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IN–SITU SOLIDIFICATION

FOR

THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE

VILLAGES OF HEMPSTEAD AND GARDEN CITY, NASSAU COUNTY, NEW YORK

PREPARED BY:

URS Corporation

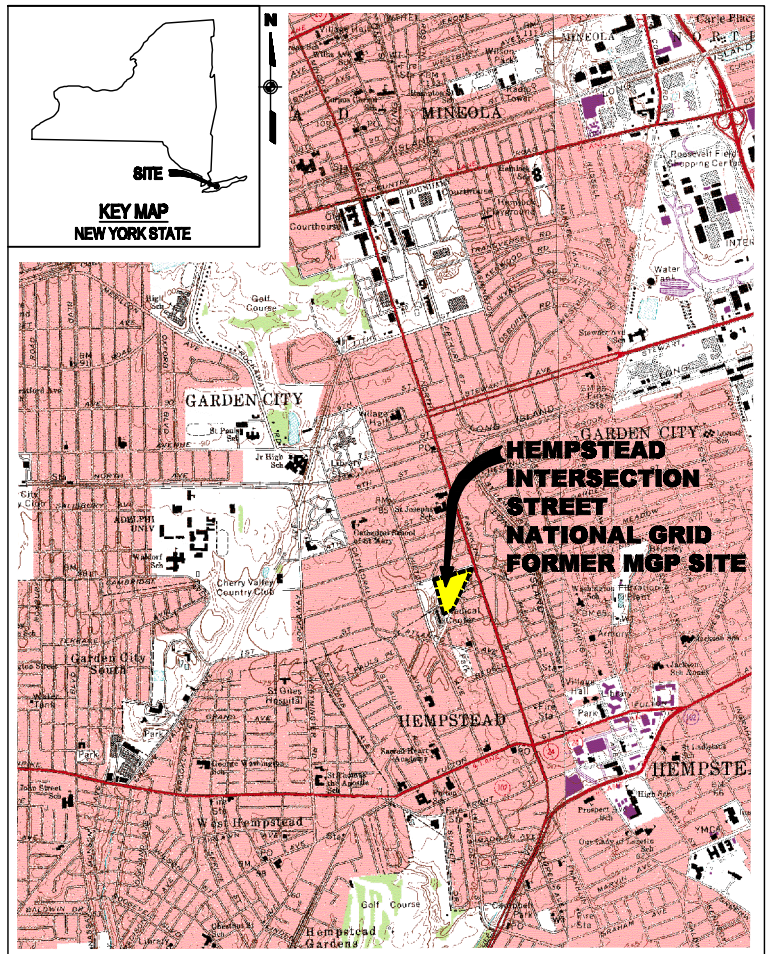
77 Goodell Street, Buffalo, New York 14203
(716)856-5636 phone - (716)856-2545 fax

PREPARED FOR:

NATIONAL GRID

175 EAST OLD COUNTRY ROAD
HICKSVILLE, NEW YORK 11801

JULY 2011



GENERAL NOTES

1. SOURCE BASE MAP IS URS CORPORATION TOPOGRAPHIC SURVEY PERFORMED NOVEMBER 2007.
2. HORIZONTAL DATUM IS REFERENCED TO US STATE PLANE 1983 ZONE: NEW YORK LONG ISLAND.
3. VERTICAL DATUM IS REFERENCED TO NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88).
4. HORIZONTAL AND VERTICAL CONTROLS REFERENCED TO PREVIOUSLY ESTABLISHED CONTROL PREPARED BY NATIONAL GRID (FORMERLY KEYSPAN). COORDINATES AND ELEVATIONS FOR THE SURVEY CONTROL POINTS ARE SHOWN ON DWG-4.
5. THE TYPES, LOCATIONS, SIZES AND/OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS WERE OBTAINED FROM VARIOUS SOURCES AND SHALL BE CONSIDERED THE BEST AVAILABLE INFORMATION WITH COMPLETENESS AND ACCURACY UNKNOWN. THE CONTRACTOR IS CAUTIONED THAT ONLY EXCAVATION WILL REVEAL THE ACTUAL TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. OTHER BURIED OBJECTS OR UTILITIES MAY BE ENCOUNTERED WHICH ARE NOT SHOWN ON THESE DRAWINGS.
6. ALL MONITORING WELLS, NAPL WELLS AND PIEZOMETERS WITHIN THE PROPOSED SOLIDIFICATION AREAS SHALL BE DECOMMISSIONED IN ACCORDANCE WITH SPECIFICATION SECTION 02610. NATIONAL GRID MAY PERFORM ALL WELL DECOMMISSIONING.
7. SHOWN PROPERTY LINES WERE OBTAINED FROM A SURVEY PREPARED BY KEYSPAN ENERGY (NOW NATIONAL GRID), TITLED "MAP OF P/O HEMPSTEAD GAS PLANT AREA TO BE LEASED" AND DATED JANUARY 24, 2007.
8. PRIOR TO CONSTRUCTION, ALL DIMENSIONS AND CONDITIONS OF EXISTING STRUCTURES AND UTILITIES IN OR ADJACENT TO THE DELINEATED REMEDIATION AREAS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
9. THE EXISTING GAS SUPPLY LINE, AS SHOWN ON DWG-13, SHALL BE REMOVED, RELOCATED, AND RE-INSTALLED DURING THE NON-HEATING SEASON. THE HEATING SEASON SHALL BE CONSIDERED OCTOBER 1st TO MAY 1st.

ABBREVIATIONS

A.C.	ASPHALT CONCRETE
BGS	BELOW GROUND SURFACE
BTEX	BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENE
CONC	CONCRETE
DSM	DEEP SOIL MIX
ELEV.	ELEVATION
FT	FEET
INC.	INCORPORATED
INV	INVERT
ISS	IN-SITU SOLIDIFICATION
LIPA	LONG ISLAND POWER AUTHORITY
LIRR	LONG ISLAND RAILROAD
MET	METEOROLOGICAL
MGP	MANUFACTURED GAS PLANT
MH	MANHOLE
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NAPL	NONAQUEOUS PHASE LIQUID
NEUT	NEUTRAL
NYSDOTSS	NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, LATEST EDITION
ND	NOT DETECTED
OHW	OVERHEAD WIRE (ELECTRIC)
POB	PROFESSIONAL OFFICE BUILDING
RCP	REINFORCED CONCRETE PIPE
RGS	RIGID GALVANIZED STEEL
PAH	POLYCYCLIC AROMATIC HYDROCARBONS
PLST	PLASTIC GAS LINE PIPE
ROW	RIGHT-OF-WAY
TEL	TELEPHONE
TYP.	TYPICAL
SAN	SANITARY
ST	STORM
ug/L	MICROGRAMS PER LITER
UK	UNKNOWN
UP	UTILITY POLE

INDEX OF DRAWINGS

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

URS Corporation

nationalgrid
175 EAST OLD COUNTRY ROAD
HICKSVILLE, NEW YORK 11801

THE HEMPSTEAD
INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE

INDEX OF DRAWINGS, ABBREVIATIONS, NOTES AND LOCATION MAP

DRAWING 1

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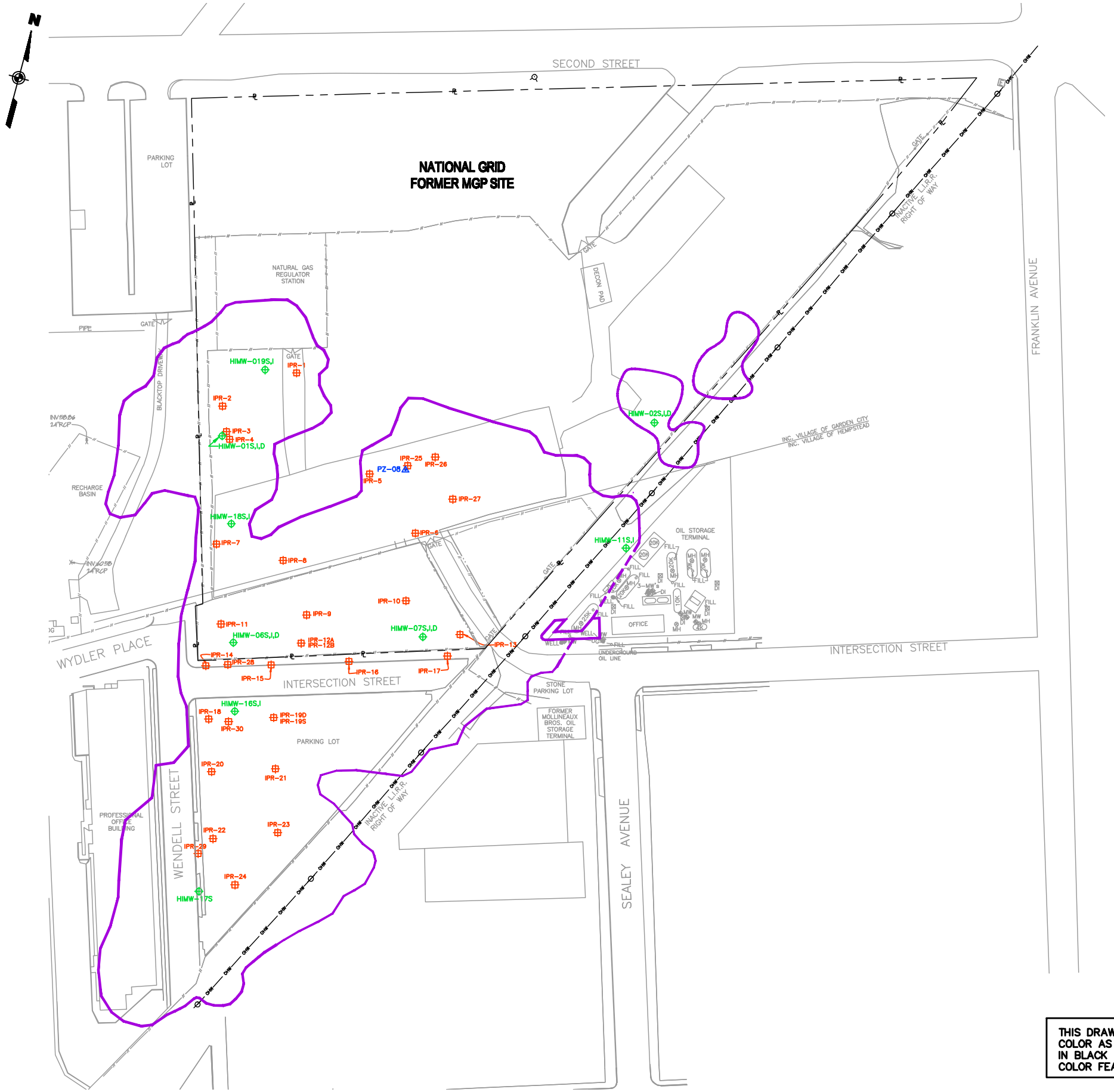

LEGEND - EXISTING

- FENCE
- FORMER MGP SITE BOUNDARY AND APPROXIMATE PROPERTY LINE
- DELINEATED LIMIT OF MGP SOURCE MATERIAL
- APPROXIMATE LIMITS OF MGP SOURCE MATERIAL
- LOCATION OF EXISTING STRUCTURE
- IPR-12 — IRM PRODUCT RECOVERY WELL, URS 2008 & 2009
- PZ-02 — PIEZOMETER/WELL LOCATION FROM ROY F. WESTON FIELD INVESTIGATION, MARCH 1993
- HIMW-05S — GROUNDWATER MONITORING WELL (SHALLOW ZONE)
- HIMW-05I — GROUNDWATER MONITORING WELL (INTERMEDIATE ZONE)
- HIMW-05D — GROUNDWATER MONITORING WELL (DEEP ZONE)
- EXISTING METAL POLE
- EXISTING SIGN
- EXISTING GATE

NOTE:

NATIONAL GRID WILL PERFORM WELL DECOMMISSIONING WORK UNLESS OTHERWISE DIRECTED.

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

WELL DECOMMISSIONING SUMMARY

Well ID	Well Depth (ft bgs)	Total Depth (ft bgs)	Ground Surface Elevation (ft amsl)	Casing Diameter (in)	Screened Depths Interval (ft bgs)	Description
HIMW-01S	38	38	69.41	2	26-36	Slotted PVC
HIMW-01I	86	86	69.27	2	74-87	Slotted PVC
HIMW-01D	124	152	69.39	2	112-122	Slotted PVC
HIMW-02S	40	40	71.79	2	28-38	Slotted PVC
HIMW-02I	90	90	76.82	2	78-88	Slotted PVC
HIMW-02D	116	130.5	71.73	2	104-114	Slotted PVC
HIMW-06S	37.5	38	68.3	2	25.5-35.5	Slotted PVC
HIMW-06I	84	85	68.09	2	72-82	Slotted PVC
HIMW-06D	118	132.5	67.89	2	106-116	Slotted PVC
HIMW-07S	41	41	70.8	2	29-39	Slotted PVC
HIMW-07I	90	90	70.31	2	78-88	Slotted PVC
HIMW-07D	117	132	70.75	2	105-115	Slotted PVC
HIMW-11S	40	40	71.69	2	28-38	Slotted PVC
HIMW-11I	92	92	71.6	2	80-90	Slotted PVC
HIMW-11D	121	126	71.61	2	109-119	Slotted PVC
HIMW-12S	34	35	61.85	2	22-32	Slotted PVC
HIMW-12I	75	76	61.9	2	63-73	Slotted PVC
HIMW-12D	129	182	62.09	2	117-127	Slotted PVC
HIMW-13S	49	50	73.14	2	38-48	Slotted PVC
HIMW-13I	82	83	73.01	2	70-80	Slotted PVC
HIMW-13D	122	175	72.95	2	110-120	Slotted PVC
HIMW-14I	97	97	72.01	2	85-95	Slotted PVC
HIMW-14D	152	152	71.99	2	140-150	Slotted PVC
HIMW-15I	92	93	64.59	2	80-90	Slotted PVC
HIMW-15D	153.5	153.5	64.36	2	141.5-151.5	Slotted PVC
HIMW-16S	36	36	67.81	2	24-34	Slotted PVC
HIMW-16I	82	82	67.92	2	70-80	Slotted PVC
HIMW-17S	37	37	66.42	2	25-35	Slotted PVC
HIMW-18S	42	42	69.94	2	25-40	Slotted PVC
HIMW-18I	72	72	70.07	2	55-70	Slotted PVC
HIMW-19S	37	37	69.42	2	25-35	Slotted PVC
HIMW-19I	67	67	69.66	2	55-65	Slotted PVC
HIMW-20S	37	37	70.79	2	25-35	Slotted PVC
HIMW-20I	75	75	70.94	2	63-73	Slotted PVC
IPR-1	45	45	NM	1	10-45	Slotted PVC
IPR-2	75	75	NM	6	15-70	Slotted PVC
IPR-3	45	45	NM	6	10-40	Slotted PVC
IPR-4	88	88	NM	6	73-83	Slotted PVC
IPR-5	55	55	NM	1	10-55	Slotted PVC
IPR-6	56.5	56.5	NM	6	11.5-51.5	Slotted PVC
IPR-7	45	45	NM	1	10-45	Slotted PVC
IPR-8	55	55	NM	1	10-50	Slotted PVC
IPR-9	65	65	NM	6	10-60	Slotted PVC
IPR-10	45	45	NM	6	15-40	Slotted PVC
IPR-11	45	45	NM	6	15-40	Slotted PVC
IPR-12A	45	45	NM	1	10-45	Slotted PVC
IPR-12B	45	45	NM	6	15-40	Slotted PVC
IPR-13	45	45	NM	6	15-40	Slotted PVC
IPR-14	43.8	43.8	NM	6	8.8-38.8	Slotted PVC
IPR-15	44.5	44.5	NM	6	9.4-39.4	Slotted PVC
IPR-16	51	51	NM	5.75	16-46	Slotted PVC
IPR-17	56	56	NM	5.75	21-51	Slotted PVC
IPR-18	50	50	NM	6	15-45	Slotted PVC
IPR-19S	45	45	NM	6	10-40	Slotted PVC
IPR-19D	91	91	NM	6	65-85	Slotted PVC
IPR-20	45	45	NM	6	10-40	Slotted PVC
IPR-21	45	45	NM	6	10-40	Slotted PVC
IPR-22	45	45	NM	6	10-40	Slotted PVC
IPR-23	45	45	NM	6	10-40	Slotted PVC
IPR-24	45	45	NM	6	20-40	Slotted PVC
IPR-25	45	45	NM	6	15-40	Slotted PVC
IPR-26	45	45	NM	6	25-40	Slotted PVC
IPR-27	45	45	NM	6	25-40	Slotted PVC
IPR-28	50	50	NM	6	25-40	Slotted PVC
IPR-29	50	50	NM	6	25-40	Slotted PVC
IPR-30	50	50	NM	6	25-40	Slotted PVC
PZ-08	38	38	70.89	2	26-36	Slotted PVC

ft bgs	feet below ground surface
ft amsl	feet above mean sea level
in	inches
NM	not measured

SOURCES:

- HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE FINAL REMEDIAL INVESTIGATION REPORT INDICATED ON DWG-4.
- URS, MARCH 2006, URS IRM INVESTIGATION DATA – IPR WELL CONSTRUCTION LOGS

NOTES:

1. WELLS SHALL BE DECOMMISSIONED IN ACCORDANCE WITH SPECIFICATION SECTION 02610.
2. ONLY WELLS WITHIN THE PROPOSED SOLIDIFICATION AREA ARE TO BE DECOMMISSIONED.
3. ONLY THE WELLS TO BE DECOMMISSIONED ARE SHOWN ON THIS SHEET.
4. FOR LOCATION OF EXISTING TREES, SEE DWG-4.

60' 0 60'
SCALE IN FEET

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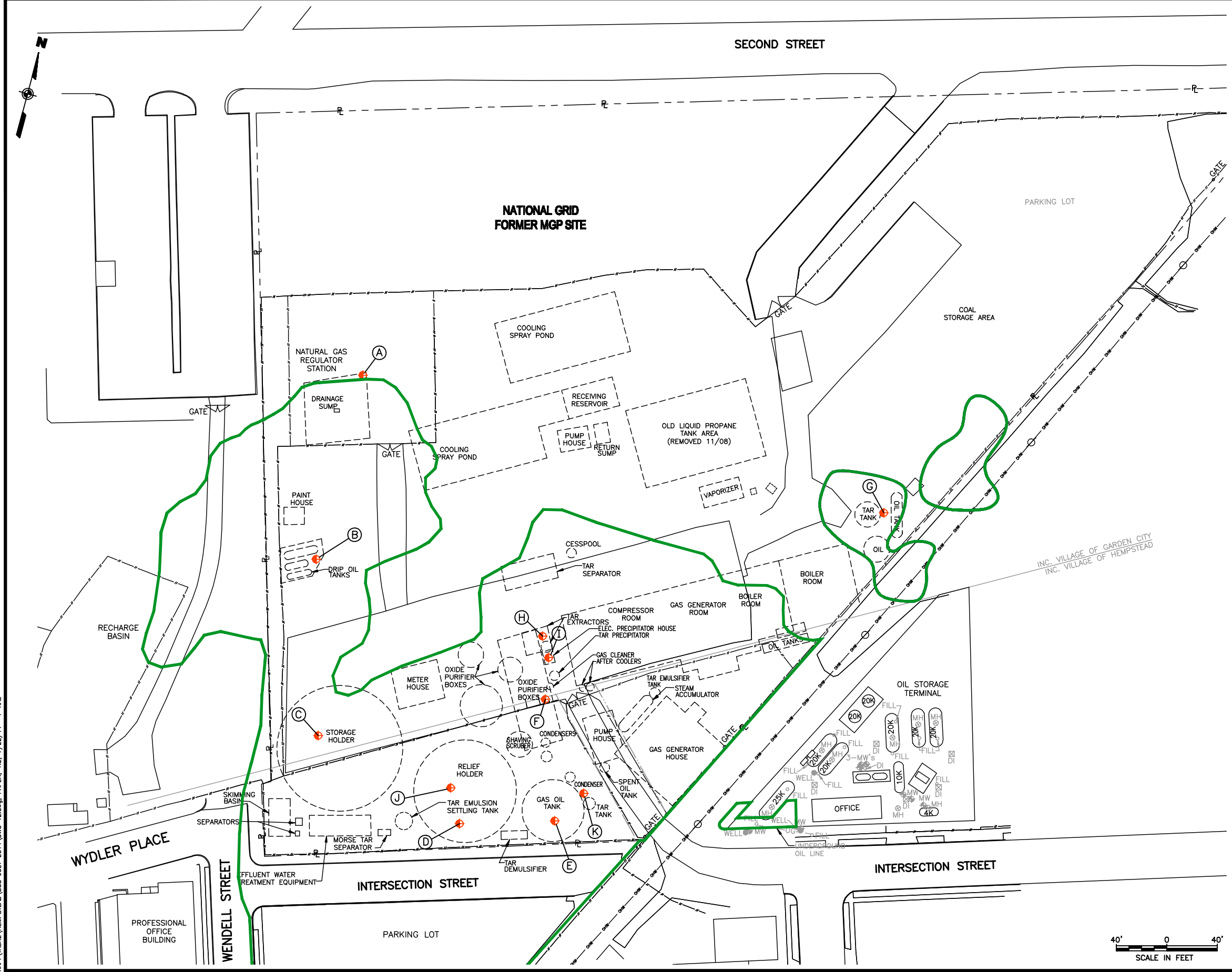
URS Corporation		**nationalgrid** 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	**THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE**	**WELL DECOMMISSIONING PLAN**	**DRAWING 11**



NOTES:

1. LOCATIONS SHOWN FOR FORMER MGP FEATURES WERE TAKEN FROM FINAL REMEDIAL INVESTIGATION REPORT DATED NOVEMBER 2006 BY PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C. REFERENCE RI FIGURE 1–4. BASE MAP AND FORMER MGP SITE FEATURES IN RI WAS PREPARED BY DVIRKA AND BARTOLUCCI CONSULTING ENGINEERS, A DIVISION OF WILLIAM F COSULICH ASSOCIATES, P.C.
2. APPROXIMATE CONCRETE DEPTHS WERE OBTAINED FROM PREVIOUS SUBSURFACE INVESTIGATIONS. DEPTHS ARE MEASURED FROM EXISTING ELEVATIONS DOWNWARD.
3. ADDITIONAL CONCRETE SLABS AND/OR FOUNDATIONS MAY BE ENCOUNTERED DURING EXCAVATION ACTIVITIES.
4. REFER TO SPECIFICATION SECTIONS 02110 FOR SITE CLEARING AND PREPARATION, 02260 FOR EXCAVATION SUPPORT AND PROTECTION, AND 02300 FOR EARTHWORK AND BACKFILL.
5. FOR LOCATION OF EXISTING TREES, SEE DWG–4.

LEGEND - EXISTING

- FENCE
- FORMER MGP SITE BOUNDARY AND APPROXIMATE PROPERTY LINE
- APPROXIMATE LOCATION OF FORMER MGP STRUCTURE
- LIMIT OF MGP SOURCE MATERIAL TREATMENT
- LOCATION OF KNOWN CONCRETE SLAB/FOUNDATON

LOCATION	MGP STRUCTURE NAME	APPROXIMATE FOUNDATION EXTENT BGS (FEET)	BORING LOG NUMBER
A	DRAINAGE SUMP	9	HISB–57
B	DRIP OIL TANKS	14	HISB–14
C	STORAGE HOLDER	8	HITP–07
D	RELIEF HOLDER	0 – 3	HITP–05
E	GAS OIL TANK	0 – 2	HITP–13
F	OXIDE PURIFIER BOXES	0 – 4	TP–35(B)
G	OIL TANK/TAR TANK	8	HISB–17
H	TAR EXTRACTORS	8	HISB–16
I	ELECT. PRECIPITATOR HOUSE	4	HITP–04
J	RELIEF HOLDER	0	HISB–33
K	CONDENSER / TAR TANK	0	HIMW–070

NOTE: THE SHOWN FOUNDATION EXTENT IS TAKEN ONLY FROM THE SHOWN BORING.

