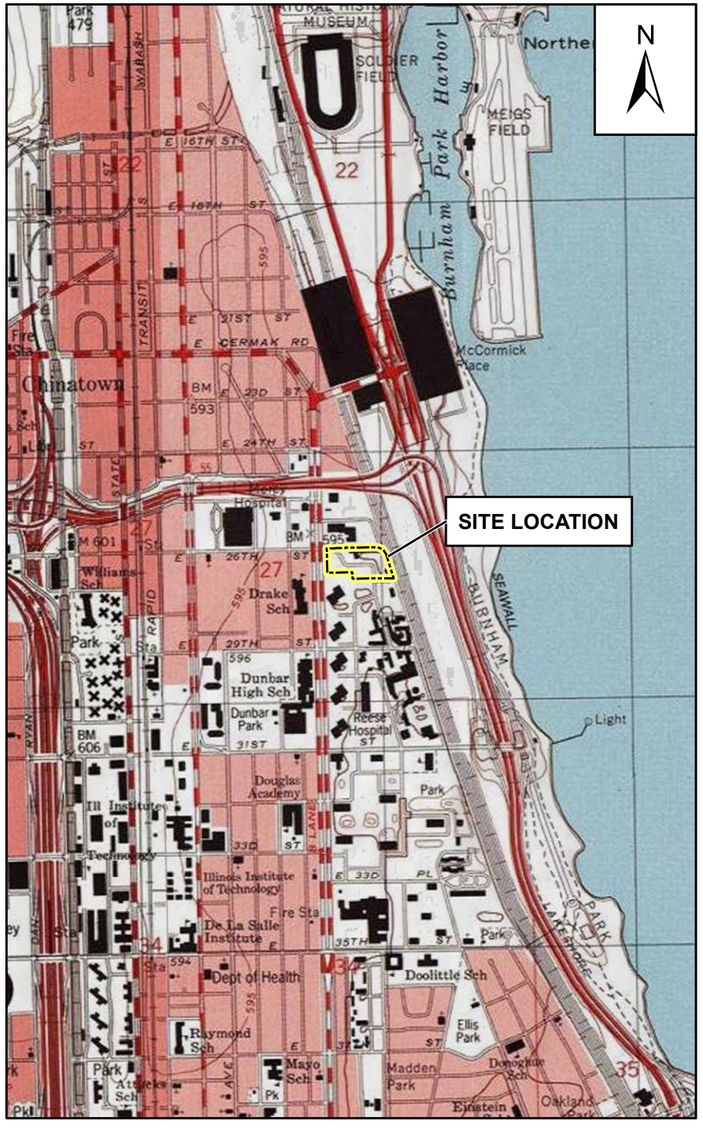
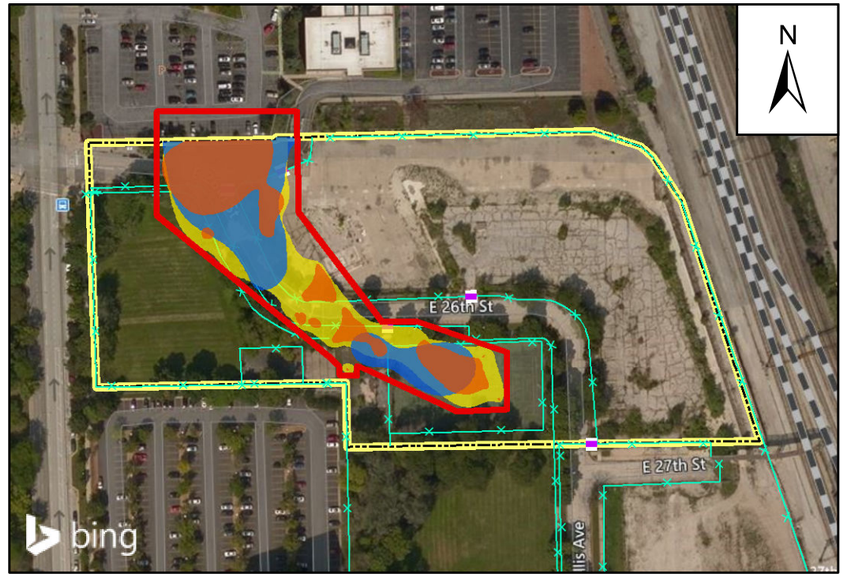
Appendix Q
Drawings

FORMER CARNOTITE REDUCTION COMPANY SITE
EXCAVATION PLAN
CHICAGO, ILLINOIS

SHEET	DESCRIPTION
C-1	COVER SHEET
C-2	EXISTING CONDITIONS (TOPOGRAPHIC AND UTILITY SURVEY)
C-3	SOIL ANALYTICAL RESULTS ABOVE REMEDIATION CRITERIA
C-4	EXTENT OF SUBSURFACE EXCEEDANCE
C-5	GEOLOGICAL CROSS SECTIONS
C-6	DECOMMISSIONING PLAN
C-7	REMEDIATION EXCAVATION PLAN
C-8	PROPOSED REMEDIATION SITE LAYOUT
C-9	PROPOSED EROSION CONTROL PLAN
C-10	EROSION CONTROL DETAIL
C-11	GRADING PLAN AND PROPOSED STORM AND SANITARY SEWER
C-12	STORM AND SANITARY SEWER DETAILS
C-13	RESTORATION PLAN
T-1	SIGN LOCATION AND MAINTENANCE OF TRAFFIC PLAN
T-2	SIGN TYPE 1
T-3	SIGN TYPE R11-2 AND OM4-1
T-4	SIGN MOUNTING - BAND MOUNT AND FENCE MOUNT
T-5	SIGN MOUNTING - NEW SIGN POSTS
T-6	SIGN MOUNTING AT CONCRETE BARRIER
S-1	SITE PLAN
S-2	EXCAVATION LIMITS
S-3	EXCAVATION CROSS SECTIONS
S-4	SEWER PLAN AND PROFILE
S-5	CITY OF CHICAGO STANDARD DETAILS





NOTES:
1. NO CITY BRNCHMARK COULD BE USED FOR THIS LOCATION.
2. LEGEND FOR ABBREVIATIONS AND SYMBOLS ARE SPECIFIC FOR EACH SHEET.

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

COVER SHEET

SHEET
C-1

9/21/2020 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2020-06 Spec\C1-CoverSheet.mxd m.banh

CS MANHOLE
INV. OUT 5.43

CS MANHOLE
TOP OF FORMER RESTRICTOR
(REMOVED) OUT 10-INCH PIPE
11.26

CS MANHOLE
RIM 17.60
INV. OUT 11.06
INV. IN (S) 11.22

AM-01

UST 3

753 FEET OF TEMPORARY
OVERHEAD ELECTRICAL
LINES REQUIRE REPLACEMENT
UNDER THIS CONTRACT

CS MANHOLE
INV. OUT 7.88

CS MANHOLE
INV. OUT 10-INCH PIPE
12.23

CS MANHOLE
INV. OUT 11.41

CS MANHOLE
INV. OUT 8.55

CS MANHOLE
INV. OUT 10.80

UST 2

FORMER ASPHALT
PARKING LOT

CS MANHOLE
INV. IN (E) 11.00
INV. OUT 10.64

CS MANHOLE
INV. OUT 11.62

AM-02

AM-04

AM-03

UST 1

CS MANHOLE
INV. OUT 8.81

CS MANHOLE
INV. OUT 9.08

CS MANHOLE
INV. OUT 10.21

RECENT INSPECTION IDENTIFIED
THIS MANHOLE CONTAINS DEBRIS
(WOOD CHIPS, LEAVES)

CS MANHOLE
INV. IN(S) 11.47
INV. OUT 9.69

N

0 70 140
Feet

- Catch Basin
- City Electric Manhole
- Closed Lid Sewer
- ComEd Manhole
- Fire Hydrant
- Gas Manhole
- Inlet
- Manhole
- RCN Manhole
- Street Light
- Tennis Court/Park Light
- Traffic Signal
- Utility Pole
- Water Valve
- City Underground Line
- Easement
- Dead Gas Line
- Painted Water Line
- Painted Electric Line
- Communication Line
- RCN
- SBC
- ComEd Electric
- Existing Temporary Overhead Electric Line
- Existing Temporary Overhead Electric Line to be replaced
- City Electric
- Water Line
- Sewer Line (with direction of flow)
- Gas Line
- Air Monitoring Station
- Radioactive Facility License Boundary
- UST Location
- Approximate Excavation Location
- Approximate location of the former building concrete slab and footers
- Existing Fence
- Existing Gate
- Power Drop Location
- 20.58 Ground Elevation

CS = Combined Sewer
INV = invert elevation

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

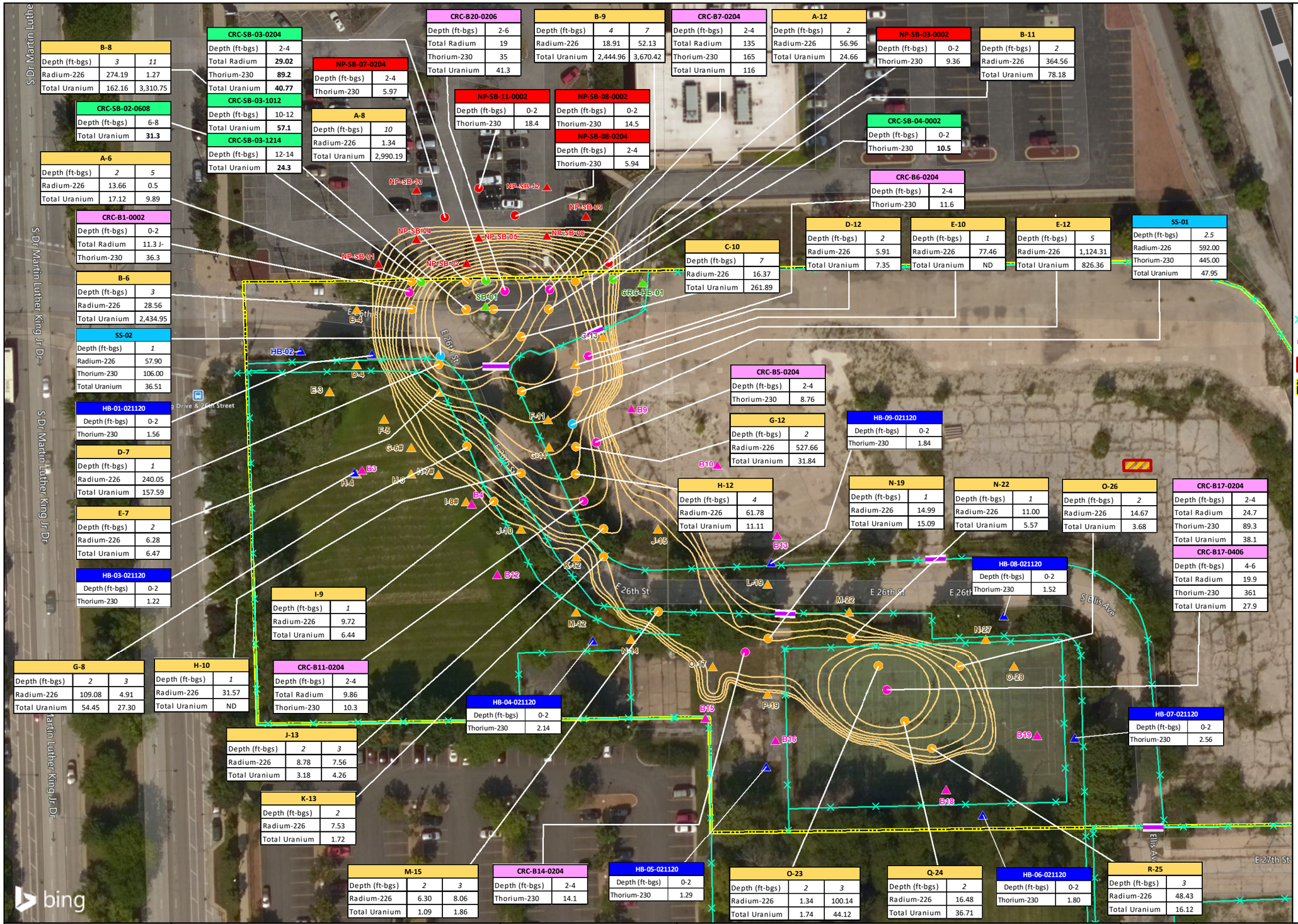
TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

EXISTING CONDITIONS (TOPOGRAPHIC AND UTILITY SURVEY) REVISION 1 ADDENDUM NO. 2

SHEET
C-2



Legend

- Hand Boring Location - 2020 Concentration below soil remediation criteria
- North Property Soil Sample Location - 2019
- North Property Soil Sample Location - 2019 Concentration below soil remediation criteria
- Soil Sample Location – 2019
- Soil Sample Location – 2019 Concentration below soil remediation criteria
- Soil Sample Location – 2018
- Soil Sample Location – 2018 Concentration below soil remediation criteria
- Soil Sample Location – 2017
- Soil Sample Location – 2012
- Soil Sample Location – 2012 Concentration below soil remediation criteria
- Existing Fence
- Existing Gate
- Cargo Storage Container
- Radioactive Facility License Boundary

All results presented in units of pCi/g
ft-bgs = feet-below ground surface
pCi/g = picoCuries per gram

N

0 50 100

Feet

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

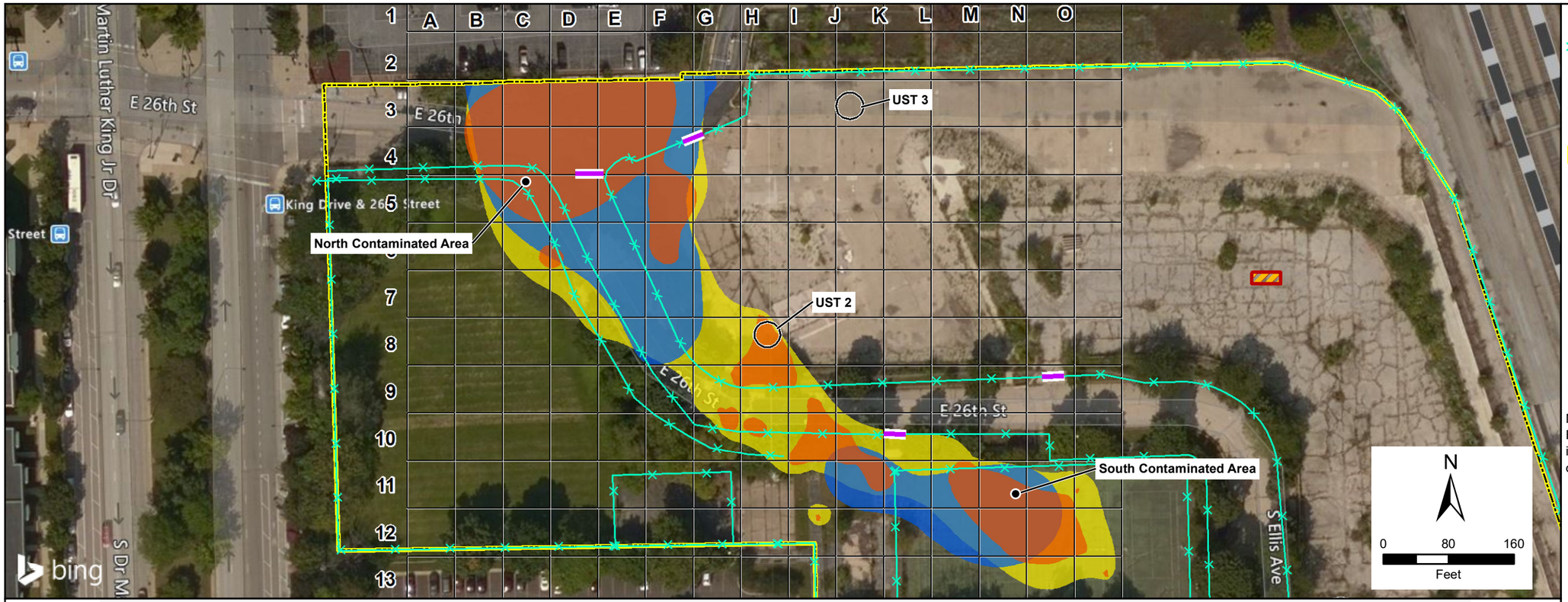
TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

SOIL ANALYTICAL RESULTS ABOVE REMEDIATION CRITERIA

SHEET
C-3

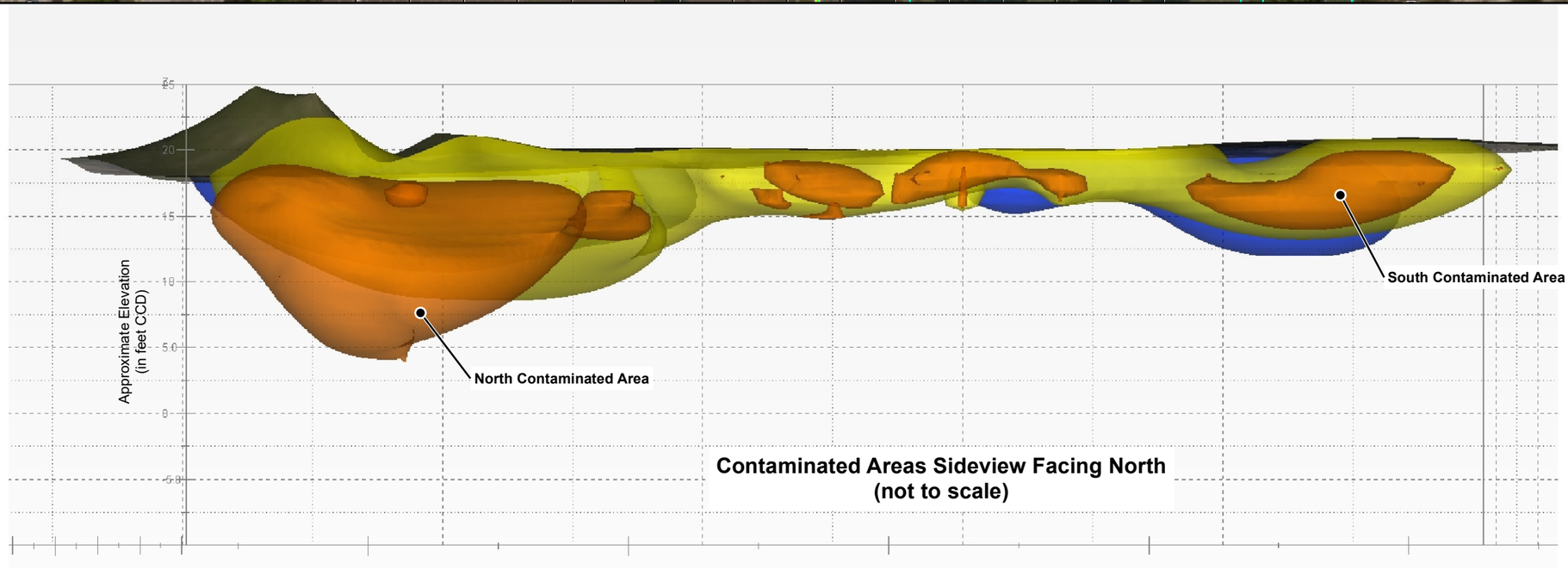


Legend

- Existing Fence
- Existing Gate
- Cargo Storage Container
- UST Location
- Radioactive Facility License Boundary
- 33' x 33' Grid
- Radium-226 in soil above 5.9 pCi/g
- Total uranium in soil above 22 pCi/g above 5 meters bgs
- Thorium-230 in soil above 5.5 pCi/g
- Ground Surface

bgs = below ground surface
CCD = City of Chicago Datum
pCi/g = picoCuries per gram

Note:
Extent of radium, uranium, and thorium contamination is based on soil analytical results, gamma survey data, and modeling.



Contaminated Areas Sideview Facing North (not to scale)

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

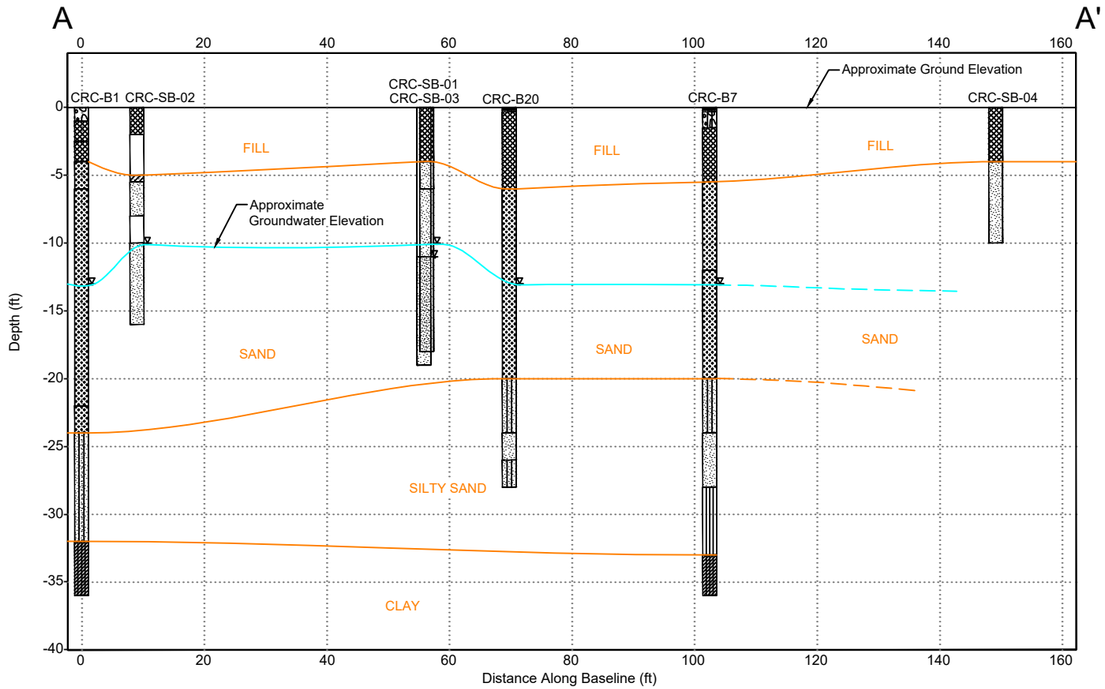
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

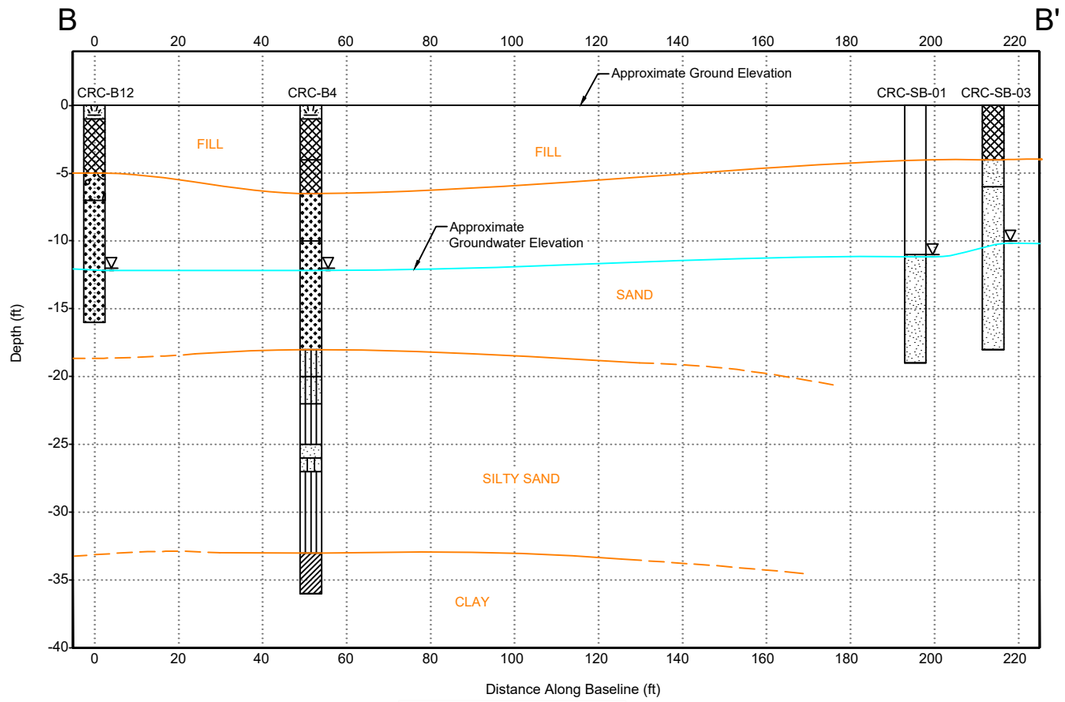
SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

EXTENT OF SUBSURFACE EXCEEDANCE

SHEET
C-4

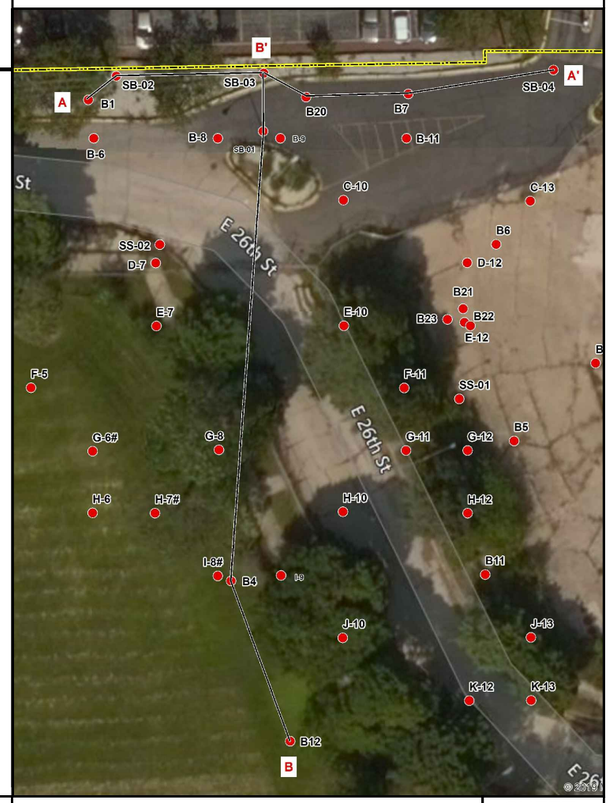
7/20/2020 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2020-06 Spec\C4-SubSurfaceExceedance.mxd m.banh





LEGEND

- Top Soil
- USCS Poorly-graded Gravel
- USCS Silty Sand
- Concrete
- USCS Silt
- Fill (made ground)
- USCS Low Plasticity Silty Clay
- USCS Silty Gravel
- USCS Well-graded Sand
- Asphalt
- USCS Poorly-graded Sand
- USCS Clayey Sand
- No Recovery
- Groundwater Table



DESIGNED:	C.NISSEN
DRAWN:	M.BANH
PROJECT NO:	103S328401004
DATE:	MAY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

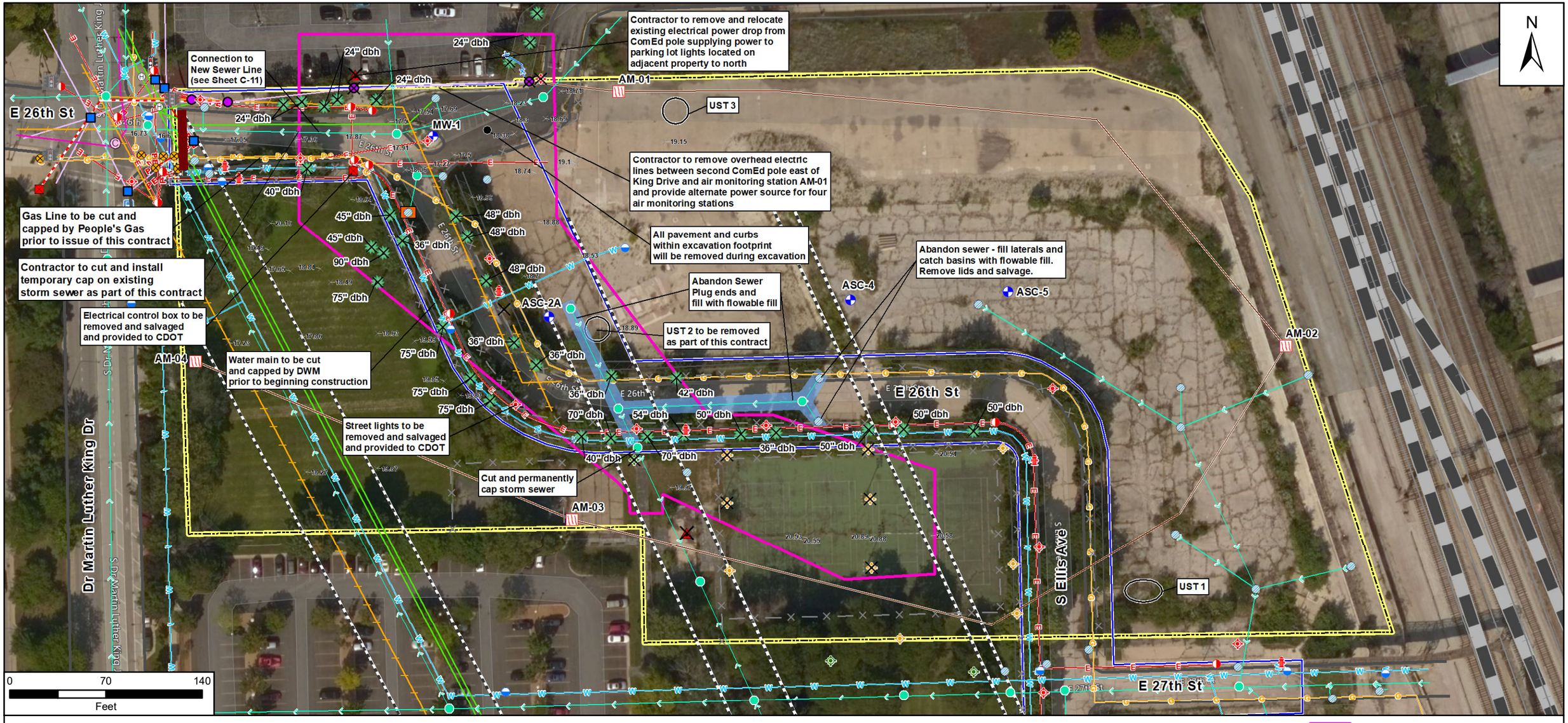
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A

GEOLOGICAL CROSS SECTIONS

SHEET
C-5

G:\S\3284 Chicago 2FM\01004 Carnotite\dwg\2020-04 Spec\C5-Geological Cross Sections.dwg



- Air Monitoring Station
- Catch Basin
- City Electric Manhole
- Closed Lid Sewer
- ComEd Manhole
- CDOT Electrical Control Box
- Fire Hydrant
- Gas Manhole
- Inlet
- Manhole
- RCN Manhole
- Street Light
- Park Path Light
- Tennis Court Light
- Traffic Signal
- Utility Pole
- Water Valve
- To be Removed
- Tree to be removed
- Monitoring Well Location
- City Underground Line
- Easement
- Dead Gas Line
- PG Painted Gas Line
- PW Painted Water Line
- PE Painted Electric Line
- RCN
- SBC
- Existing Temporary Overhead Electric Line
- Guard rail to be removed
- ComEd Electric
- E City Electric
- W Water Line
- Sewer
- G Gas Line
- ROW
- Fence to be removed
- Traffic light to be covered
- Storm sewer to be abandoned
- Approximate Excavation Location
- Radioactive Facility License Boundary
- UST Location
- Railroad
- Street
- Sidewalk
- Power Drop Location to be Removed

Note:
Contractor to remove all decommissioned utilities within the excavation area. Any decommissioned utilities outside the excavation area will be abandoned in place.

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

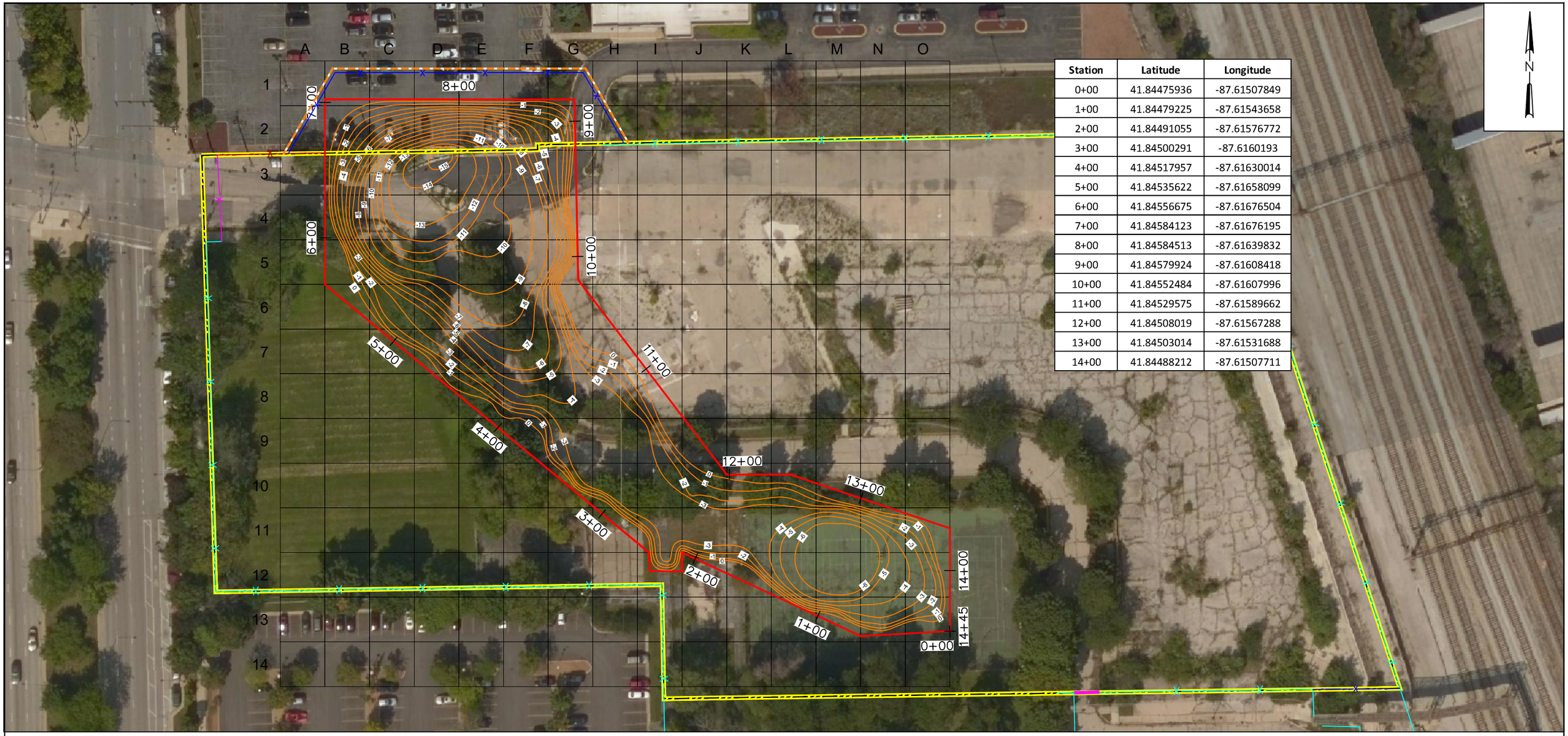
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

DECOMMISSIONING PLAN

SHEET
C-6

9/21/2020 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2020-06 Spec\C6-DecommissioningPlan.mxd m.banh



Station	Latitude	Longitude
0+00	41.84475936	-87.61507849
1+00	41.84479225	-87.61543658
2+00	41.84491055	-87.61576772
3+00	41.84500291	-87.6160193
4+00	41.84517957	-87.61630014
5+00	41.84535622	-87.61658099
6+00	41.84556675	-87.61676504
7+00	41.84584123	-87.61676195
8+00	41.84584513	-87.61639832
9+00	41.84579924	-87.61608418
10+00	41.84552484	-87.61607996
11+00	41.84529575	-87.61589662
12+00	41.84508019	-87.61567288
13+00	41.84503014	-87.61531688
14+00	41.84488212	-87.61507711

NEW PERMANENT FENCE

EXISTING FENCE

TEMPORARY FENCE

TEMPORARY FENCE DURING REMEDIATION, PERMANENT FENCE AFTER REMEDIATION

EXISTING GATE

EXCAVATION DEPTH CONTOUR

EXCAVATION STATION LOCATIONS

SITE BOUNDARY

33' x 33' GRID

CARGO STORAGE CONTAINER

CONCRETE JERSEY BARRIER

NOTES:

1. ADDITIONAL EXCAVATION MAY BE NECESSARY FOR SLOPE STABILITY.
2. SITE SURFACE ELEVATION GENERALLY RANGES FROM 18 FEET CHICAGO CITY DATUM (CCD) IN THE NORTH EXCAVATION AREA TO 20 FEET CCD IN THE SOUTH EXCAVATION AREA, WITH LOCALLY HIGHER ELEVATIONS IN SOME SITE AREAS (SEE SITE SURVEYS IN APPENDIX K).

0 70 140
SCALE IN FEET

DESIGNED:	C.NISSEN
DRAWN:	M.BANH
PROJECT NO:	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
CHICAGO, IL 60606
312.201.7700

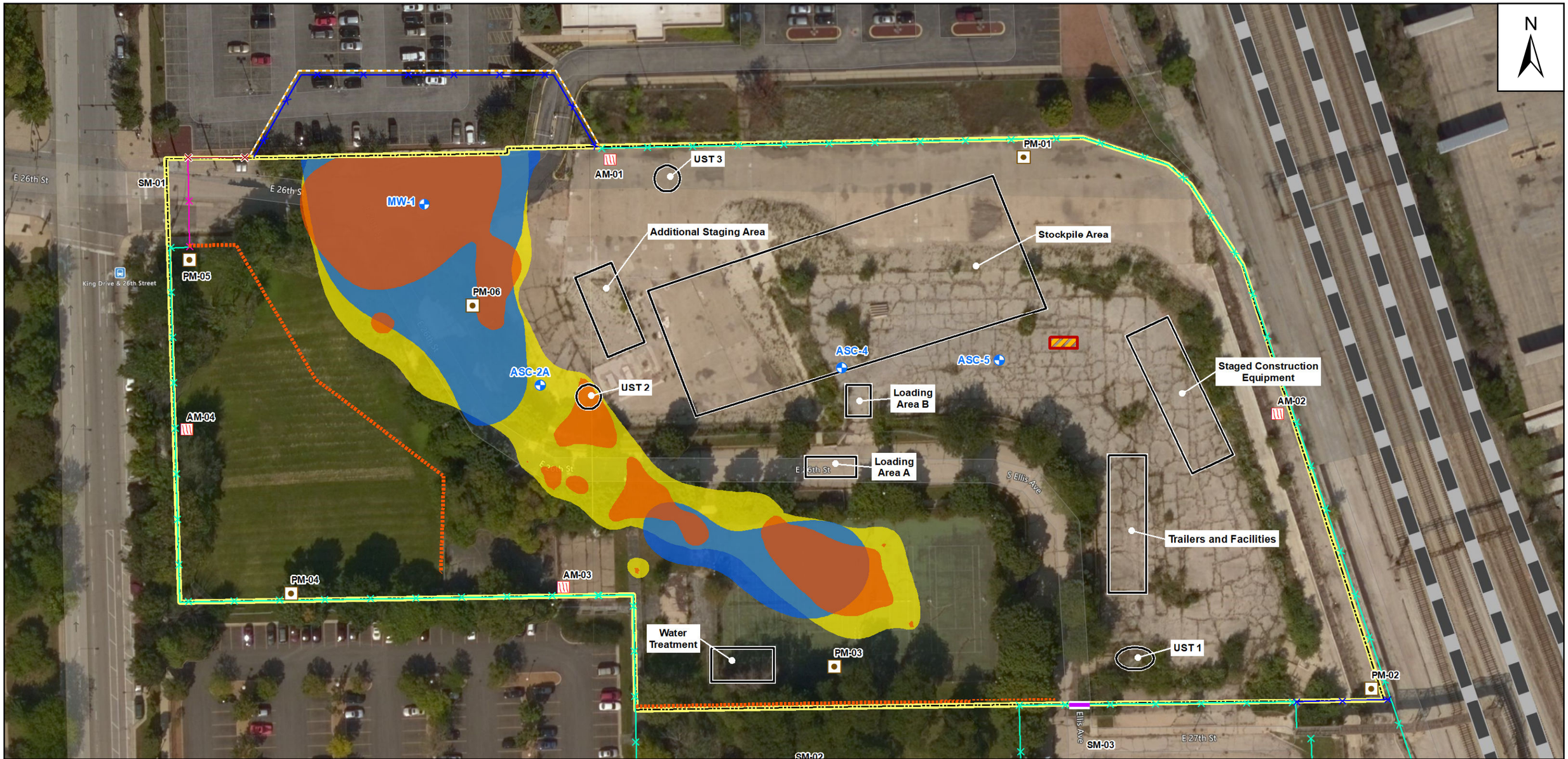
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A

REMEDIATION EXCAVATION PLAN

SHEET
C-7

G:\S\3284 Chicago 2FM\01004 Carnotite\dwg\2020-06 spec\C7-ExcavationPlan.dwg



Air Monitoring Station

Passive Gamma and Radon Monitoring Location

Monitoring Well Location

Construction Fence

Existing Fence

New Permanent Fence

Temporary Fence

Temporary Fence during remediation, Permanent Fence after remediation

Existing Gate

Concrete Jersey Barrier

Cargo Storage Container

Radioactive Facility License Boundary

Total uranium in soil above 22 pCi/g above 5 meters bgs

Thorium-230 in soil above 5.5 pCi/g

Radium-226 in soil above 5.9 pCi/g

0 70 140

Feet

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

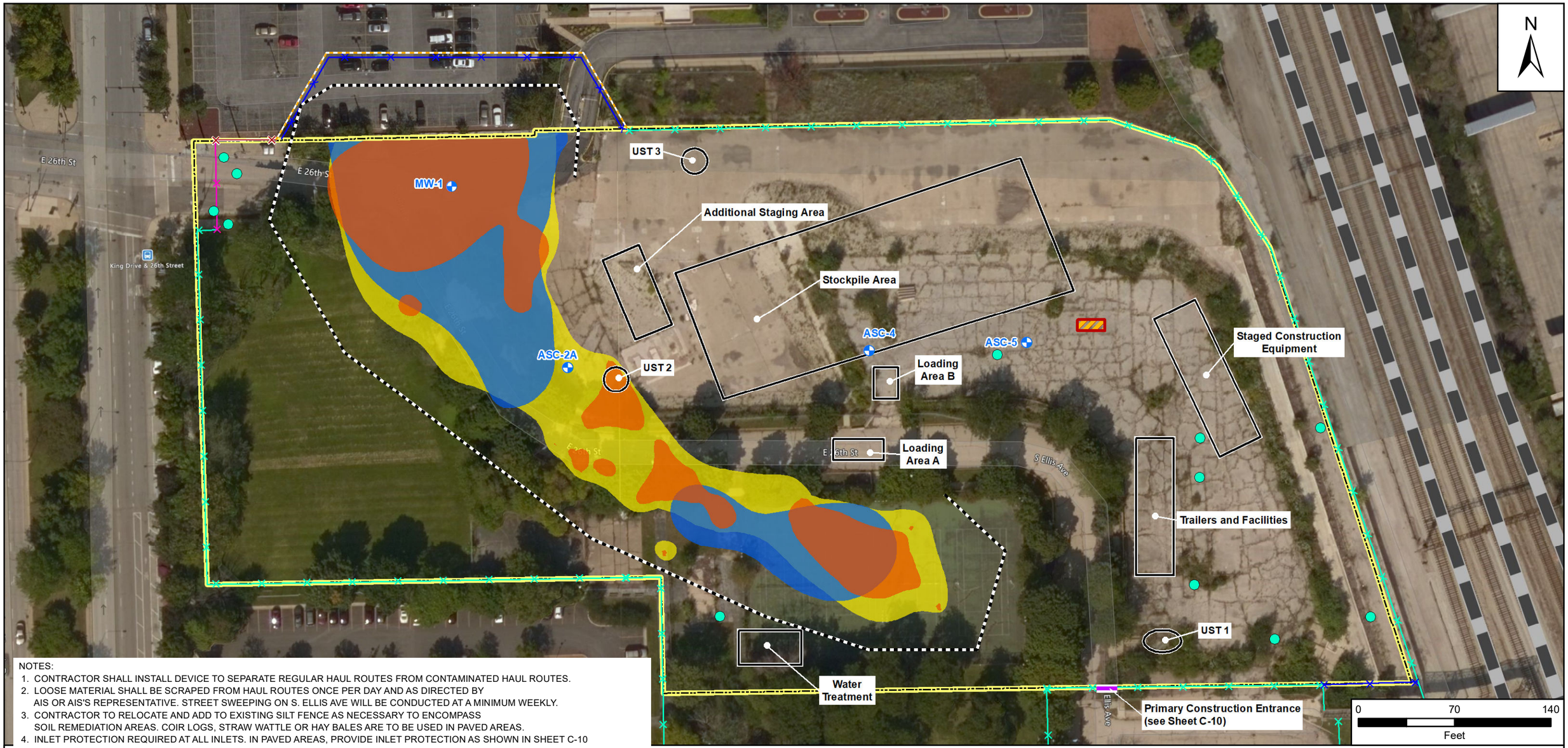
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

PROPOSED REMEDIATION SITE LAYOUT

SHEET
C-8

7/20/2020 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2020-06 Spec\C8-ProposedRemediationSiteLayout.mxd m.banh



NOTES:

1. CONTRACTOR SHALL INSTALL DEVICE TO SEPARATE REGULAR HAUL ROUTES FROM CONTAMINATED HAUL ROUTES.
2. LOOSE MATERIAL SHALL BE SCRAPED FROM HAUL ROUTES ONCE PER DAY AND AS DIRECTED BY AIS OR AIS'S REPRESENTATIVE. STREET SWEEPING ON S. ELLIS AVE WILL BE CONDUCTED AT A MINIMUM WEEKLY.
3. CONTRACTOR TO RELOCATE AND ADD TO EXISTING SILT FENCE AS NECESSARY TO ENCOMPASS SOIL REMEDIATION AREAS. COIR LOGS, STRAW WATTLE OR HAY BALES ARE TO BE USED IN PAVED AREAS.
4. INLET PROTECTION REQUIRED AT ALL INLETS. IN PAVED AREAS, PROVIDE INLET PROTECTION AS SHOWN IN SHEET C-10 IN OTHER AREAS, PERIMETER SILT FENCE AROUND THE INLET IS ALLOWED.
5. INSTALL CONSTRUCTION SITE ENTRANCE/EXIT PER SHEET C-10.
6. SOIL STOCKPILES SHALL HAVE HAY BALES OR EQUIVALENT RUNOFF CONTROL MEASURES INSTALLED ON THE DOWNSLOPE SIDE OF EACH STOCKPILE WITHIN 72-HOURS OF CONSTRUCTION.
7. EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY DURING THE LIFE OF THE PROJECT AND WITHIN 24 HOURS OF EACH 0.5-INCH STORM. DAMAGED EROSION CONTROL MEASURES SHALL BE REPAIRED.
8. DITCHES, SWALES AND AREAS WHERE CONCENTRATED FLOW IS EXPECTED SHALL BE STABILIZED WITH DITCH CHECKS OR SIMILAR BMP PRIOR TO DIRECTING RUNOFF TO THEM.
9. BMPS WILL BE IMPLEMENTED TO MINIMIZE SPILLS OF SOILS IN LOADING AND STAGING AREAS. THESE AREAS WILL BE KEPT CLEAN TO PREVENT CONTACT WITH STORMWATER RUNOFF.
10. TEMPORARY EROSION CONTROL BMPs WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL PERMANENT STABILIZATION IS ACHIEVED.
11. MINIMIZE DAMAGE TO NORTH ADJACENT PROPERTY ASPHALT AND CURBS. ASPHALT, CURBS AND LANDSCAPES TO BE REPAIRED AT PROJECT COMPLETION.

- Monitoring Well Location
- Storm Sewer Catch Basin provide inlet protection on all storm sewer catch basins (verify in field)
- Concrete Jersey Barrier
- Erosion Control - silt fence, coir logs, straw wattles
- Existing Fence
- New Permanent Fence
- Temporary Fence
- Temporary Fence during remediation, Permanent Fence after remediation
- Existing Gate
- Cargo Storage Container
- Radioactive Facility License Boundary
- Total uranium in soil above 22 pCi/g above 5 meters bgs
- Thorium-230 in soil above 5.5 pCi/g
- Radium-226 in soil above 5.9 pCi/g

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

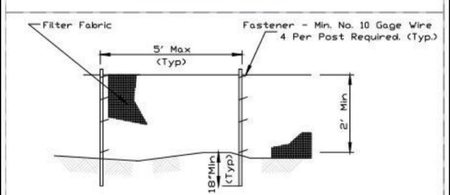
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

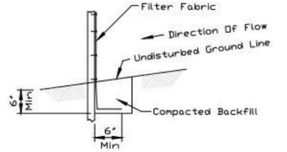
PROPOSED EROSION CONTROL PLAN

SHEET **C-9**

SILT FENCE PLAN



ELEVATION



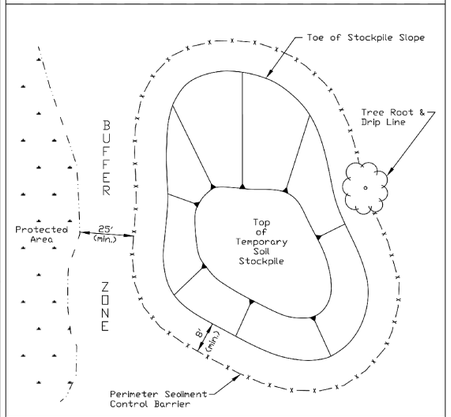
FABRIC ANCHOR DETAIL

NOTES:
1. Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
2. Filter Fabric shall meet the requirements of material specification 592 Geotextile based upon performance needed.
3. Fence posts shall be either standard steel post or wood post with a minimum cross-sectional area of 2" x 2" nominal size.

REFERENCE
Project
Designed Date
Checked Date
Approved Date

STANDARD DWG. NO. IUM-620
SHEET 1 OF 2
DATE 3-16-12

TEMPORARY SOIL STOCKPILE DETAIL

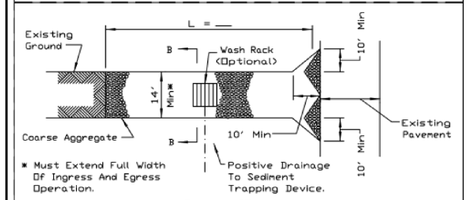


NOTES:
1. Stockpile slopes should be based on angle of repose of the soil material to avoid potential sloughing of the slope.
2. Soil stockpile to be stabilized in accordance with practical standards.
3. Do not locate stockpile within overland drainage flow path, designated floodways, drip line or over the root crown of adjacent trees.
4. Provisions for sediment control practices may be required along haul roads and entrance/exit locations for access the soil stockpile that can create flow path for stormwater runoff.
5. Installation of benches, terraces, or slope interrupters should be considered.
6. Avoid building soil stockpiles on impervious surfaces.
7. Linear sediment trap surrounding the stockpile base may be used to control sediment.

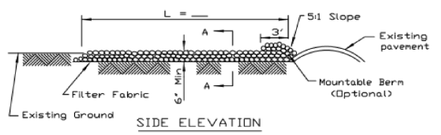
REFERENCE
Project
Designed Date
Checked Date
Approved Date

STANDARD DWG. NO. IUM-627
SHEET 1 OF 1
DATE JANUARY 2017

STABILIZED CONSTRUCTION ENTRANCE PLAN



PLAN VIEW



SIDE ELEVATION

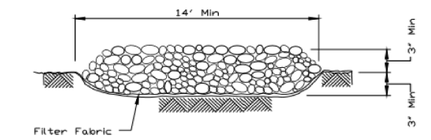
NOTES:
1. Filter fabric shall meet the requirements of material specification 592 GEOTEXTILE, Table I or 2, Class I, II or IV and shall be placed over the cleared area prior to the placing of rock.
2. Rock or reclaimed concrete shall meet one of the following IDOT coarse aggregate gradation, CA-1, CA-2, CA-3 or CA-4 and be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
3. Any drainage facilities required because of washing shall be constructed according to manufacturers specifications.
4. If wash racks are used they shall be installed according to the manufacturer's specifications.

REFERENCE
Project
Designed Date
Checked Date
Approved Date

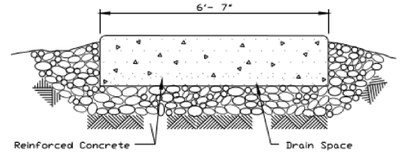
NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-630
SHEET 1 OF 2
DATE 8-18-94

STABILIZED CONSTRUCTION ENTRANCE PLAN



SECTION A-A

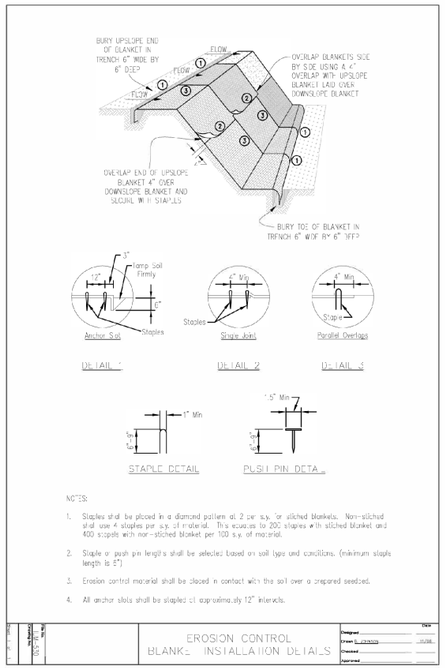


SECTION B-B

REFERENCE
Project
Designed Date
Checked Date
Approved Date

NRCS Natural Resources Conservation Service

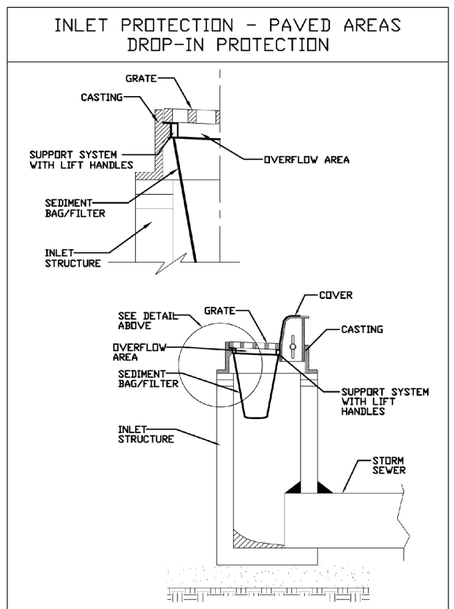
STANDARD DWG. NO. IL-630
SHEET 2 OF 2
DATE 8-18-94



NOTES:
1. Staples shall be placed in a diamond pattern at 2 per s.y. for stitched blankets. Non-stitched shall use 4 staples per s.y. of material. This equates to 200 staples with stitched blanket and 400 staples with non-stitched blanket per 100 s.y. of material.
2. Staple or push pin length shall be selected based on soil type and conditions. (minimum staple length is 6")
3. Erosion control material shall be placed in contact with the soil over a prepared seedbed.
4. All anchor slots shall be stapled at approximately 12" intervals.

