

SITE LOCATION
N.T.S.

IN-SITU GROUNDWATER TREATMENT
REMEDIAL DESIGN DRAWINGS

PENINSULA BOULEVARD GROUNDWATER
PLUME SUPERFUND SITE

VILLAGE OF HEWLETT, NASSAU COUNTY,
NEW YORK

USACE HTRW CONTRACT No.
W912DQ-11-D-3011
TASK ORDER No. 0002

DRAWING INDEX

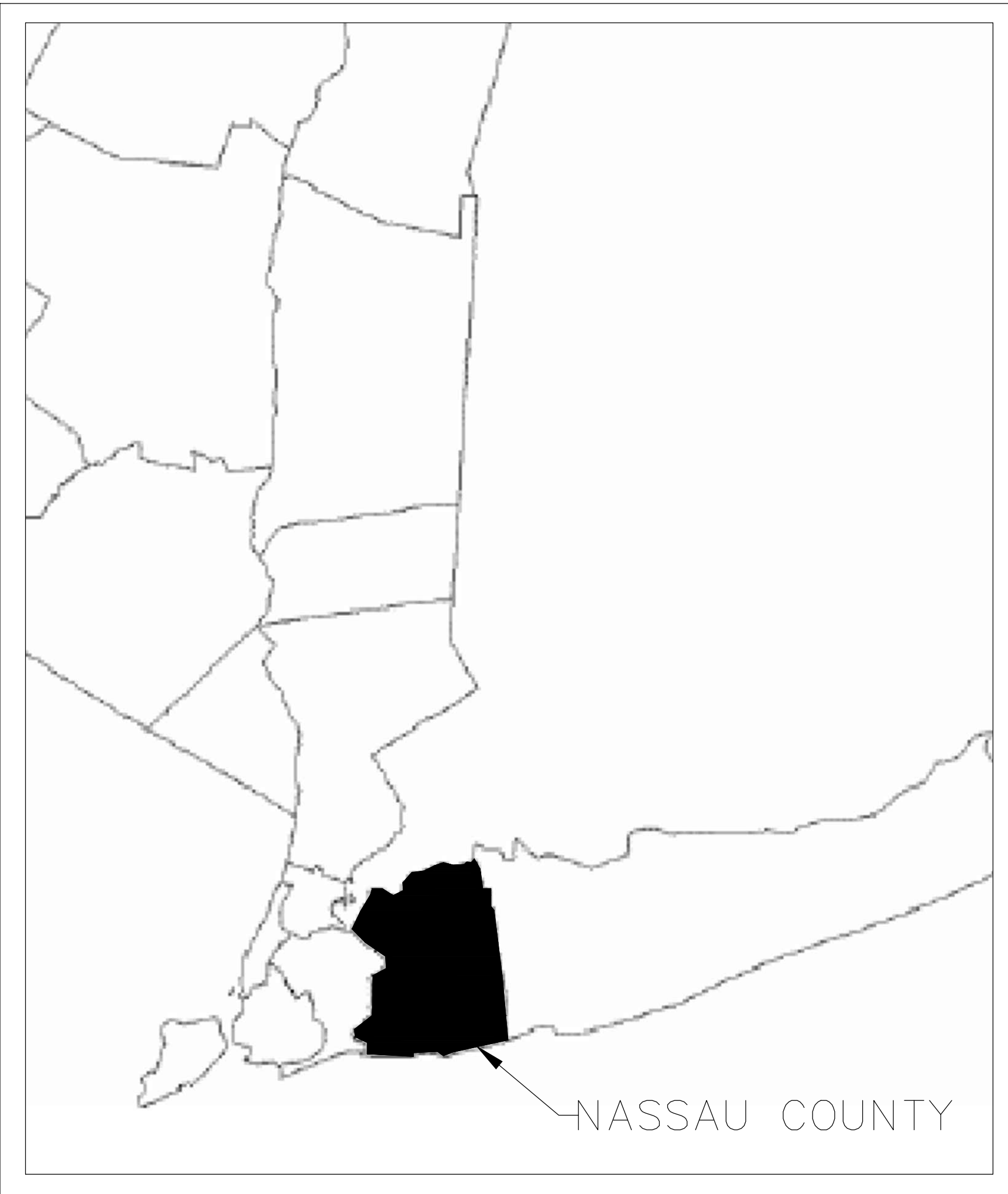
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HARISH C. RANA
NY PROFESSIONAL ENGINEER
LICENSE NO. 071378

ROBERT CHOZICK
NY PROFESSIONAL ENGINEER
LICENSE NO. 094205

DRAWINGS:
ALL "ELECTRICAL"
SHEETS

DRAWINGS:
ALL "CIVIL" AND
"MECHANICAL" SHEETS



VICINITY MAP
N.T.S.

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DATE: 12/12/2014
SCALE : AS NOTED
SPEC. NO.
USACE HTRW CONTRACT NUMBER
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0002
DRAWING NO.
SHEET OF
D T-1

UNITED STATES ARMY CORPS OF ENGINEERS
NASSAU COUNTY, NEW YORK
VILLAGE OF HEWLETT
PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE
TITLE SHEET

SEAL AREA

UNITED STATES ARMY CORPS OF ENGINEERS

NASSAU COUNTY, NEW YORK

VILLAGE OF HEWLETT

PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE

TITLE SHEET

DATE

APPROVED

UNITED STATES ARMY CORPS OF ENGINEERS

NASSAU COUNTY, NEW YORK

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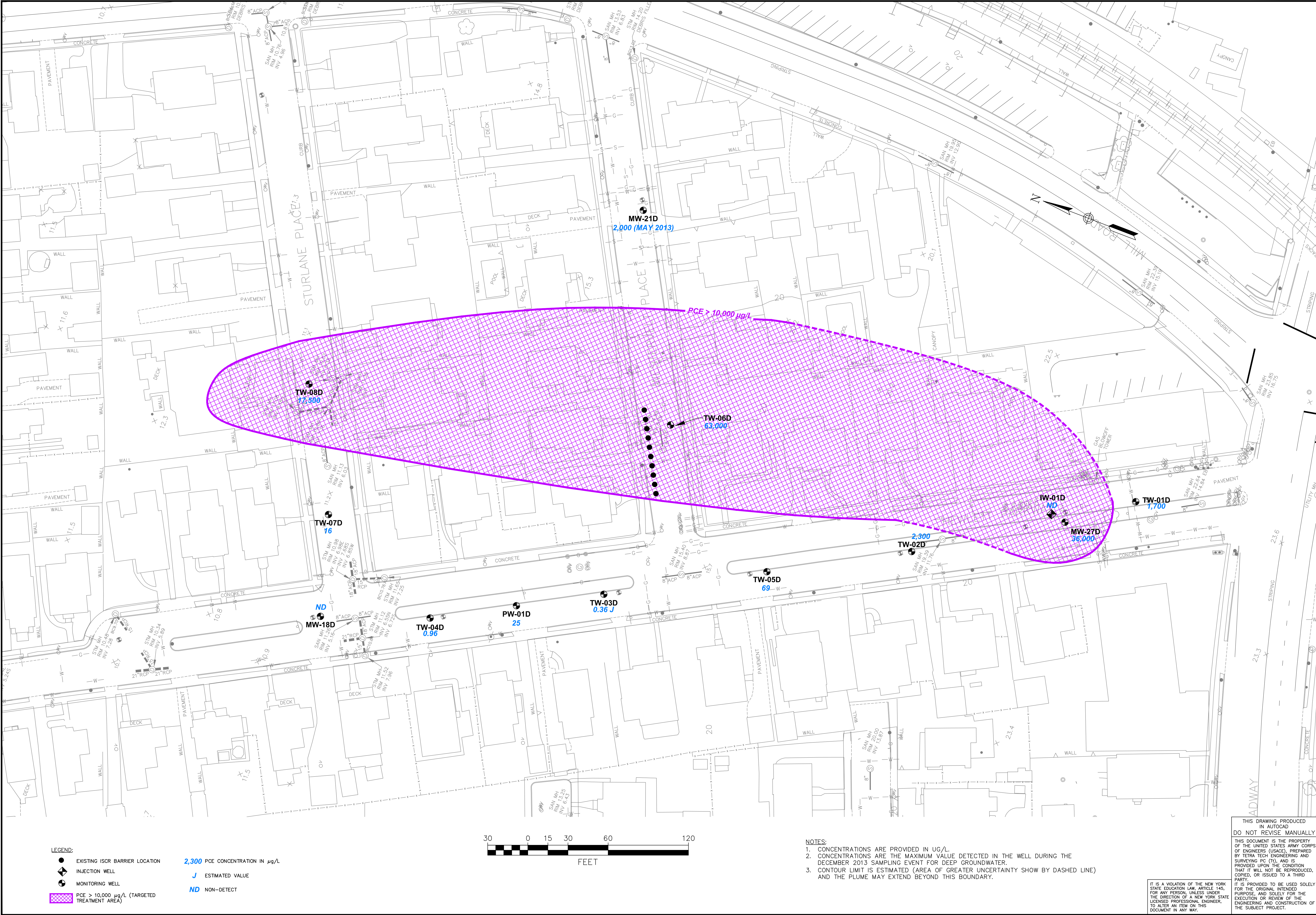
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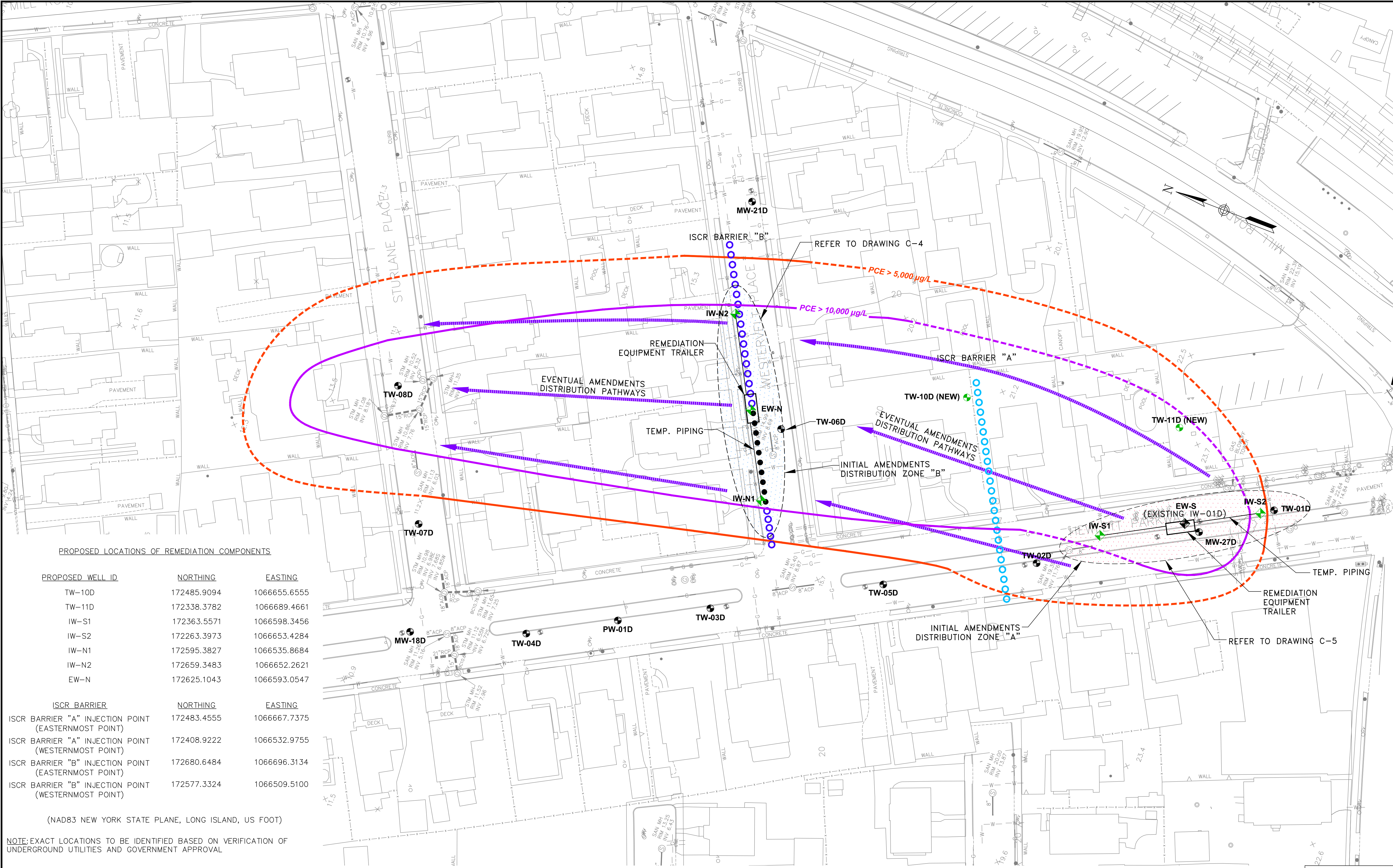
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UNITED STATES ARMY CORPS OF ENGINEERS