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

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THE HEMPSTEAD
INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE

INFRASTRUCTURE DECOMMISSIONING PLAN

DRAWING 12

NOTES:

1. LOCATIONS SHOWN FOR FORMER MGP FEATURES WERE TAKEN FROM FINAL REMEDIAL INVESTIGATION REPORT DATED NOVEMBER 2006 BY PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C. REFERENCE RI FIGURE 1–4. BASE MAP AND FORMER MGP SITE FEATURES IN RI WAS PREPARED BY DVIRKA AND BARTOLUCCI CONSULTING ENGINEERS, A DIVISION OF WILLIAM F COSULICH ASSOCIATES, P.C.
2. THE SHOWN UTILITIES SHALL BE CONSIDERED AS APPROXIMATE LOCATIONS, BASED ON INFORMATION MADE AVAILABLE TO URS. SHOWN UTILITIES/LOCATIONS MAY OR MAY NOT BE COMPLETE, ACTIVE, OR DECOMMISSIONED. ANY PROPOSED CONSTRUCTION NEAR SUCH UTILITIES REQUIRES CONFIRMATION OF UTILITY LOCATIONS AND DETAILED REVIEW OF UTILITY SOURCE MAPPING.
3. EXISTING UTILITIES SHOWN IN COLOR ARE THOSE THAT MAY EXIST WITHIN OR ADJACENT TO PROPOSED REMEDIATION LIMITS. THESE EXISTING UTILITIES SHALL BE PROTECTED, MAINTAINED, RELOCATED, OR ABANDONED IN–PLACE WHERE INDICATED OR DIRECTED.
4. REMOVE ONLY THE PORTION OF UNDERGROUND UTILITY THAT CONFLICTS WITH REMEDIATION WORK LIMITS.
5. SEE DWG–5 FOR SURVEY AND RECORD PLAN SOURCE INFORMATION.
6. FOR LOCATION OF EXISTING TREES, SEE DWG–4.
7. ALL GAS AND ELECTRICAL DISTRIBUTION REMOVALS AND ABANDONMENTS SHALL BE COORDINATED WITH NATIONAL GRID PRIOR TO THE START OF WORK. PRIOR TO ANY GAS LINE WORK, FOLLOW THE PROCEDURES DETAILED IN SPECIFICATION SECTION 01056 INCLUDING THE GAS LINE LOCATION WORK PLAN DESCRIBED THERE.
8. PRIOR TO WORK THAT MAY AFFECT UTILITIES, COORDINATE WITH ALL SUCH UTILITIES FOR REQUIRED PROCEDURES FOR PROTECTION AND ABANDONMENT. FOR UTILITY NOTIFICATION AND PROTECTION REQUIREMENTS, REFER TO SPECIFICATION 01056.
9. CONTRACTOR SHALL ACQUIRE ALL REQUIRED PERMITS FROM THE VILLAGE OF HEMPSTEAD AND GARDEN CITY PRIOR TO ANY CONSTRUCTION OF WATERLINE OR SANITARY SEWER.
10. SOUTHERN GAS LINE UNDER INTERSECTION STREET MAY ONLY BE ABANDONED/REMOVED DURING THE PERIOD BETWEEN APRIL 1 AND OCTOBER 3, 2012.
11. ABANDON EXISTING 6" WATERLINE FROM EXISTING VALVE AT SECOND ST. TO WYDLER PLACE DURING REMEDIATION IN GARDEN CITY PARK. REMOVE ONLY THE PORTION OF THE EXISTING PIPE THAT CONFLICTS WITH REMEDIATION WORK LIMITS. RESTORE WATERLINE TO ORIGINAL LOCATION AFTER REMEDIATION IN PHASE 1 IS COMPLETED.
12. THIS DRAWING SHOWS DETAILS FOR ABANDONMENT OF EXISTING 6"ø WATERLINE ON INTERSECTION STREET FOR PHASE 2 CONSTRUCTION. WATERLINE ADJACENT TO GARDEN CITY PARK WILL ALSO BE ABANDONED FOR REMEDIATION ACTIVITIES DURING PHASE 1 CONSTRUCTION. WATER SERVICE TO PROFESSIONAL OFFICE BUILDING MUST BE MAINTAINED AT ALL TIMES.

NATIONAL GRID FORMER MGP SITE

SECOND STREET

FRANKLIN AVENUE

WYDLER PLACE

WENDE STREET

SEALEY AVENUE

INC. VILLAGE OF GARDEN CITY
INC. VILLAGE OF HEMPSTEAD

STORM MH RIM:65.04 N:16"CONC INV:61.39

WATER MH RIM:71.20 12"CI TO 10"CI TOP OF PIPE:66.85 TOP OF PIPE:68.00

30" dia RCP

54" dia RCP

SEE NOTE 11

STORM MH RIM:64.6± N. INV:51.8± S. INV:51.3±

PROTECT AND MAINTAIN WATERLINE

EXISTING GAS LINES TO BE RELOCATED BY NATIONAL GRID

CUT AND CAP EXISTING WATERLINE

FIRE HYDRANT TO BE ABANDONED

ABANDON EXISTING SANITARY SEWER AND WATERLINE

POSSIBLE PAVED–OVER SAN MANHOLE

12" GAS
8" GAS
12" GAS

SAN MH RIM:63.74 SUMP:54.02

CUT AND CAP EXISTING WATERLINE

PLUG EXISTING SANITARY SEWER

FIRE HYDRANT TO BE ABANDONED

COORDINATE WORK NEAR OVERHEAD WIRES WITH LIPA, SEE DWG–16 FOR POLE RELOCATIONS

CUT AND CAP EXISTING WATERLINE

PROPOSED 6" D.I. WATERLINE, SEE INTERCONNECTION DETAIL NO. 1 THIS DWG.

ABANDON EXISTING GASLINES

12" GAS
8" GAS
12" GAS

54" dia RCP

STORM MH RIM:66.12 COULD NOT OPEN

STORM MH RIM:66.03 COULD NOT OPEN

ABANDON EXISTING OWH AND POLES

ABANDON EXISTING GASLINES

O2 TREATMENT SYSTEM/WELLS (BY OTHERS)

60" dia RCP

STORM MH RIM:65.93 S:12"CONC INV:61.86 W:16"CONC INV:61.75

SAN MH RIM:70.20 E:8"CLAY INV:61.03 S:8"CLAY INV:61.00

STORM MH RIM:70.03 SUMP:67.30

STORM MH RIM:66.20 N:18"CONC INV:61.94 E:18"CONC INV:61.84

POSSIBLE COUNTY DRAIN MH RIM:65.87 COULD NOT OPEN

FIRE HYDRANT TO BE ABANDONED

SAN MH RIM:66.11 SUMP:55.57

STORM MH RIM:65.83 N:16"CONC INV:61.77

ABANDON EXISTING SANITARY SEWER, SEE DWG–18 FOR PROPOSED SANITARY SEWER LOCATION (AFTER DSM REMEDIATION)

SAN MH INV:69.81 SUMP:61.45

STORM MH RIM:70.22 TOP OF COVER:69.80

STORM MH RIM:69.82 N:8"UNKNOWN INV:67.32 S:8"UNKNOWN INV:67.22

ABANDON EXISTING SANITARY SEWER MANHOLE

ABANDON EXISTING WATERLINE, SEE DWG–18 FOR PROPOSED WATERLINE LOCATION (AFTER DSM REMEDIATION)

60" DIA. RCP

ABANDON EXISTING GASLINE; MAINTAIN SERVICE TO PROFESSIONAL OFFICE BUILDING (SEE NOTE 10)

SAN MH RIM:64.97 N:10"CI INV:54.57 S:10"CI INV:54.47 W:10"CI INV:54.47

COORDINATE WORK NEAR OVERHEAD WIRES WITH LIPA

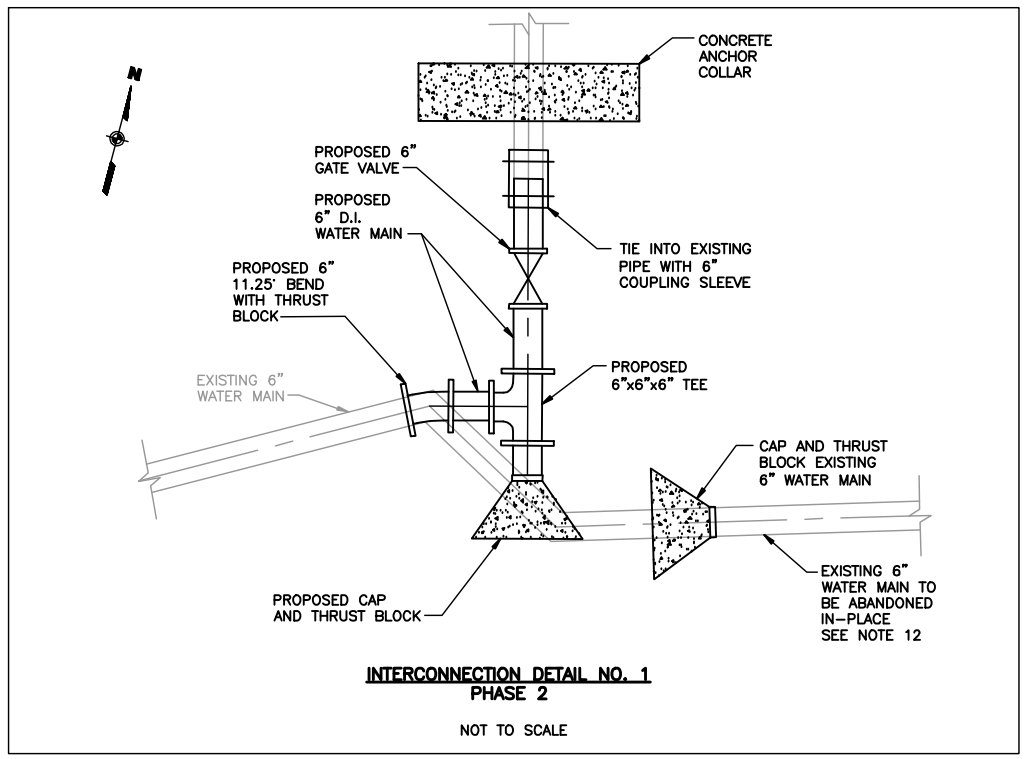
STORM MH RIM:64.80 N:16"CONC INV:60.80 SUMP:60.50

STORM MH RIM:64.67 NE:16"CONC INV:60.92 NW:16"CONC INV:60.99 SUMP:47.82

STORM MH RIM:64.79 E:12"CONC INV:61.20 SUMP:60.09

SAN MH RIM:64.90 COULD NOT OPEN

STORM MH RIM:69.37 SUMP INV:65.55



INTERCONNECTION DETAIL NO. 1
PHASE 2

NOT TO SCALE

LEGEND - EXISTING

- FENCE
- FORMER MGP SITE BOUNDARY AND APPROXIMATE PROPERTY LINE
- LIMIT OF MGP SOURCE MATERIAL TREATED
- STRUCTURE
- DEMOLISH OR ABANDON UTILITY AFTER COORDINATION WITH AFFECTED UTILITIES
- GAS LINE TAKEN FROM REFERENCE DRAWINGS PROVIDED BY NATIONAL GRID
- UNDERGROUND ELECTRIC LINE
- OVERHEAD ELECTRIC LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- TELEPHONE LINE
- WATER LINE
- DRAINAGE INLET
- STORM MH
- SANITARY MH
- TELEPHONE MANHOLE
- UNKNOWN MANHOLE
- WATER MANHOLE
- FIRE HYDRANT
- ELECTRIC MANHOLE
- LIGHT POLE
- UTILITY POLE
- GUY WIRE
- GAS VALVE
- WATER VALVE
- SIGN
- METAL POLE
- GATE

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

60' 0 60'
SCALE IN FEET

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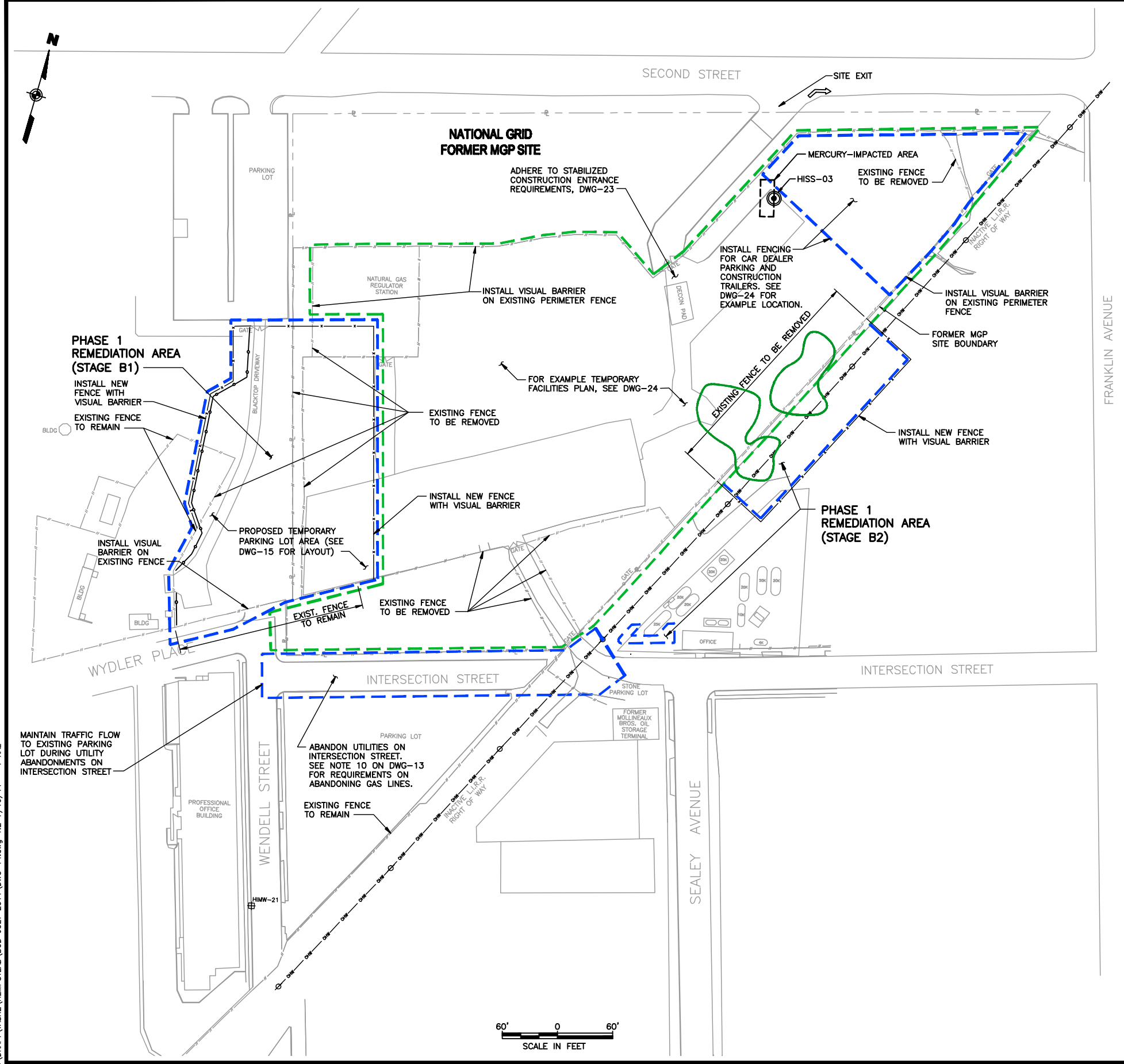
THE HEMPSTEAD
INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE

UTILITY PROTECTION AND DECOMMISSIONING PLAN

DRAWING 13



NOTES:

1. THE CONTRACTOR SHALL STAGE CONSTRUCTION TO PROVIDE A CONTINUOUS AND UNOBSTRUCTED PARKING AREA FOR THE PROFESSIONAL OFFICE BUILDING DURING BOTH PHASE 1 AND 2 OF THE REMEDIATION PROJECT.
2. (NOT USED)
3. FENCING AND GATES SHALL BE INSTALLED PER SPECIFICATION SECTION 02821.
4. TEMPORARY PARKING LOT SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AT ALL TIMES AND DRAIN AWAY FROM HANDICAP PARKING STALLS.
5. (NOT USED)
6. CONSTRUCTION SEQUENCING AND SCHEDULING SHALL BE COORDINATED WITH TIME ALLOWANCES REQUIRED BY ALL UTILITIES ON THEIR REQUIRED PROTECTION MEASURES, NOTIFICATIONS, REVIEW AND APPROVALS.
7. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF PROPOSED MET STATION AND TEMPORARY FACILITIES WITH SOIL SAMPLING AND EXCAVATION OF MERCURY IMPACTED AREA SHOWN ON DWG-4. SEE DWG-24 FOR EXAMPLE OF TEMPORARY FACILITIES LAYOUT.
8. TREE PROTECTION ZONE NOT SHOWN. REFER TO SPECIFICATION SECTION 02231 FOR REQUIRED LIMITS.
9. FOR LOCATION OF EXISTING TREES, SEE DWG-4.
10. FOR EXCAVATION REQUIREMENTS, INCLUDING DUST AND ODOR CONTROL, DURING EXCAVATIONS, REFER TO SPECIFICATION SECTION 02300. REFER TO SPECIFICATION SECTION 01056 FOR NOISE/VIBRATION REQUIREMENTS DURING EXCAVATIONS.
11. PROTECT ALL CATCH BASINS IN ACCORDANCE WITH THE NEW YORK STATE GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
12. CONSTRUCTION ACCESS TO/FROM WYDLER PLACE IS PROHIBITED.

LEGEND:

- STAGE A LIMITS
- STAGE B LIMITS
- PROPOSED TEMPORARY FENCE WITH VISUAL BARRIER
- PROPOSED EROSION/SEDIMENT CONTROL MEASURES
- EXISTING FENCE
- LOCATION OF EXISTING STRUCTURE OR ROAD
- LIMIT OF MGP SOURCE MATERIAL TREATMENT

GENERAL CONSTRUCTION SEQUENCE – PHASE 1:

STAGE A
- CONTRACTOR MOBILIZATION.
- ERECT TEMPORARY CONTAINMENT BUILDING.
- ESTABLISH SUPPORT AREAS (FIELD OFFICE TRAILERS, BATCH PLANT, MATERIAL STAGING & EQUIPMENT LAYDOWN AREAS). SEE DWG-24.
- INSTALL TEMPORARY CONSTRUCTION FENCES AND EROSION /SEDIMENT CONTROL MEASURES ON THE FORMER MGP SITE.
- OTHERS TO INSTALL COMMUNITY AIR MONITORING SYSTEM AND COLLECT BACKGROUND DATA.
- DECOMMISSION MONITORING WELLS, PIEZOMETERS, AND PRODUCT RECOVERY WELLS (BY NATIONAL GRID UNLESS DIRECTED OTHERWISE). SEE DWG-11.
- CLEAR AND GRUB AS NECESSARY.
- NATIONAL GRID TO RELOCATE GAS LINES IN THE VICINITY OF THE REGULATOR STATION. SEE DWG-13.
- REMEDIATE MERCURY IMPACTED AREAS. SEE DWG-4.
- INSTALL SITE FACILITIES, GROUT BATCH PLANT, AND MOBILIZE DEEP SOIL MIXING EQUIPMENT.

STAGE B
- REMOVE, RELOCATE, OR PROTECT UTILITIES WITHIN THE PHASE 1 REMEDIATION AREA.
- POSITION THE TEMPORARY CONTAINMENT BUILDING.
- CONSTRUCT TEMPORARY CAR DEALER PARKING AREA.
- EXCAVATE FORMER MGP SITE IN AREA OF PROPOSED TEMPORARY PARKING LOT.
- CLEAR AND GRUB AND REMOVE TREES WITHIN FOOTPRINT OF STAGE B1.
- ROUGH GRADE AND EXCAVATE NEAR RECHARGE BASIN.
- REMOVE AND RELOCATE UTILITIES WITHIN INTERSECTION STREET. SEE DWG-13.
- CONDUCT DSM FIELD DEMONSTRATION TEST PROGRAM.
- DEEP SOIL MIX AREA SHOWN IN STAGE B1 LIMITS (AREA OF PROPOSED TEMPORARY PARKING LOT).
- REMEDIATE AREAS SHOWN IN STAGE B2 LIMITS ALONG LIRR ROW.
- CONSTRUCT TEMPORARY PARKING LOT IN AREA STAGE B1, SHOWN ON DWG-15.

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

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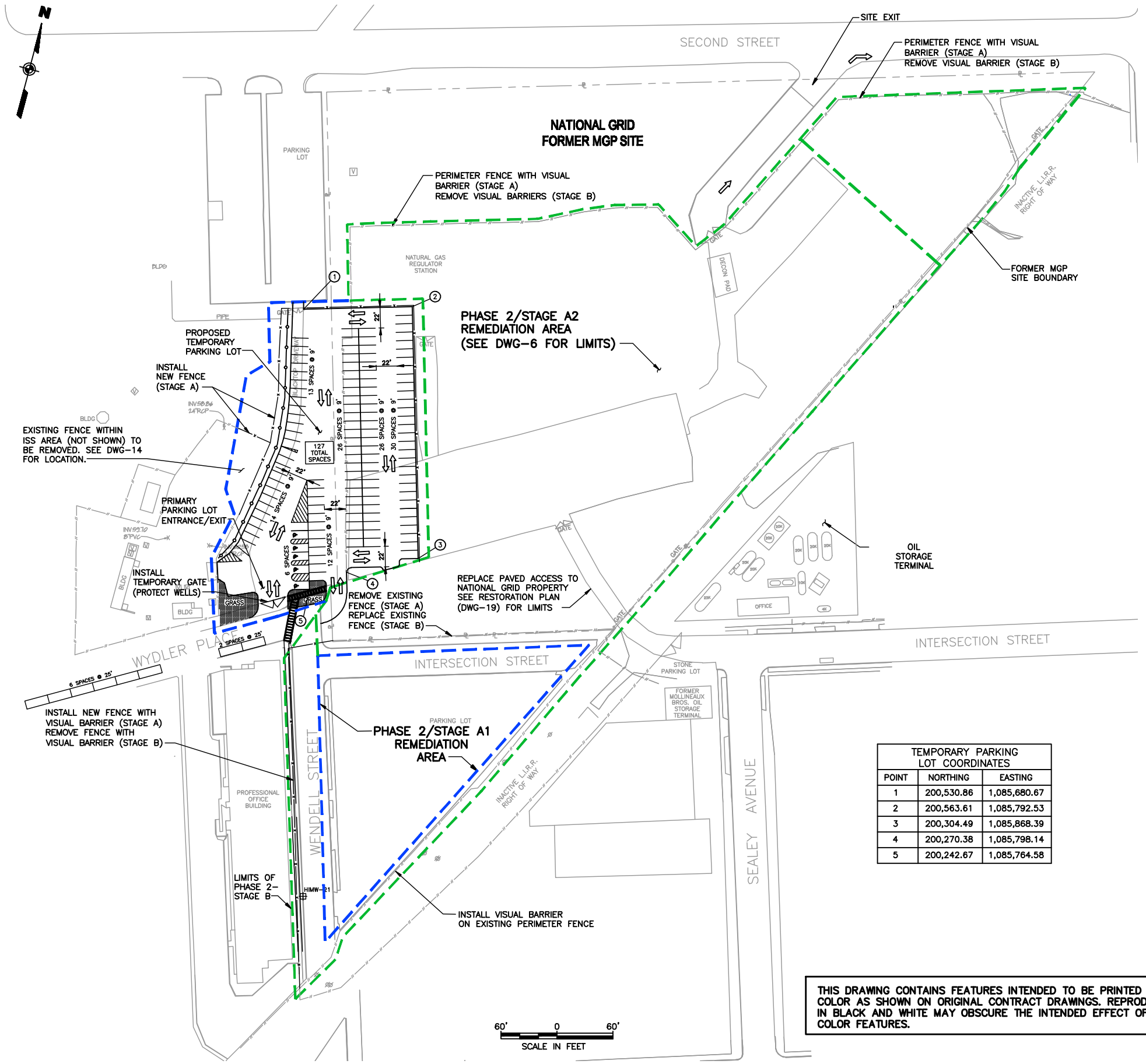
THE HEMPSTEAD
INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE

CONSTRUCTION SEQUENCING PLAN
(SHEET 1 OF 2)

DRAWING 14



NOTES:

1. THE CONTRACTOR SHALL STAGE CONSTRUCTION TO PROVIDE A CONTINUOUS AND UNOBSTRUCTED PARKING AREA FOR THE PROFESSIONAL OFFICE BUILDING DURING BOTH PHASE 1 AND 2 OF THE REMEDIATION PROJECT.
2. (NOT USED.)
3. FENCING AND GATES SHALL BE INSTALLED PER SPECIFICATION SECTION 02821.
4. (NOT USED.)
5. (NOT USED.)
6. TEMPORARY FENCE WITH VISUAL BARRIER ASSOCIATED WITH THE TEMPORARY PARKING LOT SHALL BE INSTALLED PRIOR TO THE START OF STAGE A.
7. TREE PROTECTION ZONE NOT SHOWN. REFER TO SPECIFICATION SECTION 02231 FOR REQUIRED LIMITS.
8. FOR LOCATION OF EXISTING TREES, SEE DWG-4.
9. FOR FINAL GRADING OF PROPOSED TEMPORARY PARKING LOT, SEE DWG-18.
10. FOR STABILIZED CONSTRUCTION ENTRANCE DETAIL, SEE DWG-23.
11. LIGHT FIXTURE: 150W METAL HALIDE, TYPE III DISTRIBUTION, MOUNTED 25' ABOVE FINISHED GRADE ON TEMPORARY STANDARD WOODEN POLE. INTEGRAL PHOTO SENSOR CONTROL. BASIS OF DESIGN: LITHONIA LIGHTING KAD 150M R3 TB SCWA WWD 09. PROVIDE TEMPORARY WOOD POLES WITH OVERHEAD DISTRIBUTION FOR LIGHTING AND ALL NECESSARY SUPPORTS. PROVIDE ALL COMPONENTS NECESSARY FOR A COMPLETE FUNCTIONING TEMPORARY LIGHTING SYSTEM IN TEMPORARY PARKING AREA AS SHOWN; TO MEET ALL APPLICABLE CODES AND STANDARDS.
12. PROVIDE CONNECTION TO EXISTING NATIONAL GRID POWER SERVICE ON SITE. PROVIDE OVERHEAD FEED FROM SERVICE TO LIGHTING SYSTEM AND A MAIN SERVICE DISCONNECT AT SERVICE. COORDINATE SERVICE LOCATION WITH OWNER.
13. GROUND LIGHTING SYSTEM PER NEC.
14. TEMPORARY PARKING LOT SHALL BE CONSTRUCTED PRIOR TO STARTING REMEDIATION WORK IN PHASE 2/STAGE A1 AREA. ONCE THE EXISTING PARKING LOT, INTERSECTION AND WENDELL STREET ARE FULLY RESTORED, THE TEMPORARY PARKING LOT MAY BE ABANDONED. SEE DWG-18A AND 19A FOR RESTORATION PLAN.