EROSION CONTROL BLANKET INSTALLATION DETAILS

INLET PROTECTION - PAVED AREAS
DROP-IN PROTECTION



REFERENCE
Project
Designed Date
Checked Date
Approved Date

STANDARD DWG. NO. IUM-561D
SHEET 1 OF 1
DATE 01-11-11

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	MAY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

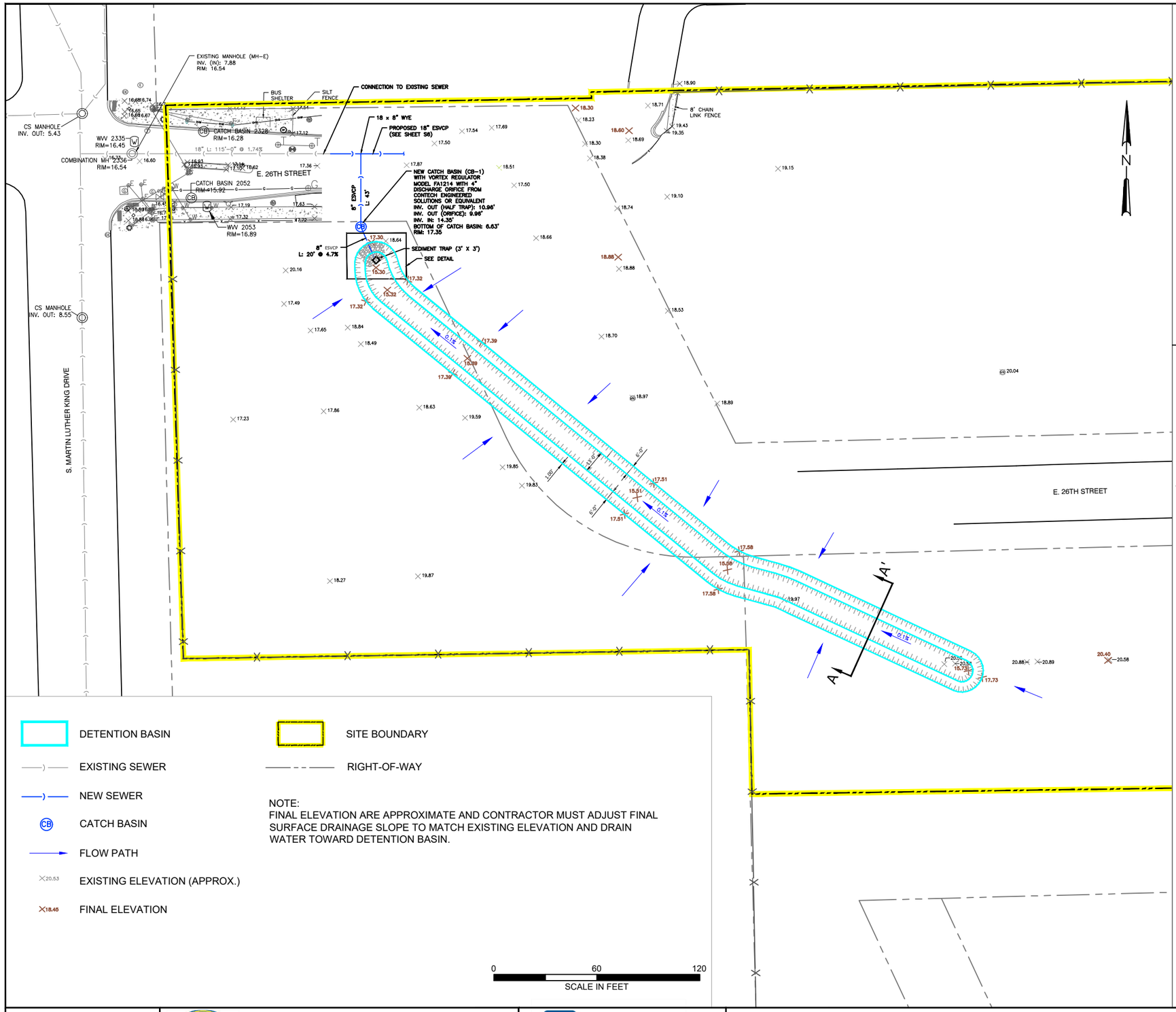
TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

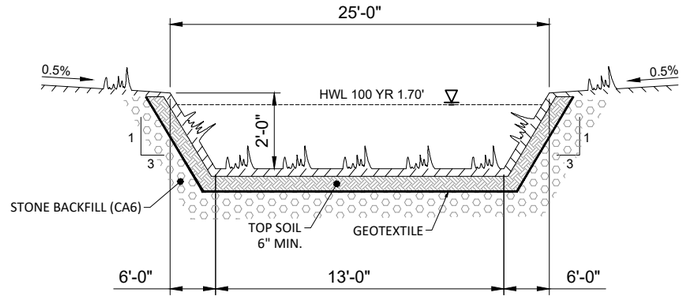
EROSION CONTROL DETAIL

SHEET **C-10**



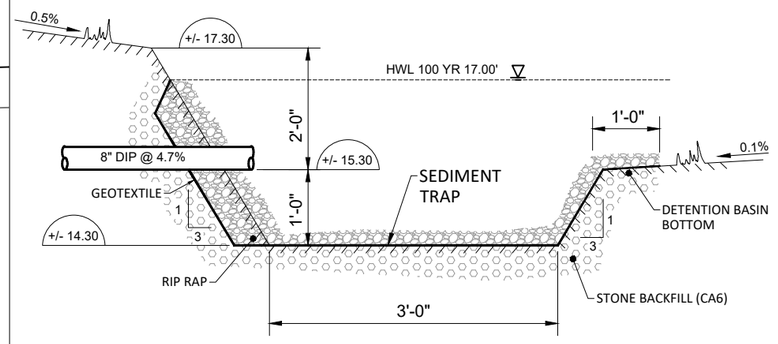
CROSS SECTION A-A'

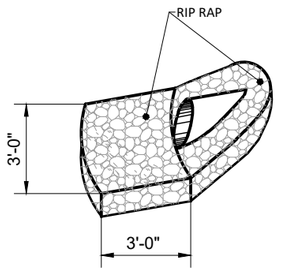
NOT TO SCALE



DETENTION BASIN OUTLET DETAIL

NOT TO SCALE





DESIGNED:	C.NISSEN
DRAWN:	M.BANH
PROJECT NO:	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

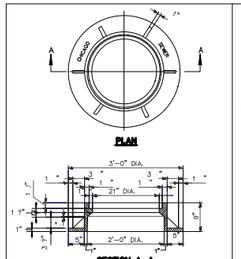
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A

DETENTION BASIN CONSTRUCTION PLAN

SHEET
C-11

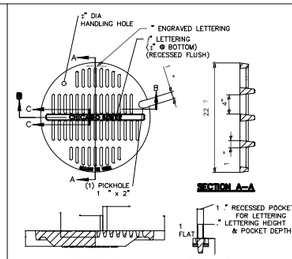
G:\S\3284 Chicago 2FM\01004 Carnotite\dwg\2020-06 spec\C11-PropSewerLines.dwg



NOTE: METAL PLATES MUST BE FURNISHED FOR PERFORATED LIDS ON MANHOLES.

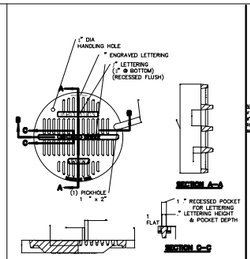
HEAVYWEIGHT MANHOLE FRAME

MATERIAL: CAST IRON



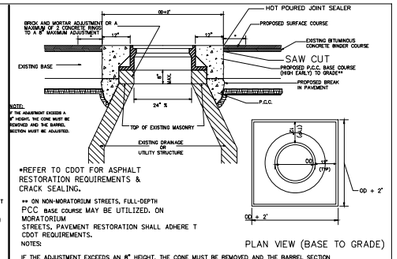
MATERIALS
GRATE–GRAY IRON ASTM A48 CL35B
DESIGN LOAD HEAVY DUTY
COATING UNDIPPED
OPEN AREA 85.6 SQ. IN.

STANDARD CB/MH LID



MATERIALS
GRATE–GRAY IRON ASTM A48 CL35B
DESIGN LOAD HEAVY DUTY
COATING UNDIPPED
OPEN AREA 85.6 SQ. IN.

STANDARD LID FOR INFILTRATION SYSTEMS



*REFER TO CDOT FOR ASPHALT RESTORATION REQUIREMENTS & CRACK SEALING.

** ON NON-MORATORIUM STREETS, FULL-DEPTH P.C.C. BASE COURSE MAY BE UTILIZED. ON MORATORIUM STREETS, PAVEMENT RESTORATION SHALL ADHERE T CDOT REQUIREMENTS.

NOTES:

IF THE ADJUSTMENT EXCEEDS AN 8" HEIGHT, THE CONE MUST BE REMOVED AND THE BARREL SECTION MUST BE ADJUSTED.

THE CONTRACTOR IS REQUIRED TO REPLACE ANY BROKEN FRAMES AND LIDS OF SEWER STRUCTURES WITH STANDARD FRAMES AND LIDS OF THE DWM. IN ADJUSTMENT OR RECONSTRUCTION OF SEWER STRUCTURES, ANY NON-STANDARD FRAMES AND LIDS MUST BE REPLACED WITH STANDARD FRAMES AND LIDS. IN ADJUSTMENT OR RECONSTRUCTION OF INLETS, ANY NON-STANDARD INLETS (CUTTER BOXES) MUST BE REPLACED WITH DWM STANDARD INLETS.

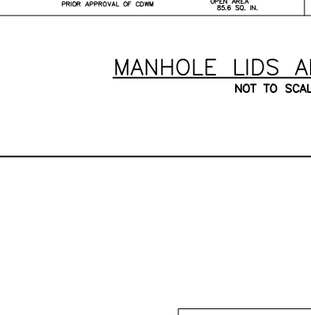
THE FRAMES AND LIDS OF SEWER STRUCTURES TO BE ABANDONED, REMOVED, OR FILLED MUST BE SALVAGED AND THE DWM NOTIFIED FOR PICK UP.

MANHOLES, CATCH BASINS AND INLETS MUST BE PROTECTED FROM THE ENTRY OF ASPHALT/DEBRIS INTO THE SEWER SYSTEM DURING CONSTRUCTION. THE CONTRACTOR MUST MARK LOCATIONS OF ALL SEWER STRUCTURES ON THE SIDEWALK BEFORE STARTING PAVEMENT REMOVAL/REPLACEMENT. ADJUSTMENT OF FRAMES AND LIDS OF SEWER STRUCTURES MUST BE COMPLETED PRIOR TO STREET RESURFACING.

DETAIL OF FRAME ADJUSTMENT

MANHOLE FRAME CAST IRON GRAY ASTM A-48 CLASS 35B NO PAINT 177 LBS.

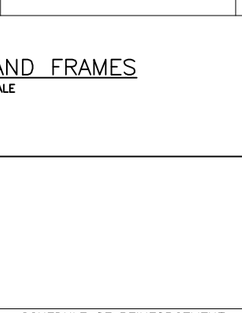
LIGHTWEIGHT MANHOLE FRAME



NOTE: NOT TO BE USED WITHOUT PRIOR APPROVAL OF CDWM

MATERIALS
GRATE–GRAY IRON ASTM A48 CL35B
DESIGN LOAD HEAVY DUTY
COATING UNDIPPED
OPEN AREA 85.6 SQ. IN.

ADA MANHOLE LID



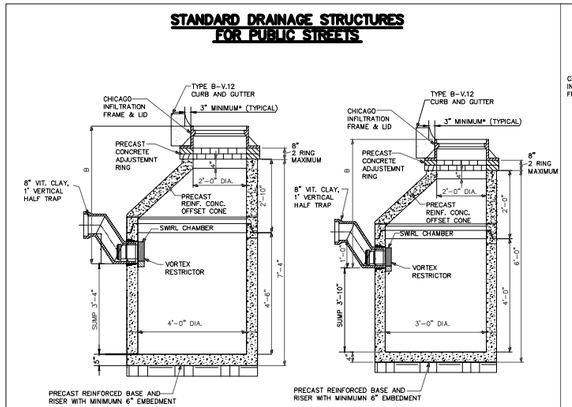
INFILTRATION SOLID LID FOR CATCH BASIN

SOLID LID FOR MANHOLES

MANHOLE LIDS AND FRAMES

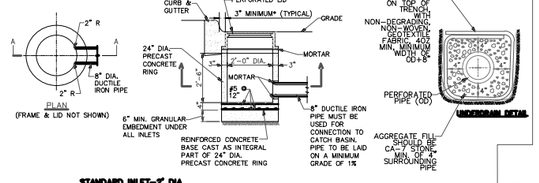
NOT TO SCALE

STANDARD DRAINAGE STRUCTURES FOR PUBLIC STREETS



STANDARD CATCH BASIN–4' DIA.

STANDARD CATCH BASIN–3' DIA.



STANDARD INLET–2' DIA.

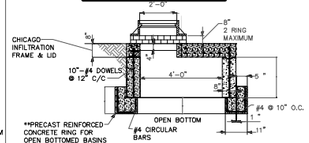
NOTE:
INLETS AND 3' DIAMETER CATCH BASINS ARE TO BE USED ONLY WITH PRIOR APPROVAL OF DWM SEWER ENGINEER OR FIELD INSPECTOR.

FOR TRENCH BACKFILL, USE FA–6 SAND, CRUSHED CONCRETE SAND, OR STONE SAND.

FOR GRANULAR EMBEDMENT, USE CA–11, CRUSHED GRAVEL, CRUSHED STONE, OR CRUSHED CONCRETE.

*OUTER EDGE OF FRAME TO FACE OF CURB

STANDARD DRAINAGE STRUCTURES FOR PUBLIC ALLEYS



GREEN ALLEY OPEN BOTTOM CATCH BASIN

TO BE USED IF STANDARD CONE WITH REQUIRED SUMP DEPTH INSTALLATION IS IMPOSSIBLE.

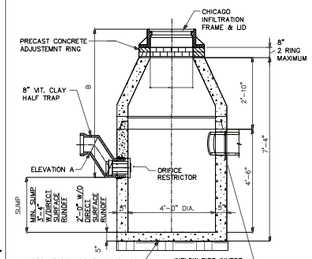
**IF FLAT TOP SLAB CATCH BASIN IS USED IN AN OPEN BOTTOM APPLICATION, THE FOLLOWING CRITERIA MUST BE FOLLOWED:

–"C" MUST BE A MINIMUM OF 3 FEET.

– PROVIDE A MINIMUM AGGREGATE BASE OF 1.0 FEET BELOW PRECAST REINFORCED CONCRETE RING.

–GEOTECH FABRIC MUST BE PLACED ON SIDES AND BOTTOM OF AGGREGATE SURROUNDING BASIN.

–AGGREGATE BASE MUST PROVIDE ADEQUATE STORMWATER STORAGE CAPACITY PER THE APPROVED/PERMITTED PLANS.



CATCH BASIN–ORIFICE RESTRICTOR

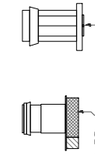
N.T.S.

NOTES:

1. FOR ANY DRAIN TILE CONNECTION, THE WATER TABLE MUST BE AT LEAST 3.5 FEET BELOW ELEVATION A.

2. PVC UNDERDRAINS MUST BE 4" MINIMUM DIAMETER, (6" RECOMMENDED) AND MUST BE WRAPPED IN GEOTECH FABRIC.

DRAINAGE STRUCTURES RESTRICTORS



INSERT THE RESTRICTOR INTO THE HALF–TRAP. UPON TIGHTENING OF THE CENTER NUT ON THE FACE OF THE RESTRICTOR, THE RUBBER O–RINGS WILL EXPAND INSIDE THE HALF TRAP, PROVIDING A WATER– TIGHT SEAL. PULL ON RESTRICTOR TO VERIFY THAT A TIGHT FIT IS MADE.

PULL ON RESTRICTOR TO VERIFY THAT A TIGHT FIT IS MADE.

INSERT THE RESTRICTOR WITH THE OPENING DOWN. UPON TIGHTENING OF THE 2 BOLTS ON THE FACE OF THE RESTRICTOR, THE RUBBER O–RINGS WILL PROVIDE A WATER– TIGHT SEAL.

GENERAL NOTES:

1. CATCH BASIN TO CATCH BASIN CONNECTIONS ARE ALLOWED IN PRIVATE SITES & ALLEYS. ONLY THE DOWNSTREAM CATCH BASIN IS REQUIRED TO HAVE A HALF–TRAP.

2. IF B < 4 FEET, THEN USE A DUCTILE IRON PIPE HALF TRAP AND FLAT TOP SLAB CATCH BASIN AS NECESSARY.

3. INLETS AND 3' DIAMETER CATCH BASINS ARE TO BE USED ONLY WITH PRIOR APPROVAL OF DWM FIELD INSPECTOR.

RESTRICTOR NOTES:

THE DWM'S RAIN BLOCKER RESTRICTOR PROGRAM MUST BE MAINTAINED WITH ANY ROADWAY IMPROVEMENT.

THE DESIGN OF ANY ROADWAY IMPROVEMENT MUST CONSIDER LIMITING THE NUMBER OF CATCH BASINS TO THE EXTENT PRACTICAL. THE NUMBER OF EXISTING STRUCTURES SHOULD NOT BE INCREASED.

THE RESTRICTORS CAN BE OBTAINED FROM DWM CENTRAL DISTRICT AT 3901 S. ASHLAND AVE. THE CONTRACTOR SHOULD ARRANGE FOR PICK UP BY CONTACTING 312–747–1177 (7AM TO 3PM, M–F)

FLOW RESTRICTORS MUST BE INSTALLED IN ALL CATCH BASINS OUTSIDE OF THE CENTRAL BUSINESS DISTRICT. RESTRICTORS MUST NOT BE INSTALLED IN CATCH BASINS IN CLOSE PROXIMITY TO VIADUCT AREAS, BUS STOPS, OR EMERGENCY ENTRANCES. THE DWM MUST APPROVE THE NON–INSTALLATION OR REMOVAL OF ANY RESTRICTOR. REQUIREMENTS FOR RESTRICTOR INSTALLATION ARE AS FOLLOWS:

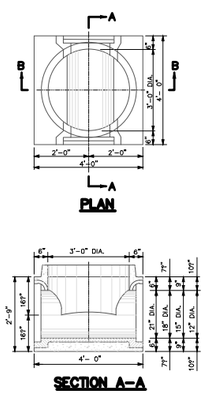
*ARTERIAL STREETS: 3–INCH ORIFICE RESTRICTOR
*BUS ROUTES: 3–INCH ORIFICE RESTRICTOR
*RESIDENTIAL STREETS: 3–INCH VORTEX RESTRICTOR
*ALLEYS: 3–INCH ORIFICE RESTRICTOR IN THE LAST CB.
*CLOSED LIDS ARE REQUIRED ON ALL MANHOLES EXCEPT AT INTERSECTIONS WHERE A PERFORATED LID SHALL BE USED.

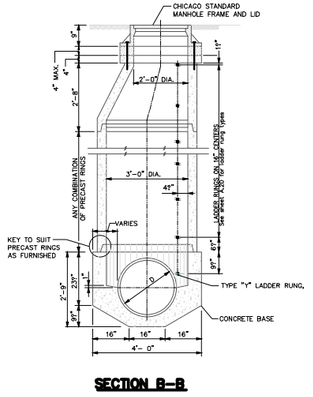
DRAINAGE STRUCTURE DETAILS

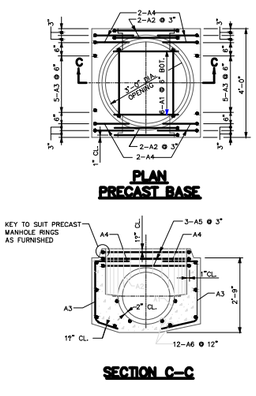
NOT TO SCALE

SCHEDULE OF REINFORCEMENT

STRUCTURE		MARK	REINFORCEMENT BAR SIZE NO.	TYPE	LENGTH	NO. RECQ.	WEIGHT – LBS EACH	TOTAL	BENDING DIMENSIONS A	B	C	D	E	F	G	H	J	K	O	R
BASES FOR TYPE "A" MANHOLES (PRECAST)	21" DIA.	21A1	6	9	3'–1"	8	4.63	28		3'–1"						119"		2'–0"	2'–1"	123"
		21A2	6	T3	5'–8"	4	13.02	52										2'–0"	2'–11"	
		21A3	5	12	3'–3"	10	3.39	34			22"	17"				149"		85"		
		21A4	5	12	4'–6"	8	4.69	38		15"	22"	17"				149"		85"		
		21A5	5	T3	11'–11"	3	12.43	37										20"	3'–39"	
		21A6	4	STR	3'–8"	12	2.45	30												
		TOTAL						219												
	18" DIA.	18A1	6	9	2'–85"	6	4.07	24		2'–85"							93"		22"	117"
		18A2	6	T3	7'–103"	4	11.83	47										2'–0"	229"	
		18A3	5	12	3'–3"	10	3.39	34			22"	17"				149"		85"		
		18A4	5	12	4'–6"	8	4.69	38		15"	22"	17"				149"		85"		
		18A5	5	T3	11'–11"	3	12.43	37										2'–0"	3'–39"	
		18A6	4	STR	3'–8"	12	2.45	30												
		TOTAL						202												
	15" DIA.	15A1	6	9	2'–39"	6	3.44	21		2.39"						87"			19"	97"
		15A2	6	T3	7'–1"	4	10.64	42										2'–0"	193"	
		15A3	5	12	3'–3"	10	3.39	34			22"	17"						85"		
		15A4	5	12	4'–6"	8	4.69	38		15"	22"	17"				149"		85"		
		15A5	5	T3	11'–11"	3	12.43	37								149"		20"	3'–39"	
		15A6	4	STR	3'–8"	12	2.45	30												
		TOTAL						202												
	12" DIA.	12A1	6	9	1'–11"	6	2.88	17		23"						61"			16"	83"
		12A2	6	T3	6'–1"	4	9.14	37										2'–0"	169"	
		12A3	5	12	3'–3"	10	3.39	34			22"	17"				149"		85"		
		12A4	5	12	4'–6"	8	4.69	38			22"	17"				149"		85"		
		12A5	5	T3	11'–11"	3	12.43	37										20"	3'–39"	
		12A6	4	STR	3'–8"	12	2.45	30												
		TOTAL						193												







NOTE:
6" MINIMUM GRANULAR EMBEDMENT UNDER ALL PRECAST MANHOLE BASES

TYPE A PRECAST MANHOLE FOR SEWERS 21'' DIA. AND SMALLER

NOT TO SCALE

NOTE:
STORM AND SANITARY DETAILS ARE DOWNLOADED FROM THE CITY OF CHICAGO DEPARTMENT OF WATER MANAGEMENT BUREAU OF ENGINEERING SERVICES

DESIGNED:	C.NISSEN
DRAWN:	M.BANH
PROJECT NO:	103S328401004
DATE:	MAY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

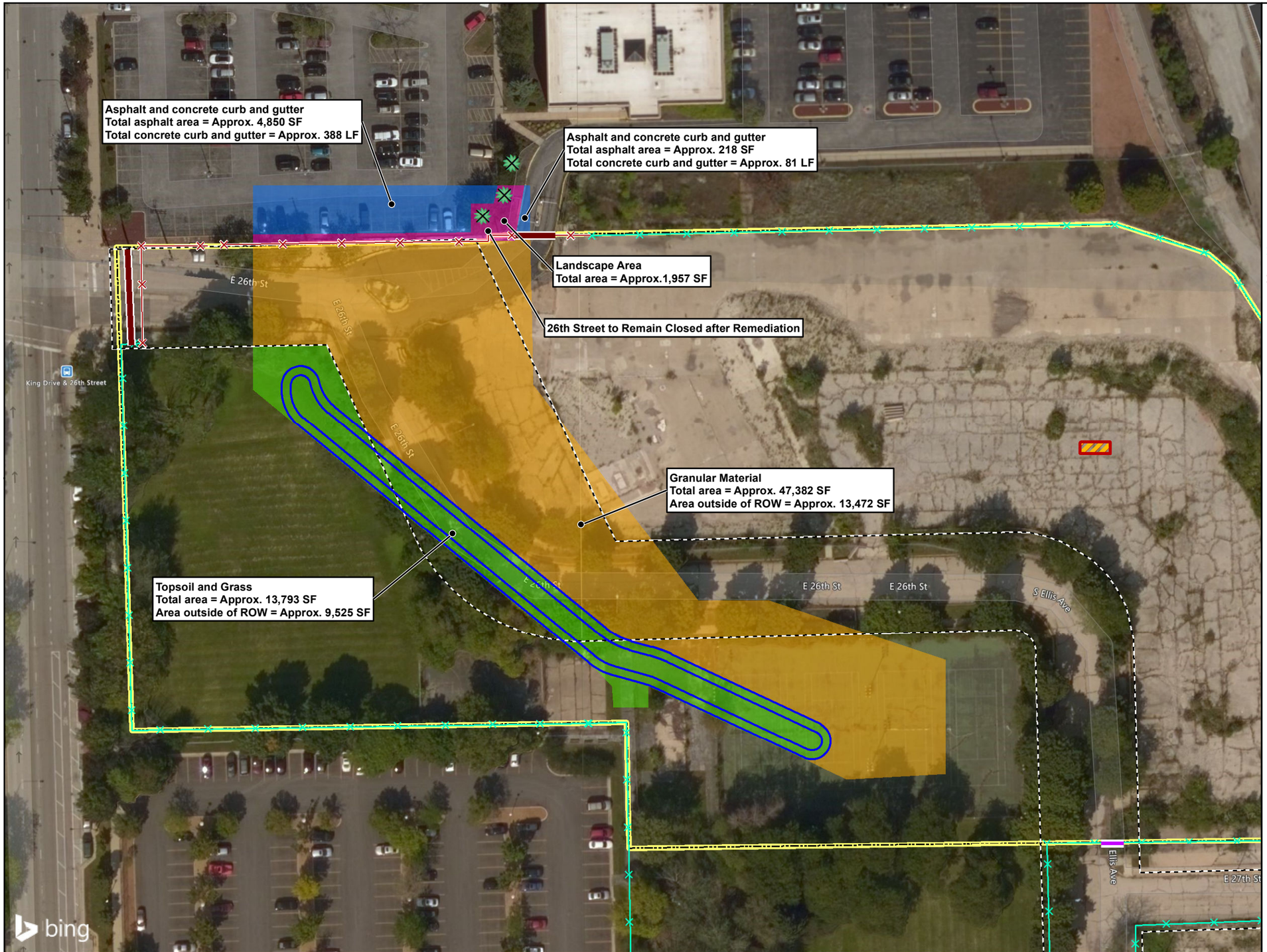
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A

STORM AND SANITARY SEWER DETAILS

SHEET
C-12

G:\S\3284 Chicago 2FM\01004 Carnotite\dwg\2020–04 Spec\C12–SewerDetails.dwg



Legend

- Tree to be replaced
- Granular Material
- Asphalt and concrete curb and gutter
- Landscape Area - Topsoil, Shredded hardwood bark mulch, and replace three trees.
- Top Soil and Grass
- Detention Basin
- ROW
- Existing Fence
- New Permanent Fence
- Existing Gate
- Permanent Road Closure Barricades and Signage

SF = Square feet
LF = linear Feet

Note:
Install erosion control mat within the basin and where slopes are greater than 3:1 (H:V)

N

0 60 120

Feet

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2020

DEPARTMENT OF ASSETS, INFORMATION AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

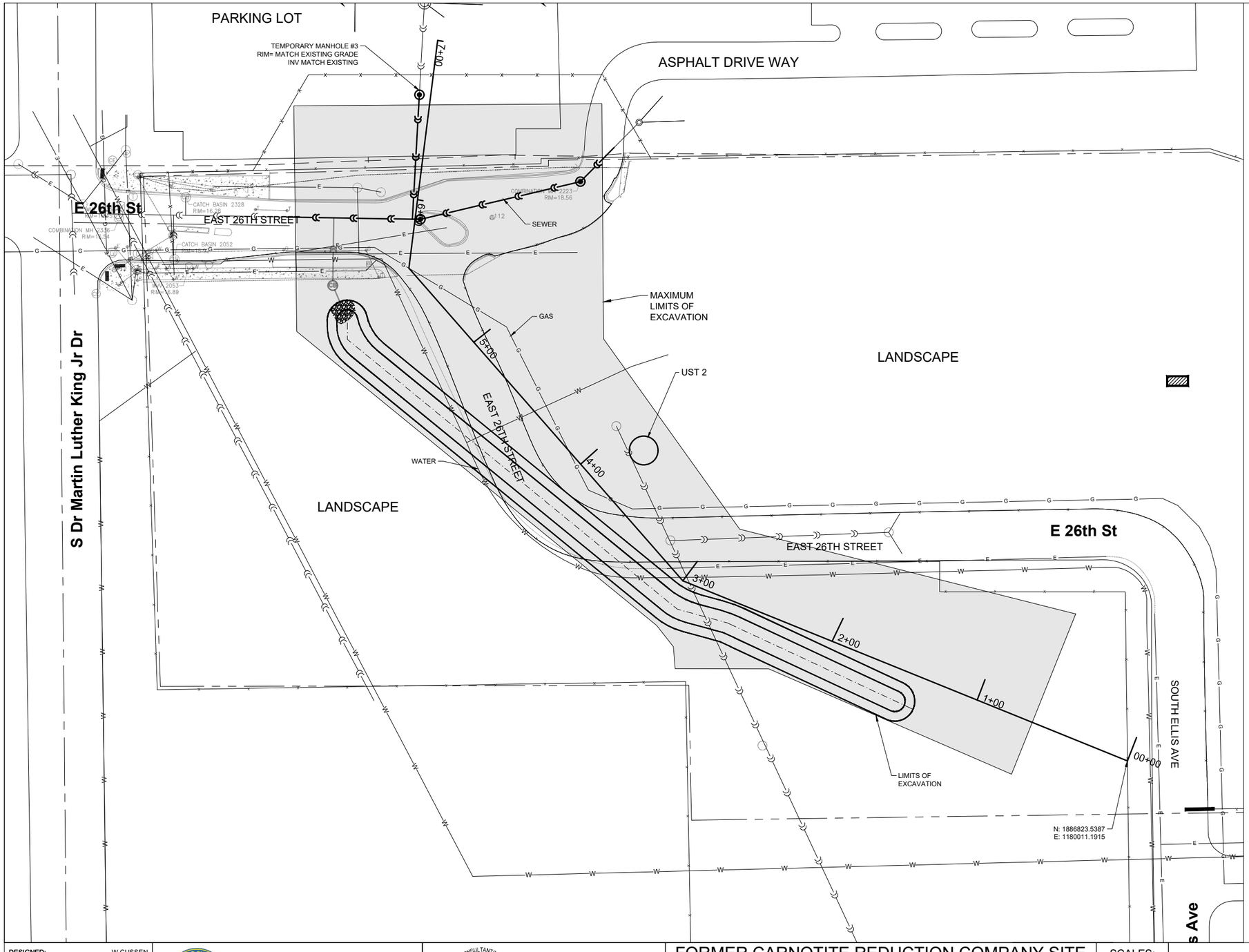
TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

RESTORATION PLAN

SHEET
C-13



N

GRAPHIC SCALE 1"=30'

0 7.5 15 30 60

LEGEND

- EXCAVATE AND REPLACE UNSUITABLE SOILS
- PROPERTY LINE
- FENCE LINE
- ELECTRICAL LINE
- GAS LINE
- SEWER LINE
- WATER LINE

GSG EXCAVATION PLAN - NOTES

1. CONTACT D.I.G.G.E.R (312-744-7000) TO VERIFY LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE STARTING EXCAVATION.
2. THE TEMPORARY MANHOLE IS TO BE INSTALLED ON THE NORTH PROPERTY PRIOR TO EXCAVATION. THE TEMPORARY MANHOLE WILL BE REMOVED UPON COMPLETION OF EXCAVATION PRIOR TO RESTORATION OF EXISTING COMBINED SEWERS IN ACCORDANCE WITH SPECIFICATION 33 40 00.
3. UTILITIES TO BE DECOMMISSIONED AS INDICATED IN DRAWING C-6, DECOMMISSIONING PLAN AND ASSOCIATED SPECIFICATIONS BY TETRA TECH PRIOR TO COMMENCING EXCAVATION.
4. CONTRACTOR SHALL DOCUMENT THE SITE CONDITIONS AND ADJACENT PROPERTIES' CONDITIONS PRIOR TO STARTING EXCAVATION ACTIVITIES.
5. EXCAVATE ALL CONTAMINATED MATERIALS SHOWN IN THE EXCAVATION REMEDIATION PLAN. SITE EXCAVATION SHALL BE COMPLETED IN ACCORDANCE WITH THE EXCAVATION PLAN.
6. UNAUTHORIZED EXCAVATION CONSISTS OF REMOVAL OF MATERIALS BEYOND THE INDICATED OR REQUIRED ELEVATIONS. CONTRACTOR SHALL RESTORE ALL UNAUTHORIZED EXCAVATION TO ITS ORIGINAL CONDITIONS.
7. THE SIDE OF EXCAVATIONS TO COMPLY WITH CITY OF CHICAGO REQUIREMENTS AND SLOPE CROSS SECTIONS PROVIDED IN THE EXCAVATION PLAN. MAINTAIN SIDES AND SLOPES OF EXCAVATIONS IN A SAFE CONDITION UNTIL COMPLETION OF BACK FILLING.
8. DEWATERING: COMPLETE SITE DEWATERING IN ACCORDANCE WITH SPECIFICATION 312319.
9. COMPACTION: PLACE AND COMPACT SOIL IN ACCORDANCE WITH THE SITE RESTORATION SPECIFICATION 323000.
10. THE PROPERTY LINE NEEDS TO BE STAKED BY A SURVEYOR PRIOR TO THE START OF CONSTRUCTION AND INSTALLATION OF THE SHEET PILE WALL.
11. BASE MAP PROVIDED BY TETRA TECH ALL DIMENSIONS AND COORDINATES ARE TO BE CONFIRMED BY A LICENSED SURVEYOR.

DESIGNED:	W.CUSSEN
DRAWN:	A.NIEVES
PROJECT NO.	103S328401004
DATE:	AUGUST 2020

DEPARTMENT OF ASSETS, INFORMATION, AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

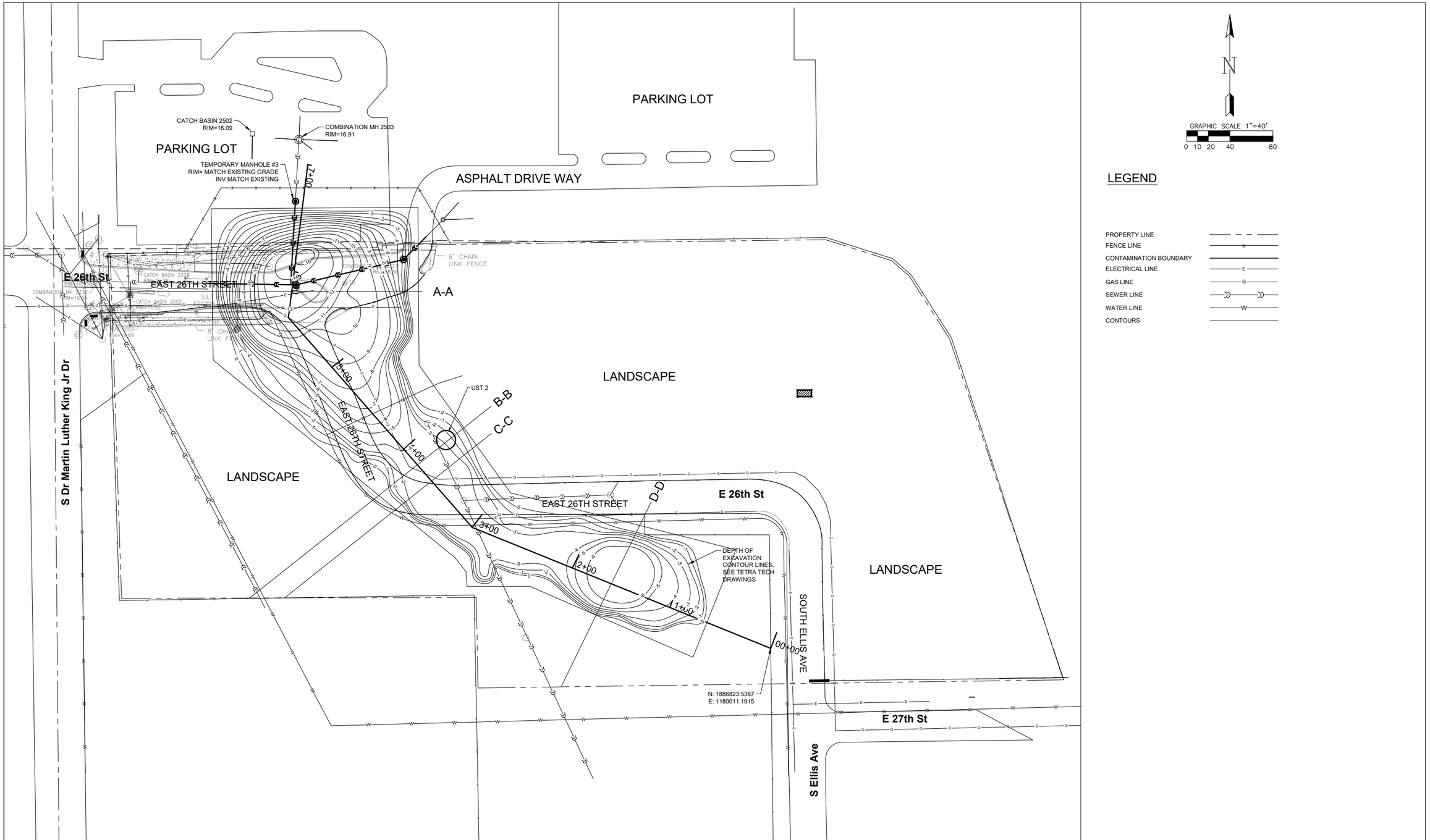
GSG CONSULTANTS, INC
623 Cooper Court ● Schaumburg, IL 60173
Tel: 630.994.2600 ● Fax: 312.733.5612
www.gsg-consultants.com
Integrity | Quality | Reliability

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: 1"=30'-0"
VERTICAL SCALE: N/A

SITE PLAN

SHEET
S-1



LEGEND

- PROPERTY LINE
- FENCE LINE
- CONTAMINATION BOUNDARY
- ELECTRICAL LINE
- GAS LINE
- SEWER LINE
- WATER LINE
- CONTOURS

DESIGNED:	W.CUSSEN
DRAWN:	A.NIEVES
PROJECT NO.	103S328401004
DATE:	AUGUST 2020

DEPARTMENT OF ASSETS, INFORMATION, AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

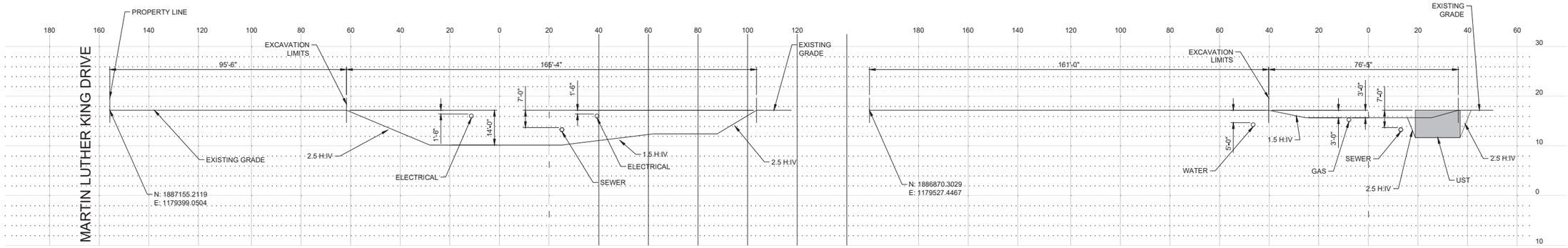
GSG CONSULTANTS, INC.
623 Cooper Court ● Schaumburg, IL 60173
Tel: 630.994.2600 ● Fax: 312.733.5612
www.gsg-consultants.com
Integrity | Quality | Reliability

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: 1"=40'-0"
VERTICAL SCALE: N/A

EXCAVATION LIMITS

SHEET
S-2

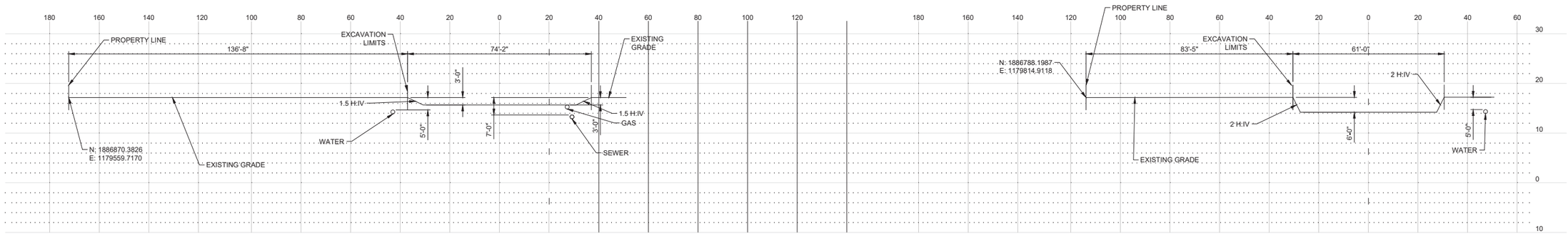


CROSS SECTION A-A

5+87

CROSS SECTION B-B

3+78



CROSS SECTION C-C

3+58

CROSS SECTION D-D

1+59

NOTE:
UTILITY DEPTHS AND LOCATIONS ARE ASSUMED AND SHOULD BE FIELD VERIFIED.

GRAPHIC SCALE 1"=20'
0 5 10 20 40

DESIGNED:	W.CUSSEN
DRAWN:	A.NIEVES
PROJECT NO.	103S328401004
DATE:	AUGUST 2020

DEPARTMENT OF ASSETS, INFORMATION, AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

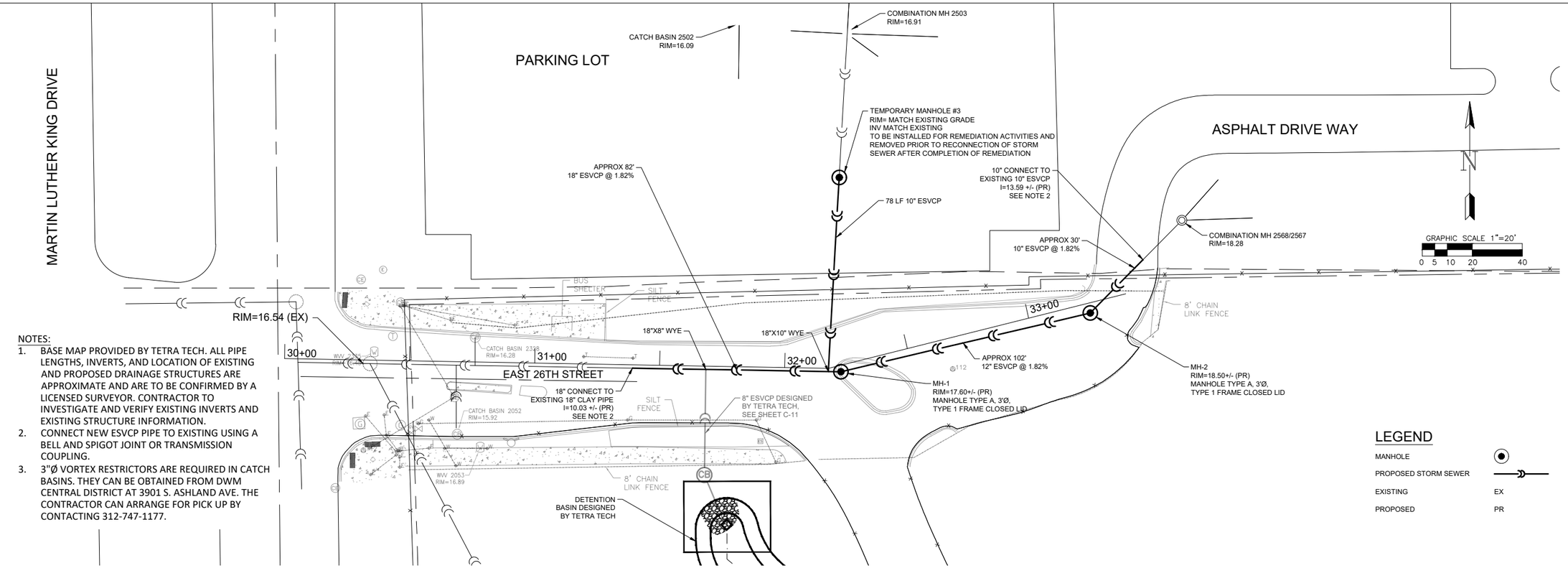
GSG CONSULTANTS, INC.
623 Cooper Court • Schaumburg, IL 60173
Tel: 630.994.2600 • Fax: 312.733.5612
www.gsg-consultants.com
Integrity | Quality | Reliability

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=5'-0"

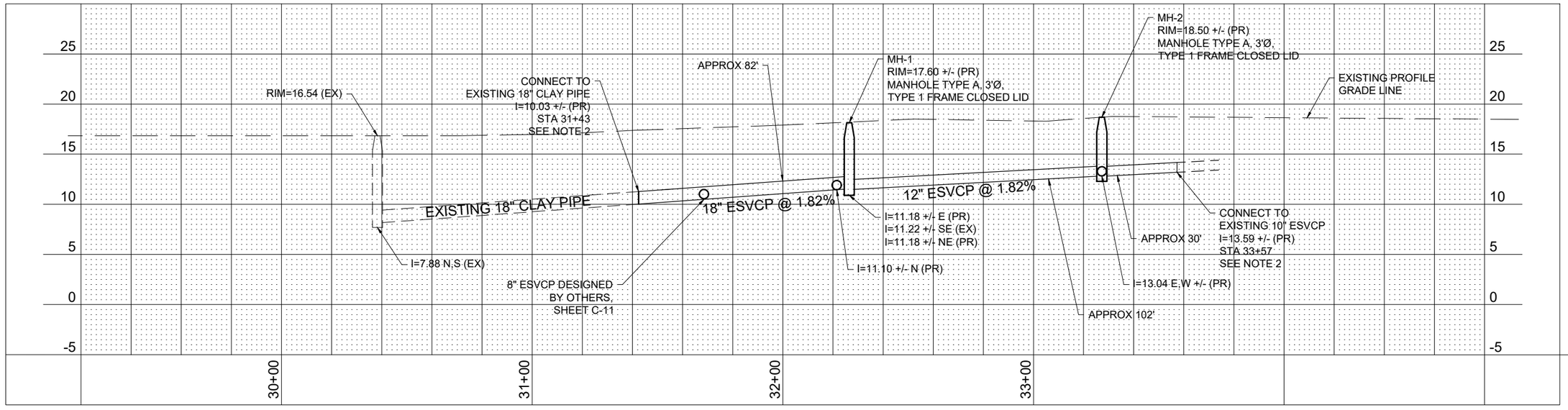
EXCAVATION CROSS SECTIONS

SHEET
S-3



NOTES:

1. BASE MAP PROVIDED BY TETRA TECH. ALL PIPE LENGTHS, INVERTS, AND LOCATION OF EXISTING AND PROPOSED DRAINAGE STRUCTURES ARE APPROXIMATE AND ARE TO BE CONFIRMED BY A LICENSED SURVEYOR. CONTRACTOR TO INVESTIGATE AND VERIFY EXISTING INVERTS AND EXISTING STRUCTURE INFORMATION.
2. CONNECT NEW ESVCP PIPE TO EXISTING USING A BELL AND SPIGOT JOINT OR TRANSMISSION COUPLING.
3. 3"Ø VORTEX RESTRICTORS ARE REQUIRED IN CATCH BASINS. THEY CAN BE OBTAINED FROM DWM CENTRAL DISTRICT AT 3901 S. ASHLAND AVE. THE CONTRACTOR CAN ARRANGE FOR PICK UP BY CONTACTING 312-747-1177.



DESIGNED:	W.CUSSEN
DRAWN:	A.NIEVES
PROJECT NO.	103S328401004
DATE:	AUGUST 2020

DEPARTMENT OF ASSETS, INFORMATION, AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

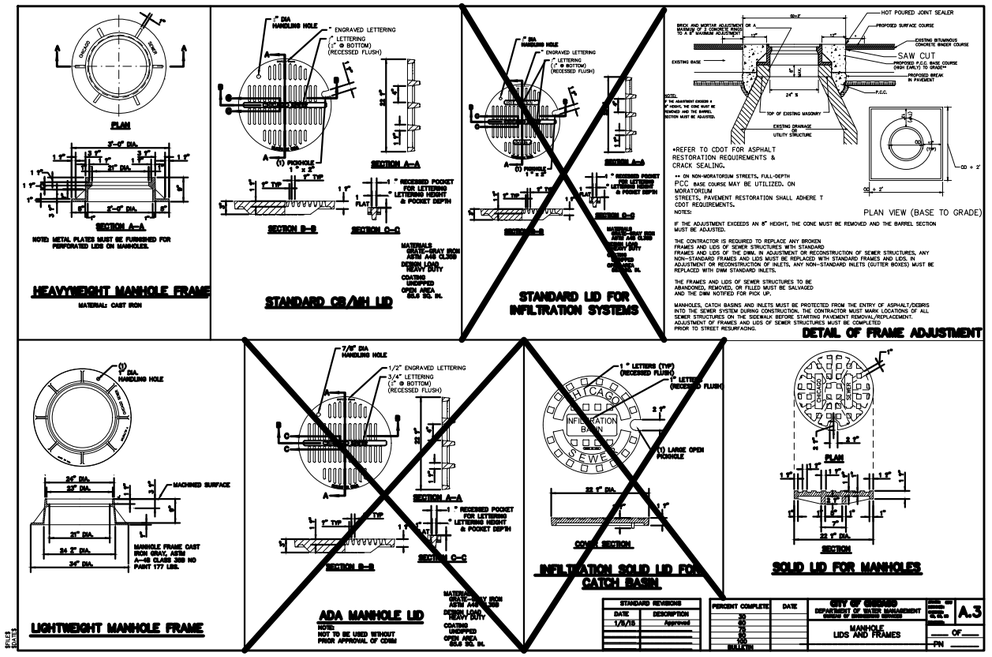
GSG CONSULTANTS, INC
623 Cooper Court ● Schaumburg, IL 60173
Tel: 630.994.2600 ● Fax: 312.733.5612
www.gsg-consultants.com
Integrity | Quality | Reliability

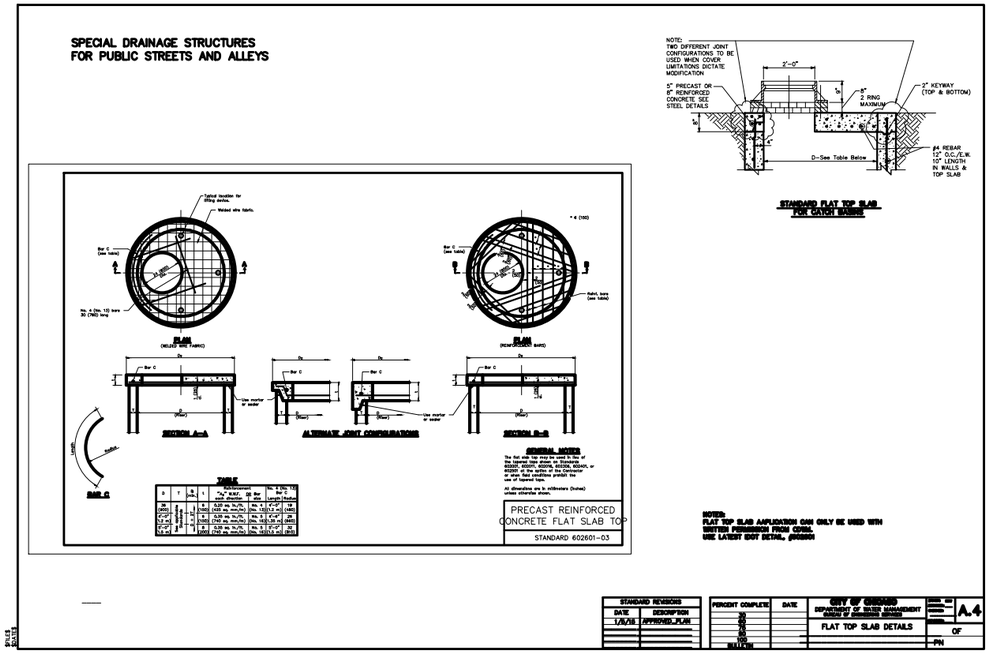
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

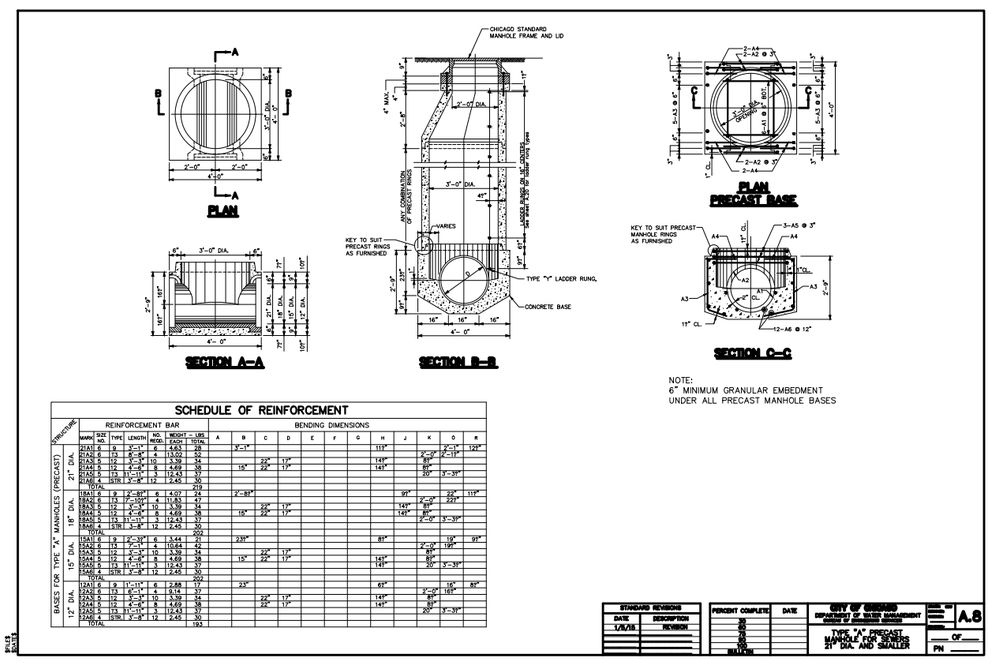
SCALES:
HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=5'-0"

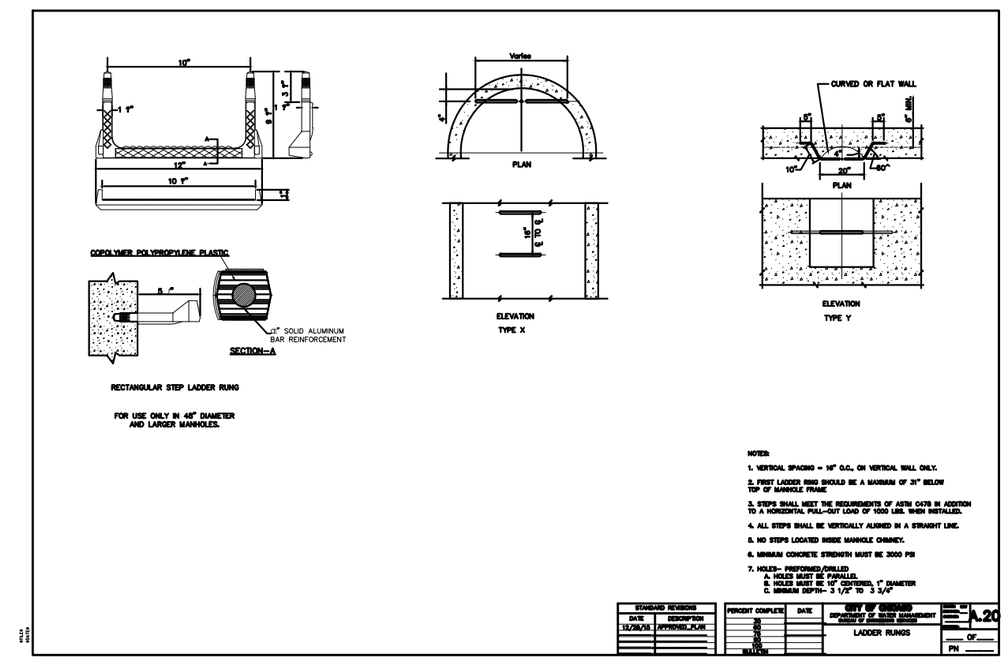
SEWER
PLAN AND PROFILE

SHEET
S-4









DESIGNED:	W.CUSSEN
DRAWN:	A.NIEVES
PROJECT NO.	103S328401004
DATE:	AUGUST 2020

DEPARTMENT OF ASSETS, INFORMATION, AND SERVICES
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

GSG CONSULTANTS, INC.
623 Cooper Court ● Schaumburg, IL 60173
Tel: 630.994.2600 ● Fax: 312.733.5612
www.gsg-consultants.com
Integrity | Quality | Reliability

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:	
HORIZONTAL SCALE:	NTS
VERTICAL SCALE:	NTS

CITY OF CHICAGO STANDARD DETAILS

SHEET S-5

Legend

- = Fence mounted sign panel
- = Concrete barrier mounted sign panel
- = New post mounted sign panel
- = Existing post mounted sign panel
- 3W = Location number and message face / side (N,S,E,W)
- = New concrete barrier
- = Pedestrian path

All signs are single-sided.