NASSAU COUNTY, NEW YORK



TETRA TECH ENGINEERING AND SURVEYING PC		PSC NO. 0009444 1000 THE AMERICAN ROAD MORRIS PLAINS, NJ 07950 (973) 630-8000	
DATE	12/12/14	PREP'D	CHK'D
DATE	12/12/14	APR'D	
DESCRIPTION	100% DESIGN SUBMITTAL	MK	NT
REV	0	MK	NT
UNITED STATES ARMY CORPS OF ENGINEERS		MORRIS COUNTY, NEW YORK	
VILLAGE OF HENRIETT		PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE	
		TARGETED TREATMENT AREA (DEEP GROUNDWATER)	
SEAL AREA		APPROVED	
ROBERT CHODOK NY PROFESSIONAL ENGINEER LICENSE NO. 000000000		DATE: 12/12/2014	
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DRAWING NO.		SHEET NO.	
D		C-2	



PROPOSED LOCATIONS OF REMEDIATION COMPONENTS

PROPOSED WELL ID	NORTHING	EASTING
TW-10D	172485.9094	1066655.6555
TW-11D	172338.3782	1066689.4661
IW-S1	172363.5571	1066598.3456
IW-S2	172263.3973	1066653.4284
IW-N1	172595.3827	1066535.8684
IW-N2	172659.3483	1066652.2621
EW-N	172625.1043	1066593.0547

ISCR BARRIER	NORTHING	EASTING
ISCR BARRIER "A" INJECTION POINT (EASTERNMOST POINT)	172483.4555	1066667.7375
ISCR BARRIER "A" INJECTION POINT (WESTERNMOST POINT)	172408.9222	1066532.9755
ISCR BARRIER "B" INJECTION POINT (EASTERNMOST POINT)	172680.6484	1066696.3134
ISCR BARRIER "B" INJECTION POINT (WESTERNMOST POINT)	172577.3324	1066509.5100

(NAD83 NEW YORK STATE PLANE, LONG ISLAND, US FOOT)

NOTE: EXACT LOCATIONS TO BE IDENTIFIED BASED ON VERIFICATION OF UNDERGROUND UTILITIES AND GOVERNMENT APPROVAL

LEGEND:

- EXISTING INJECTION/EXTRACTION WELL
- NEW INJECTION/EXTRACTION WELL
- EXISTING MONITORING WELL
- NEW MONITORING WELL
- NEW ISCR BARRIER "A" LOCATION
- NEW ISCR BARRIER "B" LOCATION
- EXISTING ISCR BARRIER LOCATION
- PCE > 10,000 µg/L
- PCE 5,000 - 10,000 µg/L

NOTES:

- EXISTING INJECTION WELL IW-01D TO BE CONVERTED TO EXTRACTION WELL EW-S.

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TETRA TECH ENGINEERING AND SURVEYING PC

PSC NO. 0009444
1000 THE AMERICAN ROAD
MORRIS PLAINS, NJ 07950
(973) 630-8000

REV	DESCRIPTION	CHK'D	APR'D	DATE
0	100% DESIGN SUBMITTAL	MK	NT	12/12/14

UNITED STATES ARMY CORPS OF ENGINEERS
VILLAGE OF NEWLETT
PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE
IN-SITU TREATMENT REMEDIATION PLAN (SHEET 1 OF 3)

SEAL AREA

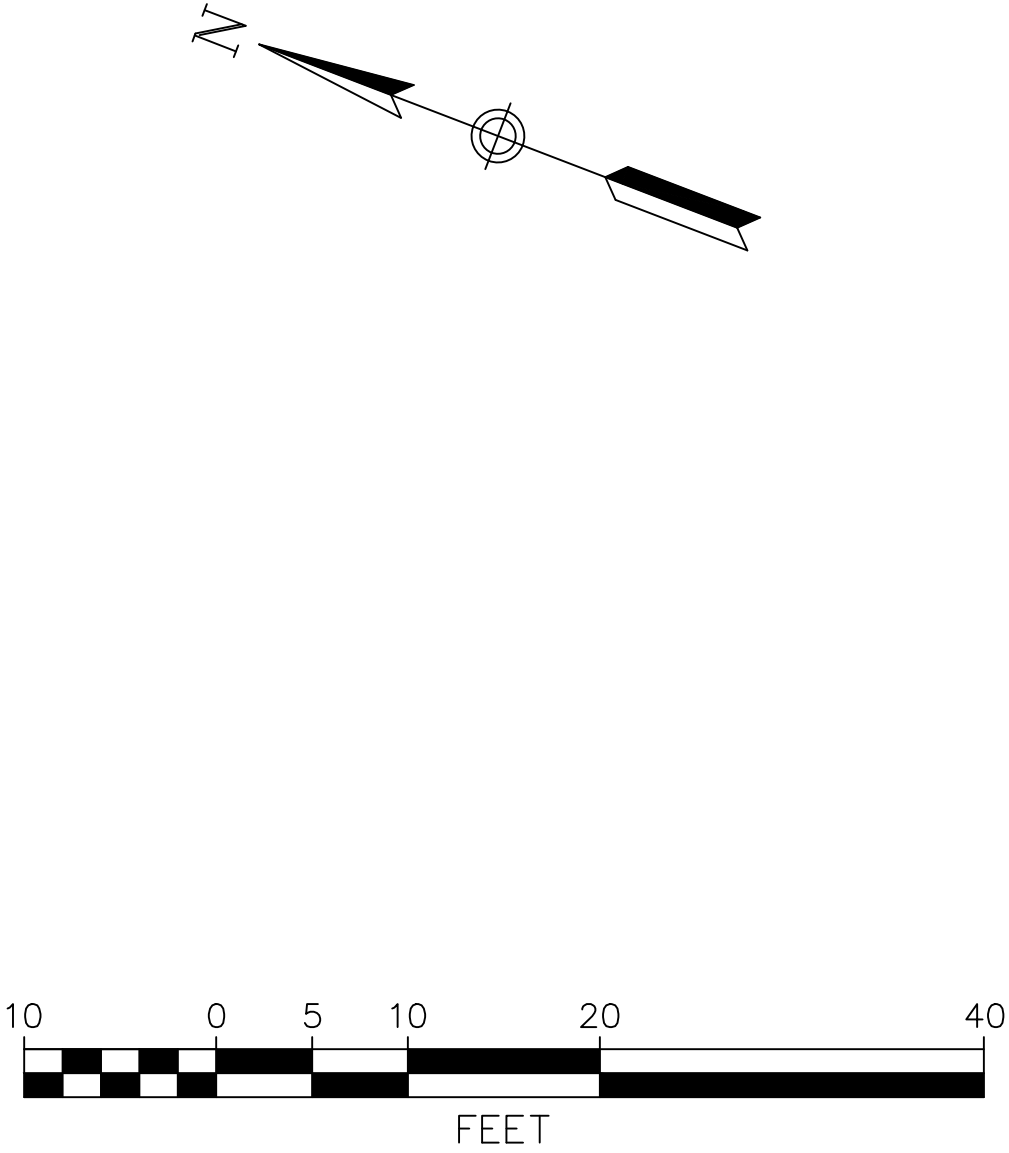
ROBERT CHODOK
NY PROFESSIONAL ENGINEER
LICENSE NO. 094205

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SHEET OF
SIZE: D SHEET NO. C-3