LEGEND:

- STAGE A LIMITS
- STAGE B LIMITS
- PROPOSED TEMPORARY FENCE WITH VISUAL BARRIER
- PROPOSED EROSION/SEDIMENT CONTROL MEASURES
- PROPOSED PARKING LOT LIGHTING
- PROPOSED OVERHEAD ELECTRIC LINE
- EXISTING FENCE
- LOCATION OF EXISTING STRUCTURE OR ROAD
- PROPOSED CONTOUR
- EXISTING CONTOUR

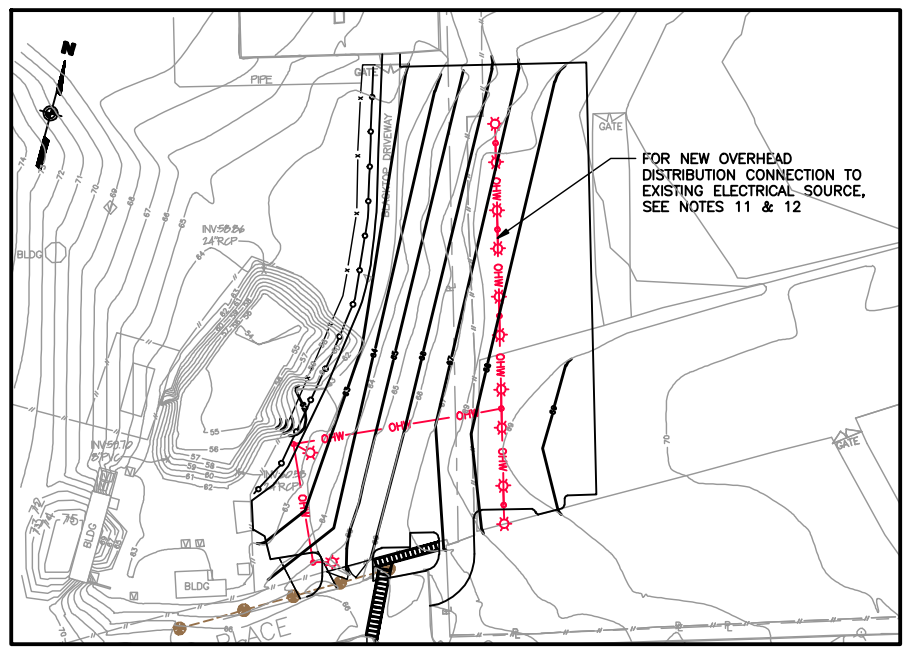
GENERAL CONSTRUCTION SEQUENCE – PHASE 2:

STAGE A
- INSTALL SOIL-CRETE RETAINING WALL AND EXCAVATE AS SHOWN ON EXCAVATION PLAN DWG-16 STAGE A1 AREA.
- STOCKPILE SOILS IN PHASE 2/STAGE A2 AREA AS REQUIRED.
- DSM STAGE A1 AREA AND STOCKPILE SPOILS IN PHASE 2/STAGE A2 AREA.
- BACKFILL PHASE 2/STAGE A1 AREA.
- EXCAVATE/DISPOSE MGP SOURSE MATERIAL AND FORMER MGP STRUCTURES, PHASE 2/STAGE A2 AREA.
- DSM STAGE A2 AREA. (DWG-6)

STAGE B
- RESTORE PHASE 2/STAGE A1 AREA UTILITIES, INTERSECTION AND WENDELL STREET, AND PERMANENT PARKING LOT. (DWG-18 AND 19)
- REMOVE TEMPORARY PARKING LOT AND RESTORE AREA.
- RESTORE PHASE 2/STAGE A2 AREA.
- REMOVE VISUAL BARRIERS ON PERIMETER FENCES AND RESTORE PERIMETER FENCES TO ORIGINAL LOCATIONS.

TEMPORARY PARKING LOT COORDINATES		
POINT	NORTHING	EASTING
1	200,530.86	1,085,680.67
2	200,563.61	1,085,792.53
3	200,304.49	1,085,868.39
4	200,270.38	1,085,798.14
5	200,242.67	1,085,764.58

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.



INSET

60' 0 60'
SCALE IN FEET

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THE HEMPSTEAD
INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE

CONSTRUCTION SEQUENCING PLAN
(SHEET 2 OF 2)

DRAWING 15

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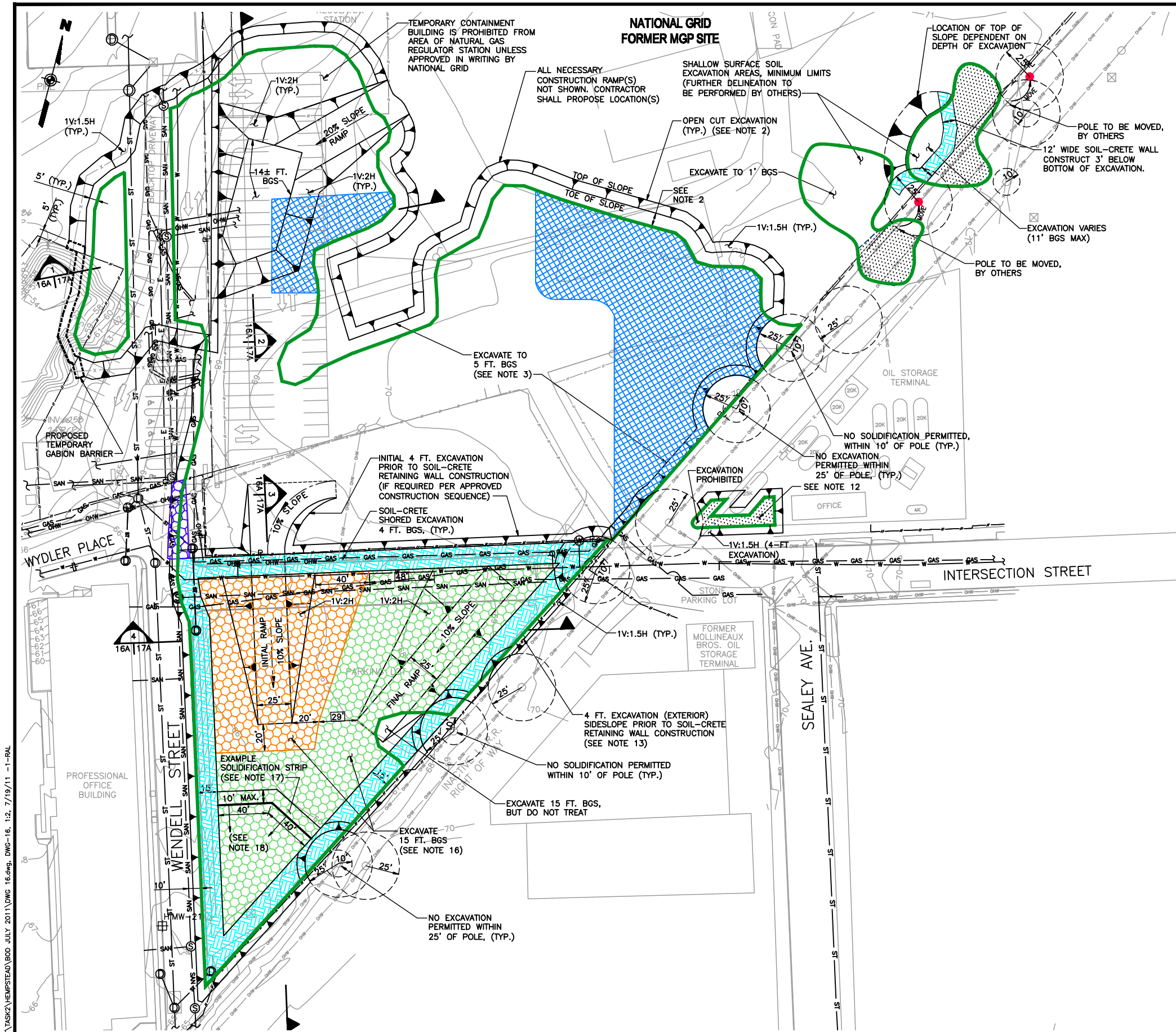

LEGEND

- LIMIT OF MGP SOURCE MATERIAL TREATMENT
- ESTIMATED LIMITS OF MGP SOURCE MATERIAL
- PROPOSED TEMPORARY FENCE WITH VISUAL BARRICADE
- FORMER MGP SITE BOUNDARY
- MINIMUM SHALLOW EXCAVATION PERMITTED FOR TEMPORARY SPOILS CONTAINMENT (SEE NOTE 12)
- SOIL-CRETE DSM RETAINING WALL
- ESTIMATED AREA OF CLEANER SOIL AT 0-5 FOOT DEPTH WITHIN PLANNED SOLIDIFICATION AREAS WITHIN FORMER MGP SITE.
- INITIAL POB PARKING LOT SOLIDIFICATION AREA. FINAL RAMP NOT TO BE CONSTRUCTED UNTIL THIS AREA IS TREATED, CURED, AND CAN SAFELY SUPPORT FINAL RAMP.
- FINAL POB PARKING LOT SOLIDIFICATION AREA. EXCAVATE TO INITIAL RAMP CONFIGURATION. EXCAVATE INITIAL RAMP AND TREAT THIS AREA ONLY AFTER FINAL RAMP IS CONSTRUCTED.
- POTENTIAL AREA OF OPEN-AIR EXCAVATION REQUIRED TO EXPEDITE DSM AND MAINTAIN ACCESS TO PROPOSED TEMPORARY PARKING LOT AND EXISTING PARKING LOT

NOTES:

1. UTILITIES WITHIN THE PROPOSED EXCAVATION AREA SHALL BE PROTECTED OR REMOVED IN ACCORDANCE WITH DWG-13.
2. THE PROPOSED HORIZONTAL DISTANCE TO OPEN-CUT EXCAVATION LIMITS ARE BASED ON USING A NOMINAL 8-FT-DIAMETER DEEP SOIL MIXING BIT AND COLUMN OVERLAP PATTERN SHOWN ON DWG-21. OFFSET OF EXCAVATION LIMITS FROM THE LIMIT OF MGP SOURCE MATERIAL SHALL BE PROPOSED BY THE CONTRACTOR, AS APPROVED BY THE ENGINEER, AND SHALL MINIMIZE EXCAVATION/BACKFILL VOLUME.
3. THE SHOWN EXCAVATION DEPTHS SHALL BE EXCEEDED ONLY WHERE REQUIRED TO REMOVE FORMER MGP FEATURES AND UTILITIES.
4. EXCAVATION SEQUENCE IS NOT SHOWN, SHALL BE PROPOSED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL, AND SHALL BE COORDINATED WITH THE SIZE OF THE TEMPORARY CONTAINMENT BUILDING, ALLOWANCES FOR SLOPE CUTBACK, AND ALL OTHER CONSTRUCTION CONSIDERATIONS SUCH AS SEQUENCING OF UTILITY-RELATED WORK (E.G., REMOVAL, DECOMMISSION, ETC.).
5. DSM SOLIDIFICATION SHALL BE PERFORMED FROM BOTTOM ELEVATIONS SHOWN ON DWG-10 TO THE POST-EXCAVATION SURFACE SHOWN HERE AND ON DWG-17. FOLLOWING SOLIDIFICATION, A MINIMUM OF FOUR FEET OF SPECIFIED FILL SHALL COVER ALL MATERIAL SOLIDIFIED BY DEEP SOIL MIXING.
6. ISS SPOILS MANAGEMENT – THE CONTRACTOR MAY PERFORM EXCAVATION WORK IN STAGES (LATERALLY AND/OR VERTICALLY), CONCURRENT WITH ISS PRODUCTION WORK AS A MEANS TO CONTROL/CONTAIN SPOILS.
7. FOR LOCATION OF EXISTING TREES, SEE DWG-4.
8. CONTRACTOR SHALL SCHEDULE EXCAVATION, SAMPLING AND ENGINEER'S TESTING OF MERCURY-IMPACTED AREA (SHOWN ON DWG-4) WITH LOCATING OF FIELD OFFICE TRAILERS AND PARKING AREA.
9. FOR POSSIBLE SEQUENCING OF EXCAVATION AND TEMPORARY CONTAINMENT BUILDING, REFER TO EXCAVATION SEQUENCE SCHEMES SHOWN ON DWG-21.
10. AREA OF CLEANER 0-5 FOOT BGS SOIL SHALL NOT BE EXCAVATED WITHIN TEMPORARY CONTAINMENT BUILDING. HOWEVER, CONFIRMATION OF SUCH DURING FUTURE WASTE PRE-CHARACTERIZATION (BY OTHERS) MAY BE REQUIRED AND WILL BE PAID UNDER THE APPROPRIATE ALTERNATE PAY ITEM.
11. CLEANER SOILS IN 0-5 FOOT BGS ARE ONLY SHOWN FOR FORMER MGP SITE AREAS IN ORDER TO INDICATE WHERE EXCAVATED SOIL SUITABLE AS BACKFILL MAY EXIST, AND WHERE TEMPORARY CONTAINMENT BUILDING IS NOT EXPECTED TO BE REQUIRED.
12. IN MAJORITY OF LIRR ROW AND OIL STORAGE TERMINAL AREAS, MINIMAL EXCAVATION MAY BE IMPLEMENTED TO CONTAIN SPOILS TEMPORARILY. HOWEVER, WITHIN 25 FEET OF LIPA POWER POLES, EXCAVATION IS NOT PERMITTED AND OTHER MEANS FOR SPOILS CONTAINMENT SUCH AS SURFICIAL SOIL BERMS MAY BE CONSIDERED.
13. FOR CLARITY, INTERIOR SIDESLOPE OF 4-FT. EXCAVATION NOT SHOWN.
14. MERCURY-IMPACTED AREA SHOWN ON DWG-14.
15. EXCAVATION FOR PROFESSIONAL OFFICE BUILDING PARKING LOT SHALL NOT BE PERFORMED WITHIN TEMPORARY CONTAINMENT BUILDING.
16. NO EXCAVATION WITHIN POB PARKING LOT IS PERMITTED UNTIL SOIL-CRETE RETAINING WALL HAS ACHIEVED UNCONFINED COMPRESSIVE STRENGTH OF 50 PSI.
17. REFER TO DWG-17 FOR MORE INFORMATION REGARDING SOLIDIFICATION STRIPS.
18. LEAPFROG ZONE: TO MAINTAIN STABILITY OF PROPOSED SOIL-CRETE WALL, SOLIDIFICATION SHALL PROCEED IN LEAPFROG MANNER IN ZONE INDICATED. SUCH SEQUENCE SHALL REQUIRE PRE-APPROVAL OF ENGINEER AND DISPLAY MINIMUM 25 PSI UNCONFINED COMPRESSIVE STRENGTH OF SOLIDIFIED COLUMN BEFORE TIEING INTO THAT COLUMN.

40' 0 40'
SCALE IN FEET

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

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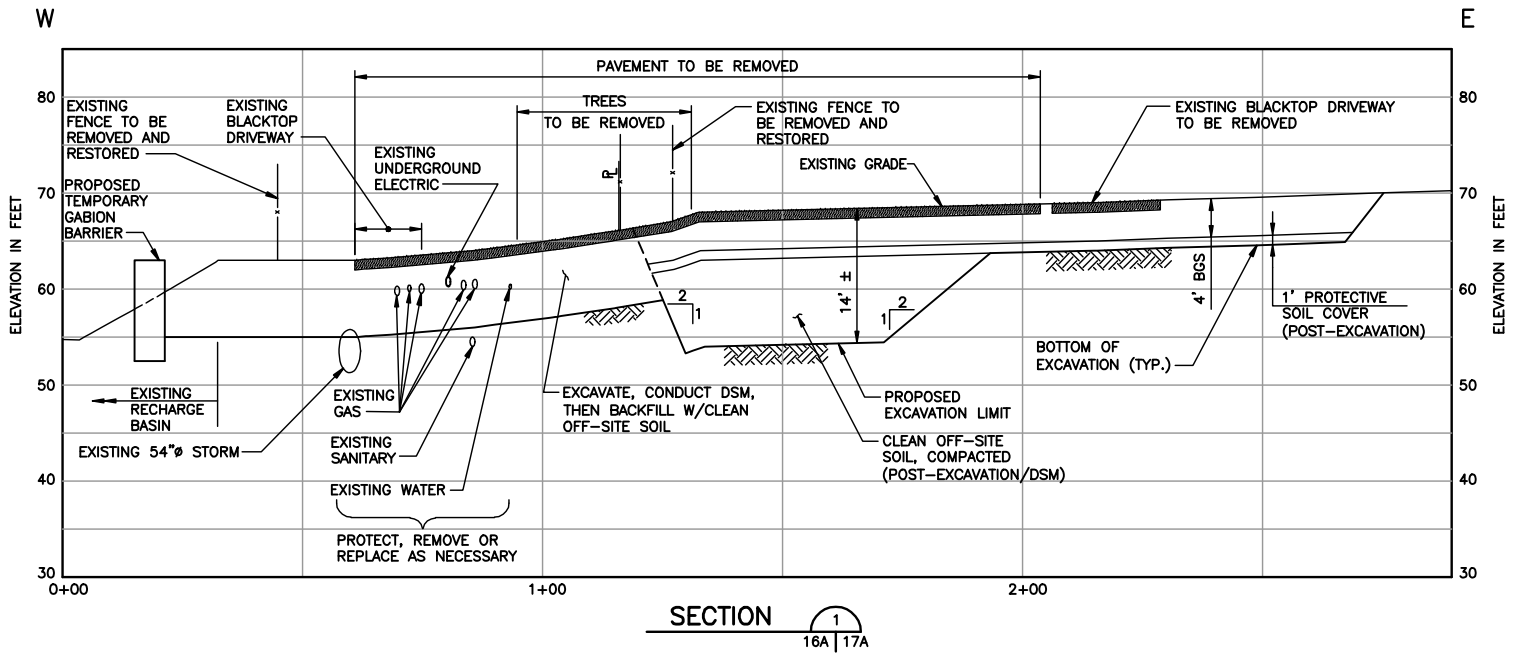
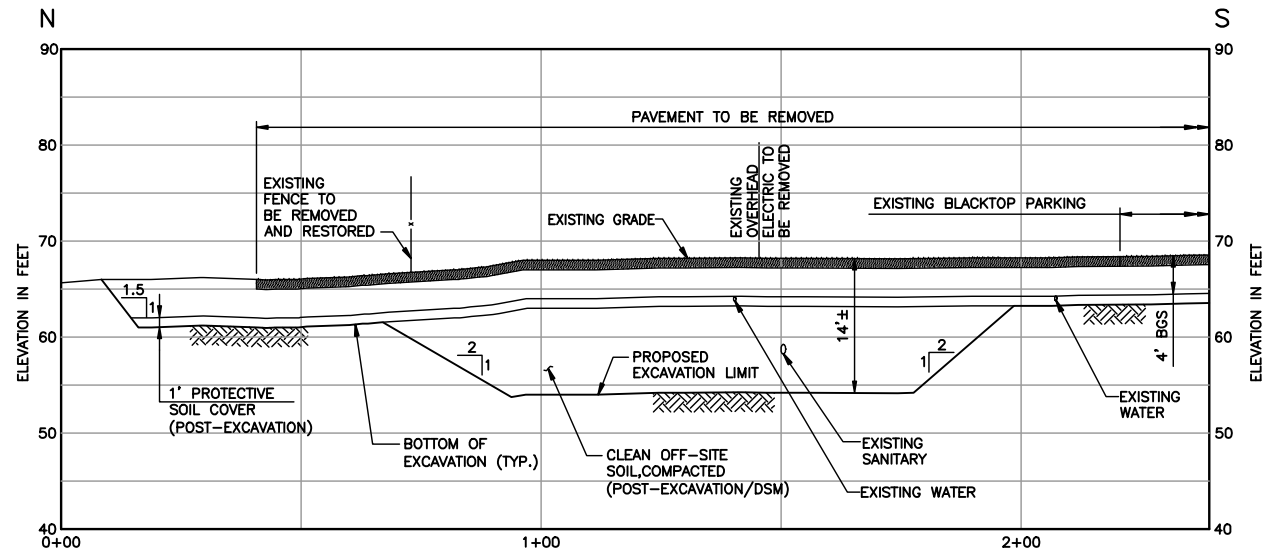
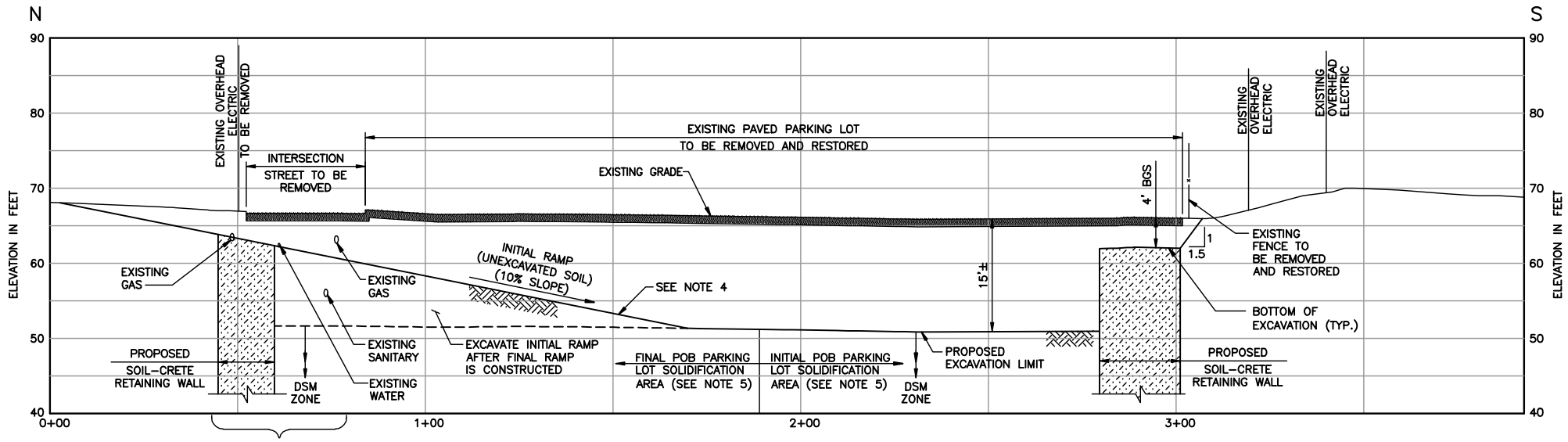


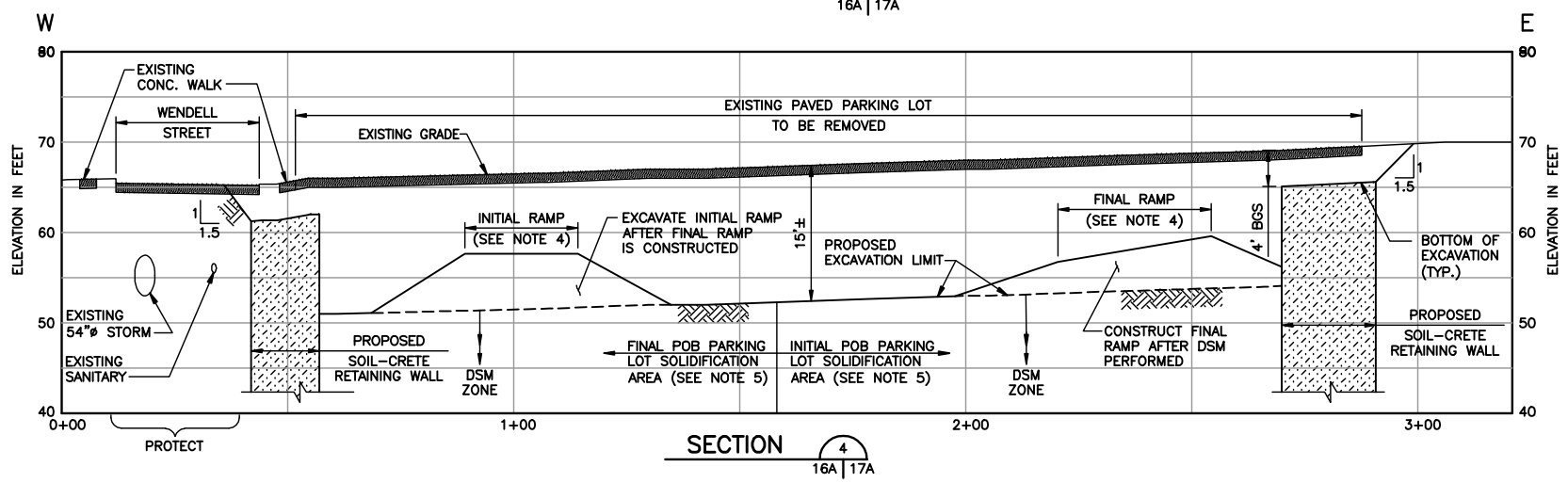
SECTION 1 (16A | 17A)



SECTION 2 (16A | 17A)



SECTION 3 (16A | 17A)



SECTION 4 (16A | 17A)

IN ADDITION TO EXCAVATION WORK THIS DRAWING SHOWS OTHER REQUIRED WORK SUCH AS SOLIDIFICATION AND BACKFILL

NOTES:

1. ANY PROPOSED VERTICAL SIDEWALLS SHALL BE SHORED WITH SOIL-CEMENT. DIMENSIONS FOR SOIL-CEMENT SHORING SHALL BE PROPOSED FOR APPROVAL.
2. SEE DWG-13 FOR UTILITY PROTECTION AND DECOMMISSIONING PLAN.
3. SHOWN UTILITY LOCATIONS AND ELEVATIONS SHALL BE CONSIDERED AS APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND ELEVATIONS.
4. INITIAL RAMP (AND FINAL RAMP) SHALL BE SURFACE-TOPPED WITH 12 INCHES OF COMPACTED STONE MEETING NYSDOTSS, TABLE 703-4, SIZE 3.
5. SOLIDIFICATION STRIPS: SOLIDIFICATION IN POB PARKING LOT AREA SHALL TYPICALLY PROCEED IN MAXIMUM 10-FOOT WIDE STRIPS TO PRESERVE STABILITY OF PROPOSED SOIL-CRETE WALL AND PROPOSED RAMPS. SOLIDIFIED SOIL FOR EACH STRIP SHALL ACHIEVE MINIMUM UNCONFINED COMPRESSIVE STRENGTH OF 25 PSI BEFORE ADJACENT SOLIDIFICATION STRIP MAY COMMENCE. REFER TO DWG.-16 FOR SPECIAL REQUIREMENTS IN "LEAP FROG ZONE".

