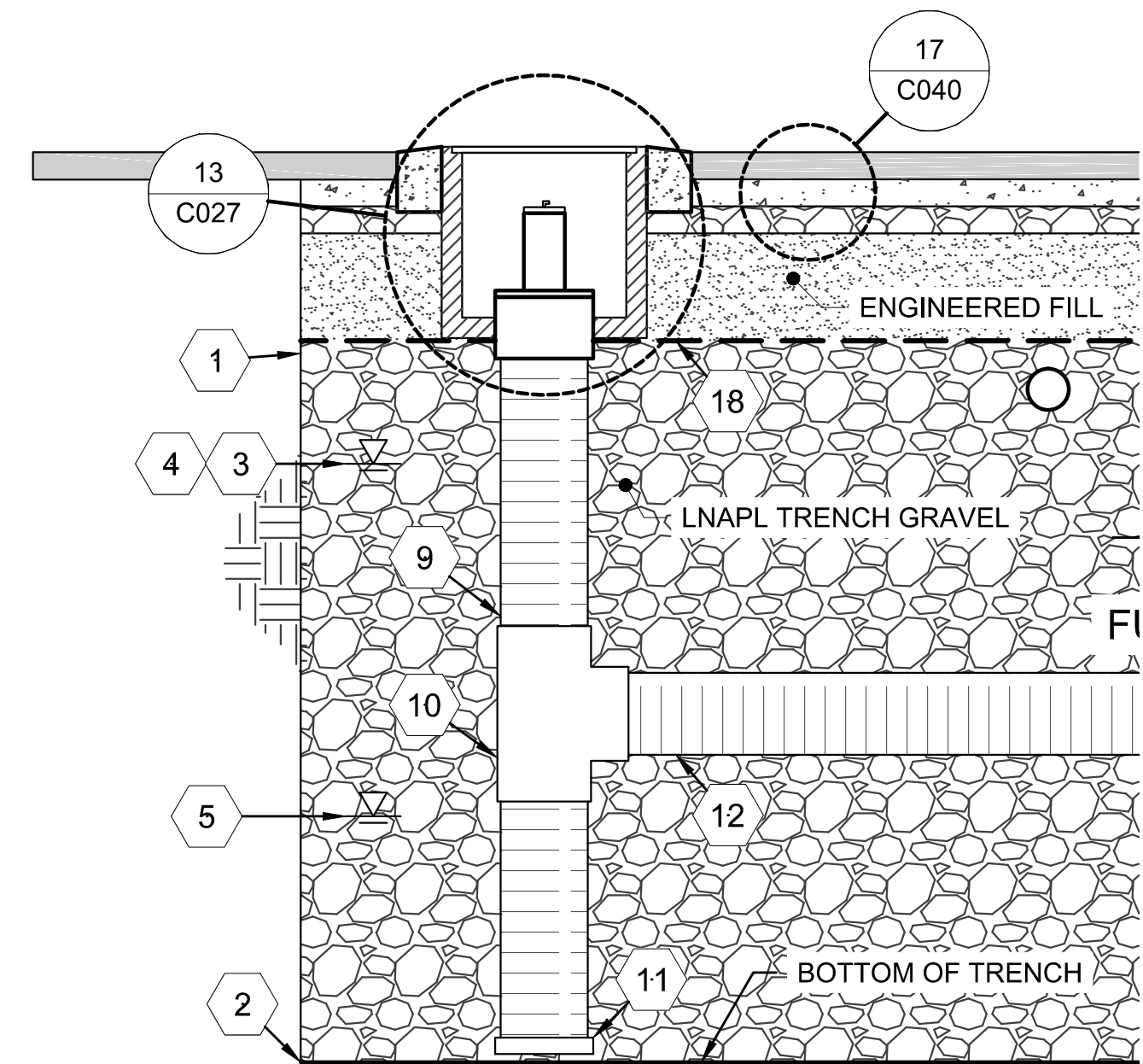
SECTION N C026 LNAPL RECOVERY TRENCH 5
N.T.S. (SEE NOTE 7)

NOTES:

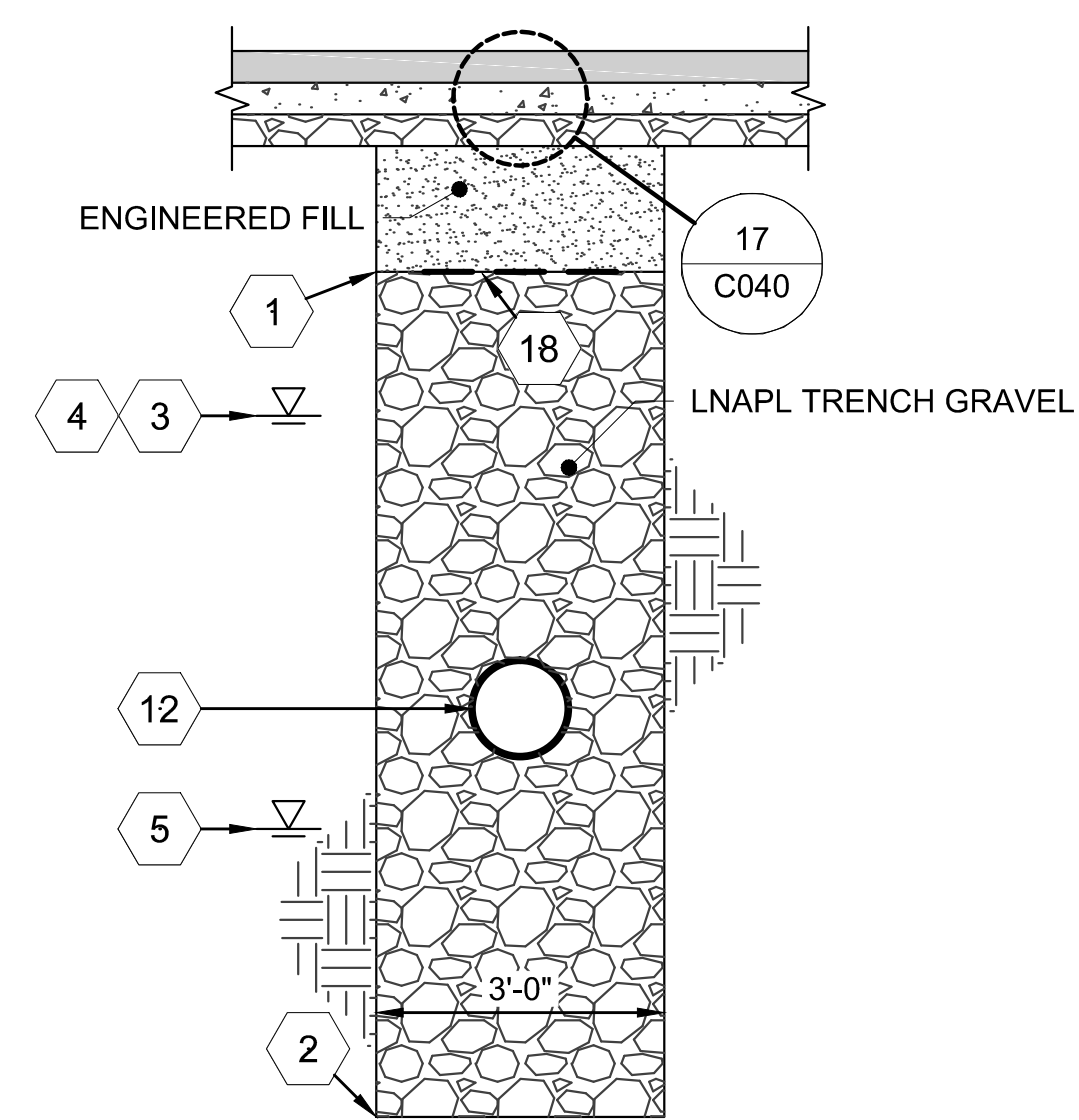
1. EAST TRENCH LIMIT IS 15 FEET WEST OF THE CUTOFF WALL.
2. VERIFY UNDERGROUND UTILITY LOCATIONS, DEPTHS, AND SIZES.
3. SUPPORT OR TEMPORARILY REMOVE RAILROAD TRACKS DURING EXCAVATION.
4. USE CDF (CONTROLLED DENSITY FILL) IN PLACE OF ENGINEERED FILL BENEATH RAILROAD TRACKS.
5. LNAPL TRENCH GRAVEL IS ACCEPTABLE SUBSTITUTE FOR ENGINEERED FILL.
6. INSTALL NON-WOVEN GEOTEXTILE SEPARATER AT TOP OF LNAPL TRENCH GRAVEL
7. TRENCHES 1 TO 4 ARE SIMILAR WITHOUT UTILITIES AND RAIL LINE.
8. LNAPL TRENCHES INSIDE SLURRY WALL ARE NOT EXPECTED TO ENCOUNTER BURIED UTILITIES IF CONSTRUCTED AFTER TANK FARM PREPARATION AND SLURRY WALL CONSTRUCTION.

FLAG NOTES:

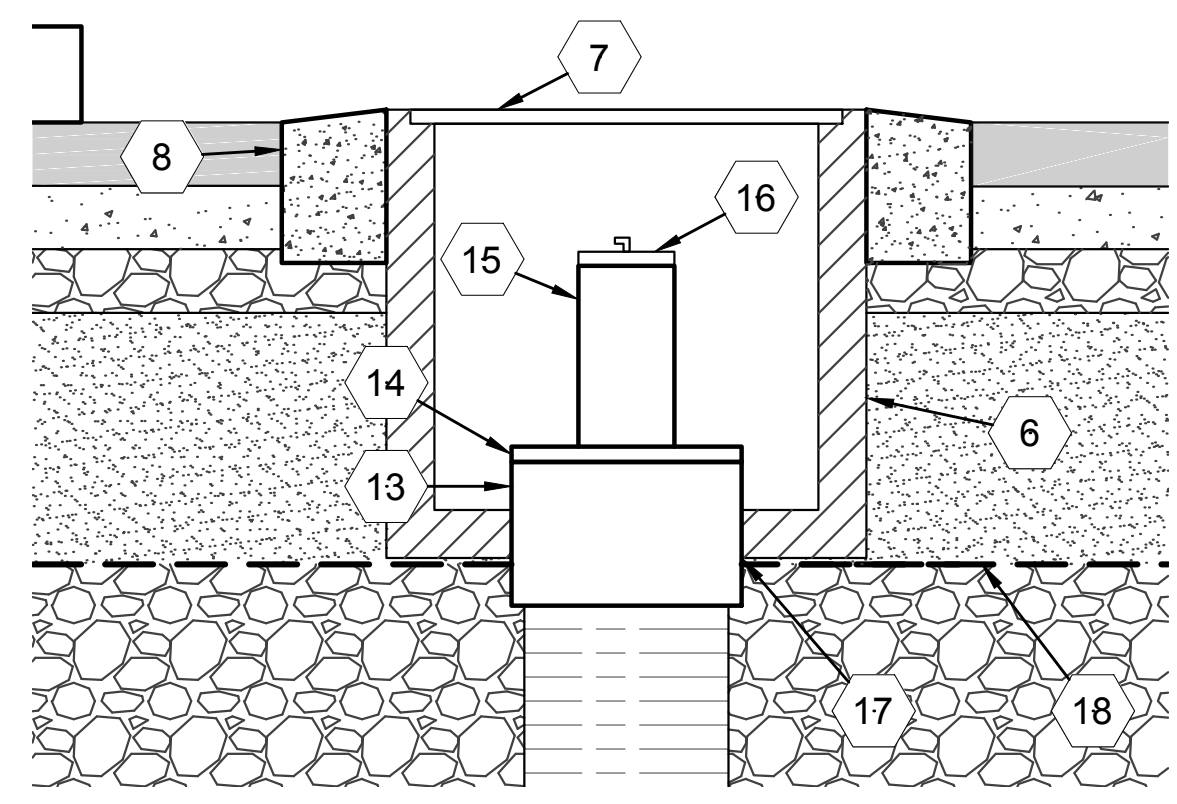
1. TOP OF LNAPL TRENCH GRAVEL. 1.5 FT MINIMUM ABOVE HISTORICAL HIGH GROUNDWATER.
2. BOTTOM OF LNAPL TRENCH GRAVEL. 3 FT MINIMUM BELOW HISTORICAL LOW GROUNDWATER
3. 14.2' - HISTORICAL HIGH GROUNDWATER ELEVATION INSIDE TANK FARM
4. 13.6' - HISTORICAL HIGH GROUNDWATER ELEVATION IN COONTZ AVENUE.
5. 9.3' - HISTORICAL LOW GROUNDWATER ELEVATION.
6. PRECAST REINFORCED CONCRETE VAULT. TOP OF VAULT SET 1/2-IN. ABOVE ASPHALT PAVEMENT. NOMINAL INSIDE DIMENSIONS 24 IN. X 24IN. X 24 IN.
7. TRAFFIC RATED VAULT LID. GALVANIZED STEEL DIAMOND PLATE. HINGED.
8. CONCRETE SURROUND. 8 IN. WIDE AND 8 IN. THICK WITH WIRE MESH. SLOPE TO MEET ASPHALT GRADE.
9. VERTICAL RISER PIPE. 12 IN. DIA. SCH 40 PVC WELL CASING, SLOTTED SCREEN AND FITTINGS. SLOTTED SCREEN STARTS 6 IN. BELOW TOP OF LNAPL TRENCH GRAVEL.
10. TEE. SCH. 40 PVC. 12 IN. SLIP.
11. END CAP. SCH. 40 PVC. 12 IN. SLIP.
12. HORIZONTAL COLLECTOR PIPE. 12 IN. DIA. PVC SLOTTED WELL SCREEN. SEE COLLECTOR PIPE SCHEDULE.
13. COUPLING. SCH. 40 PVC 12 IN. SLIP.
14. REDUCER BUSHING. SCH. 40 PVC. 12 IN. X 6 IN SLIP.
15. ACCESS RISER PIPE. 6 IN. DIA. SCH. 40 PVC.
16. 6 IN. LOCKABLE COMPRESSION WELL CAP.
17. GROUT SEAL AT PIPE PENETRATION.
18. GEOTEXTILE SEPARATOR.
19. 4 IN. DIAMETER FORMER FUEL LINES 8B AND 8C. SEE SHEET C001 - PIPELINES INSIDE TFAA.



DETAIL 12 C027 RISER AND VAULT
N.T.S.



SECTION O C027 LNAPL TRENCH
N.T.S.



DETAIL 13 C027 RISER VAULT
N.T.S.

TRENCH NUMBER	PVC PIPE SCHEDULE	ELEVATION (MLLW)		
		SPRING LINE	BOTTOM	LENGTH (FT)
1	40	10.2	9.7	70
2	40	10.6	10.1	70
3	40	11.0	10.5	70
4	40	11.0	10.5	70
5	80	11.0	10.5	50

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PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR/ARCH:
R. NORTH/B. O'NEAL
DESIGNER:
R. NORTH
DRAWN BY:
S. MCCOY
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED BY:
R. NORTH
CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS							
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY

PROJECT MANAGER:
FRED CHOU
PROJECT ENGINEER:
DESIGN ENGINEER:
DRAFTER:
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

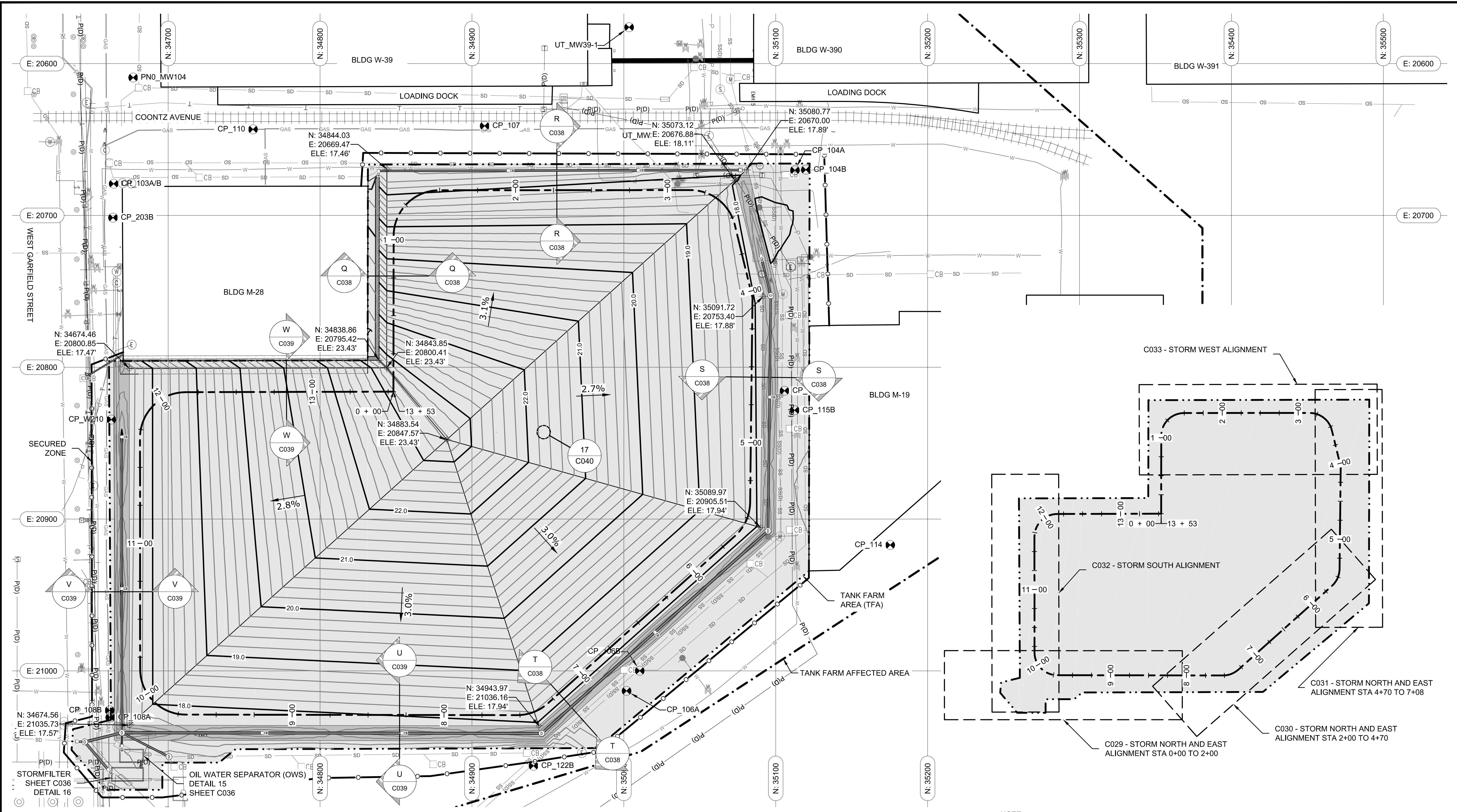
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WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

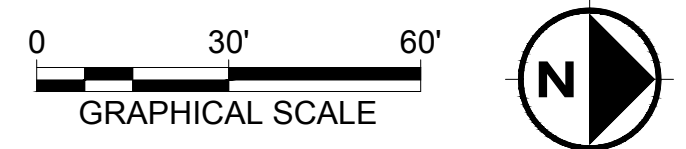
PORT OF SEATTLE NO.
91-1401 C027

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NOTE:
 1. FINAL COVER GRADING MAY BE ADJUSTED BY ENGINEER AT TIME OF CONSTRUCTION OTO BALANCE AVAILABLE MATERIAL QUANTITIES. FINISHED GRADES WILL NOT BE LESS THAN 2 PERCENT NOR MORE THAN 5 PERCENT.

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 PORTLAND, OREGON 97239
 (503) 922-2522

PROJECT ENGR/ARCH:
 R. NORTH/B. O'NEAL
 DESIGNER:
 R. NORTH
 DRAWN BY:
 S. MCCOY
 SCALE:
 AS SHOWN
 DATE:
 2013-07-08
 CHECKED BY:
 R. NORTH
 CHECKED/APPROVED BY:
 R. NORTH/B. O'NEAL

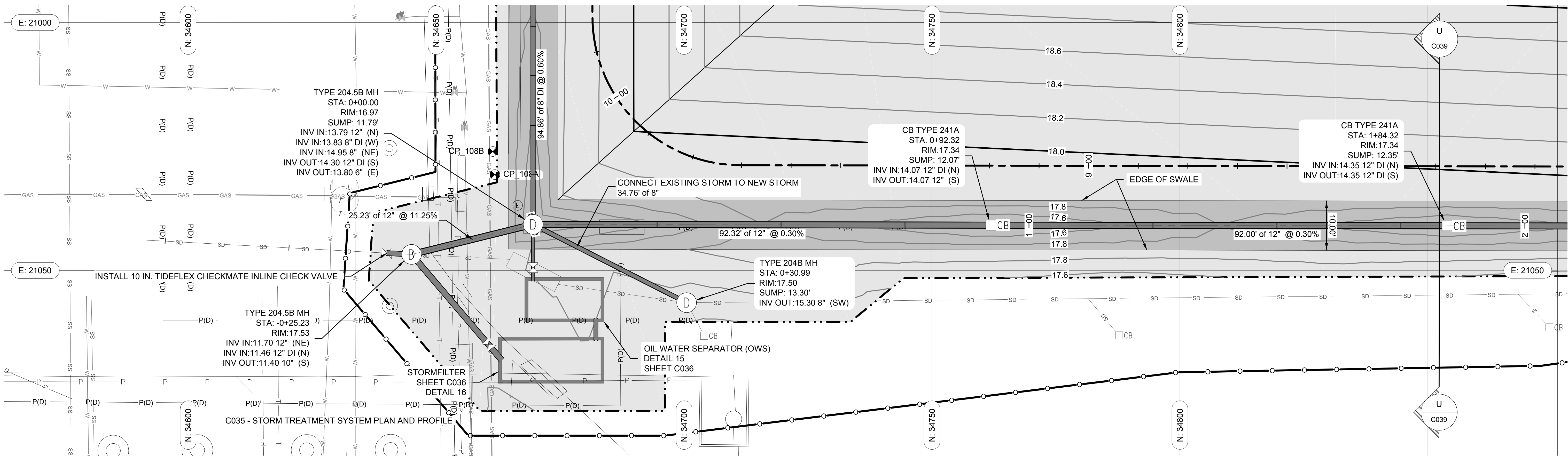
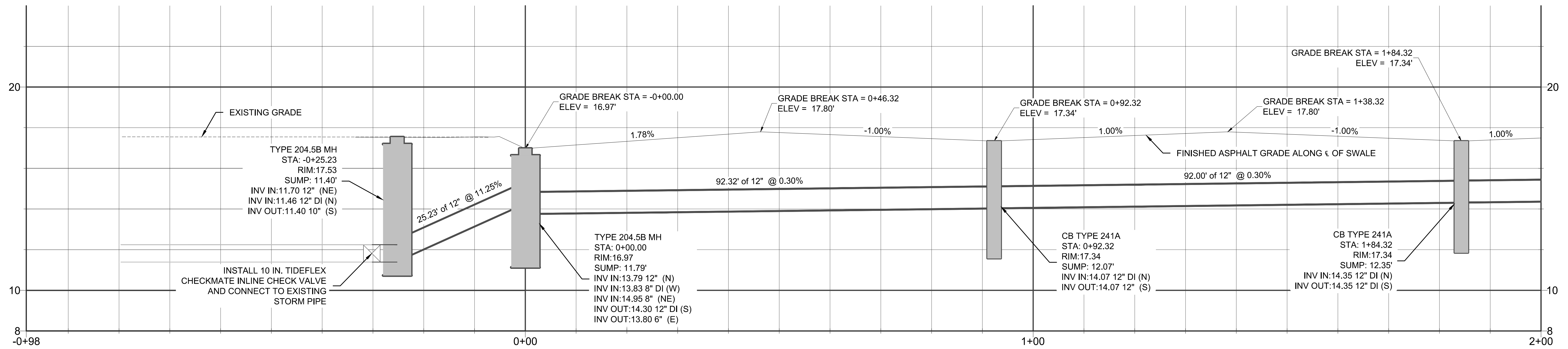
REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
 FRED CHOU
 PROJECT ENGINEER:
 DESIGN ENGINEER:
 DRAFTER:
 SCALE:
 AS SHOWN
 DATE:
 2013-07-08
 CHECKED/APPROVED BY:
 FRED CHOU

Port of Seattle PORT OF SEATTLE
 PROJECT: TERMINAL 91 TANK FARM CLEANUP
 SHEET TITLE: FINAL GRADING PLAN
 TANK FARM AREA - FINAL GRADING AND STORM

WORK PROJECT NO.
 MC - 0317586 - WP104528
 CONSULTANT'S NO.
 948.007.003
 PORT OF SEATTLE NO.
 91-1401 C028

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PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS									
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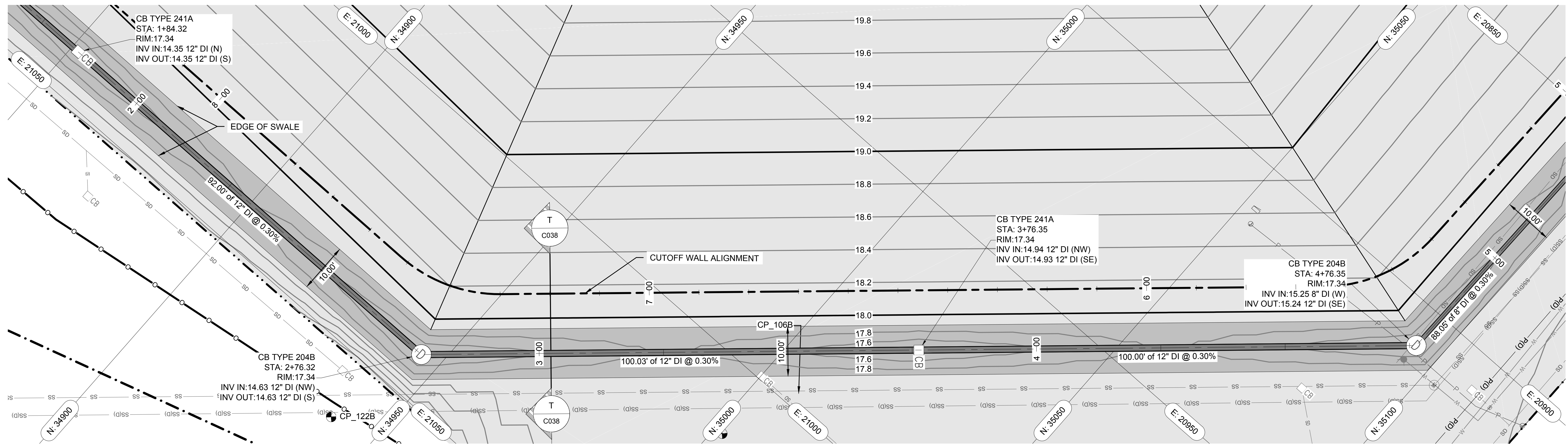
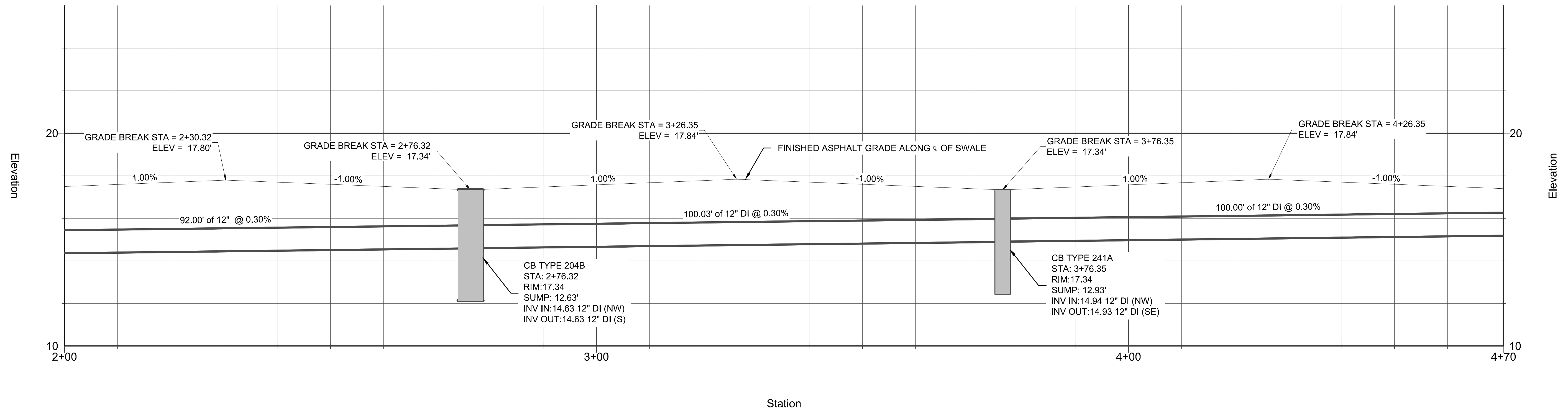
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PROJECT ENGINEER: FRED CHOU
DESIGN ENGINEER: FRED CHOU
DRAFTER: FRED CHOU
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP

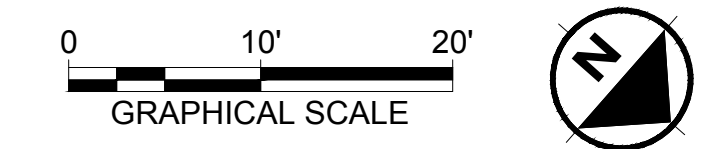
SHEET TITLE: **STORM NORTH AND EAST ALIGNMENT STA 0+00 TO 2+00 TANK FARM AREA - FINAL GRADING AND STORM**

WORK PROJECT NO. MC - 0317586 - WP104528
CONSULTANT'S NO. 948.007.003
PORT OF SEATTLE NO. 91-1401 C029

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- NOTES:**
- FIELD VERIFY ALL EXISTING INVERT ELEVATIONS

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PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR/ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

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PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
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DATE:
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CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

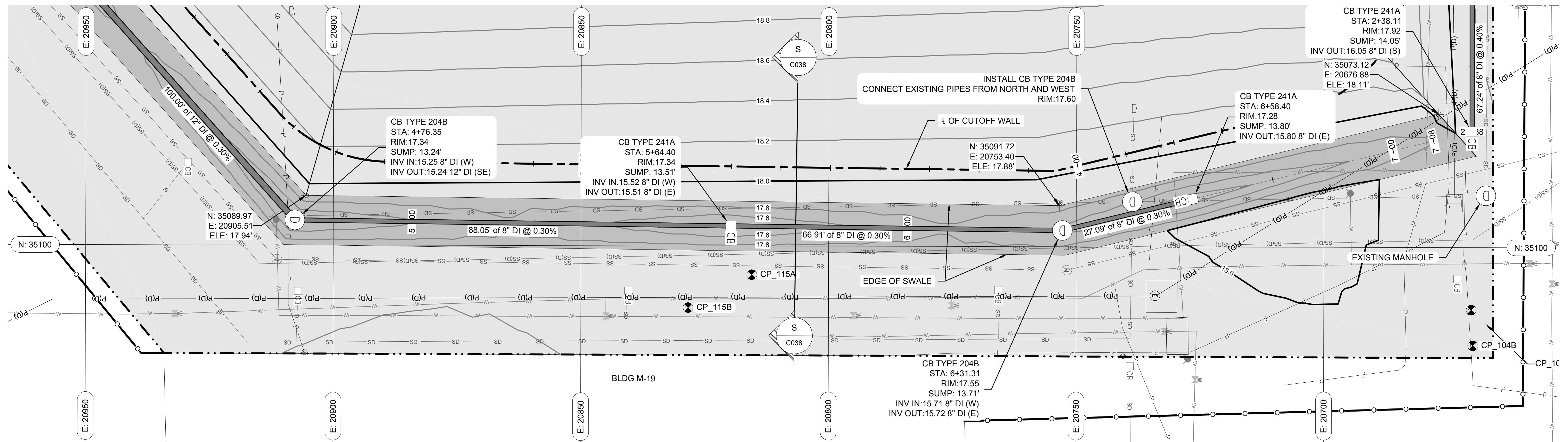
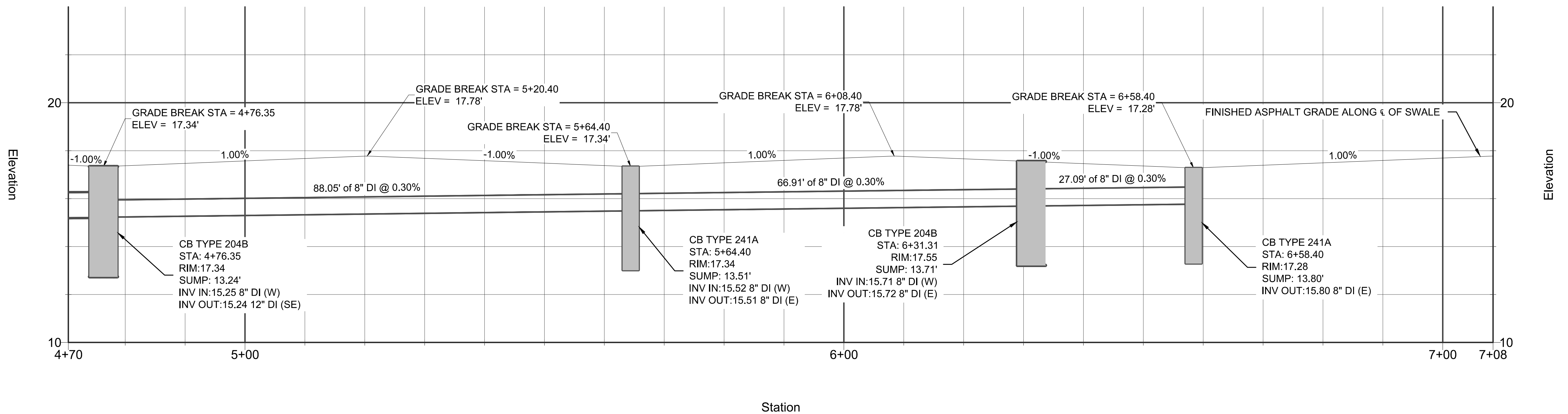
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TANK FARM AREA - FINAL GRADING AND STORM**