Locations shown are approximate. Final locations shall be established on site.

Sign types and details for each location are presented in Section 10 14 00 and the associated attachment. See the Specifications for additional information and requirements.

Not to Scale

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

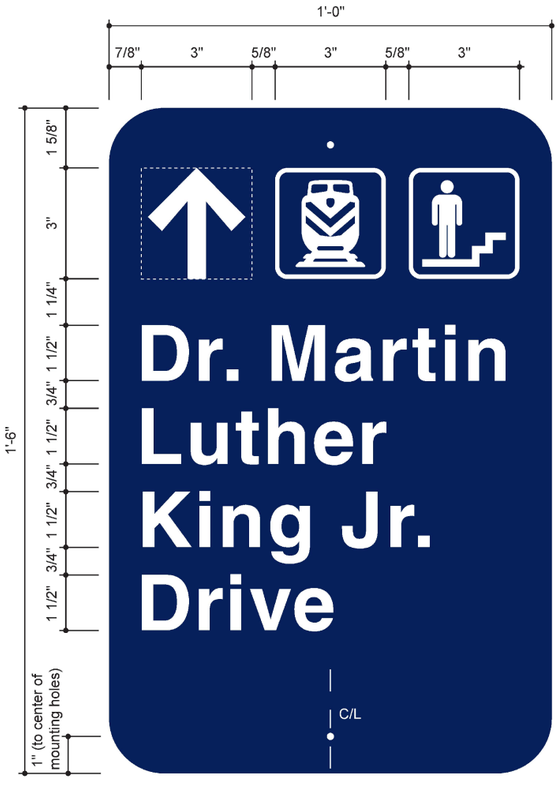
SCALES:
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A

SIGN LOCATION AND MAINTENANCE OF TRAFFIC PLAN

SHEET **T-1**

8/5/2019 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2019-07\Signage Sheets\T1-SignLocationPlan.mxd m.banh

1 **Elevation - Directional Sign Layout 1**
Scale: 3" = 1'-0"



2 **Elevation - Directional Sign Layout 2**
Scale: 3" = 1'-0"

3 **Elevation - Map Sign**
Scale: 3" = 1'-0"

Sign Type 1

12" x 18" Directionals

1 Aluminum Sign Panel
The sign substrate is a .080" thick solid aluminum panel.

2 Background
The overall background of the sign and the white text and graphics shall be an exterior-grade, premium opaque cast white printable graphic film. Sign panels shall have the printed film applied to the face side of the sign. The edges and back side of the sign shall be painted to match PMS 281C.

3 Digitally Printed Graphics
The graphics shall be digitally printed at high resolution directly onto the graphic film using custom formulated, exterior grade, UV-resistant, opaque inks. The inks shall be formulated to match the colors specified and to be compatible with the graphic film. Protect printed graphics with a clear protective anti-graffiti overlaminate that is compatible with the graphic film and the printed graphics. The printed graphic film and overlaminate shall be applied to cover the entire sign face and trimmed flush to the edges of the sign panel.

4 Holes for Mounting Hardware
7/16" diameter holes positioned as shown. All holes shall be drilled in the shop.

5 Mounting Hardware
See the Sign Mounting drawings for additional information on sign posts and sign mounting brackets.

See the Specifications for additional information and requirements.

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

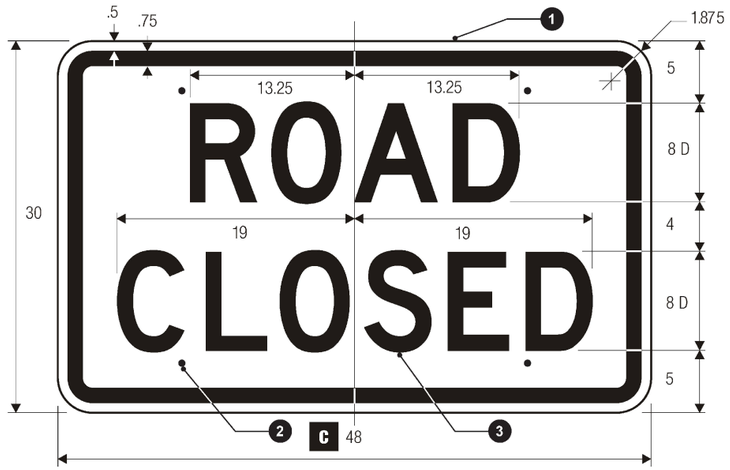
TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A

SIGN TYPE 1

SHEET
T-2



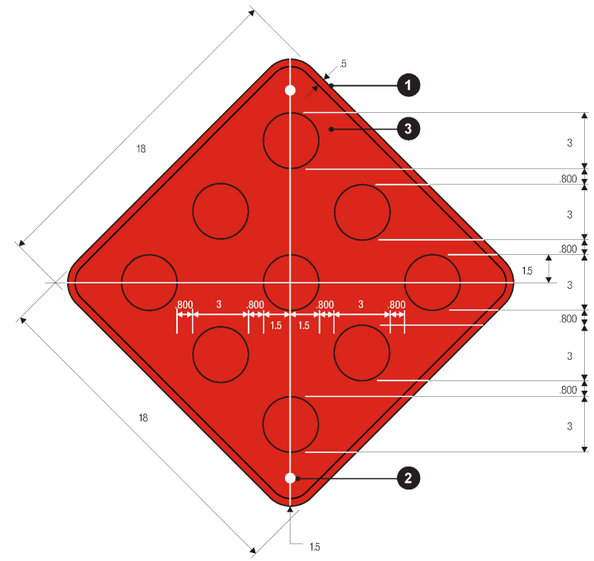
R11-2

ROAD CLOSED

COLORS: LEGEND – BLACK
BACKGROUND– WHITE (RETROREFLECTIVE)
FONT: STANDARD ALPHABETS FOR TRAFFIC CONTROL DEVICES SERIES D 2000

1 Elevation - MUTCD Standard Sign R11-2

Scale: 1" = 1'-0"



OM4-1

OM4-1 COLORS:

REFLECTORS – RED (RETROREFLECTIVE)
BACKGROUND – RED PAINT TO MATCH RED RETROREFLECTIVE SHEETING (FRONT ONLY)
BORDER – RED (RETROREFLECTIVE)

2 Elevation - MUTCD Standard Sign OM4-1

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

Sign Type R11-2 and Sign Type OM4-1

DOT Standard "Road Closed" Signs and Object Marker

1 Aluminum Sign Panel

The sign substrate is a .080" thick solid aluminum panel.

2 Holes for Mounting Hardware

7/16" diameter holes, coordinate location of holes with sign posts and mounting hardware. See the Sign Mounting drawings for additional information on sign posts and sign mounting.

3 Graphics

Graphic layouts for sign types R11-2 and OM4-1 shall be as per the U.S. Department of Transportation Federal Highway Administration's Standard Highway Signs and Markings and applicable sections of the Manual of Uniform Traffic Control Devices (MUTCD).

See the Specifications for additional information and requirements.

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

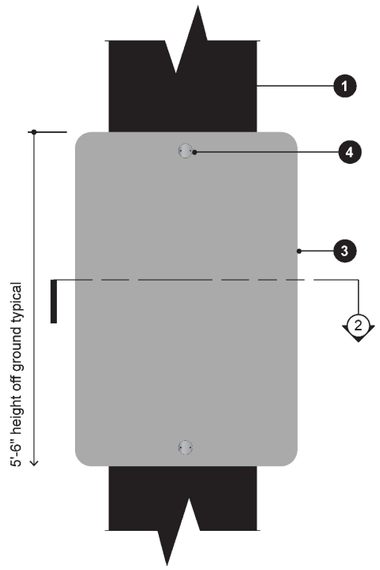
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

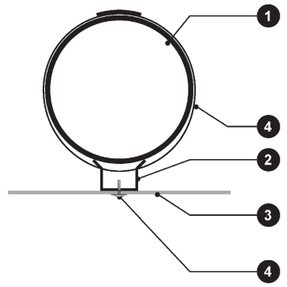
SIGN TYPE R11-2 AND OM4-1

SHEET
T-3

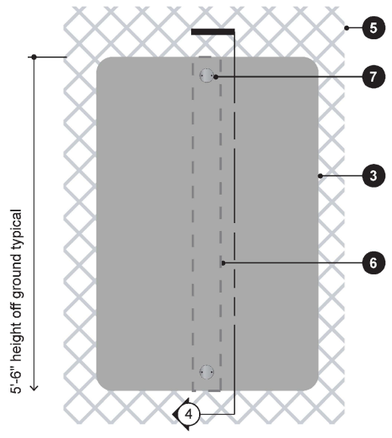
7/16/2019 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2019-07\Signage Sheets\T3-Type-R11-2.mxd m.banh



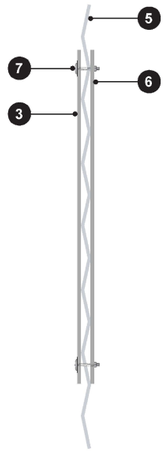
1 Elevation - Band Mounting to Existing Post
Scale: 1 1/2" = 1'-0"



2 Section - Band Mounting to Existing Post
Scale: 1 1/2" = 1'-0"



3 Elevation - Mounting to Existing Fence
Scale: 1 1/2" = 1'-0"



4 Section - Mounting to Existing Fence
Scale: 1 1/2" = 1'-0"

Sign Mounting

Sign mounting Information for locations where signs are band-mounted to existing posts and locations where signs are mounted to chain-link fencing.

1 Existing Post
Existing concrete or steel light post.

2 Mounting Bracket
The bracket shall be a standard stainless steel sign bracket suitable for mounting signs centered on light posts and other structures.

3 Aluminum Sign Panel
See the Sign Type 1 drawing for sign panel details.

4 Mounting Screws/Hardware for Band Mounting
Provide stainless steel screws, flat washers, lock washers, and nylon washers as needed to properly, safely, and securely mount the aluminum sign panel to the bracket. Install washers in the following order: 1) screw head, 2) lock washer, 3) flat washer, 4) nylon washer, 5) sign panel. The bracket and aluminum sign panel assembly shall be securely strap mounted to the light post or other structure using heavy-duty stainless steel sign straps. All mounting hardware and components shall be vandal-resistant and suitable for exterior use. The mounting hardware shall allow for removal of the sign panels for maintenance, repairs, and updates.

5 Existing Fence
Existing chain-link fence.

6 Backer Plate for Fence Mounting
Provide 1-1/2" x 18" painted aluminum backer plate for mounting sign panel to fence. Paint backer plate to match back of sign panel.

7 Mounting Bolts/Hardware for Fence Mounting
Provide stainless steel bolts, flat washers, lock washers, and nylon washers as needed to properly, safely, and securely mount the aluminum sign panel to the fence. Install washers in the following order: 1) bolt head, 2) nylon washer, 3) sign panel, 4) fence, 5) backer plate, 6) flat washer, 7) lock washer, 8) nut. All mounting hardware and components shall be vandal-resistant and suitable for exterior use. The mounting hardware shall allow for removal of the sign panels for maintenance, repairs, and updates.

See the Specifications for additional information and requirements.

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

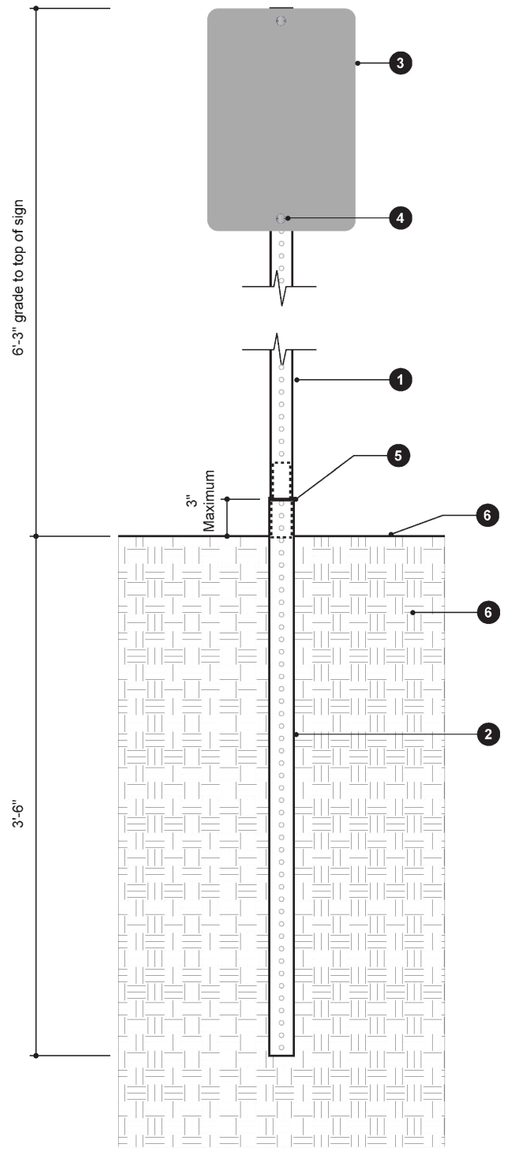
TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

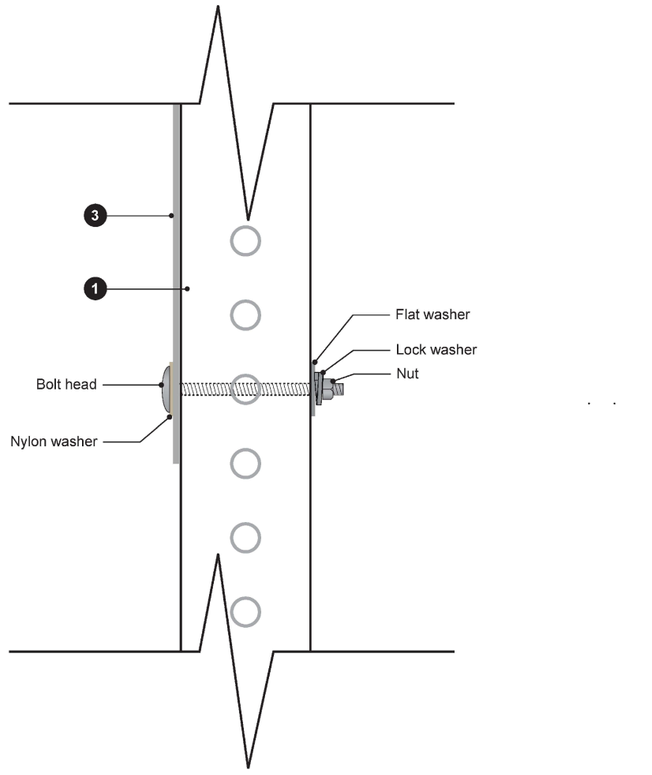
SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

SIGN MOUNTING
BAND MOUNT AND FENCE MOUNT

SHEET
T-4



1 Elevation - New Direct Bury Sign Post Mounting
Scale: 1" = 1'-0"



2 Detail - Sign Panel Mounting to Post
Scale: 6" = 1'-0"

Sign Mounting

Sign Mounting Information for Locations With New Sign Posts

1 Perforated Sign Post
Galvanized steel 1 3/4" square perforated sign post

2 Perforated Anchor Post
Galvanized steel 2" square perforated anchor post

3 Aluminum Sign Panel
See the Sign Type 1 drawing for sign panel details.

4 Mounting Bolts/Hardware
Provide stainless steel bolts, flat washers, lock washers, and nylon washers as needed to properly, safely, and securely mount the aluminum sign panel to the sign post. Install washers in the following order: 1) bolt head, 2) nylon washer, 3) sign panel, 4) sign post, 5) flat washer, 6) lock washer, 7) nut. All mounting hardware and components shall be vandal-resistant and suitable for exterior use. The mounting hardware shall allow for removal of the sign panels for maintenance, repairs, and updates.

5 Break-away Coupler
NCHRP 350 compliant break-away coupler designed for use with square sign posts.

6 Existing Soil
Verify the existing conditions at the installation location. Verify if the sign can be safely, securely, and properly installed.

See the Specifications for additional information and requirements.

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

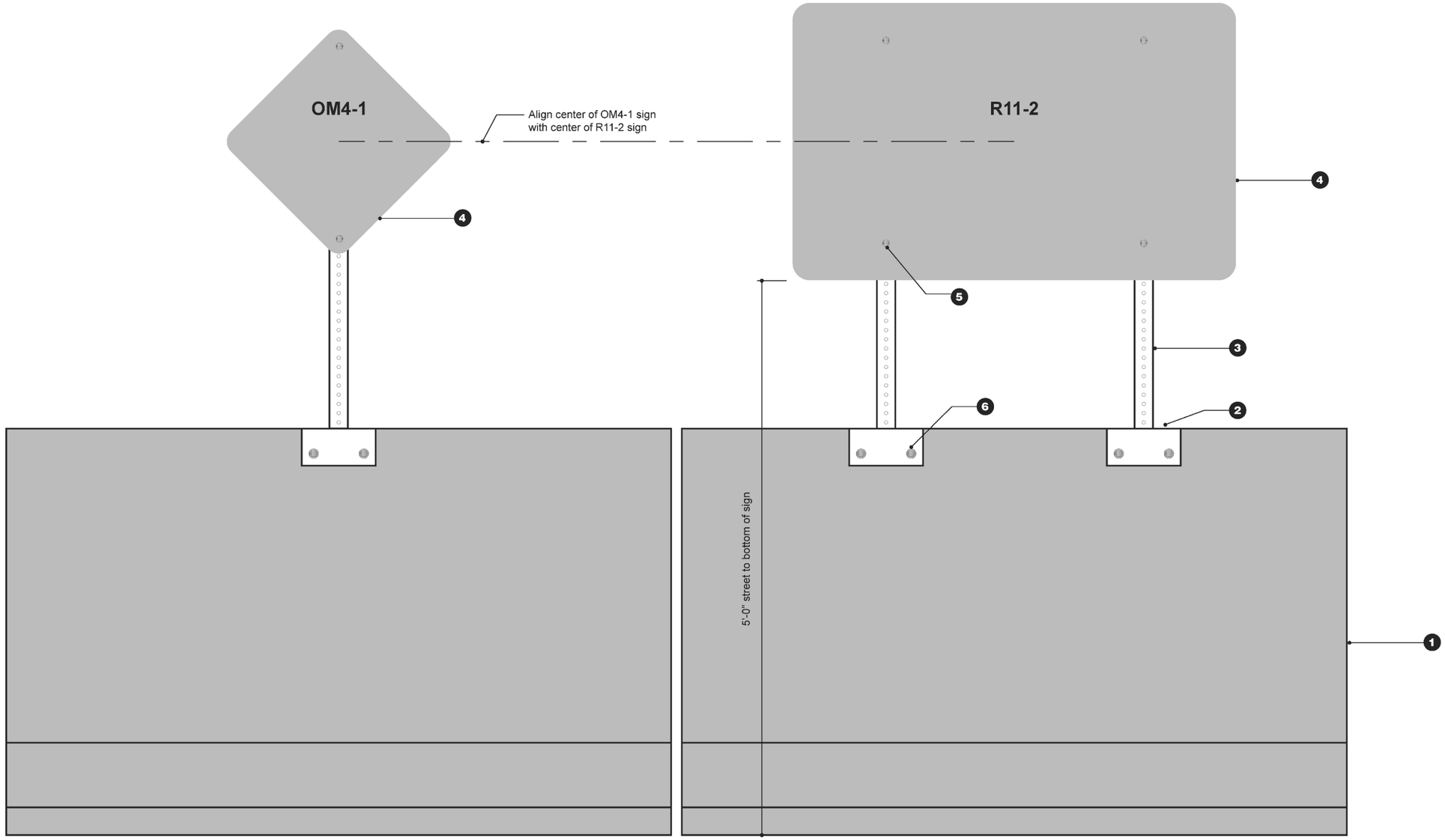
TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

SIGN MOUNTING NEW SIGN POSTS

SHEET **T-5**



1 **Elevation - Mounting to Concrete Barrier**
Scale: 1" = 1'-0"

Sign Mounting

Sign mounting information for locations where signs are mounted to concrete barriers.

1 Concrete Barrier
New concrete barrier.

2 Concrete Barrier Mount Base
Galvanized steel mounting base for mounting 2" perforated sign post to concrete barrier.

3 Perforated Sign Post
Galvanized steel 2" square perforated sign post

4 Aluminum Sign Panel
See the Sign Type R11-2 and Sign Type OM4-1 drawing for sign panel details.

5 Mounting Bolts/Hardware
Provide stainless steel bolts, flat washers, lock washers, and nylon washers as needed to properly, safely, and securely mount the aluminum sign panel to the sign post. Install washers in the following order: 1) bolt head, 2) nylon washer, 3) sign panel, 4) sign post, 5) flat washer, 6) lock washer, 7) nut. All mounting hardware and components shall be vandal-resistant and suitable for exterior use. The mounting hardware shall allow for removal of the sign panels for maintenance, repairs, and updates. See the Sign Mounting - Sign Mounting Information for Locations With New Sign Posts drawing for additional information on sign posts and sign mounting.

6 Galvanized Concrete Anchor Bolts
Properly, safely, and securely anchor the concrete barrier mount bases to the concrete barrier.

See the Specifications for additional information and requirements.

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

SIGN MOUNTING AT CONCRETE BARRIER

SHEET
T-6

Appendix R
Alternate Disposal

ILLINOIS EMERGENCY MANAGEMENT AGENCY

JB Pritzker
Governor

Alicia Tate-Nadeau
Acting Director

November 25, 2019

Radioactive Material License
IL-02467-01

Abby Mazza, P.E.
Environmental Engineer III
City of Chicago, Department of Fleet and Facility Management
Bureau of Environmental, Health & Safety Management
30 N. LaSalle Street, Suite 300, Chicago, Illinois 60602-2572

Re: Alternative Disposal Methodology Application for the Former Carnotite Reduction Company Site, 434 E. 26th Street, Chicago, IL

Dear Ms. Mazza,

Agency personnel have received and reviewed your transmittal letter dated October 24, 2019 regarding an alternative disposal methodology for waste material to be generated at the former Carnotite Reduction Company (Carnotite) site as the result of decommissioning. As we have discussed, Subpart K of 32 Illinois Administrative Code (IAC) 340 sets forth the regulations for waste disposal of licensed radioactive material. As such, Subpart K only allows licensed material to be disposed of at a licensed facility provided the material does not meet other conditional disposal methodologies or unless an alternative methodology is granted by the Agency.

In your request, you specifically request soils containing radium-226 meeting the Agency's definition of byproduct material (32 IAC 310.20) be disposed of in accordance with Title 10 Code of Federal Regulations (CFR) 20.2008(b) Disposal of Certain Byproduct Material, which states:

> *A licensee may dispose of byproduct material, as defined in paragraphs (3) and (4) of the definition of Byproduct material set forth in § 20.1003, at a disposal facility authorized to dispose of such material in accordance with any Federal or State solid or hazardous*

waste law, including the Solid Waste Disposal Act, as authorized under the Energy Policy Act of 2005.

Since the Agency's definition of byproduct material pertaining to radium-226 is consistent with the U.S. Nuclear Regulatory Commission's definition of byproduct material (10 CFR 20.1003), the Agency approves your alternative disposal methodology request in accordance with 10 CFR 20.2008(b) provided the specific conditions outlined in your request are met.

Further, you request soils containing uranium and thorium not exceeding the unimportant source material quantity of 0.05% by weight also be granted an alternative disposal method. In your request you cite unimportant quantities of source material in accordance with 10 CFR 40.13. As with past instances, I caution you to not cite NRC regulation in place of the applicable Agency regulation. In this case, the appropriate citation should be 32 IAC 330.30(a).

Provided the disposal facility's waste acceptance criteria allows for uranium and thorium not exceeding the unimportant source material quantity, and the specific conditions outlined in your request are met, the Agency approves of this methodology but reserves final approval of the actual final disposition of the material until a specific disposal site is selected.

Should you have questions or concerns please do not hesitate to contact me.

Sincerely,

Kelly Horn, Section Head
Environmental Management
Division of Nuclear Safety

Appendix S
Stormwater Management Plan

March 18, 2020

Mr. Andrew Billing
Lead Stormwater Reviewer
Mackie Consultants, LLC, consultant to:
City of Chicago Department of Buildings
City Hall, Room 906
121 N. LaSalle Street
Chicago, IL 60602

Subject: **Former Carnotite Reduction Company Site Remediation**
Stormwater Management Plan – Revision 1

Dear Mr. Billing:

On behalf of the City of Chicago Department of Assets, Information & Services (AIS) (formerly, Department of Fleet and Facility Management), Tetra Tech is submitting the revised Stormwater Management Plan (SWP) for the Former Carnotite Reduction Company (Carnotite) site remediation for review by the City of Chicago Department of Buildings (DOB), the designated authorized agent for the City of Chicago Department of Water Management (DWM).

This revised version addresses your comments received by Tetra Tech on December 3, 2019 (see Attachment 14). The review comments and Tetra Tech's responses are summarized below:

1. Attachment 7 Detention Basin Volume Calculations: Since the volume control component of the Stormwater Ordinance is proposed to be met using oversized detention, the detention basin must be sized to provide 14,641 cu ft (12,664 + 1,977), the rate control plus the volume control volumes.

   Response: Comment was address in our email correspondence December 5, 2019, attached to this submittal (see Attachment 15). The volume was approved as initially calculated and was not revised.

2. Attachment 5 Stormwater Calculations: Add a cut sheet and rating curve for a custom vortex restrictor that will discharge 0.22 cfs under the proposed head conditions.

   Response: Revised submittal includes a cut sheet and a rating curve for a F1214 Vortex regulator with a 4" discharge orifice from Contech Engineered Solutions LLC, a City of Chicago approved vendor (see Attachment 16).

3. C-11 Grading and Storm Sewer Plan: Specify the manufacturer, model and size of the custom vortex restrictor.

   Response: A revised version of Sheet C-11 is included in this submittal, showing the manufacturer, model and size of the Vortex regulator.

Tetra Tech Inc.
1 S. Wacker Drive, 37th Floor, Chicago, IL 60606
Tel 312-201-7700 Fax 312-938-0118 www.tetratech.com

4. The removal of public sewer and installation of public sewer and public MHs must be approved directly by DWM, Sewer Design Section. Please submit this design to Sid Osakada or provide evidence that you are already in the review process with them.

   Response: Design have been submitted to DWM and is under review. An email from Abigail Mazza from the Department of Assets, Information and Services (AIS) confirming the submittal is attached (see Attachment 17).

5. C-11 Grading and Storm Sewer Plan: Move CB-1 a few feet south outside the right-of-way.

   Response: Catch basin CB-1 have been moved outside the right-of-way on revised Sheets C-11 and S-6.

6. C-14 O&M Plan: Add the owner's certification statement (DWM Standard Detail A.108) with owner's signature and notary.

   Response: Owner's certification statement with owner's signature and notary was submitted with the paper copy of the original submittal. However, an updated version has been included with this submittal.

7. C-14 O&M Plan: List the name and contact information for the individual responsible for ongoing maintenance following construction.

   Response: O&M Plan and Sheet C-14 have been revised, including contact information for the individual responsible for ongoing maintenance following the construction.

8. C-14 O&M Plan: Changes to the vortex restrictor and CB-1 location must be reflected on this plan. The custom vortex restrictor manufacturer, model and size must be clearly called out.

   Response: A revised version of sheet C-14 is included in this submittal, showing the manufacturer, model and size of the Vortex regulator and the change of location outside the right-of-way of catch basin CB-1. The information has also been added in revised O&M plan attached.

9. Provide the SESC Affidavit and Infiltration Affidavit when submitting final documents.

   Response: AIS has not yet retained a general contractor. The completed and signed SESC Affidavit and Infiltration Affidavit will be submitted once a general contractor is retained.

10. Revise and resubmit a hard copy of the entire plan set and calculations.
    This revised Stormwater Management Plan includes the following attachment:
    - Attachment 1: Copy of $1,000 review fee payment for DOB review of regulated development outside of right-of-way area smaller than 50,000 square feet. – *(unchanged)*
    - Attachment 2: Sewer and drain atlases of the area – *(unchanged)*
    - Attachment 3: Surveys of the area – *(unchanged)*
    - Attachment 4: CDOT restoration waiver approval – *(unchanged)*
    - Attachment 5: Chicago stormwater calculation spreadsheet, including tabs 0.0 "release rate," 1.0 "rate control," 2.0 "volume control" and 2.1.9 "oversized detention" – *(unchanged)*

- Attachment 6: Watershed limits – *(unchanged)*
- Attachment 7: Detention basin volume calculation – *(unchanged)*
- Attachment 8: Pervious and impervious proposed areas (Plan Sheet C-13) – *(unchanged)*
- Attachment 9: Geotechnical report – *(unchanged)*
- **Attachment 10: Appendix II-C "Affidavit in support of soil erosion and sediment control – Measures during construction" – (*unchanged, to be submitted once general contractor is retained)***
- **Attachment 11: Operation and Maintenance Plan, including owner's certification statement – *Revised***
- Attachment 12 – Tetra Tech Memo "Summary of Sewer Cleanout and Investigation" – *(unchanged)*
- Attachment 13: Plan Sheets
    - Sheet C-1 – Cover Sheet
    - Sheet C-2 – Existing Conditions (Topographic and Utility Survey) – *(unchanged)*
    - Sheet C-3 – Soil Analytical Results (not submitted for SWP)
    - Sheet C-4 – Extent of Subsurface Exceedance (not submitted for SWP)
    - Sheet C-5 – Geological Cross Sections (not submitted for SWP)
    - Sheet C-6 – Decommissioning Plan (Demolition Plan) – *(unchanged)*
    - Sheet C-7 – Excavation Plan (Demolition Plan) – *(unchanged)*
    - Sheet C-8 – Proposed Remediation Site Layout (not submitted for SWP)
    - Sheet C-9 – Proposed Erosion Control Plan – *(unchanged)*
    - Sheet C-10 – Erosion Control Detail – *(unchanged)*
    - **Sheet C-11 – Grading Plan and Proposed Storm Sewer (Utility Plan) – *Revised***
    - Sheet C-12 – Storm Sewer Details – *(unchanged)*
    - Sheet C-13 – Restoration Plan – *(unchanged)*
    - **Sheet C-14 – Operation and Maintenance Plan – *Revised***
    - Sheet T-1 – Sign Location and Maintenance of Traffic Plan (not submitted for SWP)
    - Sheet T-2 – Sign Type 1 (not submitted for SWP)
    - Sheet T-3 – Sign Type R11 and OM4 (not submitted for SWP)
    - Sheet T-4 – Sign Mounting – Band Mount and Fence Mount (not submitted for SWP)
    - Sheet T-5 – Sign Mounting – New Sign Posts (not submitted for SWP)
    - Sheet T-6 – Sign Mounting at Concrete Barrier (not submitted for SWP)
    - Sheet S-1 (Sheetpile) – Site Plan (not submitted for SWP)
    - Sheet S-2 (Sheetpile) – Excavation Plan (not submitted for SWP)
    - Sheet S-3 (Sheetpile) – Excavation Cross Sections (not submitted for SWP)
    - Sheet S-4 (Sheetpile) – Temporary Retaining Wall (not submitted for SWP)
    - Sheet S-5 (Sheetpile) – Temporary Retaining Wall Details (not submitted for SWP)
    - **Sheet S-6 (Sheetpile) – Sewer Plan and Profile – *Revised***
    - Sheet S-7 (Sheetpile) – City of Chicago Standard Details – *(unchanged)*
- **Attachment 14: Memorandum from the City of Chicago Department of Buildings *"Review of Design Plans, dated: July 2019"*, from December 03, 2019**
- **Attachment 15: Email addressing Comment No. 1 between Tetra Tech and the City of Chicago Department of Buildings**
- **Attachment 16: Vortex regulator details, rating curve and cut sheet**

- **Attachment 17: Email from Department of Assets, Information and Assets (AIS) to Tetra Tech confirming the submittal to DWM for review**

We appreciate your timely review of the revised SWP. Please contact me at (312) 201-7480 or kris.schnoes@tetratech.com if you have any questions or require additional information.

Sincerely,

Kristine K. Schnoes

Kristine Schnoes
Project Manager

cc: Abigail Mazza, 2FM
Stacey Durley, Tetra Tech
Marika Couture, Tetra Tech
Carol Nissen, Tetra Tech

ATTACHMENT 1 – COPY OF $1,000 REVIEW FEE PAYMENT

THE FACE OF THIS DOCUMENT CONTAINS A VOID PANTOGRAPH AND MICROPRINTING.

TETRA TECH

TETRA TECH, INC
3475 E. Foothill Blvd.
Pasadena CA 91107-6024
626.470.2300

WELLS FA GO BA K,
Positive Pay rotected

56-382/412

197022897

DATE 07/11/2019

Pay One Thousand Only Dollars

******$1,000.00**

TO THE ORDER OF

CITY OF CHICAGO
DEPT OF BLDGS
2240 W OGDEN AVE 2ND FL
CHICAGO, IL 60612

VOID AFTER 90 DAYS

⑈197022897⑈ ⑆071203824⑆960004850 5⑈

ATTACHMENT 2 – SEWER AND DRAIN ATLASES OF THE AREA

DATE	DESCRIPTION	Drawn by
3/21/11	S. Lake Shore Drive/ 24th to 26th-84"	SBW
		SBW
		SBW
		SBW

N.E. ¼ Sec. 27 - 39-14

39-1

9

FOR STREET GRADES SEE GRADE ATLAS

VOL 39-2

NOT CONNECTED

NOT CONNECTED

40' EASEMENT FROM ILLINOIS CENTRAL RAILROAD

40' EASEMENT FROM I.C.G.R.R.

22' DIA STORM WATER OUTLET STRUCTURE

150" STORM WATER TUNNEL

150" STORM WATER TUNNEL

150" STORM WATER TUNNEL

(Concrete Invert) Tapered

(E. 22ND ST.) E. CERMAK ROAD

(SILVERTON WAY) M.L. KING DR

(SOUTH PARK WAY) VACATED

35' MSD EASEMENT

6'-4¾" X 8'-0"

23rd ST.

S. LAKE SHORE DRIVE

LAKE MICHIGAN

E. 23d ST.

LAKE PARK VACATED

E. 24TH ST.

13

STEVENSON EXPRESSWAY (SOUTHWEST)

E. 25TH ST

E. 26TH ST.

M.L. KING DR. (SOUTH PARK WAY)

COTTAGE GROVE AVE.

26th ST (IGLEHART CT)

E. 26th ST.

ELLIS AV.

AVE.

Bulkhead Installed 2001 B-1-241

84" RCP-2001 Storm Only

10

11

39-1-09

REV. 4/29/11

FOR STREET GRADES SEE GRADE ATLAS

FOR STREET GRADES SEE GRADE ATLAS

39-1-09.dgn 7/1/2015 4:05:27 PM

S.E. ¼ Sec. 27 - 39-14

10

DATE	DESCRIPTION	Drawn by
3/21/11	S. Lake Shore Drive/ 26th to 31st-96". 84"	SBW
11/13/14	MLK Dr./ 29th to 30th-42".36"	SBW
11/13/14	29th/ MLK to Rhodes-36".24"	SBW

FOR STREET GRADES SEE GRADE ATLAS

9

6

14

11

E. 26TH ST.

E. 27TH ST.

E. 29TH ST.

E. 29TH PL.

E. 30TH ST.

E. 31ST ST.

COTTAGE GROVE AV.

(SOUTH PARK (AVE.) WAY

26th ST. (IGLEHART CT.)

BREWERY

ILL. CENT. R.R. RIGHT of WAY

S. McCormick drive

VERNON AV.

VACATED 28th PL.

VACATED 29th PL.

VERNON AVE.

VACATED 30th ST.

Bulkhead Installed 2001 B-1-241

35' M.S.D. EASEMENT

84" RCP-2001 Storm Only

96" RCP-2001 Storm Only

42" RCP-2001 Storm only

Orfice Plate

M.L. KING DR. (SOUTH PARK WAY)

VERNON AVE.

RHODES AVE.

COTTAGE GROVE AVE.

ELLIS AVE.

LAKE PARK AVE.

LAKE SHORE DRIVE

39-1-10

12/5/14

FOR STREET GRADES SEE GRADE ATLAS

FOR STREET GRADES SEE GRADE ATLAS

39-1

11

N.E. ¼ Sec. 34 - 39-14

FOR STREET NAMES

(SOUTH PARK (AVE) WAY.)

VERNON AVE.

COTTAGE GROVE AVE.

S. RHODES AVE.

ELLIS AVE.

LAKE PARK AVE.

LAKE SHORE DRIVE

10

35' M.S.D. EASEMENT

E. 31ST ST

School Site

31st. PL.

EBERHART AVE

32nd ST.

ILLINOIS CENTRAL RAIL ROAD RIGHT OF WAY

E. 32nd. ST.

E. 32nd. PL.

15

7

E. 33rd. ST.

E. 33rd. PL.

E. 33rd PL.

E. 34TH ST.

SEWER LINED 1996

GROVELAND PARK.

WOODLAND PARK.

DOUGLASS MONT. PK.

PRIVATE SEWERS

Vacated

(OLD) RHODES

(NEW) RHODES

MEDIAN STRIP

Temporary Conn.

BLOCKED

8

12

FOR STREET NAMES

(22)

N.E. Frac. ¼ SEC. 27 39 14.

S. LAKE PARK AV. VACATED

BLOCKED

BLOCKED OFF FLOWS WEST

E. CERMAK RD. (22nd ST.) VACATED

M.L. KING DR.

S.M.L. KING DR.

SOUTH LAKE SHORE DRIVE

SOUTH LAKE SHORE DR.

35' M.S.D. EASEMENT

E. 23 RD ST.

E. 24TH ST.

E. 24TH PL.

E. 25TH ST.

E. 26 TH ST.

SUMMIT

ADLAI E. STEVENSON EXPRESSWAY

E. STEVENSON

ILLINOIS CENTRAL RAIL ROAD

S. LAKE PARK AV.

SOUTH LAKE SHORE DRIVE

26th ST.

NOT CONNECTED

TO MC. CORMICK INN.

FLOWS INTO LAKE

FLOWS NTO LAKE

(31)

(47)

(47A)

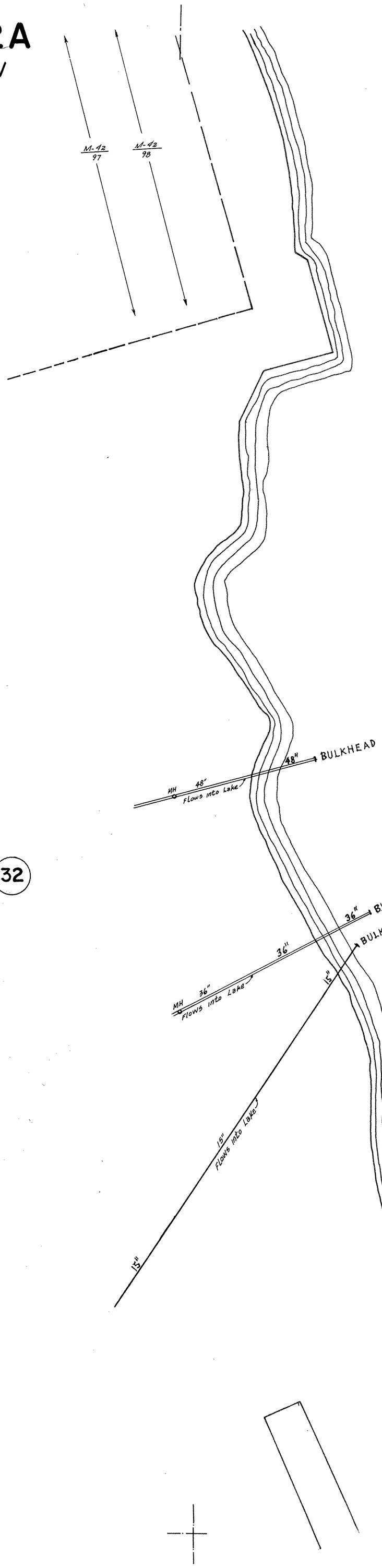
(32A)

DRAWN BY: ROBERT RHODES & ASSOCIATES
CHECKED BY: R.M.E.
DATE: 8-31-68

32A

S-1

22A



32

LAKE MICHIGAN

47

DRAWN BY: BUREAU OF SEWERS
DATE : 11-17-1969
CHECKED BY:


47
S-1
M.L. KING DR.
(KANKAKEE)
(DOUGLAS)
VERNON AV.
(MYRICK)
(PRAIRIE LANE)
31st ST.
(RIDGELEY)
30TH ST.
30TH ST.
29TH PL.
29TH ST.
27TH ST.
26th ST.
(RIO GRANDE)
COTTAGE GROVE
26th ST
(IGLEHART)
(BROADWAY)
BREWERY AV.
(JOHNSON)
COTTAGE GROVE AV.
ELLIS AV.
(GROVELAND PARK)
(COTTAGE)
LAKE PARK AV.
(LAKE)
31ST ST.
30th ST.
(YATES)
29th ST.
(HARDIN)
28th ST.
27th ST.
(NORTHERN)
26th ST.
62
63
32
46
47 A
VACATED
SUMMIT

S-1
47 A

32

32A

E. 26th ST.

VACATED

E. 26th ST.

E. 26 th ST.
(RIO GRANDE)

E. 27th ST. VAC.

E. 27th ST.

E. 27 th ST.
(NORTHERN)

E. 28th ST.

E. 28 th ST.

47

E. 29th ST.

E. 29th ST.

E. 29 th ST.
(HARDIN)

E. 30th ST.

E. 30th ST.

E. 30 th ST.
(YATES)

E. 31st ST.

E. 31st ST.

E. 31 st ST.
(RIDGELEY)

63

S. LAKE PARK AV.

ILLINOIS CENTRAL RAILROAD

BURNHAM PARK

209'

25'

35' M.S.D. EASEMENT

FROM E. PERSHING RD.

VACATED

BRIDGE

BRIDGE

NOT CONNECTED

PLUG

8"CI

10" C.I.

W.½ N.E.F. ac.¼ SEC. 34,39,14

(47)

(61)

(63)

(78)

"A"
Henry G. Graves' Sub. of 30 Acs. S. and Adj. the N. 5.72 Acs. (W. of Cottage Grove Ave.) in N.E. ¼ Sec. 34-39-14
Rec. Ante-Fire

"B"
University Sub. of that part of S. ½ of N.E. frac. ¼ Sec. 34-39-14 W. of Cottage Grove Ave.
Rec. Ante-Fire

"C"
Willett's Sub. of lots 29 to 38 Blk. 2 of University Sub. etc. (See "B").
Rec. Ante-Fire

"D"
Sawyer's Re-Sub. of lots 1 to 4 Blk. 2 of University Sub. etc. (See "B").
Rec. Ante-Fire

"E"
Sub. of lots 10 and 11 Blk. 6 of University Sub. etc. (See "B").
Rec. Ante-Fire

"F"
E. L. Chapman's Sub. of lots 1 and 2 Blk. 5 of H. Grove's Sub. etc. (See "A").
Rec. Ante-Fire

"G"
E. L. Chapman's Sub. of lots 25 and 26 Blk. 5 of H. Grove's Sub. etc. (See "A")
Rec. Ante-Fire

"H"
W. E. Smith's Sub. of lots 23 and 24 Blk. 5 of H. Grove's Sub. etc. (See "A")
Rec. Ante-Fire

"J"
Ordinance for Extension of Ridgely Pl. (31st St.) from E. line of Douglas Av. (Kankakee now South Park Av.) to the Lake Shore the same width of present street (33 ft.) Passed June 6, 1853.
"K" Assmt. Confd July 3, 1854.
Sub. of lots 14, 15, and the S. 12 ft. of lot 16 in Blk. 6 of H. Grove's Sub. etc. (See "A").
Rec. Sept. 9, 1873 Doc. # 120698

"L"
Re-Sub. of lots 21 and 22 Blk. 3 in the Sub. of that part of the S. ½ of N.E. frac. ¼ Sec. 34-39-14 lying W. of Cottage Ave.
Rec. Sept. 20, 1873 Doc. # 123947

"M"
Assessor's Division of N. 5 9/10 Acs. of N.E. ¼ (W. of Cottage Grove Ave.) Sec. 34-39-14.
Rec. Aug. 1, 1874 Doc. # 170854

"N"
Vacated by Ordinance. Pass. May 17, 1875

"O"
Phanix Sub. of lots 20, 21, and 22 in Blk. 5 of the University Sub. etc. (See "B").
Rec. June 9, 1875 Doc. # 33264
Above Sub. Vacated by Instrument
Rec. March 13, 1917 Doc. # 6065804

"P"
Chas. L. Burdick's Re-Sub. of lots 20 to 22 in Blk. 6 of University Sub. etc. (See "B")
Rec. Sept. 21, 1875 Doc. # 50011

"Q"
L. G. Brainard's Sub. of lots 5 to 7 of Blk. 4 in Grove's Sub. etc. (See "A")
Rec. July 6, 1876 Doc. # 93229

"W²"
Deed to City of Chicago for street purposes.
Acceptance Ordinance Passed May 28, 1953.
Rec. Aug. 25, 1953. Doc. # 15704619.

"X²"
Deed to City of Chicago for street purposes.
Acceptance Ordinance Passed Oct. 28, 1953.
Rec. Dec. 22, 1953. Doc. # 15797196.

"Y²"
Lake Meadows Number One, A consolidation of Lots and parts of Lots and Vacated Streets and Alleys in John E. De Witt's Add. to Chicago and in University Sub. Certain Resubs. all in NE. frac. ¼ of Sec. 34-39-14.
Rec. July 8, 1954. Doc. # 15954451.

"Z²"
Quit claim deed to the City of Chicago pursuant to Ordinance passed by the City Council May 11, 1954.
Rec. Sept 10, 1954 Doc. # 16013058.

"A¹"
Vacated by Ordinance passed Feb. 23, 1956.
Rec. Mar. 30, 1956 Doc. # 16185756.

"B¹"
Lake Meadows Number Two, being a consolidation of lots and parts of lots and vacated streets and alleys in Henry G. Graves' Sub. of 30 acres S. and adj. the N. 5.72 acs. (W. of Cottage Grove Ave.), in University Sub., in Assessor's Div. of the N. 5 9/10 Acs. of the N.E. ¼ (W. of Cottage Grove Av.) and in H. Graves' Sub. of that part of S. ½ of the N. ½ of the NE. ¼ lying E. of Cottage Grove Av. and certain Resubs.; all in N.E. frac'l ¼ of Sec. 34-39-14 also providing for certain street dedications
Rec. Mar. 30, 1956 Doc. # 16185757
Reg. Mar. 31, 1956 Doc. No. 1584945 T.S.

"R"
Dedication for a Public Alley.
Rec. May 11, 1878 Doc. # 180203

"S"
County Clerk's Division of lots 18 and 19 Blk. 5, in H. Grove's Sub. etc. (See "A")
Rec. April 30, 1880 Doc. # 269300

"T"
Graves & Smith's Re-Sub. of Blks. 1 and A and Dexter Pl. in H. Grove's Sub. etc. (See "A")
Rec. April 11, 1881 Doc. # 319660

"U"
Ordinance for Extension of Vernon Av. Passed July 7, 1879
Order of Possession by Sup. Court Mar. 16, 1886 Gen'l. No. 74697
Rec. July 5, 1887 Doc. # 847427.

"V"
Sub. of lots 15 to 29 Incl. in Re-Sub. of Blks. 1 and A and Dexter Pl. in H. Grove's Sub. etc. (See "A")
Rec. April 18, 1883. Doc. # 461272
Re-Rec. Oct 11, 1883. Doc. # 500852.

"W"
Rhodes' Sub. of lot 6 in Blk. 5 of H. Grove's Sub. etc. (See "A")
Rec. May 12, 1883 Doc. # 467561

"X"
Sub. of lots 21 and 22 in Blk. 5 of H. Grove's Sub. etc. (See "A")
Rec. Nov. 27, 1883 Doc. # 510762

"Y"
Geo. R. Connon's Sub. in Blk. 1 of University Sub. etc. (See "B").
Rec. Nov. 30, 1883 Doc. # 511209

"Z"
Sub. of lot 1 and N. 36 ft. (front and rear) of lot 2 of Blk. 3 in University Sub. etc. (See "B")
Rec. Aug. 16, 1884 Doc. # 568000

"A¹"
Merrill's Sub. of lot 11 and S. 12 ft. of lot 10 in Blk. 3 of University Sub. etc. (See "B")
Rec. Aug. 28, 1884 Doc. # 570363

"B¹"
The Goodanow Estate Add. to Chicago (in W. ½ of N.E. frac. ¼ Sec. 34-39-14)
Rec. May 29, 1885 Doc. # 628726

"C¹"
Sub. of the N. 6 ft. of lot 21 and all of lots 22 and 23 of Blk. 1 of University Sub. etc. (See "B").
Rec. July 1, 1885 Doc. # 636613

"D¹"
J. Griffith's Sub. of S. 20 ft. of lot 8 all of lot 9 and N. 45 ft. of lot 10 in Block 5 H. Grove's Sub. etc. (See "A")
Rec. Aug. 12, 1885 Doc. # 646112

"E¹"
Sub. of Blk. B in H. Grove's Sub. etc. (See "A")
Rec. Oct. 14, 1885 Doc. # 661365

"F¹"
Graham's Sub. of lots 11 and 12 in Blk. 2 of University Sub. etc. (See "B")
Rec. Nov. 12, 1885 Doc. # 668842

"G¹"
J. M. Love's Sub. of lots 10 to 13 in Blk. 4 of H. Grove's Sub. etc. (See "A")
Rec. Nov. 21, 1885 Doc. # 671305

"H¹"
J. M. Love's Sub. of lots 16 and 17 in Blk. 5 of H. Grove's Sub. etc. (See "A")
Rec. Nov. 21, 1885 Doc. # 671306

"J¹"
Andrews, Burhan's and Cooper's Sub. of lots 19 and 20 in Blk. 6 of H. Grove's Sub. etc. (See "A").
Rec. Nov. 28, 1885 Doc. # 672808

"K¹"
Wilsons and Nelsons Sub. of lot 25 and N. ½ of lot 24 in Blk. 6 of H. Grove's Sub. etc. (See "A").
Rec. Dec. 12, 1885 Doc. # 676461

"L¹"
Ordinance for Opening Rhodes Av. Passed July 30, 1883
Order of Possession by Sup. Court April 16, 1886 Gen'l. No. 89054.
Rec. July 5, 1887 Doc. # 847418.