LEGEND:

- NEW INJECTION WELL
- EXISTING MONITORING WELL
- NEW EXTRACTION WELL
- HEAVY-DUTY STEEL HOSE GUARD (4'x12' SECTIONS)
- PCE 5,000 – 10,000 µg/L



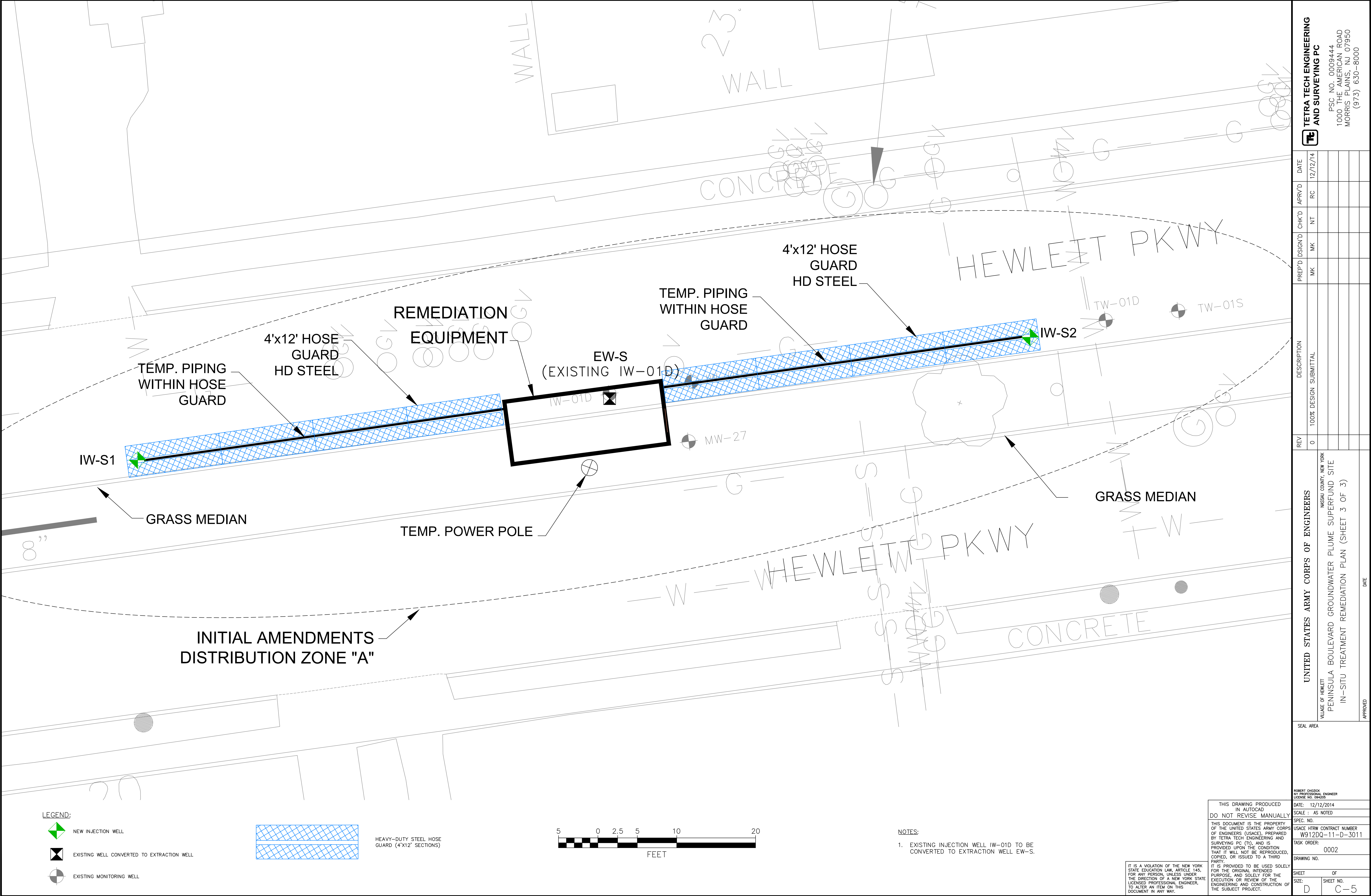
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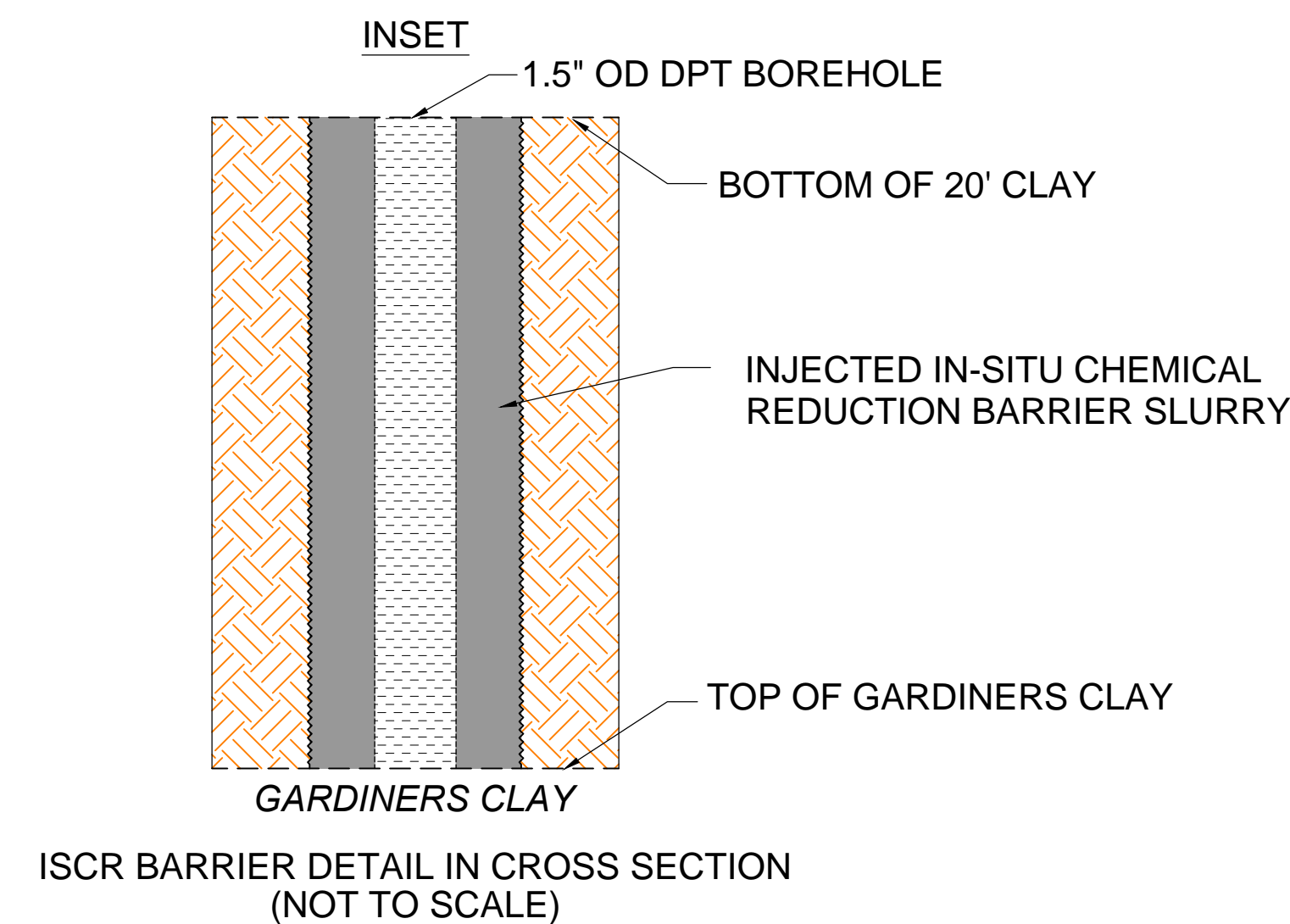
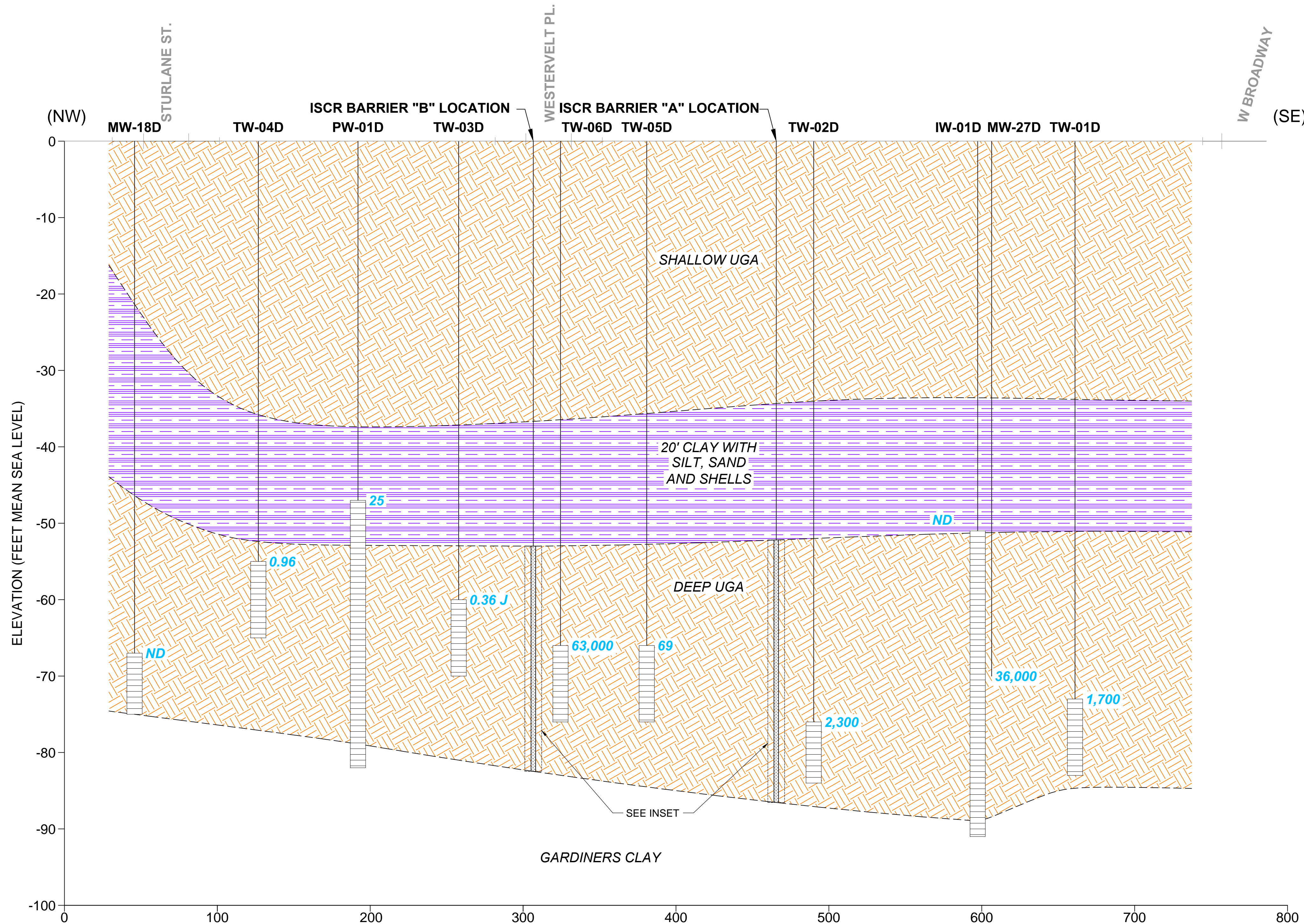
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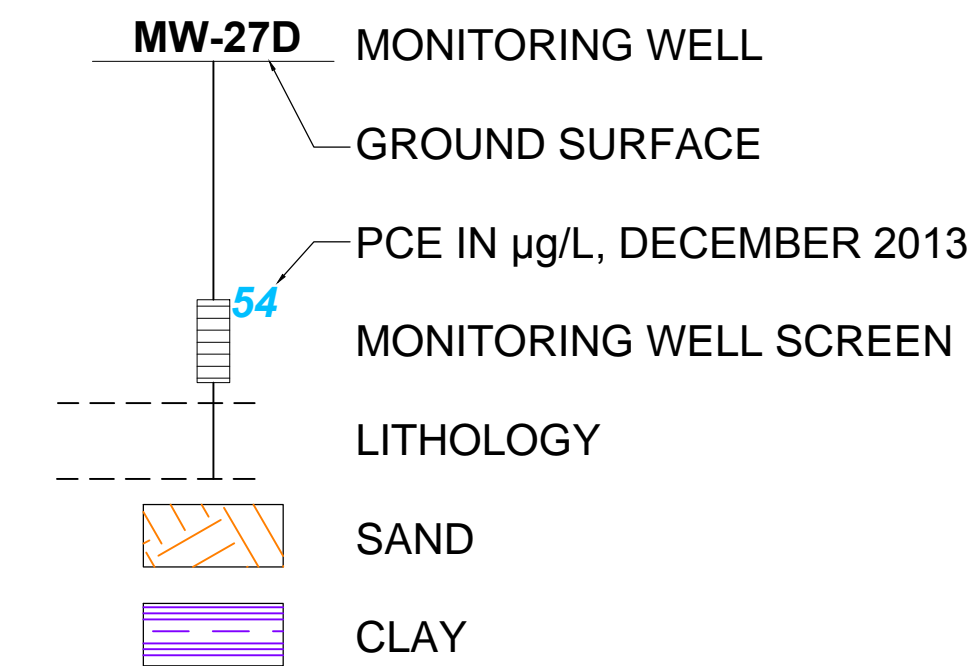