WORK PROJECT NO.
MC - 0317586 - WP104528

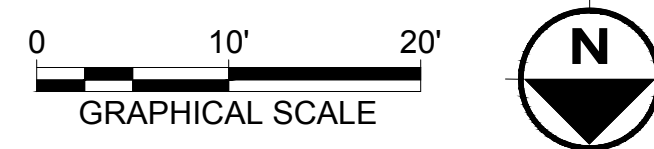
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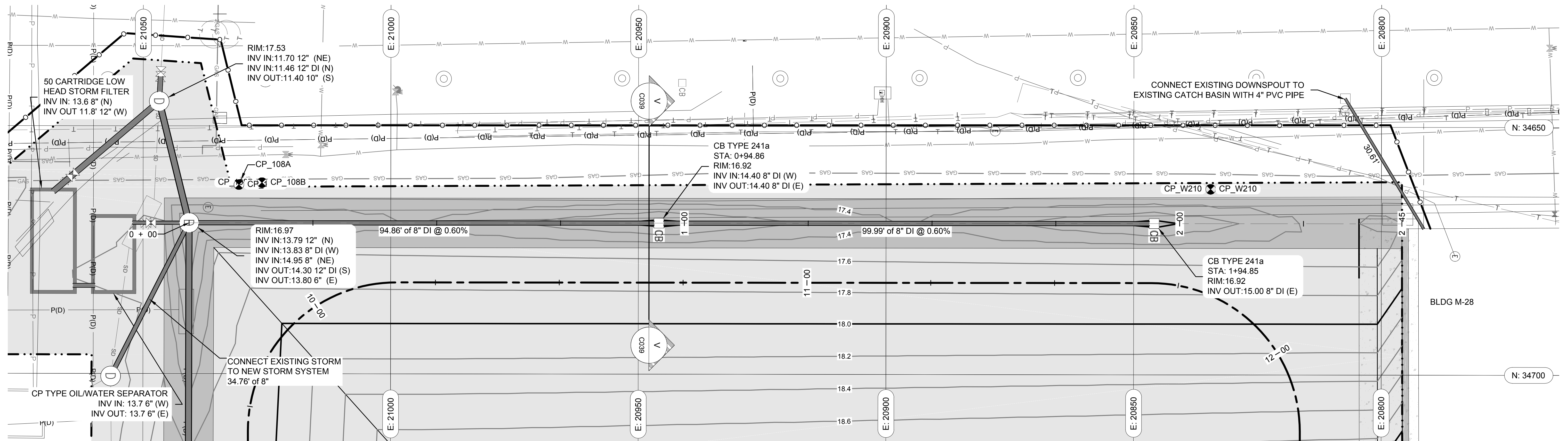
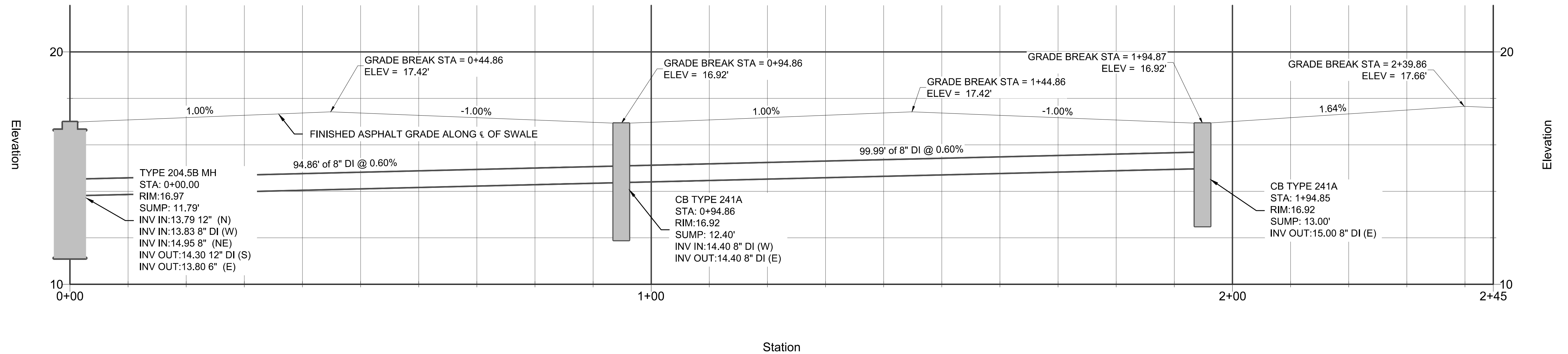
PROJECT MANAGER: FRED CHOU
 PROJECT ENGINEER: FRED CHOU
 DESIGN ENGINEER: FRED CHOU
 DRAFTER: FRED CHOU
 SCALE: AS SHOWN
 DATE: 2013-07-08
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Port of Seattle PORT OF SEATTLE
 PROJECT: TERMINAL 91 TANK FARM CLEANUP

SHEET TITLE: **STORM NORTH AND EAST ALIGNMENT STA 4+70 TO 7+08**
TANK FARM AREA - FINAL GRADING AND STORM

WORK PROJECT NO. MC - 0317586 - WP104528
 CONSULTANT'S NO. 948.007.003
 PORT OF SEATTLE NO. 91-1401 C031

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R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

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R. NORTH

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PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
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DATE:
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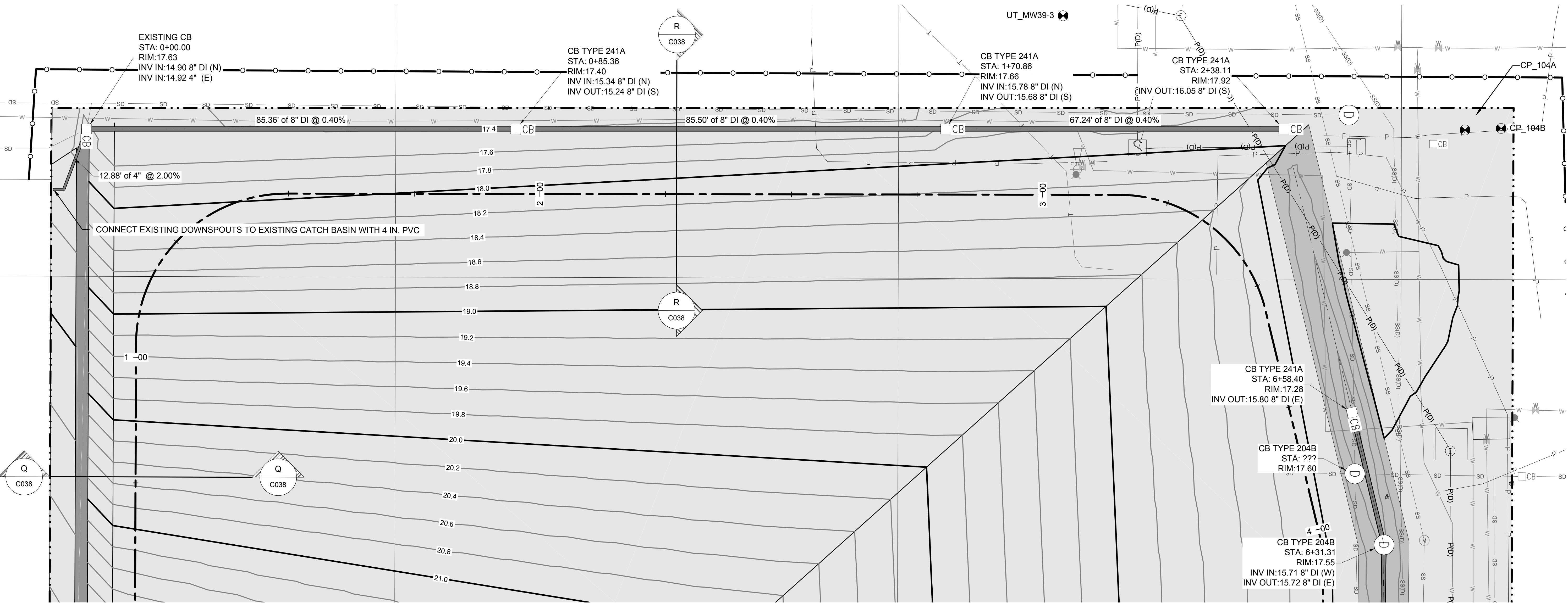
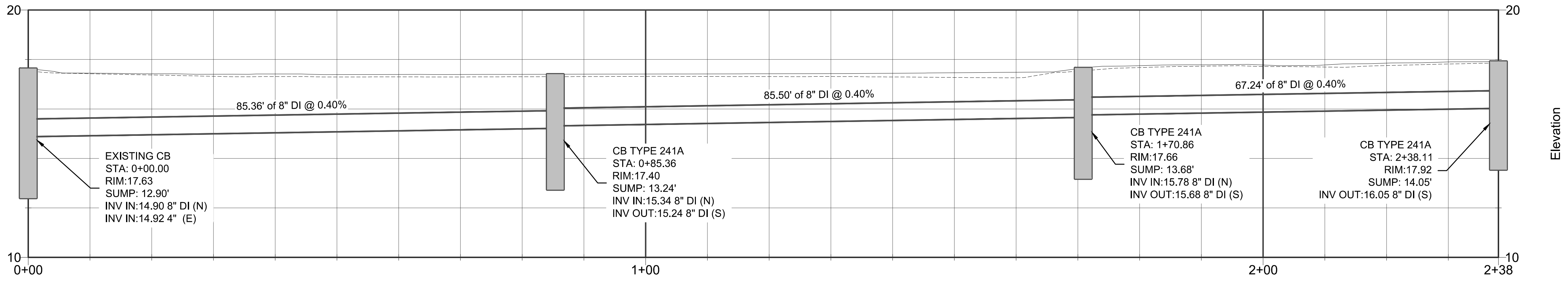
PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

SHEET TITLE: **STORM SOUTH ALIGNMENT
TANK FARM AREA - FINAL GRADING AND STORM**

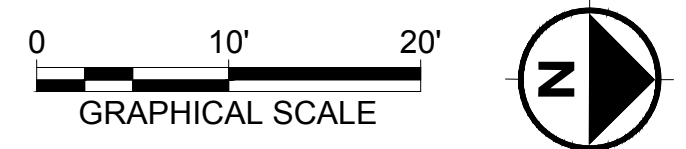
WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C032



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4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR/ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

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REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

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FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

SHEET TITLE: **STORM WEST ALIGNMENT
TANK FARM AREA - FINAL GRADING AND STORM**

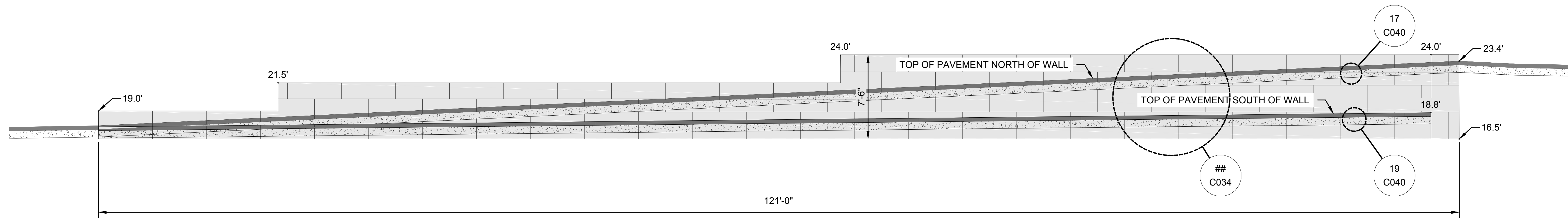
WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

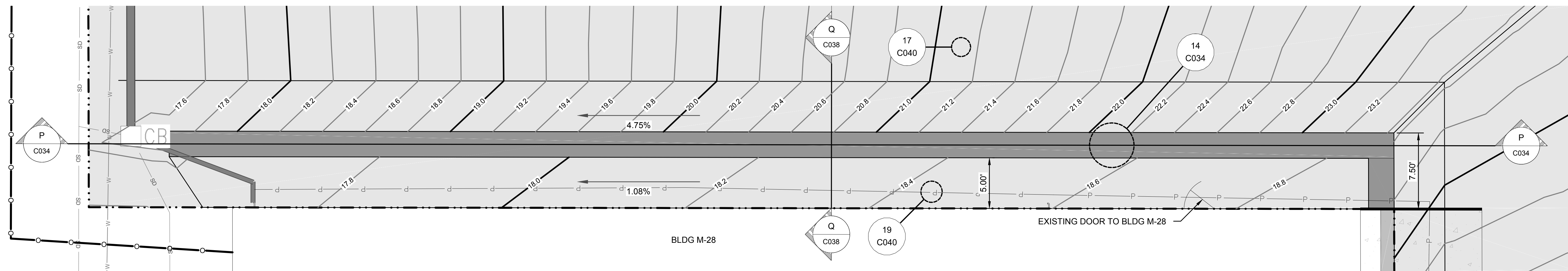
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91-1401 C033

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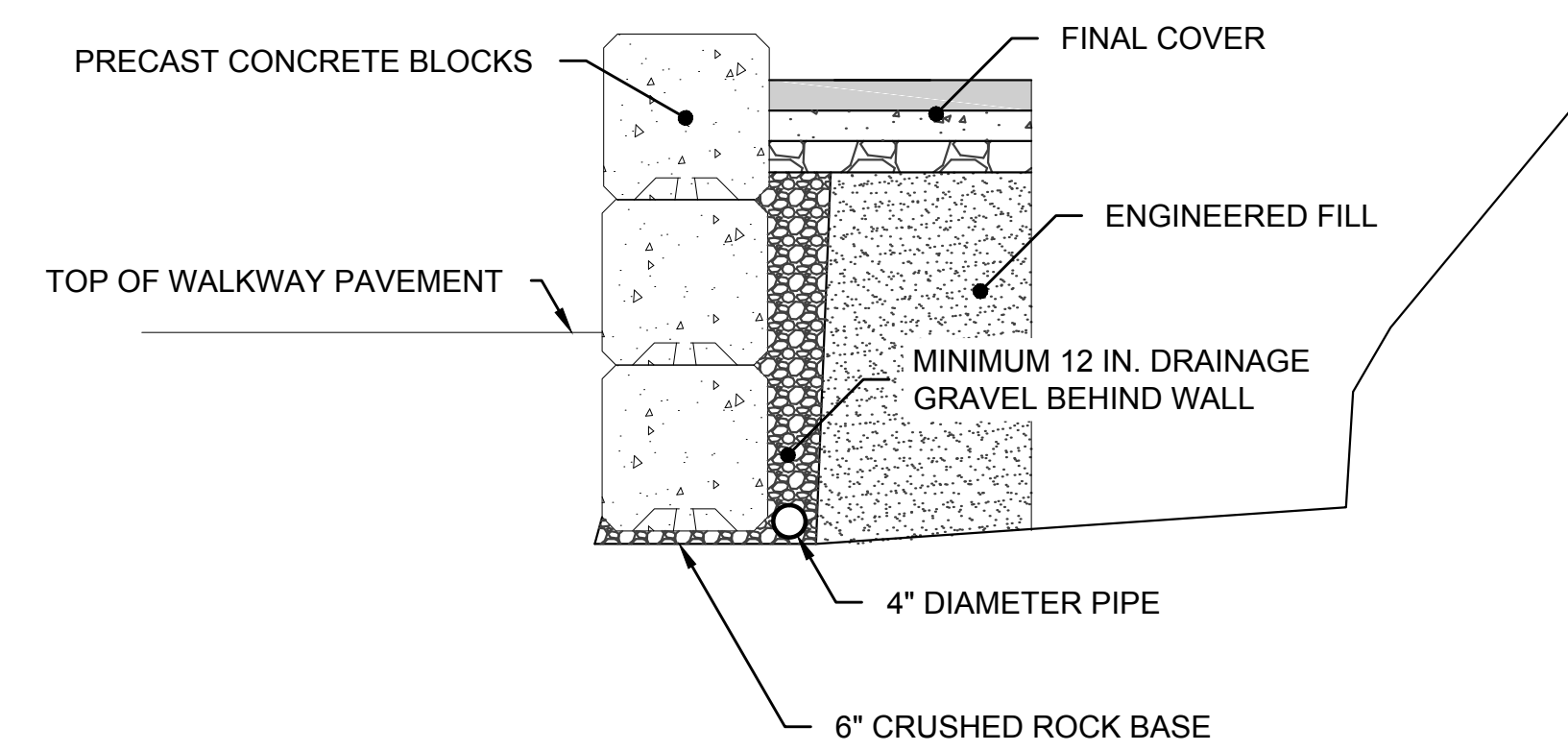
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SECTION P
 GRAPHICAL SCALE 0 5' 10'
 WALK WAY RETAINING WALL EAST-WEST



GRAPHICAL SCALE 0 5' 10'
 N



DETAIL 14
 N.T.S. CONCRETE BLOCK GRAVITY WALL

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 Engineering & Environmental Services

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PROJECT ENGR/ARCH:
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DESIGNER:
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SCALE:
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PROJECT MANAGER:
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PROJECT ENGINEER:

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PROJECT: TERMINAL 91 TANK FARM CLEANUP

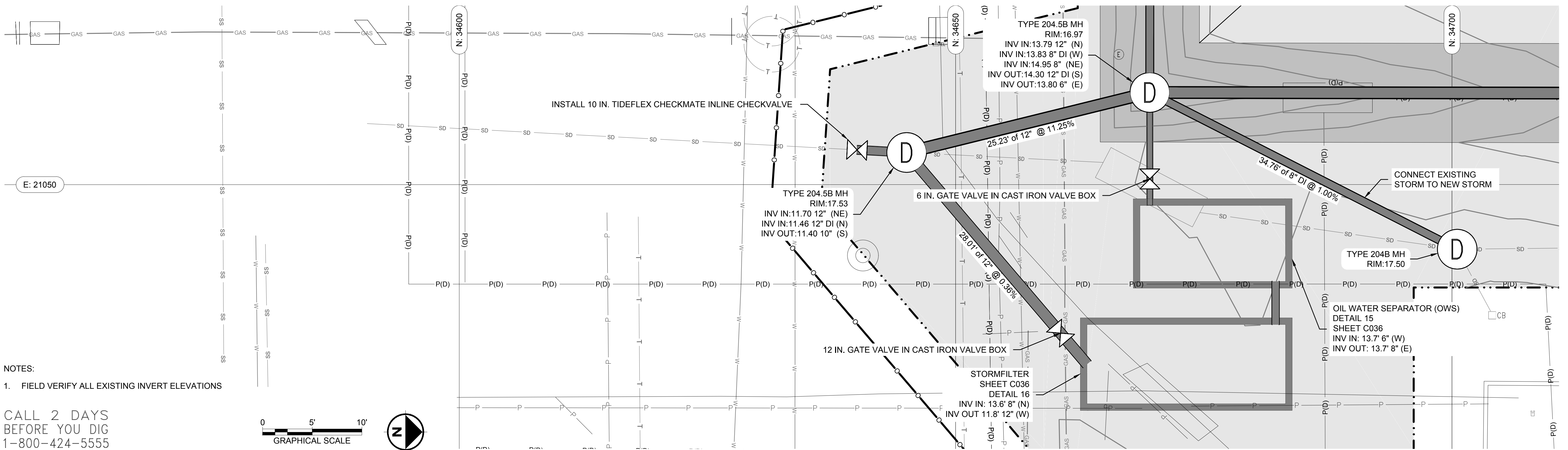
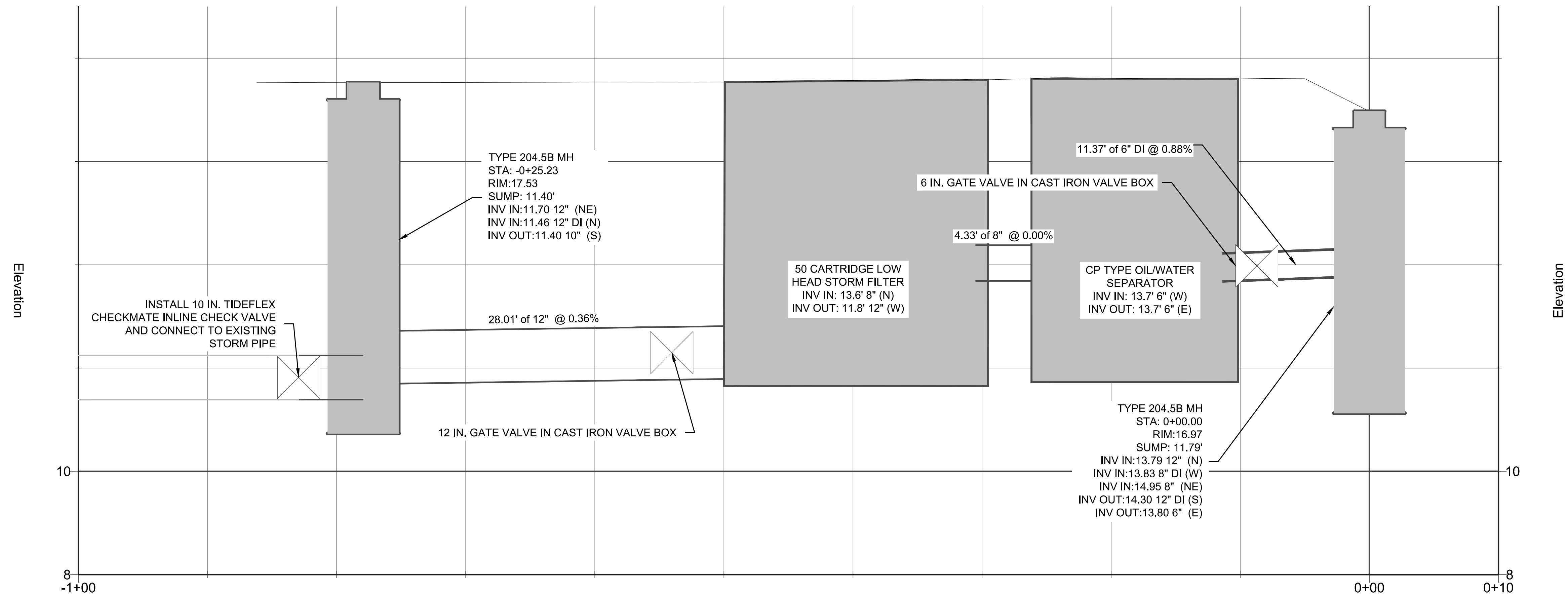
SHEET TITLE: BLDG M-28 WALK WAY AND RETAINING WALL
 TANK FARM AREA - FINAL GRADING AND STORM

WORK PROJECT NO.
 MC - 0317586 - WP104528

CONSULTANT'S NO.
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PORT OF SEATTLE NO.
 91-1401 C034

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- NOTES:
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PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR/ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
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REVISIONS						
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

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FRED CHOU

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PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

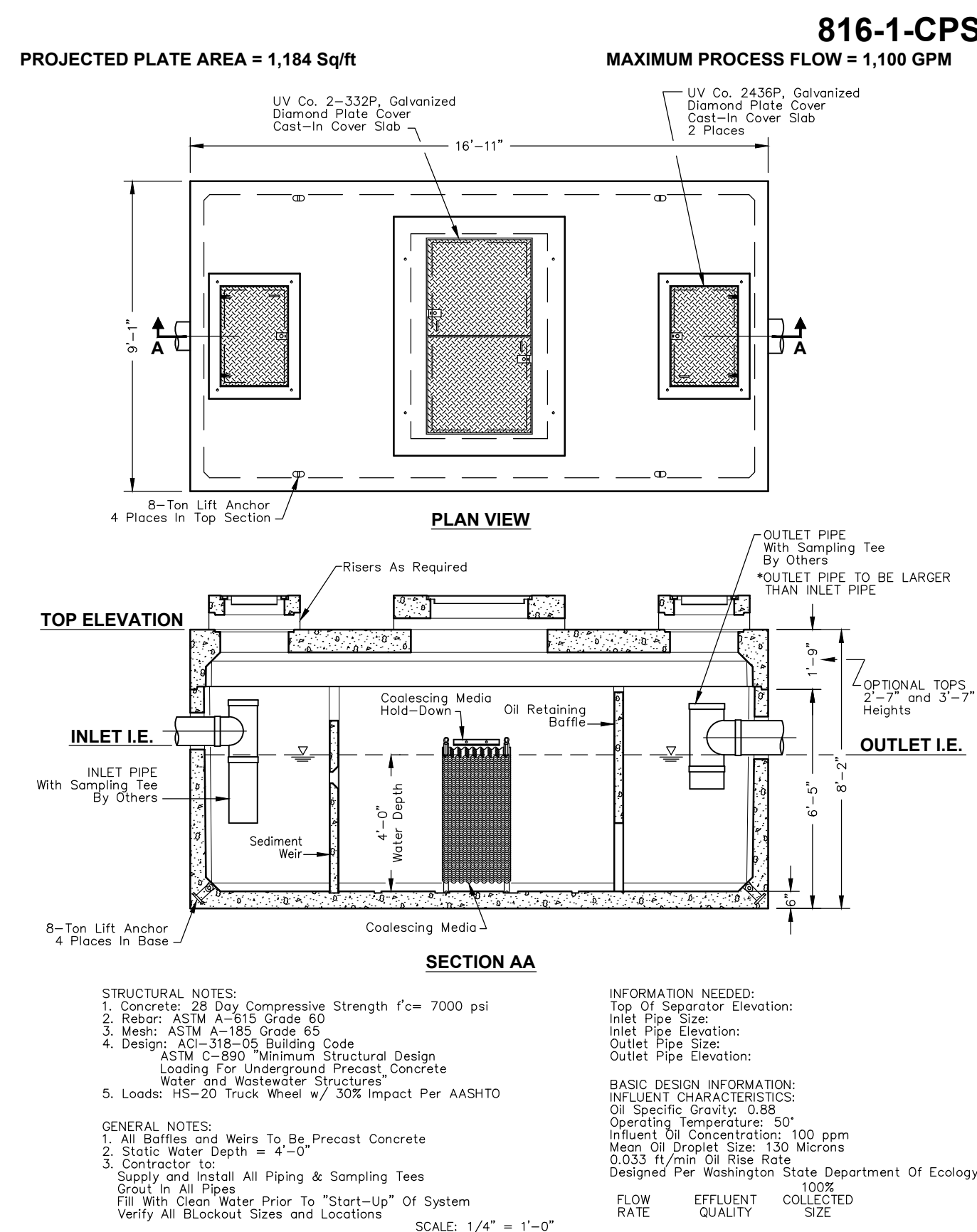
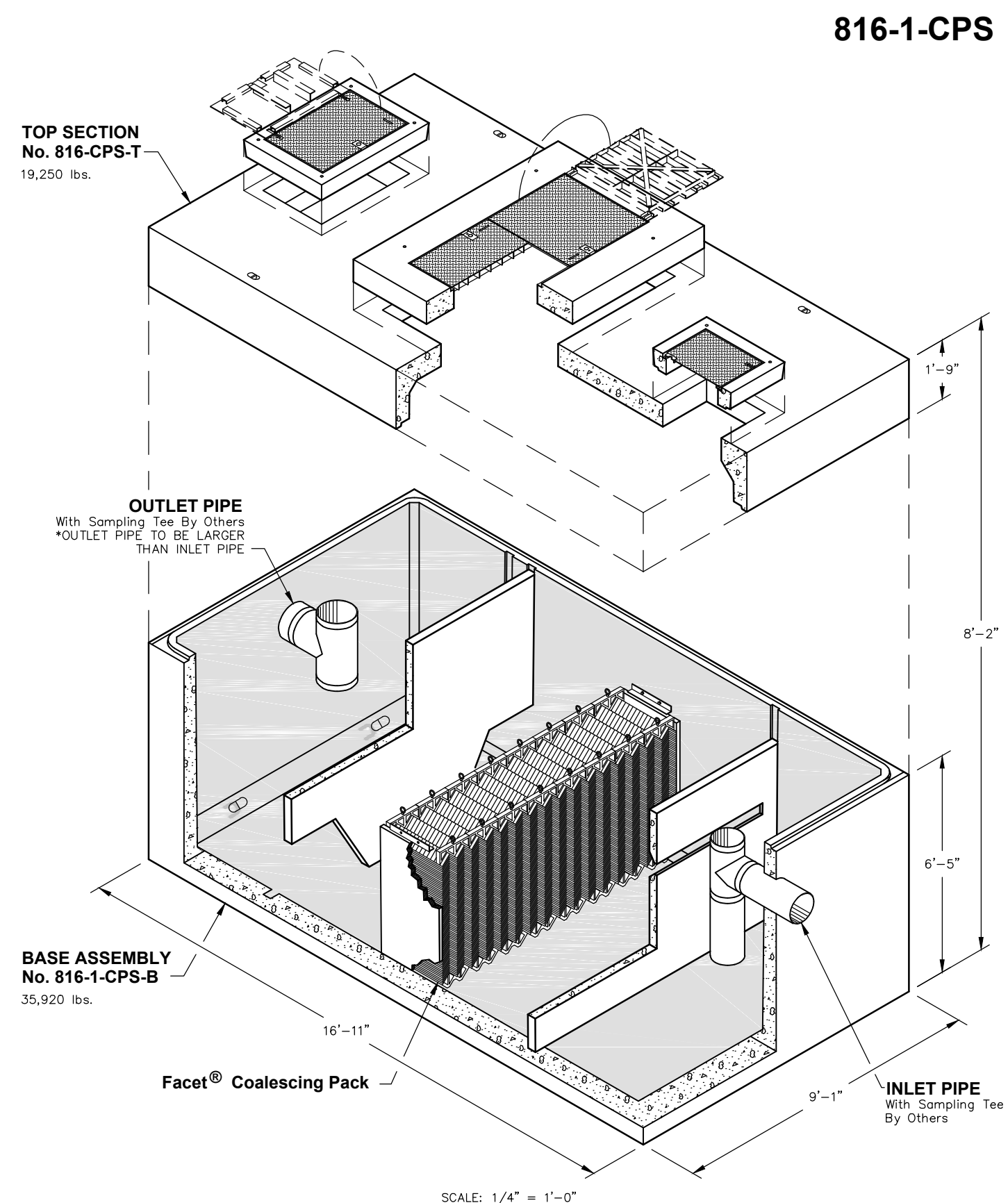
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TANK FARM AREA - FINAL GRADING AND STORM**

WORK PROJECT NO.
MC - 0317586 - WP104528

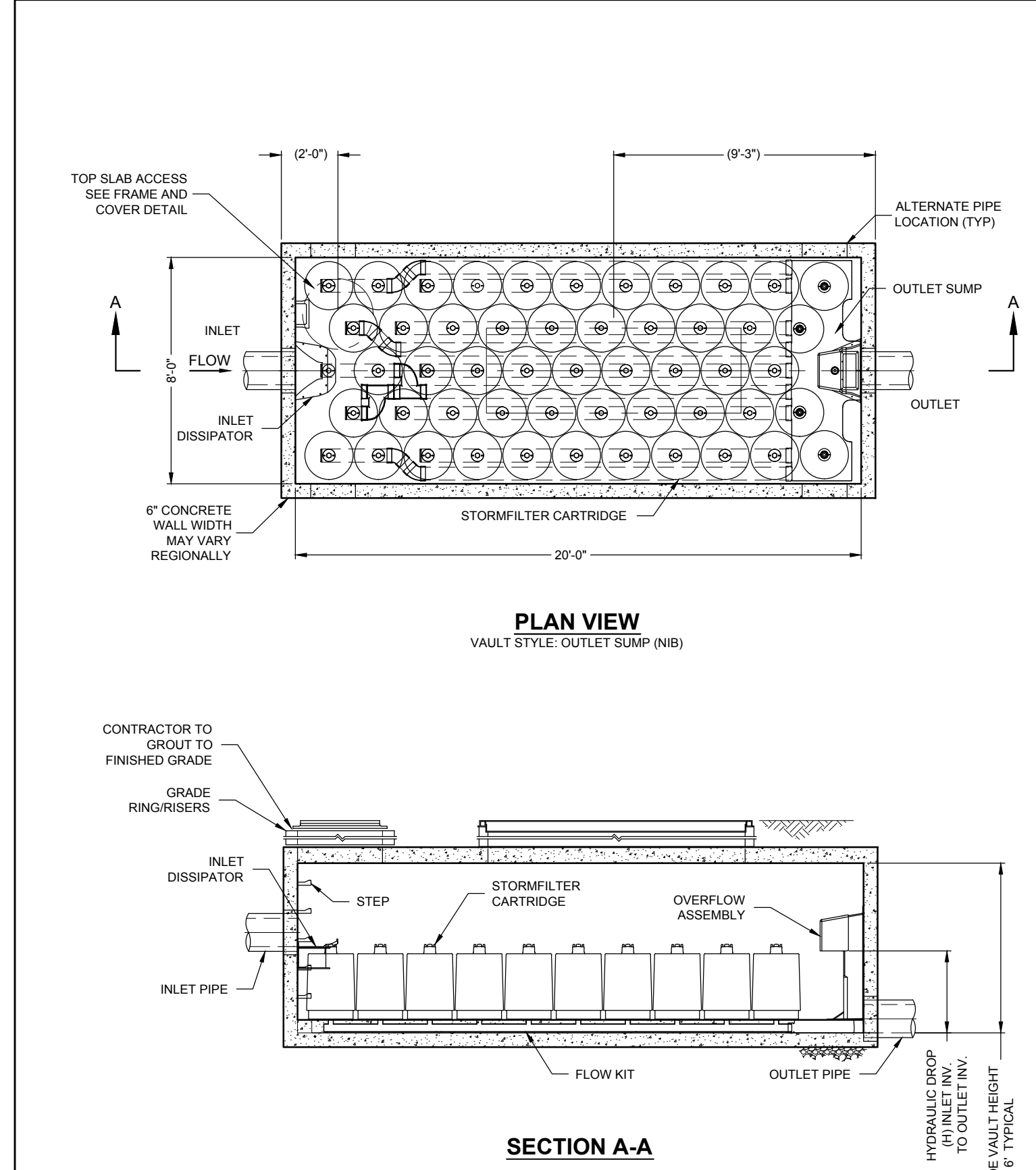
CONSULTANT'S NO.
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DETAIL 15 AS SHOWN C036 OIL WATER SEPARATOR (OWS)



DETAIL 16 N.T.S. C036 STORMFILTER

STORMFILTER DESIGN NOTES

STORMFILTER TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD VAULT STYLE IS SHOWN WITH THE MAXIMUM NUMBER OF CARTRIDGES (51). VAULT STYLE OPTIONS INCLUDE INLET BAY (39), INLET BAY/OUTLET BAY (39), OUTLET BAY (46), INLET BAY/FULL HEIGHT BAFFLE WALL (35), FULL HEIGHT BAFFLE WALL (42). STORMFILTER 8X20 PEAK HYDRAULIC CAPACITY IS 1.8 CFS. IF THE SITE CONDITIONS EXCEED 1.8 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION	27"	18"	LOW DROP	
RECOMMENDED HYDRAULIC DROP (H)	3.05'	2.3'	1.8'	1.8'
SPECIFIC FLOW RATE (gpm/ft)	2 gpm/ft	1 gpm/ft	2 gpm/ft	1 gpm/ft
CARTRIDGE FLOW RATE (gpm)	22.5	11.25	15	7.5

FRAME, COVER, AND HATCH
(SIZE AND CONFIGURATION VARY)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS			
STRUCTURE ID			
WATER QUALITY FLOW RATE (cfs)			
PEAK FLOW RATE (cfs)			
RETURN PERIOD OF PEAK FLOW (yrs)			
# OF CARTRIDGES REQUIRED			
CARTRIDGE FLOW RATE			
MEDIA TYPE (CSF, PERLITE, ZPG, GAC, PHS)			
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	*	*	*
INLET PIPE #2	*	*	*
OUTLET PIPE	*	*	*
UPSTREAM RIM ELEVATION			
DOWNSTREAM RIM ELEVATION			
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
NOTES/SPECIAL REQUIREMENTS:			

* PER ENGINEER OF RECORD

GENERAL NOTES:

- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
- DIMENSIONS MARKED WITH (I) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
- FOR SITE SPECIFIC DRAWINGS WITH DETAILED VAULT DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.conteches.com
- STORMFILTER WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
- STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING EARTH COVER OF 0'-5" AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 7-INCHES. FILTER MEDIA CONTACT TIME SHALL BE AT LEAST 39 SECONDS.
- SPECIFIC FLOW RATE IS EQUAL TO THE FILTER TREATMENT CAPACITY (gpm) DIVIDED BY THE FILTER CONTACT SURFACE AREA (sq ft).

INSTALLATION NOTES:

- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STORMFILTER VAULT (LIFTING CLUTCHES PROVIDED).
- CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL VAULT SECTIONS AND ASSEMBLE VAULT.
- CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH OUTLET PIPE INVERT WITH OUTLET BAY FLOOR.
- CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.