"M¹"
Proctor and Wood's Sub. of lot 22 and N. 18 ft. of lot 21 in Blk. 6 of Henry Grove's Sub. etc. (See "A")
Rec. June 4, 1886 Doc. # 723633

"N¹"
Sub. of the W. 64 ft. 9 inches of lot 13 Blk. 5 of H. Grove's Sub. etc. (See "A")
Rec. Sept. 3, 1886 Doc. # 749853

"O¹"
Proctor and Wood's Sub. of lot 24 and S. 24 ft. of lot 25 in Blk. 1 of University Sub. etc. (See "B")
Rec. Oct. 28, 1886 Doc. # 767617

"P¹"
Chas. T. Gregory's Sub. of lot 22 and the N. 36 ft. of lot 21 in Blk. 4 in University Sub. etc. (See "B")
Rec. Feb. 4, 1887 Doc. # 795793

"Q¹"
James F. Gillette's Sub. of lots 14 to 16 in Blk. 3 in the University Sub. etc. (See "B")
Rec. March 2, 1887 Doc. # 802858

"R¹"
Sub. of lots 3, 4 & 5 in Blk. 2 of Henry Grove's Sub. etc. (See "A")
Rec. Sept. 22, 1887 Doc. # 875014

"S¹"
Sub. of S. 39 ft. of lot 5 and N. 40 ft. of lot 6 in Blk. 5 in University Sub. etc. (See "B")
Rec. Oct. 4, 1887 Doc. # 879421

"T¹"
Sub. of lot 8 of Blk. 3 of the University Sub. etc. (See "B")
Rec. Nov. 11, 1887 Doc. # 893470

"U¹"
Wilce and Lowden's Sub. of lot 16 and S. ½ lot 17 Blk. 5 University Sub. etc. (See "B")
Rec. Jan. 20, 1888 Doc. # 915400

"V¹"
Sub. of S. 38 ft. of lot 14 and N. 22 ft. of lot 13 in Blk. 4 University Sub. etc. (See "B")
Rec. Feb. 28, 1888 Doc. # 927082

"W¹"
Sub. of lots 14 and 15 Blk. 5 in H. Grove's Sub. etc. (See "A")
Rec. March 28, 1888 Doc. # 935555

"X¹"
H. R. Wilson's Sub. of lots 18, 19 and N. ½ of lot 17 in Blk. 5 of the University Sub. etc. (See "B")
Rec. April 4, 1888 Doc. # 935523

"Y¹"
Prindiville's Sub. of lot 1 in Blk. 5 of University Sub. etc. (See "B")
Rec. June 2, 1888 Doc. # 965095

"Z¹"
County Clerk's Division of lots 8 to 14, of Graves and Smiths Sub. of Blk. 1 and Blk. A and Dexter Pl., of H. Grove's Sub. etc. (See "A").
Rec. Sept. 24, 1888 Doc. # 1007781

"A²"
W. H. Thomas' Sub. of lots 7, 8 & 9 in Sawyer's Re-Sub. of lots 1 to 4 Blk. 2 of University Sub. etc. (See "B")
Rec. May 24, 1889 Doc. # 1105692

"B²"
Sub. of lot 18 of Blk. 6 of University Sub. etc. (See "B")
Rec. Oct. 26, 1889 Doc. # 1176247

"C²"
John E. De Witt's Add. to Chicago in N.E. frac. ¼ Sec. 34-39-14
Rec. Dec. 6, 1889 Doc. # 1194470

"D²"
Perry A. Hull's Sub. of lot 22 in Blk. 4 in H. Grove's Sub. etc. (See "A")
Rec. April 3, 1890 Doc. # 1244042

"E²"
Barry's Sub. of lot 8 in Blk. 4 in Grove's Sub. etc. (See "A")
Rec. Aug. 25, 1890 Doc. # 1325060

"F²"
Byford's Re-Sub. of lots 18 and 19 in Blk. 4 of H. Grove's Sub. etc. (See "A")
Rec. Oct. 24, 1892 Doc. # 1755647

"G²"
Sub. of lots 10 and 11 in Blk. 5 University Sub. etc. (See "B")
Rec. April 28, 1900 Doc. # 2953838

"H²"
Re-Sub. of the S. ½ of lot 24 and all of lot 23 in Blk 6 of Henry Graves' Sub. etc. (See "A")
Rec. Sept. 20, 1917 Doc. # 6195631

"J²"
Re-Sub. of lots 15, 16, 17 & 18 in Blk. 2 of Henry Grove's Sub. etc. (See "A")
Rec. Sept. 20, 1917 Doc. # 6195648

"K²"
Vacated by Ordinance. Passed July 22, 1925.
Rec. Aug. 22, 1925 Doc. # 9013428

"L²"
Dedication for a Public Alley.
Rec. April 10, 1929 Doc. # 10334935

"M²"
Vacated by Ordinance. Passed Feb. 27, 1929
Rec. April 10, 1929 Doc. # 10334936

"N²"
Amendment to above Rec. Apr. 10, 1929 Doc. # 10334937-38.

Ordinance for Vacating part of Alley.
Passed Nov. 5, 1883.

"O²"
Vacated by Ordinance. Passed Dec. 30, 1947.
Rec. Jan. 27, 1948. Doc. # 14240301

"P²"
Vacated by Ordinance Passed Oct. 11, 1951
Rec. Nov. 23, 1951 Doc. # 15222968

"Q²"
Vacated by Ordinance passed Dec. 19, 1951
Rec. Mar. 20, 1952 Doc. # 15299633

"R²"
Vacated by Ordinance passed Aug. 15, 1952
Rec. Sept. 9, 1952 Doc. # 15430642

"S²"
Vacated by Ordinance passed Jan. 30, 1952
Rec. Feb. 8, 1952 Doc. # 15270917

"T²"
Deed to City of Chicago for public streets
Rec. May 4, 1953 Doc. # 15607879

"U²"
Vacated by Ordinance passed May 28, 1953
Rec. June 12, 1953 Doc. # 15642957

"V²"
Vacated by Ordinance passed Aug. 6, 1953
Rec. Aug. 28, 1953 Doc. # 15706663

Re Sub. of Lake Meadows Number Two being a consolidation of Lots and parts of Lots and vacated Streets and Alleys in the NE Fractional ¼ of Sec. 34-39-14 E. of the 3rd. P.M.
Rec. Oct. 14, 1959 Doc. 1890949 T.S.
Rec. Nov. 27, 1959 Doc. 17722039

Dedication for Public Streets
Rec. Aug. 10, 1956 Doc. # 16666534
Reg. Aug. 10, 1956 Doc. # 1688605 T.S.
Note: for easement see Rec. Plat

DRAWN BY: ROBERT RHODES & ASSOCIATES
DATE : 11-5-68

M. L. KING DR.
VERNON AV.
RHODES AV.
COTTAGE GROVE AV.

63

E. ½ N.E. ¼ FRAC. SEC. 34-39-14

47A

S-/ S. COTTAGE GROVE AV. S. RHODES AV. S. ELLIS AV. S. LAKE PARK AVE. SOUTH LAKE SHORE DR.

E. 31ST ST. E. 31ST ST.

E 31ST PL. E. 31ST PL.

E. 32ND ST. E. 31ST PL.

E. 32ND ST. E. 32ND ST.

E. 32ND PL. E. 32ND PL.

62

E. 33RD ST. E. 33RD ST.

E. 33RD PL. E. 33RD PL.

E. 34TH ST. E. 34TH ST.

E. 35TH ST.

S. COTTAGE GROVE AV. S. ELLIS AV. S. LAKE PARK AV. SOUTH LAKE SHORE DR.

79 80

PERSHING ELEM. SCHOOL

PARK

VACATED

BUILDING NO. 10

BUILDING NO. 9

BUILDING NO. 2

BUILDING NO. 3

BUILDING NO. 4

BUILDING NO. 5

BUILDING NO. 6

BUILDING NO. 7

BUILDING NO. 8

BUILDING NO. 1

NORTH TIER

MIDDLE TIER

SOUTH TIER

GROVELAND "V" PARK

WOODLAND "V" PARK

DOUGLAS MONUMENT PARK

PUMP HOUSE

BULKHEAD

BURNHAM PARK

SOUTH SHORE DRIVE

ILLINOIS CENTRAL R.R.

"A"
Cottage Grove being a Sub. of part of N.E. frac. ¼ Sec. 34, 39, 14.
Rec. June 6, 1854.

"B"
Oakenwald, being a Sub. of part of S.½, N.E. ¼ Sec. 34, 39, 14.
Rec. July 9, 1855. Ante-Fire.

"C"
H. Grave's Sub. of that part of S.½ of N.½ of the N.E.¼ of Sec. 34, 39, 14. lying E. of Cottage Grove Ave.
Rec. Nov. 14, 1868. Ante-Fire.
Vacation of above Sub.
Rec. July 23, 1881. Doc.# 339153

"D"
H. Graves' Resub. of that part of the S.½ of the N.½ of the N.E.¼ of Sec. 34, lying E. of Cottage Grove Ave. T. 39, R. 14.
Rec. Sept. 24, 1872 Doc.# 57983
Vacation of Block 1 of above Sub. "E" Rec. Apr. 11, 1881 Doc.# 319658.
Sub. of Lots 6 & 7 in Norther of Lots in Oakenwald, etc. See "B"
Rec. Jan. 26, 1878. Doc.# 167175

"F"
C.W. & E. Pardridge's Sub. of Lots 12, 13, 14 in the middle tier of Oakenwald, etc. (See "B")
Rec. Feb. 27, 1878 Doc.# 170754

"G"
Graves and Smith's Resubdivision of that portion of H. Graves Subdivision of that part of the S.½ of the N.½ of the of N.E.¼ of Sec. 34, T. 39, R. 14. lying E. of Cottage Grove Ave. which lies E. of the E. line of Groveland Park. Ave.
Rec. April 11, 1881 Doc.# 319659

"H"
Warren and Moulton's Resub. of Lots 14, 15, 16 & 17 including Private Alley E. of Lots 14 & 15 in Oakenwald (N. Tier) of part of S.½ of N.E.¼ of Sec. 34, 39, 14.
Rec. Nov. 10, 1883 Doc.# 507054

"J"
Whiting and Walker's Sub. of Lots 20 to 23 incl., Cottage Grove Together with Lot 1, Blk. 1 Graves Sub. All in N.E. frac. ¼ of Sec. 34, T. 39, R. 14.
Rec. May 21, 1884 Doc.# 547452

"K"
R. S. Critchell's Sub. of Lots 9 and 10 and private Alley in rear of same in S. Tier of Lots in Oakenwald Sec. 34, 39, 14.
Rec. Mar. 1, 1886 Doc.# 694754

"L"
Pullman Lake Park Av. Sub. in N.E. frac. ¼ Sec. 34, 39, 14, a Sub of Lots 14 to 19 incl. in Cottage Grove and part of Lot 1 in Whiting and Walker's Sub. etc. (See "J")
Rec. July 22, 1886 Doc.# 737431

"M"
Quit Claim Deed for Alley.
Rec. Dec. 22, 1886 Doc.# 784099

"N"
Griffiths & Wadells Sub. of Lots 16, 17 and S. 16 ft. of Lot 15 in Graves and Smith's Resub. etc. (See "G")
Rec. Feb. 5, 1887 Doc.# 796170

"O"
Resub. of Lots 51, 52 & 53 in Cottage Grove, etc. See "A"
Rec. July 1, 1914 Doc.# 5447233

"P"
Dedicated for Public Alley.
Rec. Feb. 26, 1924 Doc.# 8296233

"Q"
Vacated by Ord. passed Jan. 2, 1924.
Rec. Feb. 26, 1924 Doc.# 8296234

"R"
Alley restored by Ord. passed June 24, 1925 and July 22, 1925.
Rec. Aug. 29, 1925 Doc.# 9019725

"S"
Vacated by Ord. passed June 24, 1925 and July 22, 1925.
Rec. Aug. 29, 1925 Doc.# 9019725

"T"
Dedication of 32nd Ct.
Rec. June 9, 1883. Doc.# 474562

"U"
Vacated (Henry Pl.) by Ord. passed Sept. 2, 1872.

"V"
Groveland Park and Woodlawn Park are private Parks. The title being vested in the State of Illinois in trust for the use of the owners of lots fronting or bounding the same and to be used and enjoyed by such owners in Common as a Private Park and for no other purpose whatever and to be ornamented, regulated and protected in such manner as a majority of such owners shall from time to time prescribe, each owner to share in the control and expense in proportion to the number of feet he shall own fronting or bounding on said Park, and the Alleys to be deemed private Alleys subject to like condition and use.

"W"
Vacated by Ordinance passed Dec. 19, 1951
Rec. Mar. 20, 1952 Doc.# 15299633

"X"
Deed to City of Chicago for public streets.
Rec. May 4, 1953 Doc.# 15607879

Quit Claim deed to the City of Chicago pursuant to Ordinance passed by the City Council May 11, 1954.
Rec. Sept. 10, 1954. Doc.# 16013058

"Z"
Lake Meadows Number Two, being a consolidation of lots and parts of lots and vacated streets and alleys in Henry G. Graves' Sub. of 30 acs. S. and adjoining the N. 5.72 acs. (W. of Cottage Grove Ave.) in University Sub. in Assessor's Div.² of the N. 5.72 acs. of the N.E. ¼ of Cottage Grove Ave.) and in H. Graves Sub. of that part of the S.½ of the N.½ of the N.E.¼ lying E. of of Cottage Grove Ave. and certain Resubs. all in the N.E. frac. ¼ of Sec. 34-39-14, also providing for certain street dedications.
Rec. Mar. 30, 1955. Doc.# 16189757
Reg. Mar. 31, 1955. Doc.# 1584949 T.S.

"A"
Dedication for Public Streets
Rec. Aug. 10, 1956 Doc.# 16666534
Reg. Aug. 10, 1956 Doc.# 1688605 T.S.
Note: for easement see Rec. Plat

"B"
Re Sub. of Lake Meadows Number Two being a consolidation of lots and parts of lots and vacated streets and Alleys, in the NE frac. part ¼ of Sec. 34-39-14 E. of 3rd P.M.
Reg. Oct 14, 1959 Doc. 18[illegible]
Rec. Nov. 27, 1959 Doc. 17[illegible]2039

"C" E. 35TH ST.
Dedication for Public Street
Rec. Aug. 7, 1961 Doc. 18238637

"D"
Mid-South Developers Re-Subdivision, being a parcel of Land Comprising Part of Lots 5 thru 13, Both inclusive, all of Lots 14 and 15 and part of Lots 14, 17, 18, 19, 20, 21 and private Alleys, in the North Tier of Oakenwald, a Subdivision of part of the South ½ of the Northeast ¼ of Sec. 34-39-14.
Rec. Aug. 31, 1966 Doc. 19931810

DRAWN BY. ROBERT RHODES & ASSOCIATES
CHECKED BY: C.M.E
DATE: 10-1-68

ATTACHMENT 3 – SURVEYS OF THE AREA

PLAT OF TOPOGRAPHY

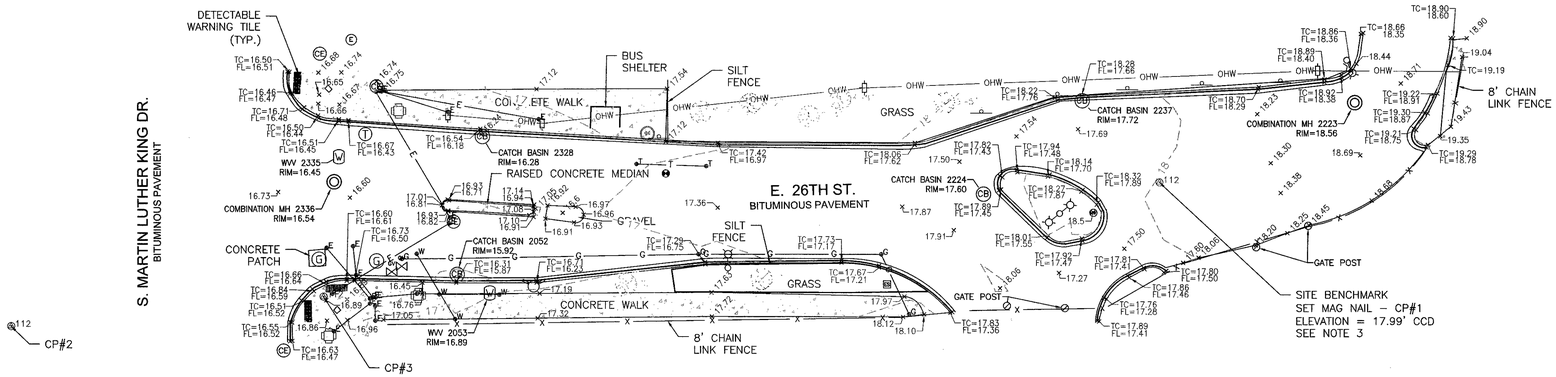
PROJECT AREA

SURVEYOR'S NOTES

1. ALL DIMENSIONS ARE GIVEN IN FEET AND DECIMAL PARTS THEREOF.
2. BEARINGS BASED ON ILLINOIS STATE PLANE COORDINATES, EAST ZONE, NAD83(2011), GPS DERIVED.
3. VERTICAL DATUM IS BASED ON NAVD88 VALUES CONVERTED TO CITY OF CHICAGO DATUM BY A DIFFERENCE OF -579.16'.
4. ONLY THOSE BUILDING LINE SETBACKS AND EASEMENTS WHICH ARE SHOWN ON THE RECORDED PLAT OF SUBDIVISION ARE SHOWN HEREON, UNLESS OTHERWISE INDICATED. REFER TO THE DEED, TITLE INSURANCE POLICY AND LOCAL ORDINANCES FOR OTHER RESTRICTIONS WHICH MAY OR MAY NOT EXIST.
5. COMPARE DEED DESCRIPTION AND SITE CONDITIONS WITH THE DATA GIVEN ON THIS PLAT AND REPORT ANY DISCREPANCIES TO THE SURVEYOR AT ONCE.
6. NO DIMENSIONS SHALL BE DERIVED FROM SCALE MEASUREMENT.
7. DISTANCES ALONG CURVES ARE ARC DISTANCES UNLESS OTHERWISE NOTED.
8. THIS SURVEY WAS PERFORMED ON THE GROUND AND COMPLETED **12/20/18.**
9. ONLY THE IMPROVEMENTS THAT WERE VISIBLE FROM ABOVE GROUND AT TIME OF SURVEY AND THROUGH A NORMAL SEARCH AND WALK THROUGH OF THE SITE ARE SHOWN ON THE FACE OF THIS PLAT. LAWN SPRINKLER SYSTEMS, IF ANY, ARE NOT SHOWN ON THIS SURVEY.
10. SURFACE INDICATIONS OF UTILITIES ON THE SURVEYED PARCEL HAVE BEEN SHOWN. UNDERGROUND AND OFFSITE OBSERVATIONS HAVE NOT BEEN MADE TO DETERMINE THE EXTENT OF UTILITIES SERVING OR EXISTING ON THE PROPERTY. PUBLIC AND/OR PRIVATE RECORDS HAVE NOT BEEN SEARCHED TO PROVIDE ADDITIONAL INFORMATION. OVERHEAD WIRES, IF ANY, ARE EXISTING AND THEIR POLES HAVE BEEN SHOWN, HOWEVER THEIR FUNCTION AND DIMENSIONS HAVE NOT BEEN NOTED.
11. OTHER THAN VISIBLE OBSERVATIONS NOTED HEREON, THIS SURVEY MAKES NO STATEMENT REGARDING THE ACTUAL PRESENCE OR ABSENCE OF ANY SERVICE OR UTILITY LINE. CONTROLLED UNDERGROUND EXPLORATORY EFFORT TOGETHER WITH DIGGER IS RECOMMENDED TO DETERMINE THE FULL EXTENT OF UNDERGROUND SERVICE AND UTILITY LINES. CONTACT DIGGER AT 1-312-744-7000.

N
W E
S

0' 20' 40'
Scale: 1"= 20'



CONTROL POINTS

CP#1 SET MAG NAIL
N: 1887162.249
E: 1179615.184

CP#2 SET CUT CROSS IN MEDIAN
N: 1887121.567
E: 1179291.564

CP#3 SET CUT CROSS
N: 1887129.805
E: 1179379.558

LEGEND

SYMBOL	DESCRIPTION
	CONTROL POINT
BM	BENCHMARK LOCATION
	MONITORING WELL
	BORING LOCATION
WB	WATER BUFFALO BOX
W	WATER METER
	WATER VALVE
V	WATER VALVE VAULT
	FIRE HYDRANT
SCV	SPRINKLER CONTROL VALVE
ES	ELECTRIC SERVICE BOX
E	ELECTRIC METER
	LIGHT POLE
	POWER POLE
	TRAFFIC SIGNAL W/ MAST ARM
	TRAFFIC SIGNAL POLE
GV	GAS VALVE
GAS	GAS BUFFALO BOX
CB	CATCH BASIN ROUND
S	COMBINATION SEWER MANHOLE
CE	COMED MANHOLE
CE	COMED VAULT
E	CITY ELECTRIC MANHOLE
G	GAS MANHOLE
T	COMMUNICATION MANHOLE
E	PAINTED ELECTRIC LINE
W	PAINTED WATER LINE
G	PAINTED GAS LINE
T	PAINTED TELEPHONE LINE
	BOLLARD
	SIGN
	SHRUB
0"	DECIDUOUS TREE W/SIZE
0"	CONIFEROUS TREE W/SIZE
X 100.00	SPOT GRADE
TC	TOP OF CURB
FL	FLOW LINE
T/D	TOP OF DEBRIS
T/V	TOP OF VALVE
T/P	TOP OF PIPE
BOT	BOTTOM
OHW	OVERHEAD WIRES
W	WATERMAIN
T	COMMUNICATION LINE
G	GAS MAIN
E	ELECTRIC LINE
	CONCRETE CURB & GUTTER

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

WE, ENVIRONMENTAL DESIGN INTERNATIONAL, INC., ILLINOIS PROFESSIONAL DESIGN FIRM NO. 184-001224, HEREBY CERTIFY THAT THE TOPOGRAPHIC IMPROVEMENTS DEPICTED HEREON WERE SURVEYED UNDER THE DIRECT SUPERVISION OF AN ILLINOIS PROFESSIONAL LAND SURVEYOR, AND THAT THIS PLAT REPRESENTS THE CONDITIONS FOUND AT THE TIME OF SAID SURVEY.

GIVEN UNDER MY HAND AND SEAL THIS 25TH DAY OF FEBRUARY, 2019 IN CHICAGO, ILLINOIS.

WILLIAM J. FLEMING, IPLS NO. 035.003226
LICENSE EXPIRES: 11/30/2020

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR TOPOGRAPHIC SURVEYS.

THIS PLAT IS VALID ONLY WITH AN ORIGINAL SIGNATURE AND WITH A RAISED SEAL.

EDI
Environmental Design International inc.
Civil, Survey, Environmental and Construction Inspection Services
33 W. MONROE STREET, SUITE 1825, CHICAGO, IL 60603
Ph. (312) 345-1400 Fax (312)345-0529
www.envdesigni.com
MBE/WBE/DBE

PROJECT:
26TH STREET
TOPOGRAPHIC SURVEY

CLIENT:
TETRA TECH
1 S. WACKER DRIVE,
SUITE 3700
CHICAGO, IL 60606

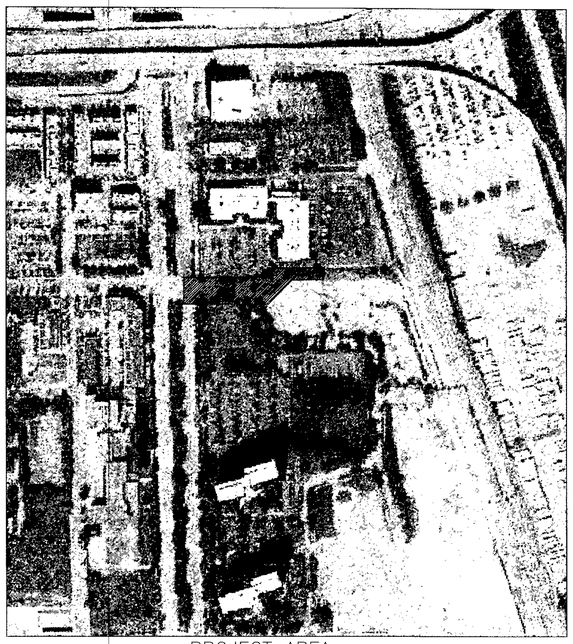
PROFESSIONAL LAND SURVEYOR
WILLIAM J. FLEMING
35-3226
STATE OF ILLINOIS

No.	Revision / Issue	Date

PROJECT No.	1311.010
SCALE:	1" = 20'
REVIEWED BY:	INT.?
CHECKED BY:	INT.?
DRAWN BY:	MAW
FIELD CREW:	JF/KF
FIELD DATE:	12/20/18
DATE:	2/25/19
PLAN TYPE	TOPOGRAPHIC SURVEY
SHEET NUMBER	1 OF 1

PLOT DATE: 2/25/2019 10:33 AM PLOTTED BY: MATTHEW WESTERKAMP
L:\1311 Tetra Tech\1311.010 Cumulative Reduction Radioactive Facility (EW)\Survey\03 CAD\02 Sheets\1311.010.dwg 2/25/2019 10:16 AM

PLAT OF TOPOGRAPHY



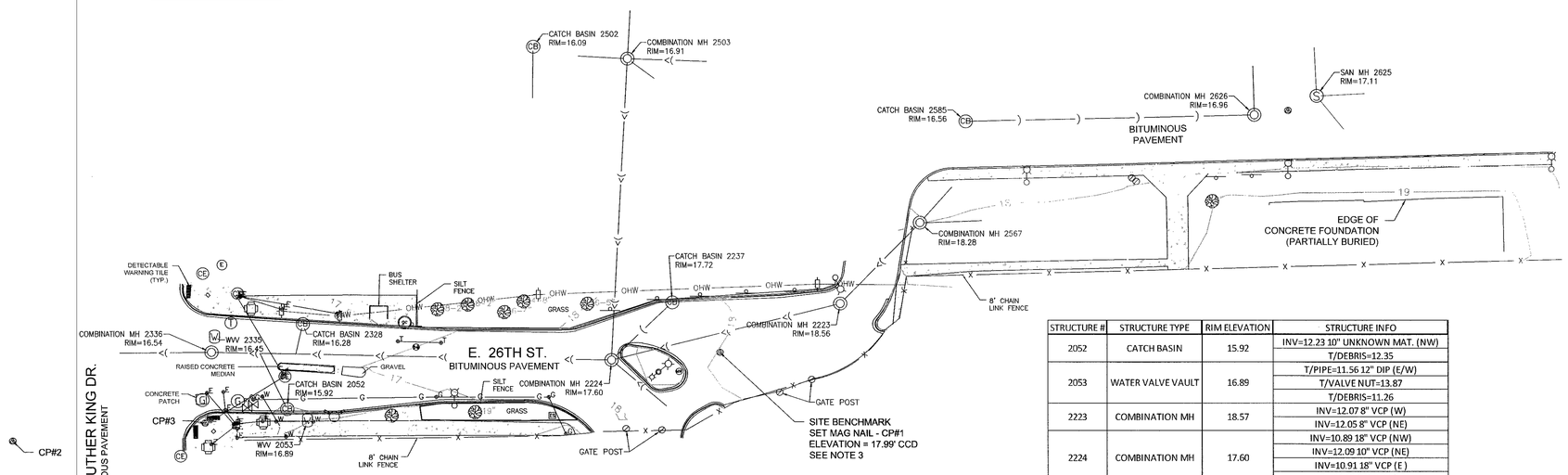
PROJECT AREA

SURVEYOR'S NOTES

1. ALL DIMENSIONS ARE GIVEN IN FEET AND DECIMAL PARTS THEREOF.
2. BEARINGS BASED ON ILLINOIS STATE PLANE COORDINATES, EAST ZONE, NAD83(2011), GPS DERIVED.
3. VERTICAL DATUM IS BASED ON NAVD88 VALUES CONVERTED TO CITY OF CHICAGO DATUM BY A DIFFERENCE OF -579.16'.
4. ONLY THOSE BUILDING LINE SETBACKS AND EASEMENTS WHICH ARE SHOWN ON THE RECORDED PLAT OF SUBDIVISION ARE SHOWN HEREON, UNLESS OTHERWISE INDICATED. REFER TO THE DEED, TITLE INSURANCE POLICY AND LOCAL ORDINANCES FOR OTHER RESTRICTIONS WHICH MAY OR MAY NOT EXIST.
5. COMPARE DEED DESCRIPTION AND SITE CONDITIONS WITH THE DATA GIVEN ON THIS PLAT AND REPORT ANY DISCREPANCIES TO THE SURVEYOR AT ONCE.
6. NO DIMENSIONS SHALL BE DERIVED FROM SCALE MEASUREMENT.
7. DISTANCES ALONG CURVES ARE ARC DISTANCES UNLESS OTHERWISE NOTED.
8. THIS SURVEY WAS PERFORMED ON THE GROUND AND COMPLETED **8/20/18.**
9. ONLY THE IMPROVEMENTS THAT WERE VISIBLE FROM ABOVE GROUND AT TIME OF SURVEY AND THROUGH A NORMAL SEARCH AND WALK THROUGH OF THE SITE ARE SHOWN ON THE FACE OF THIS PLAT. LAWN SPRINKLER SYSTEMS, IF ANY, ARE NOT SHOWN ON THIS SURVEY.
10. SURFACE INDICATIONS OF UTILITIES ON THE SURVEYED PARCEL HAVE BEEN SHOWN. UNDERGROUND AND OFFSITE OBSERVATIONS HAVE NOT BEEN MADE TO DETERMINE THE EXTENT OF UTILITIES SERVING OR EXISTING ON THE PROPERTY. PUBLIC AND/OR PRIVATE RECORDS HAVE NOT BEEN SEARCHED TO PROVIDE ADDITIONAL INFORMATION. OVERHEAD WIRES, IF ANY, ARE EXISTING AND THEIR POLES HAVE BEEN SHOWN, HOWEVER THEIR FUNCTION AND DIMENSIONS HAVE NOT BEEN NOTED.
11. OTHER THAN VISIBLE OBSERVATIONS NOTED HEREON, THIS SURVEY MAKES NO STATEMENT REGARDING THE ACTUAL PRESENCE OR ABSENCE OF ANY SERVICE OR UTILITY LINE. CONTROLLED UNDERGROUND EXPLORATORY EFFORT TOGETHER WITH DIGGER IS RECOMMENDED TO DETERMINE THE FULL EXTENT OF UNDERGROUND SERVICE AND UTILITY LINES. CONTACT DIGGER AT 1-312-744-7000.

N
W E
S

0' 30' 60'
Scale: 1"= 30'



STRUCTURE #	STRUCTURE TYPE	RIM ELEVATION	STRUCTURE INFO
2052	CATCH BASIN	15.92	INV=12.23 10" UNKNOWN MAT. (NW)
			T/DEBRIS=12.35
2053	WATER VALVE VAULT	16.89	T/PIPE=11.56 12" DIP (E/W)
			T/VALVE NUT=13.87
			T/DEBRIS=11.26
2223	COMBINATION MH	18.57	INV=12.07 8" VCP (W)
			INV=12.05 8" VCP (NE)
2224	COMBINATION MH	17.60	INV=10.89 18" VCP (NW)
			INV=12.09 10" VCP (NE)
			INV=10.91 18" VCP (E)
			INV=11.03 15" VCP (SE)
2237	CATCH BASIN	17.72	INV=13.59 10" VCP (SW)
			T/DEBRIS=13.68
2328	CATCH BASIN	16.28	INV=11.26 12" RESTRICTOR CAP (S)
			T/DEBRIS=11.62
2335	WATER VALVE VAULT	16.45	T/VALVE NUT=13.36
			T/DEBRIS=11.46
			PIPE COVERED BY DEBRIS
2336	COMBINATION MH	16.54	INV=7.85 18" VCP (W)
			INV=7.73 18" VCP (E)
2502	CATCH BASIN	16.09	INV=11.78 8" VCP (S)
			T/DEBRIS=11.28
2503	COMBINATION MH	16.91	INV=11.60 8" VCP (W)
			INV=11.49 8" VCP (S)
			INV=11.56 8" VCP (SE)
			INV=11.56 8" VCP (E)
			INV=11.58 8" VCP (NE)
2567	COMBINATION MH	18.28	INV=12.57 8" VCP (SW)
			INV=13.26 (6" VCP (NE)
			INV=12.57 8" VCP €
2585	CATCH BASIN	16.56	INV=11.84 6" VCP (E)
			T/DEBRIS=12.45
2625	SANITARY MH	17.11	INV=11.15 9" VCP (N)
			INV=11.35 10" VCP (E)
			INV=11.22 8" VCP (SE)
2626	COMBINATION MH	16.96	INV=11.55 8" VCP (N)
			INV=11.65 8" VCP (W)

CONTROL POINTS

CP#1 SET MAG NAIL
N: 1887162.249
E: 1179615.184

CP#2 SET CUT CROSS IN MEDIAN
N: 1887121.567
E: 1179291.564

CP#3 SET CUT CROSS
N: 1887129.805
E: 1179379.558

LEGEND

SYMBOL	DESCRIPTION
	CONTROL POINT
BM	BENCHMARK LOCATION
	MONITORING WELL
	BORING LOCATION
WB	WATER BUFFALO BOX
W	WATER METER
	WATER VALVE
V	WATER VALVE VAULT
	FIRE HYDRANT
	SPRINKLER CONTROL VALVE
ES	ELECTRIC SERVICE BOX
E	ELECTRIC METER
	LIGHT POLE
	POWER POLE
	TRAFFIC SIGNAL W/ MAST ARM
	TRAFFIC SIGNAL POLE
GV	GAS VALVE
GAS	GAS BUFFALO BOX
CB	CATCH BASIN ROUND
	COMBINATION SEWER MANHOLE
CE	COMED MANHOLE
CE	COMED VAULT
E	CITY ELECTRIC MANHOLE
G	GAS MANHOLE
T	COMMUNICATION MANHOLE
E	PAINTED ELECTRIC LINE
W	PAINTED WATER LINE
G	PAINTED GAS LINE
T	PAINTED TELEPHONE LINE
	BOLLARD
	SIGN
	SHRUB
0"	DECIDUOUS TREE W/SIZE
0"	CONIFEROUS TREE W/SIZE
X 100.00	SPOT GRADE
TC	TOP OF CURB
FL	FLOW LINE
T/D	TOP OF DEBRIS
T/V	TOP OF VALVE
T/P	TOP OF PIPE
BOT	BOTTOM
OHW	OVERHEAD WIRES
W	WATERMAIN
T	COMMUNICATION LINE
G	GAS MAIN
E	ELECTRIC LINE
	CONCRETE CURB & GUTTER
	CONCRETE PAVEMENT

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

WE, ENVIRONMENTAL DESIGN INTERNATIONAL, INC., ILLINOIS PROFESSIONAL DESIGN FIRM NO. 184-001224, HEREBY CERTIFY THAT THE TOPOGRAPHIC IMPROVEMENTS DEPICTED HEREON WERE SURVEYED UNDER THE DIRECT SUPERVISION OF AN ILLINOIS PROFESSIONAL LAND SURVEYOR, AND THAT THIS PLAT REPRESENTS THE CONDITIONS FOUND AT THE TIME OF SAID SURVEY.

GIVEN UNDER MY HAND AND SEAL THIS 10TH DAY OF OCTOBER, 2019 IN CHICAGO, ILLINOIS.

WILLIAM J. FLEMING, IPLS NO. 035.003226
LICENSE EXPIRES: 11/30/2020

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS FOR TOPOGRAPHIC SURVEYS.

EDI
Environmental Design International inc.
Civil, Survey, Environmental and Construction Inspection Services
33 W. MONROE STREET - SUITE 1825, CHICAGO, IL 60603
Ph. (312) 345-1400 Fax (312)345-0529 MBE/WBE/DBE
www.envdesigni.com

PROJECT:
26TH STREET
TOPOGRAPHIC SURVEY

CLIENT:
TETRA TECH
1 S. WACKER DRIVE,
SUITE 3700
CHICAGO, IL 60606

WILLIAM J. FLEMING
35-3226
PROFESSIONAL LAND SURVEYOR
STATE OF ILLINOIS

No.	Revision/Issue	Date

PROJECT No.	1311.010
SCALE:	1" = 20'
REVIEWED BY:	WJF
CHECKED BY:	
DRAWN BY:	MAW
FIELD CREW:	JF/JW
FIELD DATE:	8/20/19
DATE:	10/10/19
PLAN TYPE	TOPOGRAPHIC SURVEY
SHEET NUMBER	1 OF 1

PLOT DATE: 10/10/2019 3:23 PM PLOTTED BY: MATTHEW WESTERKAMP
L:\1311 Tetra Tech\1311.010 Cornerstone Relocation Radioactive Facility 2PM\Survey\04 CAD\02 Sheets\1311.010.dwg 10/10/2019 3:22 PM

GREMLEY & BIEDERMANN

A DIVISION OF

PLCS Corporation

LICENSE NO. 184-005332

PROFESSIONAL LAND SURVEYORS

4505 NORTH ELSTON AVENUE, CHICAGO, IL 60630

TELEPHONE: (773) 685-5102 FAX: (773) 286-4184 EMAIL: INFO@PLCS-SURVEY.COM

Plat of Survey

Parcel 1:

That part of the Northeast fractional Quarter of Section 27, Township 39 North, Range 14, East of the Third Principal Meridian, bounded and described as follows:

Beginning at a point of intersection with the South line of said fractional Quarter and the Westerly line of Lot 1 in Chicago Land Clearance Commission No. 2, being a consolidation of Lots and parts of Lots and vacated streets and alleys in the Southeast fractional Quarter of said Section 27; Thence Northwesterly along the Northwest extension of the Westerly line of said Lot 1, a distance of 10.95 feet to a point 9.82 feet North of the South line of said Northeast fractional Quarter and 33.00 feet East of the West line of said Northeast fractional Quarter; Thence North along a line 33.00 feet East of and parallel with the West line of said Northeast fractional Quarter, being the East line of South Dr. Martin Luther King, Jr. Drive, a distance of 389.38 feet; Thence East along a line 175.00 feet South of and parallel with the North line of the South 8.70 chains of said Northeast fractional Quarter, a distance of 275.00 feet; Thence North along a line 275.00 feet East of and parallel with the East line of said South Dr. Martin Luther King, Jr. Drive, a distance of 175.00 feet to the North line of said South 8.70 chains; Thence East along the North line of said South 8.70 chains, a distance of 321.62 feet; Thence Southeasterly along the Southwesterly line of the Illinois Central Gulf Railroad, a distance of 599.17 feet; Thence West along the South line of said Northeast fractional Quarter, a distance of 762.98 feet to the point of beginning, in Cook County, Illinois.

Parcel 2:

That part of Lot 1 in the Assessor's Division of unsubdivided lands in the Southeast fractional Quarter of Section 27, Township 39 North, Range 14, East of the Third Principal Meridian, lying West of the Illinois Central Railroad Company's right of way, bounded and described as follows:

Beginning at a point of intersection of the North line of said Lot 1 an the Illinois Central railroad Company's West right of way line, said point being the Northeast corner of said Lot 1; Thence Southeasterly along said right of way line, a distance of 102.28 feet to the Southeast corner of said Lot 1; Thence Northwesterly on a straight line forming an interior angle of 18° 7' 30" a distance of 75.50 feet to the Northeast corner of the building line of the Swigart Paper Company; Thence Northwesterly on an angle to the left 21° 56' 56" along said building line a distance of 22.84 feet; Thence Westerly on an angle to the left of 13° 3' 30" along said building line, a distance of 65.47 feet to a point in the North line of said Lot 1, which is 93.78 feet West from the Northeast corner of said Lot 1; Thence East along said North line of Lot 1, a distance of 93.78 feet to the point of beginning.

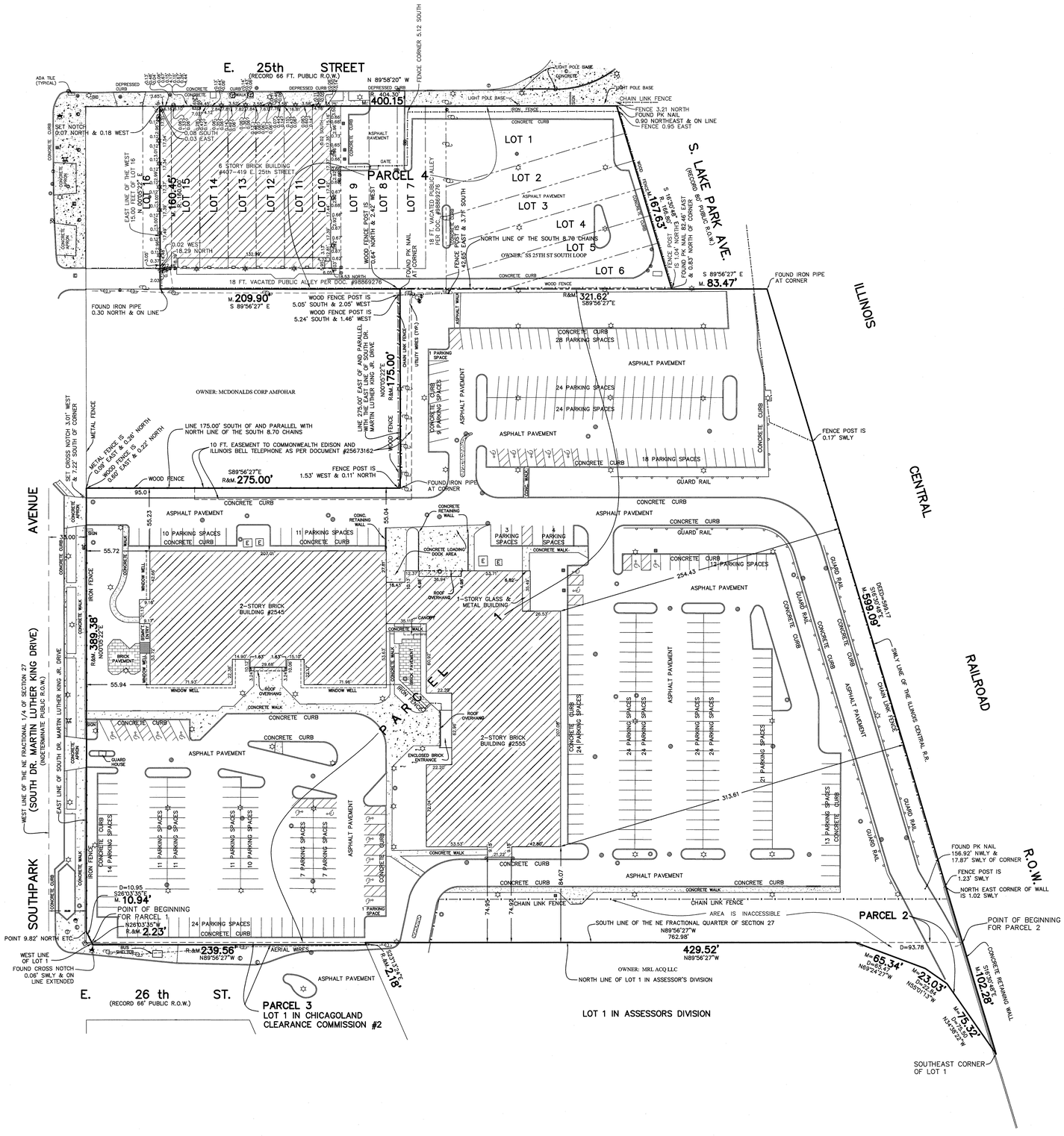
Parcel 3:

Lot 1 Chicago Land Clearance Commission No. 2, being a Consolidation of Lots and parts of Lots and vacated streets and alleys in the Southeast fractional Quarter of Section 27, Township 39 North, Range 14, East of the Third Principal Meridian, in Cook County, Illinois.

Parcel 4:

Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 except the west 15 feet thereof and all of the vacated 18 ft. public lying west of and adjoining lots 1 through 5 and lying south of and adjoining lots 7 through 16 except the west 15 feet, all in block 4 in Walker Brothers addition to Chicago, being a subdivision of the Northeast Quarter of Section 27, Township 39 North, Range 14, East of the Third Prinicpal Merdian, in Cook County, Illinois.

AREA OF PROPERTY = 414,857 SQ. FT. OR 9.52 ACRES



Legend:

- Storm MH
- Storm CB
- Storm Inlet
- San MH
- San Storm Combo MH
- San Clean Out
- Water Valve Vault
- Water MH
- Water Buffalo Box
- Water Hand Hole
- Water Meter
- Water Fire Hydrant
- Telephone MH
- Telephone Vault
- Utility Pole
- Guy Anchor
- Electric Manhole
- Electric MH
- Electric Vault
- Electric Hand Hole
- Electric Pad
- Electric Meter
- Electric Light Pole
- Electric Traffic Signal
- Electric Light Pole with Traffic Signal
- Electric Traffic Control Box
- Electric Traffic Vault
- Electric Ground Light
- Electric Mounted Wall Light
- Gas Buffalo Box
- Gas Hand Hole
- Gas Meter
- Gas Valve
- Gas MH
- Gas Vault
- Parking Pay Box
- Sign Post
- Mail Box
- Bumper Post
- Bike Rack
- Unclassified Manhole
- Auto Sprinkler
- Hose Connection
- Fire Alarm
- Flag Pole

ORDERED BY: BULL DOG PORPERTIES		CHECKED: DRAWN: BB
ADDRESS: 2545-2555 S. MARTIN LUTHER KING DRIVE		
GREMLEY & BIEDERMANN PLCS, CORPORATION LICENSE NO. 184-005332 *PROFESSIONAL LAND SURVEYORS* 4505 NORTH ELSTON AVENUE, CHICAGO, IL 60630 TELEPHONE: (773) 685-5102 FAX: (773) 286-4184 EMAIL: INFO@PLCS-SURVEY.COM		
ORDER NO. 2015-20943-001	DATE: JUNE 8, 2015 SCALE: 1 INCH = 40 FEET	PAGE NO. 1 OF 1

G:\CAD\2015\2015-20943\2015-20943-001.dwg

SURVEY NOTES:

Note R. & M. denotes Record and Measured distances respectively.

Distances are marked in feet and decimal parts thereof. Compare all points BEFORE building by same and at once report any differences BEFORE damage is done.

For easements, building lines and other restrictions not shown on survey plat refer to your abstract, deed, contract, title policy and local building line regulations.

NO dimensions shall be assumed by scale measurement upon this plat.

Unless otherwise noted hereon the Bearing Basis, Elevation Datum and Coordinate Datum if used is ASSUMED.

GRAPHIC SCALE

80 40 0 40 120

(IN FEET)

1" = 40'

State of Illinois)
County of Cook)ss

We, GREMLEY & BIEDERMANN, INC. hereby certify that we have surveyed the above described property and that the plat hereon drawn is a correct representation of said survey corrected to a temperature of 62° Fahrenheit.

Field measurements completed on June 8, 2015.

Signed on June 16, 2015.

By:

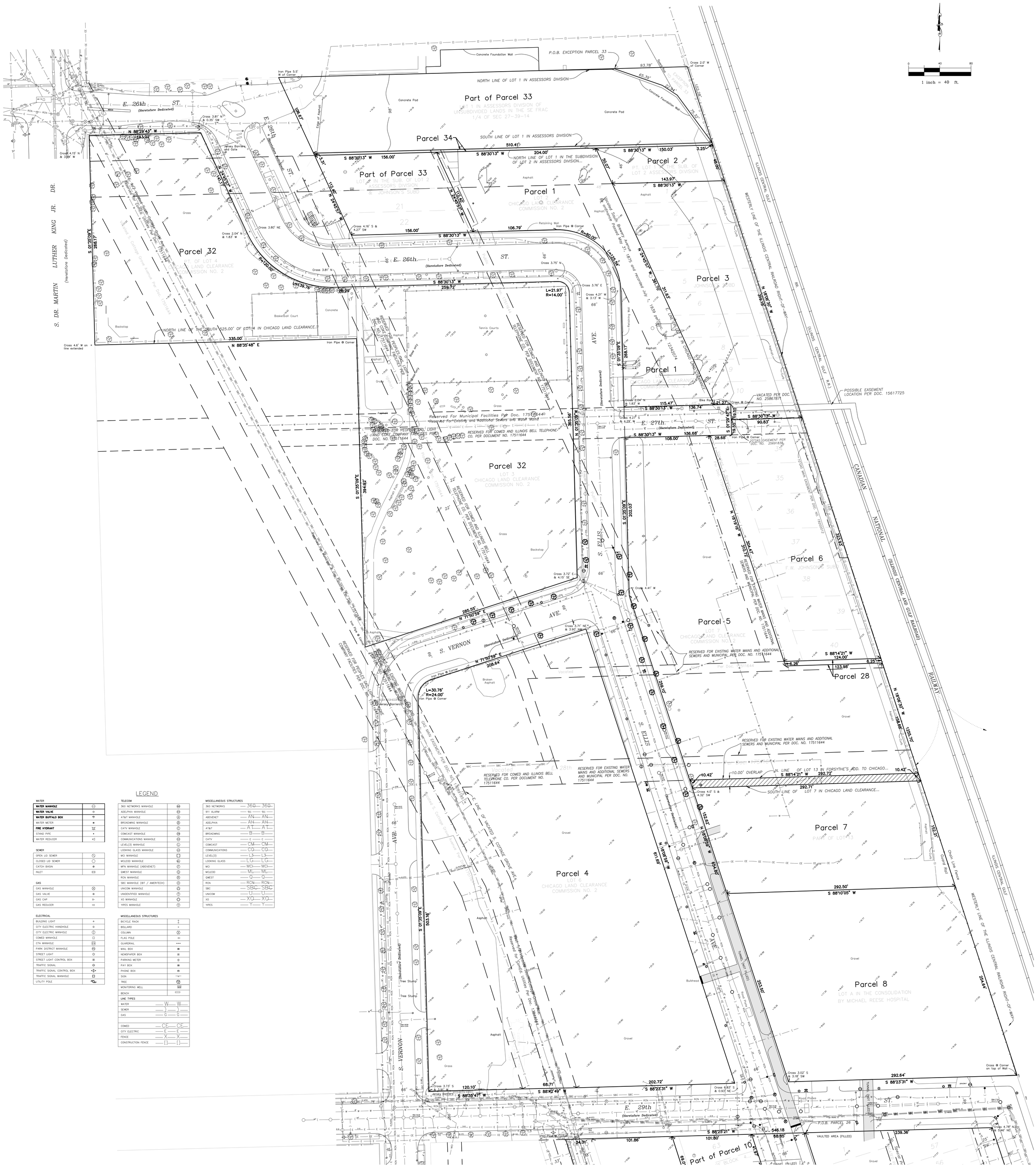
Professional Illinois Land Surveyor No. 2802

My license expires November 30, 2016

This professional service conforms to the current Illinois minimum standards for a boundary survey.

ROBERT G. BIEDERMANN 2802 PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS CHICAGO, ILLINOIS

ALTA / ACSM LAND TITLE SURVEY



LEGEND

WATER	
WATER MANHOLE	
WATER VALVE	
WATER BUFFALO BOX	
WATER METER	
FIRE HYDRANT	
STAND PIPE	
WATER REDUCER	

SEWER	
OPEN LID SEWER	
CLOSED LID SEWER	
CATCH BASIN	
INLET	

GAS	
GAS MANHOLE	
GAS VALVE	
GAS CAP	
GAS REDUCER	

ELECTRICAL	
BUILDING LIGHT	
CITY ELECTRIC HANDHOLE	
CITY ELECTRIC MANHOLE	
COMED MANHOLE	
CTA MANHOLE	
PARK DISTRICT MANHOLE	
STREET LIGHT	
STREET LIGHT CONTROL BOX	
TRAFFIC SIGNAL	
TRAFFIC SIGNAL CONTROL BOX	
TRAFFIC SIGNAL MANHOLE	
UTILITY POLE	

TELECOM	
360 NETWORKS MANHOLE	
ADELPHIA MANHOLE	
AT&T MANHOLE	
BROADWING MANHOLE	
CATV MANHOLE	
COMCAST MANHOLE	
COMMUNICATIONS MANHOLE	
LEVEL(3) MANHOLE	
LOOKING GLASS MANHOLE	
MCI MANHOLE	
MCLEOD MANHOLE	
MFN MANHOLE (ABOVENET)	
QWEST MANHOLE	
RCN MANHOLE	
SBC MANHOLE (BT / AMERITECH)	
UNICOM MANHOLE	
UNIDENTIFIED MANHOLE	
XO MANHOLE	
YIPES MANHOLE	

MISCELLANEOUS STRUCTURES	
360 NETWORKS	360 360
911 ALARM	911 911
ABOVENET	AN AN
ADELPHIA	AH AH
AT&T	AT AT
BROADWING	B B
CATV	C C
COMCAST	CM CM
COMMUNICATIONS	CO CO
LEVEL(3)	L3 L3
LOOKING GLASS	LG LG
MCI	MC MC
MCLEOD	ML ML
QWEST	Q Q
RCN	RCN RCN
SBC	SBC SBC
UNICOM	U U
XO	XO XO
YIPES	Y Y

MISCELLANEOUS STRUCTURES	
BICYCLE RACK	
BOLLARD	
COLUMN	
FLAG POLE	
GUARDRAIL	
MAIL BOX	
NEWSPAPER BOX	
PARKING METER	
PAY BOX	
PHONE BOX	
SIGN	
TREE	
MONITORING WELL	
BENCH	
LINE TYPES	
WATER	W W
SEWER	))
GAS	G G
COMED	CE CE
CITY ELECTRIC	E E
FENCE	X X
CONSTRUCTION FENCE	[] []

SITE ADDRESS:

E. 31ST STREET
CHICAGO, ILLINOIS

REVISIONS

No.	DATE	DESCRIPTION	BY
1			
2			
3			
4			
5			
6			
7			

OWNER/DEVELOPER:

CITY OF CHICAGO

ENGINEER:

hbk ENGINEERING

921 WEST VAN BUREN STREET, SUITE 100
CHICAGO, ILLINOIS 60607
STATE OF ILLINOIS DEPARTMENT
OF PROFESSIONAL REGULATION.
LICENSE NO. 184-002308

SHEET TITLE:

ALTA / ACSM LAND TITLE SURVEY
MICHAEL REESE HOSPITAL SITE
CHICAGO, ILLINOIS

PROJECT NUMBER:	09-265
DRAWN BY:	TEH
CHECKED BY:	TEH
APPROVED BY:	TEH
DATE DRAWN:	04/13/2012
SCALE:	1"=40'

SHEET: 1

1 OF: 3

ATTACHMENT 4 – CDOT RESTORATION WAIVER APPROVAL

Abigail Mazza

From: Michael Simon
Sent: Tuesday, June 11, 2019 4:51 PM
To: Abigail Mazza
Cc: Kimberly Worthington; gkeck2@cdotutilitypmo.org
Subject: Re: Restoration Waiver Request for Carnotite Reduction Company Remediation Project 434 E. 26th Street

Abby:

CDOT - DIM approves the restoration waiver

Mike Simon

Sent from my iPhone

On Jun 11, 2019, at 4:44 PM, Abigail Mazza <Abby.Mazza@cityofchicago.org> wrote:

> Good afternoon Mike,
>
> 2FM is preparing construction bid documents for remediation of the radiologically contaminated material in the vicinity of 434 E. 26th Street (the Project). The Project requires excavating within the north end of the City-owned former Michael Reese Hospital site (MRH site) as well as within the 26th Street right-of-way (see attached, general excavation area shown in pink).
>
> Currently, the stretch of 26th Street east of Dr. Martin Luther King Jr. Drive (MLK Drive) is open to vehicles only for accessing the private property to the north (2545 S. Dr. Martin Luther King Jr. Drive) via an unpermitted driveway opening (confirmed by CDOT's permit division) and for accessing the northern MRH site entrance gate. The private property to the north also has two permitted driveway entrances along MLK Drive that provide access to their property. Pedestrians can also currently use 26th Street to access the 27th Street Metra station from the north. This station can also be accessed from the south via 29th Street and S. Vernon Avenue, which will continue to be available during and after construction.
>
> DPD is in negotiations with a developer for the future redevelopment of the MRH site, which will include reconfiguring 26th Street. Once remediation is complete, the MRH site will remain vacant until this development occurs. Therefore, 2FM is requesting a waiver from CDOT for the requirement to restore the impacts to 26th Street, including pavement, lighting and sidewalk repair as indicated on the attached general exhibit. If this waiver is approved, 26th Street will be temporarily closed to both vehicle and pedestrian traffic east of S. Dr. Martin Luther King Jr. Drive during and after the Project until development occurs.
>
> 2FM and CDOT (Jeff Sriver and Luann Hamilton) met with Metra in April to discuss closing 26th Street and based on the data they shared, the majority of riders come from the south and there was no objection to closing access to the station from the north.
>
> We will be submitting a full set of detailed drawings to OUC in the upcoming weeks as part of our existing facility protection/deep excavation review and are requesting written approval of this waiver to include with the OUC submittal.