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DRAWING NO.										DRAWING NO.									
SHEET _____ OF _____										SHEET _____ OF _____									
D										C-6									



LEGEND:



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SHEET OF

SIZE: C-7

UNITED STATES ARMY CORPS OF ENGINEERS		NASSAU COUNTY, NEW YORK		DATE	
VILLAGE OF HEWLETT		PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE		APPROVED	
IN-SITU CHEMICAL REDUCTION (ISCR) BARRIER DETAILS					
SEAL AREA					
ROBERT CHODOK NY PROFESSIONAL ENGINEER LICENSE NO. 094205					
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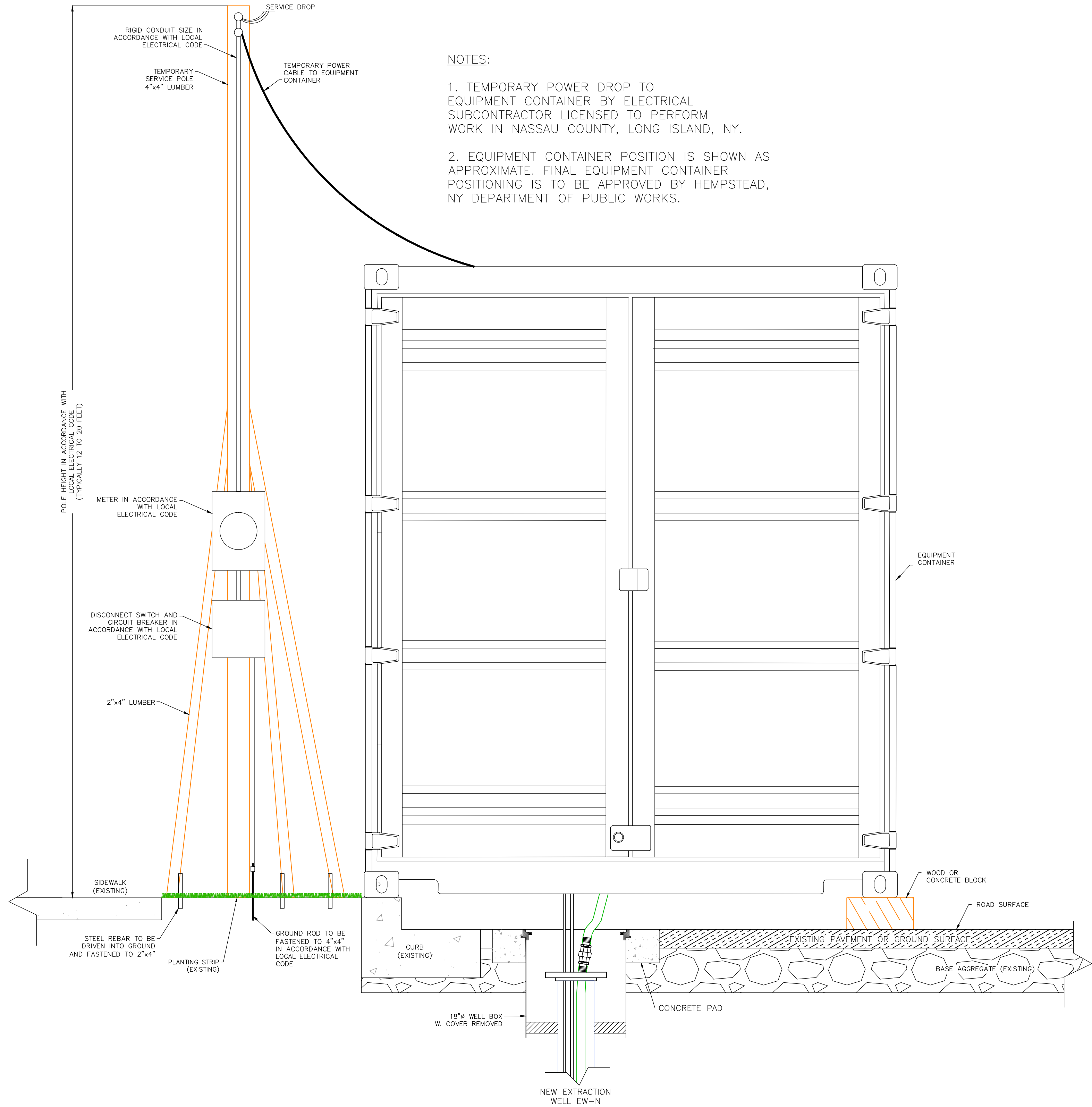
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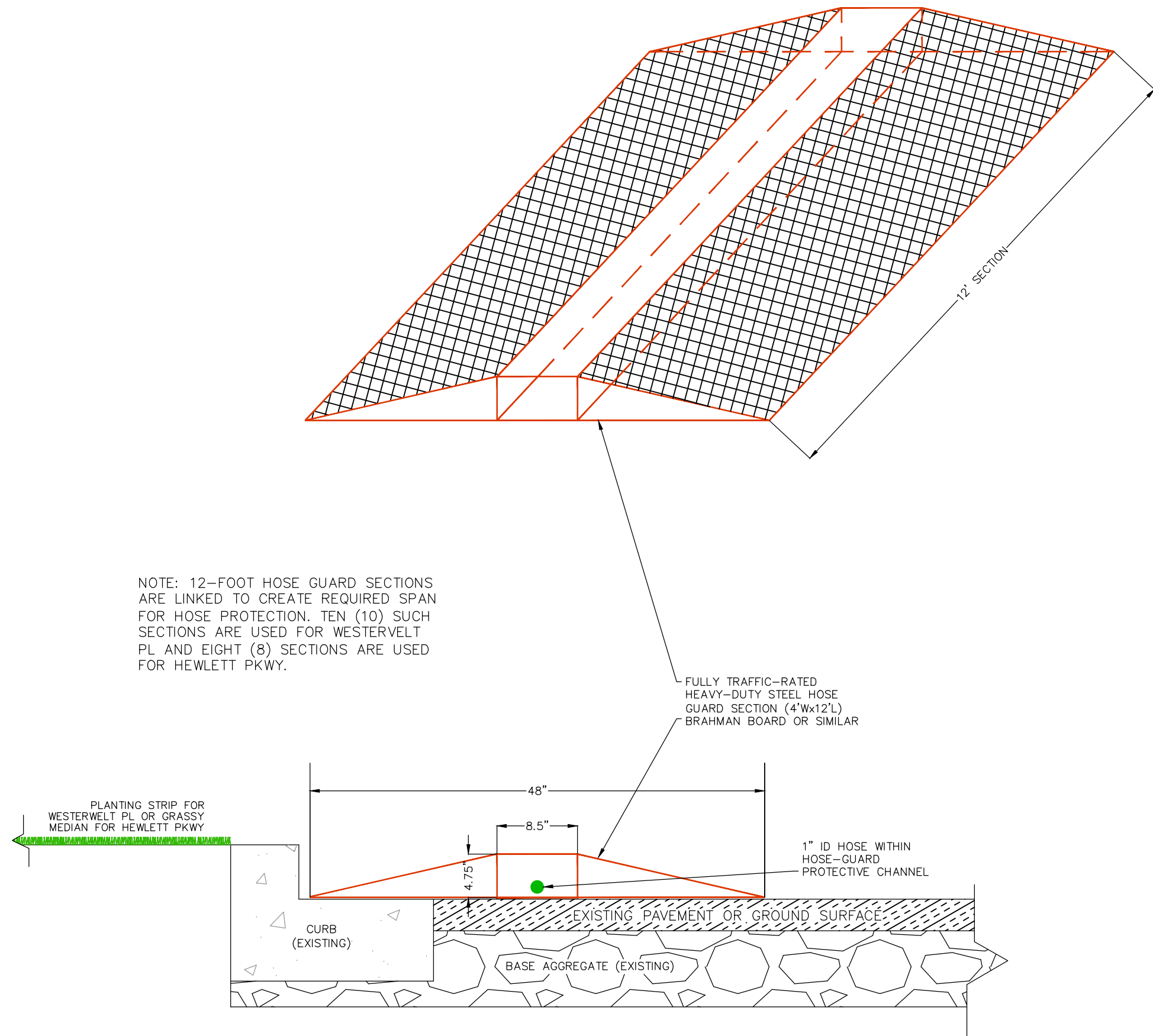
1000 THE AMERICAN ROAD