20' 0 20'
HORIZ: SCALE IN FEET

10' 0 10'
VERT: SCALE IN FEET

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EXCAVATION CROSS SECTIONS

DRAWING 17

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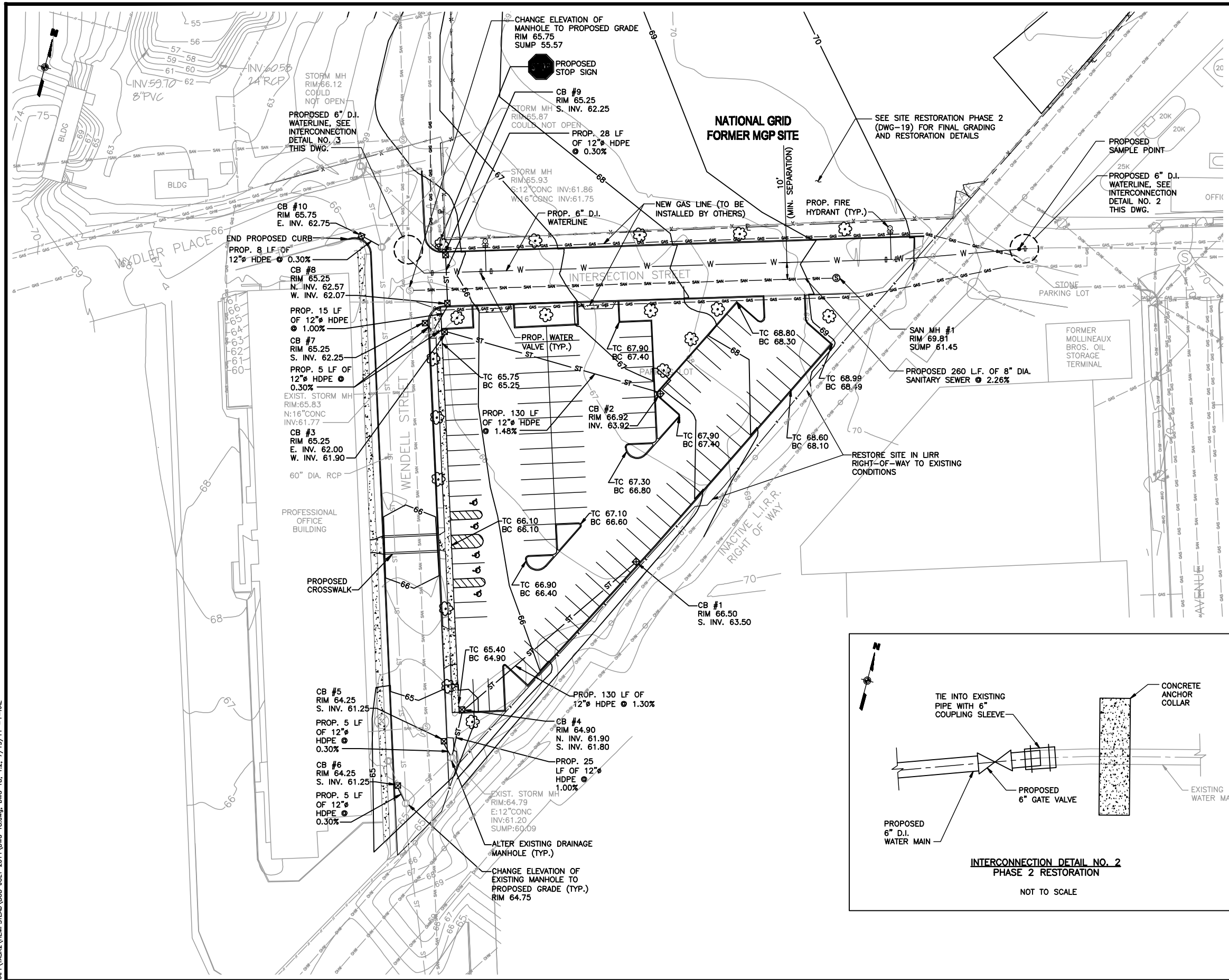


LEGEND:

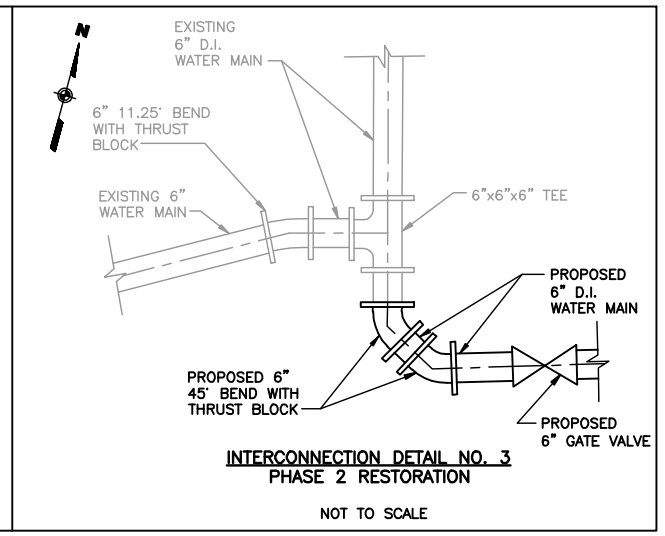
- EXISTING FENCE
- PROPOSED FENCE
- PROPOSED CONCRETE SIDEWALK
- APPROXIMATE PROPERTY LINE
- PROPOSED CATCH BASIN
- PROPOSED TREE
- EXISTING STORM MANHOLE
- PROPOSED STORM SEWER LINE
- PROPOSED SANITARY SEWER LINE
- PROPOSED WATERLINE
- PROPOSED GASLINE
- PROPOSED GROUND SURFACE CONTOUR
- EXISTING GROUND SURFACE CONTOUR

NOTES:

1. (NOT USED.)
2. (NOT USED.)
3. (NOT USED.)
4. PROPOSED ELECTRICAL/LIGHTING FEATURES NOT SHOWN. REFER TO DWG-15 FOR SUCH FEATURES.
5. PROTECT ALL CATCH BASINS IN ACCORDANCE WITH NEW YORK STATE EROSION AND SEDIMENT CONTROL GUIDELINES.
6. CONTRACTOR SHALL ACQUIRE ALL REQUIRED PERMITS FROM THE VILLAGE OF HEMPSTEAD AND GARDEN CITY PRIOR TO ANY CONSTRUCTION OF WATERLINE OR SANITARY SEWER.

INTERCONNECTION DETAIL NO. 2
PHASE 2 RESTORATION

NOT TO SCALE



INTERCONNECTION DETAIL NO. 3
PHASE 2 RESTORATION

NOT TO SCALE

30' 0 30'
SCALE IN FEET

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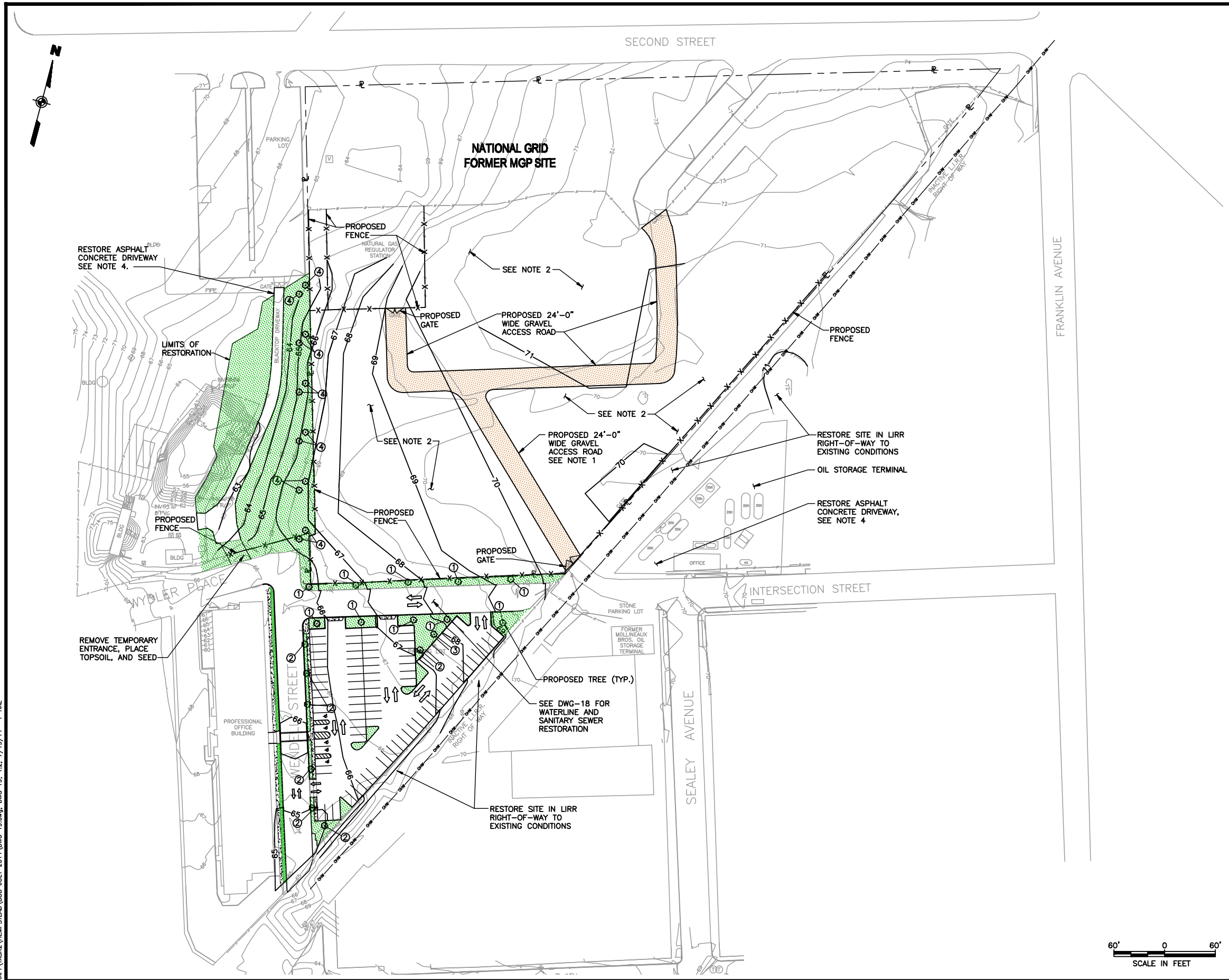
URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	SITE RESTORATION PHASE 1	DRAWING 18



LEGEND:

- EXISTING FENCE
- PROPOSED FENCE
- LANDSCAPED AREA (SEE NOTE 3)
- PROPOSED CONCRETE SIDEWALK
- PROPOSED GRAVEL ACCESS ROAD
- PROPOSED TREE
- APPROXIMATE PROPERTY LINE

NOTES:

1. PROPOSED GRAVEL ACCESS ROAD TO BE A MINIMUM OF 12" SELECT STONE FILL IN ACCORDANCE WITH SPECIFICATION SECTION 02300.
2. PHASE 2 REMEDIATION AREA INSIDE THE PROPOSED FENCE TO BE RESTORED WITH 4" OF SELECT STONE FILL IN ACCORDANCE WITH SPECIFICATION SECTION 02300.
3. INSTALL 6" OF TOPSOIL, SEED, AND MULCH LANDSCAPE AREAS, IN ACCORDANCE WITH SPECIFICATION SECTION 02920.
4. RESTORE EXISTING ASPHALT CONCRETE DRIVEWAY WITH 2-1/2" OF BINDER AND 1" OF TOP COURSE.
5. (NOT USED.)
6. VISUAL BARRIER SHALL BE REMOVED FROM ALL FENCING.
7. PROPOSED ELECTRICAL/LIGHTING FEATURES NOT SHOWN. REFER TO DWG-15 FOR SUCH FEATURES.
8. PLANT TREES IN ACCORDANCE WITH TREE PLANTING SCHEDULE, THIS SHEET, IN ACCORDANCE WITH SPECIFICATION SECTION 02930, AND AT FINALLY-APPROVED LOCATIONS.

TREE PLANTING SCHEDULE

DESIGNATION	DESCRIPTION
①	CALLERY PEAR "CLEVELAND SELECT"
②	CRAPE MYRTLE "ARAPAHO," "TWILIGHT," "MUSKOGEE"
③	REDBUD
④	REPLACED DAMAGED TREES AS NEEDED AND ONLY AS DIRECTED BY NATIONAL GRID OR THE ENGINEER. REPLACE IN KIND OR SELECT FROM THE FOLLOWING: • RED MAPLE • RED OAK • HONEY LOCUST

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

60' 0 60'
SCALE IN FEET

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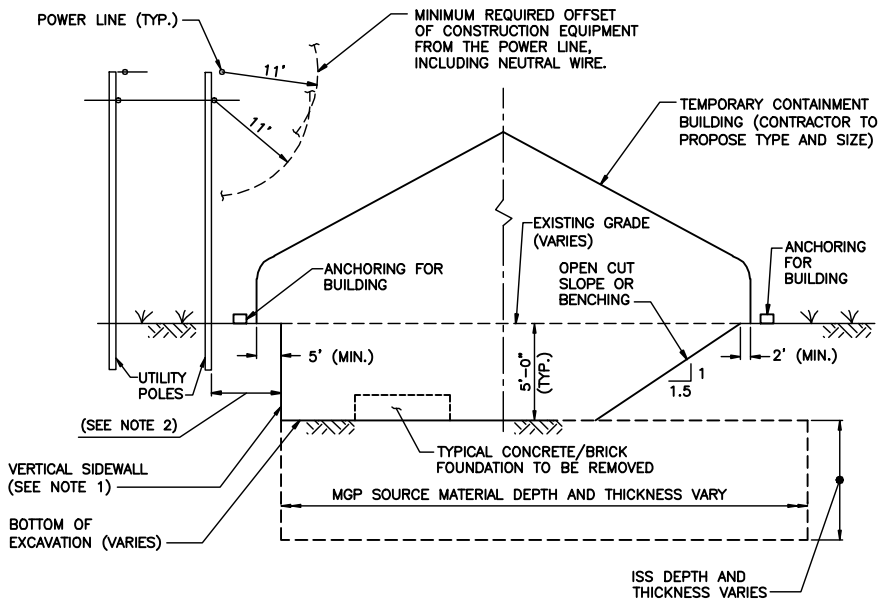
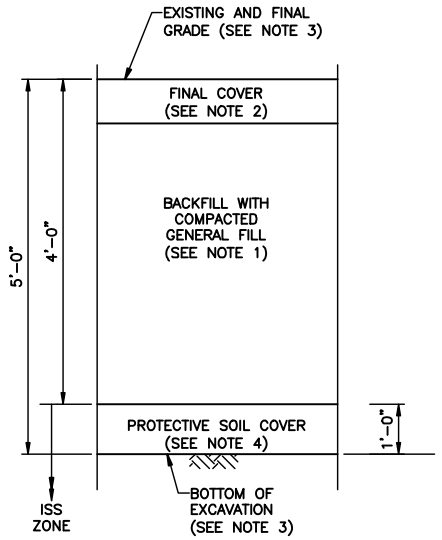


EXCAVATION AND CONTAINMENT DETAIL

NOT TO SCALE

NOTES:

1. ANY VERTICAL SIDEWALL SHALL CONSIST OF SOIL-CRETE RETAINING WALL.
2. AT UTILITY POLES, TOP OF EXCAVATION CUT SHALL BE MINIMUM DISTANCE AWAY FROM POLE SHOWN ON EXCAVATION DETAIL AT UTILITY POLE (PLAN VIEW), THIS SHEET.

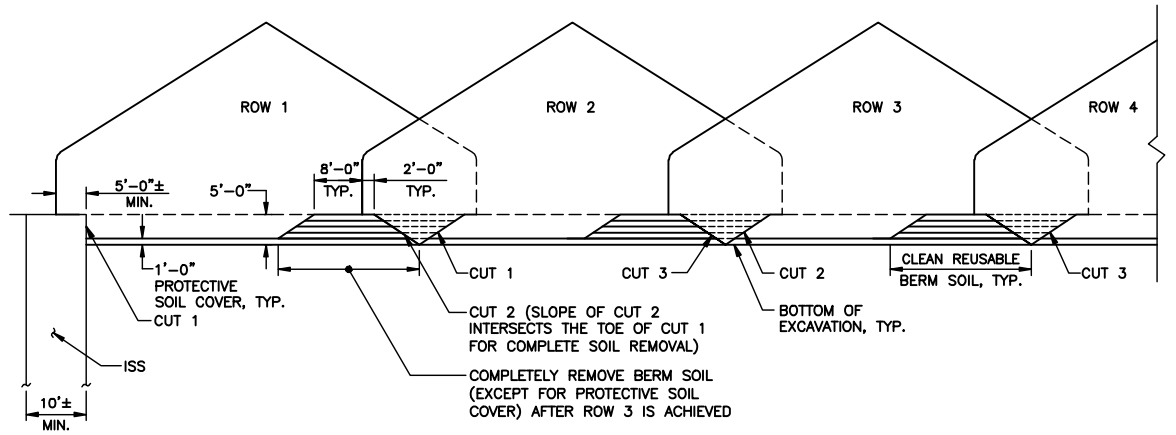


BACKFILL DETAIL

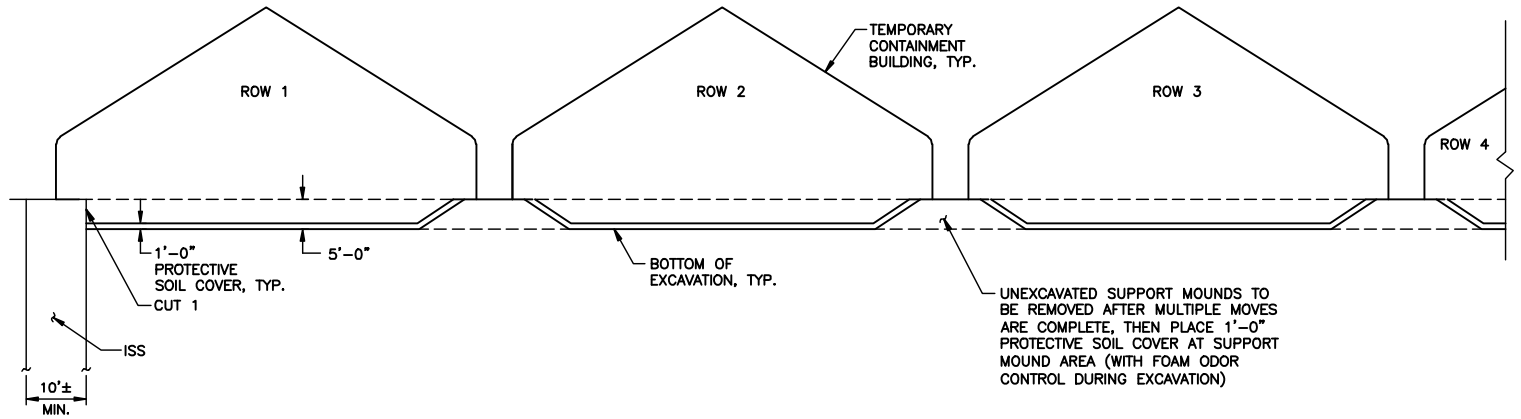
NOT TO SCALE

NOTES:

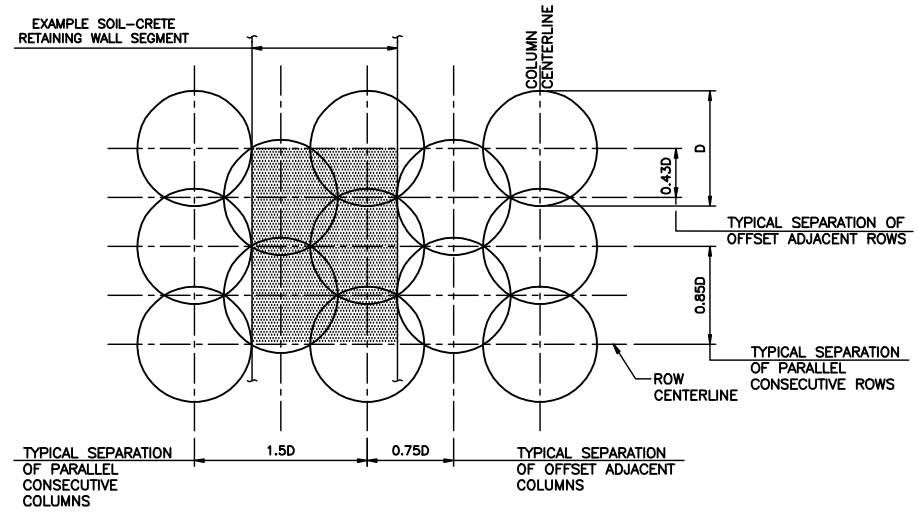
1. CLEAN ON-SITE EXCAVATED SOIL MAY BE USED AS BACKFILL BUT NO CLOSER THAN TWO (2) FEET FROM FINAL GRADE.
2. SELECTION OF FINAL COVER MATERIAL SHALL BE AS SHOWN ON DWG-19 AND AT THE DISCRETION OF NATIONAL GRID.
3. EXCAVATION SHALL EXTEND TO DEPTH GREATER THAN THAT SHOWN ONLY WHERE NECESSARY OR SHOWN, SUCH AS TO REMOVE FORMER MGP STRUCTURES AND UTILITIES, AND ONLY UPON APPROVAL OF THE ENGINEER AND/OR NATIONAL GRID. WHERE SUCH DEEPER EXCAVATIONS ARE APPROVED, THEY SHALL BE BACKFILLED IN 2-FOOT LIFTS (UP TO 4 FEET BELOW EXISTING GRADE) AND EACH LIFT COMPACTED USING EXCAVATOR BUCKET TO A STATE THAT IS SUITABLY STABLE TO SUPPORT ALL CONSTRUCTION EQUIPMENT THROUGHOUT CONSTRUCTION.
4. PLACE PROTECTIVE SOIL COVER AFTER EXCAVATION BUT BEFORE SOLIDIFICATION WORK.



BASE BID- REUSABLE SUPPORT BERMS WITH CONTIGUOUS SOIL REMOVAL (A) DWG-21 | DWG-21

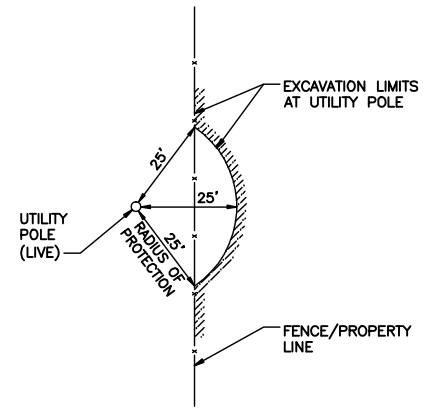


ALTERNATE BID- EXPEDITED CONTAINMENT BUILDING MOVES (A) DWG-21 | DWG-21



TYPICAL DSM SOLIDIFIED SOIL COLUMN TREATMENT PATTERN

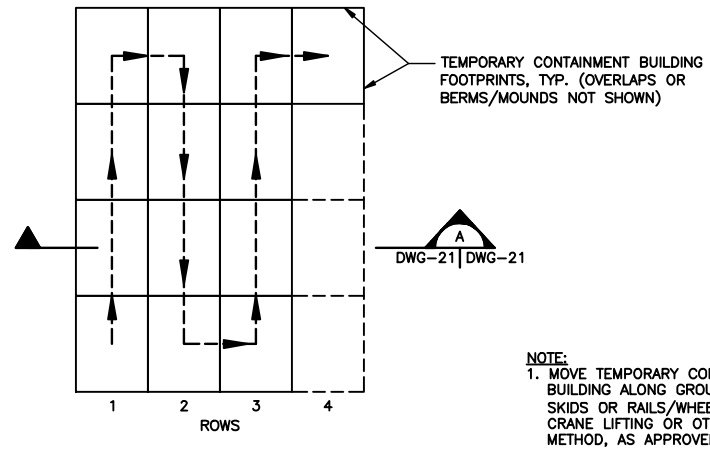
NOT TO SCALE



PLAN VIEW

EXCAVATION DETAIL AT UTILITY POLE

NOT TO SCALE



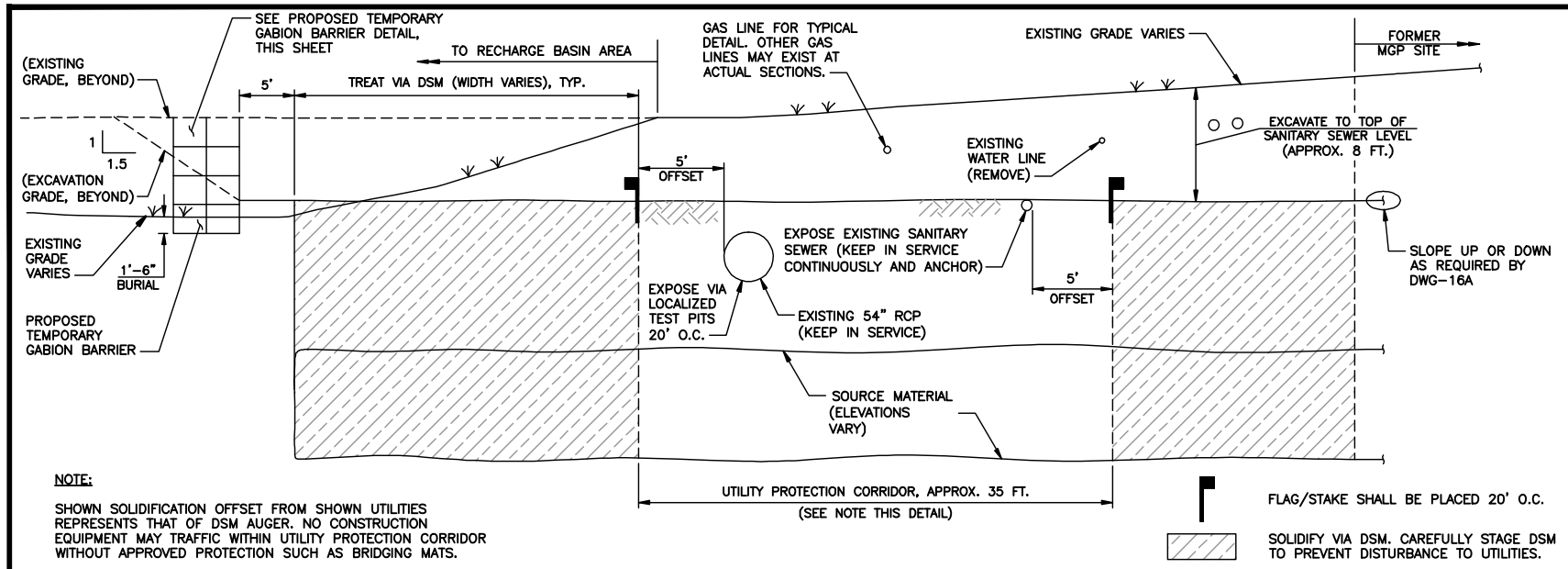
NOTE:
1. MOVE TEMPORARY CONTAINMENT BUILDING ALONG GROUND VIA SKIDS OR RAILS/WHEELS; OR VIA CRANE LIFTING OR OTHER LIFTING METHOD, AS APPROVED.