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DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS							
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

SHEET TITLE: **OWS AND STORM FILTER DETAILS 15-16
TANK FARM AREA - FINAL GRADING AND STORM**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C036

C:\CIVIL_3D\PROJECTS\PORT OF SEATTLE\PRODUCTION DRAWINGS\CONSTRUCTION DRAWINGS\10% DRAWINGS\CONSTRUCTION PLANS - STANDARD\1911401\03037.DWG PLOTTED: 7/19/2013 11:16 AM ON ANSI FULL BLEED D. (34.00 X 22.00 INCHES)

200 SEWER/DRAINAGE STANDARD PLAN NO 204b
REV DATE: DEC 2010

	PRECAST BASE	CAST-IN-PLACE BASE
20" MAX	0.25	0.17
30" MAX	0.31	0.22
40" MAX	0.36	0.25

NOTES:
1. MATERIAL: CONCRETE-CLASS 4000
REINFORCING STEEL-ASTM A615 GRADE 60 CHANNEL AND SHELF MATERIAL: CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS SHALL CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C 1443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT

REF STD SPEC SEC 7-05

City of Seattle NOT TO SCALE TYPE 204B MAINTENANCE HOLE

2011 Edition City of Seattle Standard Plans for Municipal Construction

200 SEWER/DRAINAGE STANDARD PLAN NO 204.5b
REV DATE: DEC 2010

	PRECAST BASE	CAST-IN-PLACE BASE
20" MAX	0.29	0.21
30" MAX	0.36	0.26
40" MAX	0.42	0.31

NOTES:
1. MATERIAL: CONCRETE-CLASS 4000
REINFORCING STEEL-ASTM A615 GRADE 60 CHANNEL AND SHELF MATERIAL: CONCRETE CLASS 3000.
2. PRECAST MAINTENANCE HOLE COMPONENTS SHALL CONFORM TO ASTM C 478. JOINTS BETWEEN PRECAST COMPONENTS SHALL BE RUBBER GASKETED CONFORMING TO ASTM C 1443.
3. MINIMUM REQUIRED SOIL BEARING = 3,000 LBS/SQ FT

REF STD SPEC SEC 7-05

City of Seattle NOT TO SCALE TYPE 204.5B MAINTENANCE HOLE

2011 Edition City of Seattle Standard Plans for Municipal Construction

200 SEWER/DRAINAGE STANDARD PLAN NO 241a
REV DATE: OCT 2008

NOTES:
1. THIS CATCH BASIN IS FOR INSTALLATIONS IN ALLEYS AND UNPAVED AREAS IN THE RIGHT-OF-WAY. ANY OTHER USE IN THE R/W WILL REQUIRE APPROVAL OF SPU.
2. FOR CURB DISCHARGE INSTALLATION SEE STD PLAN NO 241B.
3. INSTALL PER STD PLAN NO 261.
4. MATERIAL: CONCRETE CLASS 4000
REINFORCING STEEL, ASTM A615, GR60
5. INLET INVERT EL. TO BE HIGHER THAN OUTLET INVERT EL.
6. USE OF LEVELING BRICKS SHALL BE RUNNING BOND PATTERN WITH 1/4" TO 3/8" GROUT IN BETWEEN BRICKS.

REF STD SPEC SEC 7-05

City of Seattle NOT TO SCALE TYPE 241 CATCH BASIN

2011 Edition City of Seattle Standard Plans for Municipal Construction

200 SEWER/DRAINAGE STANDARD PLAN NO 264
REV DATE: JUL 2010

NOTES:
1. OTHER GRATES ACCEPTABLE; SPECIFY VANE, SOLID COVER, BI-DIRECTIONAL VANE, ADA OR BEEHIVE ON PLANS.
2. GRATE MATERIAL: DUCTILE IRON

REF STD SPEC SEC 7-05

City of Seattle NOT TO SCALE INLET FRAME & GRATE

2011 Edition City of Seattle Standard Plans for Municipal Construction

NOTES:

- OMIT CHANNEL AND INSTALL 24" SUMP BELOW BOTTOM INVERT ELEVATION ON TYPE 204B AND 204.5B MAINTENANCE HOLES.
- REPLACE MAINTENANCE HOLE FRAME AND COVER WITH STANDARD FRAME AND GRATE TYPE 264 ON TYPE 204B AND 204.5B MAINTENANCE HOLES.

200 SEWER/DRAINAGE STANDARD PLAN NO 280
REV DATE: 2003

NOTE:
USE LOCKING CLEAN-OUT IN ROW. DRILL AND TAP, APPLY ANTI-SEIZE COATING AND BOLT DOWN WITH 3/8" S.S. ALLEN-HEAD BOLTS - 2 PLACES.

REF STD SPEC SEC 7-19

City of Seattle NOT TO SCALE 8" CLEAN-OUT

2011 Edition City of Seattle Standard Plans for Municipal Construction

200 SEWER/DRAINAGE STANDARD PLAN NO 284
REV DATE: DEC 2010

TYPICAL TRENCH SECTION (SEWER & STORM DRAIN)

REF STD SPEC SEC 7-17

City of Seattle NOT TO SCALE TYPICAL TRENCH SECTION

2011 Edition City of Seattle Standard Plans for Municipal Construction

200 SEWER/DRAINAGE STANDARD PLAN NO 267
REV DATE: FEB 2010

NOTES:
1. TRAP TO BE MADE OF 22 GA (0.035) SHEET METAL OR 18GA (0.027) ALUMINUM.
2. ALL JOINTS TO BE SEALED AND SOLDERED, OR WELDED.
3. ALL LONGITUDINAL JOINTS TO BE RIVETED OR WELDED.
4. DIAMETER "D" IS NOMINAL DIAMETER OF OUTLET PIPE.
5. LIFT HANDLE SHALL BE WELDED TO OUTSIDE OF TRAP (1" WIDE X 0.1" THICK)

REF STD SPEC SEC 9-12

City of Seattle NOT TO SCALE OUTLET TRAP

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DATE:
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REVISIONS					
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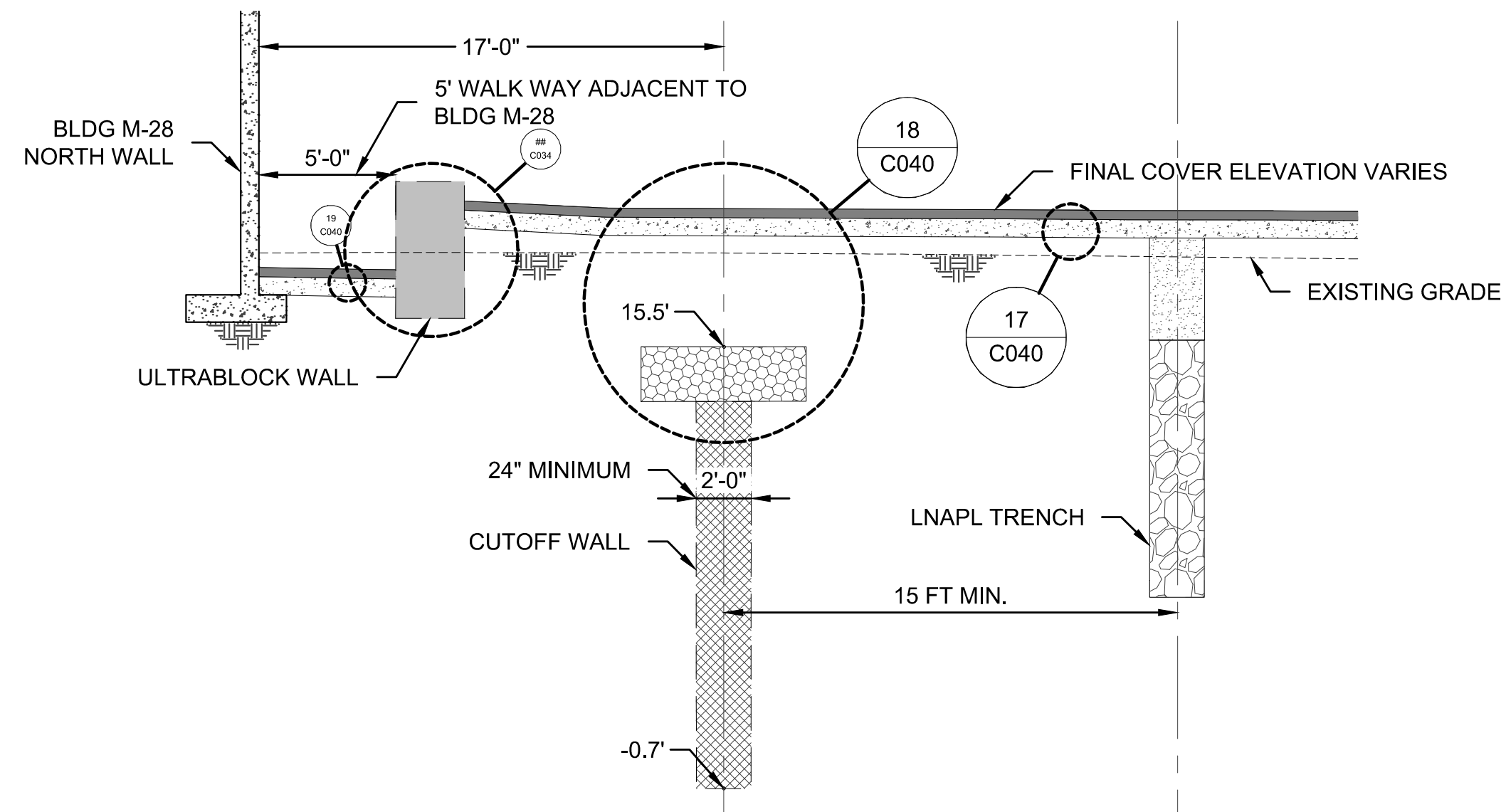
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FRED CHOU
PROJECT ENGINEER:
DESIGN ENGINEER:
DRAFTER:
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Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP

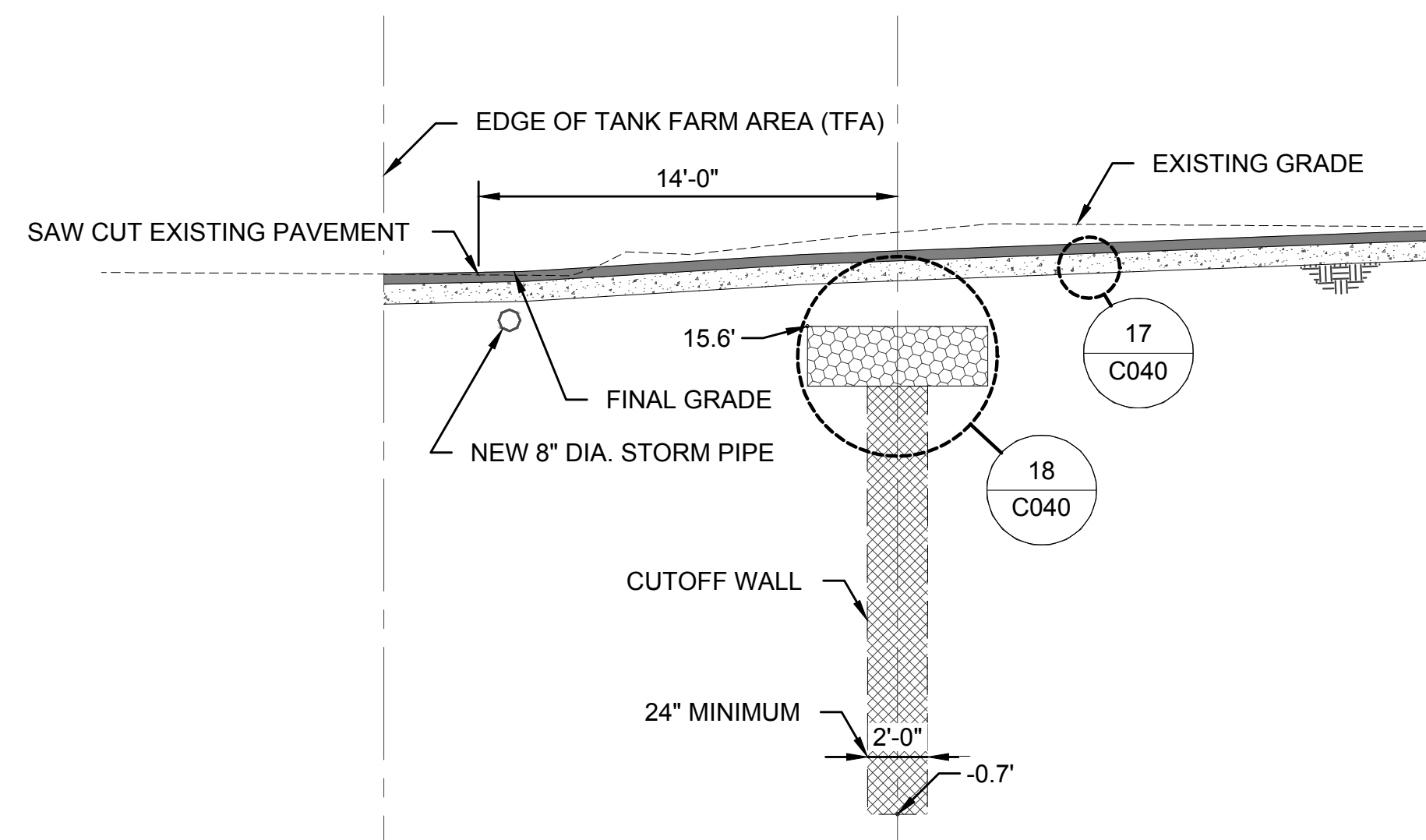
SHEET TITLE: STORM SEWER DETAILS
TANK FARM AREA - FINAL GRADING AND STORM

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 C037

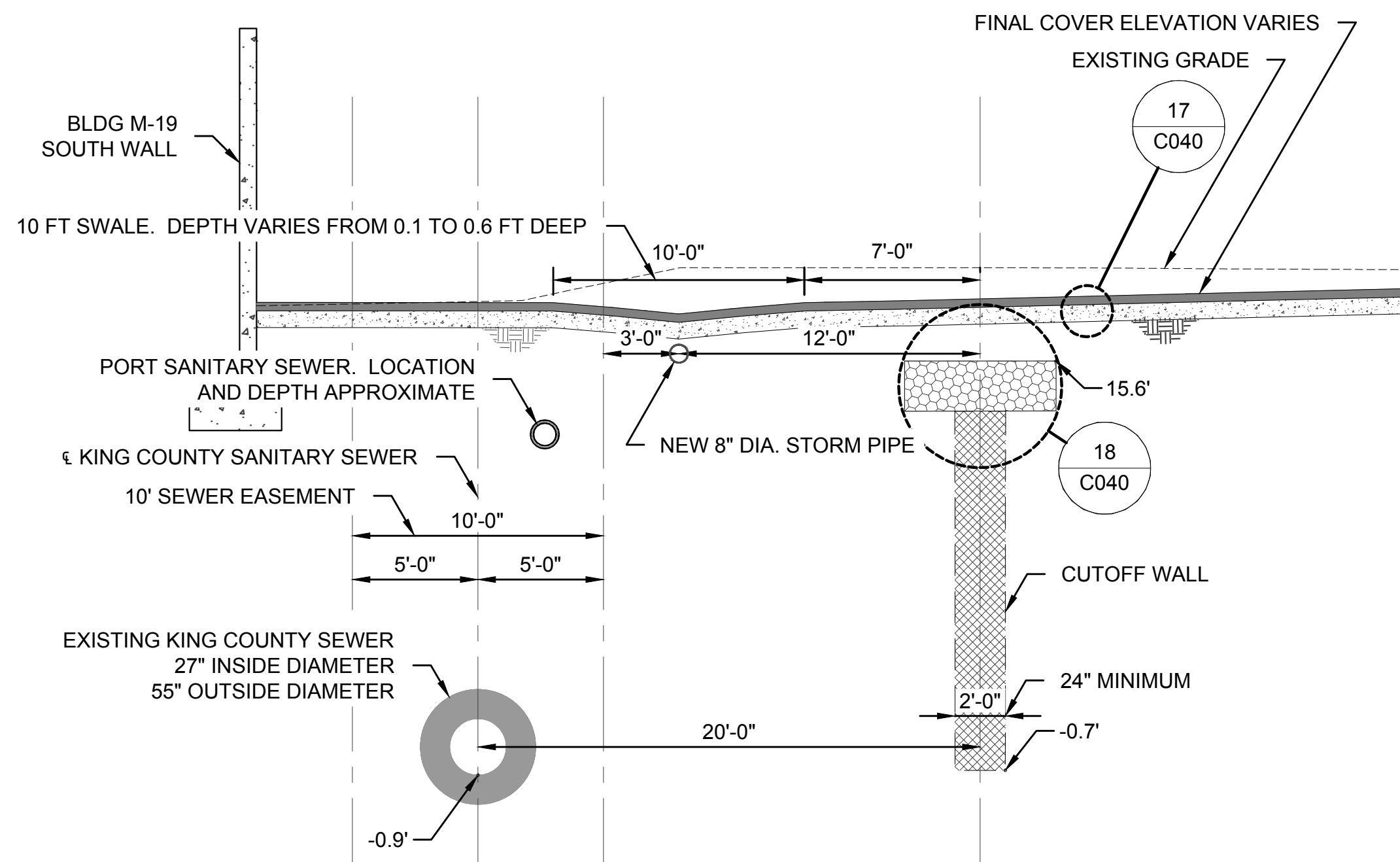
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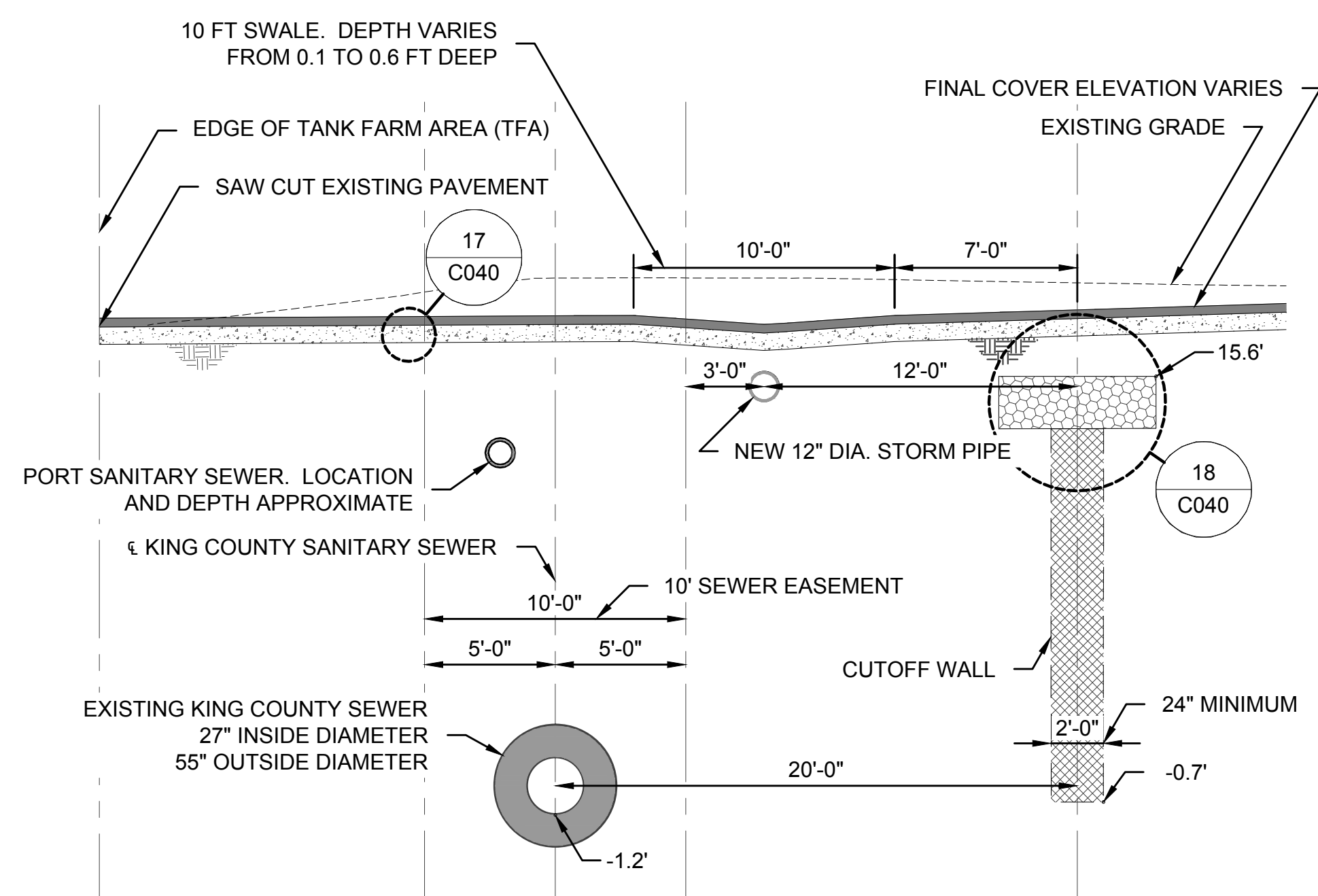
SECTION Q NORTH SIDE BLDG M-28
C021,C022
C028,C033



SECTION R WEST SIDE
C021,C022
C028,C033



SECTION S NORTH SIDE
C021,C022
C023,C028
C031



SECTION T NORTHEAST SIDE
C021,C023
C028,C030

NOTES:

- FOLLOWING COMPLETION OF CUTOFF WALL, PLACE ENGINEERED FILL TO GRADES NECESSARY FOR FINAL COVER.

CALL 2 DAYS BEFORE YOU DIG
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Port of Seattle PORT OF SEATTLE

PROJECT: TERMINAL 91 TANK FARM CLEANUP

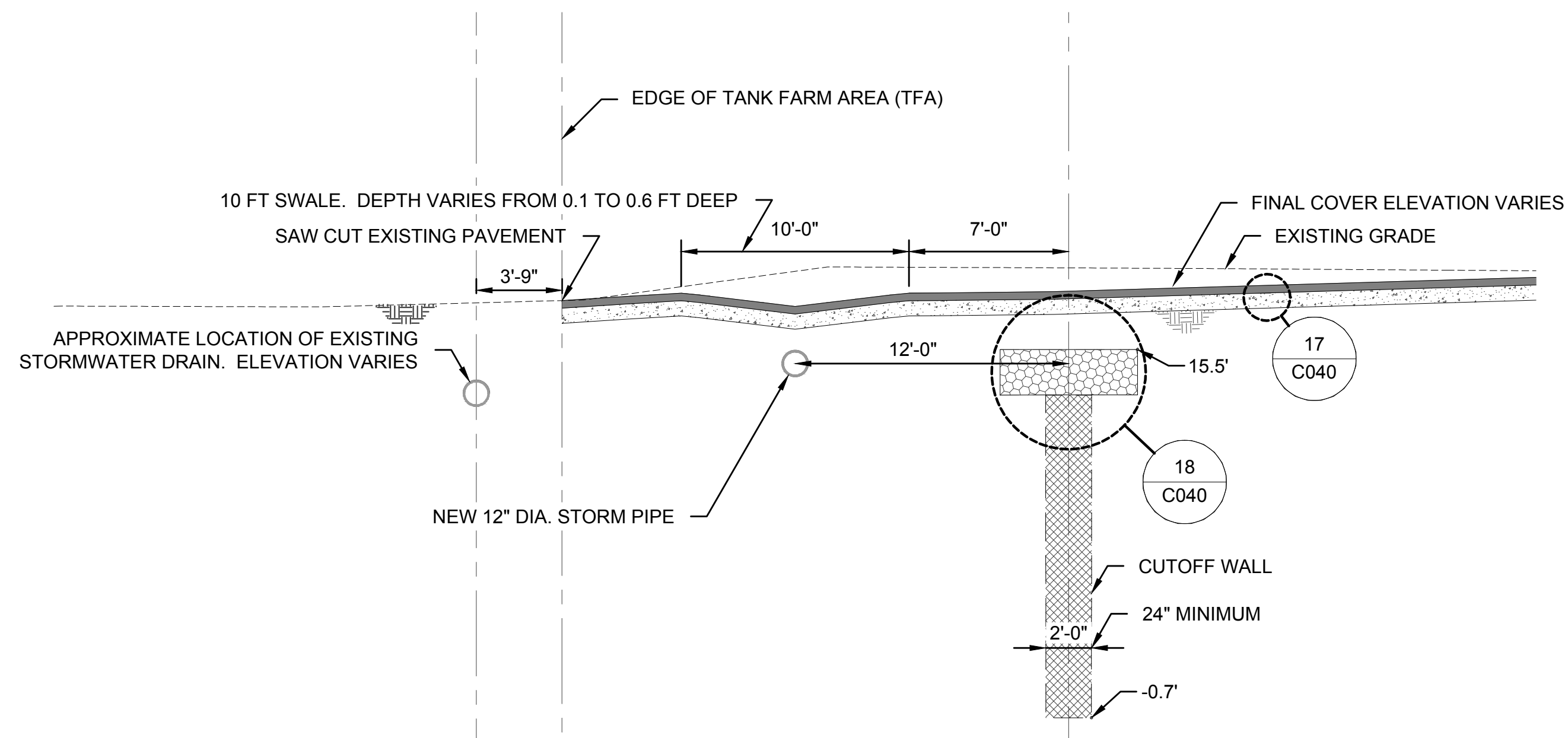
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TANK FARM AREA - FINAL GRADING AND STORM

WORK PROJECT NO.
MC - 0317586 - WP104528

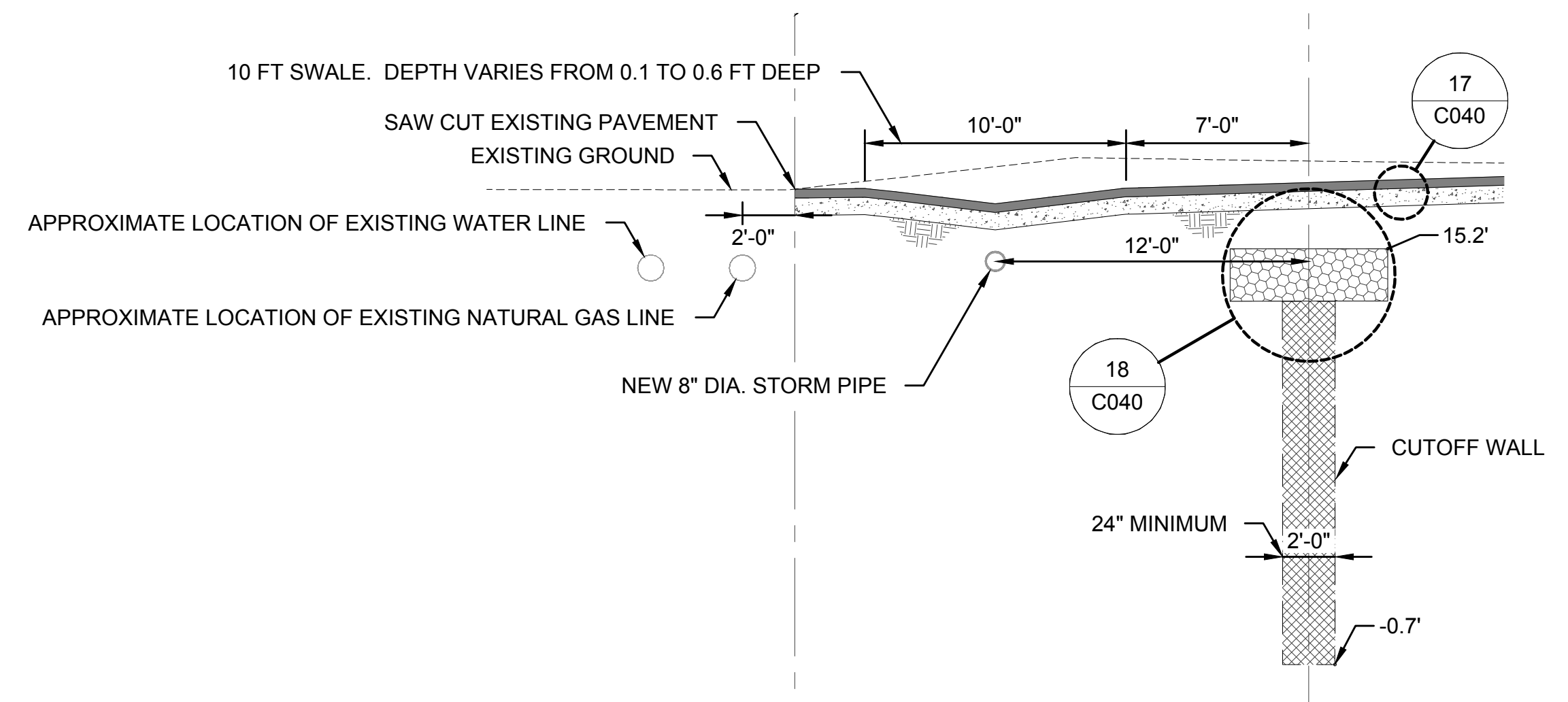
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PORT OF SEATTLE NO.
91-1401 C038

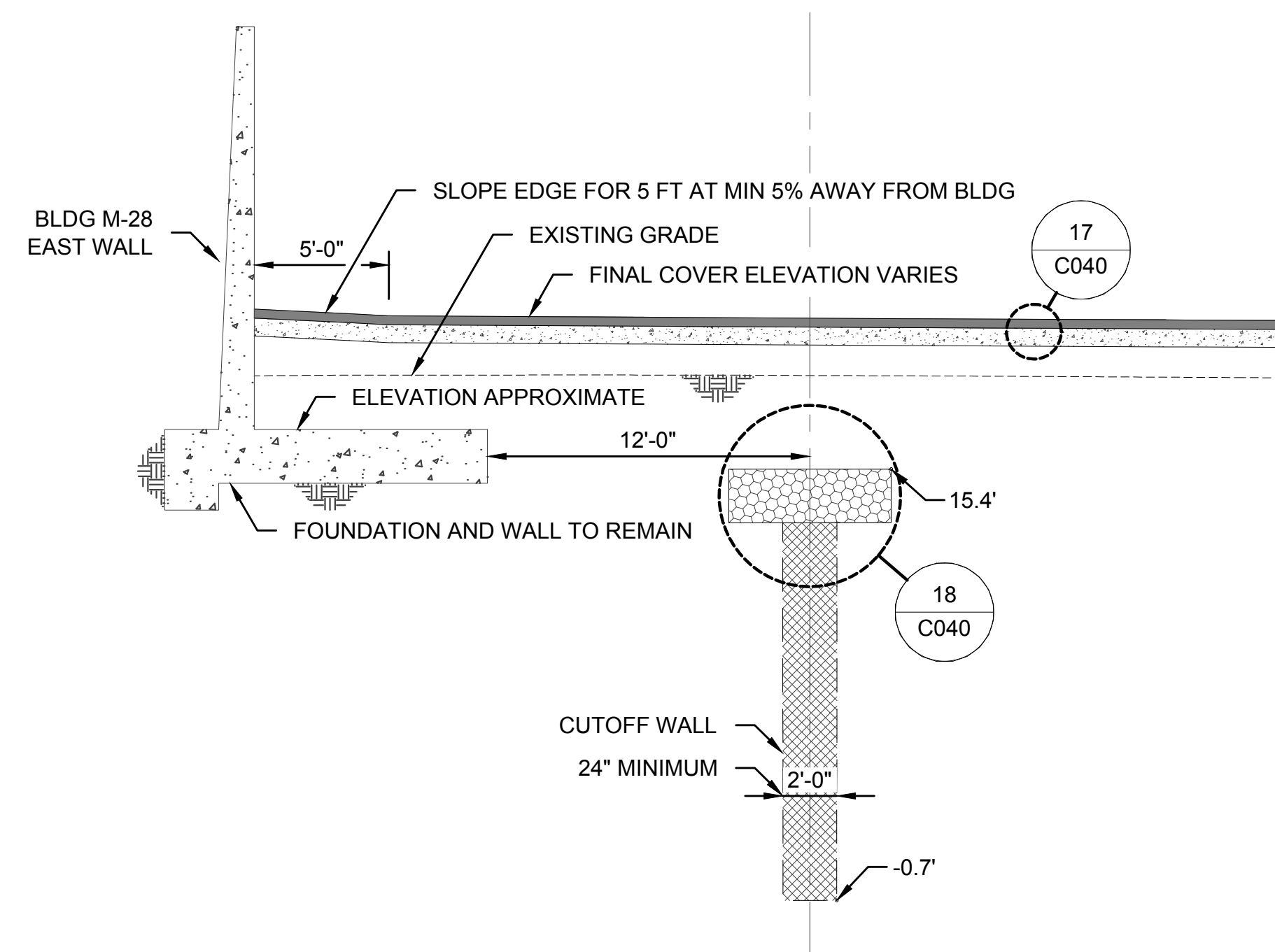
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SECTION U EAST SIDE
C021, C024
C028, C029



SECTION V SOUTH SIDE
C021, C024
C025, C028
C032



SECTION W EAST SIDE OF BLDG M-28
C021, C025
C028

NOTES:

- FOLLOWING COMPLETION OF CUTOFF WALL, PLACE ENGINEERED FILL TO GRADES NECESSARY FOR FINAL COVER.