Thanks,

Abby Mazza, P.E. | Environmental Engineer III

City of Chicago | Department of Fleet and Facility Management (2FM)

Bureau of Environmental, Health & Safety Management (EHS)

30 N. LaSalle St., Suite 300 | Chicago, Illinois 60602-2575

Tel: 312.744.3161 | Fax: 312.744.6451

<Carnotite Waiver Request Exhibit_434 E 26th St_2019-06-05.pdf>

Legend

- Concrete Barrier for Pedestrian Protection
- Concrete Barrier Blocking Vehicular Traffic
- Pedestrian Access to 27th Street Metra Station
- Expected Truck Route during Remediation
- Existing Fence
- New Fence
- Gate
- Project/Radioactive Facility License Boundary
- Excavation Area

N

0 200 400

Feet

Source: Bing Map-GIS online map server

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	MAY 2019

TETRA TECH

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

PEDESTRIAN ACCESS AND PROTECTION

SHEET

5/17/2019 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2019-05\PedestrianAccess_Protection.mxd m.banh

ATTACHMENT 5 – CHICAGO STORMWATER CALCULATION SPREADSHEET

Date: 11/4/19
Rev. Date:

City of Chicago
Department of Water Management

Stormwater Spreadsheet Tool

Release 3.1 effective January 1, 2016

1. DOB Tracking/Permit Number:

2. Name of Project:
Carnotite Radiation Site

3. Address of Site:
434 East 26th Street
Chicago, Illinois 60616

Architect / Engineer of Record: Jim Wescott
Phone No.: 312-201-7781

4. Description of Proposed Work:
Excavation and removal of contaminated soils, backfill and restoration of excavation area

5. Use of Building (if applicable):
N/A

6. Sewer Altas & Drain Atlas Referenced:

7. Area of Site:
61,242 square feet (Square Feet = Acres * 43560)
1.406 acres (Acres = Square Feet / 43560)

This spreadsheet tool has been prepared to assist the applicant in preparing calculations for simple sites. The applicant is responsible for ensuring that submitted calculations are correct. If necessary, supporting hand calculations should be prepared and submitted.

Color Coding

- Cell Contents Computed by Spreadsheet
- Cell for User Entry
- Cell Includes Comment (when cursor is over it)

City of Chicago
Department of Water Management

Stormwater Spreadsheet Tool

INDEX OF SPREADSHEETS

City of Chicago
Department of Water Management

Name of Project: Carnotite Radiation Site
Address: 434 East 26th Street
A/E of Record: Jim Wescott

0.0 Release Rate

Step 1: Sewer Capacity of Each Sewer Segment

Sewer Segment:	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6
Street Name:	E 26th St	E 26th St	S MLK Jr Dr	S MLK Jr Dr	S MLK Jr Dr	
Upstream End (street name):	E 26th St	E 26th St	S MLK Jr Dr	S MLK Jr Dr	S MLK Jr Dr	
Downstream End (street name):	E 26th St	S MLK Jr Dr	S MLK Jr Dr	S MLK Jr Dr	S MLK Jr Dr	
Upstream Invert (ft):	11.41	11.06	8.55	6.13	5.43	
Downstream Invert (ft):	11.06	7.88	5.43	5.43	4.12	
Pipe Segment Length (ft):	40	220	150	98	40	
Pipe Slope (S):	0.8750%	1.4455%	2.0800%	0.7143%	3.2750%	
Pipe Characteristics:						
Pipe Size (in):	15	18	30	30	36	
Pipe Area (sq ft):	1.2272	1.7671	4.9087	4.9087	7.0686	0.0000
Wetted Perimeter (ft):	3.9270	4.7124	7.8540	7.8540	9.4248	0.0000
Hydraulic Radius (ft):	0.3125	0.3750	0.6250	0.6250	0.7500	
Roughness Coefficient (n):	0.011	0.011	0.015	0.015	0.015	
Flow Conveyance (K):	62.2099	70.2501	72.4182	72.4182	81.7777	
Manning's Equation:						
Velocity (fps):	5.82	8.45	10.44	6.12	14.80	
Hydraulic Capacity (cfs):	**7.14**	**14.93**	**51.27**	**30.04**	**104.61**	

Roughness Coefficient (n):
VCP: use 0.011, typical for pipe <= 21 in
RCP: use 0.013, for pipe >=24 in when pipe size shown on atlas in inches
brick sewer: use 0.015, for pipe >=24 in when pipe size shown on atlas in feet

Step 2: Tributary Area to Each Sewer Segment

	Segment 1			Segment 2		
Total Tributary Area (ac):	0.65	Adj. Factor	Adjusted Area	1.14	Adj. Factor	Adjusted Area
Residential Area (ac):	0.00	1.0	0.00	0.00	1.0	0.00
Commercial Area (ac):	0.65	1.3	0.85	1.14	1.3	1.48
Industrial Area (ac):	0.00	1.5	0.00	0.00	1.5	0.00
		Total Adjusted Area:	**0.85**		**Total Adjusted Area:**	**1.48**
	Segment 3			**Segment 4**		
Total Tributary Area (ac):	21.20	Adj. Factor	Adjusted Area	17.50	Adj. Factor	Adjusted Area
Residential Area (ac):	0.00	1.0	0.00	0.00	1.0	0.00
Commercial Area (ac):	21.20	1.3	27.56	17.50	1.3	22.75
Industrial Area (ac):		1.5	0.00	0.00	1.5	0.00
		Total Adjusted Area:	**27.56**		**Total Adjusted Area:**	**22.75**
	Segment 5			**Segment 6**		
Total Tributary Area (ac):	38.70	Adj. Factor	Adjusted Area		Adj. Factor	Adjusted Area
Residential Area (ac):	0.00	1.0	0.00	0.00	1.0	0.00
Commercial Area (ac):	38.70	1.3	50.31		1.3	0.00
Industrial Area (ac):	0.00	1.5	0.00		1.5	0.00
		Total Adjusted Area:	**50.31**		**Total Adjusted Area:**	**0.00**

Note: Total tributary areas entered for segments 1 through 6 must include the cumulative tributary area for each segment. All upstream tributary areas must be included.

Step 3: Determine Release Rates of Each Segment

	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	Segment 6
Release Rate (cfs/ac):	8.45	10.07	1.86	1.32	2.08	

Critical Local Sewer Capacity (cfs/ac): **1.32**

Step 4: Compare Outlet Sewer Capacity and Determine Release Rate

Name of Outlet Drainage Basin (as shown on the map): Raps General Tributary Area
Outlet Sewer Capacity (cfs/ac): **0.27**

Maximum Allowable Release Rate (cfs/ac): **0.27**

City of Chicago
Department of Water Management

Name of Project: Carnotite Radiation Site
Address: 434 East 26th Street
A/E of Record: Jim Wescott

1.0 Rate Control (Sheet 1 of 2)

Step 1: Runoff Calculation

		Proposed Area (sq. ft.)	C-Value 100-Year	Storage Volume (cu. ft.)
Pervious Land	Lawns - Sandy soil, flat, 0% to 2%	3,299	0.18	
	Lawns - Sandy soil, avg, 2% to 7%	0	0.27	
	Lawns - Sandy soil, steep, >7%	0	0.36	
	Lawns - Heavy soil, flat, 0% to 2%	0	0.30	
	Lawns - Heavy soil, avg, 2% to 7%	0	0.42	
	Lawns - Heavy soil, steep, >7%	0	0.47	
	Woodlands, flat, 2%	0	0.39	
	Native Vegetation with prepared soils	0	0.10	
	Dry bottom basins to HWL	10,494	0.75	
	Wetland	0	0.80	
	Green Roof	0	0.50	
Impervious Land	Gravel	47,449	0.70	
	Pavement	0	0.95	
	Roofs (conventional)	0	0.95	
	Building sidewalls connected by side gutters (enter 25% of the face of the sidewall)	0	0.95	
	Wet bottom basins to HWL	0	1.00	
BMP areas	BMPs providing storage that WILL COUNT toward detention storage (from Worksheet 1.2)	0	1.00	
	BMPs providing volume control storage that WILL NOT BE COUNTED toward detention (from Worksheet 1.2)	0	Storage Provided will be used to factor the adjusted C-value in Cell G28	0

Summary	Total pervious area (sq ft)	13,793
	Total impervious area (sq ft)	47,449
	Total BMP area (sq ft)	0
	Total site area (sq ft)	61,242
	Weighted C- value (non BMP areas)	0.68
	Adjusted C-value (accounts for BMPs)	0.00
	Notes:	*Make note of any adjustments made for purposes of detention calcs here (such as removal of roof area that will discharge directly to Waters)*

Step 2: Allowable Release Rate Assessment

		Type Yes or No for all that apply	Notes
Question 1:	Does the site drain directly to Waters?	No	
Question 2:	Does the site only include residential land use for detached single-family and two-family dwellings?	No	
Question 3:	Is the Regulated Development a Lot to Lot Buillding (85% or more of site footprint is occupied by buildings)?	No	
Question 4:	Do you plan to use the standard maximum release rate (only available to sites less than 1.75 acres)?	No	Complete Tab 0.0 Release Rate to calculate the allowable release rate for the site unless a 1 cfs/ac release rate to waters will be used.
Question 5:	Is the site more than 75 percent of substantially contiguous at-grade open space that is conducive to ponding of surface waters (Answer "No" if site discharges to waterway or is a service station)?	Yes	Detention Release Rate must be 0.75 cfs per acre or less unless total release rate is limited to minimum practical rate (0.15 cfs)
Question 6:	Does the development involve flow diversions (existing sewer connection to be relocated to a different main) or multiple sewer connections (only available to sites over 1.75 acres)?	No	
Question 7:	Are there widespread contaminated soils on the site, high ground water table, or is this development classified as a lot-to-lot building?	Yes	Oversized detention is allowed to meet volume control requirements. After completing this worksheet, fill out Tab 2.1.9 to design oversized detention.

City of Chicago
Department of Water Mangement

Name of Project: Carnotite Radiation Site
Address: 434 East 26th Street
A/E of Record: Jim Wescott

1.0 Rate Control (Sheet 2 of 2)

Step 3: Achieving Rate Control Measures

Unadjusted Detention Release Rate =	0.380	cfs	0.0. To override, enter value in the cell to the right ->	0.380
Dry Weather Flow Rate = (From dry weather flow worksheet)	0.000	cfs	Waiting for Dry Weather Flow worksheet to be completed	
Infiltration Facility Release Rate (to be added to eligible release rate when computing required storage)	0.000	cfs	No BMPs with infiltration beds entered on BMP Summary Worksheet or soil's infiltration rate is less than 0.5 in/hr	
Release rate for detention storage computations:	**0.380**	cfs		
Required Storage Volume =	12,664	cubic feet		

Detention Storage Calculations
(Based on Bulletin 70 Rainfall Data)

STORM EVENT (5,10,25,50 or 100) = 100

Allowable release rate 0.380 cfs

Storm Duration (minute)	Runoff Coefficient C	Rainfall Intensity (in/hr)	Drainage Area A (acres)	Inflow Rate Q=CIA	Total Storm Vol (cf)	Release Rate Qo (cfs)	Storage Rate (Qi-Qo) (cfs)	Storage Volume Rate (Qi-Qo)*t*60 (cf)
5	0.68	10.920	1.41	10.45	3,135	0.380	10.07	3,021
10	0.68	10.020	1.41	9.59	5,752	0.380	9.21	5,525
15	0.68	8.200	1.41	7.85	7,061	0.380	7.47	6,720
30	0.68	5.600	1.41	5.36	9,645	0.380	4.98	8,961
60	0.68	3.560	1.41	3.41	12,262	0.380	3.03	10,896
120	0.68	2.235	1.41	2.14	15,397	0.380	1.76	12,664
180	0.68	1.617	1.41	1.55	16,706	0.380	1.17	12,606
360	0.68	0.947	1.41	0.91	19,565	0.380	0.53	11,365
720	0.68	0.549	1.41	0.53	22,699	0.380	0.15	6,301
1080	0.68	0.387	1.41	0.37	24,008	0.380	-0.01	-590
1440	0.68	0.316	1.41	0.30	26,109	0.380	-0.08	-6,688
2880	0.68	0.170	1.41	0.16	28,107	0.380	-0.22	-37,488
4320	0.68	0.122	1.41	0.12	30,243	0.380	-0.26	-68,149
7200	0.68	0.083	1.41	0.08	34,307	0.380	-0.30	-129,679
14400	0.68	0.046	1.41	0.04	38,372	0.380	-0.34	-289,602
							Required Detention Volume (cf)	12,664

Note: 1) the calculation assumes that the rising and recessing limb of inflow and outflow hydrograph are vertical

City of Chicago
Department of Water Management

Name of Project: Carnotite Radiation Site
Address: 434 East 26th Street
A/E of Record: Jim Wescott

2.0 Volume Control

Step 1: **Runoff Calculation**

		Existing Area (sq ft)	Proposed Area (sq ft)
Pervious Surface or Land Cover not Counted as Impervious for Volume Control Calculations	Bare Earth	0	0
	Lawn or Landscaped Areas	11,900	3,299
	Woodlands	0	0
	Wetland	0	0
Impervious Land	Gravel	0	47,449
	Pavement	49,342	0
	Roofs (conventional)	0	
	Water (including Wet Bottom Basin to HWL)	0	
BMPs	Green Roof	-	
	Permeable Pavement	-	
	Bioinfiltration	-	
	Swales	-	
	Stormwater Trees	-	
	Roof Runoff Planters	-	
	Filter Strips	-	
	Dry Bottom Basins to HWL	-	10,494

Summary	Total pervious area (sq ft)	11,900	3,299
	Total impervious area (sq ft)	49,342	47,449
	Total BMP areas treated as impervious area (sq ft)	-	0
	Total BMP areas treated as pervious area (sq ft)	-	10,494
	Total site area (sq ft)	61,242	61,242
	Imperviousness percentage (%)	80.6	77.5

Step 2: **Volume Control Assessment**

		Type Yes or No for all that apply	Note
Question 1:	Does the site drain directly to Waters?	No	
Question 2:	Are infiltration BMPs allowable? (See Chapter III Sections 4.1.2 of the Regulations.)	No	Infiltration BMPs are not allowed. Achieve volume control requirement through 15% impervious area reduction or by Oversized Detention.
Question 3:	Do you wish to use permeable pavement only as a pervious surface to achieve impervious surface reduction goal?	No	Areas of permeable pavement are included as an impervious surface for the computation made in Cell C48. Storage will be counted toward volume control goal.

Step 3: **Achieving Volume Control Measures**

Achieve I. or II. below in accordance with the Ordinance.

I.	Capture 0.5" of runoff from impervious surfaces. Storage required =	1,977	cubic feet	Go to spreadsheet 2.1 BMP Volume Summary if electing volume control storage option
or, II.	Reduce proposed imperviousness to:	65.6	percent	Imperviousness reduction not met

City of Chicago
Department of Water Management

Name of Project: Carnotite Radiation Site
Address: 434 East 26th Street
A/E of Record: Jim Wescott

2.1.9 Oversized Detention Worksheet

You must first complete Tab 1.0 Rate Control and Tab 2.0 Volume Control worksheets to use this Oversized Detention Worksheet.

Step 1: **Oversized Detention Computation**

		Units	Notes
Maximum Release Rate for Rate Control (automatically entered from cell G73 on Rate Control worksheet)	0.38	cfs	
Rate Control Storage	12,664	cubic feet	
Volume Control Storage	1,977	cubic feet	
Total Storage Required for oversized detention	14,641	cubic feet	
Try reducing release rate here until total required storage in oversized detention facility is achieved.	0.22	cfs	
Total Storage Provided	14813	cubic feet	Oversized detention achieved

Oversized Detention Calculation

STORM EVENT (5,10,25,50 or 100) = 100

0.22 cfs

Storm Duration (minute)	Runoff Coefficient C	Rainfall Intensity (in/hr)	Drainage Area A (acres)	Infow Rate Q=CIA	Total Storm Vol (cf)	Release Rate Qo (cfs)	Storage Rate (Qi-Qo) (Cfs)	Storage Volume Rate (Qi-Qo)*t*60 (cf)
5	0.68	10.920	1.41	10.45	3,135	0.22	10.23	3,069
10	0.68	10.020	1.41	9.59	5,752	0.22	9.37	5,620
15	0.68	8.200	1.41	7.85	7,061	0.22	7.63	6,863
30	0.68	5.600	1.41	5.36	9,645	0.22	5.14	9,249
60	0.68	3.560	1.41	3.41	12,262	0.22	3.19	11,470
120	0.68	2.235	1.41	2.14	15,397	0.22	1.92	13,813
180	0.68	1.617	1.41	1.55	16,706	0.22	1.33	14,330
360	0.68	0.947	1.41	0.91	19,565	0.22	0.69	14,813
720	0.68	0.549	1.41	0.53	22,699	0.22	0.31	13,195
1080	0.68	0.387	1.41	0.37	24,008	0.22	0.15	9,752
1440	0.68	0.316	1.41	0.30	26,109	0.22	0.08	7,101
2880	0.68	0.170	1.41	0.16	28,107	0.22	-0.06	-9,909
4320	0.68	0.122	1.41	0.12	30,243	0.22	-0.10	-26,781
7200	0.68	0.083	1.41	0.08	34,307	0.22	-0.14	-60,733
14400	0.68	0.046	1.41	0.04	38,372	0.22	-0.18	-151,708
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
	0.68	0.000	1.41	0.00	0	0.22	-0.22	0
							Required Detention Vol (cf)	14,813

Note: 1) the calculation assumes that the rising and recessing limb of inflow and outflow hydrograph are vertical

City of Chicago
Department of Water Management

Name of Project: Carnotite Radiation Site
Address: 434 East 26th Street
A/E of Record: Jim Wescott

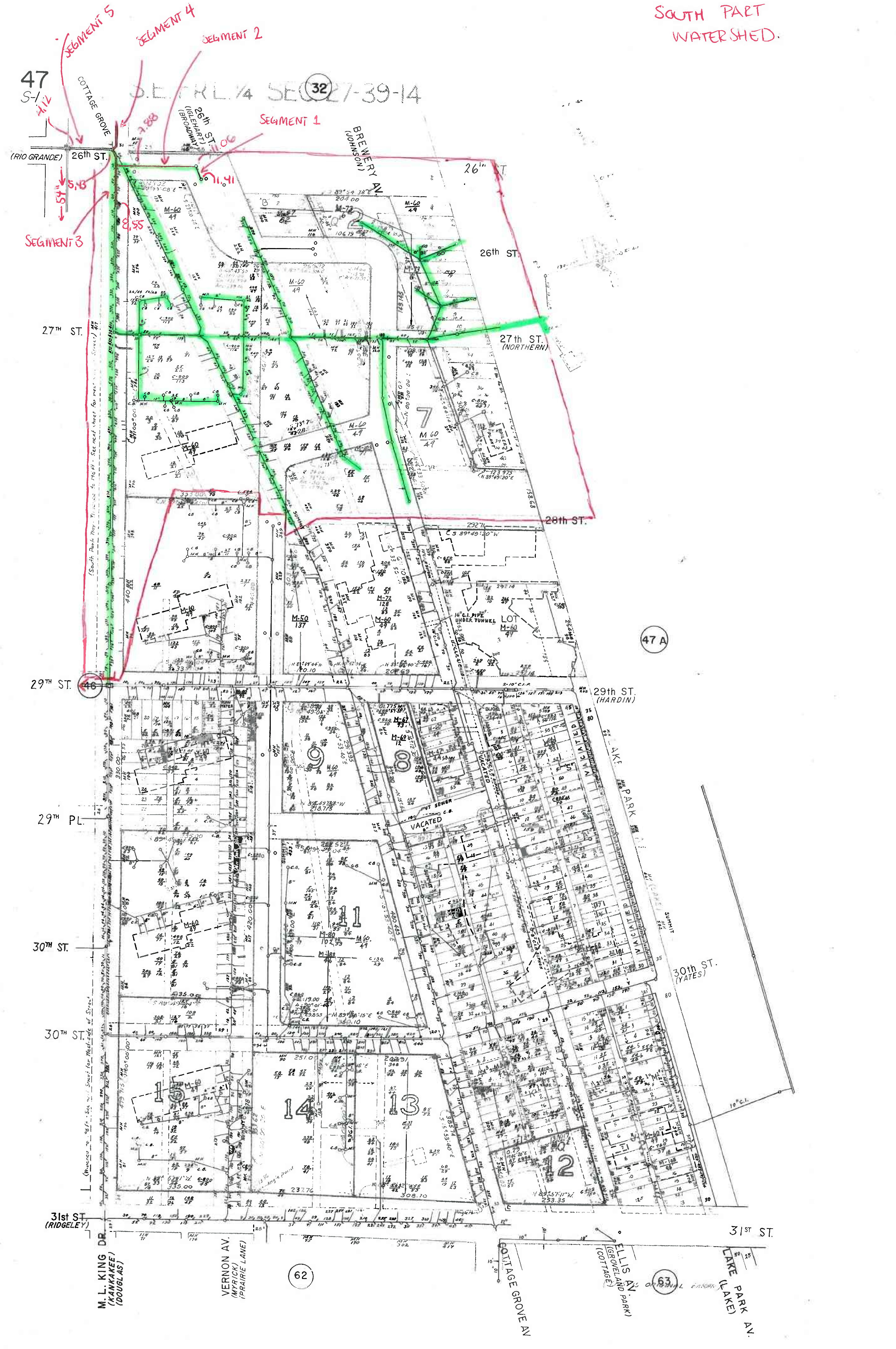
(FOR COMPUTATIONS AND REFERENCE)

City of Chicago Intensity-Duration-Frequency (IDF) Curve

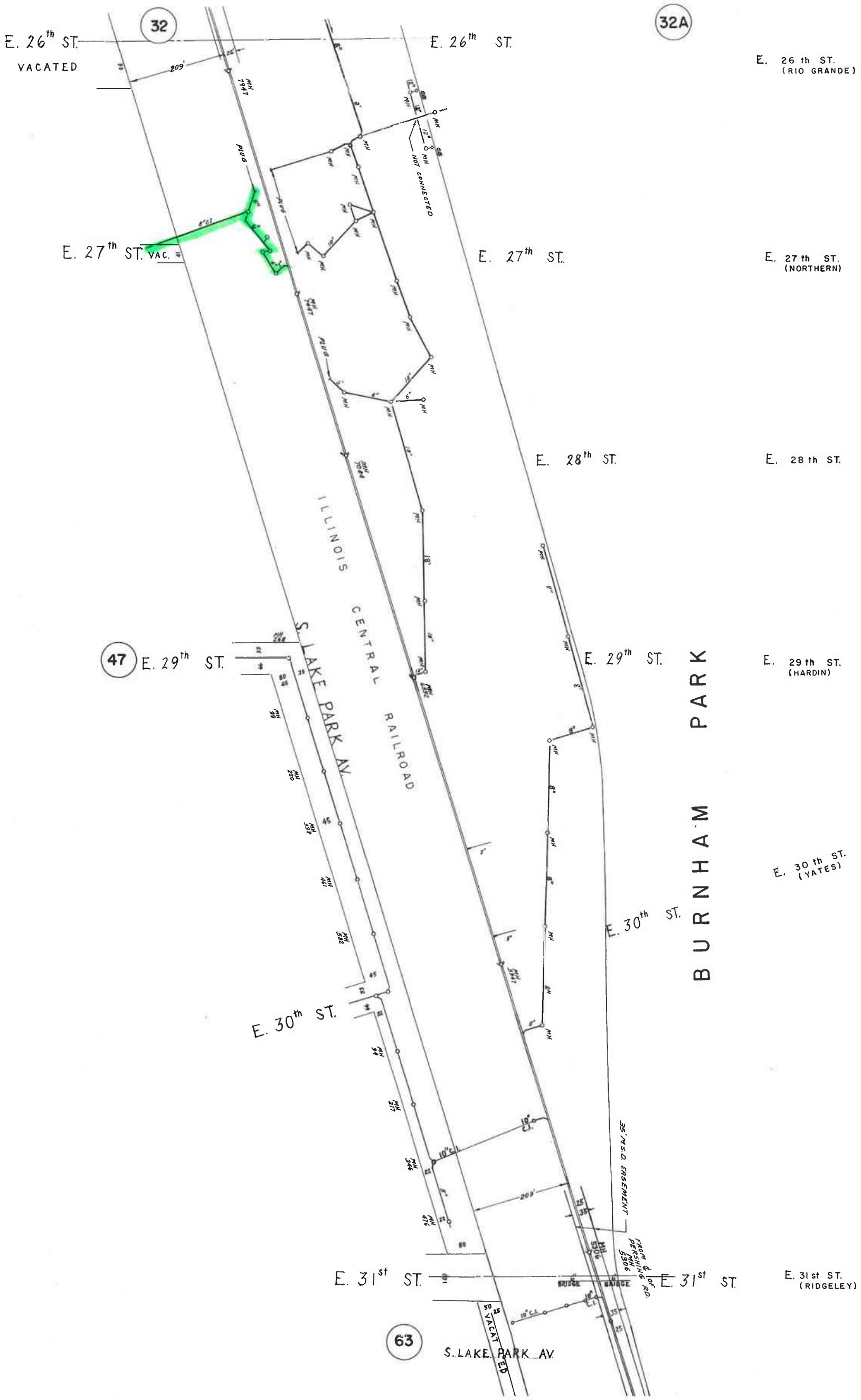
(Based on Bulletin 70 Rainfall Data)

	Storm Event in Years									
	5-Year		10-Year		25-Year		50-Year		100-Year	
Storm Duration (min)	Rainfall (in)	Average Intensity (in/hr)	Rainfall (in)	Average Intensity (in/hr)	Rainfall (in)	Average Intensity (in/hr)	Rainfall (in)	Average Intensity (in/hr)	Rainfall (in)	Average Intensity (in/hr)
5	0.46	5.520	0.54	6.480	0.66	7.920	0.78	9.360	0.91	10.920
10	0.84	5.040	0.98	5.880	1.21	7.260	1.42	8.520	1.67	10.020
15	1.03	4.120	1.21	4.840	1.49	5.960	1.75	7.000	2.05	8.200
30	1.41	2.820	1.65	3.300	2.04	4.080	2.39	4.780	2.80	5.600
60	1.79	1.790	2.10	2.100	2.59	2.590	3.04	3.040	3.56	3.560
120	2.24	1.120	2.64	1.320	3.25	1.625	3.82	1.910	4.47	2.235
180	2.43	0.810	2.86	0.953	3.53	1.177	4.14	1.380	4.85	1.617
360	2.85	0.475	3.35	0.558	4.13	0.688	4.85	0.808	5.68	0.947
720	3.31	0.276	3.89	0.324	4.79	0.399	5.62	0.468	6.59	0.549
1080	3.50	0.194	4.11	0.228	5.06	0.281	5.95	0.331	6.97	0.387
1440	3.80	0.158	4.47	0.186	5.51	0.230	6.46	0.269	7.58	0.316
2880	4.09	0.085	4.81	0.100	5.88	0.123	6.84	0.143	8.16	0.170
4320	4.44	0.062	5.18	0.072	6.32	0.088	7.41	0.103	8.78	0.122
7200	4.91	0.041	5.70	0.048	6.93	0.058	8.04	0.067	9.96	0.083
14400	6.04	0.025	6.89	0.029	8.18	0.034	9.38	0.039	11.14	0.046

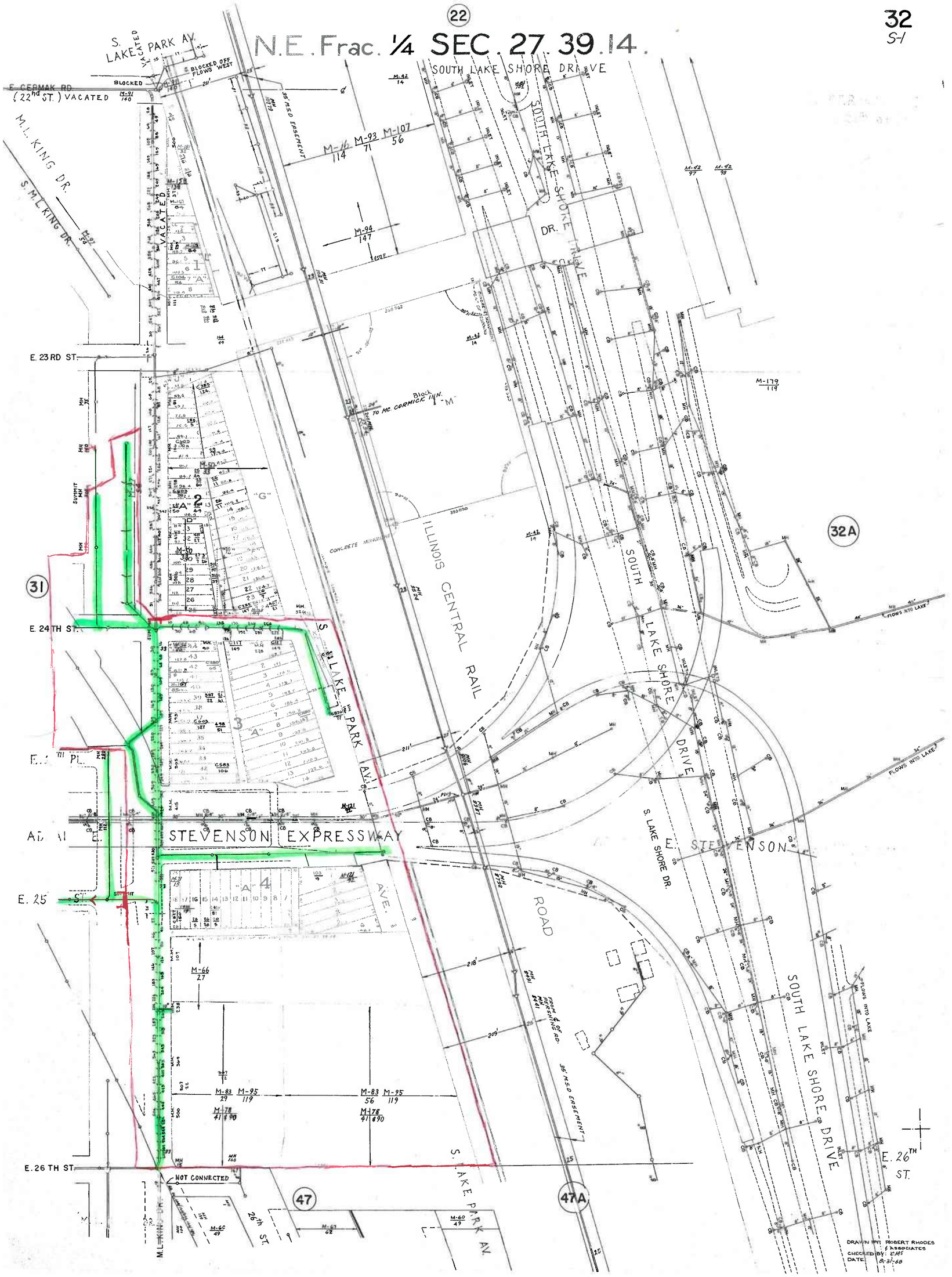
ATTACHMENT 6 – WATERSHED LIMITS

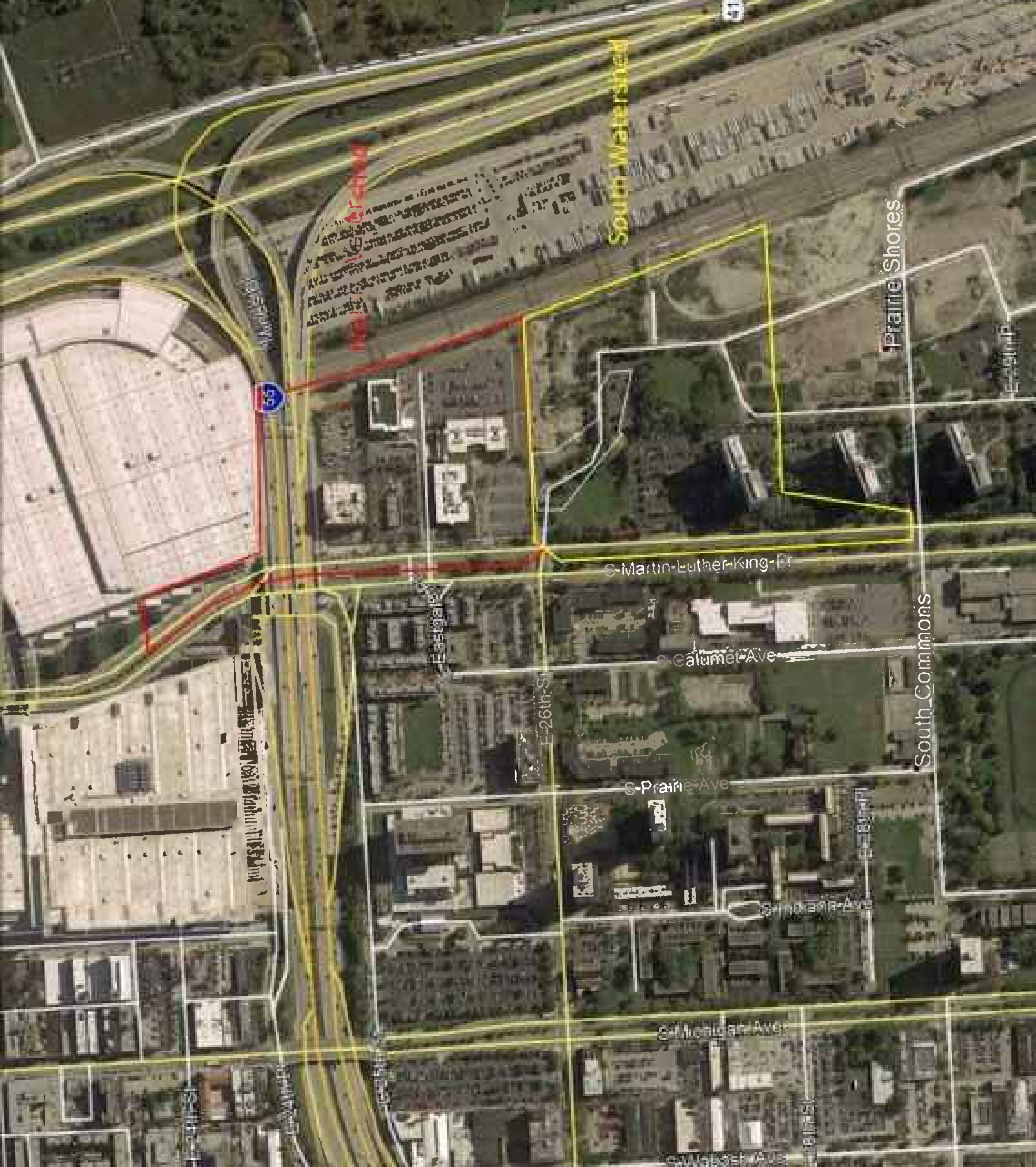

SOUTH PART WATERSHED.
47
S-1
SEGMENT 1
SEGMENT 2
SEGMENT 3
SEGMENT 4
SEGMENT 5
4.12
7.88
11.06
11.41
5.13
8.55
54"
S.E. FRL. 1/4 SEC. 27-39-14
32
COTTAGE GROVE
(RIO GRANDE) 26th ST.
26th ST. (IGLEHART) (BROADWAY)
BREWERY AV. (JOHNSON)
26th ST.
26th ST.
27TH ST.
27th ST. (NORTHERN)
28th ST.
29TH ST.
46
29th ST. (HARDIN)
29TH PL.
30TH ST.
30TH ST.
30th ST. (YATES)
31st ST. (RIDGELEY)
31ST ST.
47 A
16" C.I. PIPE UNDER TUNNEL
LOT M-60 49
BOILER PLANT
VACATED
VT SEWER
LAKE PARK
SUMMIT
10" C.I.
M.L. KING DR. (KANKAKEE) (DOUGLAS)
VERNON AV. (MYRICK) (PRAIRIE LANE)
COTTAGE GROVE AV
ELLIS AV. (GROVELAND PARK) (COTTAGE)
LAKE PARK AV. (LAKE)
62
63
7
8
9
11
12
13
14
15

S-1
47 A


32
32A
E. 26th ST.
VACATED
E. 26th ST.
E. 26 th ST.
(RIO GRANDE)
209'
MH 1491
PLUG
8"CI
NOT CONNECTED
E. 27th ST. VAC.
E. 27th ST.
E. 27 th ST.
(NORTHERN)
ILLINOIS CENTRAL RAILROAD
E. 28th ST.
E. 28 th ST.
47
E. 29th ST.
S. LAKE PARK AV.
E. 29th ST.
E. 29 th ST.
(HARDIN)
BURNHAM PARK
E. 30th ST.
E. 30 th ST.
(YATES)
35' M.S.D. EASEMENT
FROM ℄ OF PERSHING RD.
MH 5306
E. 31st ST.
BRIDGE
E. 31st ST.
E. 31 st ST.
(RIDGELEY)
63
S. LAKE PARK AV.
VACATED

NORTH PART WATERSHED





South Water Street
Prairie Shores
S Martin Luther King Dr
S Calumet Ave
E 26th St
South Commons
S Prairie Ave
S Indiana Ave
S Michigan Ave

ATTACHMENT 7 – DETENTION BASIN VOLUME CALCULATION

TOTAL BASIN VOLUME

DETENTION BASIN SECTION

L	25	ft
l	13	ft
h_1	2	ft

Time to empty basin
0.22 cfs
3472.425 sec
0.04019 day

SECTION AREA $A=\frac{(L+l)*h}{2}$

A_1	38	ft^2

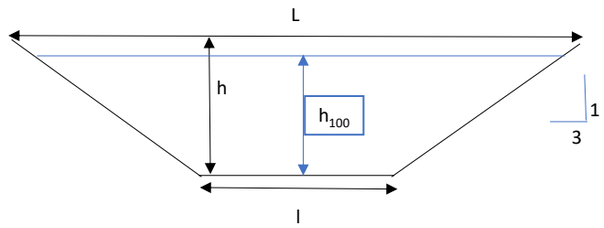
TOTAL VOLUME

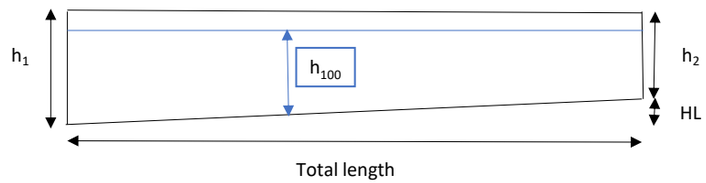
Total length	450	ft
V = A*Total length	17100	ft^3

VOLUME LOSS DUE TO BOTTOM SLOPE

Bottom slope	0.1	%
HL = Bottom slope * Total length	0.45	ft
Volume loss = (HL*l*Total length)/2	1316.25	ft^3
h_2	1.55	ft
A_2	29.45	ft^2

TOTAL BASIN VOLUME = Total Volume - Volume Loss	15784	ft^3
TOTAL VOLUME NEEDED	14813	ft^3





RATE CONTROL VOLUME (100YR)

DETENTION BASIN SECTION

L	23.32	ft
l	13	ft
h_{100}	1.72	ft

SECTION AREA $A=\frac{(L+l)*h}{2}$

A	31.24	ft^2

TOTAL VOLUME

Total length	450	ft
V = A*Total length	14055.84	ft^3

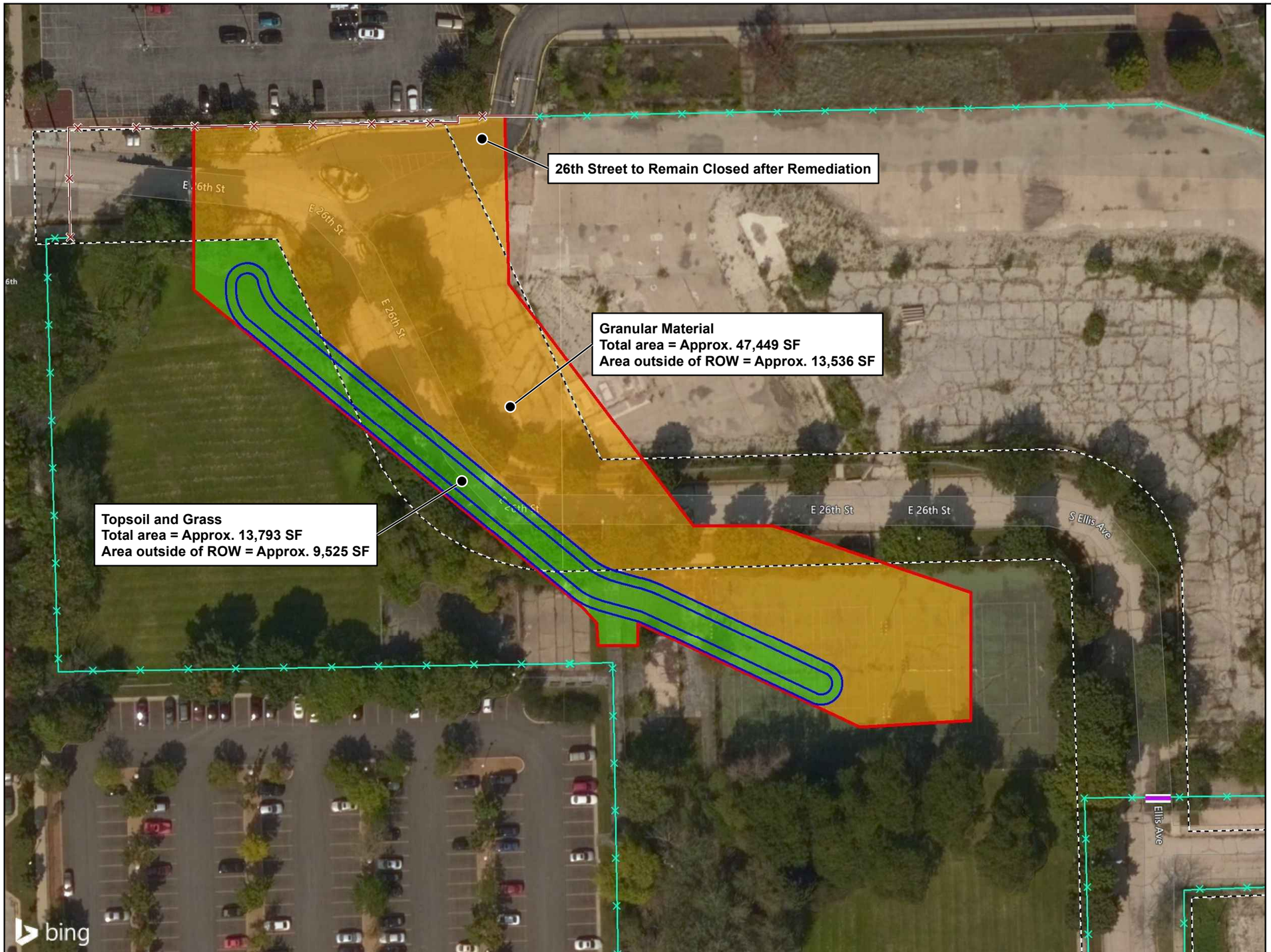
VOLUME LOSS DUE TO BOTTOM SLOPE

Bottom slope	0.1	%
HL = Bottom slope * Total length	0.45	ft
Volume loss = (HL*l*Total length)/2	1316.25	ft^3

TOTAL BASIN VOLUME	12740	ft^3
VOLUME NEEDED (RATE CONTROL)	12664	ft^3

ATTACEMENT 8 – PERVIOUS AND IMPERVIOUS PROPOSED AREAS

(PLAN SHEET C-13)



Legend

- Granular Material
- Topsoil and Grass
- Proposed Detention Basin
- Excavation Boundary
- ROW
- New Permanent Fence
- Fence
- Gate

N

0 60 120

Feet

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

RESTORATION PLAN

SHEET
C-13

7/29/2019 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2019-07\C13-RestorationPlan.mxd m.banh

ATTACHMENT 9 – GEOTECHNICAL REPORT

Geotechnical Investigation Report

Sheet Pile Wall Design
434 East 26th Street
Chicago, Illinois

Prepared for:
Department of Fleet and Facility Management (2FM)
30 N. LaSalle Street, Suite 300
Chicago, Illinois 60602

Project Design Engineer:
Tetra Tech
1 South Wacker Drive, Suite 3700
Chicago, IL 60606

Prepared by:

GSG CONSULTANTS, INC.
ENGINEERS • SCIENTISTS • CONSTRUCTION MANAGERS
623 Cooper Court • Schaumburg, IL 60173
Tel: 630.994.2600 • Fax: 312.733.5612
www.gsg-consultants.com

January 25, 2019

GSG CONSULTANTS, INC.
ENGINEERS · SCIENTISTS · CONSTRUCTION MANAGERS
623 Cooper Court , Schaumburg, IL 60173
Tel: 630.994.2600 , Fax: 312.733.5612

Integrity | Quality | Reliability

January 25, 2019

Ms. Carol Nissen, PE, PG
Environmental Engineer
Tetra Tech
1 South Wacker Drive, Suite 3700
Chicago, IL 60606

Proposed Temporary Sheet Piling Improvements
434 East 26th Street
Chicago, Illinois

Dear Ms. Davis:

Attached is a copy of the Geotechnical Report for the above referenced project. The report provides a brief description of the site investigation, site conditions and construction recommendations. The site investigation included advancing three (3) soil borings to depths of 61.0 and 70.0 feet.

Should you have any questions or require additional information, please call us at 312-733-6262.

Sincerely,

Alex Barlan, P.E.
Project Engineer

Ala E Sassila, Ph.D., P.E.
Principal

TABLE OF CONTENTS

1.0 INTRODUCTION

GSG Consultants, Inc. (GSG) completed a geotechnical investigation for the installation of temporary sheet piling for excavation activities at the property located 434 East 26th Street in Chicago, Illinois. The purpose of the investigation was to explore the subsurface conditions, to determine engineering properties of the subsurface soil, and develop design and construction recommendations for installation of the temporary sheet piling for the project.

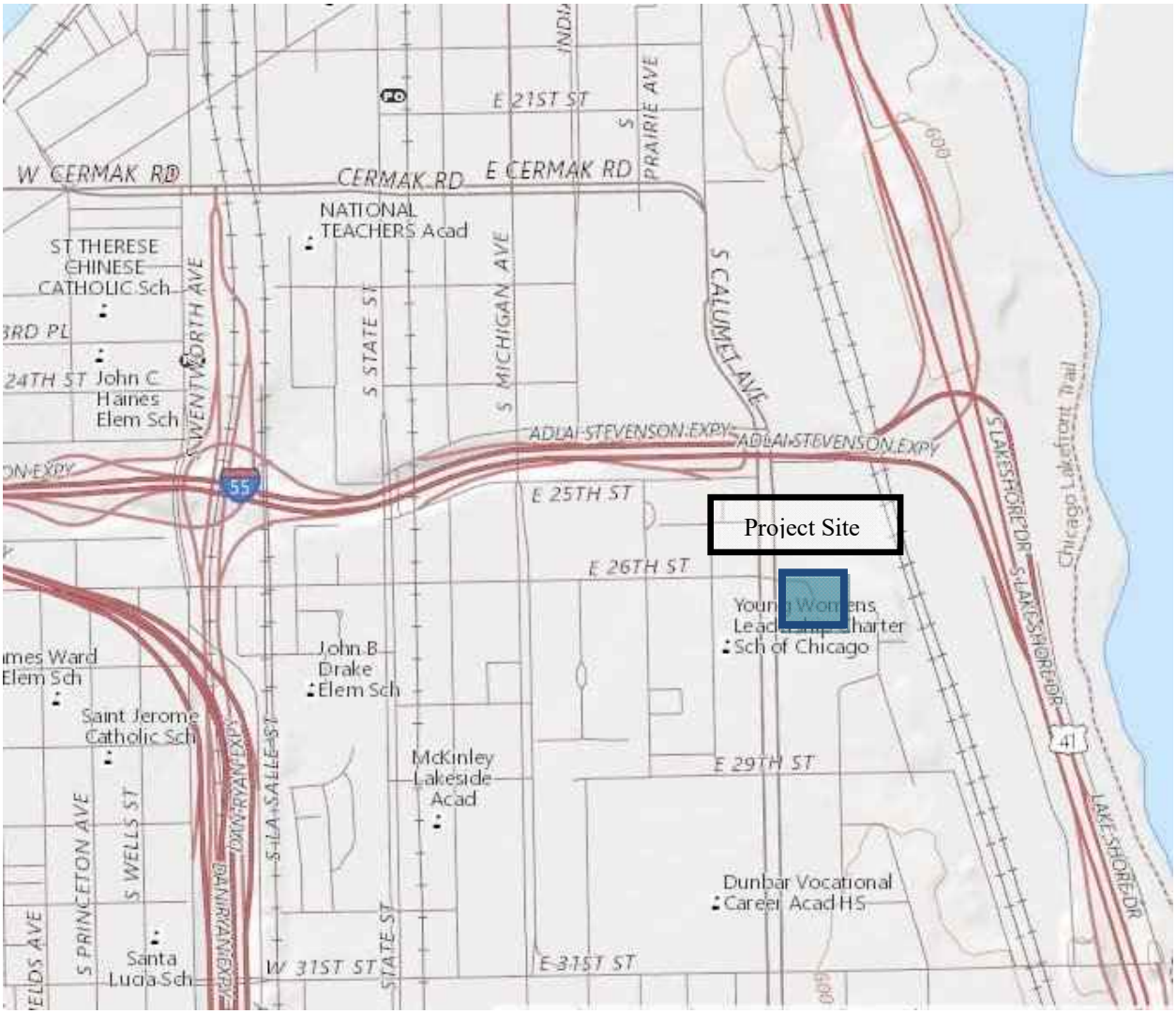


Figure 1: Project Location Map – USGS National Map

1.1 Site Conditions

The project site is currently a vacant parcel of land with a paved roadway at the north, abandoned parking and demolished building lot to the east end and a grass field to the southwest. The ground surface at the property of the proposed project is relatively flat at about an elevation of 597 to 599 feet .

1.2 Proposed Project Information

Based on the preliminary design information provided by Tetra Tech (client), temporary sheet pile retaining walls will be required for excavation of the soils from the site. It is anticipated that these walls would have exposed heights of approximately 15 feet to help facilitate the removal of unsuitable soils. Plans have not been provided for the approximate dimensions of the sheet piling, but the following Table 1 summarizes the assumed/approximate sheet pile wall information.

Table 1 – Wall information Summary

Wall Location	Approximate Length (ft)	Maximum Exposed Wall Height (ft)	Back Slope / Front Slope
North side	165	15	Level
South Side	165	15	Level
West Side	100	15	Level
East Side	100	15	Level

2.0 SITE SUBSURFACE EXPLORATION PROGRAM

This section describes the subsurface exploration program and laboratory testing program completed as part of this project.

2.1 Subsurface Exploration Program

The proposed locations and depths of the soil borings were proposed by the Tetra Tech and were completed based on field conditions and accessibility. The subsurface exploration was conducted between December 3rd thru 7th, 2018 and included advancing three (3) standard penetration test (SPT) borings near the locations of the temporary proposed walls. The borings were drilled to depths of 61.0 and 70.0 feet below existing grade. The locations of the soil borings are shown on the **Appendix A - Boring Location Map**. **Table 2** below presents a list of the borings completed for the new retaining walls.

Table 2 – Summary of Subsurface Exploration Borings

Location	Soil Boring	Depth (ft)	Existing Ground Elevation in feet (in CCD)
Northwest area on 26th Street	B-1	61.0	597 (17.1 CCD)
Southwest area in field	B-2	61.5	598 (18.1 CCD)
East area in parking lot	B-3	70.0	599 (19.1 CCD)

The soil borings were drilled using a Mobile B-57 truck mounted drill rig using 3¼-inch I.D. hollow stem augers for B-1 and B-3 and mud-rotary techniques for B-2 below a depth of 40 feet. Soil sampling was performed according to AASHTO T 206, "Penetration Test and Split Barrel Sampling of Soils." Soil samples were obtained at 2.5-foot intervals to a depth of 35 feet, and 5-foot intervals beyond that. Water level measurements were made in each boring when evidence of free groundwater was detected on the drill rods or in the samples. The boreholes were also checked for free water immediately after auger removal, and before filling the open boreholes with soil cuttings.

GSG's field representative inspected, visually classified and logged the soil samples during the subsurface exploration activities and performed unconfined compressive strength tests on cohesive soil samples using a calibrated Rimac compression tester and a calibrated hand penetrometer in accordance with IDOT procedures and requirements. Representative soil samples were collected from each sample interval and were placed in jars and returned to the laboratory for further testing and evaluation.

2.2 Laboratory Testing Program

All samples were inspected in the laboratory to verify the field classifications. A laboratory testing program was undertaken to characterize and determine engineering properties of the subsurface soils encountered in the area of the proposed retaining walls.