PLAN VIEW

EXCAVATION SEQUENCE SCHEMES

NOT TO SCALE

URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	REMEDIATION DETAILS (SHEET 1 OF 2)	DRAWING 21

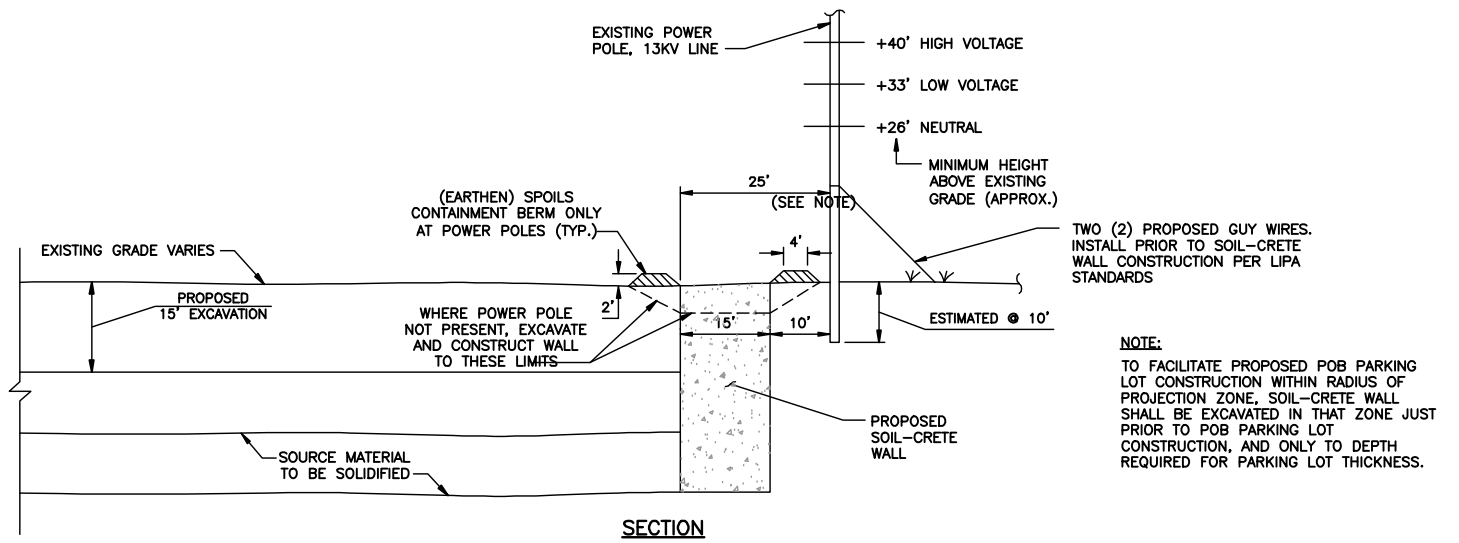


NOTE:

SHOWN SOLIDIFICATION OFFSET FROM SHOWN UTILITIES REPRESENTS THAT OF DSM AUGER. NO CONSTRUCTION EQUIPMENT MAY TRAFFIC WITHIN UTILITY PROTECTION CORRIDOR WITHOUT APPROVED PROTECTION SUCH AS BRIDGING MATS.

TYPICAL SOLIDIFICATION AT GARDEN CITY PARK AREA DETAIL

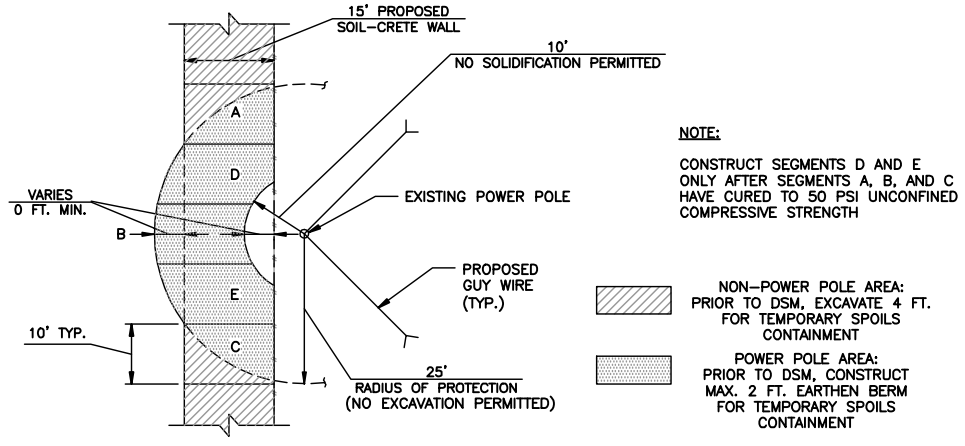
NOT TO SCALE



SECTION

NOTE:

TO FACILITATE PROPOSED POB PARKING LOT CONSTRUCTION WITHIN RADIUS OF PROJECTION ZONE, SOIL-CRETE WALL SHALL BE EXCAVATED IN THAT ZONE JUST PRIOR TO POB PARKING LOT CONSTRUCTION, AND ONLY TO DEPTH REQUIRED FOR PARKING LOT THICKNESS.



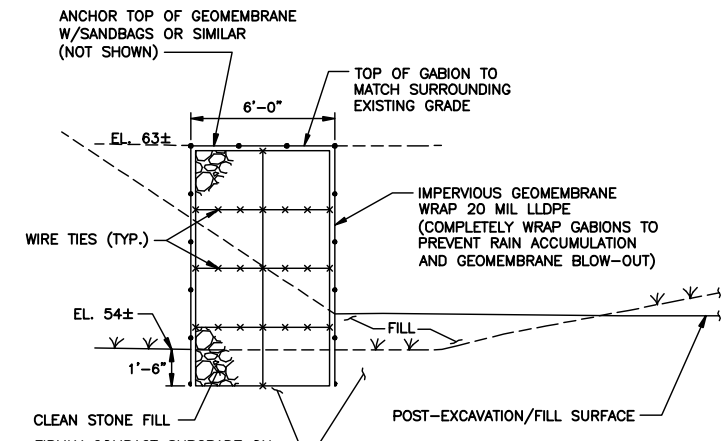
NOTE:

CONSTRUCT SEGMENTS D AND E ONLY AFTER SEGMENTS A, B, AND C HAVE CURED TO 50 PSI UNCONFINED COMPRESSIVE STRENGTH

PLAN VIEW

TYPICAL SOLIDIFICATION AT POB PARKING LOT (WEST AND EAST SIDES) DETAIL

NOT TO SCALE

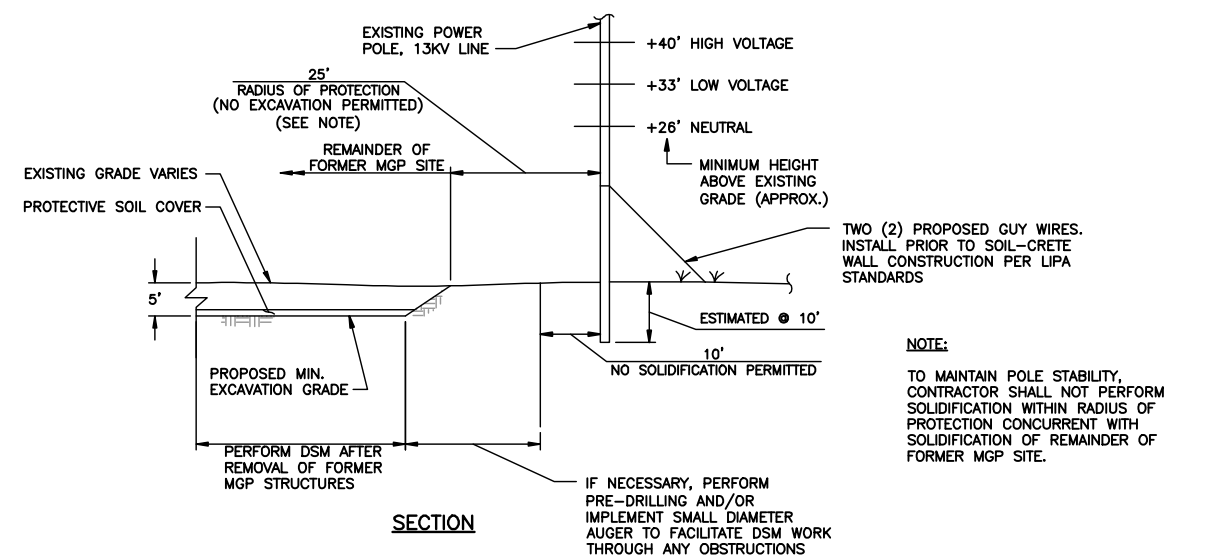


NOTE:

TIE ALL BASKETS TO EACH OTHER 12" O.C.

TYPICAL PROPOSED TEMPORARY GABION BARRIER DETAIL

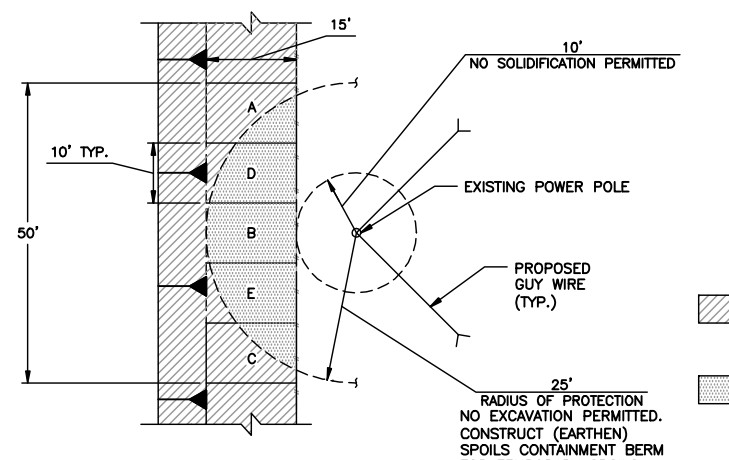
NOT TO SCALE



NOTE:

TO MAINTAIN POLE STABILITY, CONTRACTOR SHALL NOT PERFORM SOLIDIFICATION WITHIN RADIUS OF PROTECTION CONCURRENT WITH SOLIDIFICATION OF REMAINDER OF FORMER MGP SITE.

SECTION



NOTE:

CONSTRUCT SEGMENTS D AND E ONLY AFTER SEGMENTS A, B, AND C HAVE CURED TO 50 PSI UNCONFINED COMPRESSIVE STRENGTH

PLAN VIEW

TYPICAL SOLIDIFICATION AROUND LIPA POLES ALONG FORMER MGP SITE DETAIL

NOT TO SCALE

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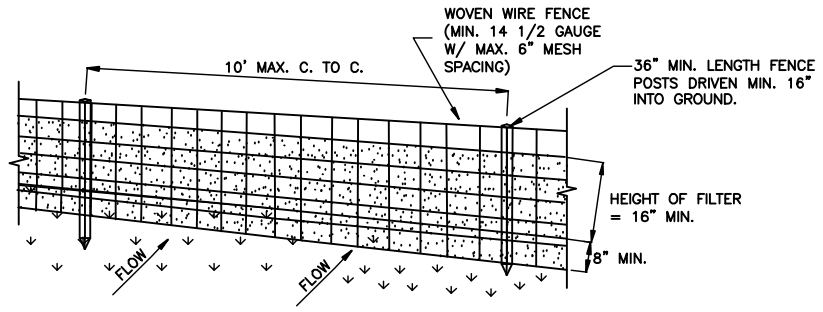
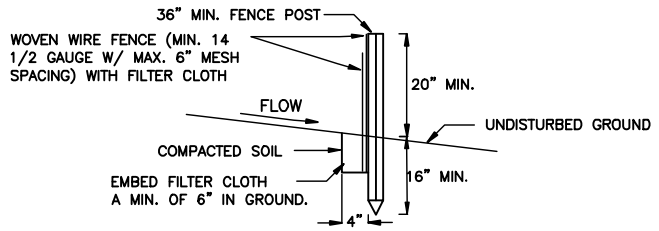
THE HEMPSTEAD
INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE

REMEDIATION DETAILS
(SHEET 2 OF 2)

DRAWING 22



PERSPECTIVE VIEW



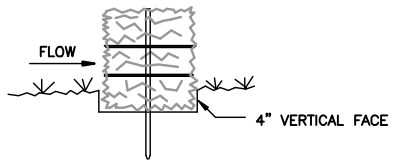
SECTION VIEW

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14 1/2 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE MIRAFI 100X, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

TYPICAL SILT FENCE

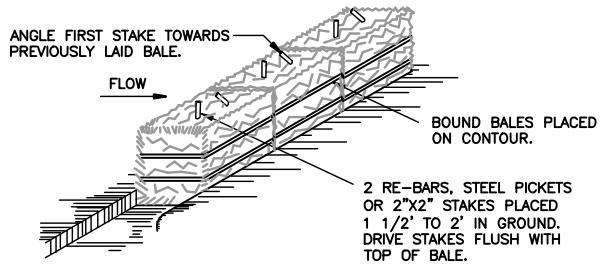
NOT TO SCALE



BEDDING DETAIL

NOT TO SCALE

DRAINAGE AREA NO MORE THAN 1/4 ACRE PER 100 FEET OF STRAW BALE DIKE FOR SLOPES LESS THAN 25%.



ANCHORING DETAIL

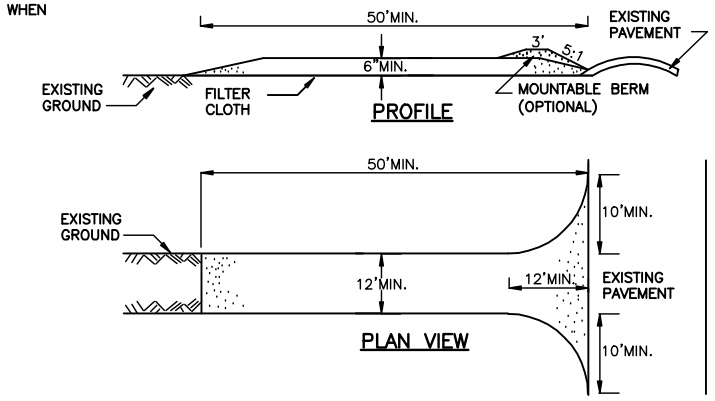
NOT TO SCALE

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4", AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR/REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULLNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

TYPICAL HAY BALE

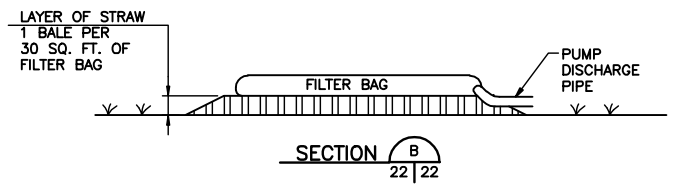
NOT TO SCALE



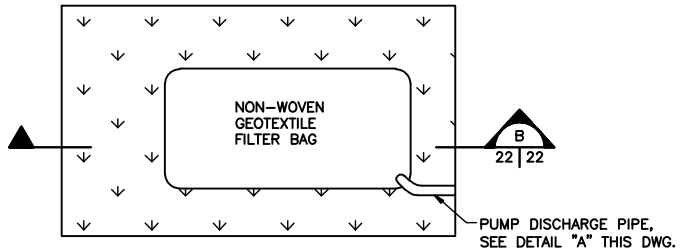
STABILIZED CONSTRUCTION ENTRANCE

CONSTRUCTION SPECIFICATIONS

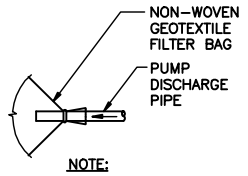
1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FEET.
3. THICKNESS – NOT LESS THAN 6".
4. WIDTH – 12' MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24' IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH – SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



SECTION



PLAN



NOTE:

USE PROPERLY-SIZED HOSE CLAMP TO PROVIDE A SECURE CONNECTION BETWEEN THE PUMP DISCHARGE PIPE AND THE FILTER BAG.

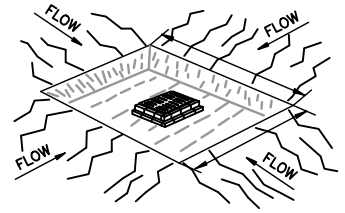
DETAIL "A"

SPECIFICATIONS:

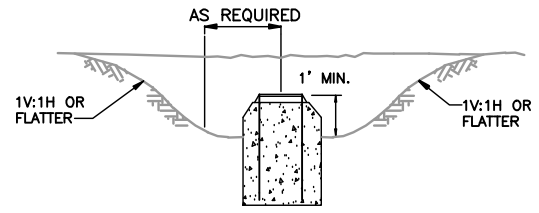
WEIGHT	ASTM D3776 8.3 OZ./YD.
THICKNESS	ASTM D1777 120 MILS
GRAB TENSILE	ASTM D4632 240 LBS.
GRAB ELONGATION AT BREAK	ASTM D4632 50%
PUNCTURE RESISTANCE	ASTM D4833 115 LBS.
TRAPEZOIDAL TEAR	ASTM D4533 100 LBS.
MULLEN BURST	ASTM D3786 350 LBS.
WATER, FLOW RATE	ASTM D4491 105 GPM/FT.
PERMITTIVITY	ASTM D4491 1.7 SEC.-1
UV RESISTANCE	ASTM D4355 85% STR, RET.
BAG DIMENSIONS	TO BE PROPOSED BY CONTRACTOR

SEDIMENT FILTER BAG DETAIL

NOT TO SCALE



PERSPECTIVE VIEW



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
2. THE VOLUME OF SEDIMENT STORAGE SHALL BE 1,800 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE.
3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN EVENT AND REPAIRS MADE AS NEEDED, AS DIRECTED BY THE CONSTRUCTION MANAGER.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER IMPACTS SHALL BE PREVENTED.
5. THE SEDIMENT TRAP SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE CONSTRUCTED DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

CATCH BASIN SEDIMENT TRAP

NOT TO SCALE

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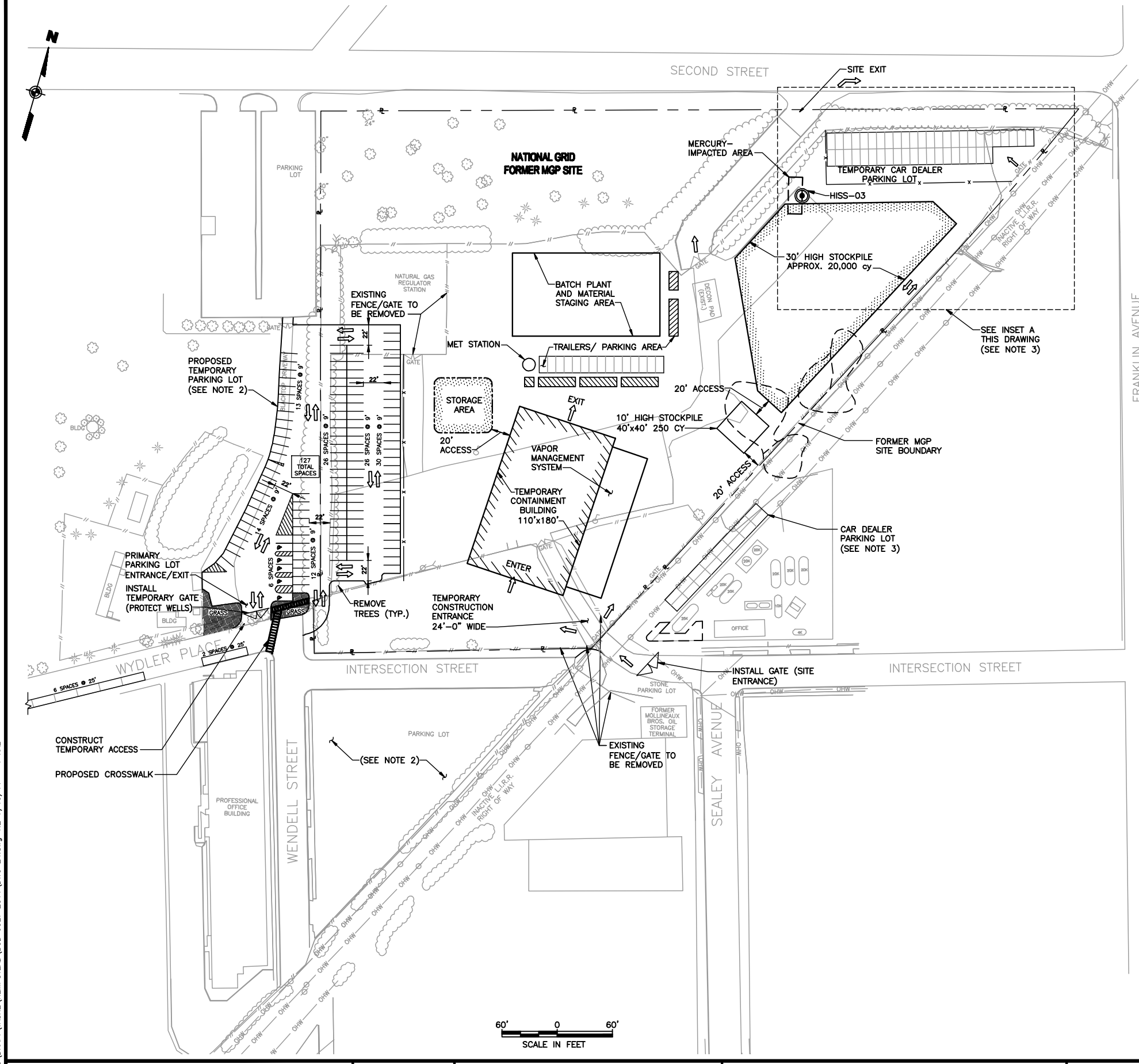
INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE

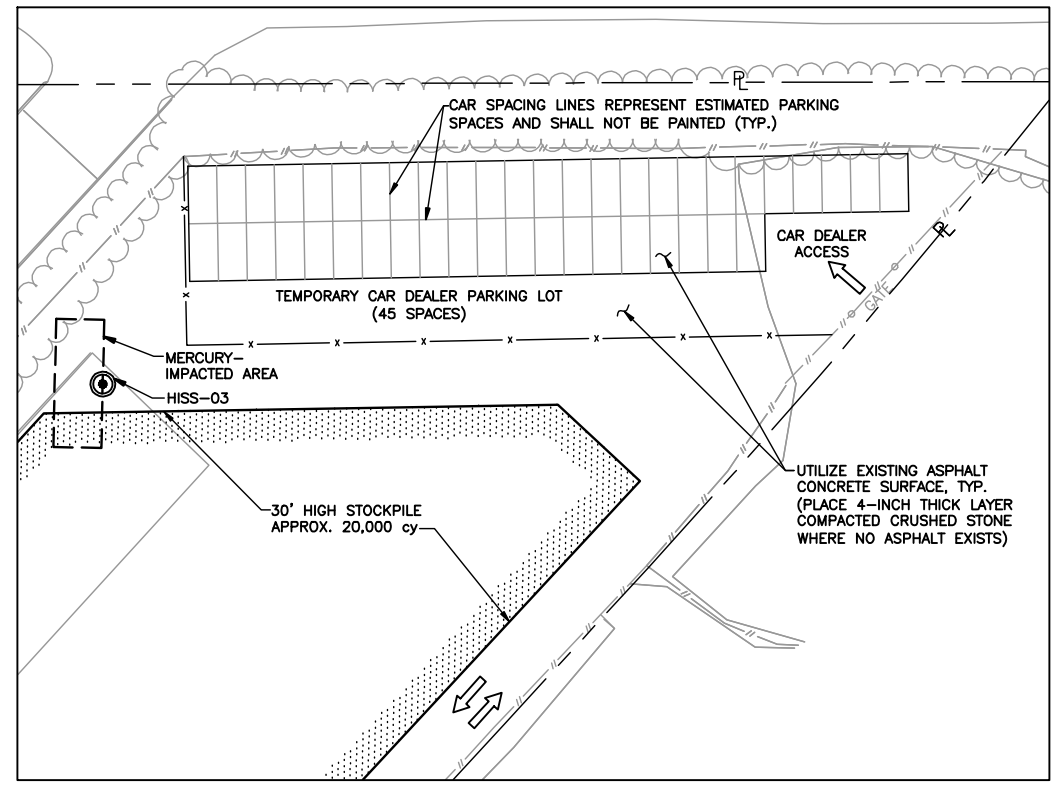
EROSION AND SEDIMENT CONTROL
DETAILS

DRAWING 23



LEGEND:

- PROPOSED TEMPORARY FENCE WITH VISUAL BARRIER
- EXISTING FENCE
- LOCATION OF EXISTING STRUCTURE OR ROAD



INSET A
TEMPORARY CAR DEALER PARKING LOT

30' 0 30'
SCALE IN FEET

NOTES:

1. THIS DRAWING IS PRESENTED ONLY AS AN EXAMPLE LAYOUT OF TEMPORARY FACILITIES AND IS NOT INTENDED TO COMPLETELY SHOW ALL NECESSARY FACILITIES THAT MAY BE REQUIRED.
2. THE PROFESSIONAL OFFICE BUILDING PARKING LOT AREA IS NOT INTENDED TO BE USED FOR TEMPORARY FACILITIES LAYOUT AND SHALL BE RESTORED AS SOON AS POSSIBLE AFTER POB-AREA REMEDIATION IS COMPLETE. USE OF THE POB PARKING LOT AREA FOR SUCH PURPOSE WILL ONLY BE CONSIDERED IF APPROVED IN WRITING BY NATIONAL GRID. THE PROPOSED TEMPORARY PARKING LOT, ONCE PUT OUT OF SERVICE, MAY BE CONSIDERED FOR TEMPORARY FACILITIES.
3. THE SHOWN TEMPORARY CAR DEALER PARKING LOT IS INTENDED TO PROVIDE LIMITED PARKING AND WILL REQUIRE CONSTRUCTION SEQUENCING, PARTICULARLY AROUND/WITHIN LIRR ROW, THAT WILL MINIMIZE THE CAR DEALER'S NEED FOR TEMPORARY PARKING.