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Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

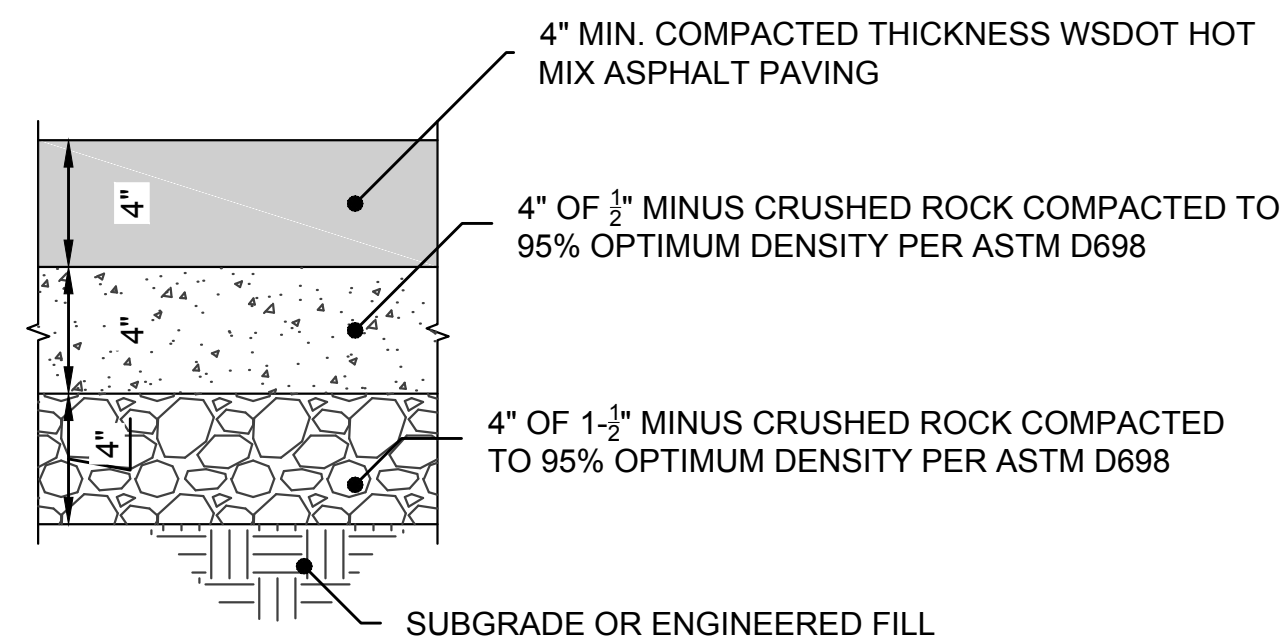
SHEET TITLE: **FINAL COVER SECTIONS U-W
TANK FARM AREA - FINAL GRADING AND STORM**

WORK PROJECT NO.
MC - 0317586 - WP104528

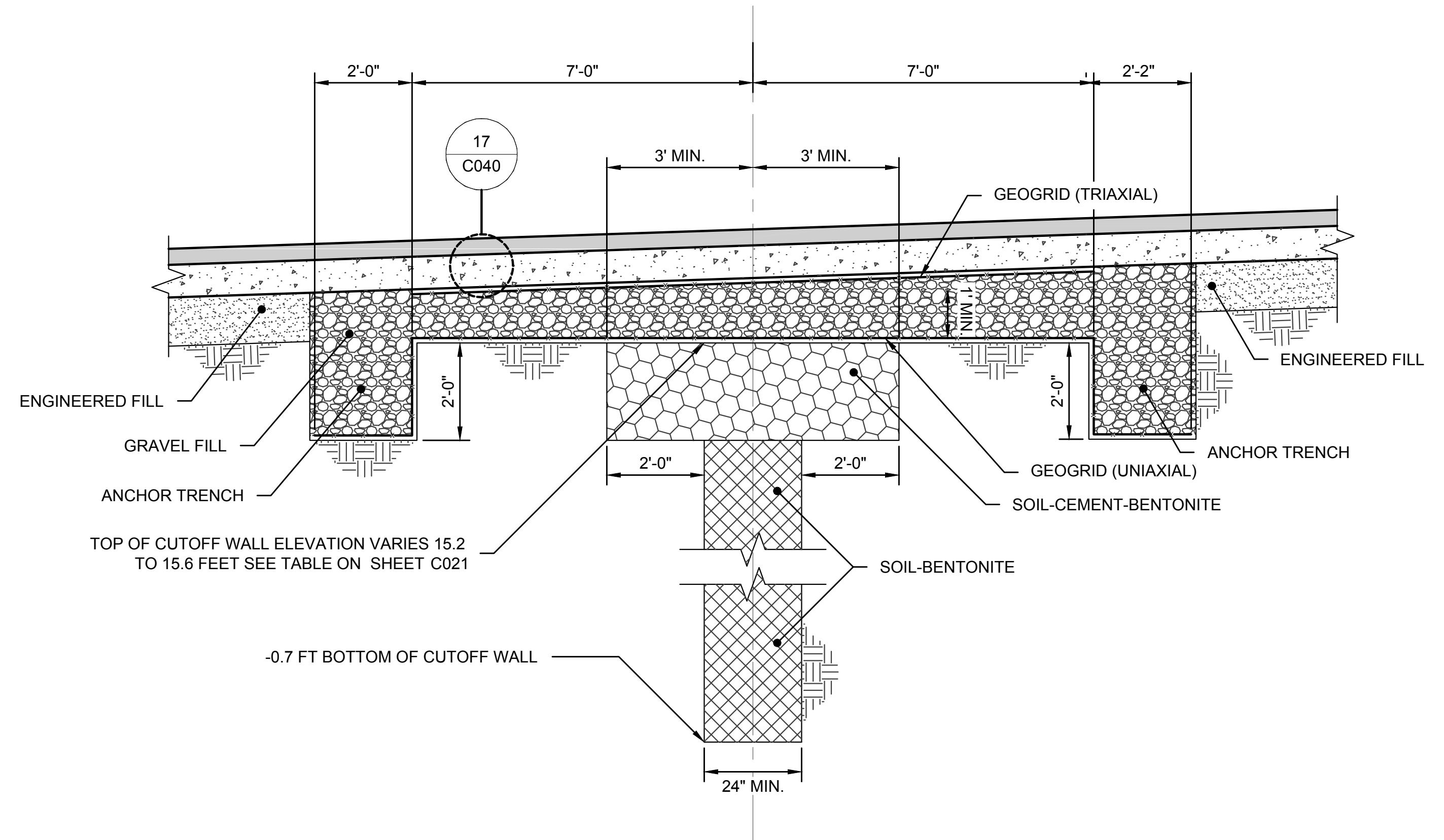
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PORT OF SEATTLE NO.
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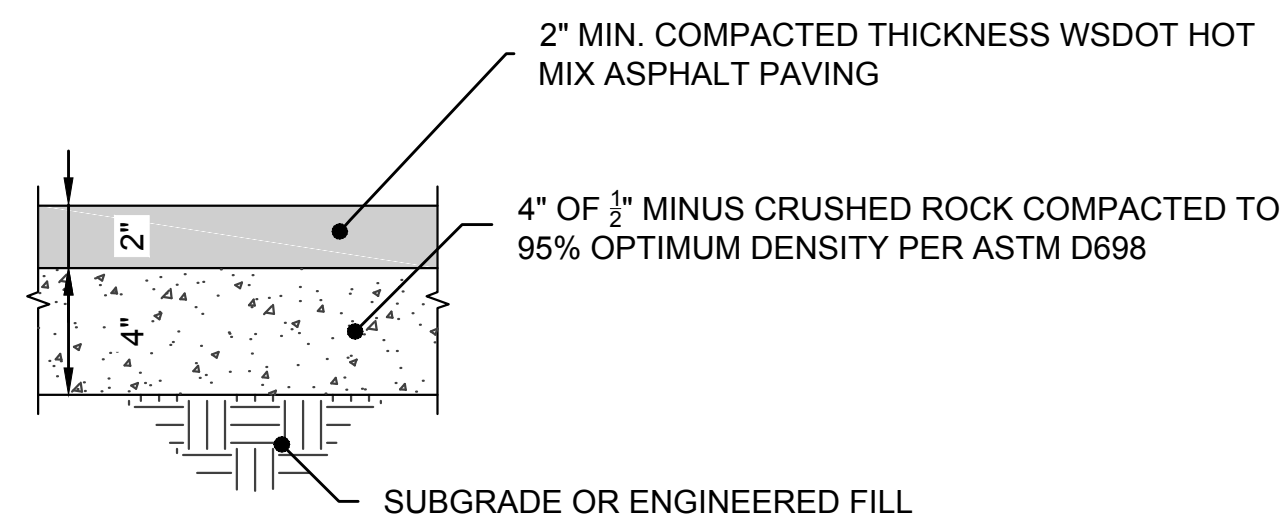
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DETAIL 17
N.T.S. C040 FINAL COVER SECTION



DETAIL 18
N.T.S. C040 TOP OF CUTOFF WALL TREATMENT



DETAIL 19
N.T.S. C040 WALK WAY PAVING

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PROJECT: TERMINAL 91 TANK FARM CLEANUP

SHEET TITLE: DETAILS 17-19
TANK FARM AREA - FINAL GRADING AND STORM

WORK PROJECT NO.
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CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 C040

Port of Seattle MARINE PORT FACILITIES

TERMINAL 91 TANK FARM CLEANUP

GENERAL NOTES - ASBESTOS:

- THE GENERAL CONTRACTOR SHALL EXERCISE GENERAL SUPERVISORY AUTHORITY OVER ASBESTOS-RELATED WORK AT THIS PROJECT AS REQUIRED BY WAC 296-62-07706. AS SUPERVISOR OF THE ENTIRE PROJECT, THE GENERAL CONTRACTOR SHALL ASCERTAIN WHETHER THE ASBESTOS CONTRACTOR IS IN COMPLIANCE WITH THE ASBESTOS REGULATIONS, AND SHALL REQUIRE SUCH CONTRACTOR TO COME INTO COMPLIANCE WITH THE ASBESTOS REGULATIONS WHEN NECESSARY.
- THE ASBESTOS CONTRACTOR SHALL REMOVE AND DISPOSE OF ASBESTOS-CONTAINING MATERIALS (ACM) WITH THE WORK AREAS AS SHOWN.
- THE REFERENCE PLANS REPRESENT AS-BUILT CONDITIONS, HOWEVER, THE ACCURACY OF THE INFORMATION IS NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY EXISTING CONDITIONS, OBSTRUCTIONS, AND MATERIAL QUANTITIES.
- DURING THE TIME OF THE REGULATED BUILDING MATERIALS ASSESSMENT, UNDERGROUND PIPING AND UTILITIES WERE NOT ACCESSIBLE FOR INSPECTION. ANY SUSPECT MATERIAL UNCOVERED DURING DEMOLITION IS ASSUMED TO CONTACT ASBESTOS UNTIL SAMPLED BY AN AHERA-ACCREDITED BUILDING INSPECTOR.
- PRIOR TO ABATEMENT, THE ASBESTOS CONTRACTOR SHALL PERFORM INITIAL CLEANING OF WORK AREAS IN ACCORDANCE WITH 40 CFR 763.90. SURFACES AND EQUIPMENT THAT CANNOT BE CLEANED OR REMOVED SHALL BE COVERED DURING ABATEMENT WITH A MINIMUM OF TWO LAYERS OF FIRE RETARDANT 6-MIL POLY.
- THE CONTRACTOR SHALL DEMOLISH OR OTHERWISE REMOVE PIPING, WALLS, MECHANICAL EQUIPMENT, OR ANY OTHER OBSTRUCTIONS TO OBTAIN ACCESS TO REMOVE ACM.
- ALL WORK AND EQUIPMENT FOR THIS PROJECT SHALL BE CONTAINED WITHIN THE PROJECT BOUNDARY AREA. THE ONLY EXCEPTIONS WILL BE WASTE LOAD OUT OPERATIONS. NO ALTERNATIVE ABATEMENT WORK PRACTICES OR EQUIPMENT WILL BE PERMITTED FOR THIS PROJECT. ONLY STANDARD ABATEMENT PRACTICES AND EQUIPMENT AS ADDRESSED IN WAC 296-62 ARE PERMITTED.

- CONTRACTOR SHALL COMPLY WITH ALL PORT RULES AND REGULATIONS REGARDING ACCESS TO AND FROM THE WORK SITE INCLUDING, BUT NOT LIMITED TO, BADGING, TRAINING, AND ESCORT REQUIREMENTS. REFER TO SPECIFICATIONS FOR SPECIFIC REQUIREMENTS.
- CONTRACTOR SHALL NOT BLOCK PERSONNEL/EMERGENCY ACCESS ROUTES OR FIREFIGHTING EQUIPMENT/SIGNAGE IN THE WORK AREA AT ANY TIME.
- VENTILATION, PLUMBING, ELECTRICAL, AND FIREFIGHTING SYSTEMS THAT RUN THROUGH THE PROJECT AREA MAY BE REQUIRED TO REMAIN IN SERVICE AS NEEDED. THE ASBESTOS CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR FOR IDENTIFYING AREAS WHERE THIS CONDITION EXISTS. THE CONTRACTOR SHALL PROTECT THESE SYSTEMS FROM DAMAGE OR CONTAMINATION.
- PRIOR TO ABATEMENT IN THE WORK AREA, THE CONTAINMENT AREA SHALL BE INSPECTED BY THE CAS AND THE OWNER'S REPRESENTATIVE. AT A MINIMUM THE CAS WILL INSPECT THE CONTAINMENT DAILY. THE ASBESTOS CONTRACTOR SHALL SMOKE TEST ALL NEGATIVE PRESSURE ENCLOSURES, MINI-ENCLOSURES, AND ALL GLOVE-BAGS PRIOR TO ABATEMENT AND DAILY IN ACCORDANCE WITH 296-62-077.
- WHERE USED, ALL NEGATIVE PRESSURE ENCLOSURES SHALL BE VENTED OUTSIDE THE BUILDING.
- CONTRACTOR IS RESPONSIBLE FOR PROVIDING LIGHTING WITHIN THE CONTAINMENT. COORDINATE ELECTRICAL HOOK-UPS WITH GENERAL CONTRACTOR.
- ALL ASBESTOS-CONTAMINATED WASTE WATER SHALL BE FILTERED IN ACCORDANCE WITH SPECIFICATION 02085 PRIOR TO DISPOSAL IN SEWAGE DRAIN.
- ALL ASBESTOS ABATEMENT SUPERVISORS AND WORKERS ON THIS PROJECT MUST HAVE CURRENT 40-HOUR HAZWOPER TRAINING IN ACCORDANCE WITH WAC 296-62-30425.

GENERAL NOTES - SILICA:

- THE CONTRACTOR SHALL ASSUME THAT SILICA IS PRESENT ON ALL CONCRETE, SHEETROCK, AND OTHER RELATED BUILDING PRODUCTS THAT MAY BE ENCOUNTERED DURING THIS PROJECT. REMOVAL AND DISTURBANCE OF THESE MATERIALS SHALL BE CONDUCTED IN ACCORDANCE TO SPECIFICATION SECTION 02083.
- CONTROLS SHALL BE IMPLEMENTED TO CONTAIN DUST GENERATED BY GENERAL AND SELECTIVE DEMO, AND CONCRETE SAWING, CORING, CHIPPING, ETC.
- REFER TO SPECIFICATION SECTION 02083 FOR PERSONNEL AND AREA AIR MONITORING FOR SILICA EXPOSURES.
- SILICA CONTROLS ARE NOT SPECIFIC REQUIREMENTS OF ONE SUB-CONTRACTOR, INSTEAD THE CONTROLS AND AIR MONITORING REQUIREMENTS ARE REQUIRED OF THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS.
- AT NO TIME WILL ANY DUST FROM THE CONSTRUCTION AREA BE PERMITTED BEYOND THE "WORK AREA" AS STATED IN THE CONTRACT DOCUMENTS AND AS ESTABLISHED BY THE CONTRACTOR. WORK WILL CEASE UNTIL ANY DUST (A HAZARD REAL OR PERCEIVED) IS PROPERLY CLEANED OR REMOVED FROM THE AIR IN ACCORDANCE TO SPECIFICATION SECTION 02083 AND THE HOUSEKEEPING SECTIONS IN DIVISION 1.

GENERAL NOTES - LEAD:

- THE CONTRACTOR SHALL ASSUME THAT LEAD PAINT IS PRESENT ON ALL BUILDING COMPONENTS SCHEDULED FOR DEMOLITION UNLESS TESTING INDICATES OTHERWISE. ALL WORK THAT MAY DISTURB COMPONENTS CONTAINING LEAD SHALL BE PERFORMED IN ACCORDANCE WITH 29 CFR 1926.62 AND WAC 296-155-176, AND THE SPECIFICATIONS.
- LEAD-CONTAINING COMPONENTS INCLUDE BUT ARE NOT LIMITED TO PAINT ON METAL ROOFING, WINDOW FRAMES, METAL CEILINGS AND WALLS, FOUNDATION WALLS, GUARD RAILS, GUTTERS, DOORS, DOOR FRAMES, BRICK WALLS, WOOD FLOORING, AND BUILDING FRAMING.
- WASTE CHARACTERIZATION AND DISPOSAL REQUIREMENTS FOR ALL DEMOLITION DEBRIS SHALL BE PERFORMED IN ACCORDANCE TO THE SPECIFICATIONS. SPECIFICALLY, THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) ANALYSIS PERFORMED ON THE WASTE STREAM SHALL HAVE AT A MINIMUM, THE FOLLOWING METALS INCLUDED IN THE ANALYSIS: ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, AND SELENIUM.
- THE CONTRACTOR SHALL RECYCLE METAL COMPONENTS WHEN FEASIBLE. RECYCLED MATERIALS DO NOT REQUIRE TCLP SAMPLING.
- LEAD CONTROL PROCEDURES ARE NOT SPECIFIC REQUIREMENTS OF ONE SUB-CONTRACTOR, INSTEAD THESE CONTROLS AND MONITORING REQUIREMENTS ARE REQUIRED OF THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS WHO MAY IMPACT LEAD-CONTAINING COMPONENTS.

GENERAL NOTES - PCBs & MERCURY-CONTAINING LIGHTS:

- THIS PROJECT WILL INCLUDE REMOVAL OF MERCURY-CONTAINING LIGHT TUBES AND REMOVAL OF LIGHT FIXTURES THAT CONTAIN PCB BALLASTS. THE CONTRACTOR SHALL COORDINATE REMOVAL AND DISPOSAL OF LIGHT TUBES AND PCB LIGHT BALLASTS IN ACCORDANCE WITH THE SPECIFICATIONS AND ALL APPLICABLE REGULATIONS. NON-MAGNETIC LIGHT BALLASTS CAN BE DISPOSED OF AS GENERAL WASTE.
- PROPER LOCK-OUT AND TAG-OUT OF FLUORESCENT LIGHT FIXTURES IS REQUIRED BEFORE ANY WORK MAY BEGIN ON REMOVING LIGHT FIXTURES AND LIGHT TUBES.
- EACH PCB-CONTAINING LIGHT FIXTURE TO BE REMOVED MUST BE EXAMINED FOR LEAKING BALLASTS PRIOR TO REMOVAL FROM ITS LOCATION. FOLLOWING INSPECTION, THE BALLASTS MAY BE REMOVED IN PLACE, OR THE FIXTURES MAY BE MOVED TO A CONTROLLED AREA WHERE THEY MAY BE DISMANTLED FOR REMOVAL OF THE BALLAST. THE CONTRACTOR MUST PERFORM THESE OPERATIONS IN ACCORDANCE WITH THE SPECIFICATIONS.
- THE CONTRACTOR SHALL PROPERLY PACKAGE AND LABEL THE LIGHT TUBES AND PCB BALLASTS PER THE SPECIFICATIONS. PACKAGED AND LABELED LIGHT TUBES AND PCB CONTAINERS SHALL BE STORED IN A SECURE LOCATION AT THE SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTING PROPERLY PACKAGED LIGHT TUBES TO A POS-APPROVED OFF-SITE DISPOSAL FACILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRANSPORTING ALL PCB ARTICLES, ITEMS, AND CONTAINERS TO OFF-SITE TREATMENT, STORAGE, AND DISPOSAL FACILITIES.

ABBREVIATIONS & ACRONYMS:

ACM	ASBESTOS-CONTAINING MATERIAL
CAS	CERTIFIED ASBESTOS SUPERVISOR
CFR	CODE OF FEDERAL REGULATIONS
PCB	POLYCHLORINATED BIPHENYL
POLY	POLYETHYLENE
POS	PORT OF SEATTLE
WAC	WASHINGTON ADMINISTRATIVE CODE

MERCURY CONTAINING COMPONENTS AND POTENTIAL PCB TRANSFORMERS QUANTITIES:

MATERIAL DESCRIPTION	APPROX. QUANTITY
BUILDING 25: MERCURY-CONTAINING FLUORESCENT LIGHT TUBES (8' LENGTH)	2
BUILDING 25: HID LAMP	1
BUILDING 25: POTENTIAL PCB-CONTAINING TRANSFORMERS	1
BUILDING 27: HID LAMPS	2

ASBESTOS-CONTAINING MATERIALS QUANTITIES:

MATERIAL DESCRIPTION	HSA ID	APPROX. QUANTITY
ELECTRICAL PANELS	3	1 EA
ELECTRICAL WIRING IN PANEL AND METAL CONDUIT	4	NOT QUANTIFIED
GASKETS	13	15 EA
LARGE ELECTRICAL PANELS WITH WIRING AND OTHER COMPONENTS	32	4 EA
ELECTRICAL PANELS WITH WIRING AND OTHER COMPONENTS	35	NOT QUANTIFIED

S:\CAD\Z-ARGUS\06-10021\016 - TERMINAL 91 CLEANUP CONSTRUCTION\DWG\910401\HA001_00.DWG PLOTTED: 7/9/2013 10:20 AM ON USER364



PROJECT ENGR./ARCH:
 DESIGNER:
 N. GLADU
 DRAWN BY:
 G. CASTILLO
 SCALE:
 NTS
 DATE:
 2013-07-08
 CHECKED BY:
 S. RINEAR
 CHECKED/APPROVED BY:



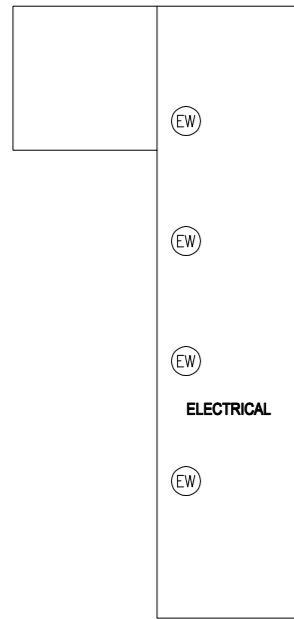
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NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY

PROJECT MANAGER:
 PROJECT ENGINEER:
 DESIGN ENGINEER:
 DRAFTER:
 SCALE:
 DATE:
 CHECKED/APPROVED BY:

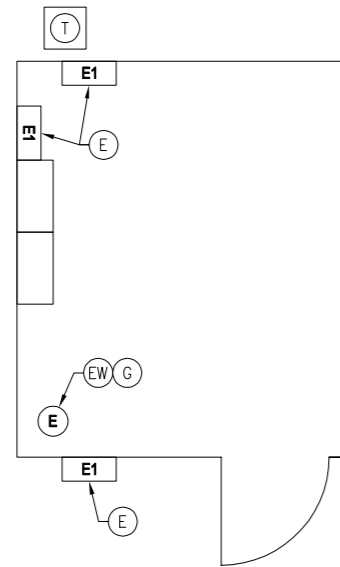
Port of Seattle PORT OF SEATTLE
 PROJECT: **TERMINAL 91 TANK FARM CLEANUP**
 SHEET TITLE: **REGULATED MATERIALS MANAGEMENT GENERAL NOTES**

WORK PROJECT NO.
MC - 0317586 - WP104528
 CONSULTANT'S NO.
 PORT OF SEATTLE NO.
91-1401 HA.100

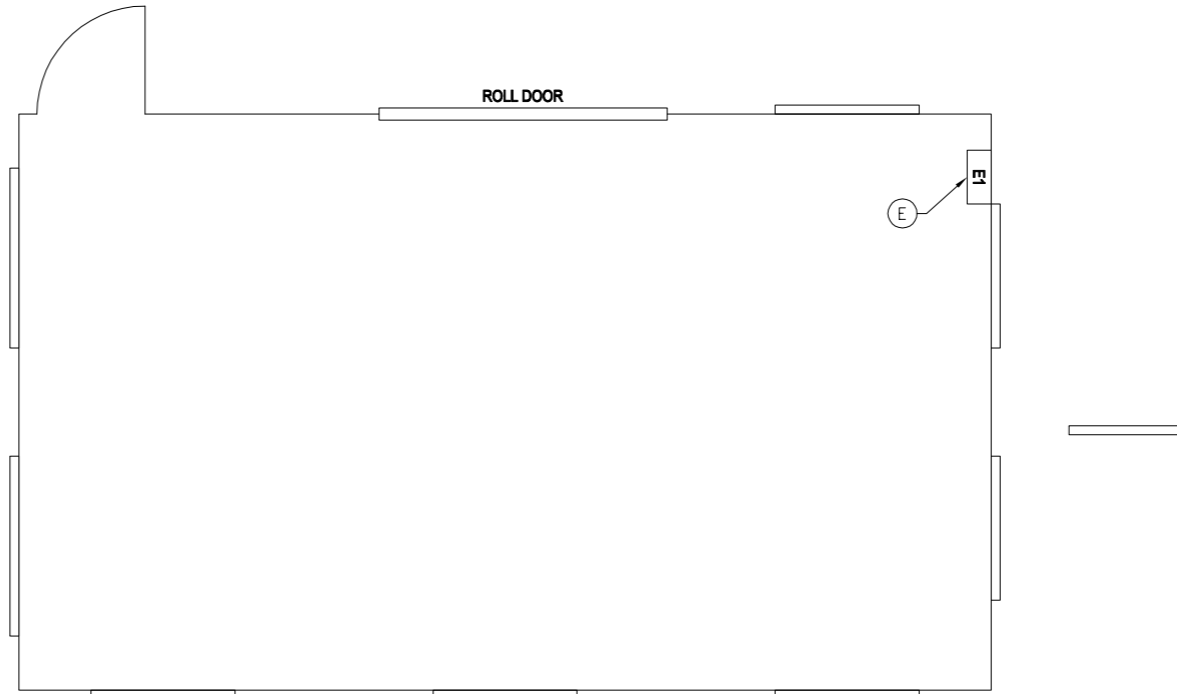
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SUBSTATION 11



BUILDING 25



BUILDING 27

SHEET NOTES

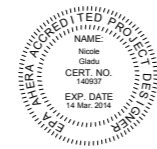
1. REFER TO SHEET HA1.00 FOR GENERAL NOTES.
2. ALL ASBESTOS-CONTAINING MATERIALS SHOWN IN LEGEND AND LISTED ON HA1.00 SHALL BE REMOVED. THE ABATEMENT CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH CONTRACT DOCUMENTS, ADDENDA, AND APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
3. LOCATIONS OF GASKETS (HSA ID: 13) ARE NOT SHOWN ON THE DRAWINGS. THE GASKETS ARE ASSOCIATED WITH EXTERIOR ABOVE GROUND PIPING THROUGHOUT THE SITE.
4. ALL LIGHT TUBES, HID LAMPS, AND PCB-CONTAINING COMPONENTS SHALL BE REMOVED AND DISPOSED OF OR RECYCLED IN ACCORDANCE WITH SPECIFICATION SECTIONS 02081 AND 02082.

LEGEND

- (E) ELECTRICAL PANELS (ASSUMED ACM)
HSA ID: 3
- (EW) ELECTRICAL PANELS WITH WIRING AND OTHER COMPONENTS (ASSUMED ACM)
HSA ID'S: 32, 25
- (G) GASKETS (ASSUMED ACM)
HSA ID:13
- (T) POTENTIAL PCB-CONTAINING TRANSFORMER

ARGUS PACIFIC
 ARGUS PACIFIC INC.
 1900 W. NICKERSON STREET, #315
 SEATTLE, WASHINGTON 98119
 PH (206) 285-3373
 FAX (206) 285-3827

PROJECT ENGR./ARCH:
 DESIGNER:
 N. GLADU
 DRAWN BY:
 G. CASTILLO
 SCALE:
 NTS
 DATE:
 2013-07-08
 CHECKED BY:
 S. RINEAR
 CHECKED/APPROVED BY:



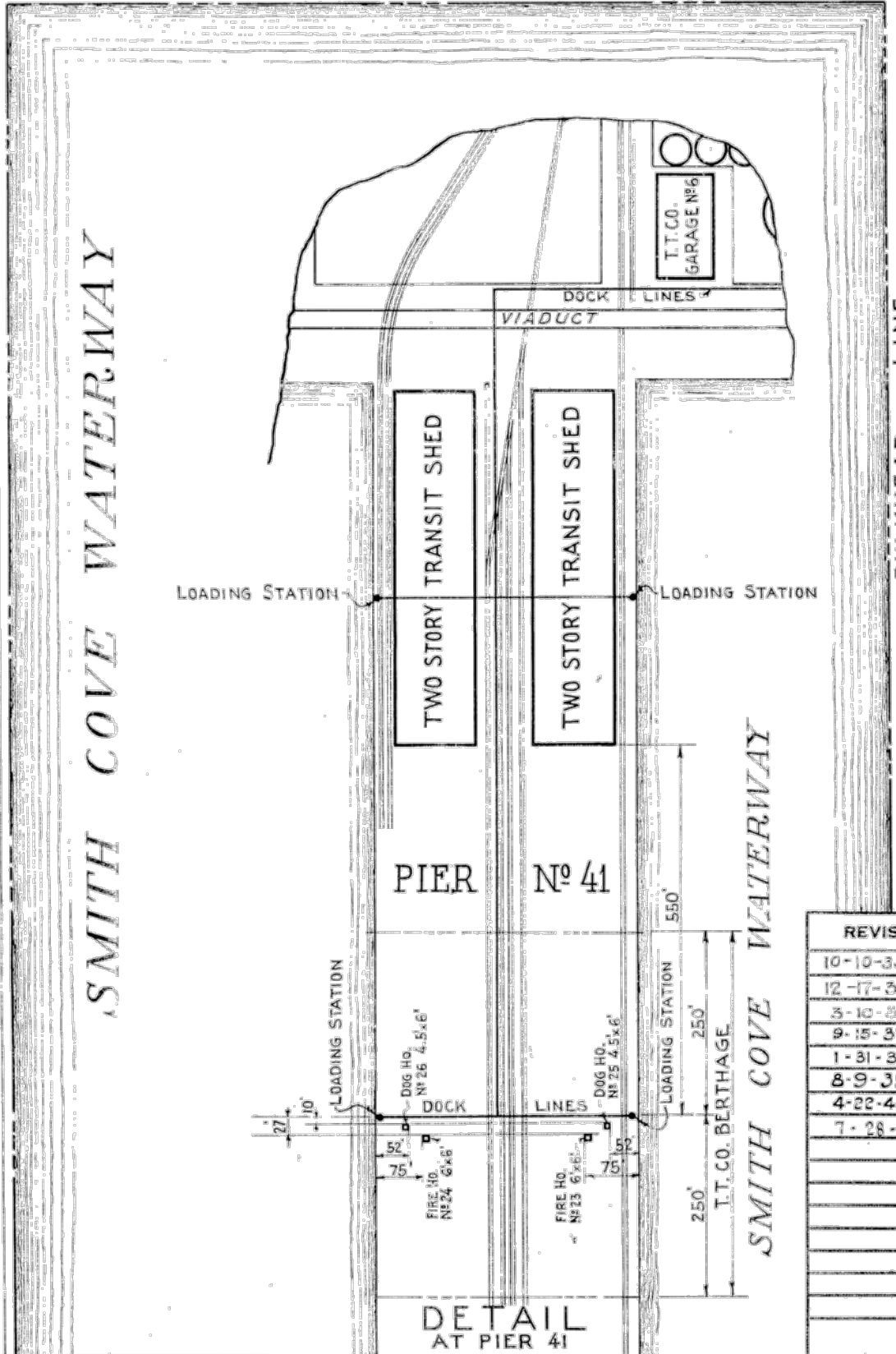
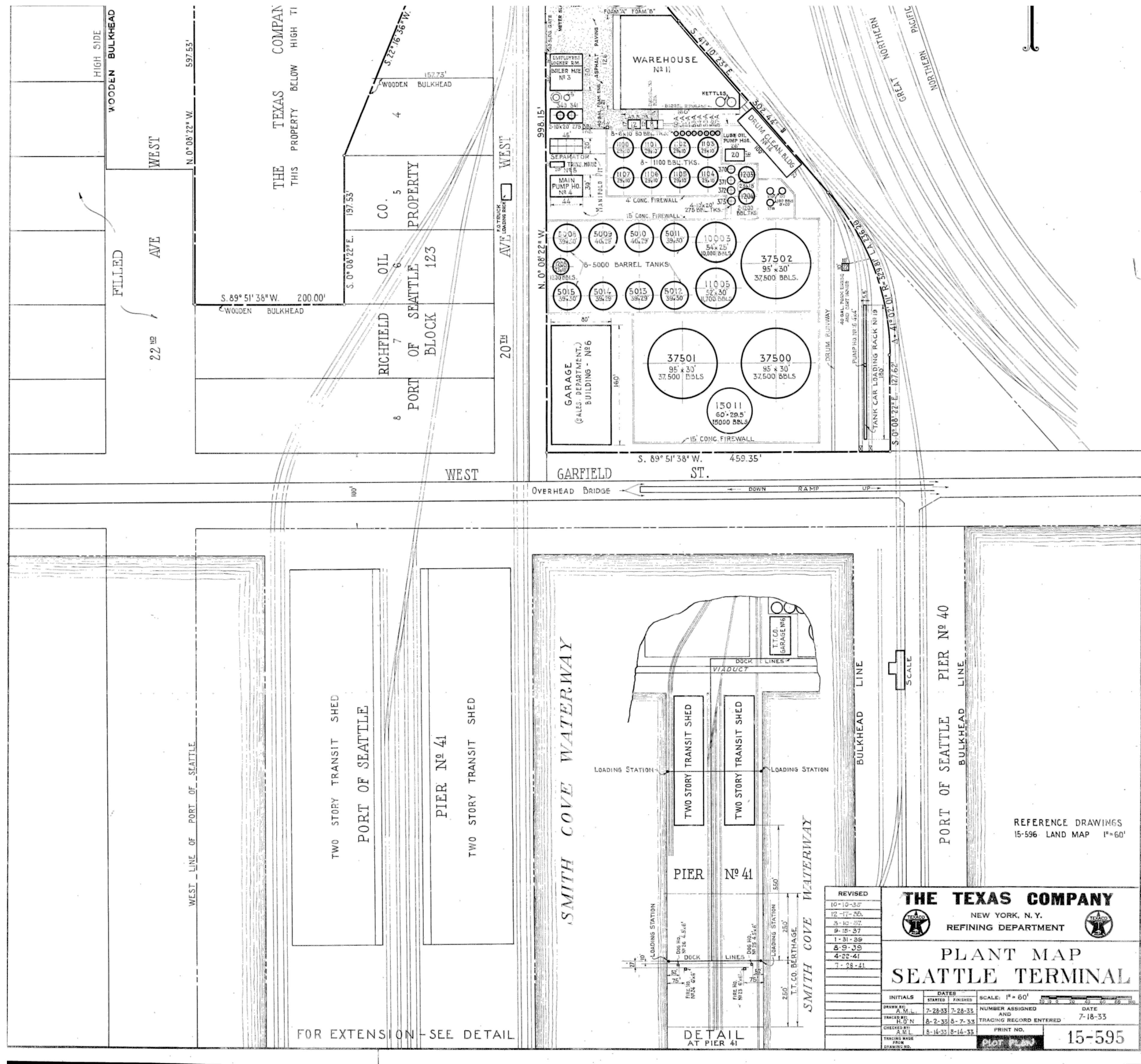
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NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY

PROJECT MANAGER:
 PROJECT ENGINEER:
 DESIGN ENGINEER:
 DRAFTER:
 SCALE:
 DATE:
 CHECKED/APPROVED BY:

Port of Seattle PORT OF SEATTLE
 PROJECT: **TERMINAL 91 TANK FARM CLEANUP**
 SHEET TITLE: **REGULATED MATERIALS LOCATION**

WORK PROJECT NO.
MC - 0317586 - WP104528
 CONSULTANT'S NO.
HA1.01
 PORT OF SEATTLE NO.
91-1401 HA1.01

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THE TEXAS COMPANY NEW YORK, N. Y. REFINING DEPARTMENT	
PLANT MAP SEATTLE TERMINAL	
REVISIONS 10-10-32 12-17-33 3-15-37 9-15-37 1-21-38 8-9-38 4-22-41 7-28-41	INITIALS DATE DRAWN BY: S.M. CHECKED BY: R.N. TRACED BY: F.C. SCALE: 1" = 60' DATE: 7-18-33 NUMBER ASSIGNED AND TRACING RECORD ENTERED: 7-18-33 PRINT NO.: 15-595

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR. ARCH:
R. NORTH/B. O'NEAL
DESIGNER:
R. NORTH
DRAWN BY:
S. MCCOY
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED BY:
R. NORTH
CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