The following laboratory tests were performed on representative soil samples:

- Moisture content ASTM D2216
- Atterberg Limits ASTM D 4318
- Dry Unit Weight ASTM D7263

Based on the laboratory test results, the soils encountered were classified according to the Unified Soil Classification System (USCS). The results of the laboratory testing program are shown along with the field test results in **Appendix B, Soil Boring Logs and in Appendix C – Lab Results.**

2.3 Subsurface Conditions

This section provides a brief description of the soils encountered in the borings performed. Variations in the general subsurface soil profile were noted during the drilling activities. Detailed descriptions of the subsurface soils are provided in the soil boring logs.

The soil boring logs provide specific conditions encountered at each boring location. The soil boring logs include soil descriptions, stratifications, penetration resistance, elevations, location of the samples, and laboratory test data. Unless otherwise noted, soil descriptions indicated on boring logs are visual identifications. The stratifications shown on the boring logs represent the conditions only at the actual boring locations and represent the approximate boundary between subsurface materials; however, the actual transition may be gradual.

2.3.1 Soil Conditions

Boring B-1 noted 4 inches of asphalt and 10 inches of base course gravel at the surface (approximately 597 feet MSL) underlain by sand with gravel fill soils to a depth of 6 feet below grade. Beneath the fill, loose to medium dense sand was noted to a depth of 31 feet below grade. Following this depth, very soft to stiff fat clay was encountered to a depth of 61 feet. The fill granular soils had an SPT blow counts between 4 and 10 and the native granular soils had SPT blow counts between 4 and 15 blows. The native high plasticity fat clay soils had unconfined compressive strengths ranging from 0.2 tsf to 1.3 tsf.

Boring B-2 noted 6 inches of topsoil at the surface (approximately 598 feet MSL) underlain by sand with gravel fill soils to a depth of 6.5 feet below grade. Beneath the fill, loose to medium dense sand was noted to a depth of 29.5 feet followed by a very loose to loose silty sand to a depth of 34 feet below grade. Following this depth, a medium stiff clay was encountered to a depth of 48.5 feet followed by a stiff to very stiff silty clay to a depth of 61.5 feet. The fill granular soils had an SPT blow counts between 4 and 24 and the native granular soils had SPT blow counts between 5 and 14 blows. The native clay soils had unconfined compressive strengths ranging from 0.5 tsf to 3.75 tsf.

Boring B-3 noted sand with gravel fill soils to a depth of 3.5 feet below grade (approximately 599 feet MSL or 9.10 CCD). Beneath the fill, loose to medium dense sand was noted to a depth of 26 feet followed by a loose silty sand to a depth of 31 feet below grade. Following this depth, a soft to medium stiff clay was encountered to a depth of 39 feet followed by a soft to stiff silty clay to a depth of 63.5 feet. The boring then noted a dense to very dense silt, trace clay and limestone fragments to a depth of 70 feet. The fill granular soils had an SPT blow counts of 13 and the native granular soils had SPT blow counts between 4 and 14 blows. The native clay soils had unconfined compressive strengths ranging from 0.5 tsf to 1.0 tsf.

Boring B-1 and B2 were terminated at 61 and 61.5 feet upon encountering auger refusal on very hard silty clay soils, while boring B-3 was terminated at a deeper depth of 71 feet.

2.3.2 Groundwater Conditions

Water levels were checked in each boring to determine the general groundwater conditions present at the site and were measured while drilling and after each boring was completed.

Groundwater was encountered in boring B-1, B-2, and B-3 while drilling at about 18.5 feet, 8.5 feet and 13.5 feet below grade (approximate elevations of 578.5, 589.5, and 585.5 feet MSL respectively).

Based on the color change from brown to gray and the water surface elevation in the adjacent Lake Michigan, it is anticipated that the long-term groundwater level is near elevation 579 to 580 feet MSL. However, water levels at the time of drilling varied greatly from 578.5 to 589.5 feet. Water level readings were made in the boreholes at times and under conditions shown on the boring logs and stated in the text of this report. However, it should be noted that fluctuations in groundwater level may occur due to variations in rainfall, other climatic conditions, Lake Michigan water levels or other factors not evident at the time measurements were made and reported herein.

3.0 GEOTECHNICAL ANALYSES

This section provides GSG's geotechnical analysis and recommendations for the design of the proposed retaining walls and ramp based on the results of the initial field exploration, laboratory testing, and geotechnical analysis. Subsurface conditions in unexplored locations may vary from those encountered at the boring locations.

3.1 Derivation of Soil Parameters for Design

GSG determined the geotechnical parameters to be used for the project design based on the results of field and laboratory test data on individual boring logs as well as our experience. Unit weights, friction angles and shear strength parameters were estimated using standard penetration test (SPT) results for the fill and cohesion less soils and in-situ and laboratory test results for cohesive soils. The SPT values were corrected for hammer efficiency and overburden weight. The hammer efficiency correction factor considers the use of a safety hammer/rope/cat-head system, generally estimated to be 60% efficient. Thus, correlations should be based upon what is currently termed as N_{60} data. GSG used a truck mounted Mobile B-57 drill rig for completing the field subsurface exploration at this site. The efficiency of the automatic hammers for the drill rig was measured to be approximately 98%, based on GSG's most recent calibrations records. The correction for hammer efficiency is a direct ratio of relative efficiencies. The following equations should be used in calculating the corrected blow counts for the purposes of design and analysis:

$$N_{60} = N_{Field} * (98/60) \text{ for Mobile B-57 drill rig}$$

Where the N_{Field} value is the field recorded blow counts during drilling activities.

Table 1 presents generalized soil parameters to be used for design based on the laboratory and in-situ testing data:

Table 3 – Summary of On-site Soil Parameters

Depth (Elevation, feet)	Soil Description	In situ Unit Weight γ (pcf)	Undrained		Drained	
			Cohesion c (psf)	Friction Angle ϕ (Degrees)	Cohesion c (psf)	Friction Angle ϕ (Degrees)
0.0 – 6.0 (598.0 – 592.0)	FILL: Black and Brown Sands and Gravels	125	0	30	0	30
6.0 – 19.0 (592.0 – 579.0)	Brown and Gray Loose to Medium Dense Sand	122	0	34	0	34
19.0 – 33.0 (579.0 – 565.0)	Gray Very Loose to Medium Dense Silty Sand	119	0	32	0	32
33.0 – 48.0 (565.0 – 550.0)	Gray Very Soft to Medium Stiff Fat Clay	80	460	0	0	21
48.0 – 61.0 (550.0 – 537.0)	Gray Medium Stiff to Very Stiff Fat Clay	80	1,530	0	75	24
61.0 – 70.0 (537.0 – 528.0)	Gray Dense to Extremely Dense Silt	140	0	40	0	40

4.0 GEOTECHNICAL RECOMMENDATIONS

This section provides recommendation regarding design parameters for the proposed sheet pile design. The recommendations were developed based on the project information provided by the Tetra Tech and the results of the site investigation. If there are any significant changes to the project characteristics or if significantly different subsurface conditions are encountered during construction, GSG should be consulted so that the recommendations of this report can be reviewed. GSG understands that the proposed temporary earth retention System will be sheet pile type. Below is a general discussion of the wall design requirements and required design parameters.

4.1 Sheet Pile Wall Design

Sheet pile walls are typically used in cut areas when continuous support must be provided to maintain existing structures or other adjacent facilities. To provide lateral resistance against the retained soil, the walls can be designed to act as a cantilever or can use tie backs behind the wall. The installation of sheet pile walls requires the use of specialty equipment to drive the piles into the ground. The walls maintain the existing site conditions with minimal disturbance to existing structures and can be installed relatively quickly. However, due to the presence of very stiff clays and extremely dense silts near an elevation of 530.0 feet (-49.9 feet CCD), we recommend using a heavier pile section with a minimum thickness of 0.4 inch to alleviate any damage to the pile section during driving if the sheet pile design is to extend past a depth of 55 feet below the existing surface. Grade 50 steel should be used for the sheet pile. The interlocks could be partially clogged during driving and after installation due to fine soil particle migration. The steel sheet piles may be subject to potentially corrosion. Corrosion rates are typically a function of temperature, soil pH, access to oxygen, and chemistry of the environment surrounding the pile. The walls are intended to be temporary, but if the wall is to remain in place as a long-term wall, corrosion deterioration should be considered on the sheet pile wall design.

Based on the overall wall stability, it is recommended that the cantilevered sheet pile system be installed to a minimum elevation of 550 feet (-29.9 feet CCD) with the pile section being at least 50 feet in length. GSG does not anticipate any constructability issues while driving these sheet piles, however, if an alternate system is considered then an anchored wall system may be considered. Different anchor systems such as grouted tiebacks, deadman anchor, or waler beams may be considered. The anchor system will transmit all loads from the soil through the retaining walls to the anchor and will align and brace the walls in position.

4.2 Lateral Earth Pressures and Loading

The wall shall be designed to withstand earth and live lateral earth pressures. The lateral earth pressures on retaining walls depend on the type of wall (i.e. restrained or unrestrained), the type of backfill and the method of placement against the wall, and the magnitude of surcharge weight on the ground surface adjacent to the wall. Sheet pile walls are considered flexible and such the earth loads may be calculated using active earth pressure for load above the design grade, and both active and passive earth pressures below the design grade. The active earth pressure coefficient (K_a), and the passive earth pressure coefficient (K_p) were determined in accordance with AASHTO Section 3.11.5.3 and 3.11.5.4, respectively.

The design should include a structural evaluation of the sheet pile section to meet applied shear and moment, and an evaluation of overturning to determine embedment depth and other design requirements. The simplified earth pressure distributions shown in the AASHTO Standard Specifications for Highway Bridges could be used for the wall design. **Table 4** also provides recommended lateral soil modulus and soil strain parameters that can be used for laterally loaded pile analysis via the p-y curve method based on the encountered subsurface conditions. The passive resistance in front of the sheet pile wall should be ignored for the upper 3.5 feet due to excavation activities and frost-heave condition.

Table 4 - Geotechnical Lateral Design Parameters

Depth Elevation (feet)	Soil Description	Active Earth Pressure Coefficient (K_a)	Passive Earth Pressure Coefficient (K_p)	At Rest Earth Pressure Coefficient (K_o)	Lateral Modulus of Subgrade Reaction (pci)	Soil Strain (ε_{50})	Adhesion (C_a) psf	Friction Angle between Steel and Soils (Tan δ)
0.0 – 6.0 (598.0 – 592.0)	FILL: Black and Brown Sands and Gravels	0.33	3.00	0.50	90	NA	NA	17 (0.30)
6.0 – 19.0 (592.0 – 579.0)	Brown and Gray Loose to Medium Dense Sand	0.28	3.53	0.44	25	NA	NA	17 (0.30)
19.0 – 33.0 (579.0 – 565.0)	Gray Very Loose to Medium Dense Silty Sand	0.31	3.25	0.47	20	NA	NA	14 (0.25)
33.0 – 48.0 (565.0 – 550.0)	Gray Very Soft to Medium Stiff Fat Clay	0.47	2.12	0.64	30	0.020	460	NA
48.0 – 61.0 (550.0 – 537.0)	Gray Medium Stiff to Very Stiff Fat Clay	0.42	2.37	0.59	760	0.007	850	NA
61.0 – 70.0 (537.0 – 528.0)	Gray Dense to Extremely Dense Silt	0.22	4.59	0.36	125	NA	NA	11 (0.20)

Traffic and other surcharge loads should be included in the retaining wall design. A live load surcharge of 250 psf (or the equivalent weight of 2 feet soil overburden) should be applied where vehicular load is expected to act on the surface of the backfill. Heavy equipment should not be allowed closer than five (5) feet to the retaining wall to prevent inducing high lateral

earth pressures and causing wall yielding and/or other damage.

4.3 Excavation Base Stability

In open-cuts, it is necessary to consider the possibility of the base of the excavation failure by heaving, due to the removal of the weight of excavated soil. Heaving typically occurs in very soft or soft fat clays, as encountered in the borings, when the excavation depth is sufficiently deep enough to cause the surrounding soil to displace vertically due to a failure of the soil beneath the excavation bottom, with a corresponding upward movement of the soils in the bottom of the excavation. In fat and lean clays, heave normally does not occur unless the ratio of Critical Height to Depth of Cut approaches one. The sheet pile wall designer should check to make sure the sheet pile is sufficiently embedded in the stiffer clay soils to avoid heaving.

5.0 CONSTRUCTION CONSIDERATIONS

This section provides general construction consideration during construction activities at the site. Site specific information should be utilized based on site survey condition and construction phasing of the project.

5.1 Existing Utilities

Before proceeding with construction, any existing underground utility lines that will interfere with construction should be completely rerouted or removed from beneath the proposed construction areas. Existing utility lines that are to be abandoned in place should be removed and/or plugged with a minimum of 2 feet of cement grout. All excavations resulting from underground utilities removal activities should be cleaned of loose and disturbed materials, including all previously-placed backfill, and backfilled with suitable fill materials in accordance with the requirements of this section. During the clearing and stripping operations, positive surface drainage should be maintained to prevent the accumulation of water.

5.2 General Excavations

The contractor will be responsible to provide a safe excavation during the construction activities of the project. All excavations should be conducted in accordance with applicable federal, state, and local safety regulations, including, but not limited to the Occupational Safety and Health administration (OSHA) excavation safety standards. Excavation stability and soil pressures on temporary shoring are dependent on soil conditions, depth of excavations, installation procedures, and the magnitude of any surcharge loads on the ground surface adjacent to the excavation. Excavation near existing structures and underground utilities should be performed with extreme care to avoid undermining existing structures. Excavations should not extend below the level of adjacent existing foundations or utilities unless underpinning or other support is installed. It is the responsibility of the contractor for field determinations of applicable conditions and providing adequate shoring for all excavation activities.

5.3 Groundwater Management

Based on the soil boring logs, the long-term water table is about 19 feet below the existing ground surface; however, groundwater was encountered as shallow as 8 feet during the drilling operations. It is anticipated that groundwater issues may be present at the site as the excavation is anticipated to be at a depth of 15 feet. GSG recommends that the sheet piles incorporate interlocking edges and extend thru the sandy soils into the clay soils, to act as a cutoff wall to prevent ground water from entering the site. Some water may still seep through

the interlocks of the steel sheeting, but this could be removed by normal sump pump operations. Even then well points may be required to dewater the excavation area and the contractor should provide a dewatering plan detailing how groundwater will be controlled and prevent water infiltration into the excavation/construction site.

6.0 LIMITATIONS

This report has been prepared for the exclusive use of 2FM and its structural consultant Tetra Tech. The recommendations provided in the report are specific to the project described herein and are based on the information obtained at the soil boring locations within the proposed retaining wall area. The analyses performed and the recommendations provided in this report are based on subsurface conditions determined at the location of the borings. This report may not reflect all variations that may occur between boring locations or at some other time, the nature and extent of which may not become evident until during the time of construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and review the recommendations presented herein.

APPENDIX A

BORING LOCATION MAP

LEGEND : SOIL BORING LOCATION

GSG CONSULTANTS, INC
623 Cooper Court • Schaumburg, IL 60173
Tel: 630.994.2600 • Fax: 312.733.5612
www.gsg-consultants.com
Integrity | Quality | Reliability

SCALE:	DRAWN BY:
NTS	AB
	CHECKED BY: AES
	DATE: 01/24/19

APPENDIX A : BORING LOCATION MAP
PROPOSED TEMPORARY SHEET PILING IMPROVEMENT
434 EAST 26th STREET
CHICAGO, ILLINOIS

T:\Tetra Tech\Carnotite Geotech\Geotechnical\Exhibits\Appendix A - Carnotite- Boring Location Map.dwg, 9/12/2019 8:53:17 AM, jscott, ANSI full bleed A (8.50 x 11.00 Inches)

APPENDIX B

BORING LOGS

GSG Consultants, Inc.
623 Cooper Court
Schaumburg, Illinois 60173
Telephone: 630-994-2600
Fax: 312-733-5612

BORING NUMBER B-1

CLIENT Tetra Tech
PROJECT NAME 2FM Carnotite Site
PROJECT NUMBER 18-2084
PROJECT LOCATION 434 East 26th Street
DATE STARTED 12/4/18 **COMPLETED** 12/4/18
GROUND ELEVATION 597.00 ft **HOLE SIZE** 3 1/4"
DRILLING CONTRACTOR GSG Drilling
GROUND WATER LEVELS:
DRILLING METHOD HSA
▽ **AT TIME OF DRILLING** 18.50 ft / Elev 578.50 ft
LOGGED BY JC **CHECKED BY**
AT END OF DRILLING --- N/A
NOTES
AFTER DRILLING --- N/A

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (%)	BLOW COUNTS (N VALUE)	UNCONFINED COMPRESSION (tsf)
0		4 inches of Asphalt 10 inches of Base Course Gravel				
		FILL: SAND, with wood fragments - Black - Moist	SS 1	56	3-5-5 (10)	
			SS 2	56	1-2-2 (4)	
5		FILL: SAND, fine grained - Brown - Moist				
		SAND, fine grained (SP) - Brown and Gray - Loose to Medium Dense - Moist to Wet	SS 3	67	4-4-4 (8)	
			SS 4	78	5-5-6 (11)	
10			SS 5	89	5-6-6 (12)	
			SS 6	89	4-7-8 (15)	
15			SS 7	100	2-3-5 (8)	
		▽	SS 8	100	2-3-5 (8)	
20		SILTY SAND (SM) - Gray - Loose to Medium Dense - Wet				
			SS 9	100	4-4-4 (8)	
			SS 10	89	3-5-6 (11)	
25						

▲ SPT N VALUE
20 40 60 80
● Moisture Content
10 20 30 40
☐ Unconfined Compression (tsf)
2 4 6 8

(Continued Next Page)

GSG Consultants, Inc.
623 Cooper Court
Schaumburg, Illinois 60173
Telephone: 630-994-2600
Fax: 312-733-5612

BORING NUMBER B-1

CLIENT Tetra Tech **PROJECT NAME** 2FM Carnotite Site

PROJECT NUMBER 18-2084 **PROJECT LOCATION** 434 East 26th Street

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (%)	BLOW COUNTS (N VALUE)	UNCONFINED COMPRESSION (tsf)
25		SILTY SAND (SM) - Gray - Loose to Medium Dense - Wet *(continued)*				
			SS 11	89	8-7-6 (13)	
			SS 12	100	2-2-2 (4)	
30			SS 13	89	1-1-2 (3)	
		FAT CLAY (CH) - Gray - Very Soft to Medium Stiff - Moist to Very Moist	SS 14	67	0-0-2 (2)	0.25
35						
			SS 15	78	0-1-1 (2)	0.20
40						
			SS 16	100	0-1-2 (3)	0.50
45		FAT CLAY, trace gravel (CH) - Gray - Medium Stiff to Stiff - Moist to Very Moist				
			SS 17	100	2-2-2 (4)	1.30
50						

▲ SPT N VALUE
20 40 60 80
● Moisture Content
10 20 30 40
□ Unconfined Compression (tsf)
2 4 6 8

53

70.1

(Continued Next Page)

GSG Consultants, Inc.
623 Cooper Court
Schaumburg, Illinois 60173
Telephone: 630-994-2600
Fax: 312-733-5612

BORING NUMBER B-1

CLIENT Tetra Tech **PROJECT NAME** 2FM Carnotite Site

PROJECT NUMBER 18-2084 **PROJECT LOCATION** 434 East 26th Street

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (%)	BLOW COUNTS (N VALUE)	UNCONFINED COMPRESSION (tsf)	▲ SPT N VALUE 20 40 60 80 / ● Moisture Content 10 20 30 40 / □ Unconfined Compression (tsf) 2 4 6 8
55		FAT CLAY, trace gravel (CH) - Gray - Medium Stiff to Stiff - Moist to Very Moist *(continued)* Sand seam at 54 feet	SS 18	100	2-2-2 (4)	0.75	▲ □ ●
		Spoon refusal at 58.5 feet	SS 19		50		
60		Auger refusal at 61.0 feet					

Bottom of borehole at 61.0 feet.

GSG Consultants, Inc.
623 Cooper Court
Schaumburg, Illinois 60173
Telephone: 630-994-2600
Fax: 312-733-5612

BORING NUMBER B-2

CLIENT Tetra Tech
PROJECT NAME 2FM Carnotite Site
PROJECT NUMBER 18-2084
PROJECT LOCATION 434 East 26th Street
DATE STARTED 12/7/18 **COMPLETED** 12/7/18
GROUND ELEVATION 598.00 ft **HOLE SIZE** 3 1/4"
DRILLING CONTRACTOR GSG Drilling
GROUND WATER LEVELS:
DRILLING METHOD Mud Rotary
▽ **AT TIME OF DRILLING** 8.50 ft / Elev 589.50 ft
LOGGED BY JJR **CHECKED BY**
AT END OF DRILLING --- N/A
NOTES
AFTER DRILLING --- N/A

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (%)	BLOW COUNTS (N VALUE)	UNCONFINED COMPRESSION (tsf)
0		6 inches of Topsoil				
		FILL: SAND, with gravel and brick fragments - Black and Brown - Moist	SS 1	56	3-9-15 (24)	
			SS 2	67	4-2-2 (4)	
5						
		SAND, fine grained (SP) - Brown and Gray - Loose to Medium Dense - Wet	SS 3	78	2-3-3 (6)	
		▽	SS 4	67	2-3-4 (7)	
10						
			SS 5	83	1-2-3 (5)	
			SS 6	100	2-5-9 (14)	
15						
			SS 7	100	3-5-8 (13)	
		SAND, fine grained (SP) - Gray - Loose to Medium Dense - Wet	SS 8	100	4-5-8 (13)	
20						
			SS 9	100	6-5-6 (11)	
			SS 10	100	4-5-7 (12)	
25						

▲ SPT N VALUE
20 40 60 80
● Moisture Content
10 20 30 40
☐ Unconfined Compression (tsf)
2 4 6 8

(Continued Next Page)

GSG Consultants, Inc.
623 Cooper Court
Schaumburg, Illinois 60173
Telephone: 630-994-2600
Fax: 312-733-5612

BORING NUMBER B-2

CLIENT Tetra Tech **PROJECT NAME** 2FM Carnotite Site

PROJECT NUMBER 18-2084 **PROJECT LOCATION** 434 East 26th Street

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (%)	BLOW COUNTS (N VALUE)	UNCONFINED COMPRESSION (tsf)
25		SAND, fine grained (SP) - Gray - Loose to Medium Dense - Wet *(continued)*				
			SS 11	100	5-5-5 (10)	
			SS 12	100	3-4-5 (9)	
30		SILTY SAND, fine grained (SM) - Gray - Very Loose to Loose - Wet				
			SS 13	100	2-2-2 (4)	
			SS 14	100	1-1-2 (3)	0.75
35		CLAY (CL/CH) - Gray - Medium Stiff - Very Moist				
			SS 15	100	1-1-1 (2)	0.5
40						
			SS 16	100	1-1-1 (2)	0.75
45						
		SILTY CLAY, trace gravel (CL) - Gray - Stiff to Very Stiff - Moist	SS 17	89	4-6-8 (14)	2.5
50						

▲ SPT N VALUE
20 40 60 80
● Moisture Content
10 20 30 40
□ Unconfined Compression (tsf)
2 4 6 8

0.7

(Continued Next Page)

GSG Consultants, Inc.
623 Cooper Court
Schaumburg, Illinois 60173
Telephone: 630-994-2600
Fax: 312-733-5612

BORING NUMBER B-2

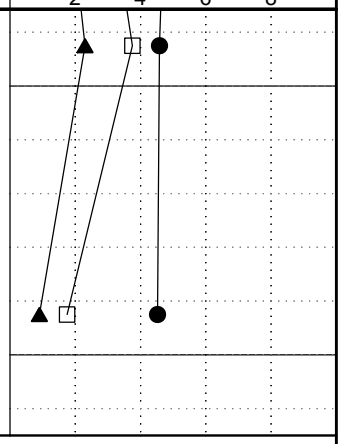
CLIENT Tetra Tech **PROJECT NAME** 2FM Carnotite Site

PROJECT NUMBER 18-2084 **PROJECT LOCATION** 434 East 26th Street

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (%)	BLOW COUNTS (N VALUE)	UNCONFINED COMPRESSION (tsf)
55		SILTY CLAY, trace gravel (CL) - Gray - Stiff to Very Stiff - Moist *(continued)*	SS 18	89	6-10-13 (23)	3.75
60			SS 19	100	2-4-5 (9)	1.75
		Auger refusal at 61.5 feet				

Bottom of borehole at 61.5 feet.

▲ SPT N VALUE
20 40 60 80
● Moisture Content
10 20 30 40
□ Unconfined Compression (tsf)
2 4 6 8



GSG Consultants, Inc.
623 Cooper Court
Schaumburg, Illinois 60173
Telephone: 630-994-2600
Fax: 312-733-5612

BORING NUMBER B-3

CLIENT Tetra Tech
PROJECT NAME 2FM Carnotite Site
PROJECT NUMBER 18-2084
PROJECT LOCATION 434 East 26th Street
DATE STARTED 12/3/18 **COMPLETED** 12/3/18
GROUND ELEVATION 599.00 ft **HOLE SIZE** 3 1/4"
DRILLING CONTRACTOR GSG Drilling
GROUND WATER LEVELS:
DRILLING METHOD HSA
▽ **AT TIME OF DRILLING** 13.50 ft / Elev 585.50 ft
LOGGED BY JC **CHECKED BY**
AT END OF DRILLING --- N/A
NOTES
AFTER DRILLING --- N/A

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (%)	BLOW COUNTS (N VALUE)	UNCONFINED COMPRESSION (tsf)
0		FILL: SAND, with gravel and concrete fragments - Brown and Gray - Wet	SS 1	33	6-10-3 (13)	
5		SAND, fine grained (SP) - Brown and Gray - Loose to Medium Dense - Moist to Wet	SS 2	56	2-3-4 (7)	
			SS 3	67	3-4-4 (8)	
10			SS 4	67	3-3-4 (7)	
		▽	SS 5	67	4-5-5 (10)	
15			SS 6	67	5-5-7 (12)	
			SS 7	89	3-6-8 (14)	
20		SAND, fine grained (SP) - Gray - Loose to Medium Dense - Wet	SS 8	89	3-3-4 (7)	
			SS 9	89	3-4-6 (10)	
25			SS 10	100	3-6-6 (12)	

▲ SPT N VALUE
20 40 60 80
● Moisture Content
10 20 30 40
□ Unconfined Compression (tsf)
2 4 6 8

(Continued Next Page)

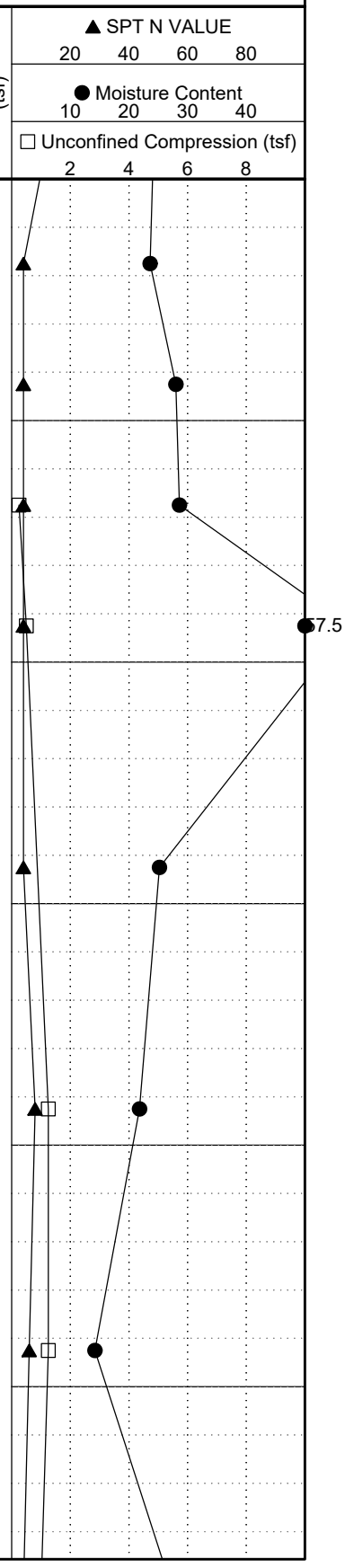
GSG Consultants, Inc.
623 Cooper Court
Schaumburg, Illinois 60173
Telephone: 630-994-2600
Fax: 312-733-5612

BORING NUMBER B-3

CLIENT Tetra Tech **PROJECT NAME** 2FM Carnotite Site

PROJECT NUMBER 18-2084 **PROJECT LOCATION** 434 East 26th Street

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (%)	BLOW COUNTS (N VALUE)	UNCONFINED COMPRESSION (tsf)
25		SAND, fine grained (SP) - Gray - Loose to Medium Dense - Wet *(continued)*				
		SILTY SAND (SM) - Gray - Loose - Wet	SS 11	100	2-2-2 (4)	
			SS 12	100	1-2-2 (4)	
30		FAT CLAY (CH) - Gray - Soft to Medium Stiff - Very Moist	SS 13	100	2-2-2 (4)	0.25
			SS 14	100	2-2-2 (4)	0.5
35						
		SILTY SAND (SM) - Gray - Loose - Wet	SS 15	100	2-2-2 (4)	
40						
		SILTY CLAY (CL) - Gray - Soft to Stiff - Moist to Very Moist	SS 16	100	3-4-4 (8)	1.25
45						
			SS 17	89	3-3-3 (6)	1.25
50						



(Continued Next Page)

GSG Consultants, Inc.
623 Cooper Court
Schaumburg, Illinois 60173
Telephone: 630-994-2600
Fax: 312-733-5612

BORING NUMBER B-3

CLIENT Tetra Tech **PROJECT NAME** 2FM Carnotite Site

PROJECT NUMBER 18-2084 **PROJECT LOCATION** 434 East 26th Street

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY (%)	BLOW COUNTS (N VALUE)	UNCONFINED COMPRESSION (tsf)
55		SILTY CLAY (CL) - Gray - Soft to Stiff - Moist to Very Moist *(continued)*	SS 18	100	2-2-2 (4)	1.0
60			SS 19	33	2-3-3 (6)	0.25
65		SILT, trace clay and limestone fragments (ML) - Gray -Dense to Very Dense - Moist	SS 20	56	16-22-26 (48)	
70		Spoon refusal at 70.0 feet	SS 21		50	
		Bottom of borehole at 70.0 feet.				

▲ SPT N VALUE
20 40 60 80
● Moisture Content
10 20 30 40
□ Unconfined Compression (tsf)
2 4 6 8

GSG CONSULTANTS, INC.
ENGINEERS · SCIENTISTS · CONSTRUCTION MANAGERS
623 Cooper Court
Schaumburg, IL 60173
Tel: 630.994.2600

Unified Soil Classification

Soil Classification is based on the Unified Soil Classification System and ASTM Designations D-2487 and D-2488. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; they are described as: clays, if they are plastic, and silts if they are slightly Plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the basis of their relative in-place density and fine grained soils on the basis of their consistency. Example: Lean clay with sand, trace gravel, stiff (CL); silty sand, trace gravel, medium dense (SM).

Drilling & Sampling Symbols

SS : Split Spoon
ST : Thin-Walled Tube
HA: Hand Auger
AU: Auger Sample
HS: Hand Sample

Water Level (ft)
▽ While Drilling
▽ After Drilling
▼ 24-hour

Standard "N" Penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2 inch OD split spoon, except where noted.

Major Divisions			Group Symbols	Typical Names
Coarse Grained Soils (More than Half of material is larger than No. 200 sieve size)	Gravels (More than hall of coarse fraction is larger than No. 4 sieve size)	Clean Gravels (Little or no fines)	GW	Well graded gravels, gravel-sand mixtures, little or no fines
			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
		Gravels with fines (Appreciable amount of fines)	GM d / u	Silty gravels, gravel-sand-clay mixtures
			GC	Clayey gravels, gravel-sand-clay mixtures
	Sands (More than hall of coarse fraction is smaller than No. 4 sieve size)	Clean Sands (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines
			SP	Poorly graded sands, gravelly sands, little or no fines
		Sands with fines (Appreciable amount of fines)	SM d / u	Silty sands, sand-silt mixtures
			SC	Clayey sands, sand-clay mixtures
Fine Grained Soils More than half of material is smaller than No. 200 sieve size)	Silts and Clays (liquid limit less than 50)		ML	Inorganic silts and very fine sands, rock flour, silty or claye fine sands or clayey silts with slight plasticity
			CL	Inorganic clay of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL	Organic silts and organic silty clays of low plasticity
	Silts and Clays (liquid limit greater than 50)		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
			CH	Inorganic clays of high plasticity, fat clays
			OH	Organic clays of medium to high plasticity, organic silts
	Highly Organic Soils		Pt	Peat and other highly organic soils

Consistency of Cohesive Soil

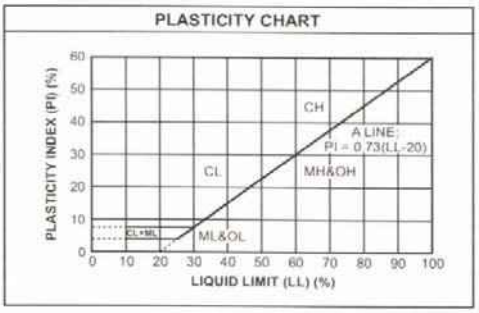
Unconfined Compressive strength, Qu, tsf	N-Blows/ft.	Consistency
< 0.25	Below 2	< Very Soft
0.25 - 0.50	2-4	- Soft
0.50 - 1.0	4-8	- Medium Stiff
1.0 - 2.0	8-15	- Stiff
2.0 - 4.0	15-30	- Very Stiff
4.0 - 8.0	30-50	- Hard
> - 8.0	> 50	- Very Hard

Relative Density of Coarse-Grained Soils

N-Blows/ft.	Relative Density
0-3	Very Loose
4-10	Loose
11-29	Medium Dense
30-49	Dense
50-80	Very Dense
>80	Extremely Dense

Description Term(s) of Components Present in Sample

Trace < 10% Little 10-19%
Some 20-34% And 35-50%



APPENDIX C

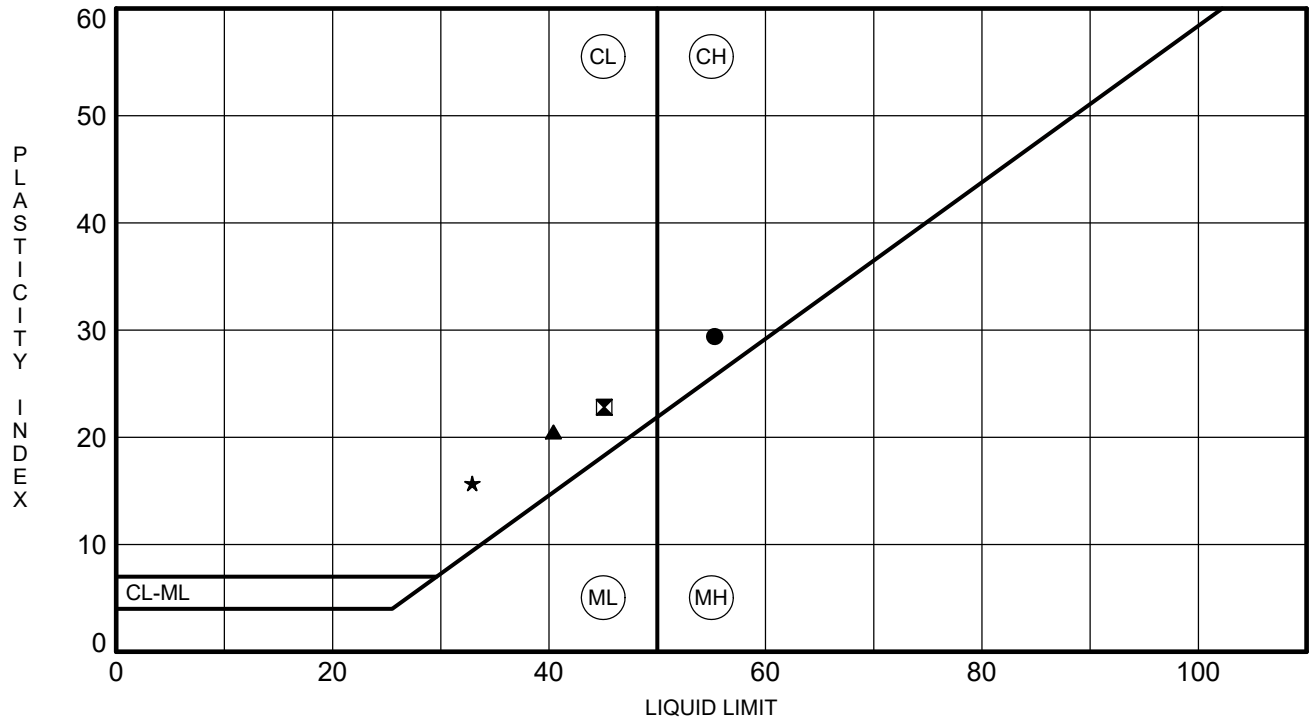
LAB RESULTS

GSG CONSULTANTS, INC
623 Cooper Court
Schaumburg, IL 60173
Tel: 630.994.2600

ATTERBERG LIMITS' RESULTS

CLIENT Tetra Tech **PROJECT NAME** 2FM Carnotite Site

PROJECT NUMBER 18-2084 **PROJECT LOCATION** 434 East 26th Street



	BOREHOLE	DEPTH	LL	PL	PI	Fines	Classification
●	**B-1**	**38.5**	**55**	**26**	**29**		
⊠	**B-2**	**33.5**	**45**	**22**	**23**		
▲	**B-2**	**53.5**	**40**	**20**	**20**		
★	**B-3**	**43.5**	**33**	**17**	**16**		

ATTACHMENT 10 – APPENDIX II-C "AFFIDAVIT IN SUPPORT OF SOIL EROSION AND SEDIMENT CONTROL – MEASURES DURING CONSTRUCTION

APPENDIX II-C

City of Chicago - DWM

Bureau of Engineering Services - Sewer Design Section

Design /Construction Affidavit in Support of Soil Erosion and Sediment Control Measures during Construction

Project Name: Former Carnotite Reduction Company Site

Property Address(es)(Property): 434 East 26th Street, Chicago, IL

_____

_____

_____

The Developer/Owner and General Contractor (hereafter the Affiants) have authority to sign this Affidavit and have personal facts of the matters contained herein. The Affiants acknowledge that the plans, dated _____, and approved by the DWM/DOB (Plans) form the basis for this Affidavit. The Affiants further acknowledge that Regulated Developments, under the City's Stormwater Ordinance, that discharge to a combined sewer system, must provide functional and effective construction soil erosion and sediment control (SESC) at the Property as identified above. Further, the Affiants assume full responsibility for the design, construction and maintenance of SESC measures to prevent the discharge of sediment, dust, and other pollutants in stormwater runoff from the Property.

Construction SESC measures will be installed at the above address(es) prior to land disturbing activities and be maintained in functional order until the property has been "permanently stabilized" (i.e. when all land disturbing activities have been completed, all construction SESC measures have been removed, and an uniform perennial vegetative cover with a density of 70 percent for unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures have been completed).

Any breach of the conditions contained in this Affidavit, as determined solely by the City of Chicago, that are not cured by the Developer/Owner within 7 (seven) days of official notice, the City of Chicago may utilize any and all legal and equitable remedies available to the City."

As the General Contractor of the subject Property, I certify adherence to this Affidavit and to the following:

Design /Construction Affidavit in Support of Soil Erosion and Sediment Control Measures during Construction
Page two

The SESC measures will be designed, constructed and maintained in accordance with standards and specifications set forth in the most recent version of the Illinois Urban Manual published by the Illinois Environmental Protection Agency (IEPA) and the Natural Resources Conservation Service (NRCS). As a minimum, all temporary SESC measures such as vegetative cover, silt fences, inlet protection, check dams, etc., shall be designed to accommodate anticipated 1-year storm flows.

Any applicable Storm Water Pollution Prevention Plan (SWPPP) will be followed along with the minimum SESC measures specified herein. The SWPPP will be kept onsite during construction for inspection.

Temporary soil stabilization will be applied to topsoil stockpiles and disturbed areas where construction activity will not occur for a period of more than 21 calendar days.

Permanent soil stabilization shall be done within 14 calendar days after completion of final grading of the soil.

Inspection of SESC measures will be completed at least once every 7 calendar days and within 24 hours of a storm 0.5 inches or greater. SESC measures will be maintained to perform their intended function until the site is permanently stabilized.

All temporary roadways, access drives and parking areas will be stabilized and be of sufficient width and length to prevent sediment from being tracked onto public or private roadways. Any sediment reaching a public or private road shall be removed by street cleaning (not by water flushing) as necessary, or before the end of each workday.

Tires and wheel wells of vehicles and construction equipment shall be free of dirt and/or sediment before leaving a construction area to prevent tracking onto a public or private paved road, or sidewalk.

Trucks loaded with waste material that may be carried off by wind or rain shall be covered prior to leaving the construction site.

All onsite drainage structures within the construction area and down slope within the public right-of-way shall be protected with sediment control measures.

The discharge of sediment into the sewer system, as part of site dewatering, must be controlled and minimized to prevent clogging of the City's sewer system.

The use, storage and disposal of chemicals, cement and other compounds and building materials used on the construction site shall be managed during the construction period, to prevent their entrance into the City's sewer system.

All temporary SESC measures will be removed within 30 days after final site stabilization is achieved or after temporary measures are no longer needed.

Unless adequate sediment and erosion control measures are implemented for all onsite infiltration BMP systems, the installation of such systems will be scheduled after all of the major construction activity is completed.

Design /Construction Affidavit in Support of Soil Erosion and Sediment Control Measures during Construction
Page three

Signed by General Contractor
Name/Company:
Address:
Phone Number:
Signature:_____, Date_____

Contractor License Number:

_____

As the Developer/Owner of the subject Property, I certify adherence to this Affidavit.

Signed by Developer/Owner
Name/Company:
Address:
Phone Number:
Signature:_____, Date_____

ATTACHMENT 11 – OPERATION AND MAINTENANCE PLAN

INCLUDING OWNER'S CERTIFICATION STATEMENT

TETRA TECH

FORMER CARNOTITE REDUCTION COMPANY SITE

SITE REMEDIATION PROJECT
434 E. 26th Street
Chicago Illinois

OPERATION AND MAINTENANCE PLAN STORMWATER BEST MANAGEMENT PRACTICES

MARCH 2020

TABLE OF CONTENTS

REVISIONS

**revisions to the plan procedures and practices must be done annually*

REVISION NUMBER	DATE
00	November 2019
01	March 2020

1.0 DRY DETENTION BASIN DETAILS

Owner: City of Chicago, Department of Assets, Information & Services (AIS)
Ongoing Maintenance: AIS, Bureau of Facility Operations (Julie Bedore, 312-744-7594)

Side slopes:	1V / 3H
Admissible release rate:	0.27 cubic feet per second/acre (cfs/ac)
Basin depth:	2 ft
Slope of basin bottom:	0.1 %
Basin total volume capacity:	15,784 cubic feet (ft)
Sedimentation catch basin capacity:	9 cubic ft
High Water Level (100 yr):	1.72ft
HWL (100yr) volume:	12,664 cubic ft

Vortex Model FA1214 with 4" discharge orifice from Contech Engineered Solution (or equivalent).
Vortex regulator release rate 0.22 cfs

2.0 DRY DETENTION BASIN –INSPECTION ACTIVITIES

Inspection of the basin after rain events exceeding 1.5 inches over a 24-hour period will be conducted to ensure that all components of the stormwater management system for the site are working and to ensure that the detention basin and regulator are functioning as designed and comply City of Chicago regulations. The list below provides a summary of the operation and maintenance activities planned after each a rain event exceeding 1.5 inches.

- General inspection of the installations, including dry basin, sediment trap, outlet, catch basin, manhole and vortex regulator to ensure minimal sediment accumulation and no debris blocking pipe flow to the manhole.
- Confirm basin is dry after 72 hours of a 1.5 inch or greater rain event over a 24-hour period.

3.0 DRY DETENTION BASIN – OPERATION AND MAINTENANCE ACTIVITIES

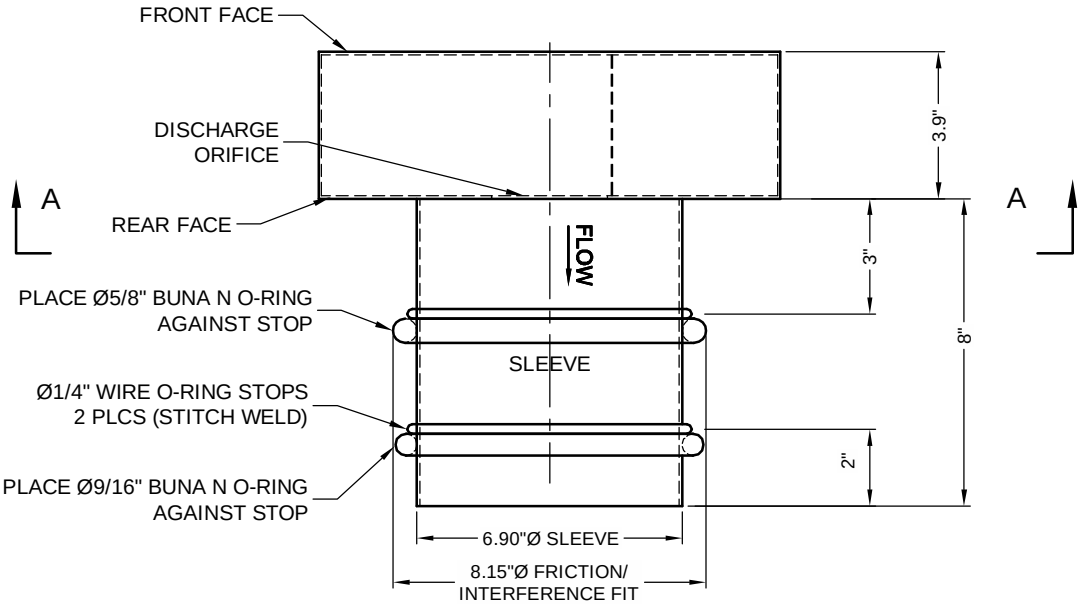
Below is a list of operation and maintenance activities to be completed after construction is complete. To document operation and maintenance activities, each site inspection, visit, and other site activities will be recorded in the log book. The operation and maintenance schedule for each activity is noted below. In the event of a 1.5 inch or greater rain event, each activity will be conducted and documented. Specific operation and maintenance activities associated with the dry detention basin and associated stormwater management include:

- Visual inspection of detention basin for evidence of erosion, tree growth (root damage), basin damage (settling or cracking of the slopes and bottom), sediment accumulation, blockage of pipes (at least twice a year). The outlet and vortex will also be inspected for blockage, vegetative growth that may impair operation, and functionality (at least twice a year).
- Inspect upstream conditions that could affect basin operation.
- Inspection and cleaning of catch basin and manhole lid (at least twice a year). Remove sediment from bottom of catch basin every two years.
- Remove sediment from sediment trap in the basin as needed.
- Remove sediment from detention basin as needed to keep designed levels (at least every 5 to 10 years).
- Clean debris (including trash and litter) and invasive vegetation from basin, outlet pipe and rip-rap (at least every year).

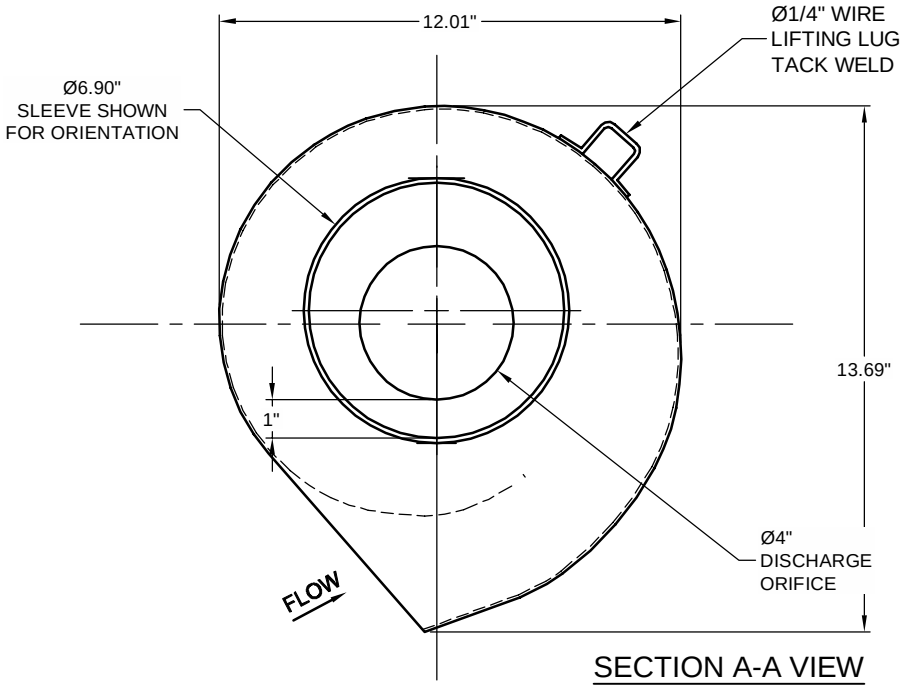
ATTACHMENT 1 – VORTEX FABRICATION DRAWING SHEET AND RATING CURVE

NOTES

1. ALL WELDS CONTINUOUS, UNLESS OTHERWISE NOTED
2. MATERIALS:
   - 1/8" ALUMINUM 5052
   - (1) 5/8" AND (1) 9/16" BUNA N, 50 DUROMETER O-RINGS



TOP VIEW



SECTION A-A VIEW

CONTECH®
ENGINEERED SOLUTIONS LLC
www.contechES.com
200 Enterprise Drive, Scarborough, ME 04074
877-907-8676 207-885-9830 207-885-9825 FAX

FABRICATION DRAWING FOR FLUIDIC-AMP VORTEX VALVE
MODEL FA1214 WITH SLEEVE ATTACHMENT SIZED FOR 8" PIPE (8.0" ID)
PROJECT NAME
LOCATION

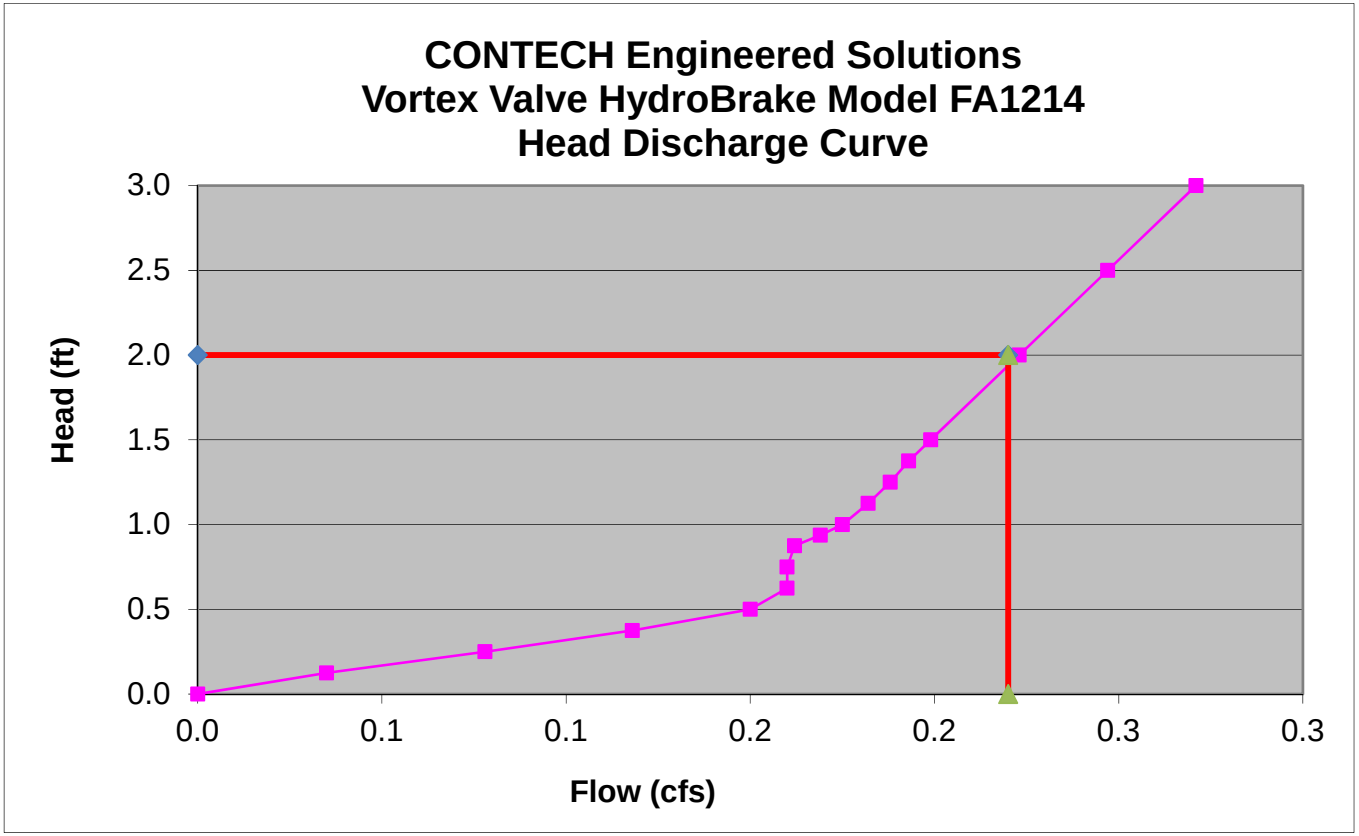
DATE:01/09/2020	SCALE: 1:5	FILE NAME:	DRAWN: NDC	CHECKED: NDC

CONTECH ENGINEERED SOLUTIONS

Vortex Valve FA1214 with 4" Opening

Head (ft)	Flow (cfs)
0	0
0.125	0.035
0.25	0.078
0.375	0.118
0.50	0.150
0.625	0.160
0.75	0.160
0.875	0.162
0.938	0.169
1.00	0.175
1.125	0.182
1.25	0.188
1.375	0.193
1.50	0.199
2.00	0.223
2.50	0.247
3.00	0.271
3.50	0.298
4.00	0.325
4.50	0.351
5.00	0.377
5.50	0.406
6.00	0.435
6.50	0.464
7.00	0.494
7.50	0.526
8.00	0.558
8.50	0.592
9.00	0.626
9.50	0.663
10.00	0.700

Target Head:	2 ft
Target Flow:	0.22 cfs
Achieved Flow:	0.22 cfs



Operation and Maintenance Plan Owner's Certification Statement

Property Name: Former Carnotite Reduction Company Site

Property Address: 434 East 26th Street, Chicago, IL

As the owner(s) of the subject property, by signing this document, I/we acknowledge that I/we have received and reviewed the Operation and Maintenance Plan, dated March 2020 and understand its contents. (as required by the Stormwater Management Ordinance, Section 11-18-030).