MORRIS PLAINS, NJ 07950

(973) 630-8000



- NOTES:
1. TEMPORARY POWER DROP TO EQUIPMENT CONTAINER BY ELECTRICAL SUBCONTRACTOR LICENSED TO PERFORM WORK IN NASSAU COUNTY, LONG ISLAND, NY.
 2. EQUIPMENT CONTAINER POSITION IS SHOWN AS APPROXIMATE. FINAL EQUIPMENT CONTAINER POSITIONING IS TO BE APPROVED BY HEMPSTEAD, NY DEPARTMENT OF PUBLIC WORKS.



STREET TEMPORARY PIPING DETAIL



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SHEET OF
SIZE: D SHEET NO. C-8

TETRA TECH ENGINEERING AND SURVEYING PC

PSC NO. 0009444
1000 THE AMERICAN ROAD
MORRIS PLAINS, NJ 07950
(973) 630-8000

DATE: 12/12/14

APPROVED: RC

CHK'D: NT

DESIGN'D: MK

PREP'D: MK

DESCRIPTION: 100% DESIGN SUBMITTAL

REV: 0

UNITED STATES ARMY CORPS OF ENGINEERS

NASSAU COUNTY, NEW YORK

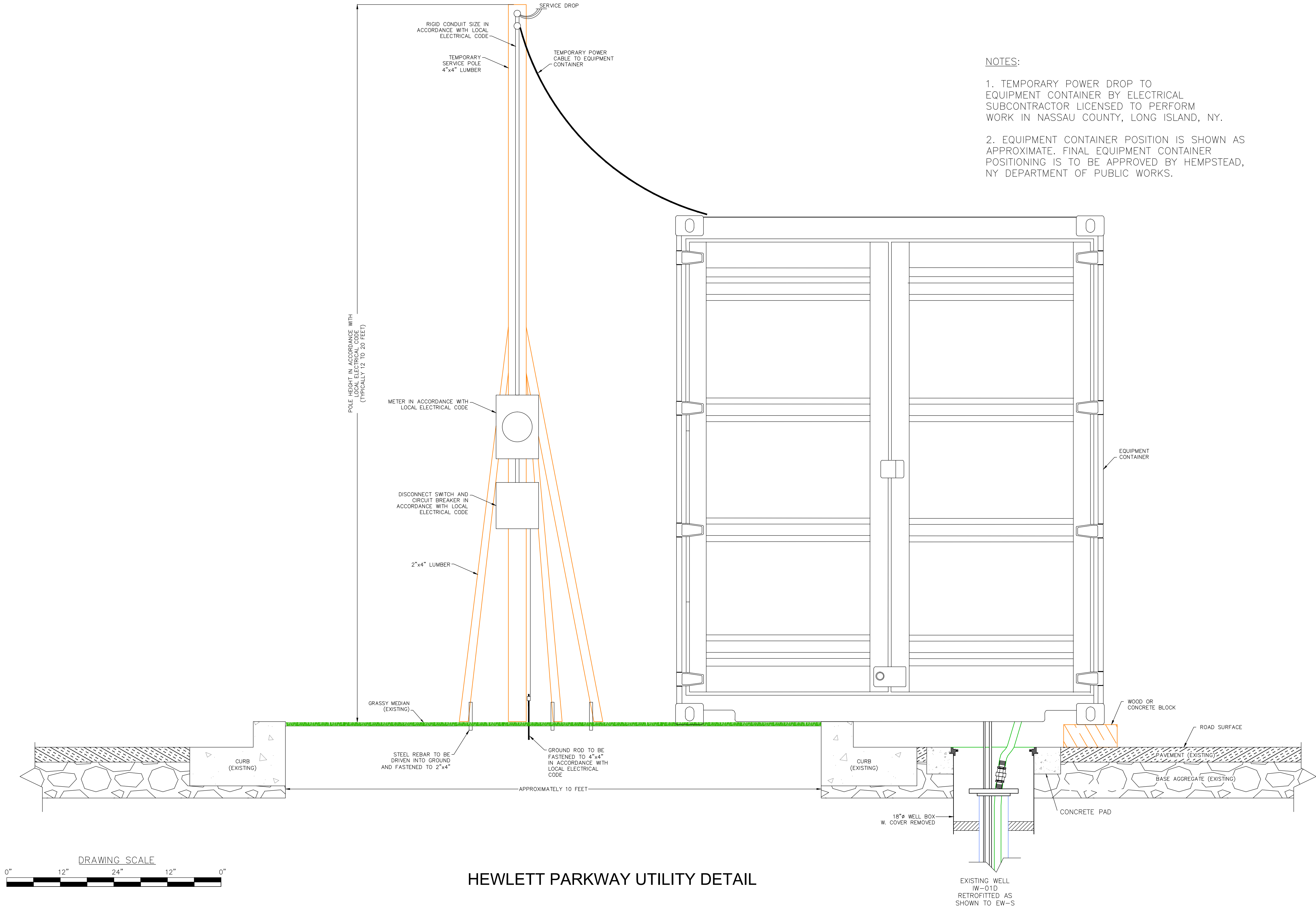
PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE

UTILITY DETAILS (SHEET 1 OF 2)

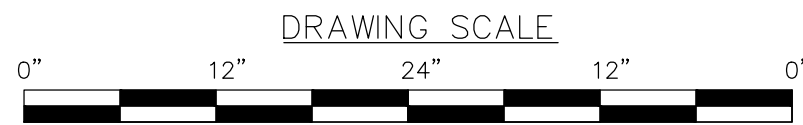
APPROVED: DATE

SEAL AREA

ROBERT CHODOK
NY PROFESSIONAL ENGINEER
LICENSE NO. 094205



- NOTES:
1. TEMPORARY POWER DROP TO EQUIPMENT CONTAINER BY ELECTRICAL SUBCONTRACTOR LICENSED TO PERFORM WORK IN NASSAU COUNTY, LONG ISLAND, NY.
 2. EQUIPMENT CONTAINER POSITION IS SHOWN AS APPROXIMATE. FINAL EQUIPMENT CONTAINER POSITIONING IS TO BE APPROVED BY HEMPSTEAD, NY DEPARTMENT OF PUBLIC WORKS.



HEWLETT PARKWAY UTILITY DETAIL

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DATE: 12/12/2014
SCALE : AS NOTED
SPEC. NO.
USACE HTRW CONTRACT NUMBER W912DQ-11-D-3011
TASK ORDER: 0002
DRAWING NO.
SHEET OF
SIZE: D SHEET NO. C-9