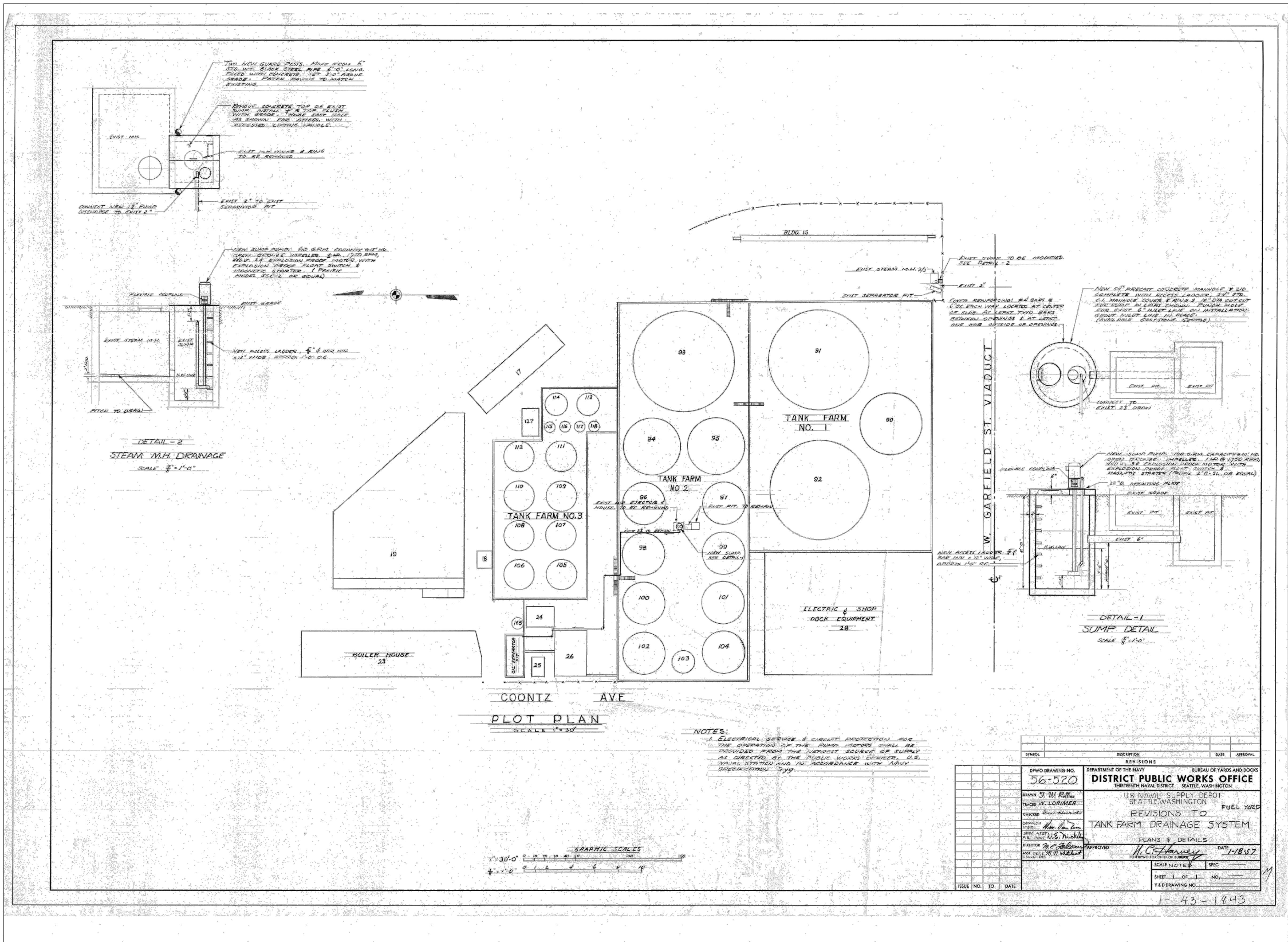
REVISIONS						
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE

PROJECT MANAGER:
FRED CHOU
PROJECT ENGINEER:
DESIGN ENGINEER:
DRAFTER:
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: **TERMINAL 91 TANK FARM CLEANUP**
SHEET TITLE: **TANK SIZE AND LAYOUT
REFERENCE - TANK FARM**

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 R001

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SYMBOL	DESCRIPTION	DATE	APPROVAL
REVISIONS			
56-520	DISTRICT PUBLIC WORKS OFFICE		
REVISIONS TO TANK FARM DRAINAGE SYSTEM			
DATE	APPROVED	DATE	APPROVAL
1-18-57	[Signature]		

PES Environmental, Inc.
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VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR. ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: TERMINAL 91 TANK FARM CLEANUP

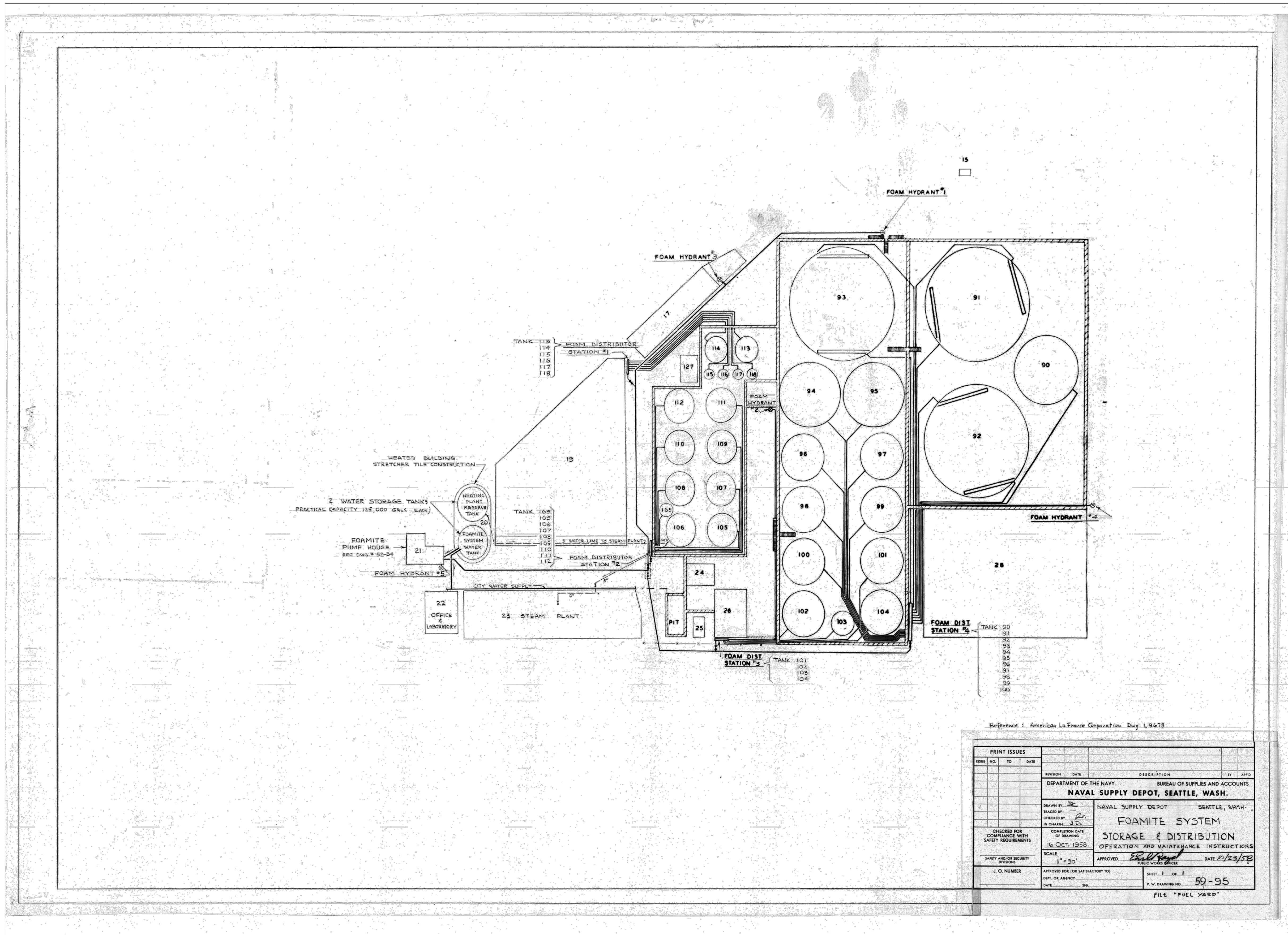
SHEET TITLE: STEAM MANHOLE AND STORM SUMP DETAIL
REFERENCE - TANK FARM

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 R002

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Reference: American LaFrance Corporation, Div. L9678

PRINT ISSUES		REVISION		DATE	DESCRIPTION	BY	APP'D

DEPARTMENT OF THE NAVY		BUREAU OF SUPPLIES AND ACCOUNTS	
NAVAL SUPPLY DEPOT, SEATTLE, WASH.			
DRAWN BY: <i>J.C.</i>	NAVAL SUPPLY DEPOT	SEATTLE, WASH.	
CHECKED BY: <i>J.C.</i>	FOAMITE SYSTEM		
IN CHARGE: <i>J.C.</i>	STORAGE & DISTRIBUTION		
CHECKED FOR COMPLIANCE WITH SAFETY REQUIREMENTS	COMPLETION DATE OF DRAWING	OPERATION AND MAINTENANCE INSTRUCTIONS	
	16 OCT 1958		
SAFETY AND/OR SECURITY DIVISION	SCALE	APPROVED: <i>[Signature]</i>	DATE: 2/23/58
	1" = 30'	PUBLIC WORKS OFFICE	
J. O. NUMBER	APPROVED FOR (OR SATISFACTORY TO) DEPT. OR AGENCY	SHEET 1 OF 1	
		P. W. DRAWING NO.	59-95
		DATE	
FILE "FUEL YARD"			

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR/ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

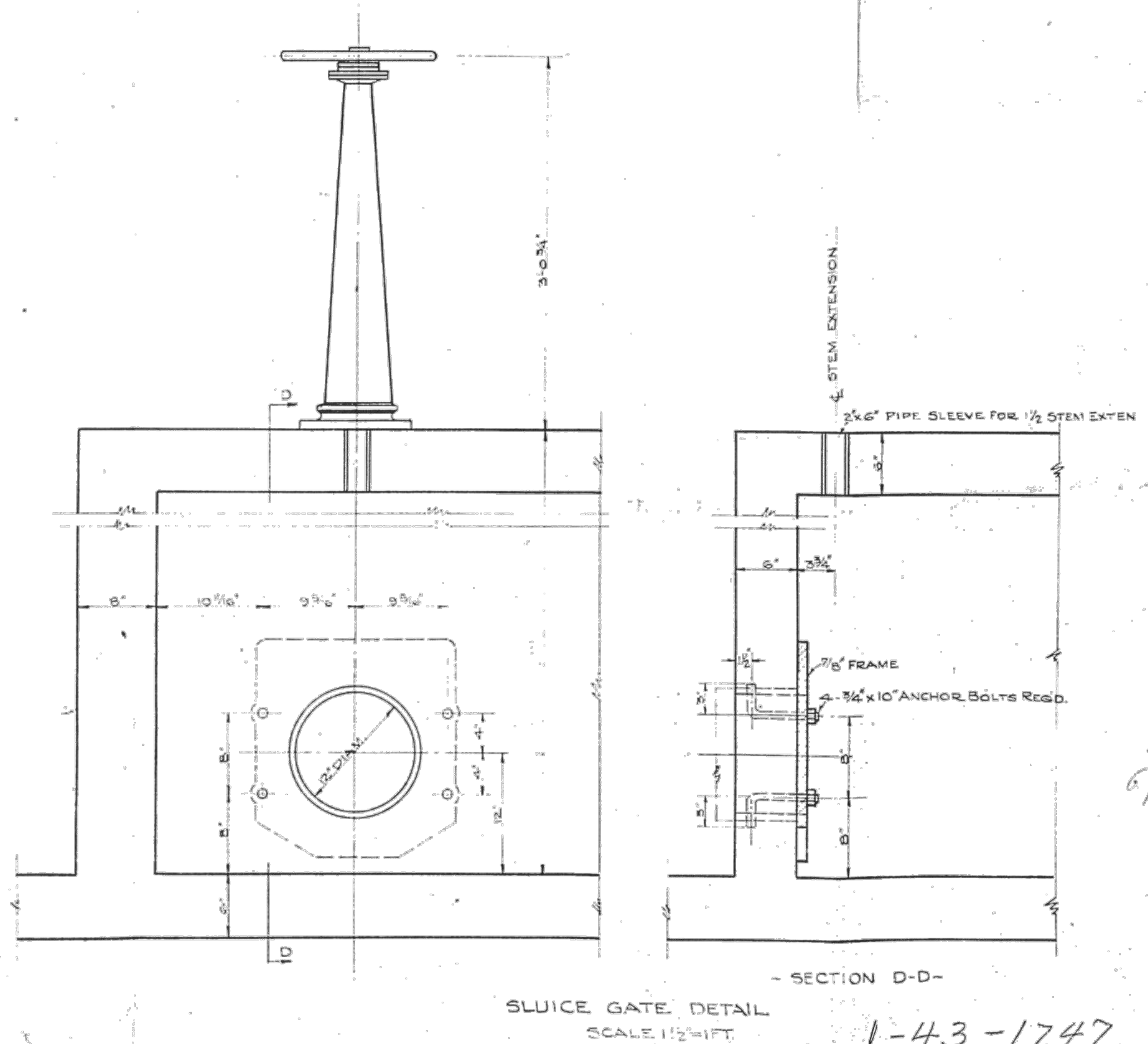
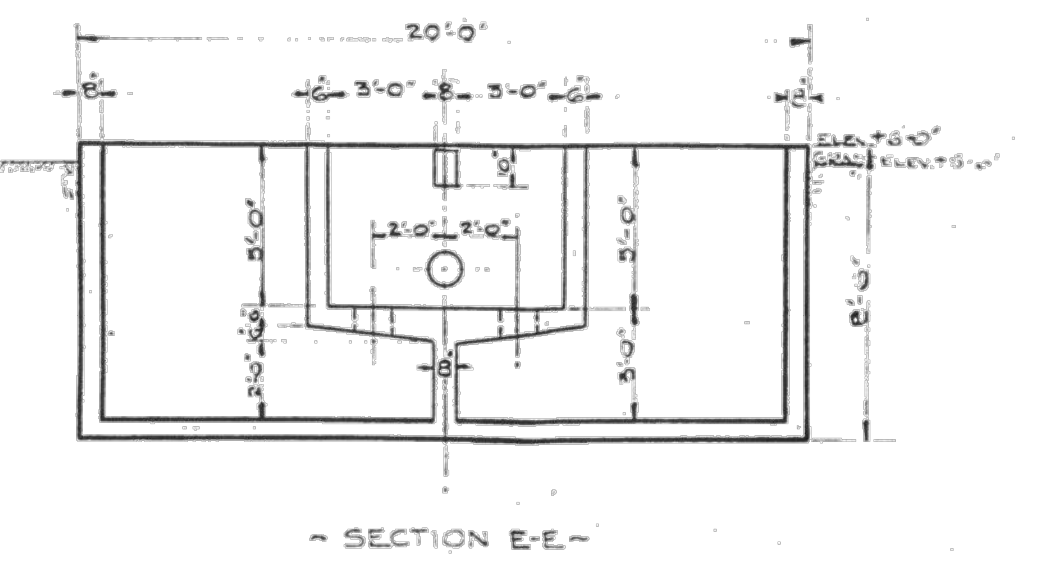
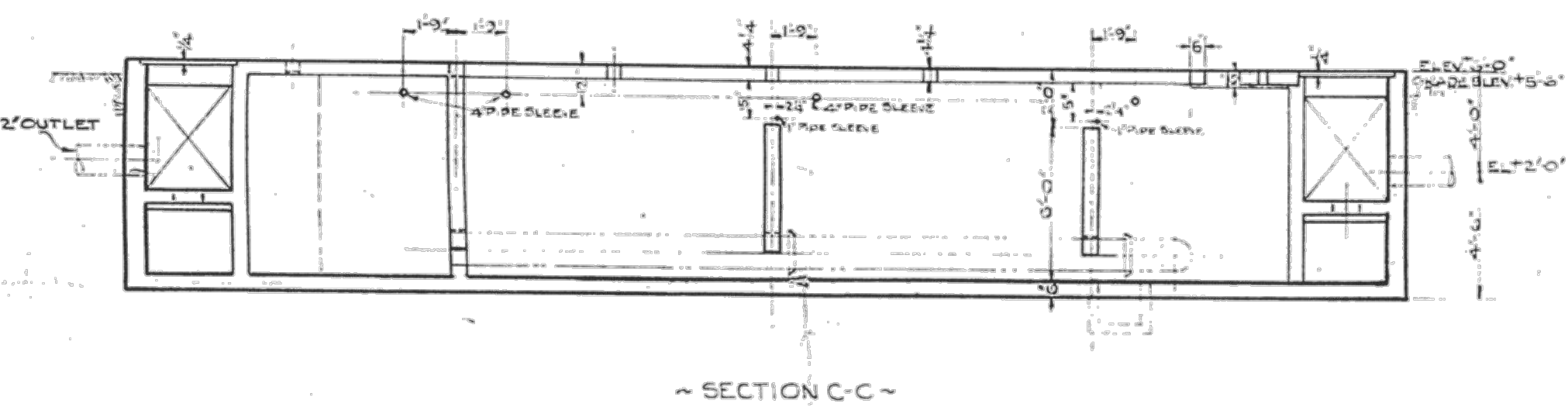
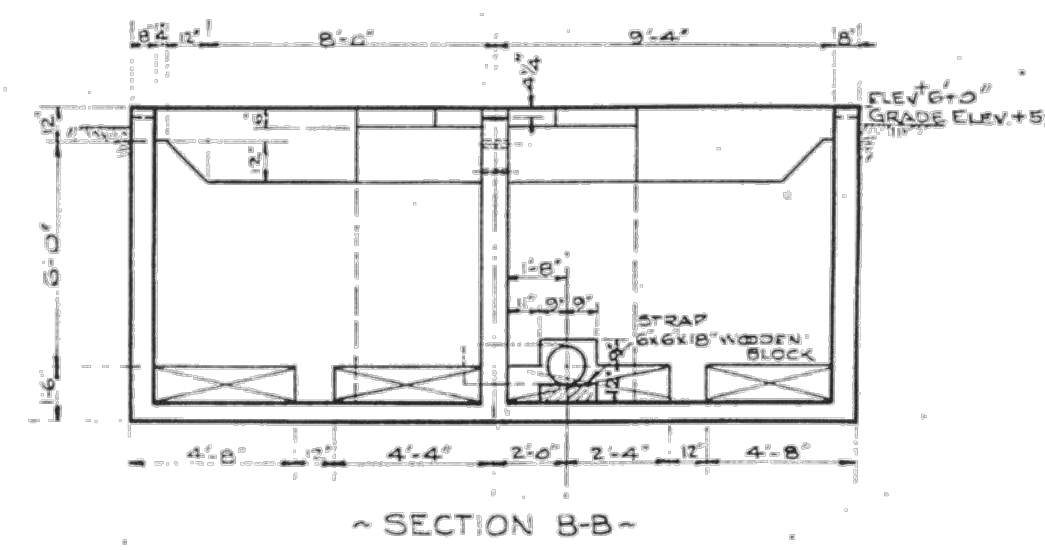
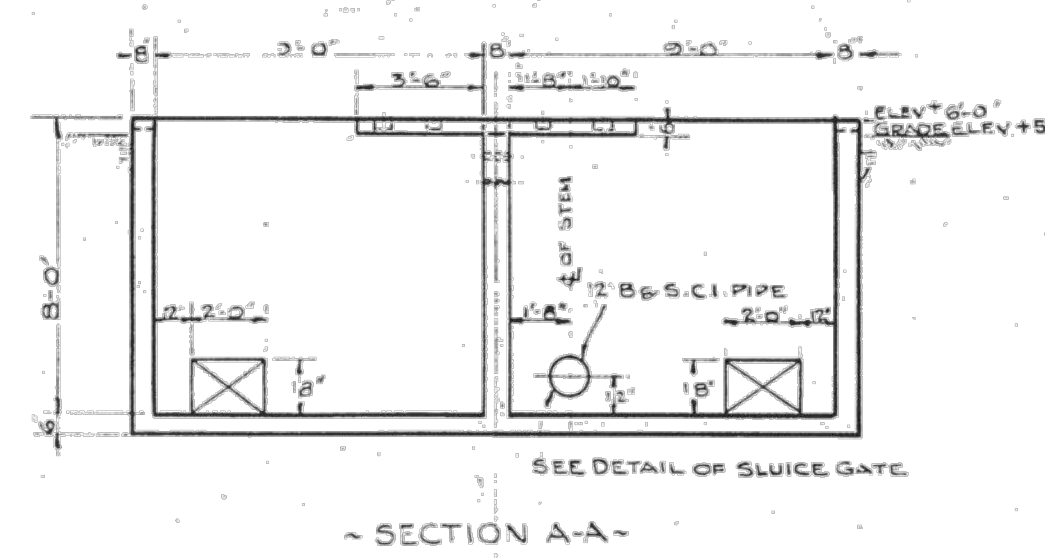
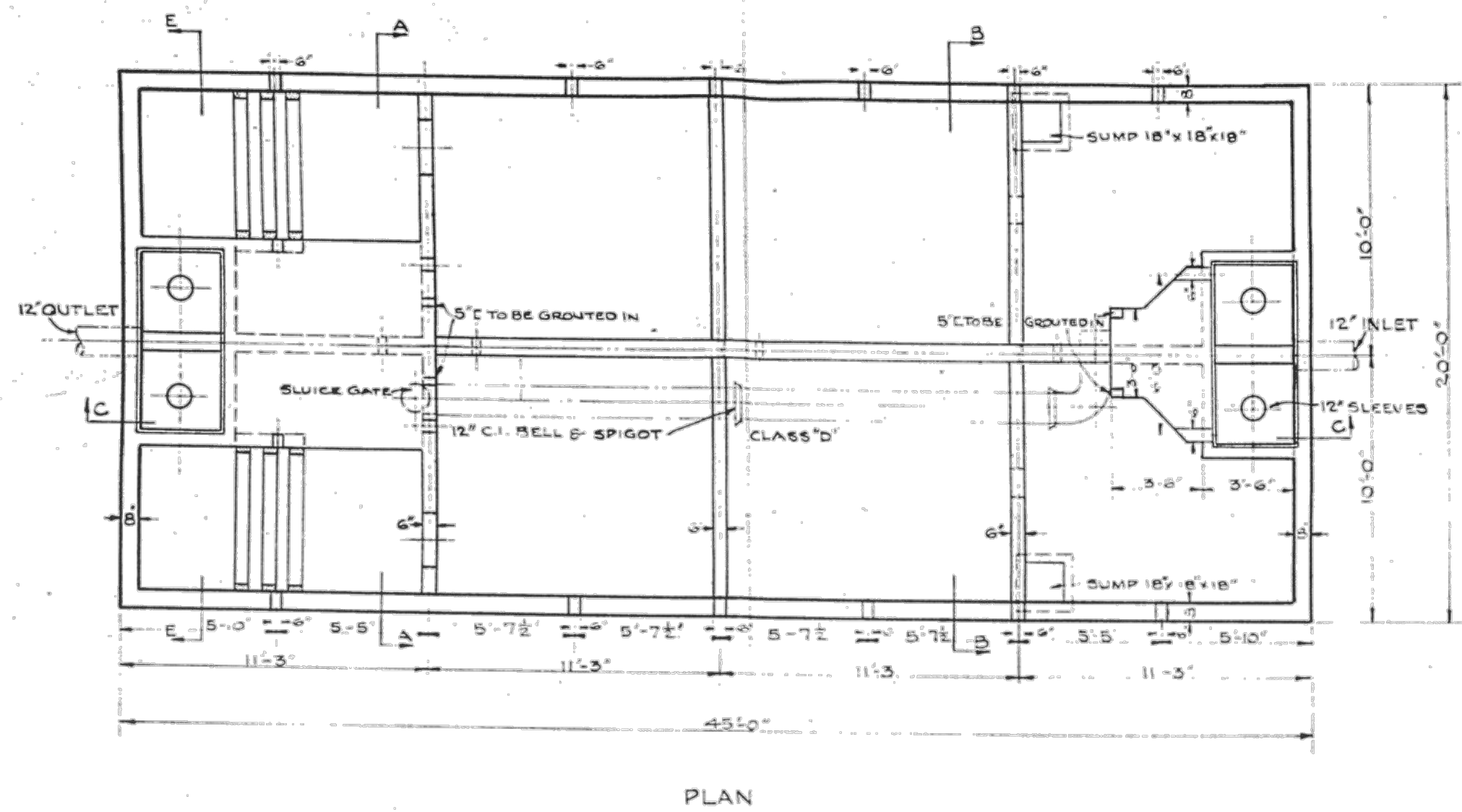
REVISIONS							
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY

PROJECT MANAGER: FRED CHOU
PROJECT ENGINEER: *[Signature]*
DESIGN ENGINEER: *[Signature]*
DRAFTER: *[Signature]*
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP
SHEET TITLE: FOAMITE DISTRIBUTION SYSTEM
REFERENCE - TANK FARM

WORK PROJECT NO. MC - 0317586 - WP104528
CONSULTANT'S NO. 948.007.003
PORT OF SEATTLE NO. 91-1401 R003

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61

Naval Supply Dept Seattle

CALIFORNIA PETROLEUM CORPORATION
 LOS ANGELES, CAL.
 TRANSPORTATION AND REFINING DEPTS.

Plan
SEPARATOR
 PLAN, ELEVATIONS & DETAILS
 SEATTLE, WASHINGTON

SCALE SEE NOTES	DATE 7-17-13	REV. 5 BY L.C.P.
DRAWN R.W.F.	FILE NO.	PRINT NO.
THAGED		DRAWING NO.
CHECKED		00-15-D15

PES Environmental, Inc.
 Engineering & Environmental Services

VISTA CONSULTANTS, LLC
 4132 SW BARBUR BLVD.
 PORTLAND, OREGON 97239
 (503) 922-2522

PROJECT ENGR/ARCH:
 R. NORTH/B. O'NEAL

DESIGNER:
 R. NORTH

DRAWN BY:
 S. MCCOY

SCALE:
 AS SHOWN

DATE:
 2013-07-08

CHECKED BY:
 R. NORTH

CHECKED/APPROVED BY:
 R. NORTH/B. O'NEAL

REVISIONS						
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
 AS SHOWN

DATE:
 2013-07-08

CHECKED/APPROVED BY:
 FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

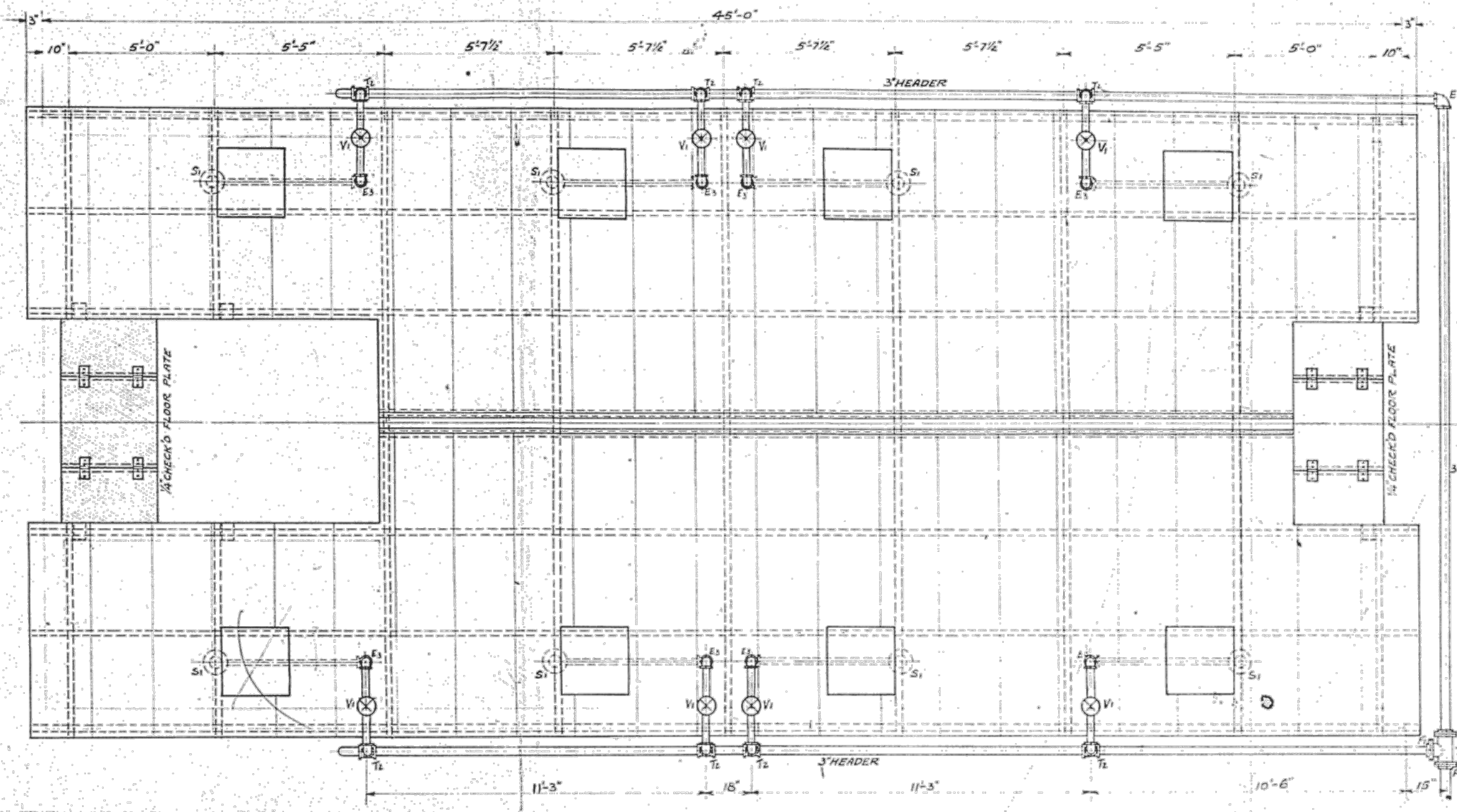
SHEET TITLE: **OIL WATER SEPARATOR PLAN, ELEVATION & DETAILS
 REFERENCE - TANK FARM**

WORK PROJECT NO.
 MC - 0317586 - WP104528

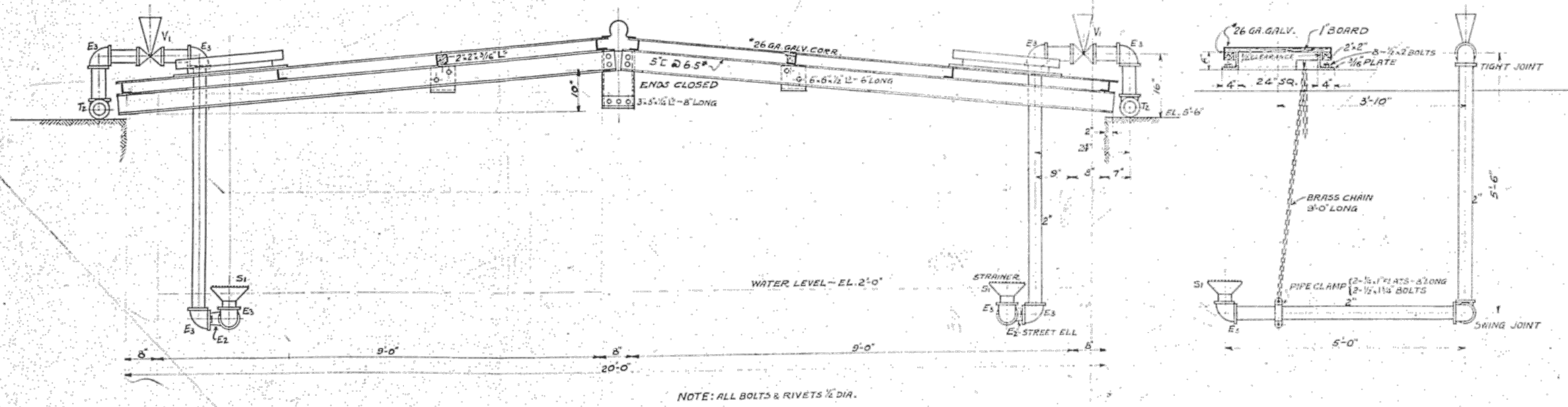
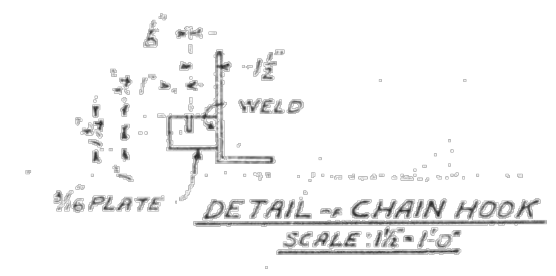
CONSULTANT'S NO.
 948.007.003

PORT OF SEATTLE NO.
 91-1401 R004

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*hiding steel
grading*



NOTE: ALL BOLTS & RIVETS 1/2\"/>

LIST OF MATERIAL

MARK	REQ'D	SIZE	DESCRIPTION	REQ. NR.
V1	8	2"	STD. BRONZE GATE VALVE-SCR.	O-62
T1	1	3"	STD. C.I. FLGD TEE F&D	"
T2	8	3/2"	SCR.	"
E1	1	3"	ELL	"
E2	3	2"	MALL. STREET ELL	"
F1	3	3"	C.I. COMP. FLG. F&D	"
	3	3.535"	RING GASKET 1/2\"/>	

PRINT # 61

CALIFORNIA PETROLEUM CORPORATION
LOS ANGELES, CAL.
TRANSPORTATION AND REFINING DEPTS.

SEPARATOR, ROOF AND PIPING

SEATTLE, WASH.