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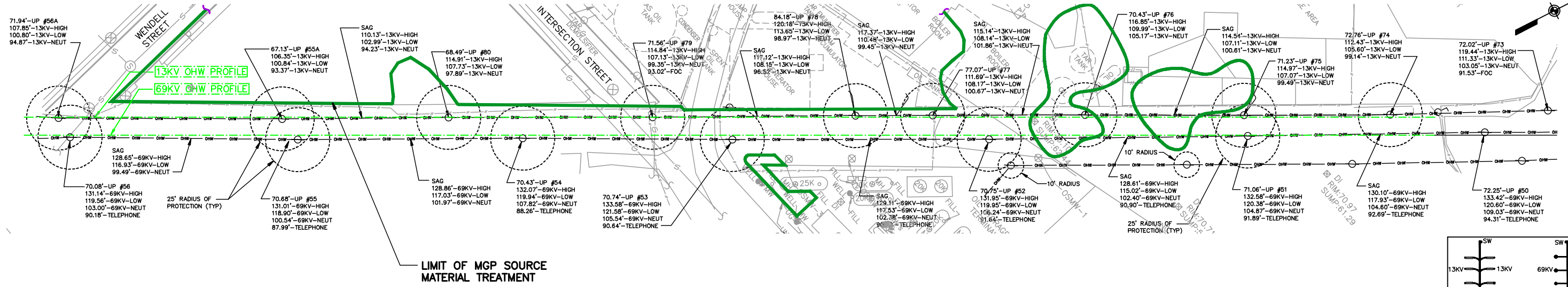
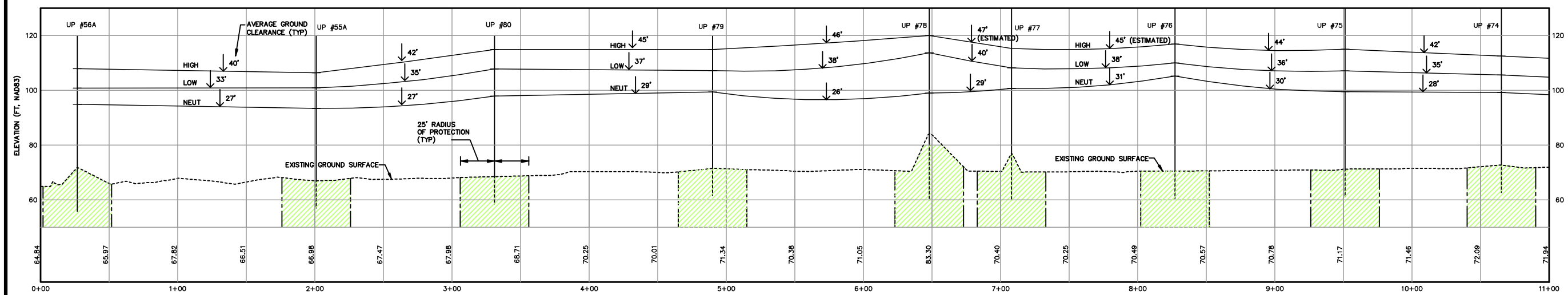
THE HEMPSTEAD
INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE

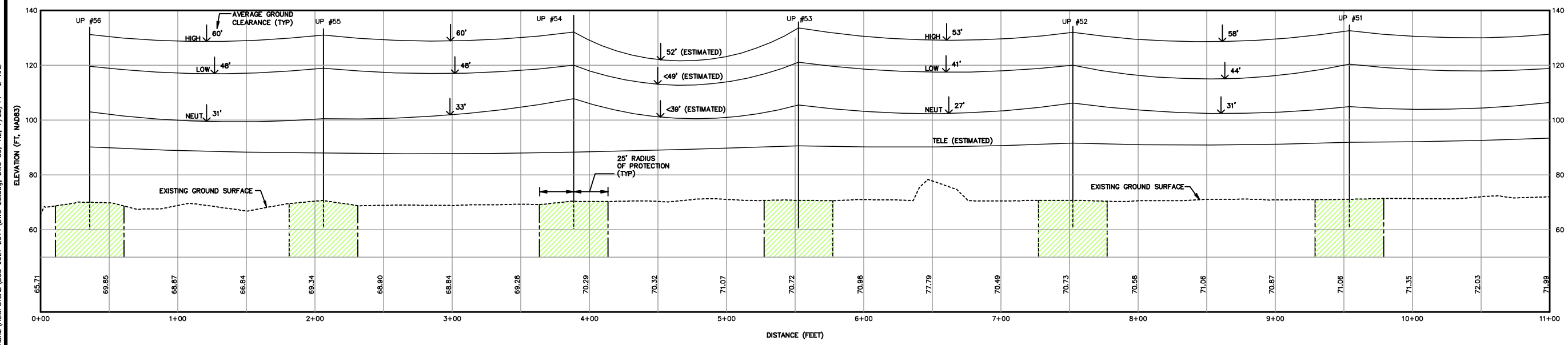
EXAMPLE TEMPORARY FACILITIES LAYOUT

DRAWING 24

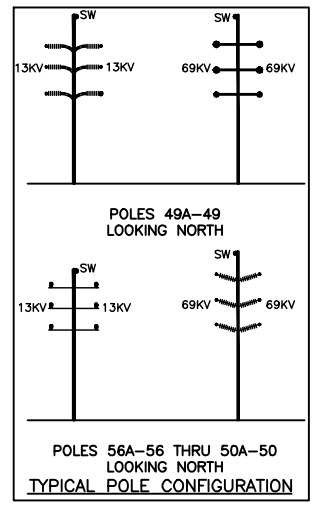




13 KV LINE



69 KV LINE



TYPICAL POLE CONFIGURATION

LEGEND

70.74–UP	GROUND SURFACE ELEVATION AT UTILITY POLE
129.53'–69KV–HIGH	SURVEYED ELEVATION OF OVERHEAD WIRE, VOLTAGE OF WIRE, TYPE OF WIRE
	REQUIRED MINIMUM EXCAVATION OFFSET AROUND POLE BASE (RADIUS OF PROTECTION)

NOTES:

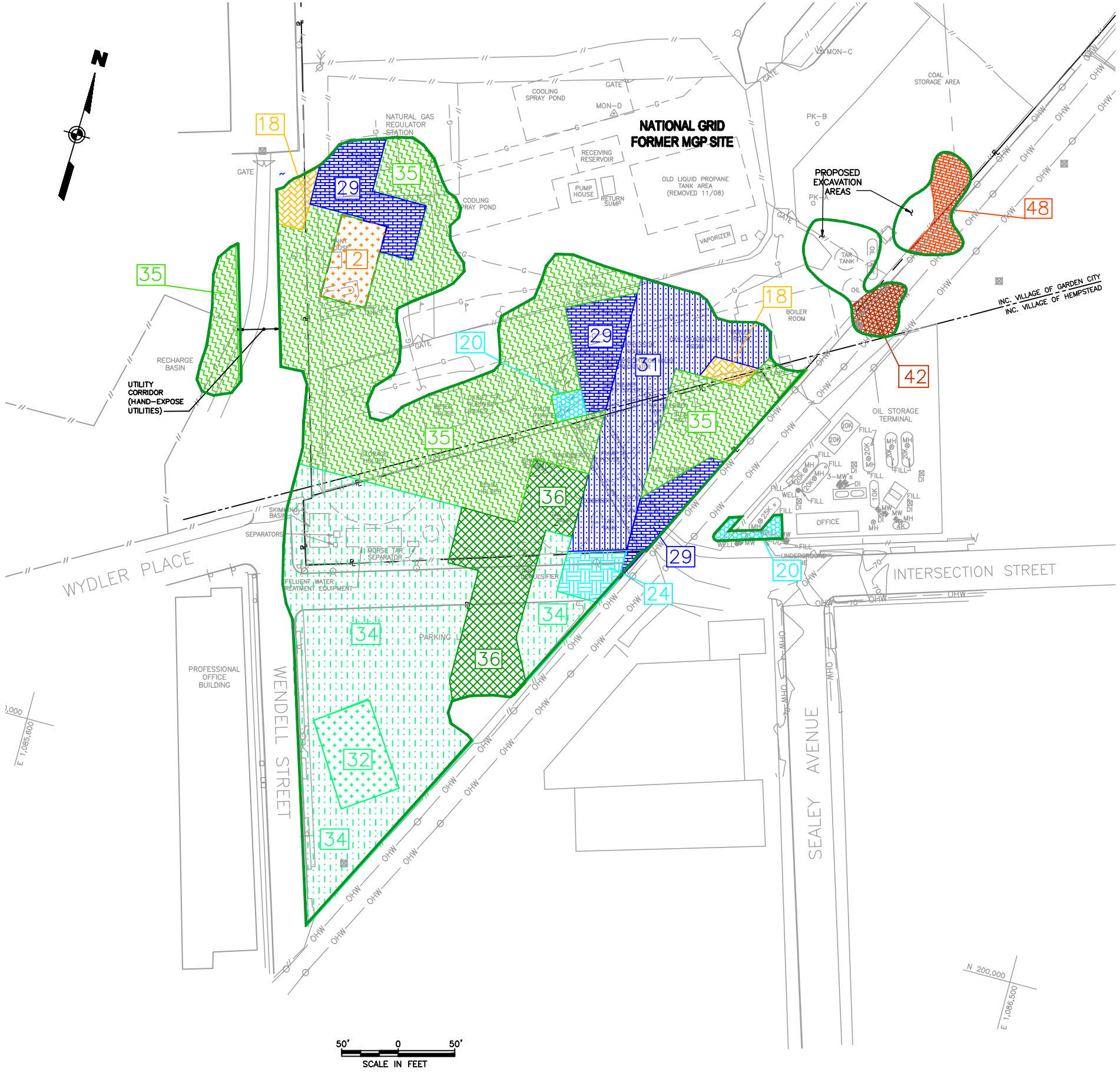
1. OVERHEAD WIRE SURVEY INFORMATION BASED ON A PLAN ENTITLED "OVERHEAD WIRES, MAP OF THE HEMPSTEAD INTERSECTION STREET & FORMER MANUFACTURE GAS PLANT SITE", SHEET S–001, DATED JANUARY 2008, BY URS CORPORATION, BUFFALO, NY.
2. SOURCE OF POLE NOS. FROM DWG. NO. HLF89–FT–01001–10, "ROUTE PLAN EAST GARDEN CITY SUBST. TO ATLANTIC AVE. SHEET 3 OF 3" BY NATIONAL GRID ENGINEERING AND SURVEY, INC., REVISED DATE OF OCTOBER, 2008.

20' 0 20'
VERT. SCALE IN FEET

40' 0 40'
HORIZ. SCALE IN FEET

J:\11175065.00000\CAD\DRAFT\TASK2\HEMPSTEAD\BOD JULY 2011\DWG 25.dwg, DWG 30, 1:2, 7/22/11 -2-RAL

URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	EXISTING LIPA OVERHEAD WIRES PLAN AND PROFILE LIRR RIGHT-OF-WAY	DRAWING 25



LEGEND

BOTTOM OF SOLIDIFICATION ELEVATIONS

- LIMIT OF MGP SOURCE MATERIAL TREATMENT
- 48 FT
- 42 FT
- 36 FT
- 35 FT
- 34 FT
- 32 FT
- 31 FT
- 29 FT
- 24 FT
- 20 FT
- 18 FT
- 2 FT

NOTE:

1. FOR NOTES, SEE DRAWING 9.
2. CONSTRUCTION LAYOUT INFORMATION TO BE PROVIDED BY ENGINEER.

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

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URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	BOTTOM OF SOLIDIFICATION	DRAWING 10

LEGEND - EXISTING

- LOCATION OF EXISTING STRUCTURE
- APPROXIMATE LOCATION OF FORMER MGP STRUCTURE
- DRAINAGE INLET
- ELECTRIC MANHOLE
- SANITARY MANHOLE
- STORM MANHOLE
- UNKNOWN MANHOLE
- TELEPHONE MANHOLE
- WATER MANHOLE
- WELL OR PIEZOMETER
- GAS VALVE
- GUY WIRE
- FENCE
- FIRE HYDRANT
- GATE
- LOCATION OF KNOWN CONCRETE SLAB/FOUNDATON
- LIGHT POLE
- METAL POLE
- SIGN
- UTILITY POLE
- VAULT
- WATER VALVE
- PZ-02 — PIEZOMETER/WELL LOCATION (ROY F. WESTON FIELD INVESTIGATION, MARCH 1993)
- HITW-02 — TEMPORARY GROUNDWATER MONITORING WELL (TAKEN FROM RI REPORT, 2006)
- HIGP-53 — TEMPORARY GROUNDWATER SAMPLE LOCATION (TAKEN FROM RI REPORT, 2006)
- HIMW-13 — GROUNDWATER MONITORING WELL
- HISB-114 — TEMPORARY GROUNDWATER SAMPLE LOCATION (URS, 2008-2009)
- IPR-12 — IRM PRODUCT RECOVERY WELL, URS 2008 & 2009
- MON-D — SURVEY CONTROL POINTS
- PK-A — SURVEY CONTROL POINTS
- HISS-03 — SURFACE SOIL SAMPLE
- GAS — GAS LINE
- OHW — OVERHEAD WIRE (ELECTRIC)-PLAN
- OHW — EXISTING OVERHEAD WIRE (ELECTRIC)- PROFILE
- E — UNDERGROUND ELECTRIC LINE
- FORMER MGP SITE BOUNDARY AND APPROXIMATE PROPERTY LINE
- SAN — SANITARY SEWER LINE
- ST — STORM SEWER LINE
- T — TELEPHONE LINE
- W — WATER LINE
- DELINEATED LIMIT OF MGP SOURCE MATERIAL
- APPROXIMATE LIMITS OF MGP SOURCE MATERIAL
- NO SOLIDIFICATION - MGP IMPACTS TO BE TREATED WITH O2 DELIVERY SYSTEM
- O2 TREATMENT SYSTEM / WELLS (BY OTHERS)
- ESTIMATED GROUNDWATER SURFACE
- LIMIT OF MGP IMPACTS
- 69 — GROUND SURFACE ELEVATION
- DECIDUOUS TREE
- CONIFER TREE
- APPROXIMATE TREE LINE

LEGEND - PROPOSED

SOLIDIFICATION METHODS LAYOUT (DWG-6)

- NO SOLIDIFICATION - MGP IMPACTS TO BE TREATED WITH O2 DELIVERY SYSTEM
- EXCAVATION ONLY
- 15' EXCAVATION AREA FOR DSM
- DSM AREA (EXCAVATION DEPTH VARIES)
- SOIL-CRETE DSM RETAINING WALL
- JET GROUTING AREA

CROSS SECTIONS (DWG-7 AND 8)

- LIMITS OF SOLIDIFICATION
- LIMITS OF BACKFILL

TOP OF SOLIDIFICATION ELEVATIONS (DWG-9)

- LIRR ROW VICINITY: CREATE SHALLOW CUT TO TEMPORARILY CONTAIN SPOILS THEN SOLIDIFY VIA DSM.
- [-2 FT] — SOIL-CRETE DSM RETAINING WALL: CREATE SHALLOW CUT [AS SHOWN] TO TEMPORARILY CONTAIN SPOILS THEN SOLIDIFY.
- MGP SITE MAIN DSM AREA
- DEEP POCKET ZONE
- DEEP POCKET SLOPE ZONE
- GARDEN CITY PARK DSM
- RADIUS OF PROTECTION: NO EXCAVATION PERMITTED. EMPLOY MAX. 2-FOOT HIGH SURFICIAL SOIL BERM TO TEMPORARILY CONTAIN SPOILS THEN SOLIDIFY.
- MISC. SIDESLOPE AREA: CREATE LEVEL SURFACE TO 2 FEET BELOW EXISTING GRADE THEN SOLIDIFY.

BOTTOM OF SOLIDIFICATION ELEVATIONS (DWG-10)

- 48 FT
- 42 FT
- 36 FT
- 35 FT
- 34 FT
- 32 FT
- 31 FT
- 29 FT
- 24 FT
- 20 FT
- 18 FT
- 2 FT

LEGEND - PROPOSED

DSM-ONLY EXCAVATION PLAN (DWG-16)

- MINIMUM SHALLOW EXCAVATION PERMITTED FOR TEMPORARY SPOILS CONTAINMENT
- ESTIMATED AREA OF CLEANER SOIL AT 0-5 FOOT DEPTH WITHIN PLANNED SOLIDIFICATION AREAS WITHIN FORMER MGP SITE.
- INITIAL POB PARKING LOT SOLIDIFICATION AREA. FINAL RAMP NOT TO BE CONSTRUCTED UNTIL THIS AREA IS CURED AND CAN SAFELY SUPPORT FINAL RAMP.
- FINAL POB PARKING LOT SOLIDIFICATION AREA. EXCAVATE TO INITIAL RAMP CONFIGURATION. EXCAVATE INITIAL RAMP AND SOLIDIFY THIS AREA ONLY AFTER FINAL RAMP IS CONSTRUCTED.
- POTENTIAL AREA OF OPEN-AIR EXCAVATION REQUIRED TO EXPEDITE DSM AND MAINTAIN ACCESS TO PROPOSED TEMPORARY PARKING LOT AND EXISTING PARKING LOT

LEGEND - PROPOSED

- LIMIT OF MGP SOURCE MATERIAL TREATMENT
- LIMITS OF ISS REMEDIATION DURING PHASE I
- STAGE A LIMITS
- STAGE B LIMITS
- x — PROPOSED TEMPORARY FENCE WITH VISUAL BARRIER
- PROPOSED EROSION/SEDIMENT CONTROL MEASURES
- 69 — PROPOSED GROUND SURFACE ELEVATION
- GAS — PROPOSED GASLINE
- ST — PROPOSED STORM SEWER LINE
- SAN — PROPOSED SANITARY SEWER LINE
- UGE — PROPOSED UNDERGROUND ELECTRICAL CONDUIT
- W — PROPOSED WATERLINE
- DEMOLISH/ABANDON UTILITY AFTER COORDINATION WITH NATIONAL GRID GAS DEPARTMENT AND AFFECTED UTILITIES
- PROPOSED CONCRETE SIDEWALK
- PROPOSED TEMPORARY ACCESS
- CONSTRUCTION TRAFFIC FLOW DIRECTION
- TEMPORARY SIGN
- TYPE III BARRICADE
- PROPOSED PARKING LOT LIGHTING
- PROPOSED HAND HOLE
- PROPOSED UTILITY POLE WITH WEATHERHEAD
- X — PROPOSED FENCE
- PROPOSED CATCH BASIN
- PROPOSED TREE

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

URS Corporation

nationalgrid
175 EAST OLD COUNTRY ROAD
HICKSVILLE, NEW YORK 11801

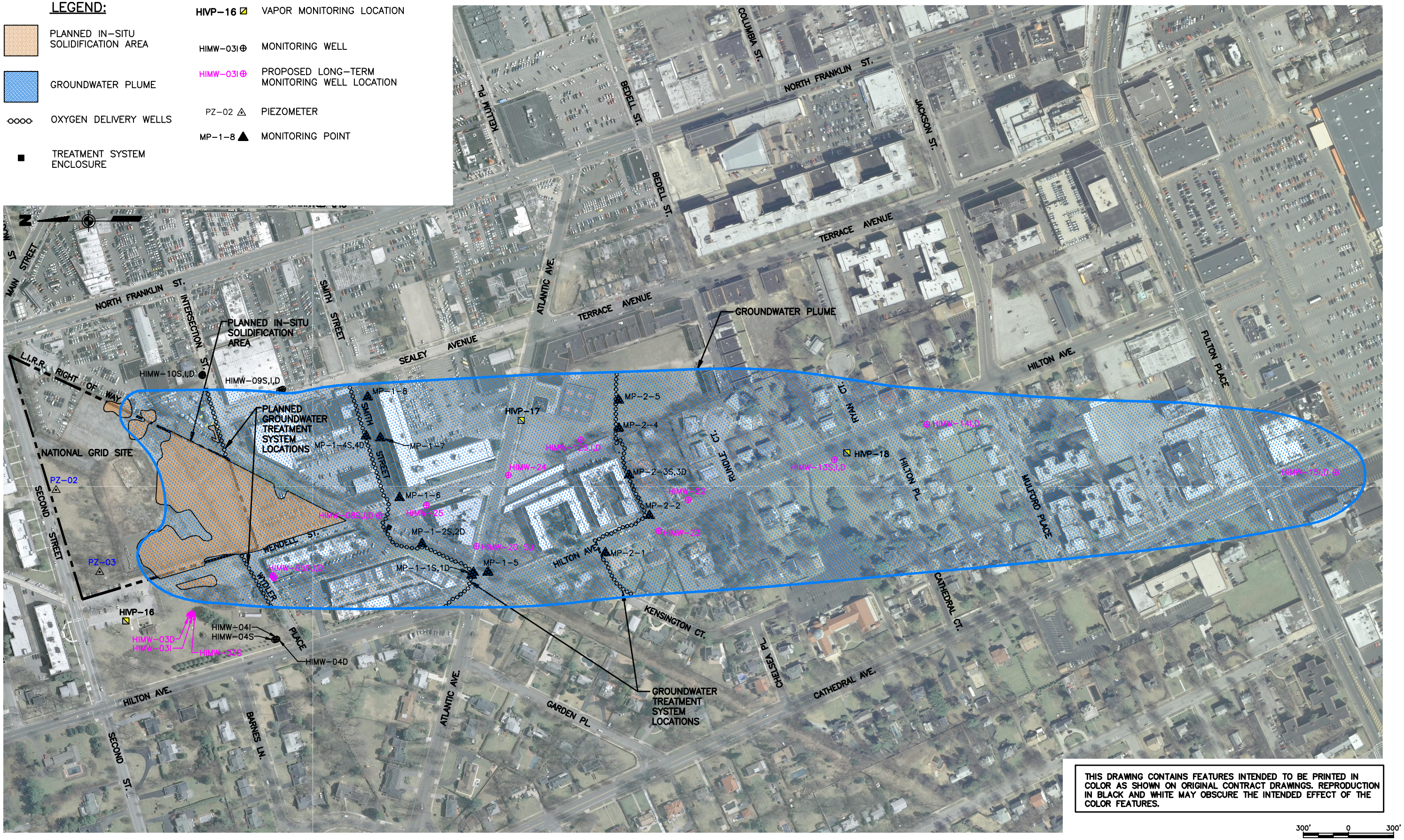
THE HEMPSTEAD
INTERSECTION STREET
FORMER MANUFACTURED GAS PLANT SITE

LEGEND

DRAWING 2

LEGEND:

- PLANNED IN-SITU SOLIDIFICATION AREA
- GROUNDWATER PLUME
- OXYGEN DELIVERY WELLS
- TREATMENT SYSTEM ENCLOSURE
- HIVP-16 — VAPOR MONITORING LOCATION
- HIMW-03I — MONITORING WELL
- HIMW-03I — PROPOSED LONG-TERM MONITORING WELL LOCATION
- PZ-02 — PIEZOMETER
- MP-1-8 — MONITORING POINT



THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

300' 0 300'
SCALE IN FEET

URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	**POST REMEDIATION MONITORING NETWORK**	**DRAWING 20**

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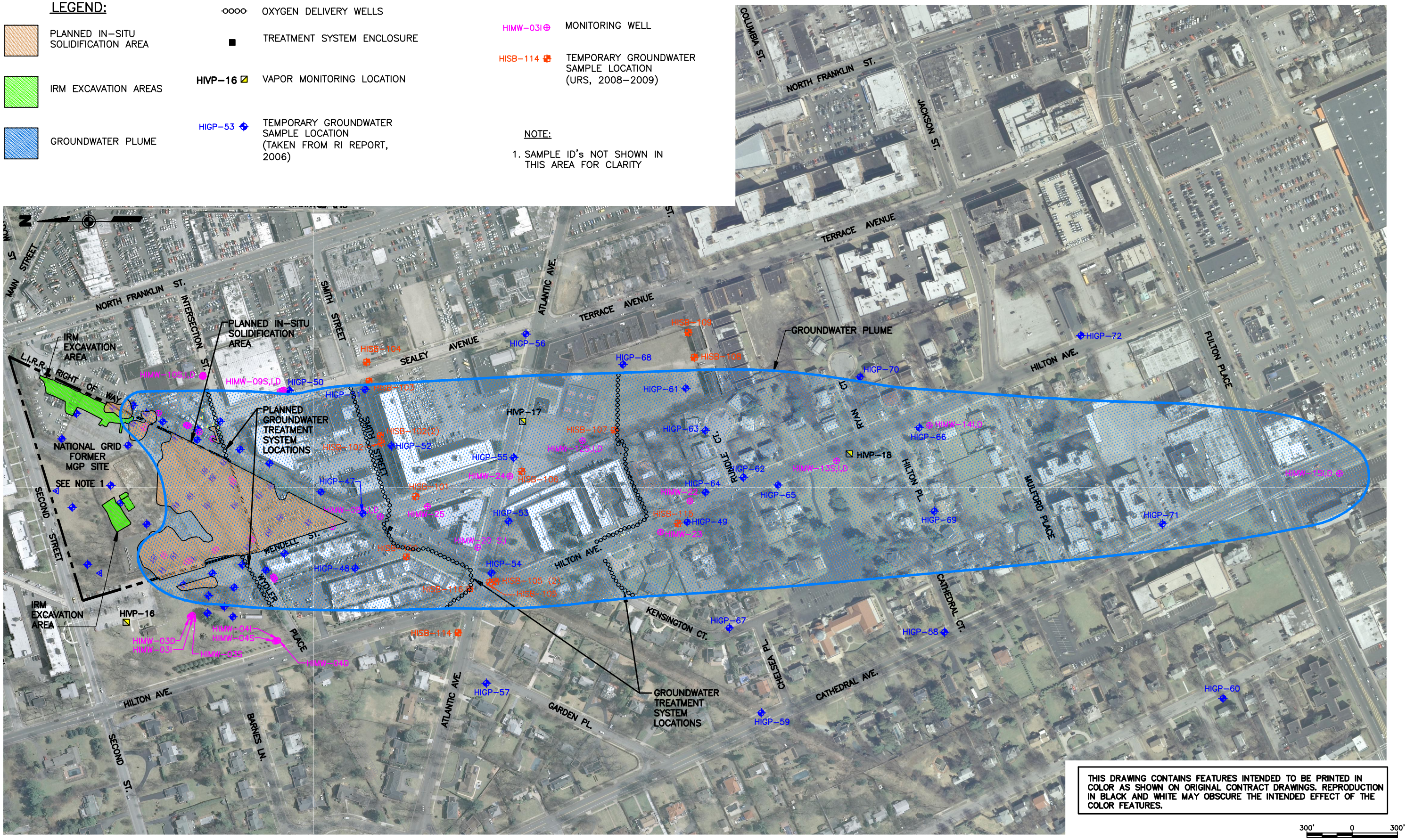
LEGEND:

- PLANNED IN-SITU SOLIDIFICATION AREA
- IRM EXCAVATION AREAS
- GROUNDWATER PLUME
- OXYGEN DELIVERY WELLS
- TREATMENT SYSTEM ENCLOSURE
- HIVP-16 — VAPOR MONITORING LOCATION
- HIGP-53 — TEMPORARY GROUNDWATER SAMPLE LOCATION (TAKEN FROM RI REPORT, 2006)
- HIMW-03I — MONITORING WELL
- HISB-114 — TEMPORARY GROUNDWATER SAMPLE LOCATION (URS, 2008-2009)

NOTE:

1. SAMPLE ID's NOT SHOWN IN THIS AREA FOR CLARITY



THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

300' 0 300'
SCALE IN FEET

URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	SITE REMEDIATION AND GROUNDWATER TREATMENT LOCATIONS	DRAWING 3

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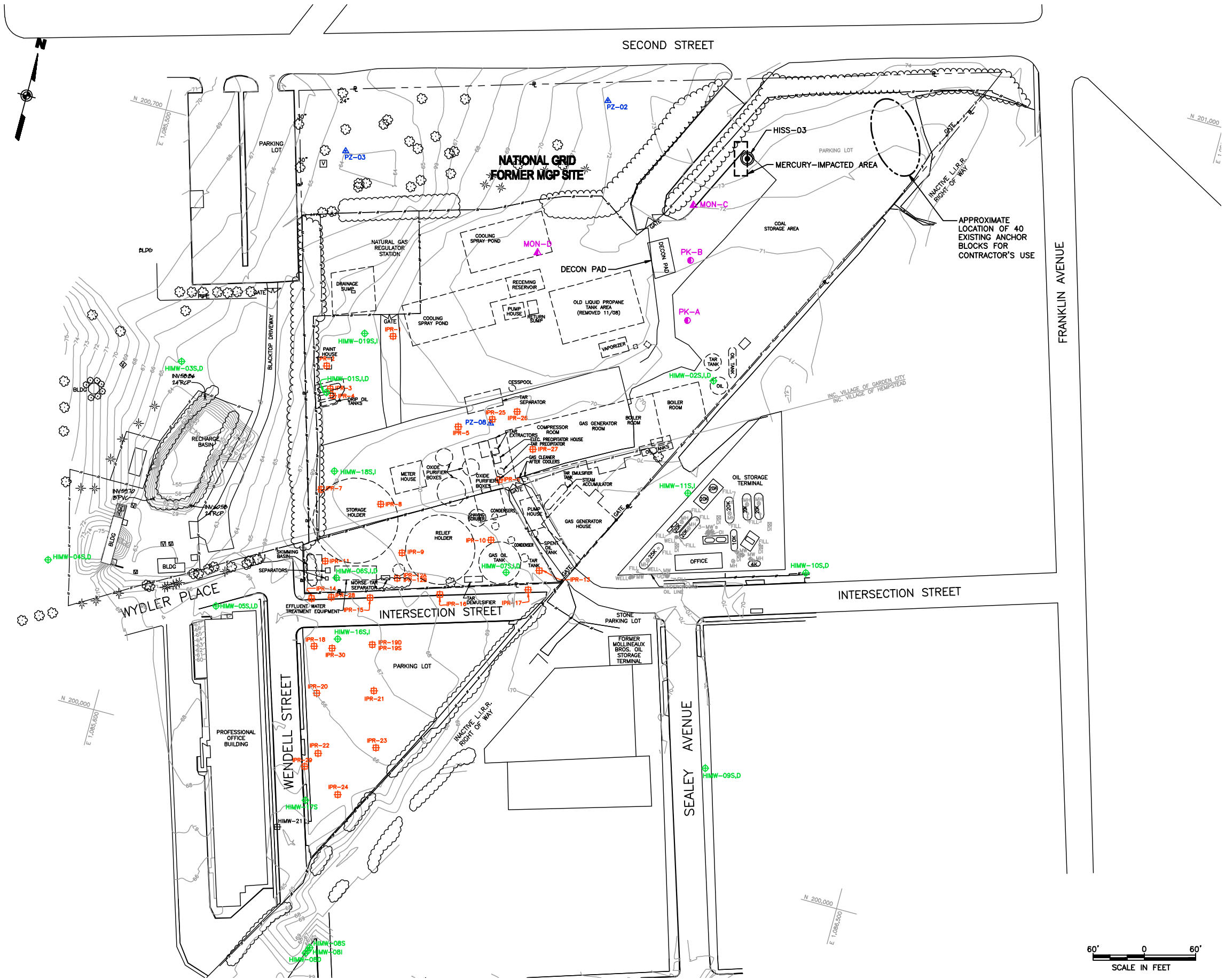

NOTES:

1. LOCATIONS SHOWN FOR FORMER MGP FEATURES WERE TAKEN FROM FINAL REMEDIAL INVESTIGATION REPORT DATED NOVEMBER 2006 BY PAULUS, SOKOLOWSKI AND SARTOR ENGINEERING, P.C. REFERENCE RI FIGURE 1-4. BASE MAP AND FORMER MGP SITE FEATURES IN RI WAS PREPARED BY DVIRKA AND BARTOLUCCI CONSULTING ENGINEERS, A DIVISION OF WILLIAM F COSULICH ASSOCIATES, P.C.

LEGEND - EXISTING

——//——//——	FENCE
——℄——	FORMER MGP SITE BOUNDARY AND APPROXIMATE PROPERTY LINE
[ ]	APPROXIMATE LOCATION OF FORMER MGP STRUCTURE
[ ]	LOCATION OF EXISTING STRUCTURE
IPR-12	IRM PRODUCT RECOVERY WELL, URS 2008 & 2009
PZ-02	PIEZOMETER/WELL LOCATION (ROY F. WESTON FIELD INVESTIGATION, MARCH 1993)
HIMW-05S	GROUNDWATER MONITORING WELL (SHALLOW ZONE)
HIMW-05I	GROUNDWATER MONITORING WELL (INTERMEDIATE ZONE)
HIMW-05D	GROUNDWATER MONITORING WELL (DEEP ZONE)
MON-D	SURVEY CONTROL POINTS
PK-A	SURVEY CONTROL POINTS
	DECIDUOUS TREE
	CONIFER TREE
	APPROXIMATE TREE LINE
69	GROUND SURFACE ELEVATION

SURVEY CONTROL POINTS			
POINT	NORTHING	EASTING	ELEVATION (FEET)
PK-A	200,619.90	1,086,153.57	70.38
PK-B	200,688.88	1,086,138.82	71.21
MON-C	200,752.15	1,086,125.28	72.86
MON-D	200,651.19	1,085,963.31	71.24

60' 0 60'
SCALE IN FEET

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

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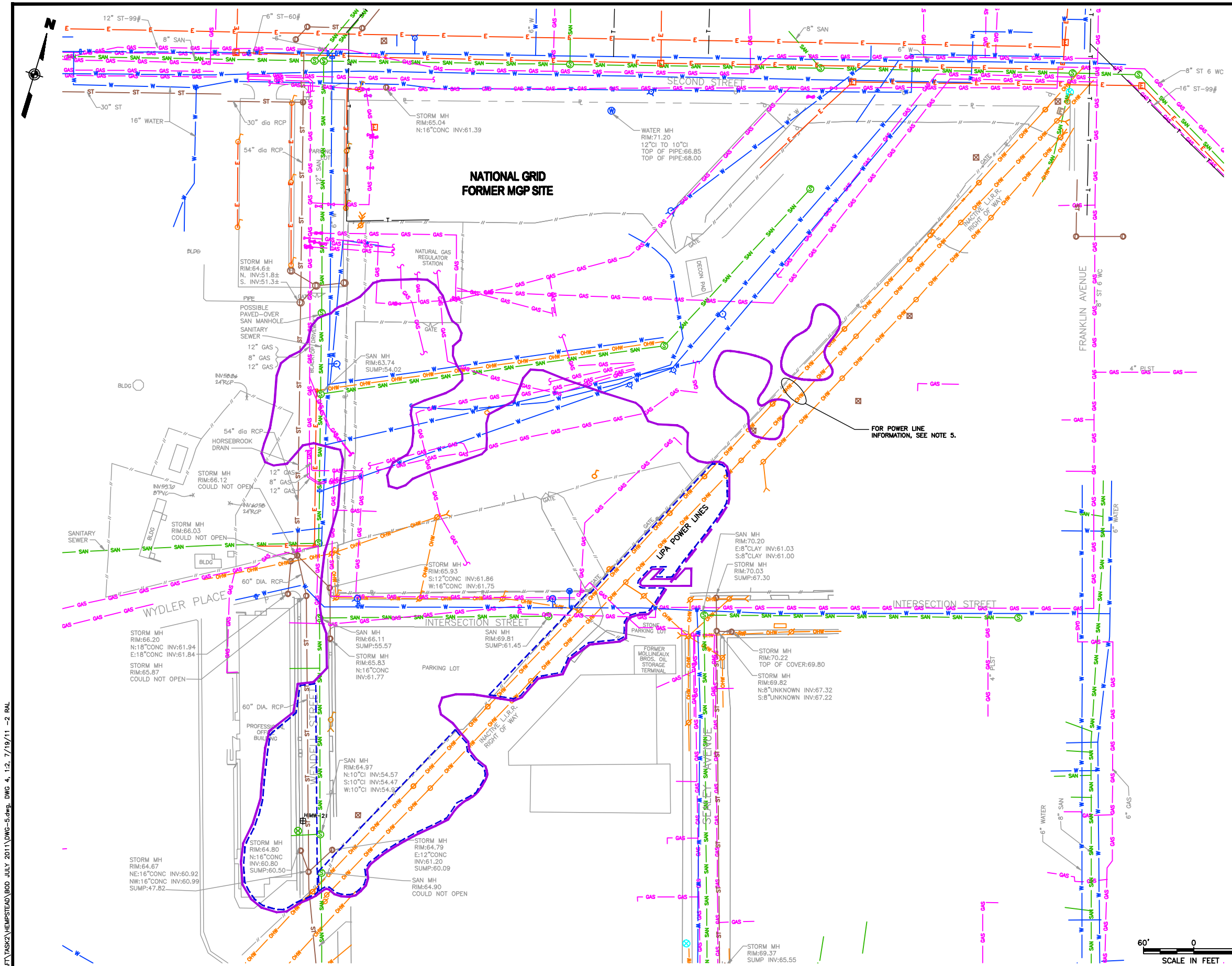
URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	EXISTING SITE PLAN SHOWING FORMER MGP STRUCTURES	DRAWING 4



NOTES:

1. THE SHOWN UTILITIES SHALL BE CONSIDERED AS APPROXIMATE LOCATIONS, BASED ON INFORMATION MADE AVAILABLE TO URS. SHOWN UTILITIES/LOCATIONS MAY OR MAY NOT BE COMPLETE, ACTIVE, OR DECOMMISSIONED. ANY PROPOSED CONSTRUCTION NEAR SUCH UTILITIES REQUIRES CONFIRMATION OF UTILITY LOCATIONS AND DETAILED REVIEW OF UTILITY SOURCE MAPPING.
2. SEE DWG-13 FOR UTILITY PROTECTION AND DECOMMISSIONING PLAN. SEE DWG-14 FOR REQUIREMENTS CONCERNING PROTECTION OF UTILITIES.
3. EXISTING UTILITY LOCATIONS ARE BASED ON THE FOLLOWING:
   - VILLAGE OF GARDEN CITY, NASSAU COUNTY, N.Y. RECORD PLAN – SECOND STREET, 6-10-66.
   - LONG ISLAND LIGHTING COMPANY SITE PLAN AND NOTES – REGULATOR STATION NL-40, 8-8-97.
   - NASSAU COUNTY DPW PLAN FOR CONSTRUCTION OF HORSE-BROOK DRAIN-WEST BRANCH SECTION 2B, 10-1-53.
   - NATIONAL GRID, THE VILLAGE OF GARDEN CITY AND THE VILLAGE OF HEMPSTEAD, ENGINEERING DEPARTMENT RECORD DRAWINGS.
4. FOR LOCATION OF EXISTING TREES, SEE DWG-4.
5. LIPA POWER LINES WITHIN LIRR ROW INCLUDE THE FOLLOWING SERVICES AND MINIMUM MEASURED HEIGHT ABOVE THE EXISTING GRADE THAT THE CONTRACTOR SHALL CONFIRM. REFER ALSO TO DWG-25 FOR DETAILED OHW INFORMATION.
   - 13 KV LINE: 26 FT (NEUTRAL), 33 FT (LOW VOLTAGE), AND 40 FT (HIGH VOLTAGE).
   - 69 KV LINE: 31 FT (NEUTRAL), 42 FT (LOW VOLTAGE), AND 50 FT (HIGH VOLTAGE).
6. FOR OIL STORAGE TERMINAL INFRASTRUCTURE, REFER TO DWG-6.
7. GAS LINE INFORMATION ARE AS TAKEN FROM REFERENCE DRAWINGS PROVIDED BY NATIONAL GRID.

LEGEND - EXISTING

- FENCE
- FORMER MGP SITE BOUNDARY AND APPROXIMATE PROPERTY LINE
- LOCATION OF EXISTING STRUCTURE
- DELINEATED LIMIT OF MGP SOURCE MATERIAL
- APPROXIMATE LIMITS OF MGP SOURCE MATERIAL
- NO SOLIDIFICATION – MGP IMPACTS TO BE TREATED WITH O2 DELIVERY SYSTEM
- GAS LINE
- E UNDERGROUND ELECTRIC LINE
- OHW OVERHEAD ELECTRIC LINE
- SAN SANITARY SEWER LINE
- ST STORM SEWER LINE
- T TELEPHONE LINE
- W WATER LINE
- DRAINAGE INLET
- STORM MANHOLE
- SANITARY MANHOLE
- TELEPHONE MANHOLE
- UNKNOWN MANHOLE
- WATER MANHOLE
- ELECTRIC MANHOLE
- LIGHT POLE
- UTILITY POLE
- GUY WIRE
- GAS VALVE
- FIRE HYDRANT
- WATER VALVE
- METAL POLE
- SIGN
- GATE

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

60' 0 60'
SCALE IN FEET

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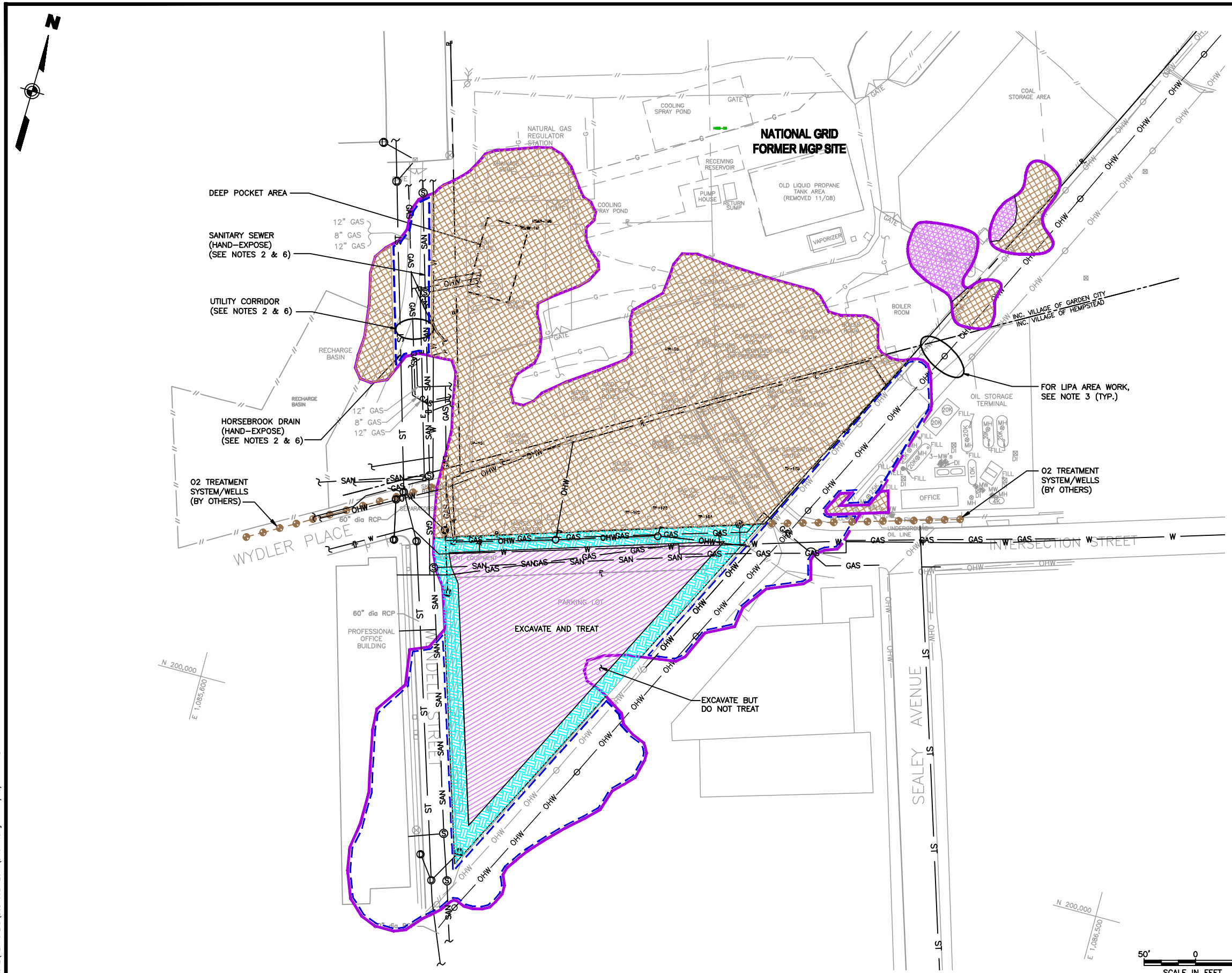
URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	EXISTING SITE UTILITIES	DRAWING 5



LEGEND

- DELINEATED LIMIT OF MGP SOURCE MATERIAL
- APPROXIMATE LIMITS OF MGP SOURCE MATERIAL
- EXCAVATION ONLY
- 15' EXCAVATION AREA FOR DSM
- DSM AREA (EXCAVATION DEPTH VARIES)
- NO SOLIDIFICATION–MGP IMPACTS TO BE TREATED WITH O2 DELIVERY SYSTEM
- SOIL–CRETE DSM RETAINING WALL
- O2 TREATMENT SYSTEM/WELLS (BY OTHERS)
- OHW — OVERHEAD WIRES

NOTES:

1. FOR LOCATION OF EXISTING TREES, SEE DWG–4.
2. DUE TO THE LOCATION OF UTILITIES AND REQUIRED PROTECTION THEREOF AND PROPOSED OPEN CUT LIMITS ALONG THE FORMER MGP SITE BOUNDARY, ACTUAL LIMITS OF DSM REMEDIATION MAY VARY SLIGHTLY FROM THE LIMITS SHOWN ON THIS SHEET, DWG–7, AND DWG–8, BUT ONLY AS APPROVED. PREVENT IMPACTS TO WENDELL STREET, UTILITIES, AND OTHER FEATURES TO BE PRESERVED. THE METHODS TO PROTECT UTILITIES, WHILE ACHIEVING SOLIDIFICATION UNDERNEATH AND ADJACENT TO UTILITIES TO THE EXTENT PRACTICABLE, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO SUCH WORK.
3. WORK WITHIN AND AROUND THE LIRR ROW SHALL BE COORDINATED WITH LIPA. REQUIRED CLEARANCES FROM OVERHEAD LINES SHALL BE MAINTAINED IN ACCORDANCE WITH OSHA 29 CFR 1926.550(A)(15).
4. UTILITIES SERVING THE PROFESSIONAL OFFICE BUILDING AND THE OIL STORAGE TERMINAL SHALL REMAIN IN SERVICE THROUGHOUT THE DURATION OF THE CONTRACT. REQUIREMENTS FOR STRUCTURAL PRECONDITION SURVEY AND MONITORING OF THE PROFESSIONAL OFFICE BUILDING AND THE OIL STORAGE TERMINAL ARE ADDRESSED IN SPECIFICATION SECTION 01056.
5. NECESSARY METHODS FOR LOCATING UTILITIES SHALL INCLUDE VISUAL LOCATING, OPENING, AND DOWN–HOLE INSPECTING OF EACH MANHOLE WITHIN AND JUST BEYOND THE CONTRACT WORK AREA.
6. UTILITY CORRIDOR: THE DSM AUGER SHALL BE LOCATED NO CLOSER THAN 5 FEET FROM THE HORSEBROOK DRAIN (RCP) PIPE AND SANITARY SEWER. THE PROPOSED ISS SOLIDIFICATION SEQUENCE IN THIS AREA SHALL BE SUBMITTED FOR APPROVAL AND SHALL BE STAGED TO PRECLUDE MOVEMENT OF THE UTILITIES, TAKING INTO ACCOUNT SOIL MIX CURING TIME AND THE TEMPORARY LOW STRENGTH OF SOLIDIFIED SOIL.
7. SOLIDIFICATION SHALL NOT BE PERFORMED INSIDE OF A TEMPORARY CONTAINMENT BUILDING.