ROBERT CHOZICK
NY PROFESSIONAL ENGINEER
LICENSE NO. 094205

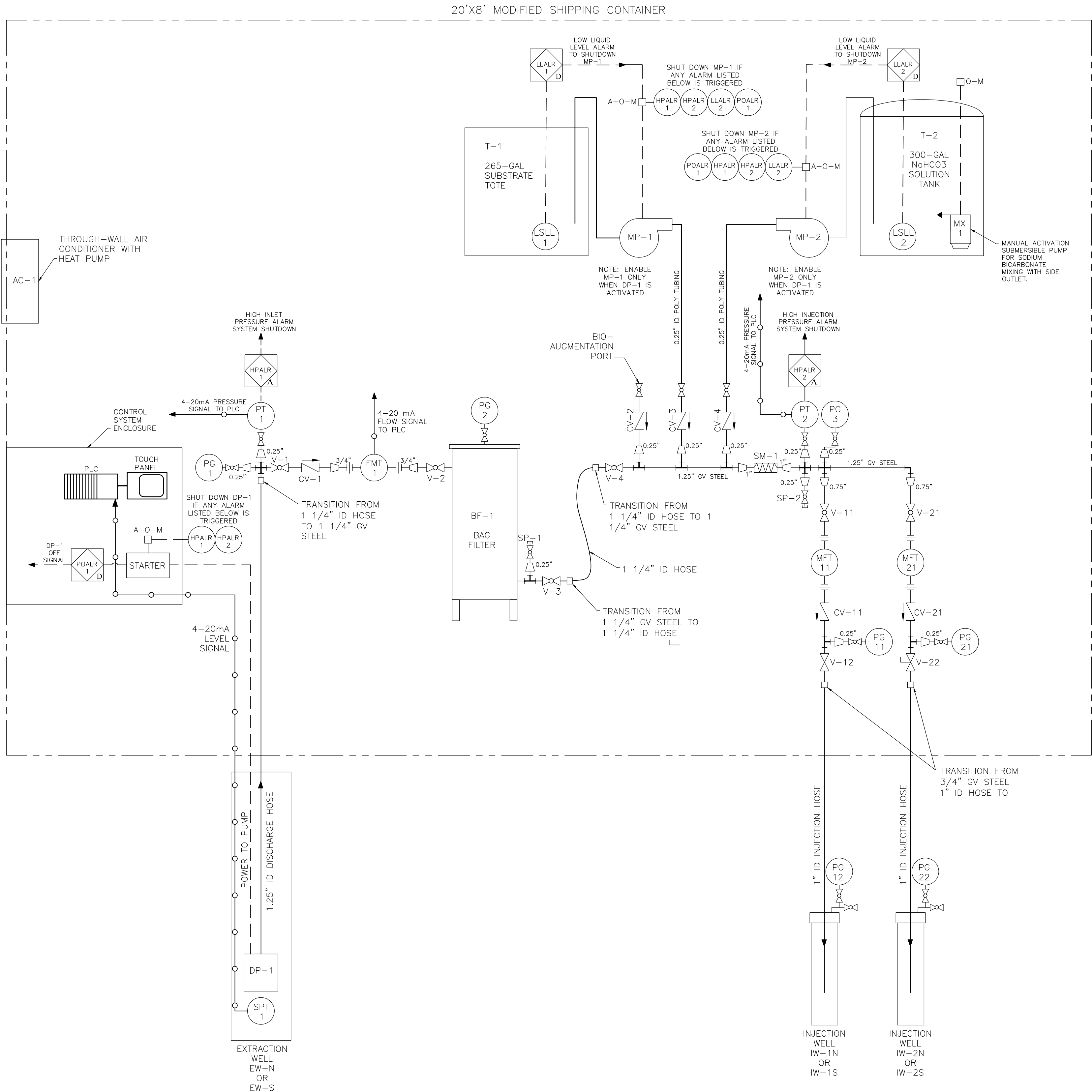
SEAL AREA

UNITED STATES ARMY CORPS OF ENGINEERS
VILLAGE OF HEWLETT
PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE
UTILITY DETAILS (SHEET 2 OF 2)

REV	DESCRIPTION	100% DESIGN	DESIGN SUBMITTAL
0			

PREP'D	DSIGN'D	CHK'D	APRV'D	DATE
MK	MK	NT	RC	12/12/14

TETRA TECH ENGINEERING AND SURVEYING PC
PSC NO. 0009444
1000 THE AMERICAN ROAD
MORRIS PLAINS, NJ 07950
(973) 630-8000



SYMBOLS AND ABBREVIATIONS			
	ELECTRONIC FLOWMETER-TOTALIZER		SPRING CHECK VALVE
	MECHANICAL FLOW-TOTALIZER		BALL VALVE (ON/OFF)
	LOW LEVEL SWITCH (ALARM)		FLOW ADJUSTMENT GLOBE VALVE
	PRESSURE TRANSMITTER		1/4" INSTRUMENTATION BALL VALVE
	SUBMERSIBLE PRESSURE TRANSMITTER		LINE SIZE CHANGE
	PRESSURE GAUGE		SUBMERSIBLE WELL PUMP
	ALARM CONDITION (ANALOG)		METERING PUMP
	ALARM CONDITION (DISCRETE)		VARIABLE FREQUENCY DRIVE
	STATIC MIXER		AUTOMATIC-OFF-MANUAL SWITCH
			ELECTRICAL
			ANALOG SIGNAL

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TETRA TECH ENGINEERING AND SURVEYING PC
PSC NO. 0009444
1000 THE AMERICAN ROAD
MORRIS PLAINS, NJ 07950
(973) 630-8000

DATE	12/12/14
APR'D	RC
CHK'D	NT
DSIGN'D	MK
PREP'D	MK

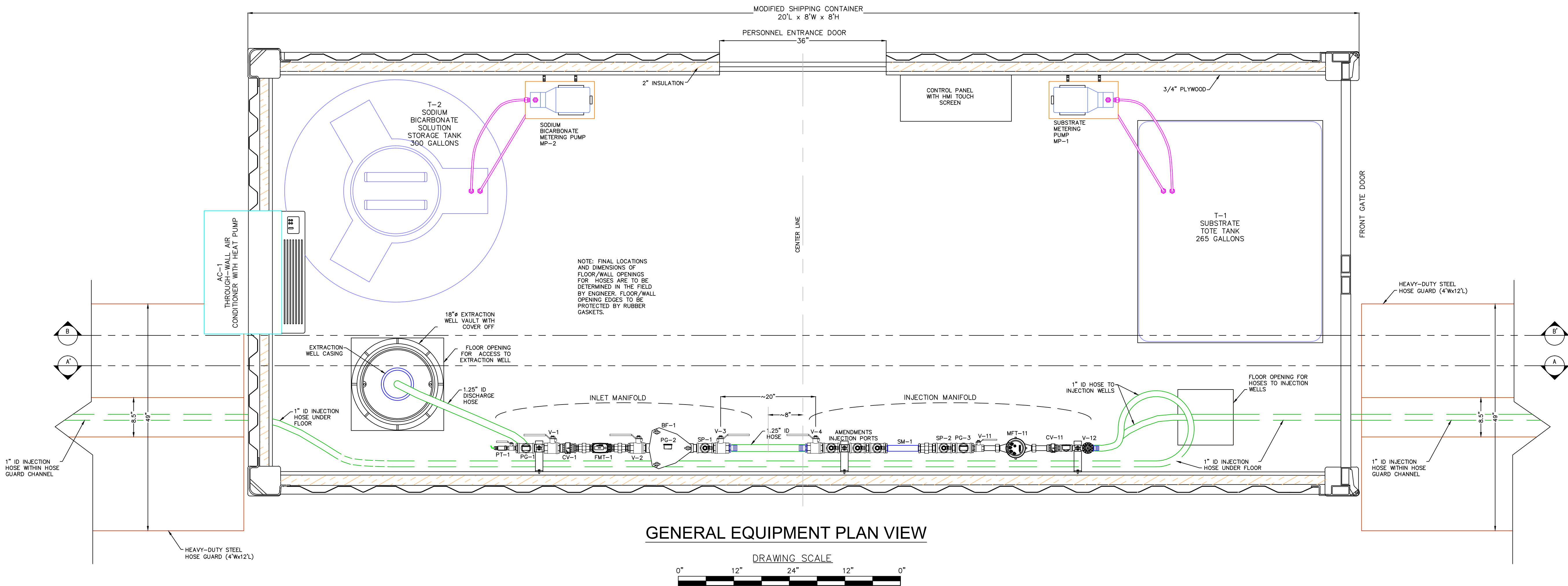
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REV	0

UNITED STATES ARMY CORPS OF ENGINEERS	DATE
VILLAGE OF HEWLETT	
NASSAU COUNTY, NEW YORK	
PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE	
PROCESS & INSTRUMENTATION DIAGRAM	

SEAL AREA	APPROVED
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ROBERT CHODOK
NY PROFESSIONAL ENGINEER
LICENSE NO. 09020

DATE:	12/12/2014
SCALE :	AS NOTED
SPEC. NO.	
USACE HTRW CONTRACT NUMBER	W912DQ-11-D-3011
TASK ORDER:	0002
DRAWING NO.	
SHEET	OF
SIZE:	SHEET NO.
D	M-1