SCALE 3/8\"/>

FUEL YARD

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR. ARCH.
R. NORTH/B. O'NEAL

DESIGNER
R. NORTH

DRAWN BY
S. MCCOY

SCALE
AS SHOWN

DATE
2013-07-08

CHECKED BY
R. NORTH

CHECKED/APPROVED BY
R. NORTH/B. O'NEAL

REVISIONS

NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER
FRED CHOU

PROJECT ENGINEER

DESIGN ENGINEER

DRAFTER

SCALE
AS SHOWN

DATE
2013-07-08

CHECKED/APPROVED BY
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: TERMINAL 91 TANK FARM CLEANUP

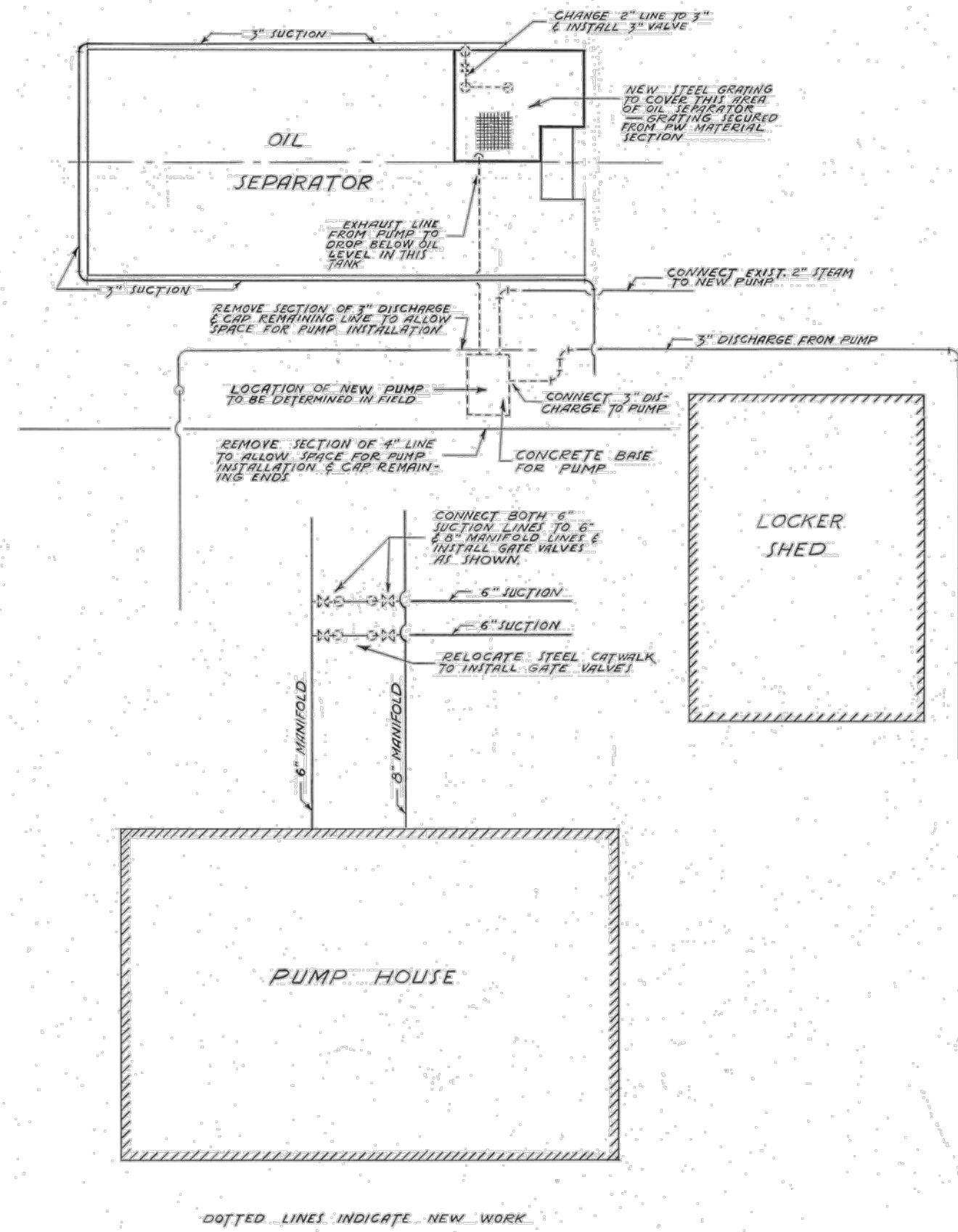
SHEET TITLE: OIL WATER SEPARATOR PIPING
REFERENCE - TANK FARM

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

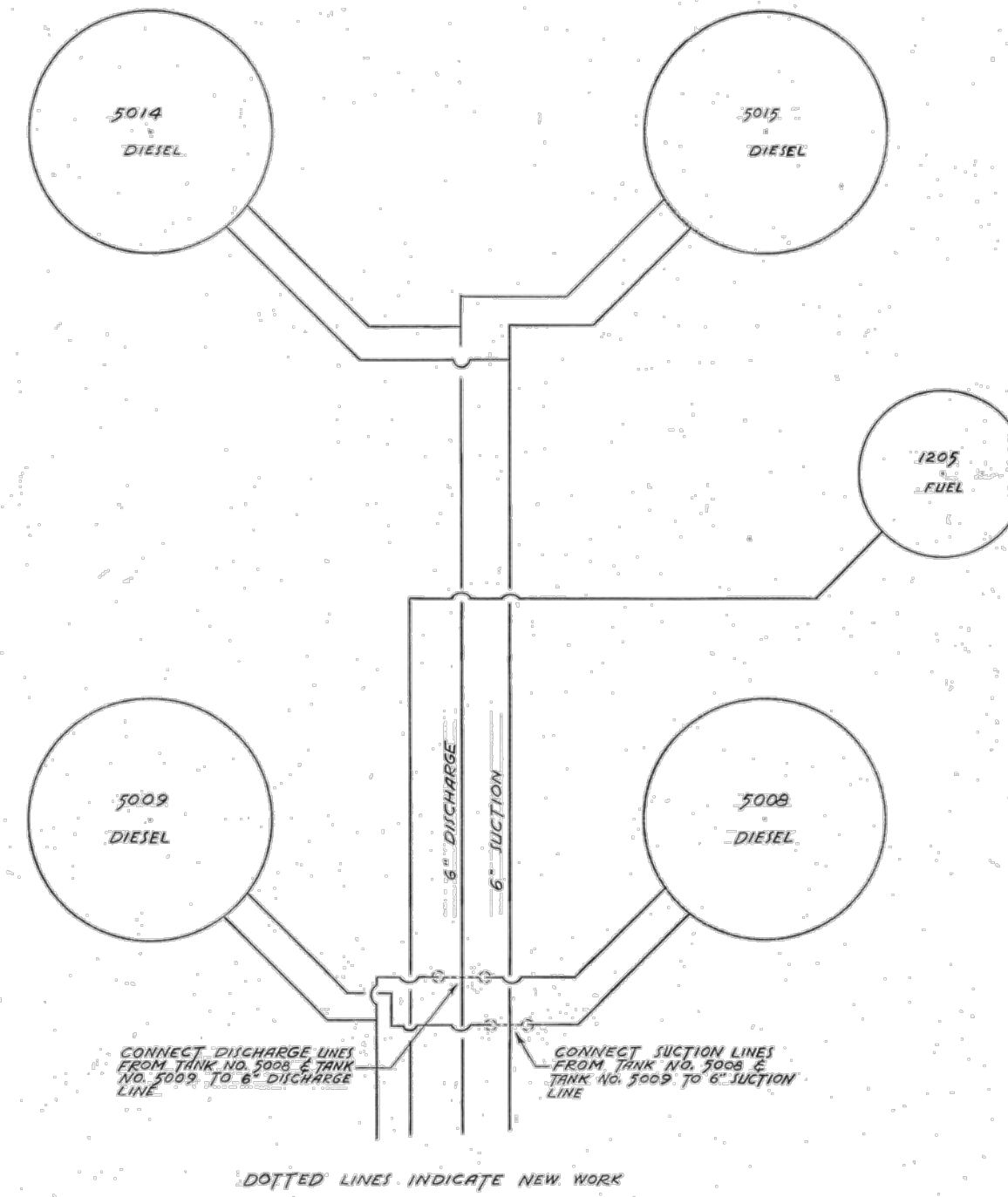
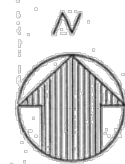
PORT OF SEATTLE NO.
91-1401 R005

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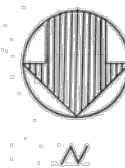
..... DOTTED LINES INDICATE NEW WORK

PLAN
DIAGRAMMATIC



..... DOTTED LINES INDICATE NEW WORK

PLAN
DIAGRAMMATIC



REVISION	DATE	BRIEF	BY	APP'D

DATE	ISSUED TO	NO. PRINTS	DRAWN BY: <i>R.N.S.</i>	PROJECT: NAVAL STATION, SEATTLE, WASH.
			TRACED BY: <i>R.N.S.</i>	TANK FARM INSTALLATION OF GRATING ON OIL SEPARATOR & REVISION OF PIPING
			CHECKED BY: <i>SGM</i>	
			IN CHARGE: <i>SGM</i>	
			Y. & D. DRAWING NO.:	
			ACCOMPANYING SPECIFICATIONS NO.:	
			P. W. DRAWING NO.:	APPROVED: <i>H. Nat</i> <i>tdk</i>
			46-105	PUBLIC WORKS OFFICER
			SHEET 1 OF 1	SCALE: NONE

J.O.N. = 86239

FILE "FUEL YARD"

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR. ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER: FRED CHOU
PROJECT ENGINEER: FRED CHOU
DESIGN ENGINEER: FRED CHOU
DRAFTER: FRED CHOU
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

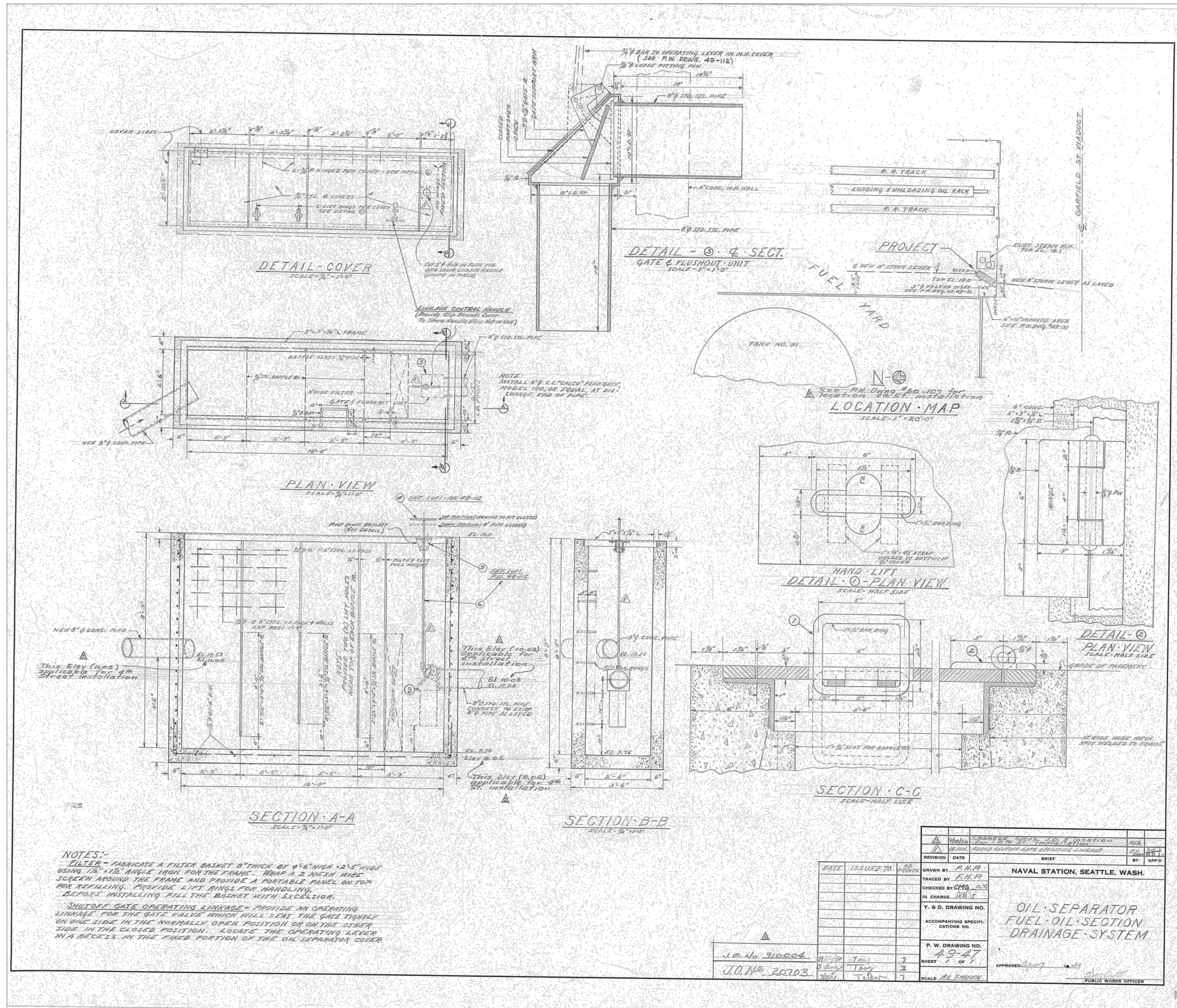
Port of Seattle PORT OF SEATTLE

PROJECT: TERMINAL 91 TANK FARM CLEANUP

SHEET TITLE: OIL WATER SEPARATOR PLAN
REFERENCE - TANK FARM

WORK PROJECT NO. MC - 0317586 - WP104528
CONSULTANT'S NO. 948.007.003
PORT OF SEATTLE NO. 91-1401 R006

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REVISION	DATE	BY	APP'D
1			
2			

DATE	ISSUED TO	NO. OF SHEETS

DRAWN BY	F.H.P.
TRACED BY	F.H.P.
CHECKED BY	C.M.G.
IN CHARGE	A.S.P.
Y. & D. DRAWING NO.	
ACCOMPANYING SPECIFICATION NO.	
P. W. DRAWING NO.	49-47
SHEET	7 OF 7
SCALE	AS SHOWN

NAVAL STATION, SEATTLE, WASH.

OIL SEPARATOR FUEL OIL SECTION DRAINAGE SYSTEM

APPROVED: [Signature] 7/10/13
PUBLIC WORKS OFFICER

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR ARCH: R. NORTH/B. O'NEAL
 DESIGNER: R. NORTH
 DRAWN BY: S. MCCOY
 SCALE: AS SHOWN
 DATE: 2013-07-08
 CHECKED BY: R. NORTH
 CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS						
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE

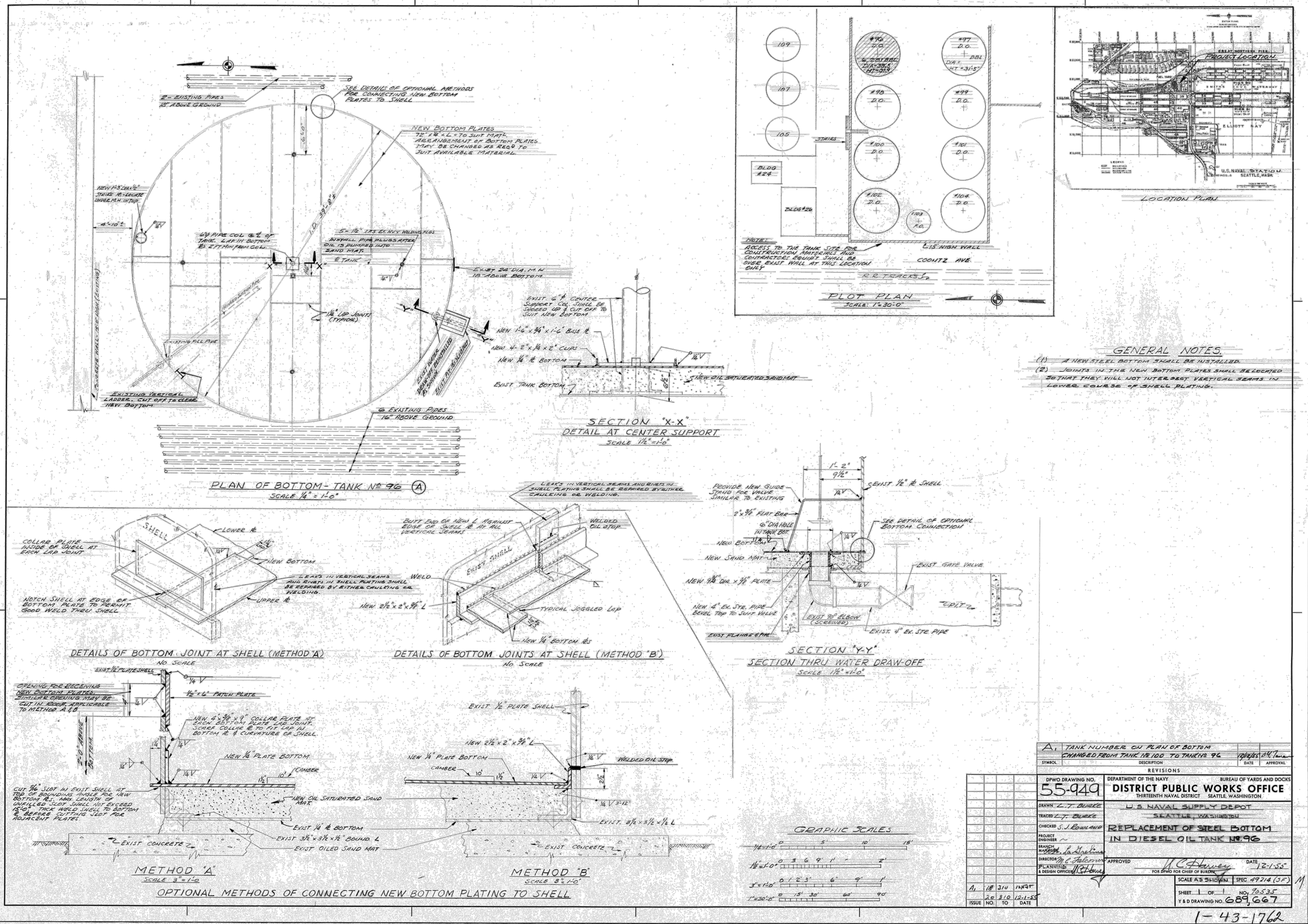
PROJECT MANAGER: FRED CHOU
 PROJECT ENGINEER: [Signature]
 DESIGN ENGINEER: [Signature]
 DRAFTER: [Signature]
 SCALE: AS SHOWN
 DATE: 2013-07-08
 CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
 PROJECT: TERMINAL 91 TANK FARM CLEANUP

SHEET TITLE: **EXISTING OWS IN SOUTHEAST CORNER OF TANK FARM REFERENCE - TANK FARM**

WORK PROJECT NO. MC - 0317586 - WP104528
 CONSULTANT'S NO. 948.007.003
 PORT OF SEATTLE NO. 91-1401 R007

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Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

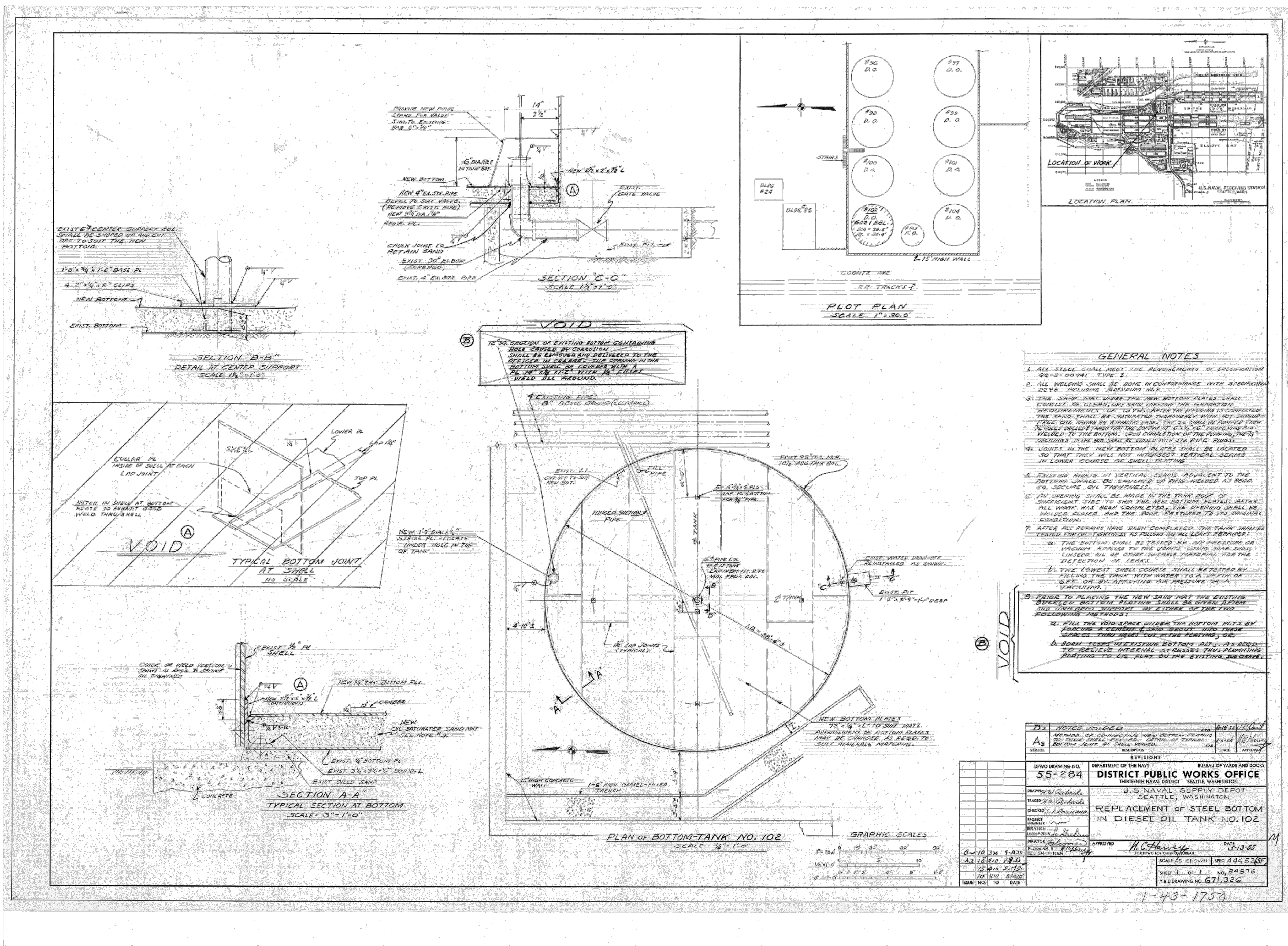
PROJECT ENGR. ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP

SHEET TITLE: REPLACEMENT OF STEEL TANK BOTTOM
REFERENCE - TANK FARM

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 R008

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(503) 922-2522

PROJECT ENGR. ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

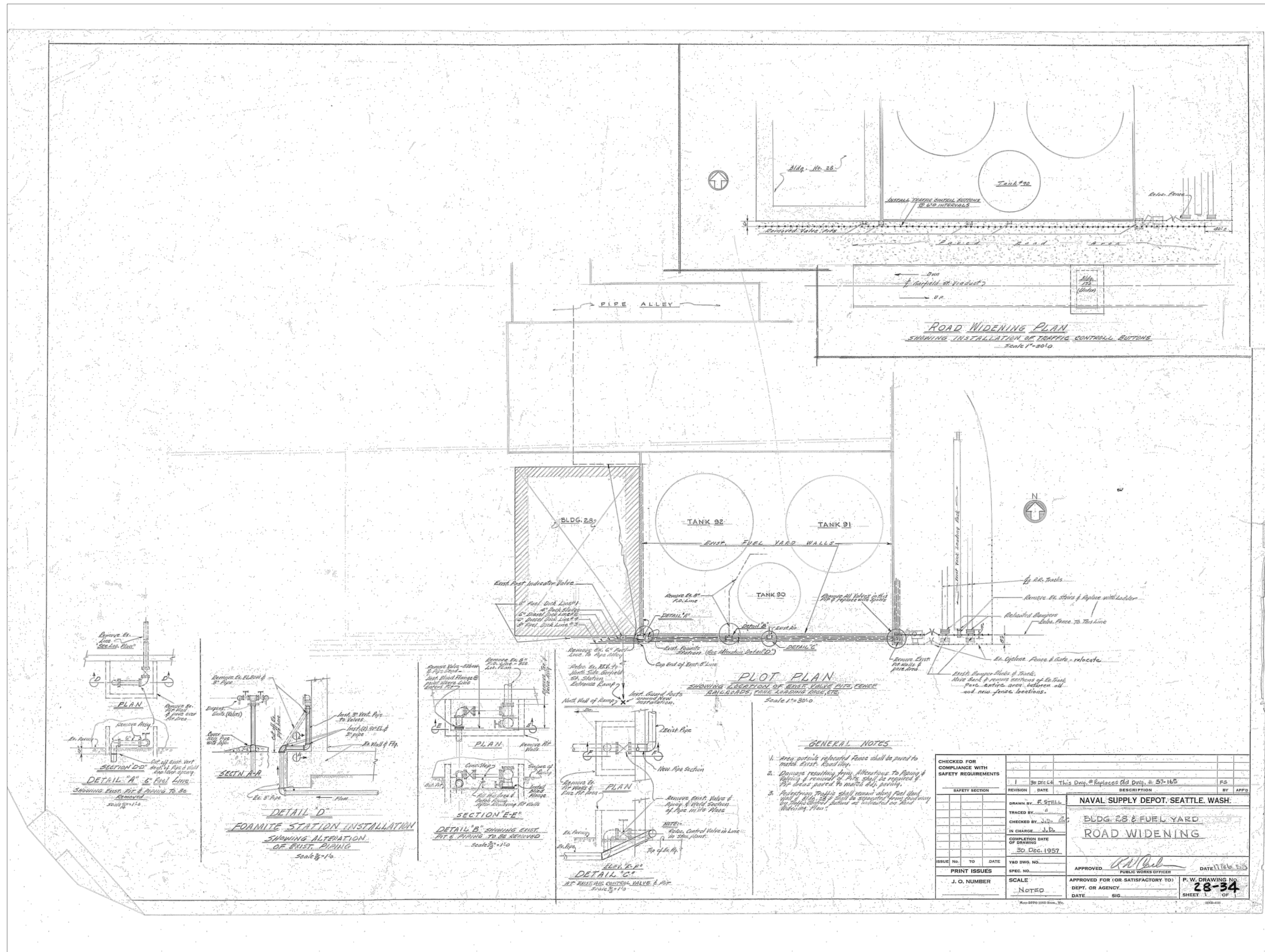
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WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 R009

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(503) 922-2522

PROJECT ENGR. ARCH.
R. NORTH/B. O'NEAL
DESIGNER
R. NORTH
DRAWN BY
S. MCCOY
SCALE
AS SHOWN
DATE
2013-07-08
CHECKED BY
R. NORTH
CHECKED/APPROVED BY
R. NORTH/B. O'NEAL

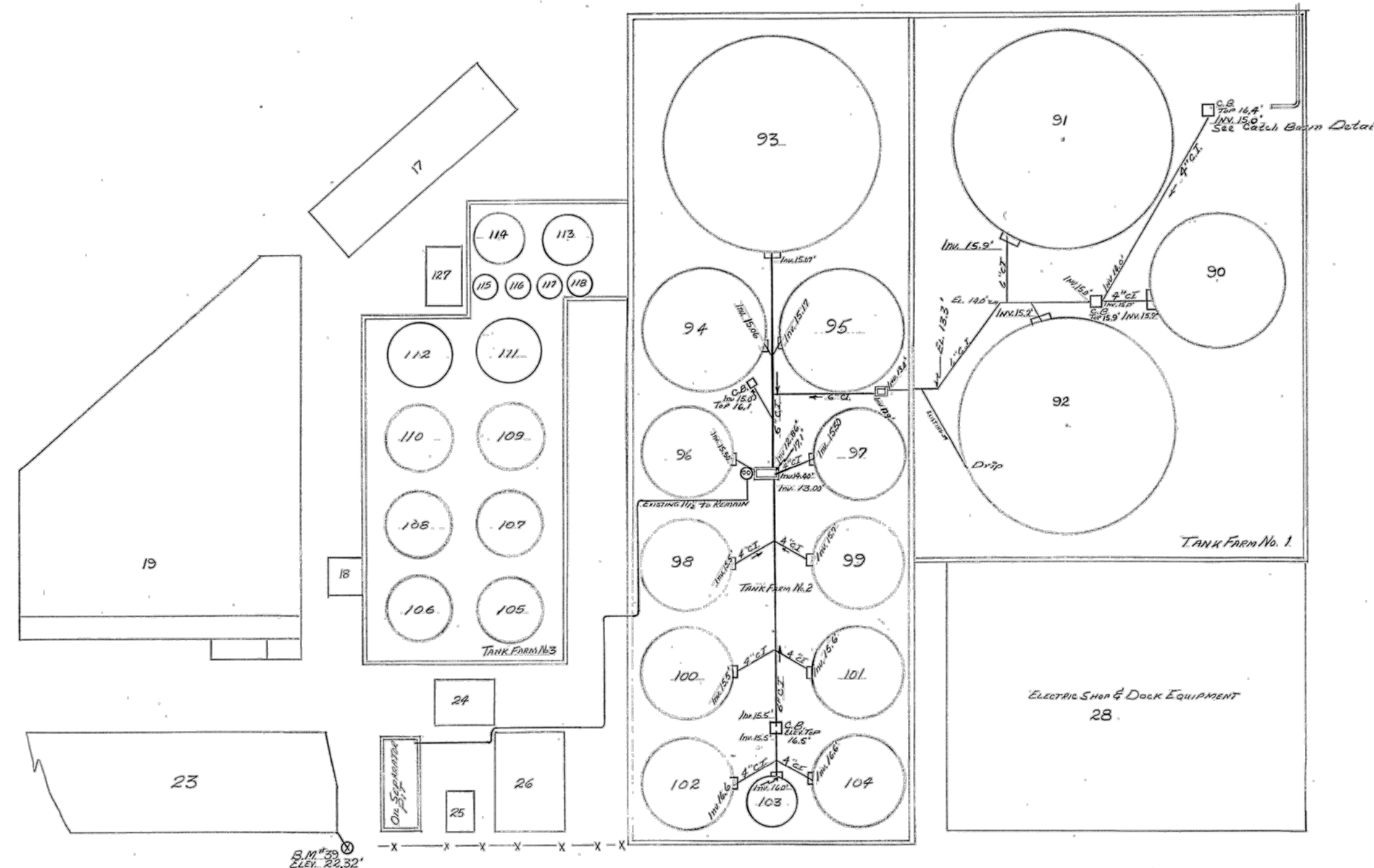
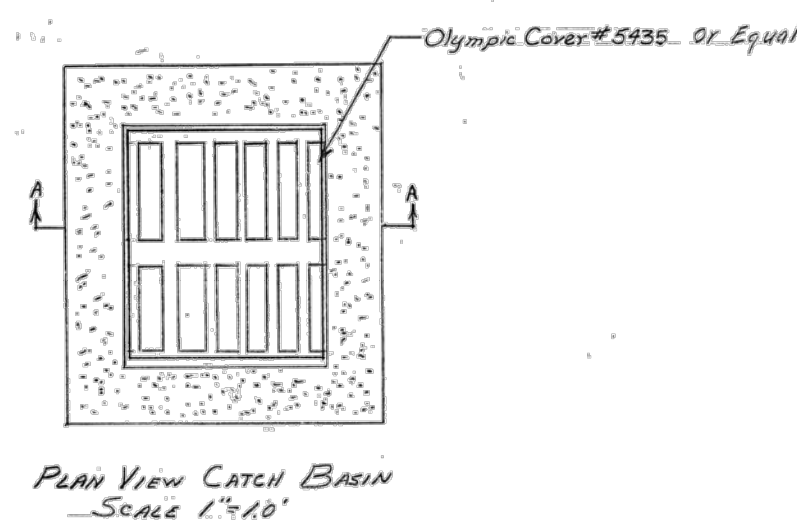
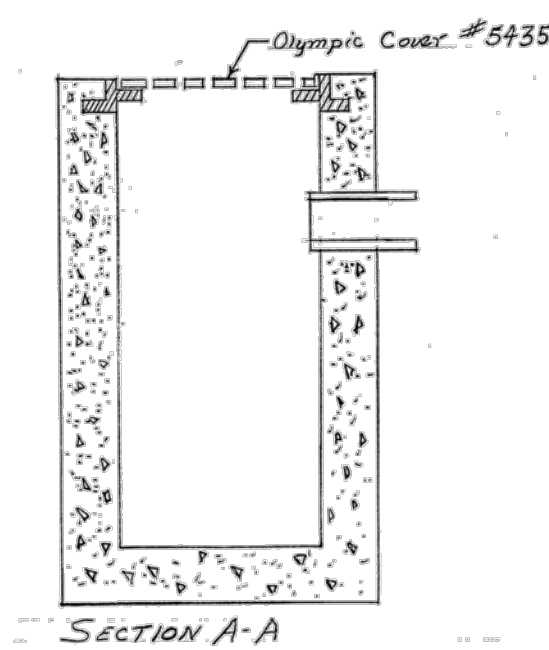
REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER
FRED CHOU
PROJECT ENGINEER
DESIGN ENGINEER
DRAFTER
SCALE
AS SHOWN
DATE
2013-07-08
CHECKED/APPROVED BY
FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: **TERMINAL 91 TANK FARM CLEANUP**
SHEET TITLE: **SOUTH PITS AND UTILITY DETAILS
REFERENCE - TANK FARM**

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 R010

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PLOT PLAN
Scale 1"=30"

- GENERAL NOTES**
- All 3" & 6" Sewer Pipe shall be Extra Heavyweight Cast Iron Soil Pipe.
 - All C.B. shall be installed with top of cover at existing ground level.

W. GARFIELD STREET VADUCT

PRINT ISSUES			
ISSUE NO.	NO.	TO	DATE

REVISION	DATE	DESCRIPTION	BY	APP'D

DEPARTMENT OF THE NAVY		BUREAU OF SUPPLIES AND ACCOUNTS	
NAVAL SUPPLY DEPOT, SEATTLE, WASH.			
DRAWN BY: <i>DES</i>	TANK FARM DRAINAGE SYSTEM		
TRACED BY:	STORM SEWER FOR TANK FARM 1&2		
CHECKED BY: <i>SS</i>	PLANS & DETAILS		
NO. CHARGE: <i>3122</i>	COMPLETION DATE OF DRAWING: <i>27 Aug 59</i>	APPROVED: <i>[Signature]</i>	DATE: <i>1 Oct 1959</i>
SAFETY AND/OR SECURITY DIVISIONS: <i>As Noted</i>	SCALE: <i>As Noted</i>	PUBLIC WORKS OFFICER:	
J. O. NUMBER:	APPROVED FOR (OR SATISFACTORY TO) SUFF. OR AGENCY:	SHEET: <i>7 of 1</i>	F.W. DRAWING NO.: <i>59-96</i>
DATE:	SIG:		

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR/ARCH:
R. NORTH/B. O'NEAL

DESIGNER:
R. NORTH

DRAWN BY:
S. MCCOY

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED BY:
R. NORTH

CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS							
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY

PROJECT MANAGER:
FRED CHOU

PROJECT ENGINEER:

DESIGN ENGINEER:

DRAFTER:

SCALE:
AS SHOWN

DATE:
2013-07-08

CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

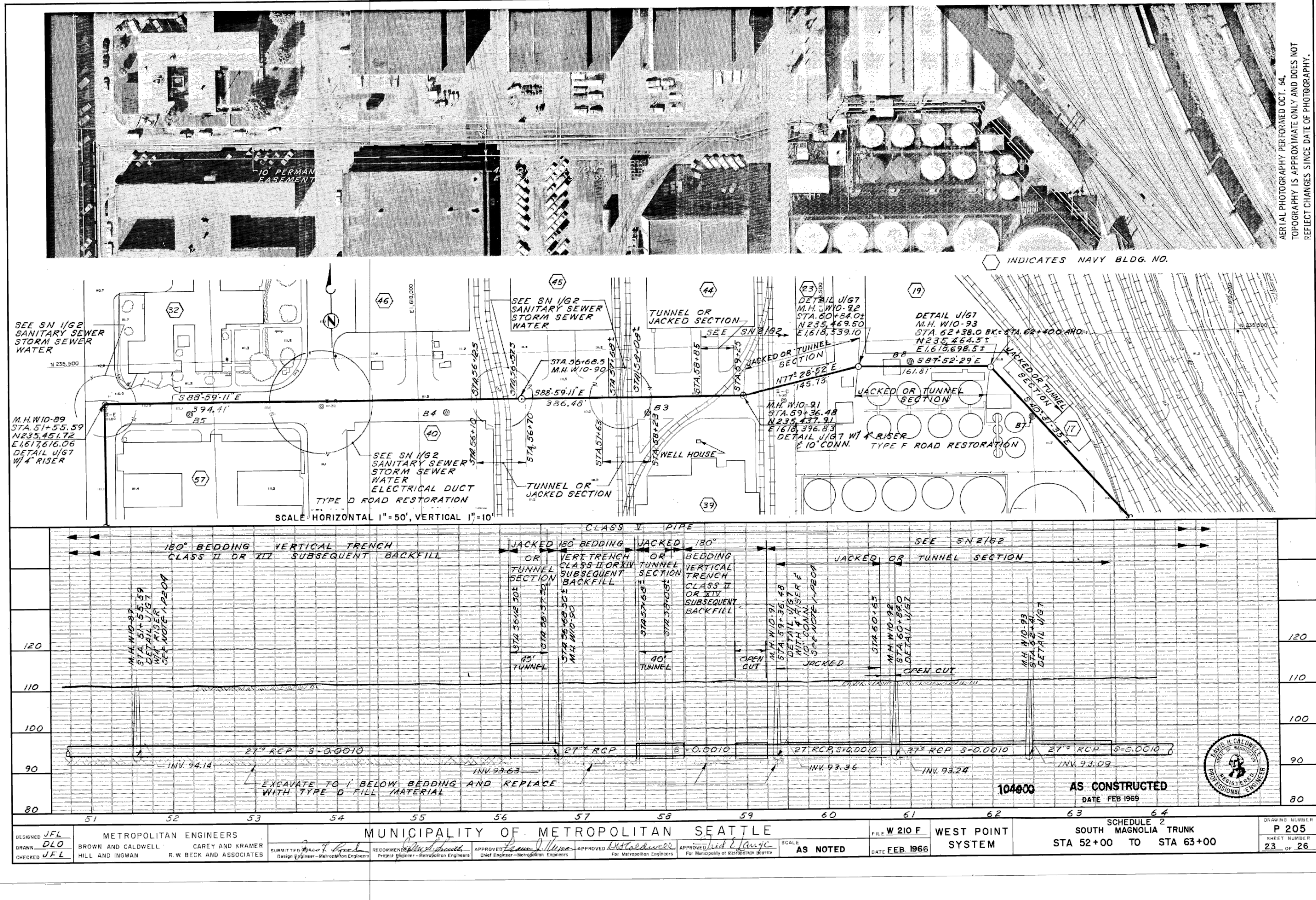
SHEET TITLE: **STORM DISTRIBUTION SYSTEM
REFERENCE - TANK FARM**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 R011

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AERIAL PHOTOGRAPHY PERFORMED OCT. 64.
TOPOGRAPHY IS APPROXIMATE ONLY AND DOES NOT
REFLECT CHANGES SINCE DATE OF PHOTOGRAPHY.