In the event that I/we were to sell this property, I/we agree to give a copy of the Plan to the new owner(s) and this Owner's Certification Statement for signature. This signed Certification Statement must be submitted to the City's Department of Buildings upon transfer of ownership.

I/we further agree to adhere to the maintenance schedule of best management practices stipulated in the Plan. I/we also acknowledge that if I/we don't maintain the measures as shown in the Plan, upon City inspection, I/we could be liable for a violation of the City's Municipal Code (according to Stormwater Management Ordinance Section 11-18-130).

KIMBERLY WORTHINGTON as agent for CITY OF CHICAGO
Initial Owner(s) Printed Name

Initial Owner(s) Signature — Date 3/13/20

CARMEN J VEGA
Official Seal
Notary Public - State of Illinois
My Commission Expires Feb 15, 2023

Notary Public — CJV 3/13/2020

2nd Owner(s) Printed Name

2nd Owner(s) Signature — Date

Notary Public

3rd Owner(s) Printed Name

3rd Owner(s) Signature — Date

Notary Public

ATTACHMENT 12 – TETRA TECH MEMO "SUMMARY OF SEWER CLEANOUT AND INVESTIGATION

TETRA TECH

TETRA TECH

MEMO

To:	Abby Mazza, City of Chicago Department of Fleet and Facility Management (2FM)
Cc:	Carol Nissen, Tetra Tech, Inc. (Tetra Tech)
From:	Kris Schnoes, Tetra Tech
Date:	October 7, 2019
Subject:	Summary of Sewer Cleanout and Investigation Former Carnotite Reduction Company Site (Carnotite) 434 E. 26th Street Chicago, IL

On July 31 and August 1, 2019, 2FM conducted sewer cleanout and investigation activities at the Carnotite site as required by the City of Chicago Department of Sewers prior to removal of sewers during remediation activities. 2FM conducted the sewer investigation in planned excavation areas to determine if any unknown connections to the combined sewers exist. Prior to televising the sewer, SET Environmental, Inc. (SET) cleaned the sewers by hydro-jetting and collected the sewer water and sludge in one 25-cubic yard vacuum box and five 300-gallon totes. The vacuum box and totes remained onsite for waste characterization prior to disposal. Once sewer cleanout was complete, Michel's Pipe Service conducted sewer televising activities. Tetra Tech was present during portions of the sewer cleanout and investigation. Also, Stan A. Huber Consultants, Inc. conducted radiation screening of the work areas and equipment during cleanout and investigation activities and screened all equipment in contact with potentially contaminated sewer water and sludge for free release after decontamination of the equipment was conducted, as necessary.

The sewer cleanout and investigation began in the south portion of the future remediation area, along 26th Street as it bends from a north-south orientation to an east-west orientation near the tennis courts. The investigation then continued to the north portion of the future remediation area, along 26th Street east of Martin Luther King Drive. The following information was documented during sewer televising activities:

- In the south area, the 12-inch vitrified clay pipe (VCP) sewer south of 26th Street was completely blocked with roots and debris.
- In the south area, the 12-inch VCP sewer north of 26th Street was inspected.
- In the north area, the 26th Street sewer was observed to be 12-inch diameter VCP east of the vegetated circular center median in 26th Street and 18-inch diameter VCP west of the vegetated median. A portion of the sewer pipe is corrugated metal pipe approximately 7 feet east of Martin Luther King Drive.
- In the north area, two previously unknown sewer connections to the north 26th Street sewer from the adjacent property to the north were discovered. One 10-inch VCP sewer drains the southwest parking lot located on the property north of the site. One 8-inch VCP sewer appears to connect to a combined sewer from the building located on the north property as well as drain storm water from the grass area located east of the existing driveway entering the north property from 26th Street.
- The 12-inch VCP sewer along north 26th Street was observed to be in poor condition in some locations, including a collapsed section in the eastern portion of 26th Street located about 90 feet west-southwest of the driveway entering the north property from 26th Street.

Hand drawn field maps prepared by Michel's are attached. Michel's report also included video and photos of the inspected sewer pipes.

Tetra Tech, Inc.
1 South Wacker Drive, Suite 3700, Chicago, Illinois 60606
Tel (312) 201-7700 Fax (312) 201-0031 tetratech.com

MICHELS PIPE SERVICES

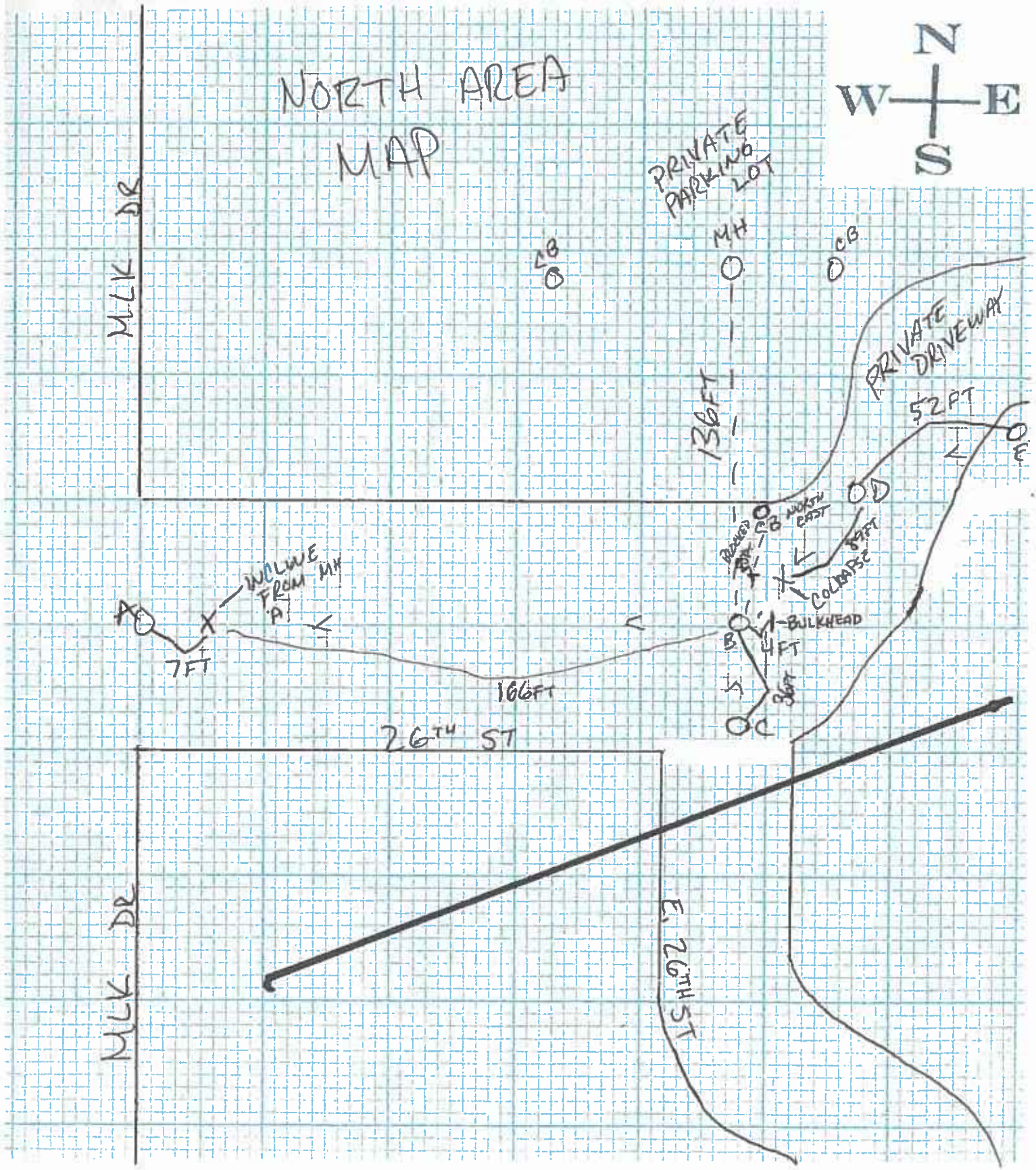
Field Condition Map **Date:** 08/01/19

Customer: CITY OF CHICAGO

Work Order Number: 190303 **Job Number:**

Street Location: E. 26TH ST.

Truck Number: 90031 **Operator:** M. SEDLACEK



MICHELS PIPE SERVICES

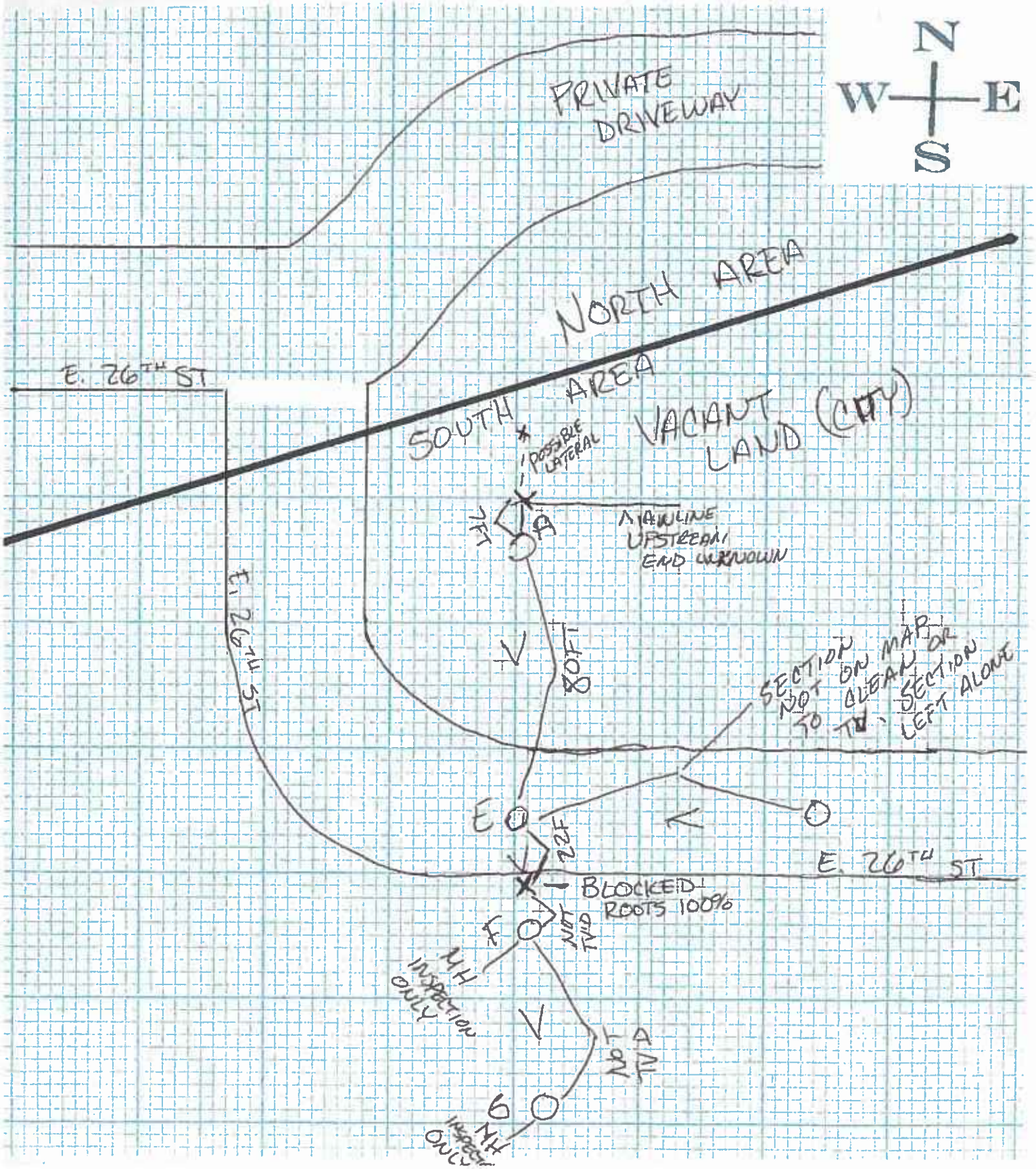
Field Condition Map **Date:** 08/01/19

Customer: CITY OF CHICAGO

Work Order Number: 190303 **Job Number:**

Street Location: E. 26TH ST

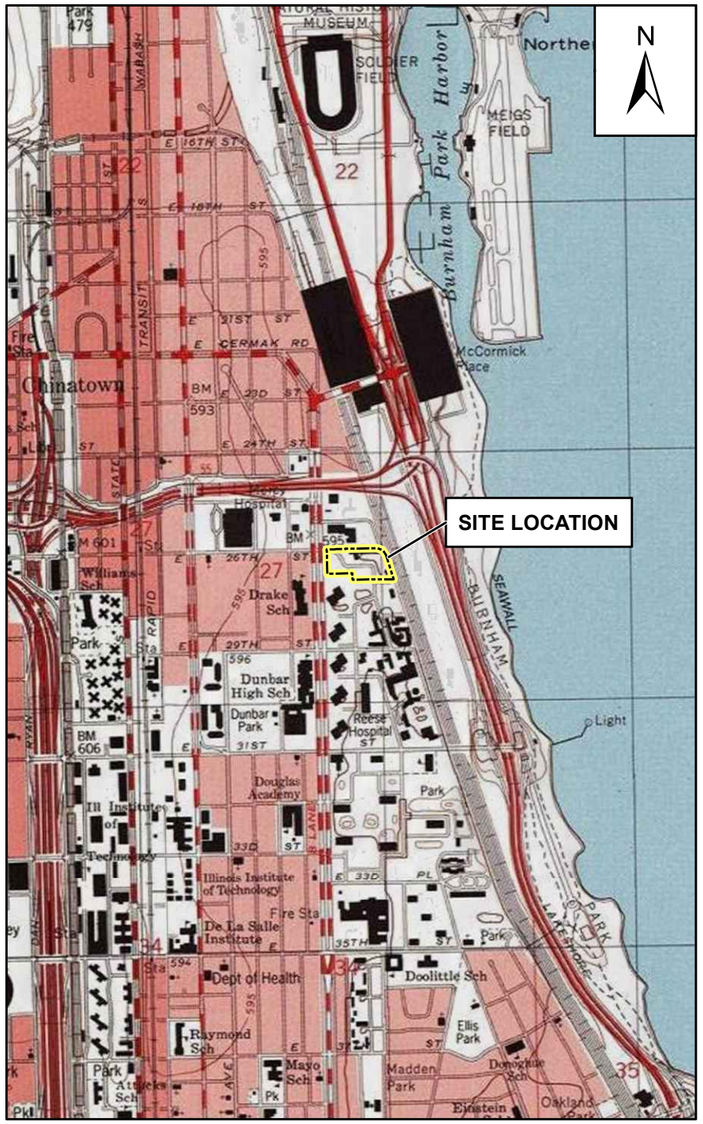
Truck Number: 90031 **Operator:** M. SEDLACEK

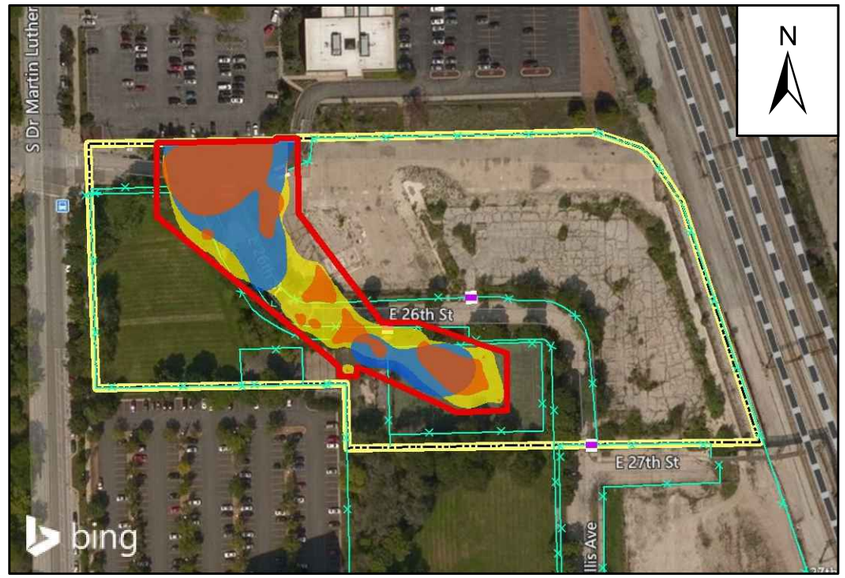


ATTACHMENT 13 – PLAN SHEETS

FORMER CARNOTITE REDUCTION COMPANY SITE
EXCAVATION PLAN
CHICAGO, ILLINOIS

SHEET	DESCRIPTION
C-1	COVER SHEET
C-2	EXISTING CONDITIONS
C-3	SOIL ANALYTICAL RESULTS
C-4	EXTEND OF SUBSURFACE
C-5	GEOLOGICAL CROSS SECTIONS
C-6	DECOMMISSIONING PLAN
C-7	REMEDIATION EXCAVATION PLAN
C-8	PROPOSED REMEDIATION SITE LAYOUT
C-9	PROPOSED EROSION CONTROL PLAN
C-10	EROSION CONTROL DETAIL
C-11	GRADING PLAN AND PROPOSED STORM AND SANITARY SEWER
C-12	STORM AND SANITARY SEWER DETAILS
C-13	RESTORATION PLAN
C-14	OPERATION AND MAINTENANCE PLAN
T-1	SIGN LOCATION AND MAINTENANCE OF TRAFFIC PLAN
T-2	SIGN TYPE 1
T-3	SIGN TYPE R11 AND OM4
T-4	SIGN MOUNTING - BAND MOUNT AND FENCE MOUNT
T-5	SIGN MOUNTING - NEW SIGN POSTS
T-6	SIGN MOUNTING AT CONCRETE BARRIER
S-1	SITE PLAN
S-2	EXCAVATION PLAN
S-3	EXCAVATION CROSS SECTION
S-4	TEMPORARY RETAINING WALL
S-5	TEMPORARY RETAINING WALL DETAILS
S-6	SEWER PLAN AND PROFILE
S-7	CITY OF CHICAGO STANDARD DETAILS





NOTES:
1. NO CITY BRNCHMARK COULD BE USED FOR THIS LOCATION.
2. LEGEND FOR ABBREVIATIONS AND SYMBOLS ARE SPECIFIC FOR EACH SHEET.

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

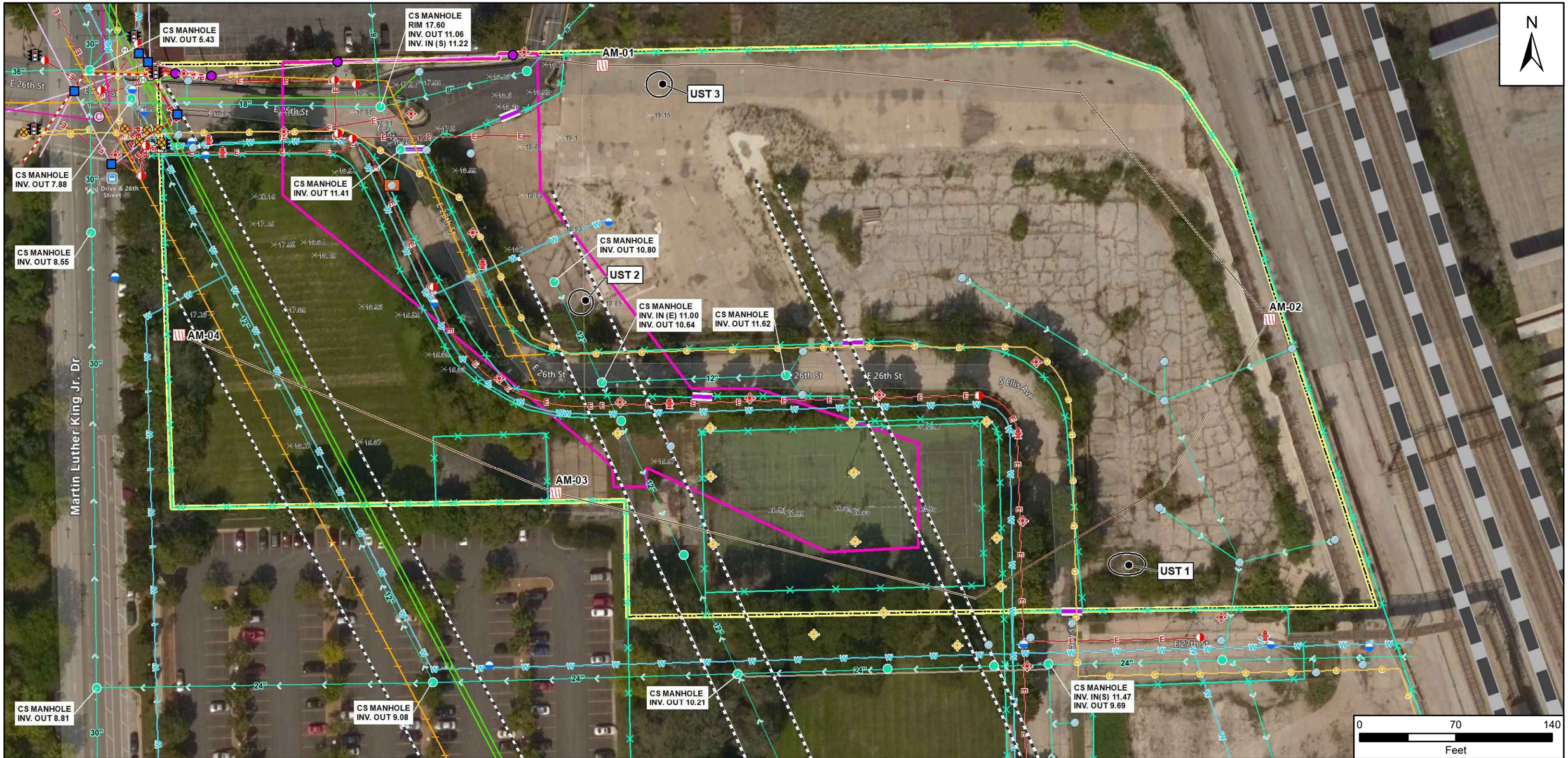
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

COVER SHEET

SHEET **C-1**

11/5/2019 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2019-07\C1-CoverSheet.mxd m.banh



- Catch Basin
- City Electric Manhole
- Closed Lid Sewer
- ComEd Manhole
- Fire Hydrant
- Gas Manhole
- Inlet
- Manhole
- RCN Manhole
- Street Light
- Tennis Court/Park Light
- Traffic Signal
- Utility Pole
- Water Valve
- City Underground Line
- Easement
- Dead Gas Line
- Painted Water Line
- Painted Electric Line
- Communication Line
- RCN
- SBC
- ComEd Electric
- Existing Temporary Overhead Electric Line
- City Electric
- Water Line
- Sewer Line (with direction of flow)
- Gas Line
- Air Monitoring Station
- Radioactive Facility License Boundary
- UST Location
- Excavation Boundary
- Fence
- Gate

CS = Combined Sewer
INV = invert elevation

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

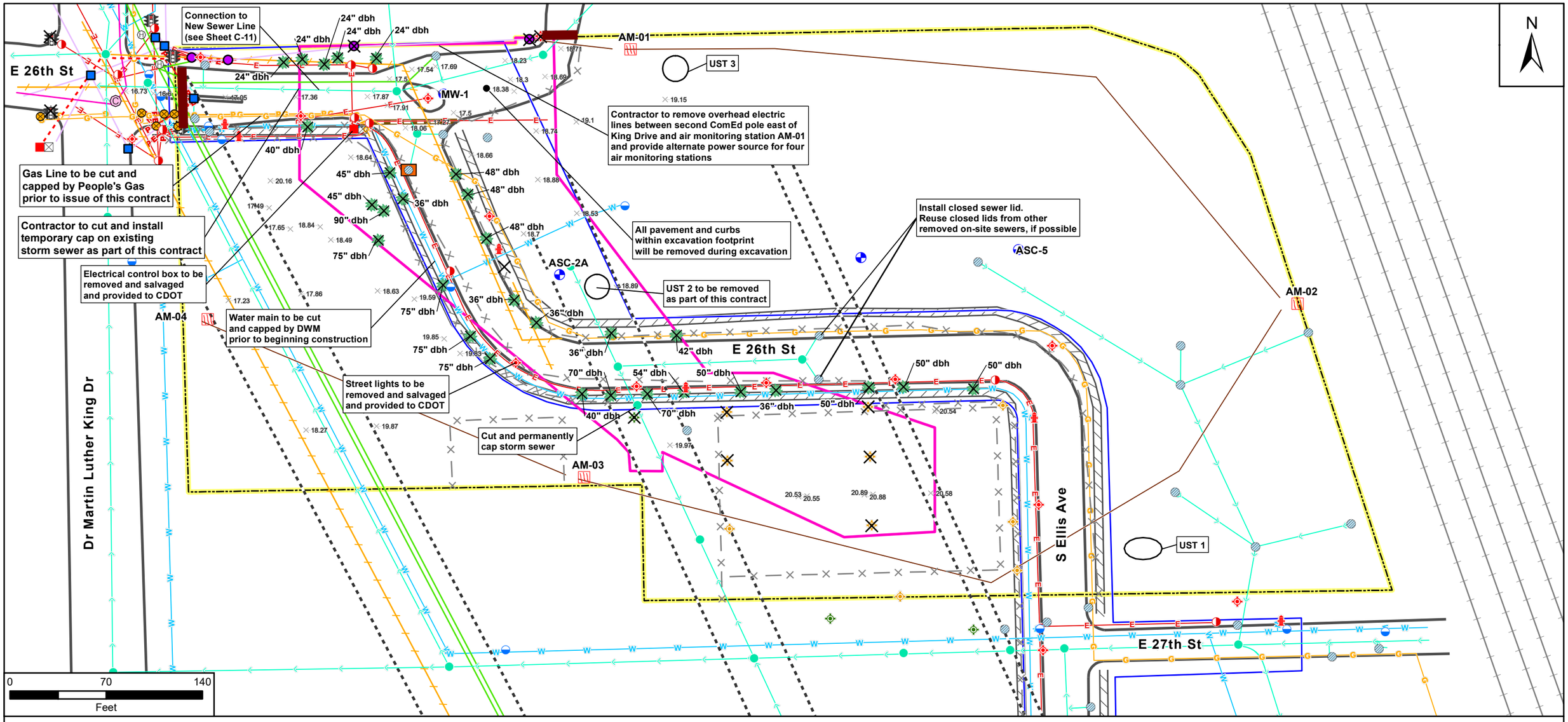
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

EXISTING CONDITIONS (TOPOGRAPHIC AND UTILITY SURVEY)

SHEET
C-2

8/5/2019 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2019-07\C2-ExistingConditions.mxd m.banh



- Air Monitoring Station
- Catch Basin
- City Electric Manhole
- Closed Lid Sewer
- ComEd Manhole
- CDOT Electrical Control Box
- Fire Hydrant
- Gas Manhole
- Inlet
- Manhole
- RCN Manhole
- Street Light
- Park Path Light
- Tennis Court Light
- Traffic Signal
- Utility Pole
- Water Valve
- To be Removed
- Tree to be removed
- Monitoring Well Location
- City Underground Line
- Easement
- Dead Gas Line
- Painted Gas Line
- Painted Water Line
- Painted Electric Line
- RCN
- SBC
- Existing Temporary Overhead Electric Line
- Permanent Road Closure Barricades and Signage
- ComEd Electric
- City Electric
- Water Line
- Sewer
- Gas Line
- ROW
- Fence to be removed
- Excavation Boundary
- Radioactive Facility License Boundary
- UST Location
- Proposed New Curb
- Railroad
- Street
- Sidewalk

Note:
Contractor to remove all decommissioned utilities within the excavation area. Any decommissioned utilities outside the excavation area will be abandoned in place.

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

DECOMMISSIONING PLAN

SHEET
C-6

NEW PERMANENT FENCE
FENCE
TEMPORARY FENCE
GATE
EXCAVATION DEPTH CONTOUR
ESTIMATED EXTENT OF SHEET PILE WALL

EXCAVATION BOUNDARY
NORTH PROPERTY EXCAVATION AREA
SITE BOUNDARY
33' x 33' GRID
CARGO STORAGE CONTAINER

NOTES:
1. ADDITIONAL EXCAVATION MAY BE NECESSARY FOR SLOPE STABILITY.
2. THE MAXIMUM ANTICIPATED EXTENT OF EXCAVATION ON THE PROPERTY NORTH OF THE SITE IS SHOWN. HOWEVER, IT IS CURRENTLY UNKNOWN IF ANY EXCAVATION WILL OCCUR NORTH OF THE SITE BOUNDARY.

0 60 120
SCALE IN FEET

DESIGNED:	C.NISSEN
DRAWN:	M.BANH
PROJECT NO:	103S328401004
DATE:	OCTOBER 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

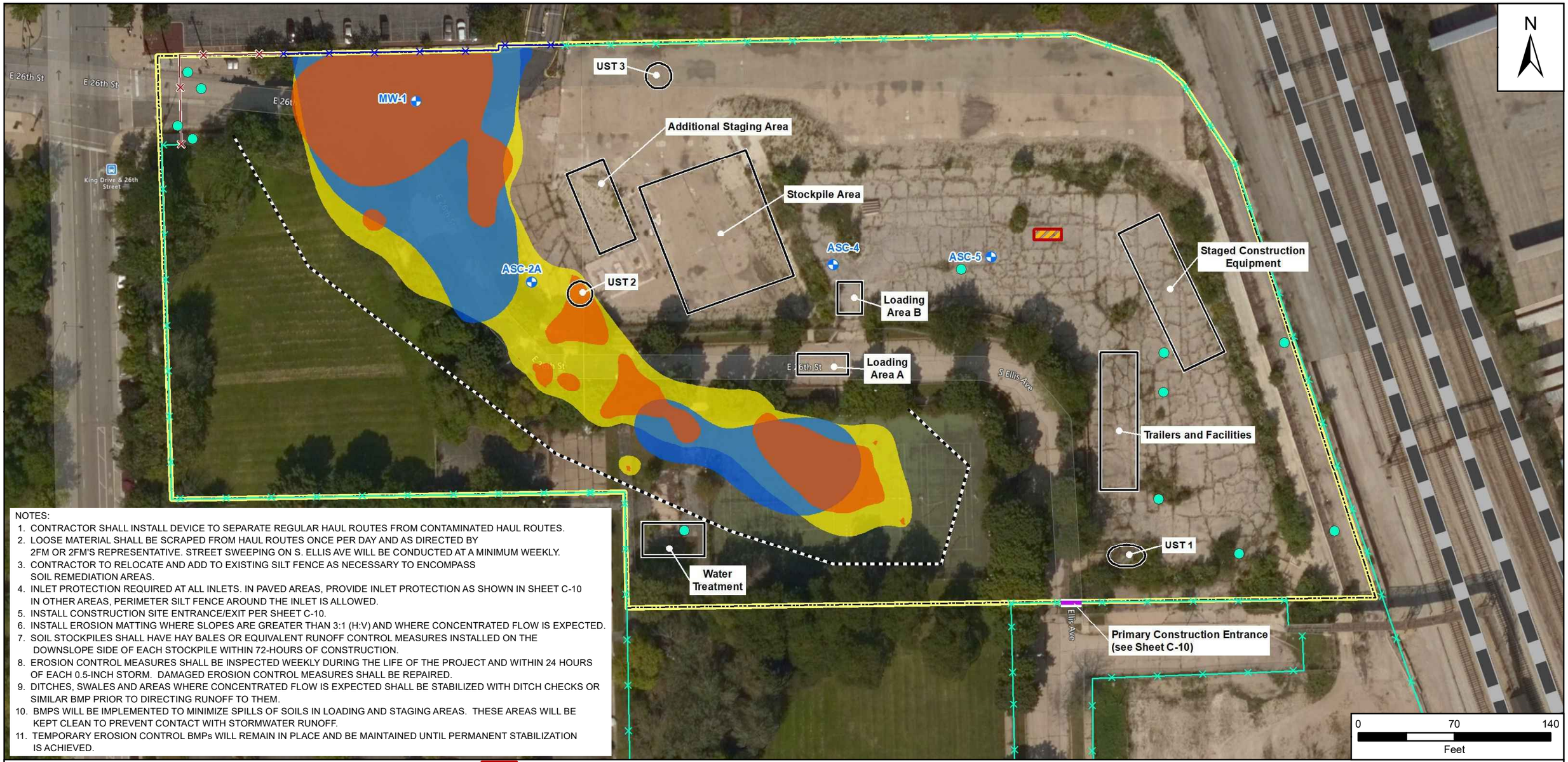
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A

REMEDIATION EXCAVATION PLAN

SHEET
C-7

G:\S\3284 Chicago 2FM\01004 Carnotite\dwg\2019-10\C7-ExcavationPlan-110519.dwg



NOTES:

1. CONTRACTOR SHALL INSTALL DEVICE TO SEPARATE REGULAR HAUL ROUTES FROM CONTAMINATED HAUL ROUTES.
2. LOOSE MATERIAL SHALL BE SCRAPED FROM HAUL ROUTES ONCE PER DAY AND AS DIRECTED BY 2FM OR 2FM'S REPRESENTATIVE. STREET SWEEPING ON S. ELLIS AVE WILL BE CONDUCTED AT A MINIMUM WEEKLY.
3. CONTRACTOR TO RELOCATE AND ADD TO EXISTING SILT FENCE AS NECESSARY TO ENCOMPASS SOIL REMEDIATION AREAS.
4. INLET PROTECTION REQUIRED AT ALL INLETS. IN PAVED AREAS, PROVIDE INLET PROTECTION AS SHOWN IN SHEET C-10 IN OTHER AREAS, PERIMETER SILT FENCE AROUND THE INLET IS ALLOWED.
5. INSTALL CONSTRUCTION SITE ENTRANCE/EXIT PER SHEET C-10.
6. INSTALL EROSION MATTING WHERE SLOPES ARE GREATER THAN 3:1 (H:V) AND WHERE CONCENTRATED FLOW IS EXPECTED.
7. SOIL STOCKPILES SHALL HAVE HAY BALES OR EQUIVALENT RUNOFF CONTROL MEASURES INSTALLED ON THE DOWNSLOPE SIDE OF EACH STOCKPILE WITHIN 72-HOURS OF CONSTRUCTION.
8. EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY DURING THE LIFE OF THE PROJECT AND WITHIN 24 HOURS OF EACH 0.5-INCH STORM. DAMAGED EROSION CONTROL MEASURES SHALL BE REPAIRED.
9. DITCHES, SWALES AND AREAS WHERE CONCENTRATED FLOW IS EXPECTED SHALL BE STABILIZED WITH DITCH CHECKS OR SIMILAR BMP PRIOR TO DIRECTING RUNOFF TO THEM.
10. BMPS WILL BE IMPLEMENTED TO MINIMIZE SPILLS OF SOILS IN LOADING AND STAGING AREAS. THESE AREAS WILL BE KEPT CLEAN TO PREVENT CONTACT WITH STORMWATER RUNOFF.
11. TEMPORARY EROSION CONTROL BMPs WILL REMAIN IN PLACE AND BE MAINTAINED UNTIL PERMANENT STABILIZATION IS ACHIEVED.

- Monitoring Well Location
- Storm Sewer Catch Basin provide inlet protection on all storm sewer catch basins (verify in field)
- Silt Fence
- <all other values>
- New Permanent Fence
- Fence
- Temporay Fence
- Gate
- Cargo Storage Container
- Radioactive Facility License Boundary
- Total uranium in soil above 22 pCi/g above 5 meters bgs
- Thorium-230 in soil above 5.5 pCi/g
- Radium-226 in soil above 5.9 pCi/g

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

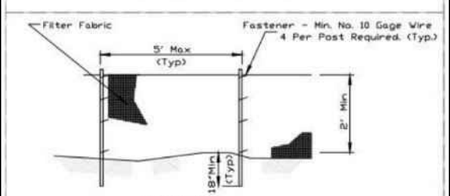
SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

PROPOSED EROSION CONTROL PLAN

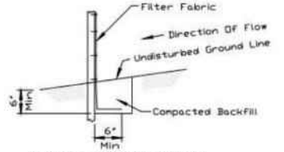
SHEET
C-9

8/5/2019 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2019-07\C9-ErosionControlPlan.mxd m.banh

SILT FENCE PLAN



ELEVATION



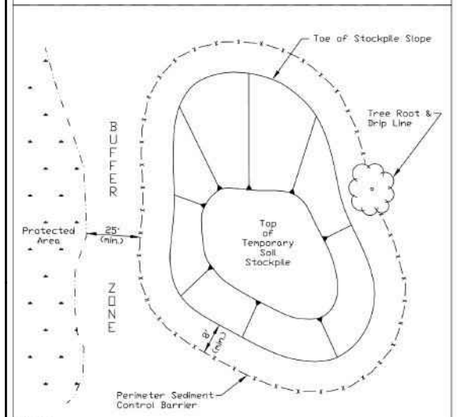
FABRIC ANCHOR DETAIL

NOTES:
1. Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
2. Filter Fabric shall meet the requirements of material specification 592 Geotextile based upon performance needed.
3. Fence posts shall be either standard steel post or wood post with a minimum cross-sectional area of 2" x 2" nominal size.

REFERENCE
Project
Designed Date
Checked Date
Approved Date

STANDARD DWG. NO. IUM-620
SHEET 1 OF 2
DATE 3-16-12

TEMPORARY SOIL STOCKPILE DETAIL

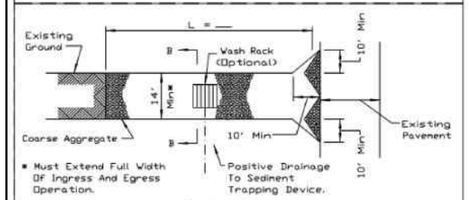


NOTES:
1. Stockpile slopes should be based on angle of repose of the soil material to avoid potential sloughing of the slope.
2. Soil stockpile to be stabilized in accordance with practical standards.
3. Do not locate stockpile within overland drainage flow path, designated floodways, drip line or over the root crown of adjacent trees.
4. Provisions for sediment control practices may be required along haul roads and entrance/exit locations for access the soil stockpile that can create flow path for stormwater runoff.
5. Installation of benches, terraces, or slope interrupters should be considered.
6. Avoid building soil stockpiles on impervious surfaces.
7. Linear sediment trap surrounding the stockpile base may be used to control sediment.

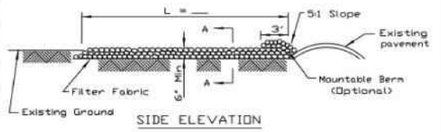
REFERENCE
Project
Designed Date
Checked Date
Approved Date

STANDARD DWG. NO. IUM-627
SHEET 1 OF 1
DATE JANUARY 2017

STABILIZED CONSTRUCTION ENTRANCE PLAN



PLAN VIEW



SIDE ELEVATION

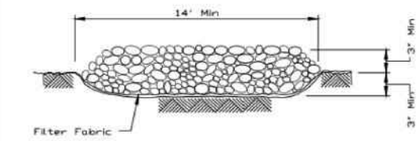
NOTES:
1. Filter fabric shall meet the requirements of material specification 592 GEOTEXTILE, Table I or 2, Class I, II or IV and shall be placed over the cleared area prior to the placing of rock.
2. Rock or reclaimed concrete shall meet one of the following IDOT coarse aggregate gradation, CA-1, CA-2, CA-3 or CA-4 and be placed according to construction specification 25 ROCKFILL using placement Method 1 and Class III compaction.
3. Any drainage facilities required because of washing shall be constructed according to manufacturers specifications.
4. If wash rocks are used they shall be installed according to the manufacturer's specifications.

REFERENCE
Project
Designed Date
Checked Date
Approved Date

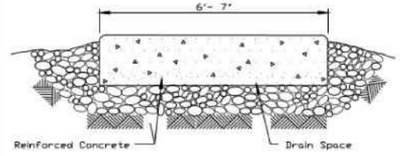
NRCS Natural Resources Conservation Service

STANDARD DWG. NO. IL-630
SHEET 1 OF 2
DATE 8-18-94

STABILIZED CONSTRUCTION ENTRANCE PLAN



SECTION A-A

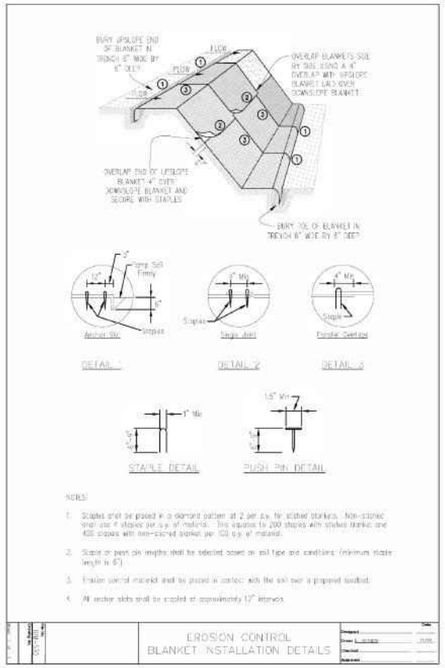


SECTION B-B

REFERENCE
Project
Designed Date
Checked Date
Approved Date

NRCS Natural Resources Conservation Service

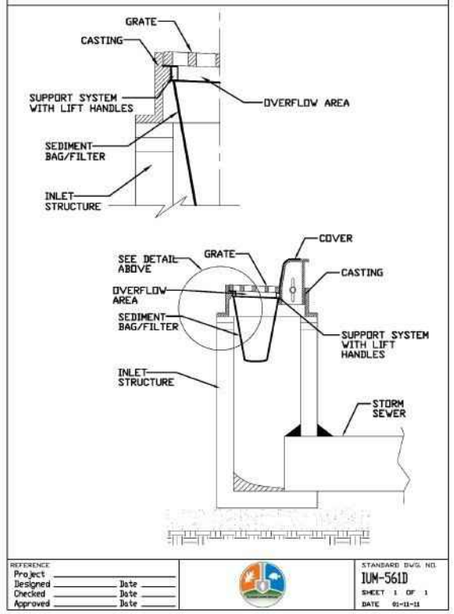
STANDARD DWG. NO. IL-630
SHEET 2 OF 2
DATE 8-18-94



NOTES:
1. Staples shall be placed in a diamond pattern at 2 per s.y. for stapled blankets. Non-stapled shall use 4 staples per s.y. of material. This equates to 200 staples with stapled blankets and 400 staples with non-stapled blanket per 100 s.y. of material.
2. Staple or pegs pin lengths shall be selected based on soil type and conditions (minimum staple length is 6").
3. Erosion control material shall be placed in contact with the soil over a prepared seedbed.
4. All anchor slots shall be stapled at approximately 12" intervals.

EROSION CONTROL BLANKET INSTALLATION DETAILS

INLET PROTECTION - PAVED AREAS
DROP-IN PROTECTION

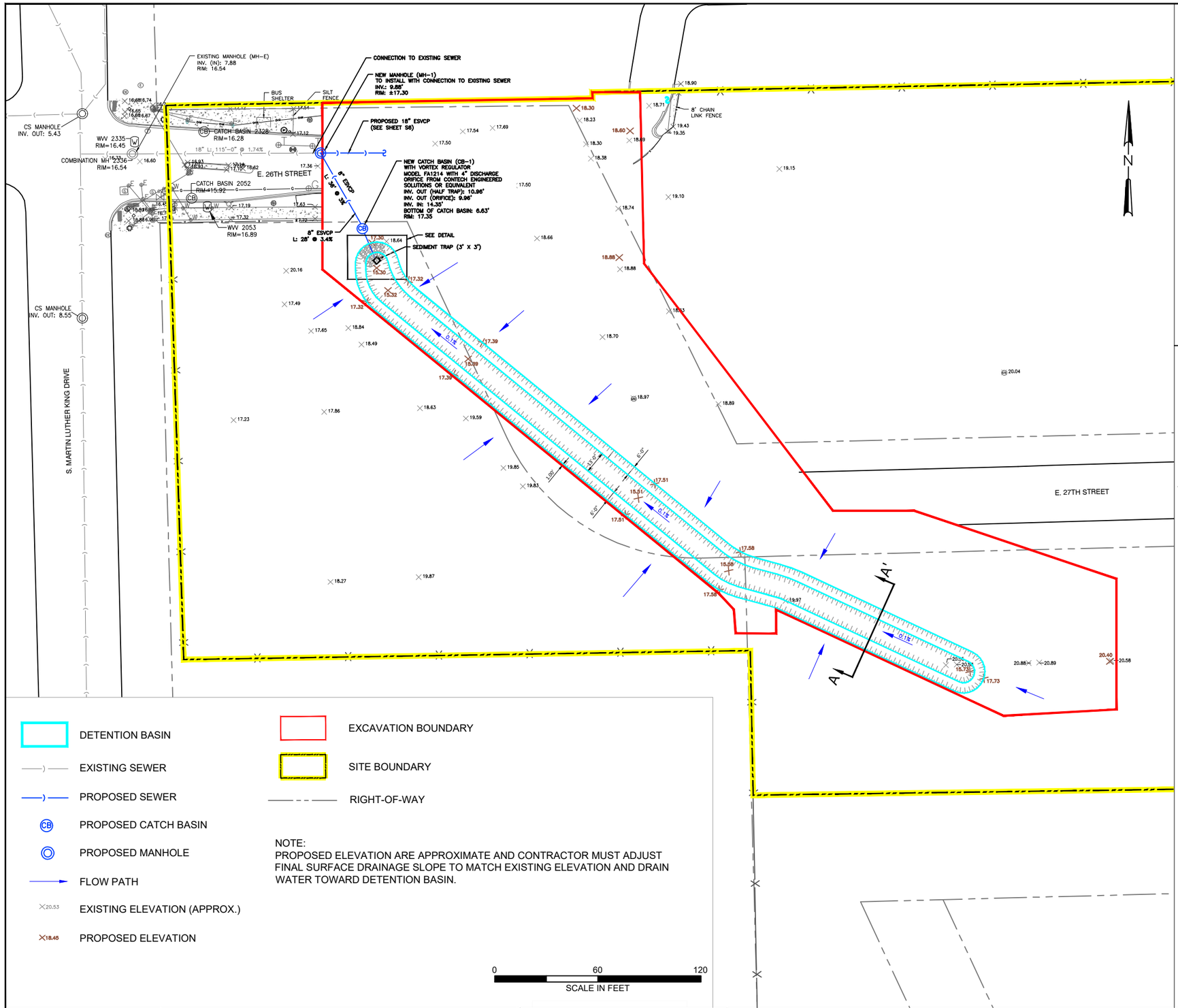


REFERENCE
Project
Designed Date
Checked Date
Approved Date

STANDARD DWG. NO. IUM-561D
SHEET 1 OF 1
DATE 01-11-18

DESIGNED: C. NISSEN DRAWN: M.BANH PROJECT NO. 103S328401004 DATE: JULY 2019	DEPARTMENT OF FLEET AND FACILITY MANAGEMENT 30 NORTH LASALLE ST. SUITE 300 CHICAGO, IL 60602 312.744.3900	TETRA TECH 1 SOUTH WACKER DR SUITE #3700 CHICAGO, IL 60606 312.201.7700	FORMER CARNOTITE REDUCTION COMPANY SITE 434 E. 26th STREET CHICAGO, ILLINOIS	SCALES: HORIZONTAL SCALE: AS SHOWN VERTICAL SCALE: N/A	**EROSION CONTROL DETAIL**	SHEET **C-10**

7/19/2019 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2019-07\C10-ErosionControlDetail.mxd m.banh

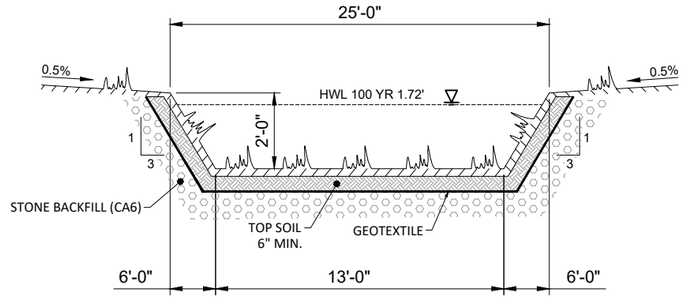


DETENTION BASIN
EXISTING SEWER
PROPOSED SEWER
PROPOSED CATCH BASIN
PROPOSED MANHOLE
FLOW PATH
EXISTING ELEVATION (APPROX.)
PROPOSED ELEVATION
EXCAVATION BOUNDARY
SITE BOUNDARY
RIGHT-OF-WAY

NOTE:
PROPOSED ELEVATION ARE APPROXIMATE AND CONTRACTOR MUST ADJUST FINAL SURFACE DRAINAGE SLOPE TO MATCH EXISTING ELEVATION AND DRAIN WATER TOWARD DETENTION BASIN.

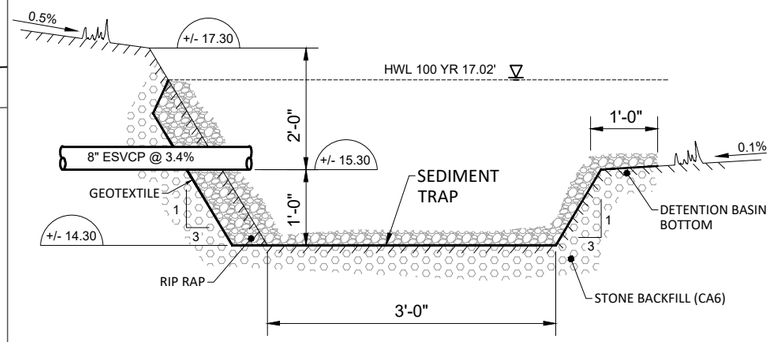
CROSS SECTION A-A'

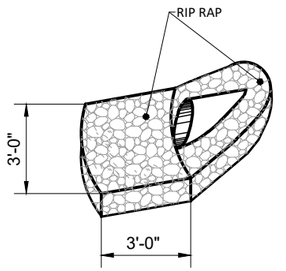
NOT TO SCALE



DETENTION BASIN OUTLET DETAIL

NOT TO SCALE





DESIGNED:	C.NISSEN
DRAWN:	M.BANH
PROJECT NO:	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

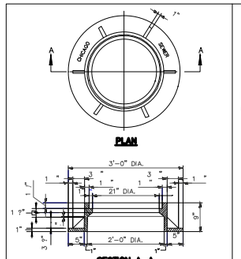
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A

GRADING PLAN AND PROPOSED STORM SEWER

SHEET
C-11

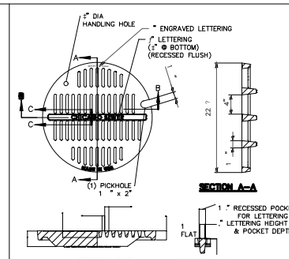
G:\S\3284 Chicago 2FM\01004 Carnotite\dwg\2020-01\C11-PropSewerLines.dwg



NOTE: METAL PLATES MUST BE FURNISHED FOR PERFORATED LIDS ON MANHOLES.

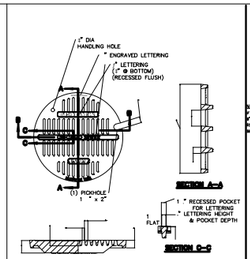
HEAVYWEIGHT MANHOLE FRAME

MATERIAL: CAST IRON



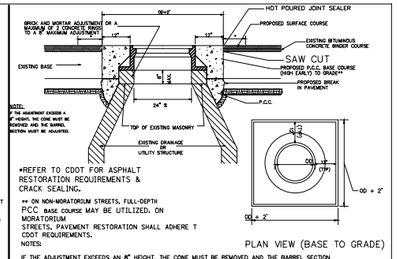
MATERIALS
GRATE-GRAY IRON ASTM A48 CL35B
DESIGN LOAD
HEAVY DUTY
COATING
UNDIPPED
OPEN AREA
85.6 SQ. IN.

STANDARD CB/MH LID



MATERIALS
GRATE-GRAY IRON
ASTM A48 CL35B
DESIGN LOAD
HEAVY DUTY
COATING
UNDIPPED
OPEN AREA
85.6 SQ. IN.

STANDARD LID FOR INFILTRATION SYSTEMS



*REFER TO CDOT FOR ASPHALT RESTORATION REQUIREMENTS & CRACK SEALING.

** ON NON-MORATORIUM STREETS, FULL-DEPTH P.C.C. BASE COURSE MAY BE UTILIZED. ON MORATORIUM STREETS, PAVEMENT RESTORATION SHALL ADHERE T CDOT REQUIREMENTS.

NOTES:

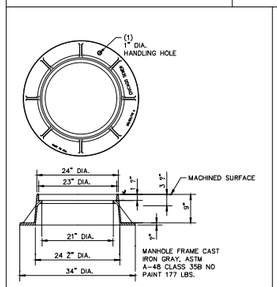
IF THE ADJUSTMENT EXCEEDS AN 8" HEIGHT, THE CONE MUST BE REMOVED AND THE BARREL SECTION MUST BE ADJUSTED.

THE CONTRACTOR IS REQUIRED TO REPLACE ANY BROKEN FRAMES AND LIDS OF SEWER STRUCTURES WITH STANDARD FRAMES AND LIDS OF THE DWM. IN ADJUSTMENT OR RECONSTRUCTION OF SEWER STRUCTURES, ANY NON-STANDARD FRAMES AND LIDS MUST BE REPLACED WITH STANDARD FRAMES AND LIDS. IN ADJUSTMENT OR RECONSTRUCTION OF INLETS, ANY NON-STANDARD INLETS (GUTTER BOXES) MUST BE REPLACED WITH DWM STANDARD INLETS.

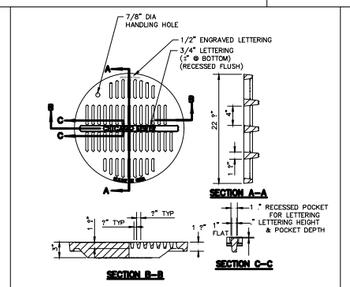
THE FRAMES AND LIDS OF SEWER STRUCTURES TO BE ABANDONED, REMOVED, OR FILLED MUST BE SALVAGED AND THE DWM NOTIFIED FOR PICK UP.

MANHOLES, CATCH BASINS AND INLETS MUST BE PROTECTED FROM THE ENTRY OF ASPHALT/DEBRIS INTO THE SEWER SYSTEM DURING CONSTRUCTION. THE CONTRACTOR MUST MARK LOCATIONS OF ALL SEWER STRUCTURES ON THE SIDEWALK BEFORE STARTING PAVEMENT REMOVAL/REPLACEMENT. ADJUSTMENT OF FRAMES AND LIDS OF SEWER STRUCTURES MUST BE COMPLETED PRIOR TO STREET RESURFACING.