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	SOLIDIFICATION METHODS LAYOUT	DRAWING 6

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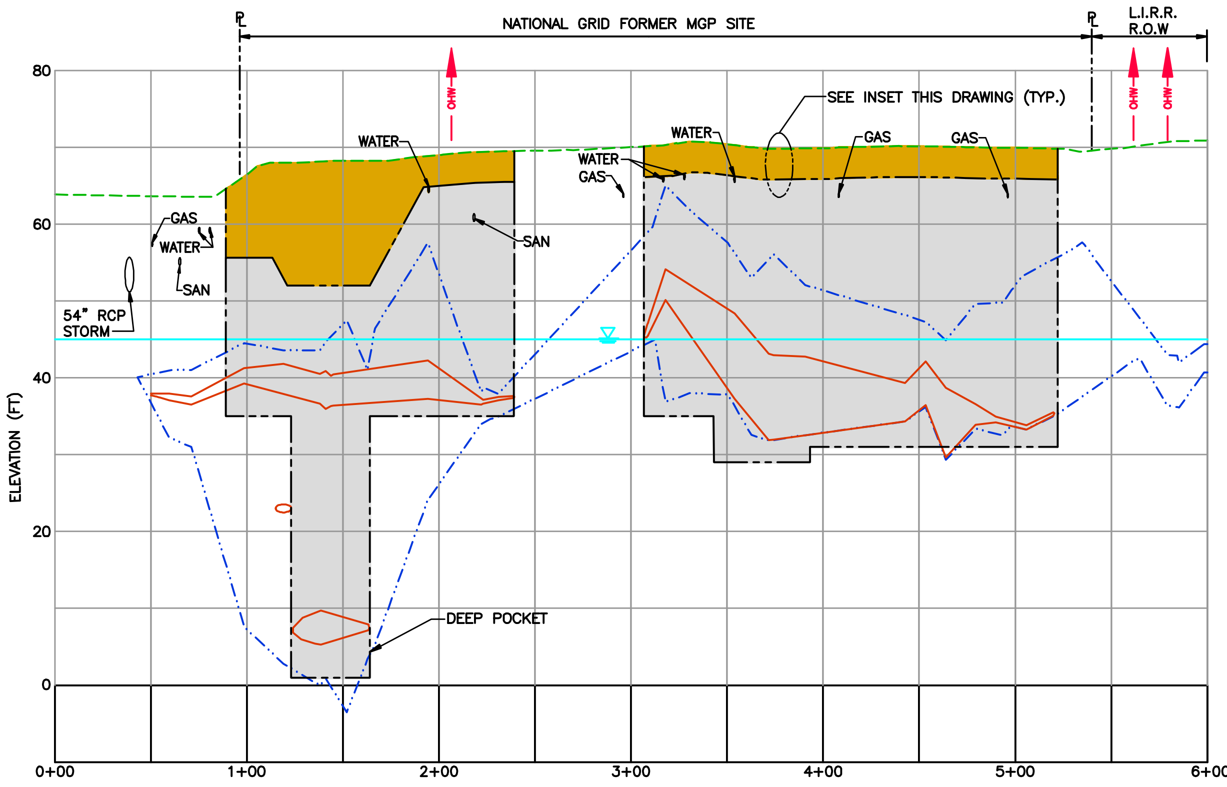
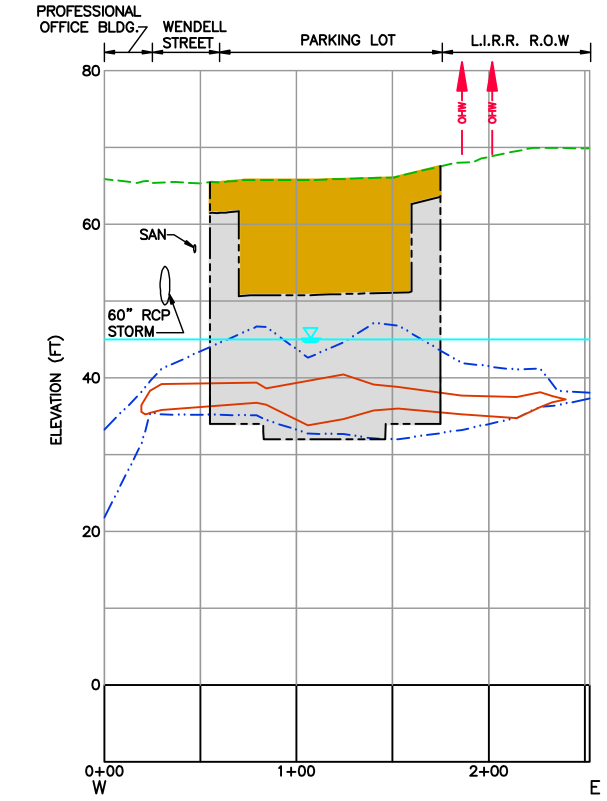
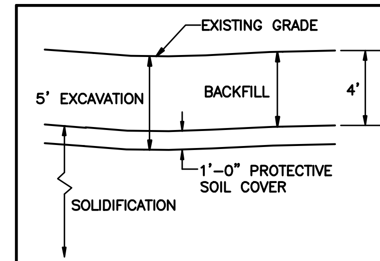


SECTION WE-1



SECTION WE-3



INSET

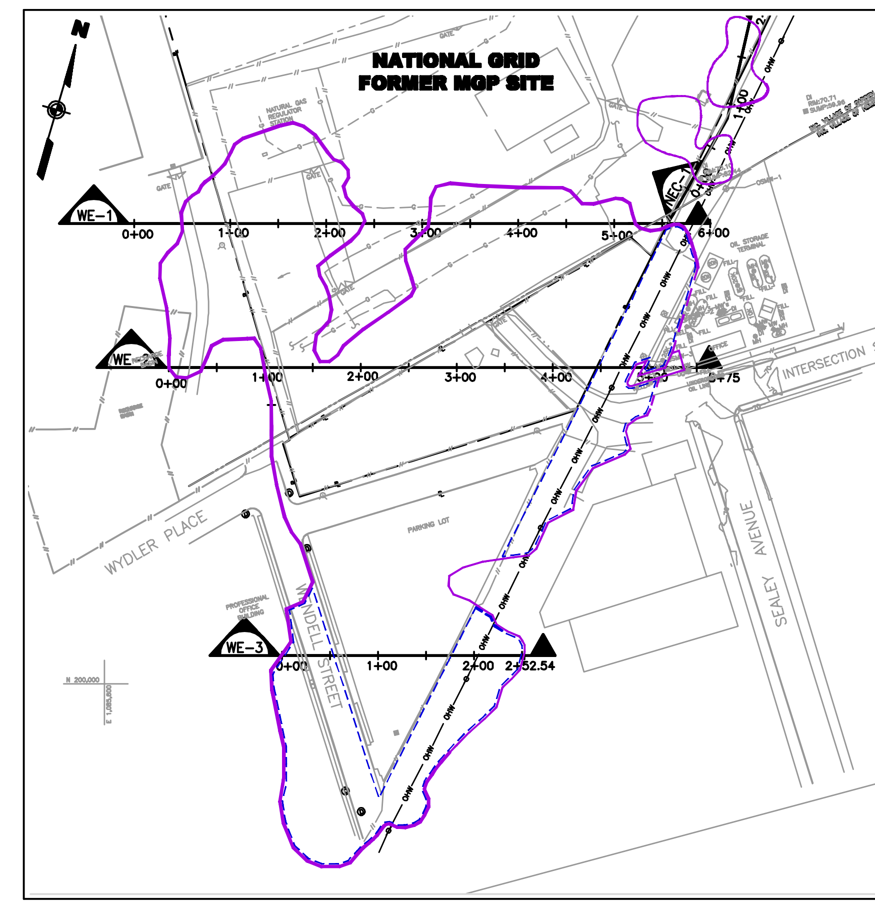
NOT TO SCALE

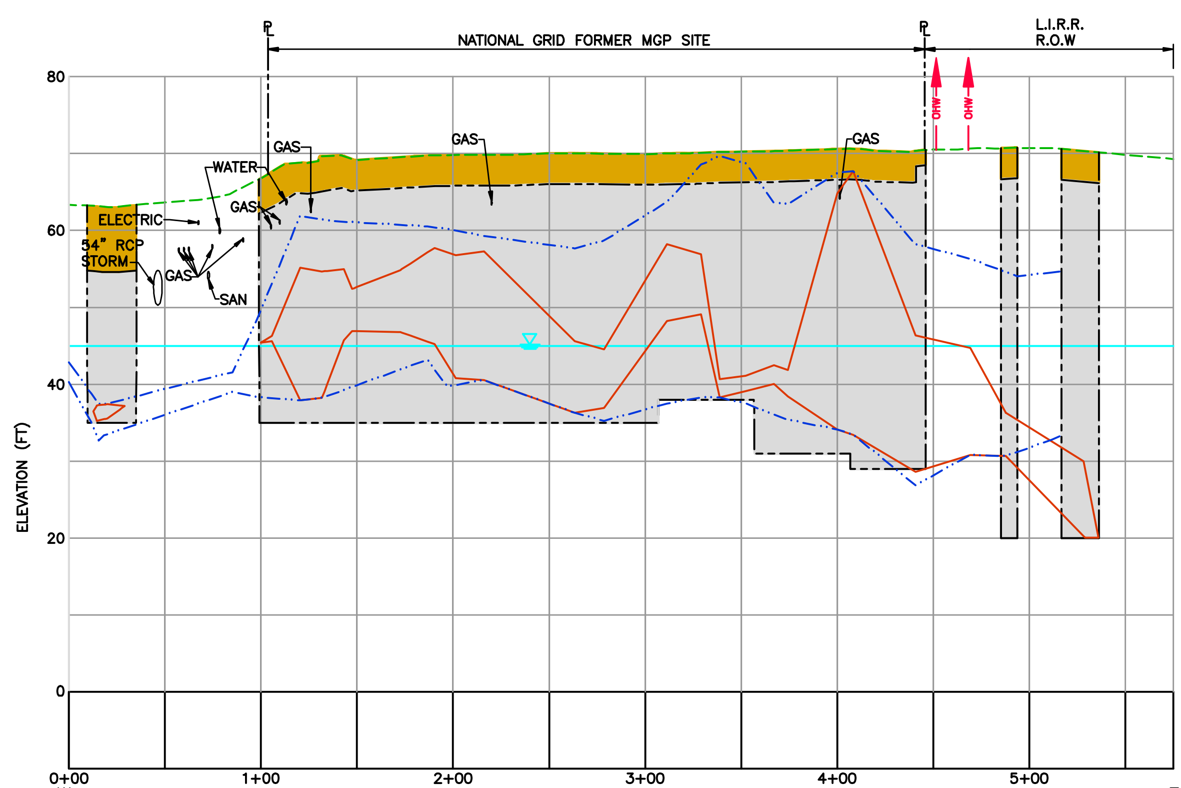
NOTE:

FOR MORE DETAIL ON WORK REGARDING THIS INSET, SEE DWG-21, BACKFILL DETAIL.

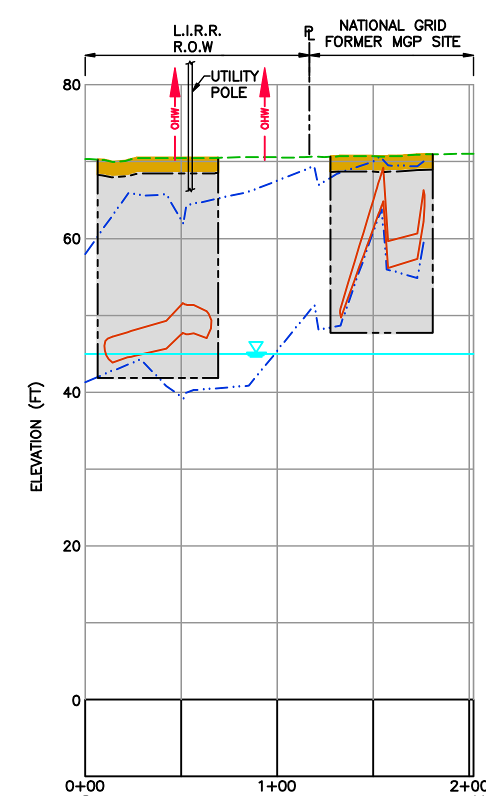
LEGEND

- N — NORTH
- S — SOUTH
- E — EAST
- W — WEST
- NEC — NORTH EAST CORNER
- DELINEATED LIMIT OF MGP SOURCE MATERIAL (ON PLAN VIEW)
- DELINEATED LIMIT OF MGP SOURCE MATERIAL (ON SECTIONS)
- APPROXIMATE LIMITS OF MGP SOURCE MATERIAL
- DELINEATED LIMIT OF MGP IMPACTS
- ESTIMATED GROUNDWATER SURFACE
- EXISTING GROUND SURFACE ELEVATION
- PROPOSED LIMITS OF SOLIDIFICATION
- PROPOSED LIMITS OF BACKFILL
- NO SOLIDIFICATION – AREA IS OUTSIDE THE LIMIT OF WORK. MGP IMPACTS TO BE TREATED WITH O2 DELIVERY SYSTEM
- OHW — EXISTING OVERHEAD WIRE (ELECTRIC) APPROXIMATE LOCATION (ELEV. NOT SHOWN)





SECTION WE-2



SECTION NEC-1

NOTES:

1. FOR LOCATION OF EXISTING TREES, SEE DWG-4.
2. THIS DRAWING IS INTENDED TO SHOW MINIMUM SOLIDIFICATION AND EXCAVATION LIMITS, EXCLUSIVE OF SLOPE CUTBACKS AND MINOR ADJUSTMENTS OF LIMITS TO ACCOMMODATE EXISTING UTILITIES.
3. REFER TO DRAWING DWG-5 FOR LOCATIONS OF EXISTING UTILITIES.
4. THE SHOWN LOCATIONS AND ELEVATIONS OF UTILITIES SHALL BE CONSIDERED APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND ELEVATIONS.

100' 0 100'

SCALE IN FEET

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

URS Corporation

nationalgrid

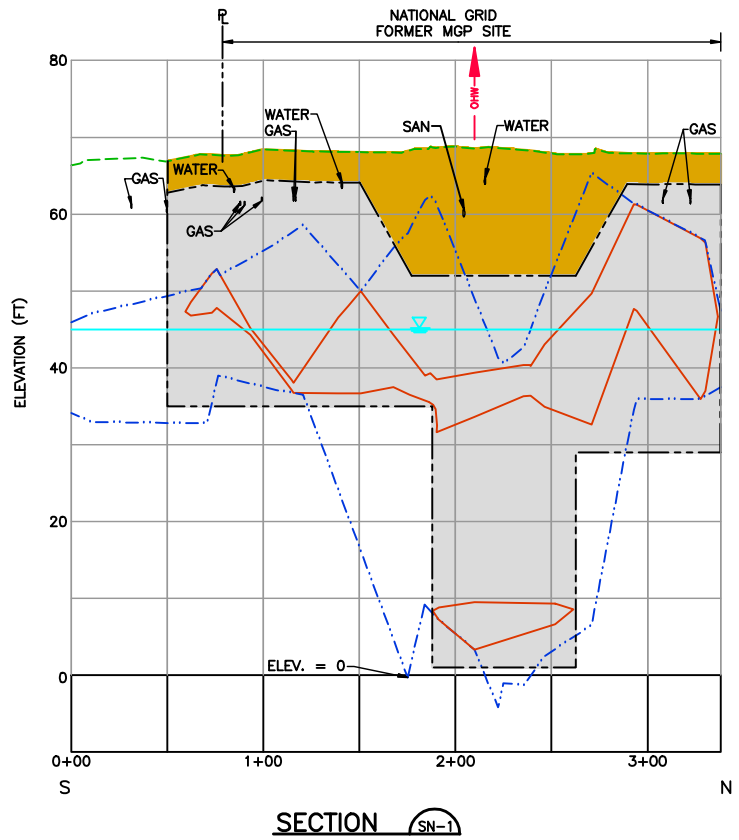
175 EAST OLD COUNTRY ROAD

HICKSVILLE, NEW YORK 11801

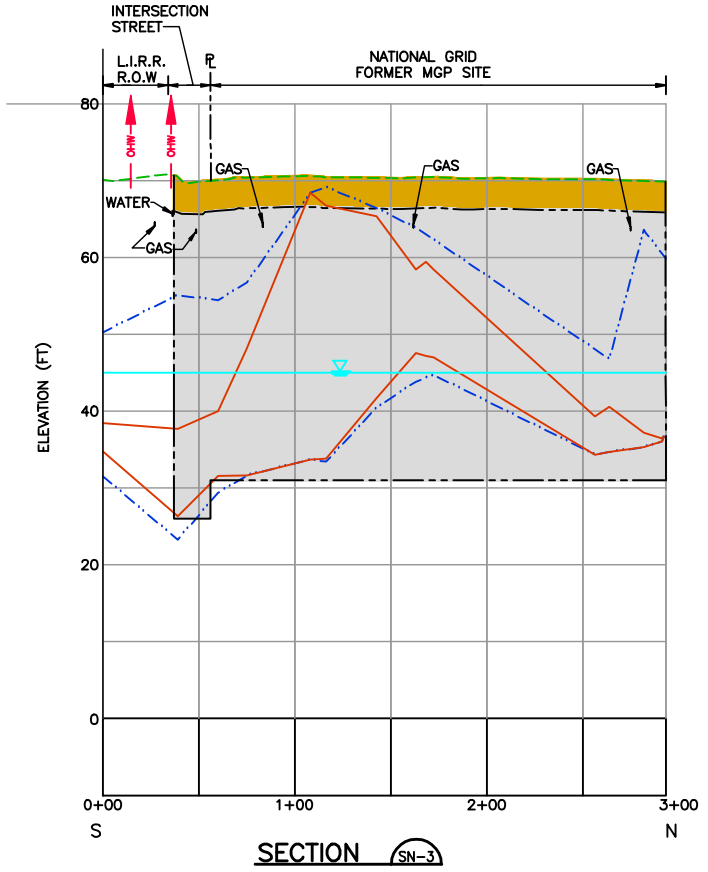
THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE

WEST/EAST CROSS SECTIONS

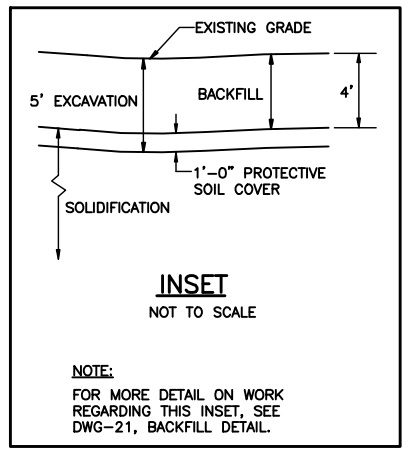
DRAWING 7



SECTION SN-1



SECTION SN-3



INSET

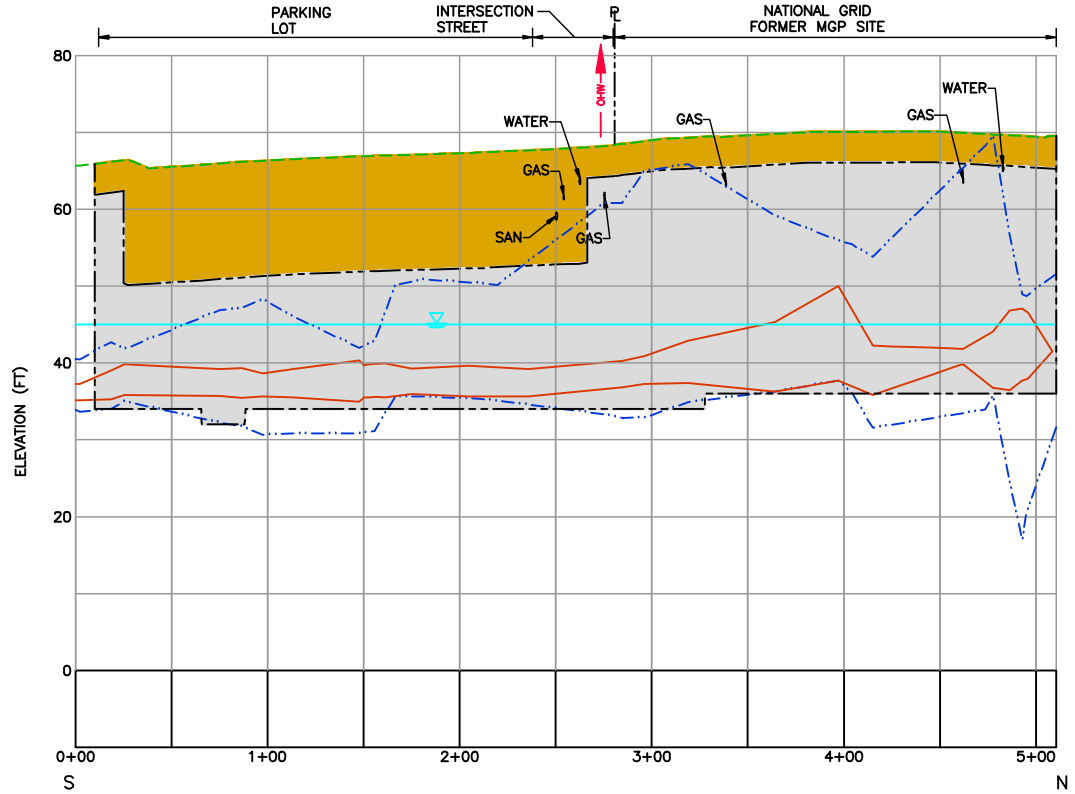
NOT TO SCALE

NOTE:

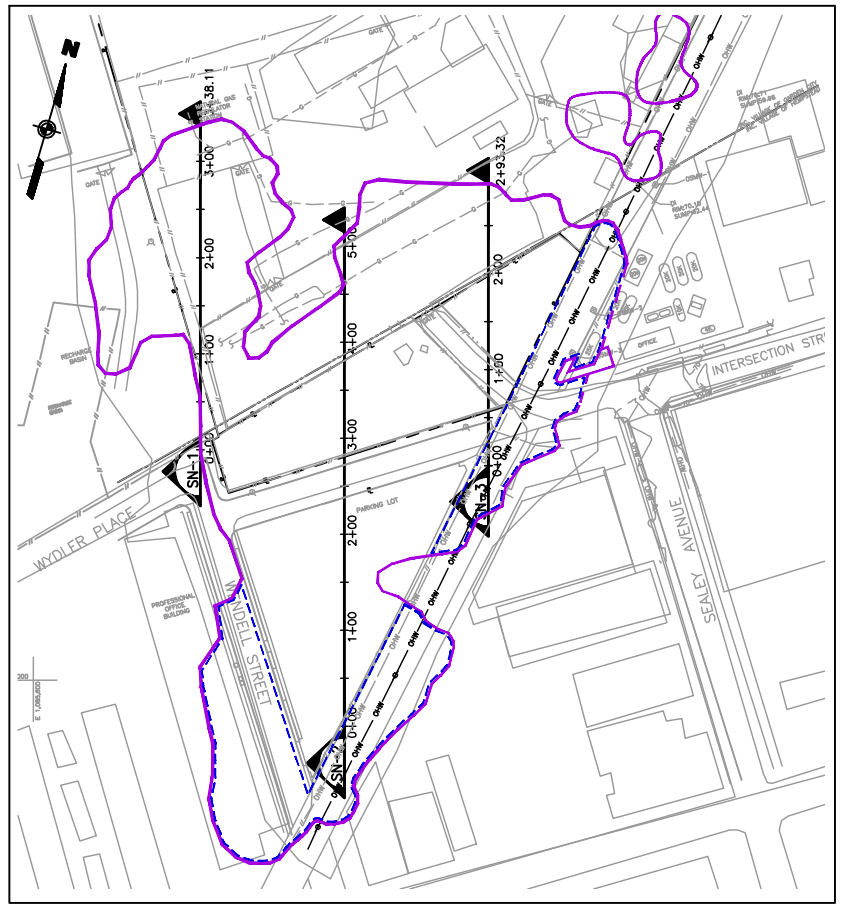
FOR MORE DETAIL ON WORK REGARDING THIS INSET, SEE DWG-21, BACKFILL DETAIL.

LEGEND

N	NORTH
S	SOUTH
E	EAST
W	WEST
NEC	NORTH EAST CORNER
	DELINEATED LIMIT OF MGP SOURCE MATERIAL (ON PLAN VIEW)
	DELINEATED LIMIT OF MGP SOURCE MATERIAL (ON SECTIONS)
	APPROXIMATE LIMITS OF MGP SOURCE MATERIAL
	DELINEATED LIMIT OF MGP IMPACTS
	ESTIMATED GROUNDWATER SURFACE
	EXISTING GROUND SURFACE ELEVATION
	PROPOSED LIMITS OF SOLIDIFICATION
	PROPOSED LIMITS OF BACKFILL
	NO SOLIDIFICATION – AREA IS OUTSIDE THE LIMIT OF WORK. MGP IMPACTS TO BE TREATED WITH O2 DELIVERY SYSTEM
OHW	EXISTING OVERHEAD WIRE (ELECTRIC) APPROXIMATE LOCATION (ELEV. NOT SHOWN)



SECTION SN-2



NOTE:

1. FOR NOTES, REFER TO DRAWING DWG-7.

100' 0 100'

SCALE IN FEET

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

URS Corporation		nationalgrid 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	THE HEMPSTEAD INTERSECTION STREET FORMER MANUFACTURED GAS PLANT SITE	SOUTH/NORTH CROSS SECTIONS	DRAWING 8

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LEGEND

- LIMIT OF MGP SOURCE MATERIAL TREATMENT
- NEW POLE (BY OTHERS)
- REMOVE POLE (BY OTHERS)

NOTES:

1. FOR LOCATION OF EXISTING TREES, SEE DWG-4.
2. TOP OF SOLIDIFICATION IN MGP SITE MAIN DSM AREA SHALL BE ONE FOOT ABOVE THE POST-EXCAVATED SURFACE ELEVATION AS PER EXCAVATION PLAN, DWG-16. (I.E., TOP OF PROTECTIVE SOIL COVER).
3. DEEP ACCESS ZONE SOLIDIFICATION STEPS:
   A. EXCAVATE DEEP POCKET ZONE TO DEPTH INDICATED. EXCAVATE SLOPE AREAS TO MATCH ADJACENT EXCAVATION OR SURFACE DEPTH.
   B. SOLIDIFY DEEP POCKET AREA ONLY, UP TO SHOWN EXCAVATION GRADE.
   C. BACKFILL DEEP POCKET ZONE AND DEEP POCKET SLOPE ZONE WITH CLEAN SOIL UP TO 4 FEET BELOW EXISTING GRADE.
   D. SOLIDIFY THE BACKFILLED DEEP POCKET ZONE (EXCEPT DEEP POCKET FOOTPRINT).
4. FOR RADIUS OF PROTECTION AREAS, EXCAVATION IS NOT PERMITTED SO SPECIAL PROCEDURES IN FORMER MGP SITE MAY BE REQUIRED, SUCH AS PRE-DRILLING TO BREAK UP EXISTING OBSTRUCTIONS, USE OF SMALL-DIAMETER DSM AUGER, ETC.
5. CONSTRUCTION LAYOUT INFORMATION TO BE PROVIDED BY ENGINEER.
6. IN GARDEN CITY PARK AREA, EXCAVATE TO TOP OF SANITARY SEWER LINE, APPROXIMATE ELEVATION 56 FEET AMSL. (EXCAVATION DEPTH BELOW EXISTING GRADE VARIES.)

LEGEND		
	DESCRIPTION	**TOP OF SOLIDIFICATION, MEASURED AS DEPTH BELOW EXISTING GRADE (FEET)**
	LIRR ROW VICINITY: CREATE SHALLOW CUT [AS SHOWN] TO TEMPORARILY CONTAIN SPOILS THEN SOLIDIFY VIA DSM.	[AS SHOWN]
[-4 FT]	SOIL-CRETE DSM RETAINING WALL: CREATE SHALLOW CUT [AS SHOWN] TO TEMPORARILY CONTAIN SPOILS THEN SOLIDIFY.	[AS SHOWN]
	MGP SITE MAIN DSM AREA	4
	DEEP POCKET ZONE (SEE NOTE 3)	14
	DEEP POCKET SLOPE ZONE (SEE NOTE 3)	4
	GARDEN CITY PARK DSM (SEE NOTE 6)	[AS SHOWN]
	RADIUS OF PROTECTION: NO EXCAVATION PERMITTED. EMPLOY MAX. 2-FOOT HIGH SURFICIAL SOIL BERM TO TEMPORARILY CONTAIN SPOILS THEN SOLIDIFY. (SEE NOTE 4)	0
	MISC. SIDESLOPE AREA: CREATE LEVEL SURFACE TO 2 FEET BELOW EXISTING GRADE THEN SOLIDIFY.	2

50' 0 50'
SCALE IN FEET

THIS DRAWING CONTAINS FEATURES INTENDED TO BE PRINTED IN COLOR AS SHOWN ON ORIGINAL CONTRACT DRAWINGS. REPRODUCTION IN BLACK AND WHITE MAY OBSCURE THE INTENDED EFFECT OF THE COLOR FEATURES.

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URS Corporation		**nationalgrid** 175 EAST OLD COUNTRY ROAD HICKSVILLE, NEW YORK 11801	**THE HEMPSTEAD** **INTERSECTION STREET** **FORMER MANUFACTURED GAS PLANT SITE**	**TOP OF SOLIDIFICATION**	**DRAWING 9**