DESIGNED: JFL	METROPOLITAN ENGINEERS	MUNICIPALITY OF METROPOLITAN SEATTLE	FILE: W 210 F	WEST POINT SYSTEM	SCHEDULE 2	DRAWING NUMBER: P 205
DRAWN: DLO	BROWN AND CALDWELL HILL AND INGMAN	CAREY AND KRAMER R.W. BECK AND ASSOCIATES	DATE: FEB. 1966	SCALE: AS NOTED	STA 52+00 TO STA 63+00	SHEET NUMBER: 23 OF 26
CHECKED: UFL					AS CONSTRUCTED DATE FEB 1969	

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR. ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS					
NO.	DATE	BY	DESCRIPTION	APP'D	

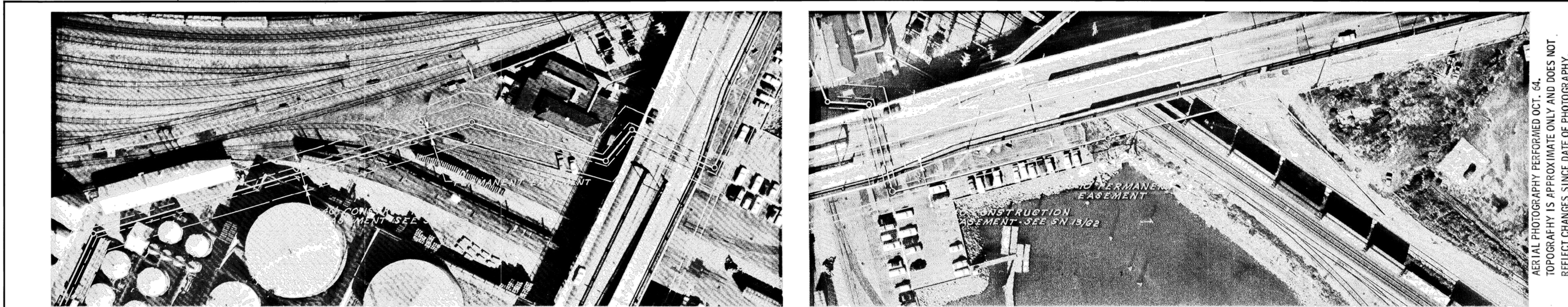
PROJECT MANAGER: FRED CHOU
PROJECT ENGINEER: [Signature]
DESIGN ENGINEER: [Signature]
DRAFTER: [Signature]
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP

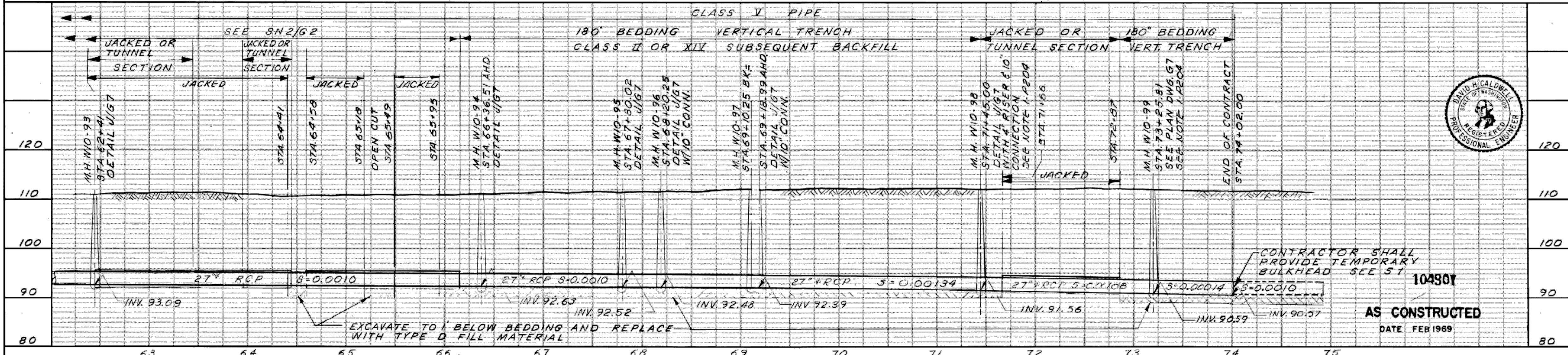
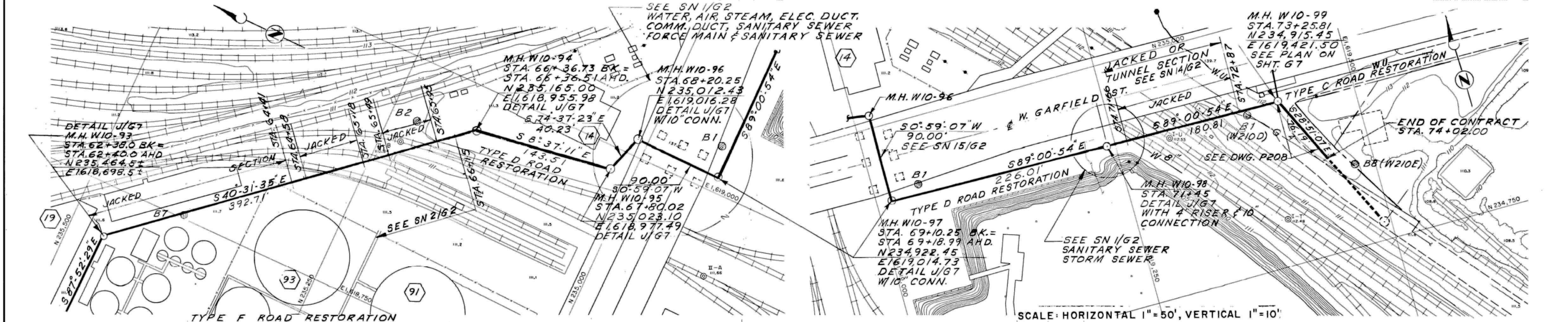
SHEET TITLE: KING COUNTY SANITARY SEWER REFERENCE - TANK FARM

WORK PROJECT NO.: MC - 0317586 - WP104528
CONSULTANT'S NO.: 948.007.003
PORT OF SEATTLE NO.: 91-1401 R012

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TOPOGRAPHY IS APPROXIMATE ONLY AND DOES NOT
REFLECT CHANGES SINCE DATE OF PHOTOGRAPHY.



DESIGNED: JFL	METROPOLITAN ENGINEERS	MUNICIPALITY OF METROPOLITAN SEATTLE				FILE: W 210 F	WEST POINT SYSTEM	SCHEDULE 2 SOUTH MAGNOLIA TRUNK	DRAWING NUMBER: P 206
DRAWN: DLO	BROWN AND CALDWELL CAREY AND KRAMER					DATE: FEB. 1966		STA 63+00 TO STA 74+02 (END)	SHEET NUMBER: 24 OF 26
CHECKED: JFL	HILL AND INGMAN R.W. BECK AND ASSOCIATES					SCALE: AS NOTED			

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PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR. ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

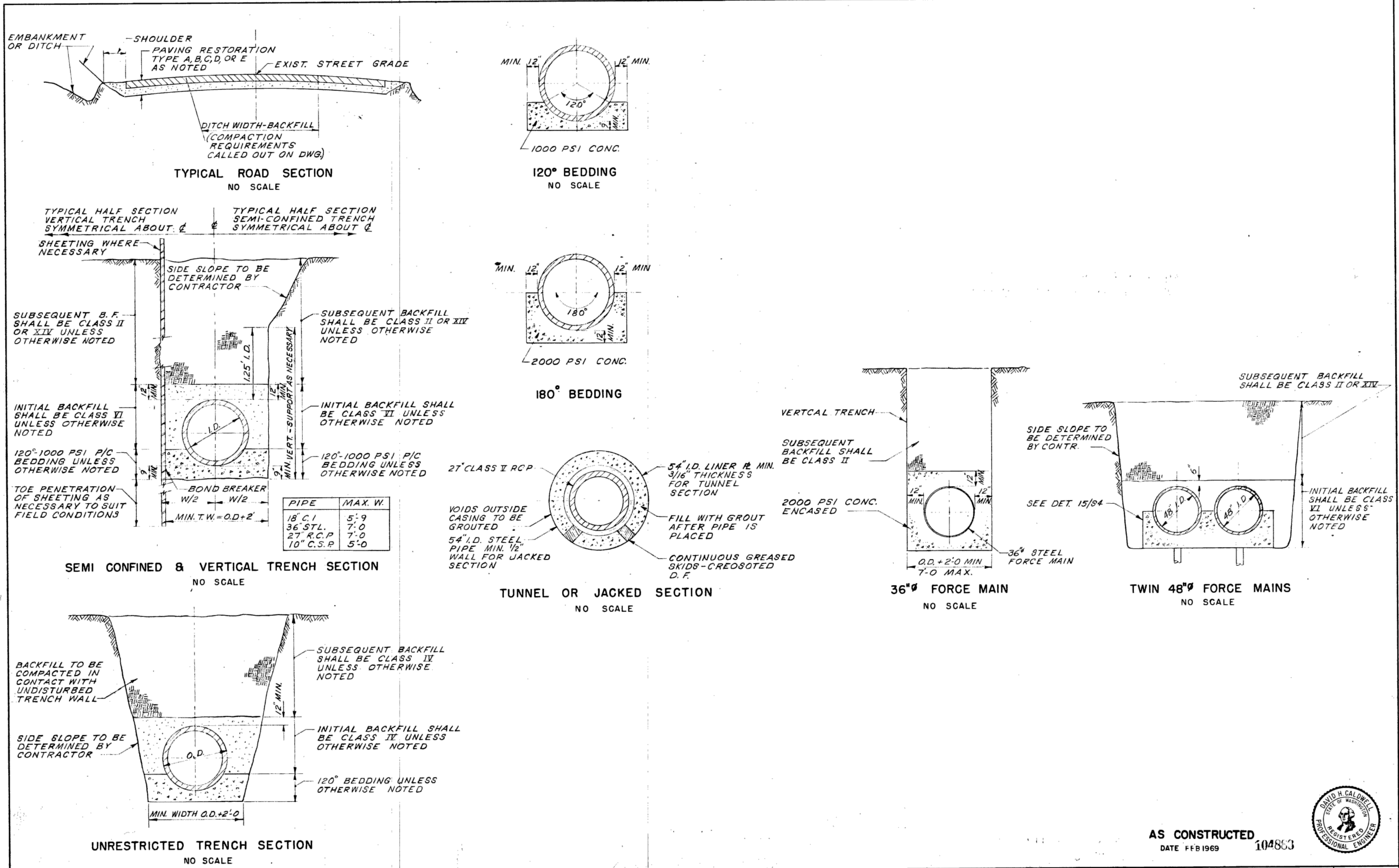
PROJECT MANAGER: FRED CHOU
PROJECT ENGINEER: [Signature]
DESIGN ENGINEER: [Signature]
DRAFTER: [Signature]
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP

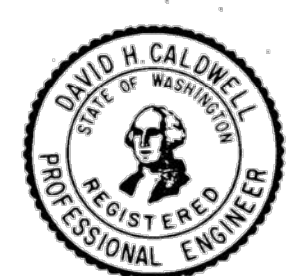
SHEET TITLE: KING COUNTY SANITARY SEWER REFERENCE - TANK FARM

WORK PROJECT NO.: MC - 0317586 - WP104528
CONSULTANT'S NO.: 948.007.003
PORT OF SEATTLE NO.: 91-1401 R013

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AS CONSTRUCTED
DATE FEB 1969 104863



DESIGNED BY: J.F.L.	METROPOLITAN ENGINEERS	MUNICIPALITY OF METROPOLITAN SEATTLE				FILE: W 210	WEST POINT	INTERBAY FORCE MAINS	DRAWING NUMBER: G 6
DRAWN BY: D.L.O.	BROWN AND CALDWELL CAREY AND KRAMER	RECOMMENDED BY: [Signature]	APPROVED BY: [Signature]	APPROVED BY: [Signature]	APPROVED BY: [Signature]	DATE: FEB 1966	SYSTEM	SOUTH MAGNOLIA TRUNK	SHEET NUMBER: 6 OF 26
CHECKED BY: J.F.L.	HILL AND INGMAN R.W. BECK AND ASSOCIATES	DESIGN ENGINEER: Metropolitan Engineers	PROJECT ENGINEER: Metropolitan Engineers	CHEF ENGINEER: Metropolitan Engineers	FOR SEATTLE ENGINEERS	SCALE: AS NOTED		SECTIONS AND DETAILS	

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Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR. ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS						
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE

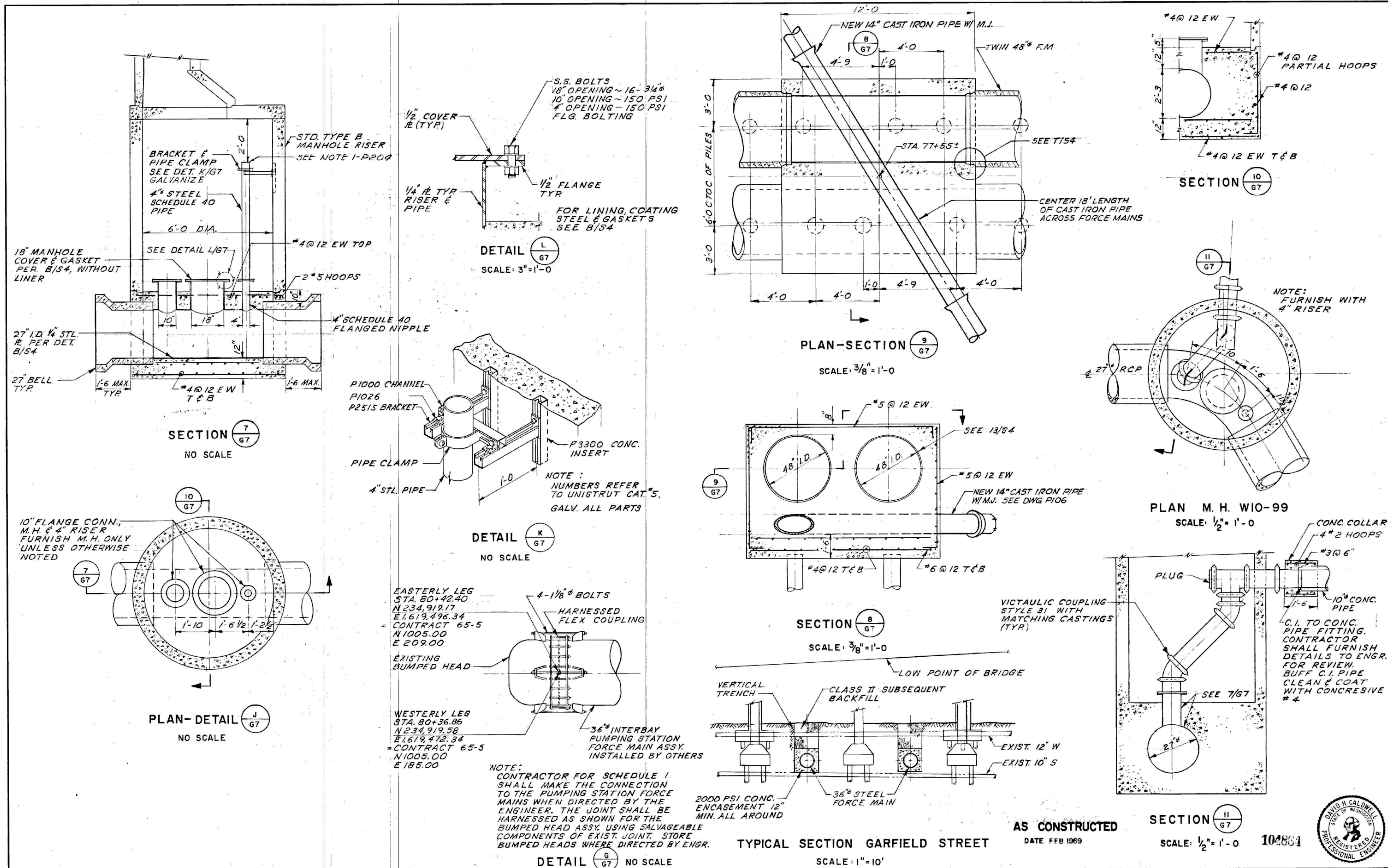
PROJECT MANAGER: FRED CHOU
PROJECT ENGINEER: [Signature]
DESIGN ENGINEER: [Signature]
DRAFTER: [Signature]
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP

SHEET TITLE: KING COUNTY SEWER SECTIONS REFERENCE - TANK FARM

WORK PROJECT NO.: MC - 0317586 - WP104528
CONSULTANT'S NO.: 948.007.003
PORT OF SEATTLE NO.: 91-1401 R014

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DESIGNED: JFL	METROPOLITAN ENGINEERS	MUNICIPALITY OF METROPOLITAN SEATTLE				FILE: W210	WEST POINT SYSTEM	INTERBAY FORCE MAINS SOUTH MAGNOLIA TRUNK SECTIONS AND DETAILS	DRAWING NUMBER: G7
DRAWN: DLO	BROWN AND CALDWELL CAREY AND KRAMER	SUBMITTED: [Signature]				SCALE: AS NOTED	DATE: FEB 1966	DATE: FEB 1969	104861
CHECKED: JFL	HILL AND INGMAN R.W. BECK AND ASSOCIATES	RECOMMENDED: [Signature]				CONSULTANT'S NO.: 948.007.003			
		APPROVED: [Signature]				SHEET NUMBER: 7 OF 26			

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Engineering & Environmental Services

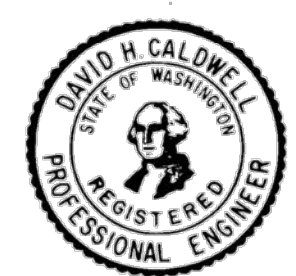
VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR. ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

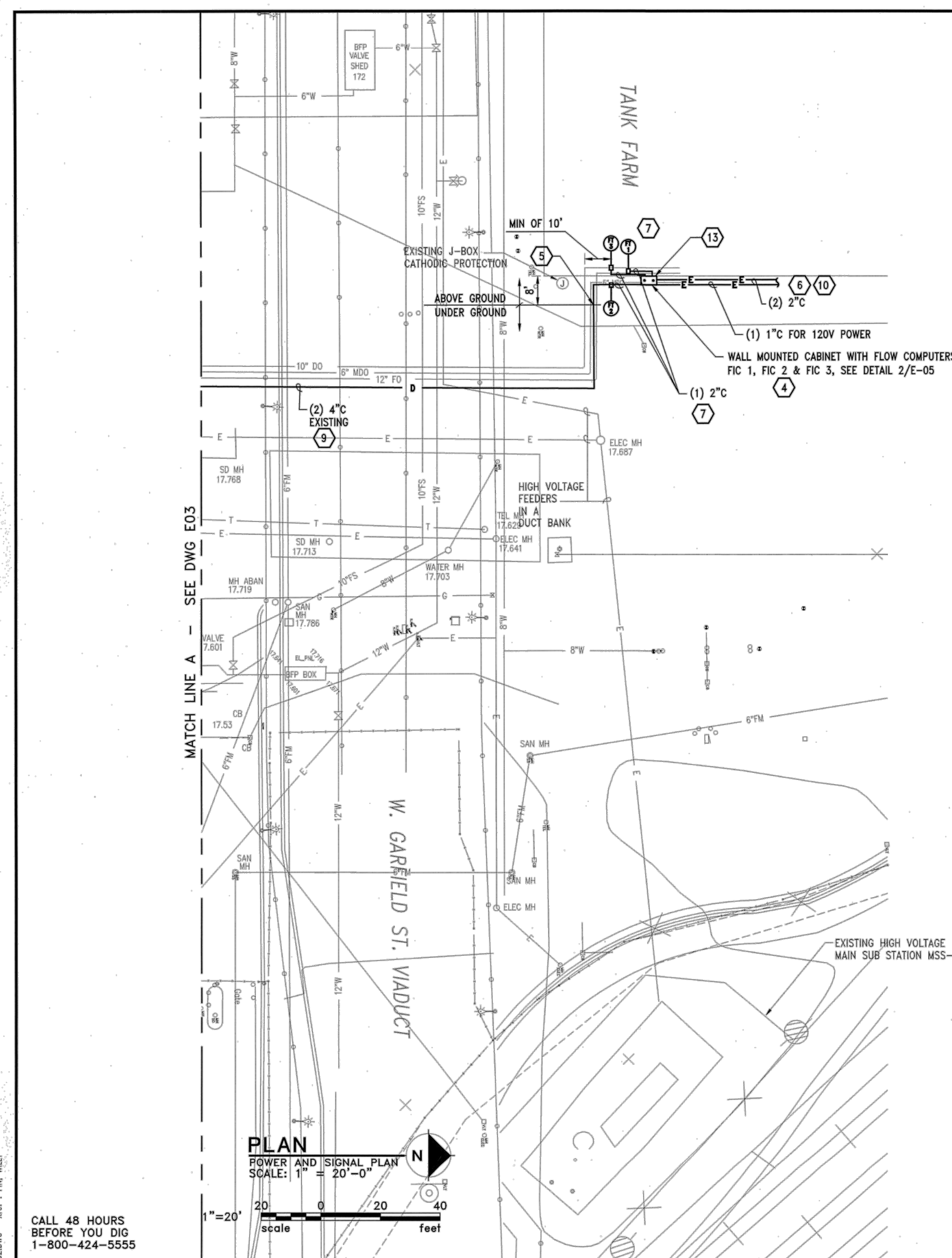
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PROJECT ENGINEER: [Signature]
DESIGN ENGINEER: [Signature]
DRAFTER: [Signature]
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP
SHEET TITLE: KING COUNTY SEWER SECTIONS REFERENCE - TANK FARM



WORK PROJECT NO.: MC - 0317586 - WP104528
CONSULTANT'S NO.: 948.007.003
PORT OF SEATTLE NO.: 91-1401 R015

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PLAN
POWER AND SIGNAL PLAN
SCALE: 1" = 20'-0"
1" = 20'
0 20 40
feet

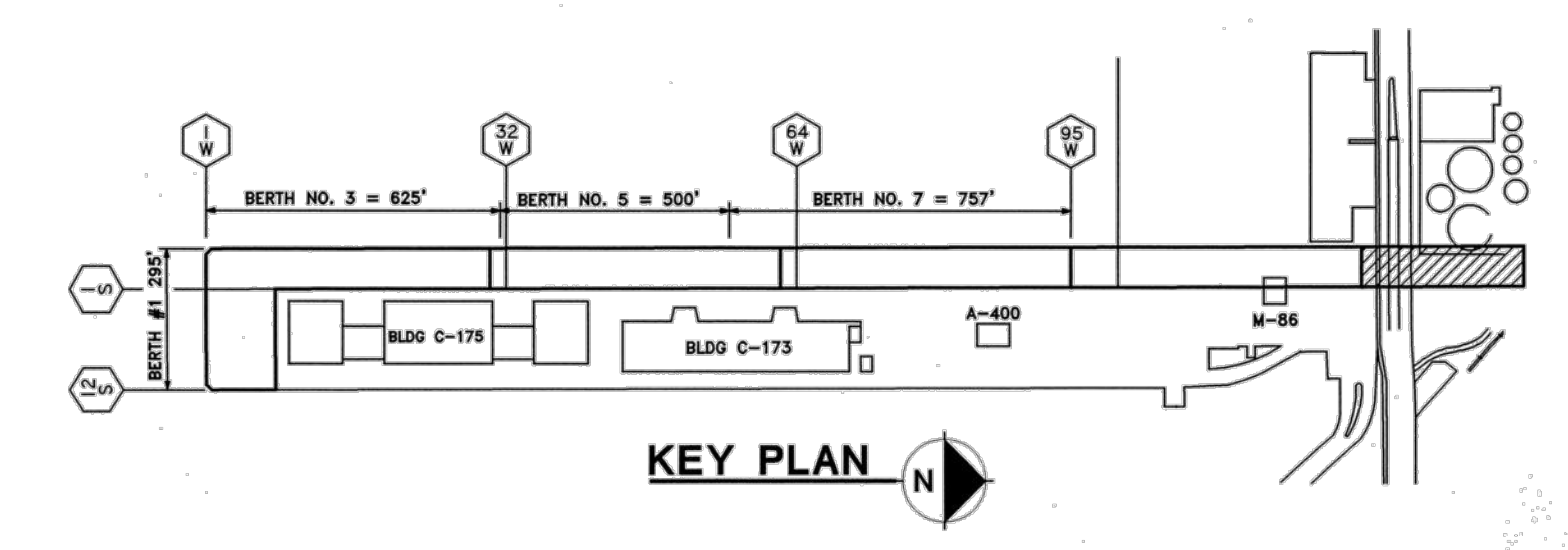
CALL 48 HOURS BEFORE YOU DIG
1-800-424-5555

**GENERAL NOTES
(SHEETS E-2 THRU E-4)**

1. PROVIDE ALL NEW UNDERGROUND CONDUITS IN DUCT BANKS UNLESS OTHERWISE NOTED.
2. PROVIDE TRENCHING FOR ALL ELECTRICAL WORK WHERE REQUIRED. PROVIDE EXCAVATION, BACKFILL AND REPAVE THE TOP GRADE WITH ASPHALT TO MATCH WITH THE EXISTING. ALL KNOWN OBSTRUCTIONS UNDERGROUND OR ABOVE GROUND SUCH AS CONCRETE PADS, BUILDING FOUNDATIONS ARE SHOWN ON SITE PLANS, HOWEVER CONTRACTOR MAY STILL ENCOUNTER SOME OBSTRUCTIONS IN INSTALLING NEW CONDUITS. CONTRACTOR SHALL VISIT SITE PRIOR TO BIDDING TO REVIEW SITE FOR HIS OWN FIELD VERIFICATION.
3. SEE SHEET M-10 FOR LEAK DETECTION SYSTEM SYMBOLS.

**KEYED NOTES
(SHEETS E-2 THRU E-4)**

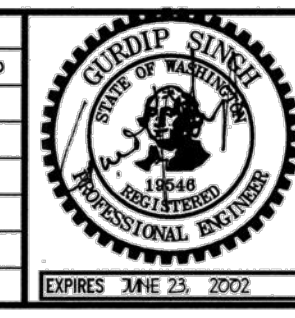
- 1 PROVIDE A TELEPHONE SPLICE BOX AND CONNECT TELEPHONE WIRES TO THE TELEPHONE OUTLET IN THE PERSONNEL SHELTER.
- 2 IN GENERAL INSTALL CONDUIT UNDER DOCK ON THE SIDE OF THE PILE CAP WITH STAINLESS STEEL SUPERSTRUT SUPPORT MOUNTED ON THE PILECAP. WHERE REQUIRED INSTALL CONDUITS WITH HANGERS SUPPORTED FROM THE UNDERSIDE OF THE DECK. SEE SPECIFICATIONS SECTION 15060-HANGERS AND SUPPORTS.
- 3 COORDINATE FUEL SYSTEM WIRING WITH THE TENANT AT TERMINAL 91. PROVIDE NEW JUNCTION BOX INSIDE THE NEW VAULT AND SPLICE EXISTING FUEL SYSTEM WIRING WITH THE NEW WIRING. CONNECT NEW WIRING TO REMOTE EMERGENCY FUEL PUMP CONTROL SWITCH LOCATED NEAR THE PERSONNEL SHELTER. EXISTING WIRING FOR REMOTE EMERGENCY FUEL PUMP CONTROL ORIGINATES FROM BUILDING 25 AS SHOWN ON SHEET E-05.
- 4 48"Hx36"Wx16"D, FIBERGLASS CABINET WALL MOUNT, NEMA 4X ENCLOSURE WITH BACK PANEL TO MOUNT FLOW COMPUTER, PATCH PANEL, AND QUAD RECEPTACLE. HOFFMAN CAT. #A48P36. REFER TO SPECIFICATION SECTION 16071 PARAGRAPH 3.04C FOR WALL MOUNT INSTALLATION OF THIS CABINET.
- 5 EXISTING CONDUIT STUB UP AT THIS LOCATION. PROVIDE NEW ABOVE GROUND (AT GROUND LEVEL) 4" CONDUIT BETWEEN THIS POINT AND FLOW COMPUTER PANEL. ENCASE IN A DUCT BANK. SEE DUCT BANK DETAIL 2/E-06.
- 6 SEE DWG. E05 FOR CONTINUATION TO BLDG. 24, TANK FARM AREA.
- 7 SEE DWG. M10 FOR FLOW TRANSDUCERS SCHEMATIC INSTALLATION WIRING DIAGRAM.
- 8 NOT USED
- 9 PROVIDE FIBER OPTIC CABLE ALONG WITH ALL REQUIRED CONNECTORS AS MANUFACTURED BY BELDEN CAT# MLS 6012 TYPE 62.5/125 CORE/ CLAD DIAMETERS IN ONE OF THE TWO EXISTING CONDUITS. FIBER OPTIC CABLE SHALL BE COMPATIBLE WITH THE LEAK DETECTION SYSTEM. CO-ORDINATE WITH THE LEAK DETECTION SYSTEM SUPPLIER FOR THE EXACT CABLE SPECIFICATIONS.
- 10 PROVIDE FIBER OPTIC CABLE AS STATED IN NOTE #9 IN NEW WALL MOUNTED 2" CONDUIT.
- 11 DRILL THROUGH THE BULKHEAD AND INSTALL CONDUITS ON THE WATER SIDE. SEE NOTE THIS SHEET. FILL THE OPENING HOLE WITH FIRE RETARDANT FOAM.
- 12 PROVIDE 2P, 60 AMP 208V CIRCUIT BREAKER IN EXIST PANEL 'BL' AND CONNECT POWER WIRING FOR PANEL 'A' TO IT. ALSO INSTALL AN EMON/DMON METER ON TOP OF THE EXISTING PANEL 'BL' FOR THE NEW FEED TO PANEL 'A'.
- 13 INSTALL CONDUITS THROUGH THE WALL AND SEAL THE WALL PENETRATION WITH FIRE RETARDING FOAM.
- 14 OPEN EXISTING FITTINGS TO INSTALL NEW FIBER OPTIC CABLE AND REINSTALL WITH NEW FITTINGS AT THESE POINTS.
- 15 CORE DRILL THROUGH THE RETAINING WALL TO INSTALL DUCT BANK FOR ALL CONDUITS.