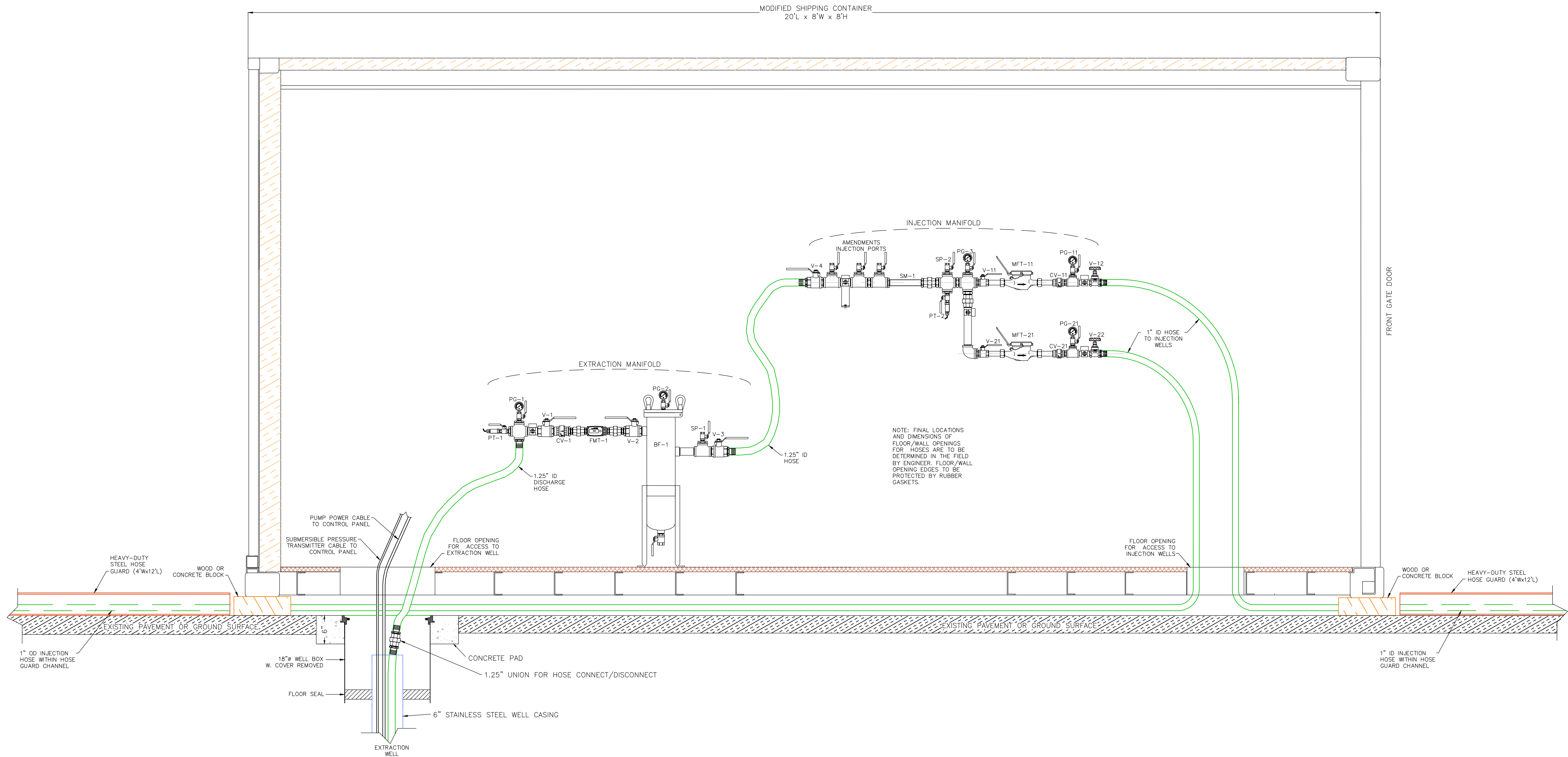


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		USACE HTRW CONTRACT NUMBER	W912DQ-11-D-3011
		TASK ORDER:	0002
		DRAWING NO.	
		SHEET OF	
		SIZE:	SHEET NO.
		D	M-2

UNITED STATES ARMY CORPS OF ENGINEERS		DESCRIPTION	REV	PREP'D	DSIGN'D	CHK'D	APRV'D	DATE	TETRA TECH ENGINEERING AND SURVEYING PC PSC NO. 0009444 1000 THE AMERICAN ROAD MORRIS PLAINS, NJ 07950 (973) 630-8000
VILLAGE OF HEWLETT		100% DESIGN SUBMITTAL	0	MK	MK	NT	RC	12/12/14	
PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE									
PROCESS EQUIPMENT (SHEET 1 OF 3)									
APPROVED									
SEAL AREA									
ROBERT CHOZICK NY PROFESSIONAL ENGINEER LICENSE NO. 094205									



EQUIPMENT SIDE VIEW (A-A')



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TETRA TECH ENGINEERING AND SURVEYING PC		DATE	12/12/14	PSC NO. 0009444	
1000 THE AMERICAN ROAD		APR'D	RC	MORRIS PLAINS, NJ 07950	
(973) 630-8000		CHK'D	NT		
		PREP'D	DSIGN'D	MK	
		REV	0		
DESCRIPTION		100% DESIGN SUBMITTAL			
UNITED STATES ARMY CORPS OF ENGINEERS		REV	0		
VILLAGE OF HEMETT		DESCRIPTION	100% DESIGN SUBMITTAL		
PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE		REV	0		
PROCESS EQUIPMENT (SHEET 2 OF 3)		DESCRIPTION	100% DESIGN SUBMITTAL		
MASSACHUSETTS COUNTY, NEW YORK		REV	0		
APPROVED		DATE			
SEAL AREA		DATE			
ROBERT CHODOK		DATE	12/12/2014		
NY PROFESSIONAL ENGINEER		SCALE	AS NOTED		
LICENSE NO. 094205		SPEC. NO.			
		USACE HTRW CONTRACT NUMBER	W912DQ-11-D-3011		
		TASK ORDER	0002		
		DRAWING NO.			
		SHEET	OF		
		SIZE	SHEET NO.		
		D	M-3		



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PURPOSE AND NOT FOR THE
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ENGINEERING AND CONSTRUCTION OF
THE SUBJECT PROJECT.

ROBERT CHOZICK NY PROFESSIONAL ENGINEER LICENSE NO. 094205	
DATE: 12/12/2014	
SCALE : AS NOTED	
SPEC. NO.	
USAGE HTRW CONTRACT NUMBER W912DQ-11-D-3011	
TASK ORDER: 0002	
DRAWING NO.	
SHEET OF	
SIZE: D	SHEET NO. M-4

REV	DESCRIPTION	PREP'D	DESIGN'D	CHK'D	APRV'D	DATE
0	100% DESIGN SUBMITTAL	MK	MK	NT	RC	12/12/14

<p>UNITED STATES ARMY CORPS OF ENGINEERS</p> <p>VILLAGE OF HENRIETT PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE PROCESS EQUIPMENT (SHEET 3 OF 3)</p>	<p>DATE</p>
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SEAL AREA

ROBERT CHOZICK
NY PROFESSIONAL ENGINEER
LICENSE NO. 094205

DATE: 12/12/2014
SCALE : AS NOTED
SPEC. NO.

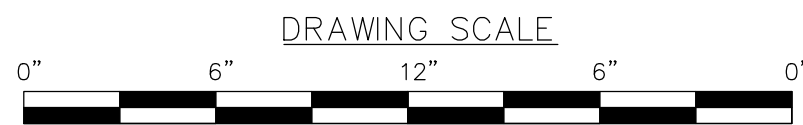
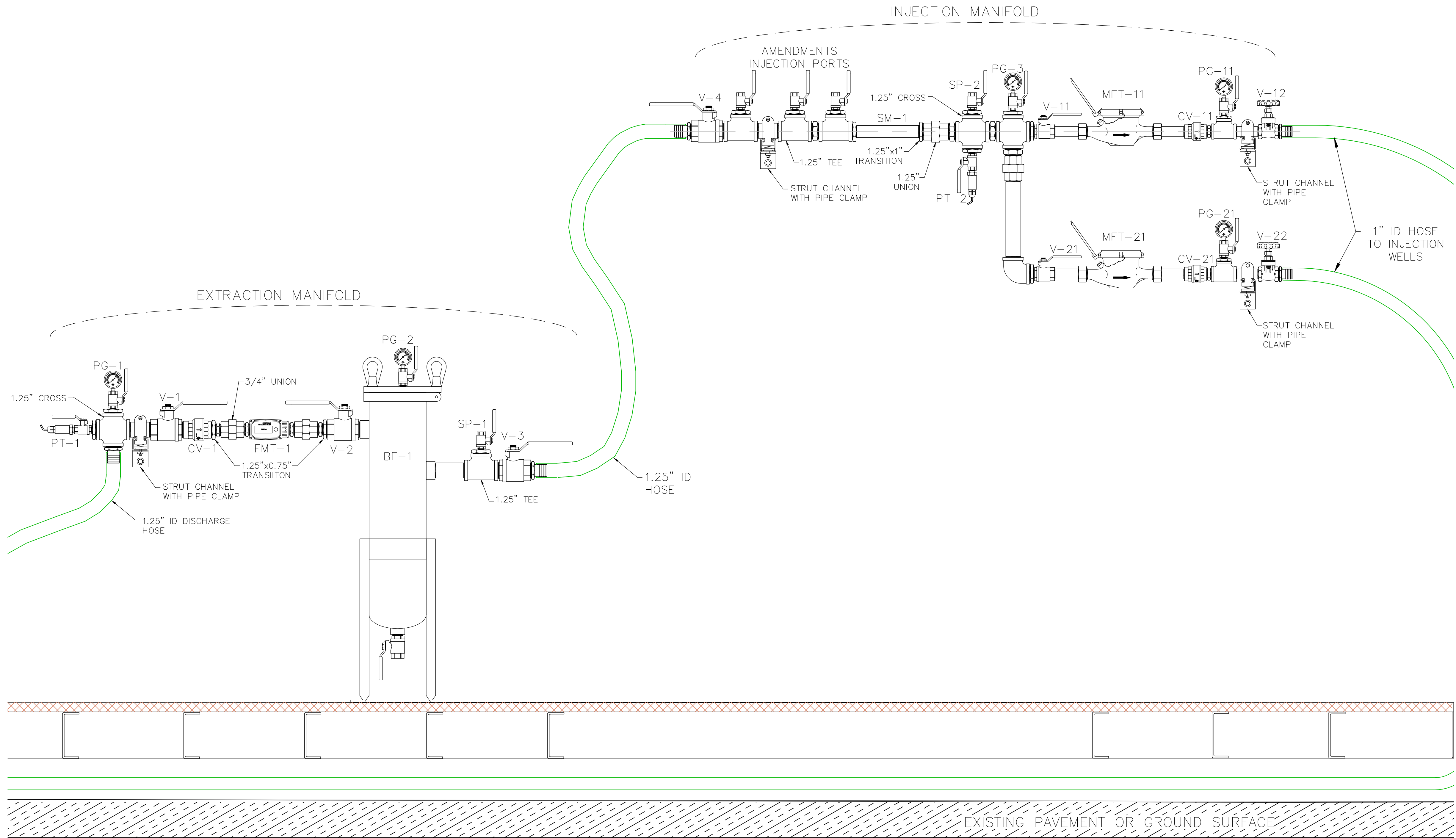
USACE HTRW CONTRACT NUMBER	W912DQ-11-D-3011
TASK ORDER:	