KEY PLAN

PROJECT ENGR./ARCH:	
DESIGNER:	R. NORTH/B. O'NEAL
DRAWN BY:	S. MCCOY
SCALE:	AS SHOWN
DATE:	2013-07-08
CHECKED BY:	R. NORTH
APPROVED BY:	R. NORTH/B. O'NEAL

REVISIONS						
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE



PROGRAM MANAGER:
DAKOTA CHAMBERLAIN
DESIGN ENGINEER:
GORE SINGH
DRAWN BY:
SULHAIB SHAYKHO
SCALE:
1" = 20'-0"
DATE:
07/12/2001
CHECKED BY:

Port of Seattle MARINE FACILITIES
PROJECT: TERMINAL 91 - PIER 90 FUEL PIPING LEAK DETECTION SYSTEM & BERTH 8 FUEL RISERS
SHEET TITLE: POWER AND SIGNAL PLAN SHEET 1
WORK ORDER NO. 100529
CONSULTANT'S NO.
PORT OF SEATTLE NO. 91-0102-E02

PES Environmental, Inc.
Engineering & Environmental Services
VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR./ARCH:
R. NORTH/B. O'NEAL
DESIGNER:
R. NORTH
DRAWN BY:
S. MCCOY
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED BY:
R. NORTH
CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

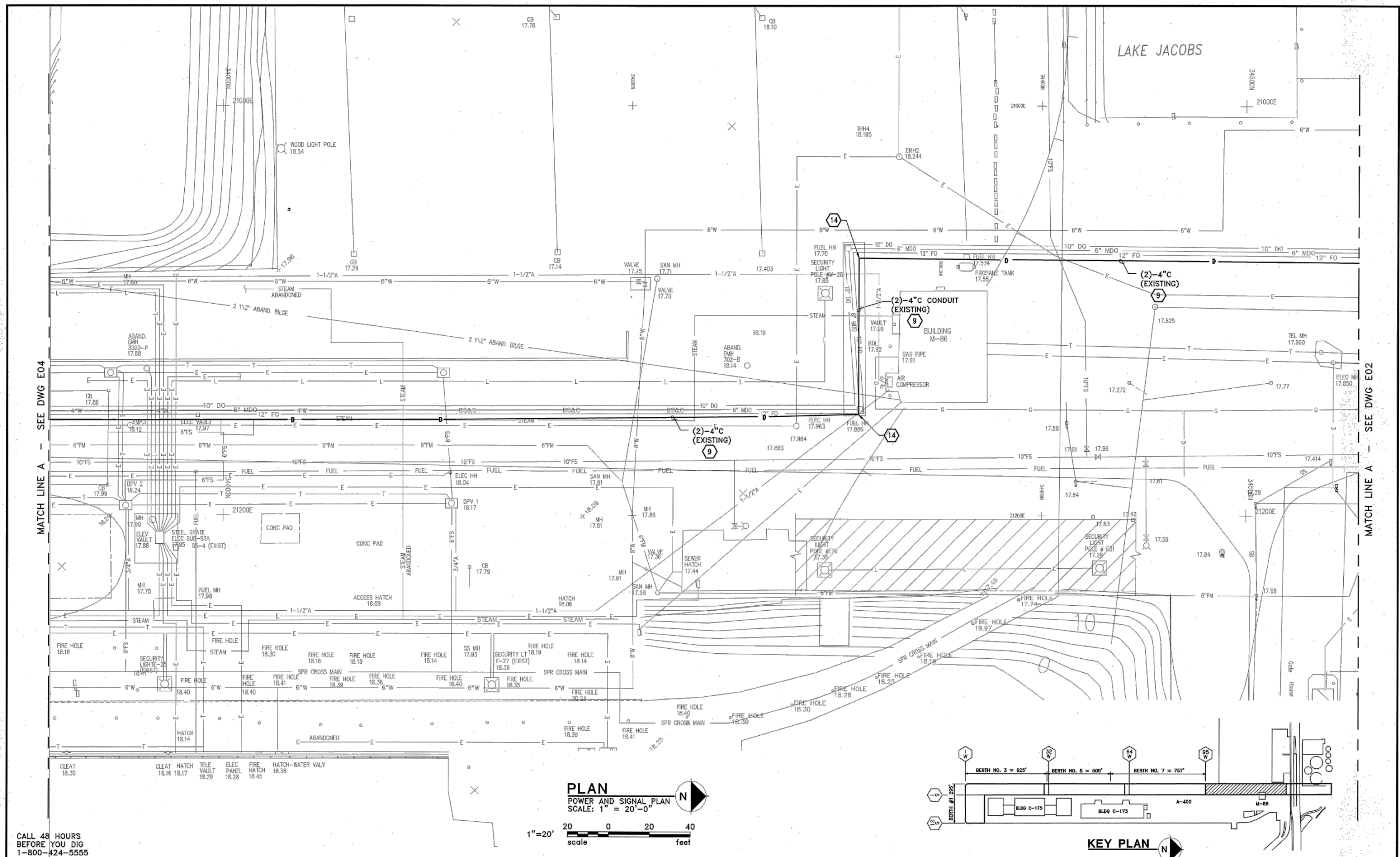
REVISIONS						
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE

PROJECT MANAGER:
FRED CHOU
PROJECT ENGINEER:
DESIGN ENGINEER:
DRAFTER:
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP
SHEET TITLE: POS TERMINAL 91 FUEL PIPING LEAK DETECTION 1 REFERENCE - FUEL LINES

WORK PROJECT NO. MC - 0317586 - WP104528
CONSULTANT'S NO. 948.007.003
PORT OF SEATTLE NO. 91-1401 R016

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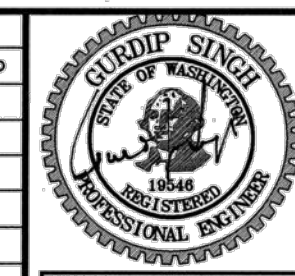


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Date: 07-09-2001 Time: 1:51:0
Dwg: 191140R017.dwg Xref: FIN, WILLY, S.SINGH

PROJECT ENGR./ARCH:	
DESIGNER:	
DRAWN BY:	
SCALE:	
DATE:	
CHECKED BY:	
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REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D



PROGRAM MANAGER:
DAKOTA CHAMBERLAIN
DESIGN ENGINEER:
GORE SINGH
DRAWN BY:
SULHAIB SHAYKHO
SCALE:
1" = 20'-0"
DATE:
07/12/2001
CHECKED BY:
[Signature]

Port of Seattle
MARINE FACILITIES

PROJECT: **TERMINAL 91 - PIER 90 FUEL PIPING LEAK DETECTION SYSTEM & BERTH 8 FUEL RISERS**

SHEET TITLE: **POWER AND SIGNAL PLAN SHEET 2**

WORK ORDER NO.
100529

CONSULTANT'S NO.

PORT OF SEATTLE NO.
91-0102-E03

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR./ARCH:
R. NORTH/B. O'NEAL
DESIGNER:
R. NORTH
DRAWN BY:
S. MCCOY
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED BY:
R. NORTH
CHECKED/APPROVED BY:
R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
FRED CHOU
PROJECT ENGINEER:
FRED CHOU
DESIGN ENGINEER:
FRED CHOU
DRAFTER:
FRED CHOU
SCALE:
AS SHOWN
DATE:
2013-07-08
CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE

PROJECT: **TERMINAL 91 TANK FARM CLEANUP**

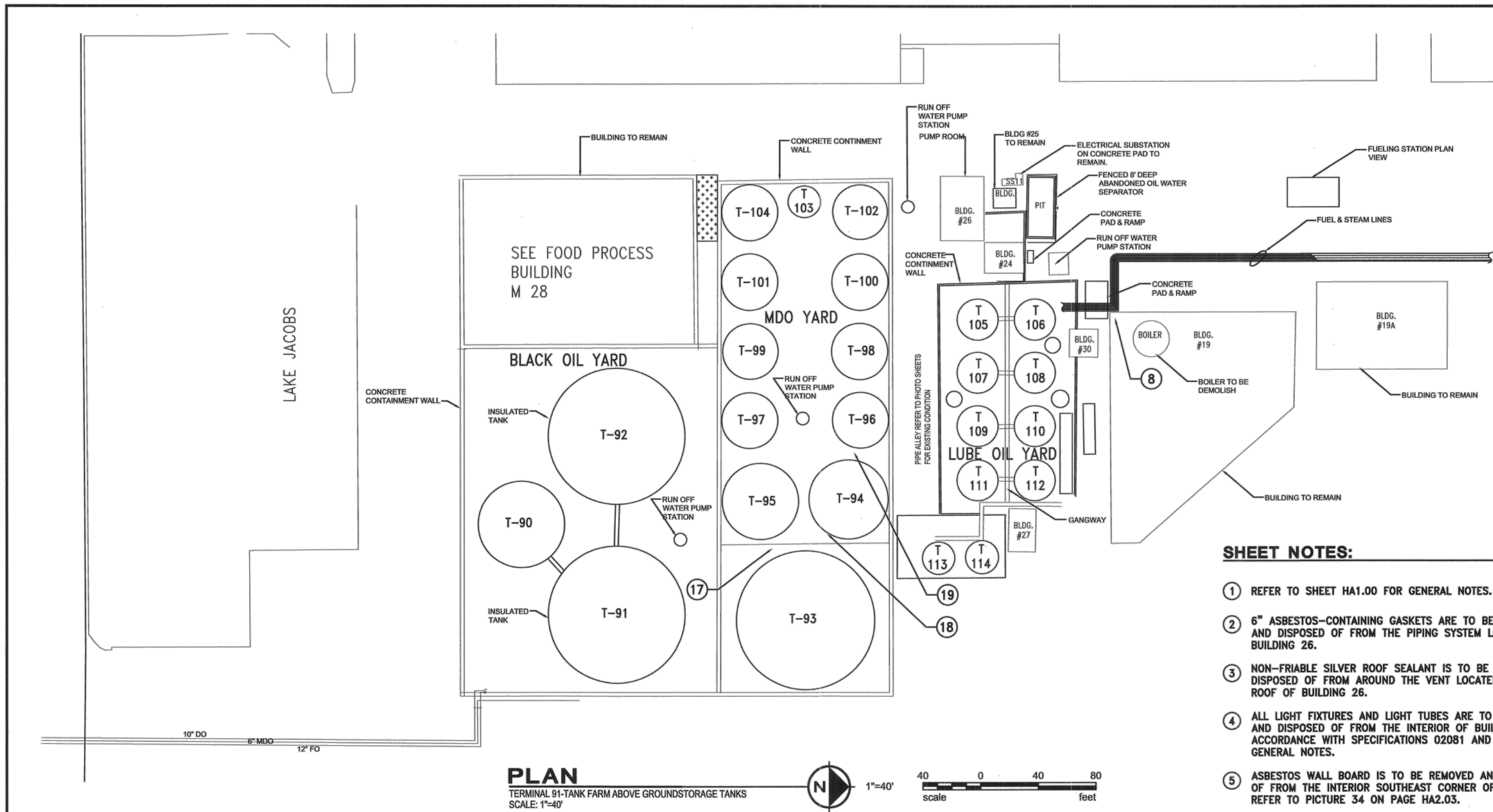
SHEET TITLE: **POS TERMINAL 91 FUEL PIPING LEAK DETECTION 2 REFERENCE - FUEL LINES**

WORK PROJECT NO.
MC - 0317586 - WP104528

CONSULTANT'S NO.
948.007.003

PORT OF SEATTLE NO.
91-1401 R017

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LEGEND:
 ASBESTOS-CONTAINING TAR ROOF TO BE REMOVED

SHEET NOTES:

- 1 REFER TO SHEET HA1.00 FOR GENERAL NOTES.
- 2 6" ASBESTOS-CONTAINING GASKETS ARE TO BE REMOVED AND DISPOSED OF FROM THE PIPING SYSTEM LOCATED INSIDE BUILDING 26.
- 3 NON-FRIABLE SILVER ROOF SEALANT IS TO BE REMOVED AND DISPOSED OF FROM AROUND THE VENT LOCATED ON THE ROOF OF BUILDING 26.
- 4 ALL LIGHT FIXTURES AND LIGHT TUBES ARE TO BE REMOVED AND DISPOSED OF FROM THE INTERIOR OF BUILDING 24 IN ACCORDANCE WITH SPECIFICATIONS 02081 AND 02082, SEE GENERAL NOTES.
- 5 ASBESTOS WALL BOARD IS TO BE REMOVED AND DISPOSED OF FROM THE INTERIOR SOUTHWEST CORNER OF BUILDING 24 REFER TO PICTURE 34 ON PAGE HAZ.03.
- 6 ALL LIGHT FIXTURES AND LIGHT TUBES ARE TO BE REMOVED AND DISPOSED OF FROM THE INTERIOR OF BUILDING 30 IN ACCORDANCE WITH SPECIFICATIONS 02081 AND 02082, SEE GENERAL NOTES.
- 7 REMOVE ALL 12" ASBESTOS PIPE FITTINGS FROM THE SOUTHWEST CORNER OF BUILDING 19 BOILER ROOM. FITTINGS ARE LOCATED APPROXIMATELY 12' ABOVE GROUND LEVEL.
- 8 REMOVE ALL 8" ASBESTOS PIPE FITTINGS FROM THE SOUTHWEST CORNER OF BUILDING 19 BOILER ROOM. FITTINGS ARE LOCATED APPROXIMATELY 12' ABOVE FLOOR LEVEL.
- 9 REMOVE 8" ASBESTOS PIPE FROM THE SOUTHWEST CORNER OF BUILDING 19 BOILER ROOM. RUN IS LOCATED APPROXIMATELY 12' ABOVE FLOOR LEVEL.
- 10 REMOVE AND DISPOSE OF BLACK 10" PIPE GASKETS LOCATED IN THE BOILER ROOM OF BUILDING 19.
- 11 ALL OF THE PIPE GASKETS LOCATED AT THE FUELING STATION ARE TO BE REMOVED AND DISPOSED OF BY THE CONTRACTOR
- 12 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE ASBESTOS-CONTAINING PIPING INSULATION, THAT RUNS NORTH AND SOUTH, WEST OF TANKS 105 AND 106.
- 13 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF BOTH 16" GASKETS, 30' NORTHWEST OF TANK 106 ABOVE THE PLATFORM.
- 14 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL 36" TANK GASKETS THAT ARE ASSOCIATED WITH THE ABOVE GROUND STORAGE TANKS (T-90 THRU T-114) LOCATED IN THE BLACK OIL, MDO, AND LUBE OIL YARD.
- 15 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL BLACK GASKETS ASSOCIATED WITH THE PIPING SYSTEM IN THE PIPE ALLEY BEHIND BUILDING 26.
- 16 ALL BLACK GASKETS LOCATED ON HATCHES AT THE BOTTOM OF THE TANKS ARE TO BE REMOVED BY THE CONTRACTOR FROM TANKS T-93 THROUGH T-104 IN THE MDO YARD.
- 17 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE 10" BLACK METAL PIPE WITH ASBESTOS-CONTAINING COATING, THAT RUNS NORTH AND SOUTH, BETWEEN T-93 AND T-95 IN THE MDO YARD.
- 18 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE NON-FRIABLE BLACK TAR AND FIBER BOARD INSULATION LOCATED ON THE EAST SIDE OF T-94.
- 19 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE NON-FRIABLE ASBESTOS-CONTAINING BLACK TAR COATING BETWEEN T-94 AND T-96 IN THE MDO YARD.
- 20 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE ASBESTOS-CONTAINING PIPE RUN BETWEEN T-91 AND T-92 IN THE BLACK OIL YARD.
- 21 THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE ASBESTOS-CONTAINING ROOFING MATERIAL LOCATED AT THE NORTHWEST END OF M-28 ROOF. ROOF HEIGHT IS GREATER THAN 20 FEET.
- 22 THE ROOF OF BUILDING M-28 IS ASBESTOS-CONTAINING AND IS TO REMAIN INTACT. NO ABATEMENT WILL TAKE PLACE IN OR ON M-28.
- 23 THE CONTRACTOR SHALL ASSUME THAT BUILDINGS THAT ARE TO REMAIN WILL BE OCCUPIED BY PORT EMPLOYEES OR PORT TENANTS.
- 24 IT IS ASSUMED THAT ASBESTOS TAR PAPER EXISTS IN THE EXPANSION JOINTS OF THE CONCRETE CONTAINMENT WALLS THAT WILL BE DEMOLISHED. THE CONTRACTOR IS TO REMOVE AND DISPOSE OF THE TAR PAPER, REFER TO SHEET 91-0401-RO06 FOR LOCATION. REFER TO SHEET 91-0401-C005 FOR WALL DEMOLITION PLAN. COORDINATE ALL WORK WITH THE GC.

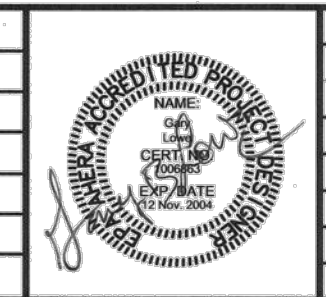
QUANTITIES

BUILDING 19		BUILDING 30		MDO YARD	
QUANTITY	MATERIAL DESCRIPTION	QUANTITY	MATERIAL DESCRIPTION	QUANTITY	MATERIAL DESCRIPTION
5 EA	12" ELBOWS	1 EA	4' FIXTURE, 2 LAMPS	11 EA	BLACK GASKETS
3 EA	8" PIPE FITTINGS	3 EA	8' FIXTURE, 2 LAMPS	150 LF	BLACK METAL PIPE
40 LF	8" PIPE RUN			5 LF	BLACK TAR AND FIBERBOARD INSULATION
4 EA	10" BLACK PIPE GASKETS			150 LF	BLACK TAR COATING
				33 EA	36" TANK GASKETS
				500 SF	ASBESTOS-CONTAINING ROOF TAR
BUILDING 24		LUBE OIL YARD		FUELING STATION	
QUANTITY	MATERIAL DESCRIPTION	QUANTITY	MATERIAL DESCRIPTION	QUANTITY	MATERIAL DESCRIPTION
200 SF	ASBESTOS WALL BOARD	600 LF	12" PIPE RUN	40 EA	PIPE GASKETS
3 EA	4' FIXTURES, 2 LAMPS	600 LF	16" PIPE RUN		
4 EA	4' FIXTURES, 4 LAMPS	2 EA	16" BLACK PIPE GASKETS		
1 EA	8' FIXTURE, 2 LAMPS	33 EA	36" TANK GASKETS		
		600 LF	PIPING INSULATION W/ ASPHALTIC LAGGING		
		350 EA	6" BLACK GASKETS		
BUILDING 26		BLACK OIL YARD		CONCRETE CONTAINMENT WALL	
QUANTITY	MATERIAL DESCRIPTION	QUANTITY	MATERIAL DESCRIPTION	QUANTITY	MATERIAL DESCRIPTION
26 EA	6" PIPE GASKETS	150 LF	PIPING INSULATION	120 LF	TAR PAPER
2 SF	SILVER ROOF SEALANT	33 EA	36" TANK GASKETS		

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 SEATTLE, WASHINGTON 98119
 PH: (206) 285-3275 FAX: (206) 285-3267

PROJECT: 91-TANK FARM
 DESIGNER: G. LOWE
 DRAWN BY: C. CASTILLO
 SCALE: AS SHOWN
 DATE: AUGUST 12, 2004
 CHECKED BY: N. CALLAHAN
 APPROVED BY:



REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER:
 PROJECT ENGINEER:
 DESIGN ENGINEER:
 DRAFTER:
 SCALE:
 DATE:
 CHECKED/APPROVED BY:

Port of Seattle MARINE FACILITIES
 PROJECT: TERMINAL 91-TANK FARM DEMOLITION
 SHEET TITLE: REGULATED MATERIALS LOCATION

WORK ORDER NO. D-4635
 CONSULTANT'S NO.
 PORT OF SEATTLE NO. 91-0401-HA1.01

PES Environmental, Inc.
 Engineering & Environmental Services
VISTA CONSULTANTS, LLC
 4132 SW BARBUR BLVD.
 PORTLAND, OREGON 97239
 (503) 922-2522

PROJECT ENGR. ARCH: R. NORTH/B. O'NEAL
 DESIGNER: R. NORTH
 DRAWN BY: S. MCCOY
 SCALE: AS SHOWN
 DATE: 2013-07-08
 CHECKED BY: R. NORTH
 CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

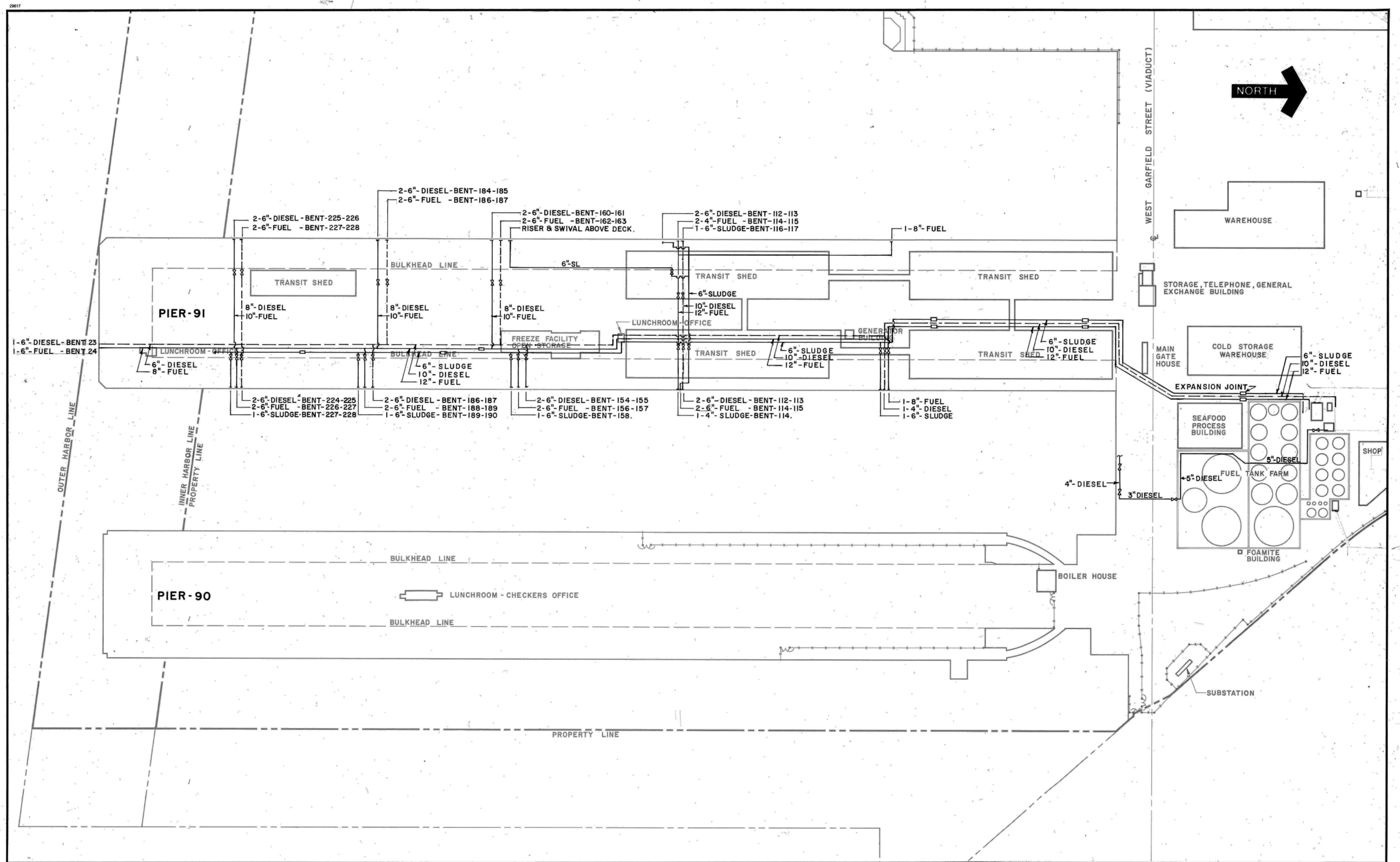
REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER: FRED CHOU
 PROJECT ENGINEER:
 DESIGN ENGINEER:
 DRAFTER:
 SCALE: AS SHOWN
 DATE: 2013-07-08
 CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
 PROJECT: TERMINAL 91 TANK FARM CLEANUP
 SHEET TITLE: HAZARD ASSESSMENT 1 FUEL LINES

WORK PROJECT NO. MC - 0317586 - WP104528
 CONSULTANT'S NO. 948.007.003
 PORT OF SEATTLE NO. 91-1401 R018

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<p>PROJECT ENGR./ARCH. DESIGNER: DRAWN BY: SCALE: DATE: CHECKED BY:</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>APP'D.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	BY	DESCRIPTION	APP'D.																					<p>PORT OF SEATTLE MARINE FACILITIES PIER 90/91 - CHEMPRO PIPING PLAN PLAN</p>	<p>PROJECT ENGINEER SCALE: 1" = 100' DESIGNER: DAVE SOLKE DATE: OCT. 1982 DRAWN BY: AXIE STOKER CHECKED BY: APPROVED BY:</p>	<p>WORK ORDER NO. D-2875 CONSULTANT'S NO. PORT OF SEATTLE NO. 91-8203-C-1</p>
NO.	DATE	BY	DESCRIPTION	APP'D.																									

PES Environmental, Inc.
Engineering & Environmental Services

VISTA CONSULTANTS, LLC
4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR./ARCH.
R. NORTH/B. O'NEAL
DESIGNER:
R. NORTH
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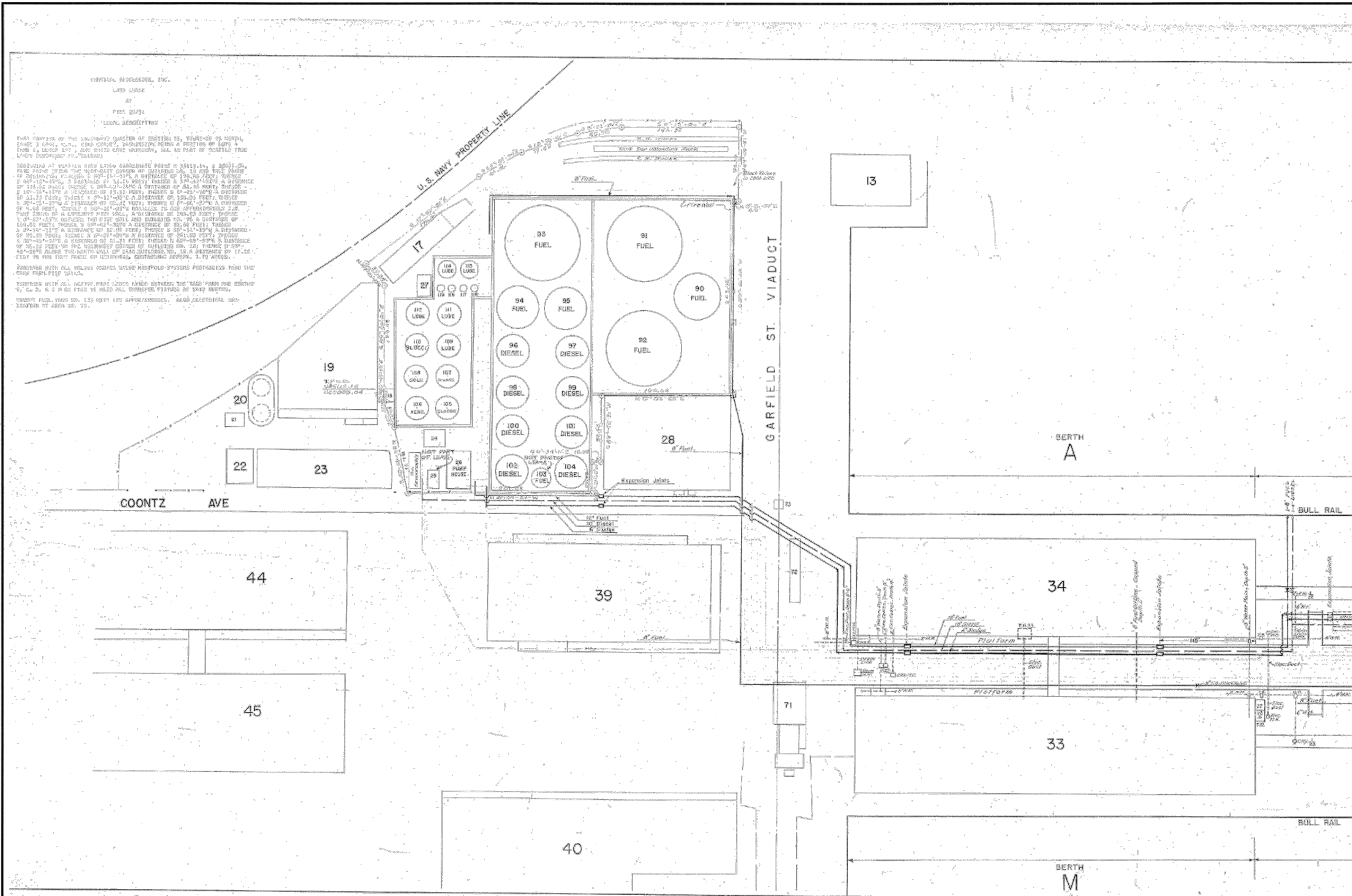
NO.	DATE	BY	DESCRIPTION	APP'D.

PROJECT MANAGER:
FRED CHOU
PROJECT ENGINEER:
DESIGN ENGINEER:
DRAFTER:
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DATE:
2013-07-08
CHECKED/APPROVED BY:
FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP
SHEET TITLE: CHEMPRO 91-8203-C-1
REFERENCE - FUEL LINES

WORK PROJECT NO.
MC - 0317586 - WP104528
CONSULTANT'S NO.
948.007.003
PORT OF SEATTLE NO.
91-1401 R019

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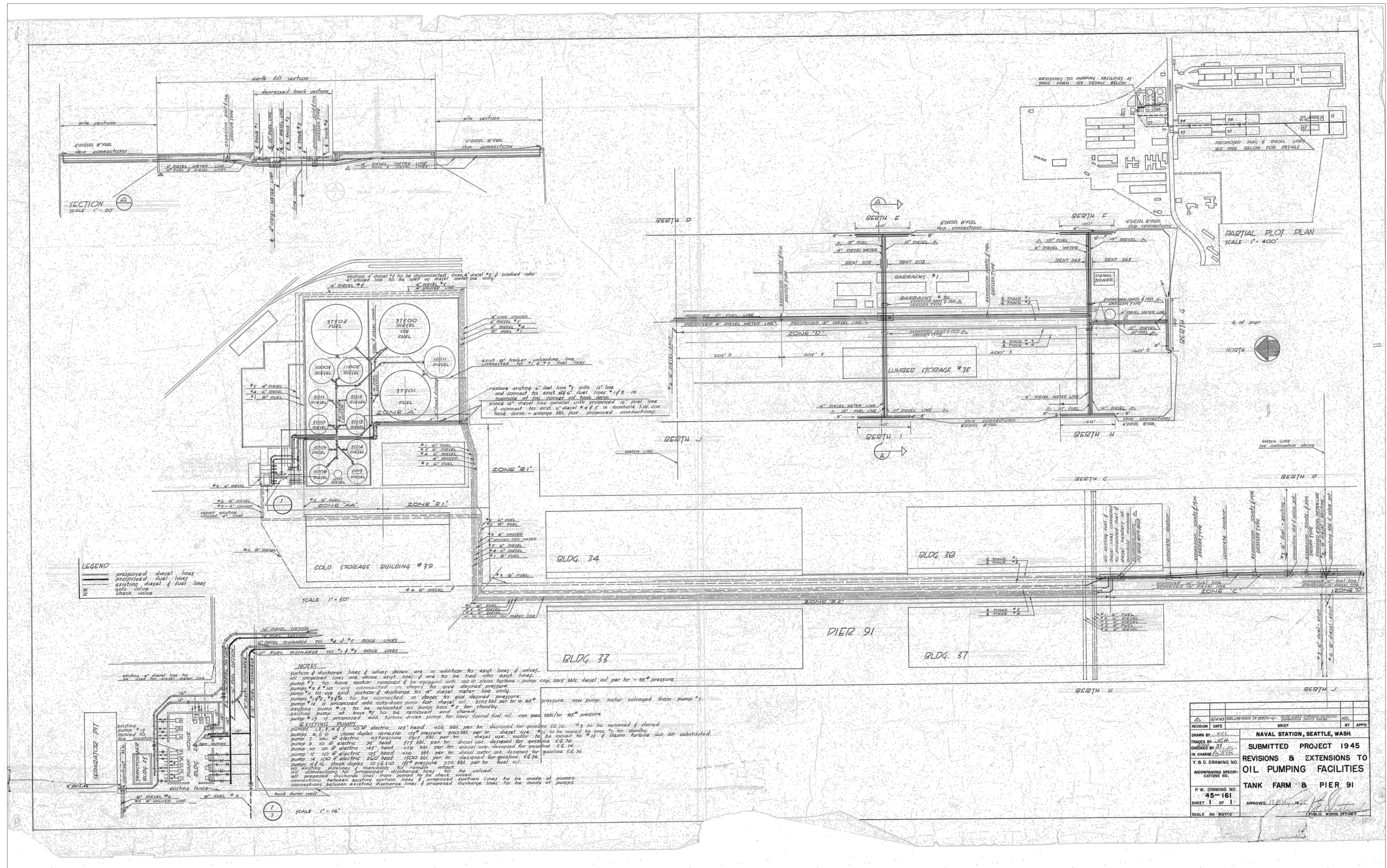
THAT PART OF THE ORIGINAL QUARTER OF SECTION 12, TOWNSHIP 23 NORTH, RANGE 3 EAST, 2ND 6TH PRINCIPAL MERIDIAN, COUNTY OF KING, STATE OF WASHINGTON, AS SHOWN ON THE PLAT OF SAID QUARTER, BEING A PORTION OF LOTS 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 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985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

NOTICE
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<p>CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555</p>	<p>PROJECT ENR/ARCH DESIGNER: DRAWN BY: SCALE: DATE: CHECKED BY: APPROVED BY:</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>APP'D</th> <th colspan="2">NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>APP'D</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.		DATE	BY	DESCRIPTION	APP'D	NO.		DATE	BY	DESCRIPTION	APP'D																																																																																																																																																																																																																																																																																					<p>PROJECT MANAGER: REZA SOLTANI PROJECT ENGINEER: REZA SOLTANI DESIGN ENGINEER: REZA SOLTANI DRAFTER: SUHAIB SHAYKHO SCALE: AS SHOWN DATE: 9/21/2004 CHECKED/APPROVED BY:</p>	<p>Port of Seattle MARINE FACILITIES PROJECT: TERMINAL 91-TANK FARM DEMOLITION SHEET TITLE: REFERENCE DRAWING</p>	<p>WORK ORDER NO. D-4635 CONSULTANT'S NO. PORT OF SEATTLE NO. 91-0401-R017</p>
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 PES Environmental, Inc. Engineering & Environmental Services VISTA CONSULTANTS, LLC 4132 SW BARBUR BLVD. PORTLAND, OREGON 97239 (503) 922-2522	<p>PROJECT ENR/ARCH: R. NORTH/B. O'NEAL DESIGNER: R. NORTH DRAWN BY: S. MCCOY SCALE: AS SHOWN DATE: 2013-07-08 CHECKED BY: R. NORTH CHECKED/APPROVED BY: R. NORTH/B. O'NEAL</p>	<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>APP'D</th> <th colspan="2">NO.</th> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> <th>APP'D</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.		DATE	BY	DESCRIPTION	APP'D	NO.		DATE	BY	DESCRIPTION	APP'D																																																																																																																																																																																																																																																																									<p>PROJECT MANAGER: FRED CHOU PROJECT ENGINEER: FRED CHOU DESIGN ENGINEER: FRED CHOU DRAFTER: FRED CHOU SCALE: AS SHOWN DATE: 2013-07-08 CHECKED/APPROVED BY: FRED CHOU</p>	<p>Port of Seattle PORT OF SEATTLE PROJECT: TERMINAL 91 TANK FARM CLEANUP SHEET TITLE: TERMINAL 91 TANK FARM DEMOLITION REFERENCE - FUEL LINES</p>	<p>WORK PROJECT NO. MC - 0317586 - WP104528 CONSULTANT'S NO. 948.007.003 PORT OF SEATTLE NO. 91-1401 R020</p>
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PES Environmental, Inc.
Engineering & Environmental Services

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4132 SW BARBUR BLVD.
PORTLAND, OREGON 97239
(503) 922-2522

PROJECT ENGR ARCH: R. NORTH/B. O'NEAL
DESIGNER: R. NORTH
DRAWN BY: S. MCCOY
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED BY: R. NORTH
CHECKED/APPROVED BY: R. NORTH/B. O'NEAL

REVISIONS									
NO.	DATE	BY	DESCRIPTION	APP'D	NO.	DATE	BY	DESCRIPTION	APP'D

PROJECT MANAGER: FRED CHOU
PROJECT ENGINEER: FRED CHOU
DESIGN ENGINEER: FRED CHOU
DRAFTER: FRED CHOU
SCALE: AS SHOWN
DATE: 2013-07-08
CHECKED/APPROVED BY: FRED CHOU

Port of Seattle PORT OF SEATTLE
PROJECT: TERMINAL 91 TANK FARM CLEANUP

SHEET TITLE: NAVY 45-161 REFERENCE - FUEL LINES

NAVAL STATION, SEATTLE, WASH
SUBMITTED PROJECT 1945
REVISIONS & EXTENSIONS TO
OIL PUMPING FACILITIES
TANK FARM & PIER 91

APPROVED BY: [Signature]
DATE: 7/10/2013

WORK PROJECT NO.: MC - 0317586 - WP104528
CONSULTANT'S NO.: 948.007.003
PORT OF SEATTLE NO.: 91-1401 R021