DRAWING NO. 0002

SHEET		OF	
SIZE:		SHEET NO.	
D		M-4	

**TETRA TECH ENGINEERING
AND SURVEYING PC**

PSC NO. 0009444
1000 THE AMERICAN ROAD
MORRIS PLAINS, NJ 07950
(973) 630-8000



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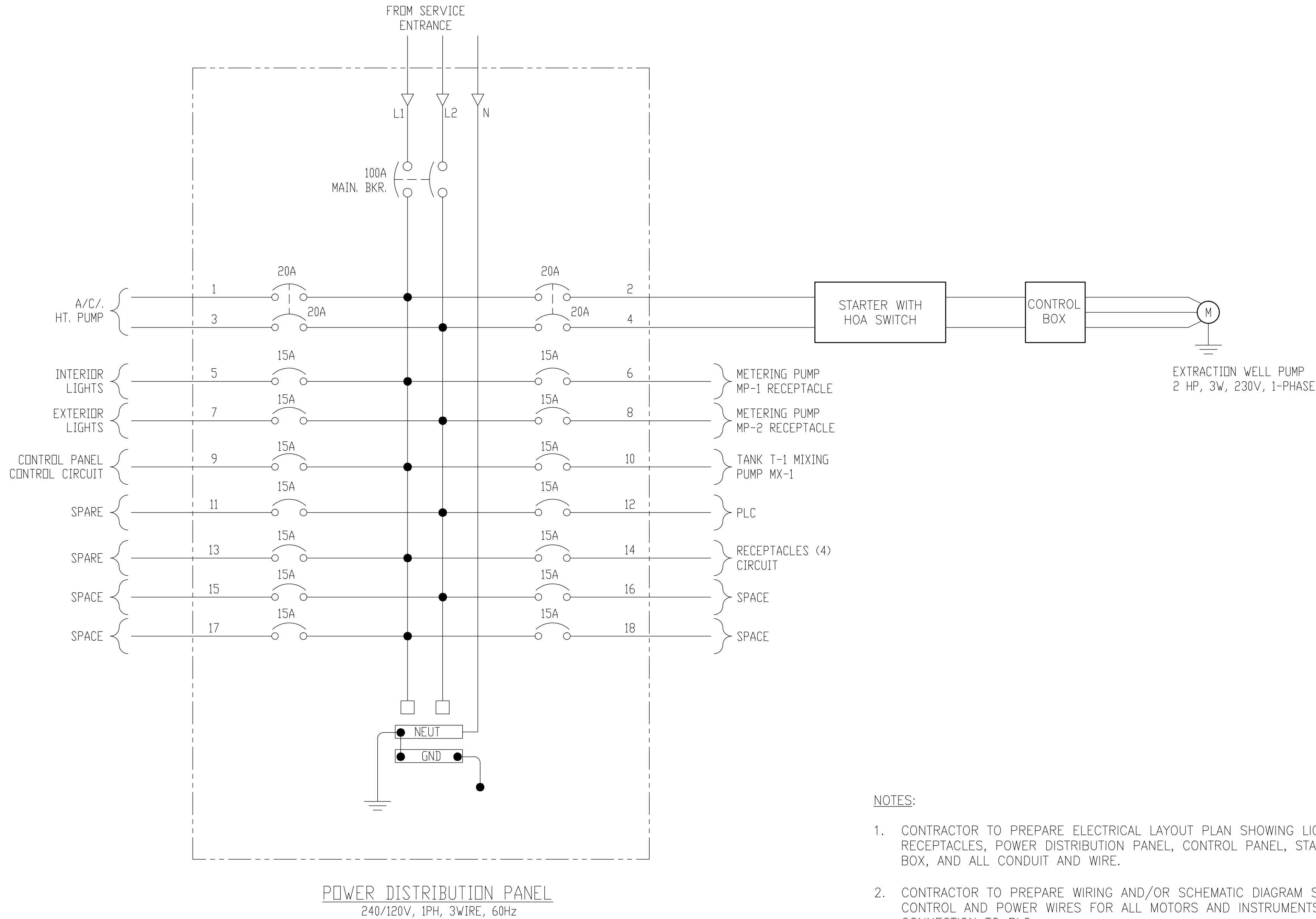
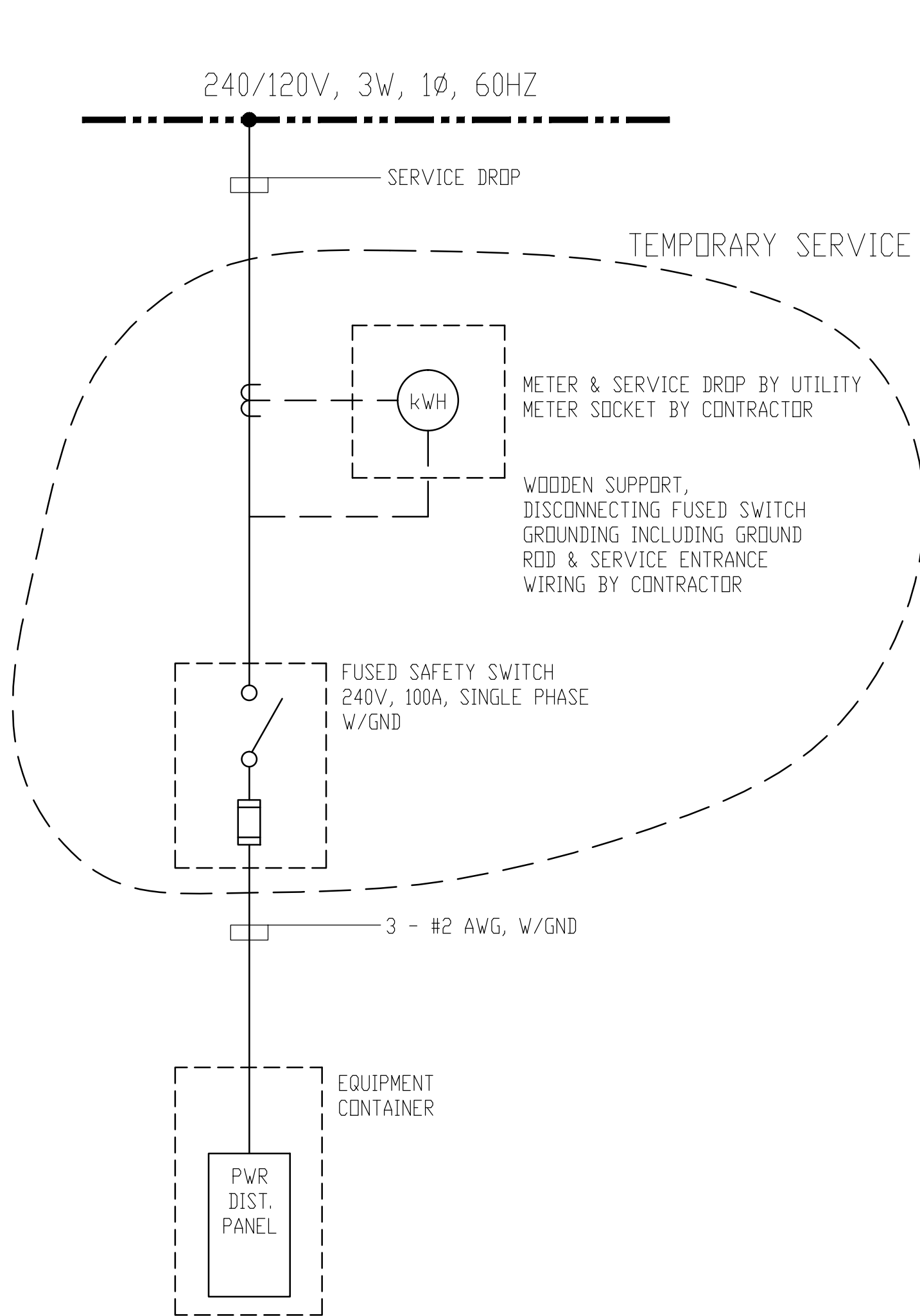
DATE: 12/12/2014
SCALE: AS NOTED
SPEC. NO.
USACE HTRW CONTRACT NUMBER W912DQ-11-D-3011
TASK ORDER: 0002
DRAWING NO.
SHEET OF
SIZE: D SHEET NO. M-5

TETRA TECH ENGINEERING AND SURVEYING PC
PSC NO. 0009444
1000 THE AMERICAN ROAD
MORRIS PLAINS, NJ 07950
(973) 630-8000

REV	DESCRIPTION	PREP'D	DSGN'D	CHK'D	APRV'D	DATE
0	100% DESIGN SUBMITTAL	MK	MK	NT	RC	12/12/14

UNITED STATES ARMY CORPS OF ENGINEERS
VILLAGE OF HEWLETT
PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE
INJECTION AND EXTRACTION MANIFOLD DETAILS
NASSAU COUNTY, NEW YORK
APPROVED
DATE

SEAL AREA
ROBERT CHODOK
NY PROFESSIONAL ENGINEER
LICENSE NO. 094205



NOTES:


- CONTRACTOR TO PREPARE ELECTRICAL LAYOUT PLAN SHOWING LIGHTING, SWITCH, RECEPTACLES, POWER DISTRIBUTION PANEL, CONTROL PANEL, STARTER, CONTROL BOX, AND ALL CONDUIT AND WIRE.
- CONTRACTOR TO PREPARE WIRING AND/OR SCHEMATIC DIAGRAM SHOWING ALL CONTROL AND POWER WIRES FOR ALL MOTORS AND INSTRUMENTS INCLUDING CONNECTION TO PLC.
- CONTRACTOR TO SIZE CONDUIT AND WIRES AS REQUIRED BY NATIONAL ELECTRICAL CODE (NEC).
- FOR EQUIPMENT LAYOUT INSIDE CONTAINER SEE DRAWING SHEET NO. M-2.
- FOR PROCESS AND INSTRUMENTATION DIAGRAM SEE DRAWING SHEET NO. M-1.
- ALL ELECTRICAL INSTALLATION SHALL MEET NEC AND LOCAL CODES.

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<div>TETRA TECH ENGINEERING AND SURVEYING PC</div>										DATE 12/12/14									
										CHK'D HR		DSIGN'D MK		PREP'D MK		DESCRIPTION 100% DESIGN SUBMITTAL		REV 0	
UNITED STATES ARMY CORPS OF ENGINEERS																			
VILLAGE OF NEWLETT										NASSAU COUNTY, NEW YORK									
PENINSULA BOULEVARD GROUNDWATER PLUME SUPERFUND SITE																			
SINGLE-LINE DIAGRAM																			
APPROVED										DATE									
SEAL AREA																			
HARISH C. BANIA NY PROFESSIONAL ENGINEER LICENSE NO. 071378																			
DATE: 12/12/2014																			
SCALE: NOT TO SCALE																			
SPEC. NO.																			
USACE HTRW CONTRACT NUMBER W912DQ-11-D-3011																			
TASK ORDER: 0002																			
DRAWING NO.																			
SHEET OF																			
SIZE: SHEET NO.																			
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