DETAIL OF FRAME ADJUSTMENT



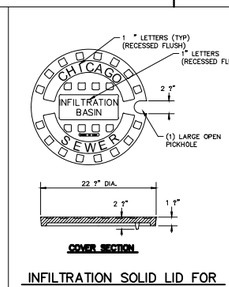
LIGHTWEIGHT MANHOLE FRAME



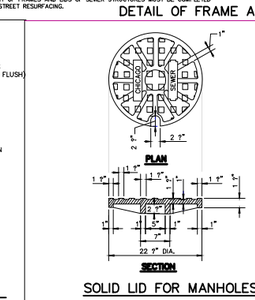
NOTE:
NOT TO BE USED WITHOUT PRIOR APPROVAL OF CDWM

MATERIALS
GRATE-GRAY IRON
ASTM A48 CL35B
DESIGN LOAD
HEAVY DUTY
COATING
UNDIPPED
OPEN AREA
85.6 SQ. IN.

ADA MANHOLE LID



INFILTRATION SOLID LID FOR CATCH BASIN

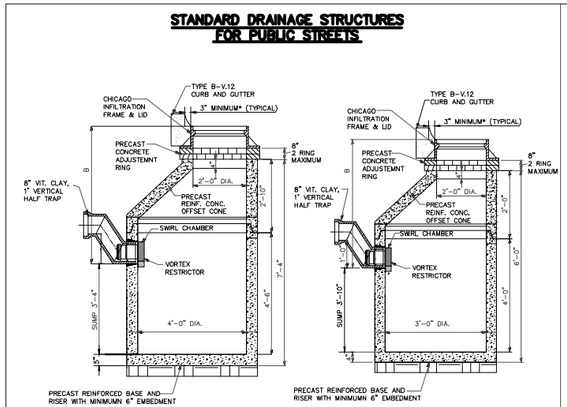


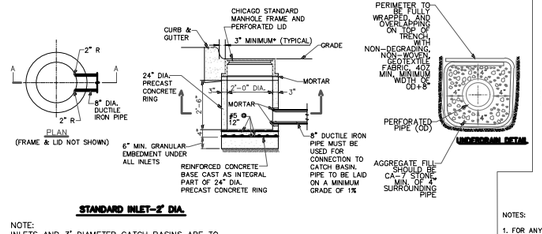
SOLID LID FOR MANHOLES

MANHOLE LIDS AND FRAMES

NOT TO SCALE

STANDARD DRAINAGE STRUCTURES FOR PUBLIC STREETS





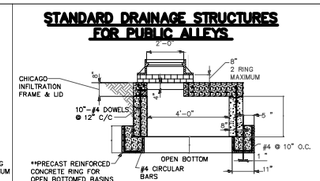
NOTE:
INLETS AND 3' DIAMETER CATCH BASINS ARE TO BE USED ONLY WITH PRIOR APPROVAL OF DWM SEWER ENGINEER OR FIELD INSPECTOR.

FOR TRENCH BACKFILL, USE FA-6 SAND, CRUSHED CONCRETE SAND, OR STONE SAND.

FOR GRANULAR EMBEDMENT, USE CA-11, CRUSHED GRAVEL, CRUSHED STONE, OR CRUSHED CONCRETE.

*OUTER EDGE OF FRAME TO FACE OF CURB

STANDARD DRAINAGE STRUCTURES FOR PUBLIC ALLEYS



GREEN ALLEY OPEN BOTTOM CATCH BASIN

TO BE USED IF STANDARD CONE WITH REQUIRED SUMP DEPTH INSTALLATION IS IMPOSSIBLE.

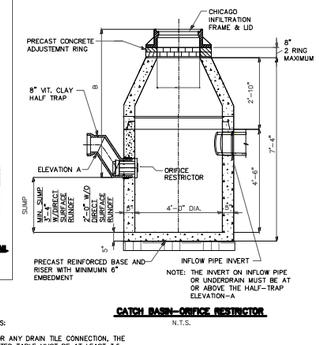
**IF FLAT TOP SLAB CATCH BASIN IS USED IN AN OPEN BOTTOM APPLICATION, THE FOLLOWING CRITERIA MUST BE FOLLOWED:

-"C" MUST BE A MINIMUM OF 3 FEET.

- PROVIDE A MINIMUM AGGREGATE BASE OF 1.0 FEET BELOW PRECAST REINFORCED CONCRETE RING.

-GEOTECH FABRIC MUST BE PLACED ON SIDES AND BOTTOM OF AGGREGATE SURROUNDING BASIN.

--AGGREGATE BASE MUST PROVIDE ADEQUATE STORMWATER STORAGE CAPACITY PER THE APPROVED/PERMITTED PLANS.



CATCH BASIN-ORIFICE RESTRICTOR

N.T.S.

NOTES:

1. FOR ANY DRAIN TILE CONNECTION, THE WATER TABLE MUST BE AT LEAST 3.5 FEET BELOW ELEVATION A.

2. PVC UNDERDRAINS MUST BE 4" MINIMUM DIAMETER, (6" RECOMMENDED) AND MUST BE WRAPPED IN GEOTECH FABRIC.

DRAINAGE STRUCTURES RESTRICTORS

INSERT THE RESTRICTOR INTO THE HALF-TRAP. UPON TIGHTENING OF THE CENTER NUT ON THE FACE OF THE RESTRICTOR, THE RUBBER O-RINGS WILL EXPAND INSIDE THE HALF TRAP, PROVIDING A WATER- TIGHT SEAL. PULL ON RESTRICTOR TO VERIFY THAT A TIGHT FIT IS MADE.

PULL ON RESTRICTOR TO VERIFY THAT A TIGHT FIT IS MADE.

INSERT THE RESTRICTOR WITH THE OPENING DOWN. UPON TIGHTENING OF THE 2 BOLTS ON THE FACE OF THE RESTRICTOR, THE RUBBER O-RINGS WILL PROVIDE A WATER- TIGHT SEAL.

GENERAL NOTES:

1. CATCH BASIN TO CATCH BASIN CONNECTIONS ARE ALLOWED IN PRIVATE SITES & ALLEYS. ONLY THE DOWNSTREAM CATCH BASIN IS REQUIRED TO HAVE A HALF-TRAP.

2. IF B < 4 FEET, THEN USE A DUCTILE IRON PIPE HALF TRAP AND FLAT TOP SLAB CATCH BASIN AS NECESSARY.

3. INLETS AND 3' DIAMETER CATCH BASINS ARE TO BE USED ONLY WITH PRIOR APPROVAL OF DWM FIELD INSPECTOR.

RESTRICTOR NOTES:

THE DWM'S RAIN BLOCKER RESTRICTOR PROGRAM MUST BE MAINTAINED WITH ANY ROADWAY IMPROVEMENT.

THE DESIGN OF ANY ROADWAY IMPROVEMENT MUST CONSIDER LIMITING THE NUMBER OF CATCH BASINS TO THE EXTENT PRACTICAL. THE NUMBER OF EXISTING STRUCTURES SHOULD NOT BE INCREASED.

THE RESTRICTORS CAN BE OBTAINED FROM DWM CENTRAL DISTRICT AT 3901 S. ASHLAND AVE. THE CONTRACTOR SHOULD ARRANGE FOR PICK UP BY CONTACTING 312-747-1177 (7AM TO 3PM, M-F)

FLOW RESTRICTORS MUST BE INSTALLED IN ALL CATCH BASINS OUTSIDE OF THE CENTRAL BUSINESS DISTRICT. RESTRICTORS MUST NOT BE INSTALLED IN CATCH BASINS IN CLOSE PROXIMITY TO VIADUCT AREAS, BUS STOPS, OR EMERGENCY ENTRANCES. THE DWM MUST APPROVE THE NON-INSTALLATION OR REMOVAL OF ANY RESTRICTOR. REQUIREMENTS FOR RESTRICTOR INSTALLATION ARE AS FOLLOWS:

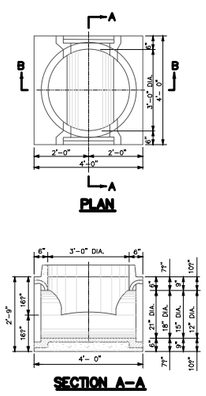
*ARTERIAL STREETS: 3-INCH ORIFICE RESTRICTOR
*BUS ROUTES: 3-INCH ORIFICE RESTRICTOR
*RESIDENTIAL STREETS: 3-INCH VORTEX RESTRICTOR
*ALLEYS: 3-INCH ORIFICE RESTRICTOR IN THE LAST CB.
*CLOSED LIDS ARE REQUIRED ON ALL MANHOLES EXCEPT AT INTERSECTIONS WHERE A PERFORATED LID SHALL BE USED.

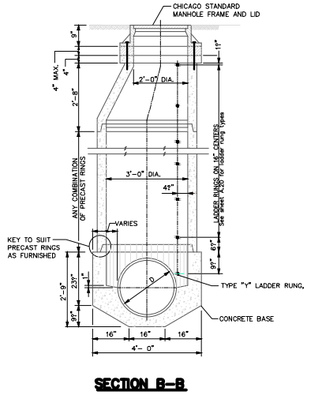
DRAINAGE STRUCTURE DETAILS

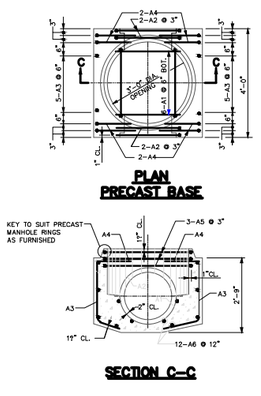
NOT TO SCALE

SCHEDULE OF REINFORCEMENT

STRUCTURE		MARK	REINFORCEMENT BAR SIZE NO.	TYPE	LENGTH	NO. REQD.	WEIGHT - LBS EACH	WEIGHT - LBS TOTAL	BENDING DIMENSIONS A	B	C	D	E	F	G	H	J	K	O	R
BASES FOR TYPE "A" MANHOLES (PRECAST)	21" DIA.	21A1	6	9	3'-1"	8	4.63	28		3'-1"						119"		2'-0"	2'-1"	123"
		21A2	6	T3	8'-8"	4	13.02	52										2'-0"	2'-11"	
		21A3	5	12	3'-3"	10	3.39	34			22"	17"				149"		85"		
		21A4	5	12	4'-6"	8	4.69	38		15"	22"	17"				149"		85"		
		21A5	5	T3	11'-11"	3	12.43	37										20"	3'-39"	
		21A6	4	STR	3'-8"	12	2.45	30												
		TOTAL						219												
	18" DIA.	18A1	6	9	2'-8"	6	4.07	24		2'-8"						92"		22"	112"	
		18A2	6	T3	7'-10"	4	11.83	47										2'-0"	228"	
		18A3	5	12	3'-3"	10	3.39	34			22"	17"				149"		85"		
		18A4	5	12	4'-6"	8	4.69	38		15"	22"	17"				149"		85"		
		18A5	5	T3	11'-11"	3	12.43	37										2'-0"	3'-39"	
		18A6	4	STR	3'-8"	12	2.45	30												
		TOTAL						202												
	15" DIA.	15A1	6	9	2'-39"	6	3.44	21		2.39"						87"		19"	97"	
		15A2	6	T3	7'-1"	4	10.64	42										2'-0"	195"	
		15A3	5	12	3'-3"	10	3.39	34			22"	17"						85"		
		15A4	5	12	4'-6"	8	4.69	38		15"	22"	17"				149"		85"		
		15A5	5	T3	11'-11"	3	12.43	37								149"		20"	3'-39"	
		15A6	4	STR	3'-8"	12	2.45	30												
		TOTAL						202												
	12" DIA.	12A1	6	9	1'-11"	6	2.88	17		2.3"						61"		16"	81"	
		12A2	6	T3	6'-1"	4	9.14	37										2'-0"	165"	
		12A3	5	12	3'-3"	10	3.39	34			22"	17"				149"		85"		
		12A4	5	12	4'-6"	8	4.69	38			22"	17"				149"		85"		
		12A5	5	T3	11'-11"	3	12.43	37										20"	3'-39"	
		12A6	4	STR	3'-8"	12	2.45	30												
		TOTAL						193												







NOTE:
6" MINIMUM GRANULAR EMBEDMENT UNDER ALL PRECAST MANHOLE BASES

TYPE A PRECAST MANHOLE FOR SEWERS 21'' DIA. AND SMALLER

NOT TO SCALE

NOTE:
STORM AND SANITARY DETAILS ARE DOWNLOADED FROM THE CITY OF CHICAGO DEPARTMENT OF WATER MANAGEMENT BUREAU OF ENGINEERING SERVICES

DESIGNED:	C.NISSEN
DRAWN:	M.BANH
PROJECT NO:	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

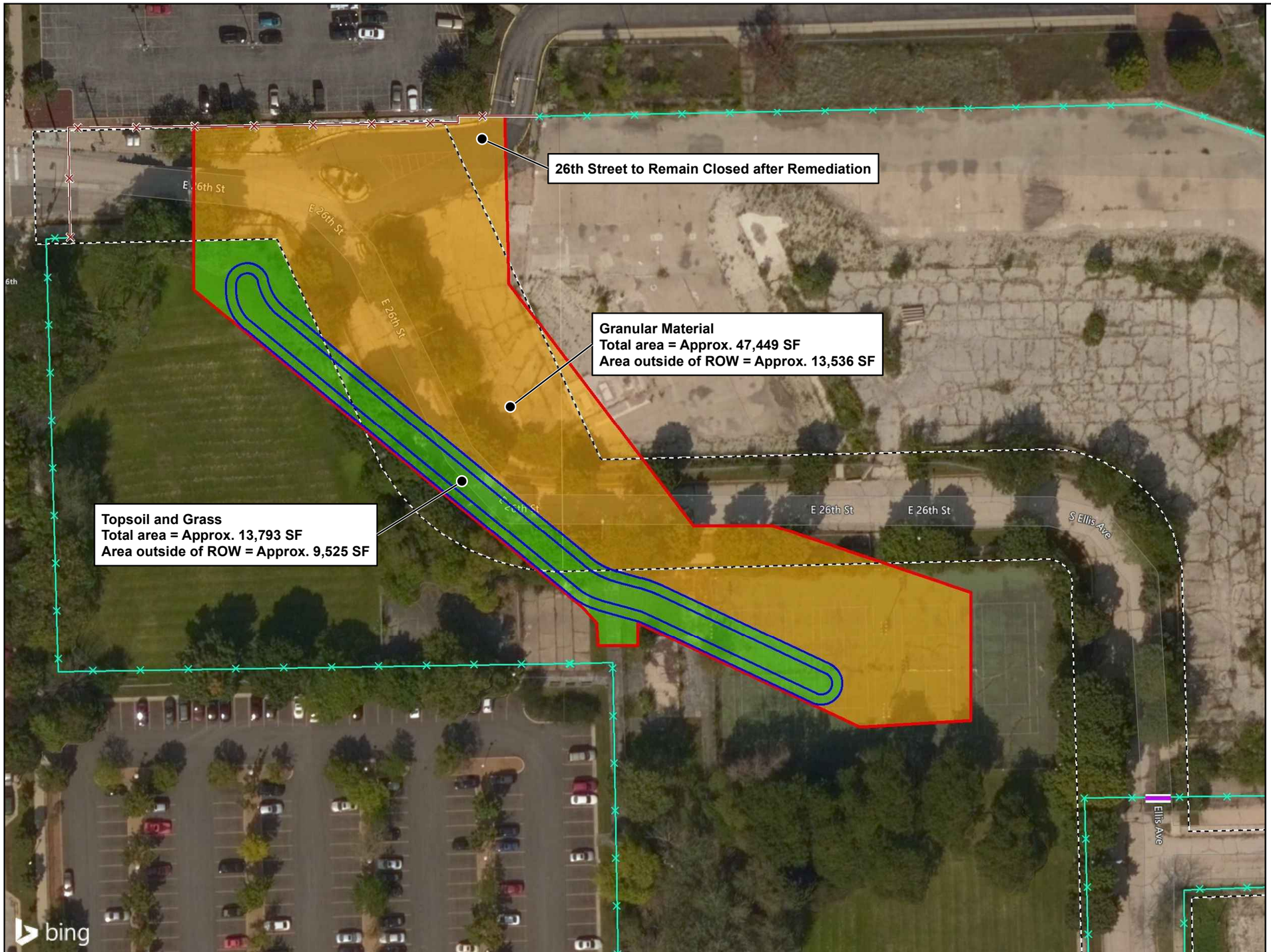
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES
HORIZONTAL SCALE: N/A
VERTICAL SCALE: N/A

STORM SEWER DETAILS

SHEET
C-12

G:\S\3284 Chicago 2FM\01004 Carnotite\dwg\2019-07\C12-SewerDetails.dwg



Legend

- Granular Material
- Topsoil and Grass
- Proposed Detention Basin
- Excavation Boundary
- ROW
- New Permanent Fence
- Fence
- Gate

N

0 60 120

Feet

DESIGNED:	C. NISSEN
DRAWN:	M.BANH
PROJECT NO.	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

TETRA TECH
1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

RESTORATION PLAN

SHEET
C-13

7/29/2019 G:\S\3284 Chicago 2FM\01004 Carnotite\mxd\2019-07\C13-RestorationPlan.mxd m.banh

EXISTING MANHOLE (MH-E)
INV. (IN): 7.88
RIM: 16.54

CONNECTION TO EXISTING SEWER

MANHOLE 1 INSPECTION AND CLEANING OF DEBRIS IN MANHOLE AND LID (AT LEAST TWICE A YEAR)

BUS SHELTER

SILT FENCE

8' CHAIN LINK FENCE

CS MANHOLE
INV. OUT: 5.43

WV 2335
RIM=16.45

CB CATCH BASIN 2328
RIM=16.28

18" L: 115'-0" @ 1.74%

COMBINATION MH 2336
RIM=16.54

PROPOSED 18" ESVCP
(SEE SHEET S6)

E. 26TH STREET

CATCH BASIN 2052
RIM=15.92

WV 2053
RIM=16.89

8" ESVCP
L: 36' @ 3%

NEW CATCH BASIN (CB-1)
WITH VORTEX REGULATOR
MODEL FA1214 WITH 4" DISCHARGE
ORIFICE FROM CONTECH ENGINEERED
SOLUTIONS OR EQUIVALENT
INV. OUT (HALF TRAP): 10.96'
INV. OUT (ORIFICE): 9.96'
INV. IN: 14.35'
BOTTOM OF CATCH BASIN: 6.63'
RIM: 17.35

8" ESVCP
L: 28' @ 3.4%

SEDIMENT TRAP (3' X 3')
SURFACE PONDING WATER 12"
REMOVE SEDIMENT AS NEEDED

CS MANHOLE
INV. OUT: 8.55

S. MARTIN LUTHER KING DRIVE

DRY DETENTION BASIN VISUAL INSPECTION
(AT LEAST TWICE A YEAR) REMOVE SEDIMENT
FROM BASIN BOTTOM (EVERY 5-10 YEARS)
REMOVE DEBRIS AND INVASIVE PLANT (ONCE A YEAR)

E. 27TH S

N

DETENTION BASIN
EXISTING SEWER
PROPOSED SEWER
PROPOSED CATCH BASIN
PROPOSED MANHOLE
FLOW PATH
NEW PERMANENT FENCE
EXISTING ELEVATION (APPROX.)
PROPOSED ELEVATION

EXCAVATION BOUNDARY
SITE BOUNDARY
GATE
RIGHT-OF-WAY

NOTES:
FOR ALL OPERATION AND MAINTENANCE ACTIVITIES, REFER TO 0&M PLAN
ONGOING MAINTENANCE: AIS, BUREAU OF FACILITY OPERATIONS (JULIE BEDORE, 312-744-7594)

0 40 80
SCALE IN FEET

DESIGNED:	C.NISSEN
DRAWN:	M.BANH
PROJECT NO:	103S328401004
DATE:	JULY 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

1 SOUTH WACKER DR
SUITE #3700
CHICAGO, IL 60606
312.201.7700

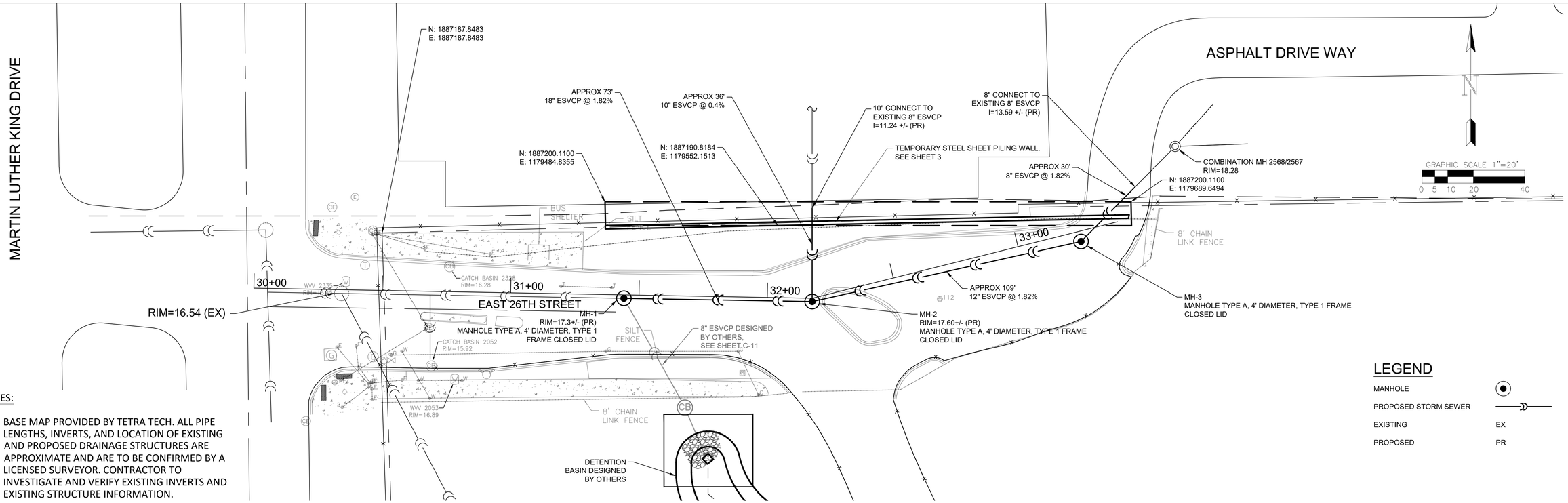
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES
HORIZONTAL SCALE: AS SHOWN
VERTICAL SCALE: N/A

OPERATION AND MAINTENANCE PLAN

SHEET
C-14

G:\S\3284 Chicago 2FM\01004 Carnotite\dwg\2020-01\C14-OperationPlan.dwg

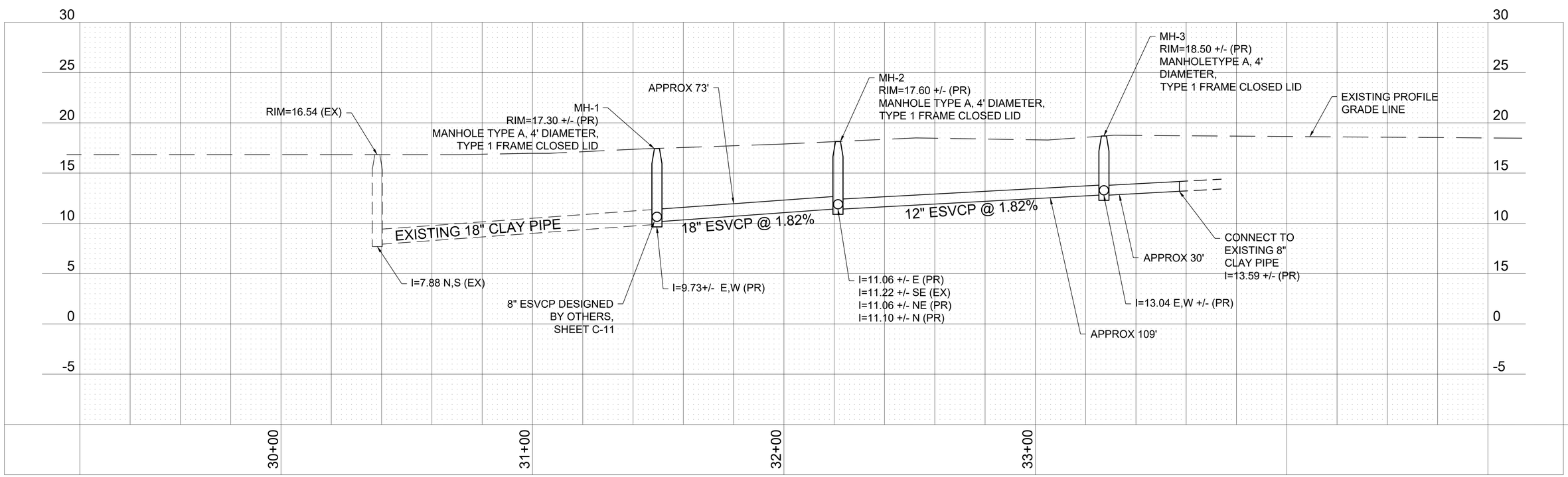


NOTES:

1. BASE MAP PROVIDED BY TETRA TECH. ALL PIPE LENGTHS, INVERTS, AND LOCATION OF EXISTING AND PROPOSED DRAINAGE STRUCTURES ARE APPROXIMATE AND ARE TO BE CONFIRMED BY A LICENSED SURVEYOR. CONTRACTOR TO INVESTIGATE AND VERIFY EXISTING INVERTS AND EXISTING STRUCTURE INFORMATION.

LEGEND

MANHOLE	
PROPOSED STORM SEWER	
EXISTING	EX
PROPOSED	PR



DESIGNED:	W.CUSSEN
DRAWN:	A.NIEVES
PROJECT NO.	103S328401004
DATE:	AUGUST 2019

T:\Tetra Tech\26th Street\26TH STREET.dwg, 3/4/2020 3:07:27 PM, pwhitfield, ANSI expand D (34.00 x 22.00 Inches)

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

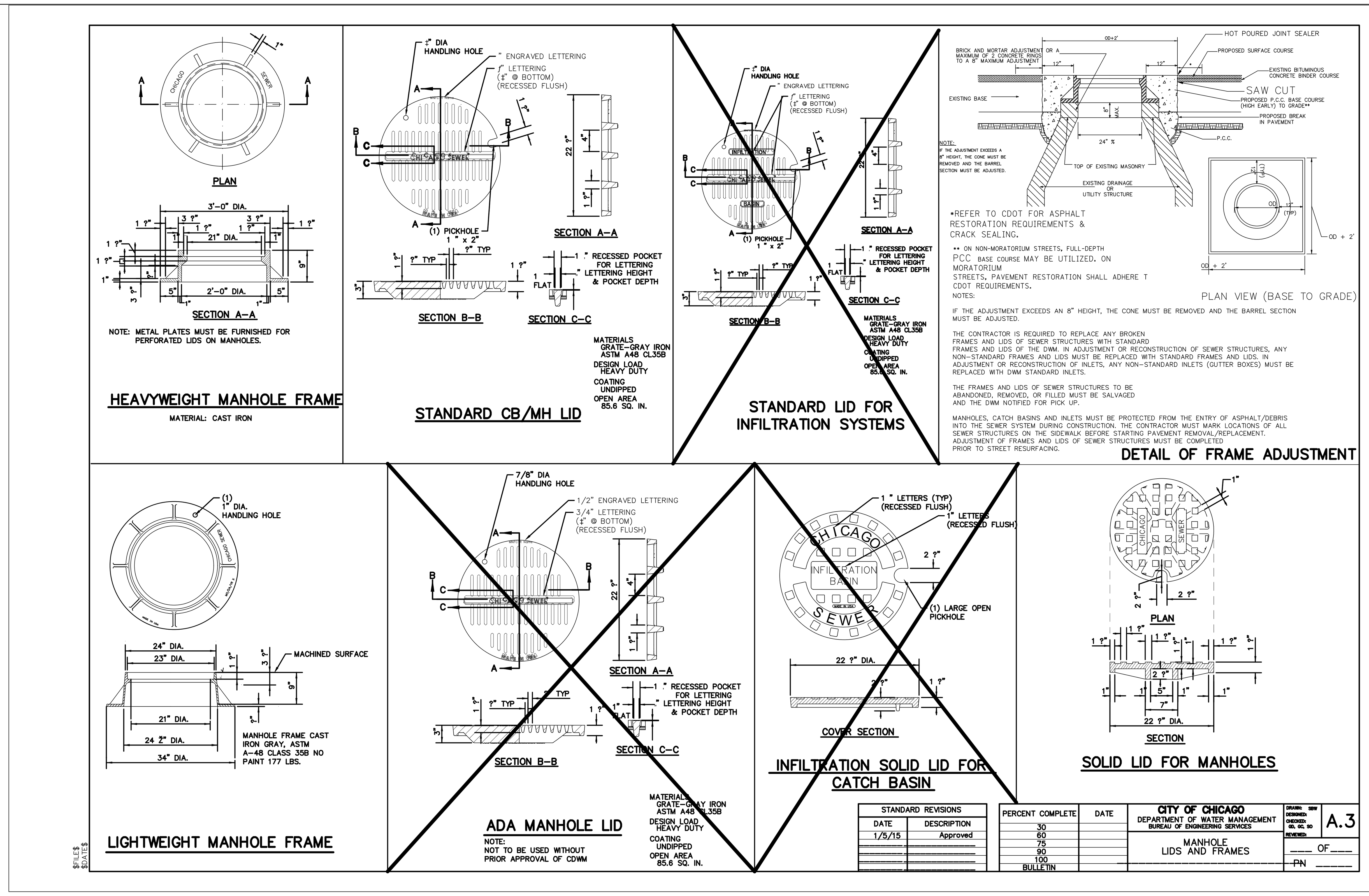
GSG CONSULTANTS, INC.
623 Cooper Court ● Schaumburg, IL 60173
Tel: 630.994.2600 ● Fax: 312.733.5612
www.gsg-consultants.com
Integrity | Quality | Reliability

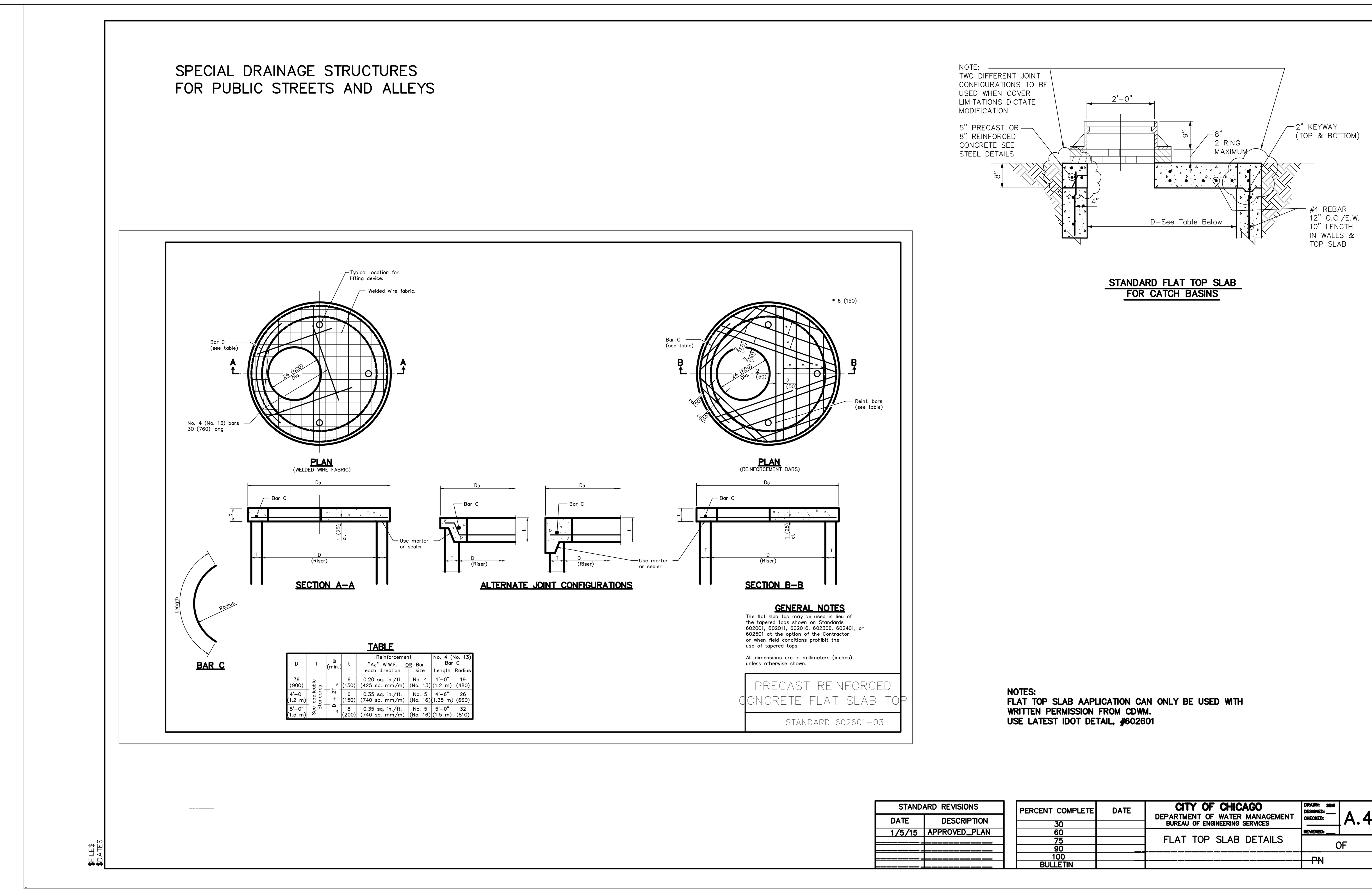
FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

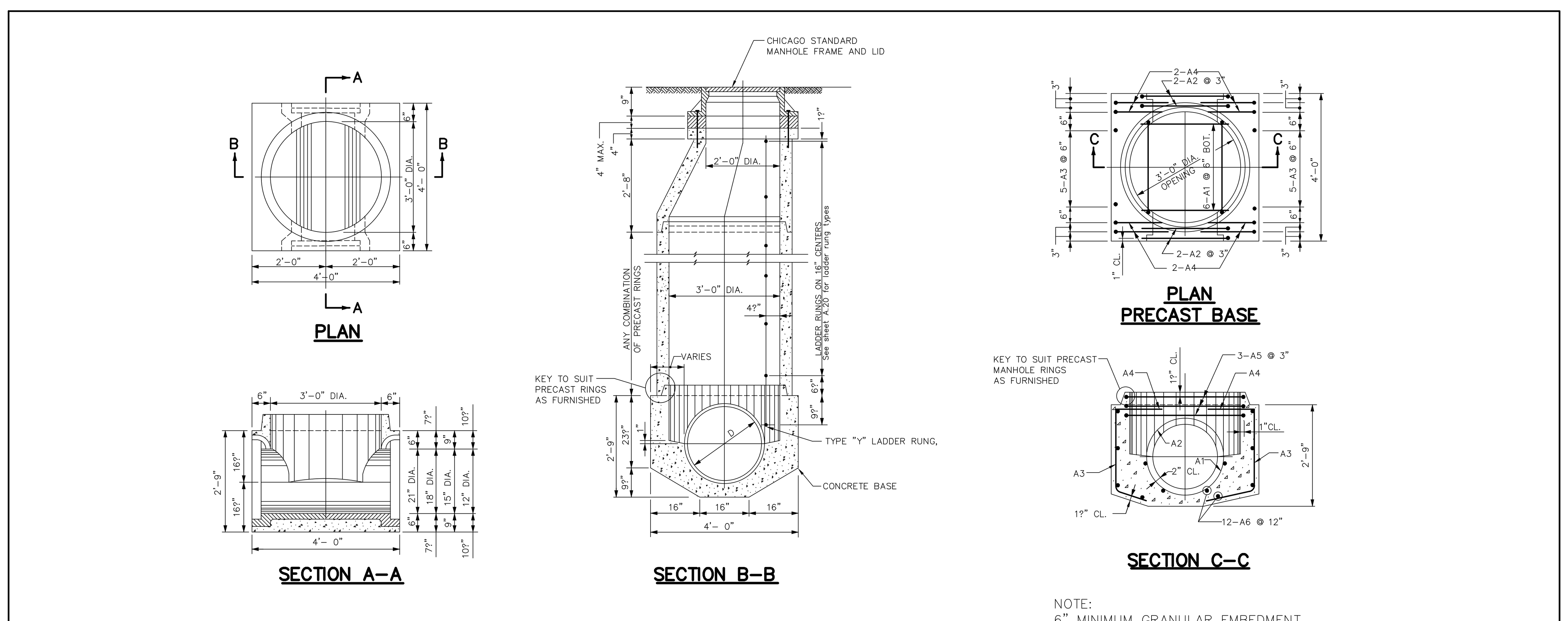
SCALES:
HORIZONTAL SCALE: 1"=20'-0"
VERTICAL SCALE: 1"=5'-0"

SEWER PLAN AND PROFILE

SHEET S-6



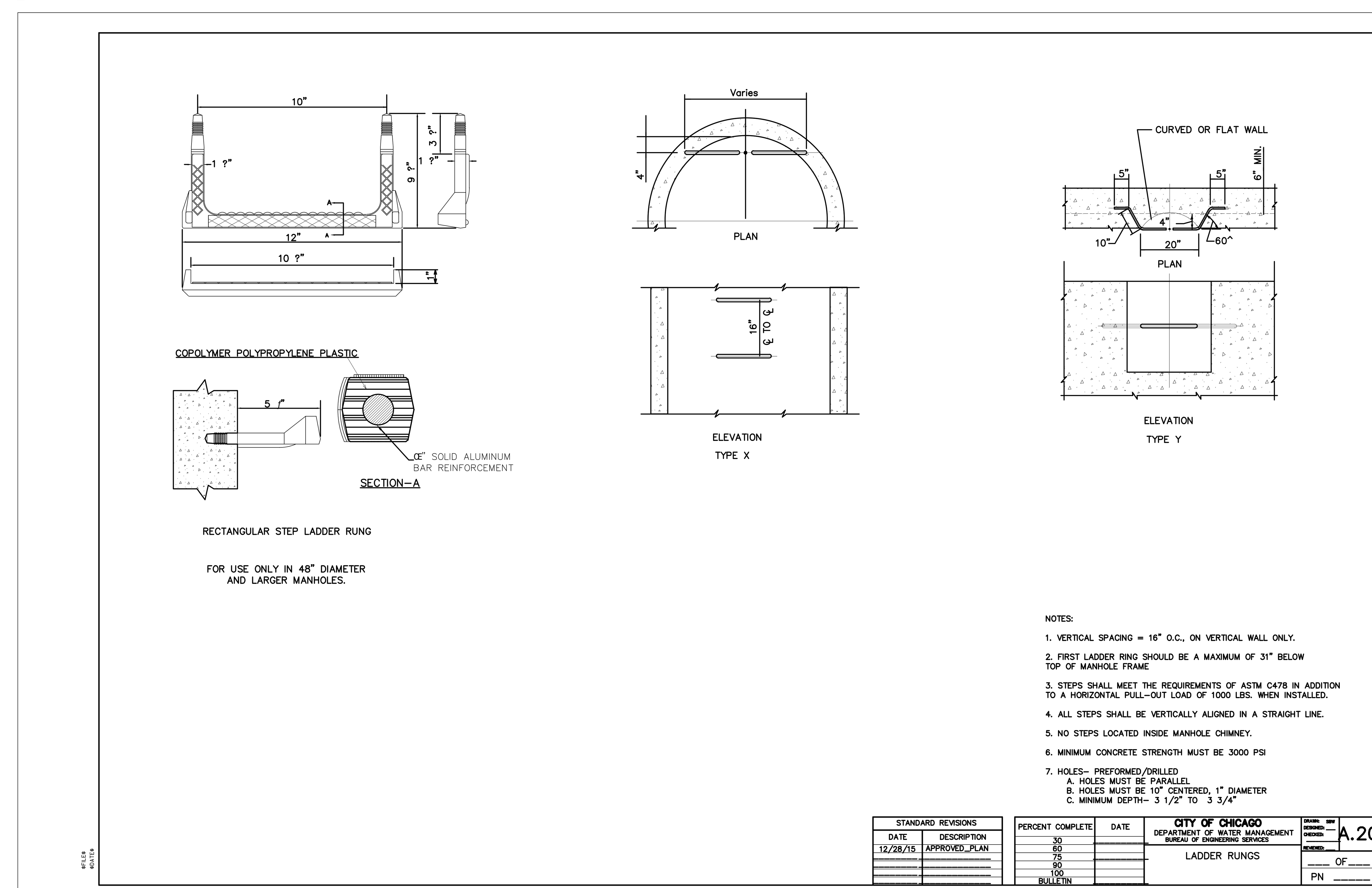




SCHEDULE OF REINFORCEMENT

STRUCTURE		REINFORCEMENT BAR							BENDING DIMENSIONS											
		MARK	SIZE NO.	TYPE	LENGTH	NO. REQD.	WEIGHT – LBS EACH	WEIGHT – LBS TOTAL	A	B	C	D	E	F	G	H	J	K	O	R
BASES FOR TYPE "A" MANHOLES (PRECAST)	21" DIA.	21A1	6	9	3'–1"	6	4.63	28		3'–1"						11?"			2'–1"	12?"
		21A2	6	T3	8'–8"	4	13.02	52										2'–0"	2'–1?"	
		21A3	5	12	3'–3"	10	3.39	34			22"	17"				14?"		8?"		
		21A4	5	12	4'–6"	8	4.69	38		15"	22"	17"				14?"		8?"		
		21A5	5	T3	11'–11"	3	12.43	37										20"	3'–3?"	
		21A6	4	STR	3'–8"	12	2.45	30												
		TOTAL						219												
	18" DIA.	18A1	6	9	2'–8?"	6	4.07	24		2'–8?"							9?"		22"	11?"
		18A2	6	T3	7'–10?"	4	11.83	47										2'–0"	22?"	
		18A3	5	12	3'–3"	10	3.39	34			22"	17"					14?"	8?"		
		18A4	5	12	4'–6"	8	4.69	38		15"	22"	17"					14?"	8?"		
		18A5	5	T3	11'–11"	3	12.43	37										2'–0"	3'–3?"	
		18A6	4	STR	3–8"	12	2.45	30												
		TOTAL						202												
	15" DIA.	15A1	6	9	2'–3?"	6	3.44	21		23?"						8?"			19"	9?"
		15A2	6	T3	7'–1"	4	10.64	42										2'–0"	19?"	
		15A3	5	12	3'–3"	10	3.39	34			22"	17"						8?"		
		15A4	5	12	4'–6"	8	4.69	38		15"	22"	17"				14?"		8?"		
		15A5	5	T3	11'–11"	3	12.43	37								14?"		20"	3'–3?"	
		15A6	4	STR	3'–8"	12	2.45	30												
		TOTAL						202												
	12" DIA.	12A1	6	9	1'–11"	6	2.88	17		23"						6?"			16"	8?"
		12A2	6	T3	6'–1"	4	9.14	37										2'–0"	16?"	
		12A3	5	12	3'–3"	10	3.39	34			22"	17"				14?"		8?"		
		12A4	5	12	4'–6"	8	4.69	38			22"	17"				14?"		8?"		
		12A5	5	T3	11'–11"	3	12.43	37										20"	3'–3?"	
		12A6	4	STR.	3'–8"	12	2.45	30												
		TOTAL						193												

CITY OF CHICAGO
DEPARTMENT OF WATER MANAGEMENT
BUREAU OF ENGINEERING SERVICES
TYPE "A" PRECAST MANHOLE FOR SEWERS 21" DIA. AND SMALLER
A.8



DESIGNED:	W.CUSSEN
DRAWN:	A.NIEVES
PROJECT NO.	103S328401004
DATE:	AUGUST 2019

DEPARTMENT OF FLEET AND FACILITY MANAGEMENT
30 NORTH LASALLE ST. SUITE 300
CHICAGO, IL 60602
312.744.3900

GSG CONSULTANTS, INC.
623 Cooper Court • Schaumburg, IL 60173
Tel: 630.994.2600 • Fax: 312.733.5612
www.gsg-consultants.com
Integrity | Quality | Reliability

FORMER CARNOTITE REDUCTION COMPANY SITE
434 E. 26th STREET
CHICAGO, ILLINOIS

SCALES:
HORIZONTAL SCALE: NTS
VERTICAL SCALE: NTS

CITY OF CHICAGO STANDARD DETAILS

SHEET
S-7

ATTACHMENT 14 – MEMORANDUM FROM THE CITY OF CHICAGO DEPARTMENT OF BUILDINGS

DEPARTMENT OF BUILDINGS

CITY OF CHICAGO

MEMORANDUM

DATE: 12/03/2019

TO: Kristine Schnoes, Tetra Tech

FROM: Andrew Billing, PE, CFM, Lead Stormwater Reviewer
Mackie Consultants, LLC

SUBJECT: Review of Design Plans, dated: **July 2019**

Project Name: **Former Carnotite Reduction Company Site Remediation**
Project Address: **434 E 26th St**
Tracking Number: **N/A**
Designer/Developer: **Tetra Tech**

In response to your submittal of engineering plans and calculations for the above referenced project, we have the following review comments:

1. Attachment 7 Detention Basin Volume Calculations: Since the volume control component of the Stormwater Ordinance is proposed to be met using oversized detention, the detention basin must be sized to provide 14,641 cu ft (12,664 + 1,977), the rate control plus the volume control volumes.

2. Attachment 5 Stormwater Calculations: Add a cut sheet and rating curve for a custom vortex restrictor that will discharge 0.22 cfs under the proposed head conditions.

3. C-11 Grading and Storm Sewer Plan: Specify the manufacturer, model and size of the custom vortex restrictor.

4. The removal of public sewer and installation of public sewer and public MHs must be approved directly by DWM, Sewer Design Section. Please submit this design to Sid Osakada or provide evidence that you are already in the review process with them.

5. C-11 Grading and Storm Sewer Plan: Move CB-1 a few feet south outside the right-of-way.

6. C-14 O&M Plan: Add the owner's certification statement (DWM Standard Detail A.108) with owner's signature and notary.

7. C-14 O&M Plan: List the name and contact information for the individual responsible for ongoing maintenance following construction.

8. C-14 O&M Plan: Changes to the vortex restrictor and CB-1 location must be reflected on this plan. The custom vortex restrictor manufacturer, model and size must be clearly called out.

9. Provide the SESC Affidavit and Infiltration Affidavit when submitting final documents.

10. Revise and resubmit a hard copy of the entire plan set and calculations.

If you have any questions regarding these comments, please call me at 847-774-3821 (cell).

Review

ATTACHMENT 15 – EMAIL ADDRESSING COMMENT NO 1 BETWEEN TETRA TECH AND THE CITY OF CHICAGO DEPARTMENT OF BUILDINGS

Couture, Marika

From: Andrew Billing <abilling@mackieconsult.com>
Sent: Friday, December 6, 2019 3:13 PM
To: Schnoes, Kris
Cc: Couture, Marika; Abigail Mazza
Subject: Re: 434 E 26th St-Review

Kris,

Thank you for clarifying the intent of your calculations in Attachment 7. I understand. Your detention basin is sized adequately to meet the Rate Control + Volume Control volumes together in the one basin. Please disregard my comment 1.

Andrew Billing, PE, CFM, LEED Green Associate
Lead Stormwater Reviewer
Mackie Consultants, LLC, consultant to:
City of Chicago, Department of Buildings
847-774-3821 (cell)

From: Schnoes, Kris <Kris.Schnoes@tetratech.com>
Sent: Thursday, December 5, 2019 11:19 AM
To: Andrew Billing <abilling@mackieconsult.com>
Cc: Couture, Marika <Marika.Couture@tetratech.com>; Abigail Mazza <abby.mazza@cityofchicago.org>
Subject: RE: 434 E 26th St-Review

Andrew,

We have a question regarding your Comment #1: "*Attachment 7 Detention Basin Volume Calculations: Since the volume control component of the Stormwater Ordinance is proposed to be met using oversized detention, the detention basin must be sized to provide 14,641 cu ft (12,664 + 1,977), the rate control plus the volume control volumes.*"

In Attachment 7, the total volume of the basin in section "TOTAL BASIN VOLUME" is 15,784 cubic feet. This includes the volume and the rate control volumes. This volume occurs at a height of 2 feet, where the basin is 25 feet long. The volume calculated in the section "RATE CONTROL VOLUME (100YR)" is to demonstrate that at an elevation of 23.32 feet (HWL line), we provide the rate control volume of 12,664 cubic feet. Therefore, we believe our basin volume meets requirements. If not, could you please clarify your comment? Alternately, we could participate in a call or meeting to discuss.

Thank you again for your assistance.

Kris

Kristine K Schnoes | Environmental Scientist
Direct **(312) 201-7480** | Business **(312) 201-7700** | Mobile **(773) 759-8058** | Kris.Schnoes@tetratech.com

Tetra Tech | Complex World, Clear Solutions™
1 S. Wacker Dr., Suite 3700, Chicago, IL 60606 | tetratech.com

 Please consider the environment before printing. Read More.

From: Andrew Billing <abilling@mackieconsult.com>
Sent: Tuesday, December 03, 2019 10:14 AM
To: Schnoes, Kris <Kris.Schnoes@tetratech.com>
Cc: Couture, Marika <Marika.Couture@tetratech.com>
Subject: 434 E 26th St-Review

Kris/Marika,

Here are my comments on your project at 434 E 26th St.

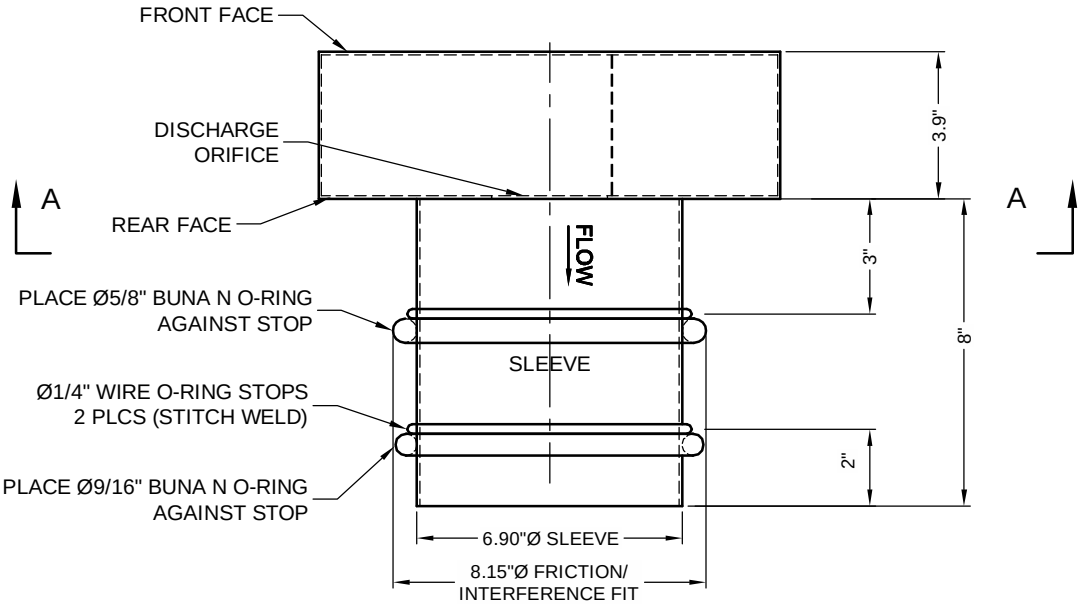
Please let me know if you have any questions.

Andrew Billing, PE, CFM, LEED Green Associate
Lead Stormwater Reviewer
Mackie Consultants, LLC, consultant to:
City of Chicago, Department of Buildings
847-774-3821 (cell)

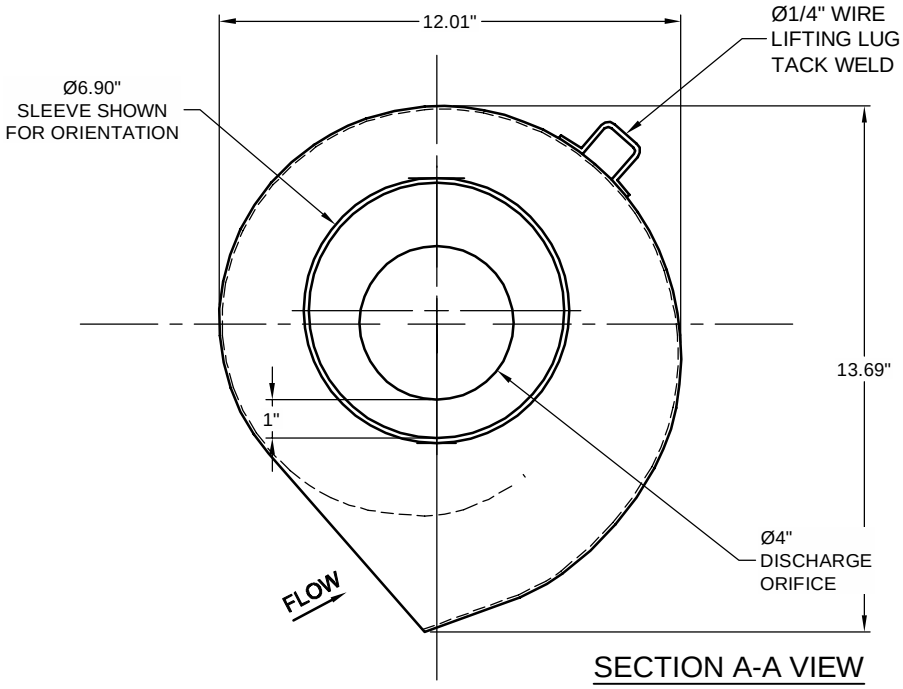
ATTACHMENT 16 – VORTEX REGULATOR DETAILS, RATING CURVE AND CUT SHEET

NOTES

1. ALL WELDS CONTINUOUS, UNLESS OTHERWISE NOTED
2. MATERIALS:
   - 1/8" ALUMINUM 5052
   - (1) 5/8" AND (1) 9/16" BUNA N, 50 DUROMETER O-RINGS



TOP VIEW



SECTION A-A VIEW

CONTECH®
ENGINEERED SOLUTIONS LLC
www.contechES.com
200 Enterprise Drive, Scarborough, ME 04074
877-907-8676 207-885-9830 207-885-9825 FAX

FABRICATION DRAWING FOR FLUIDIC-AMP VORTEX VALVE
MODEL FA1214 WITH SLEEVE ATTACHMENT SIZED FOR 8" PIPE (8.0" ID)
PROJECT NAME
LOCATION

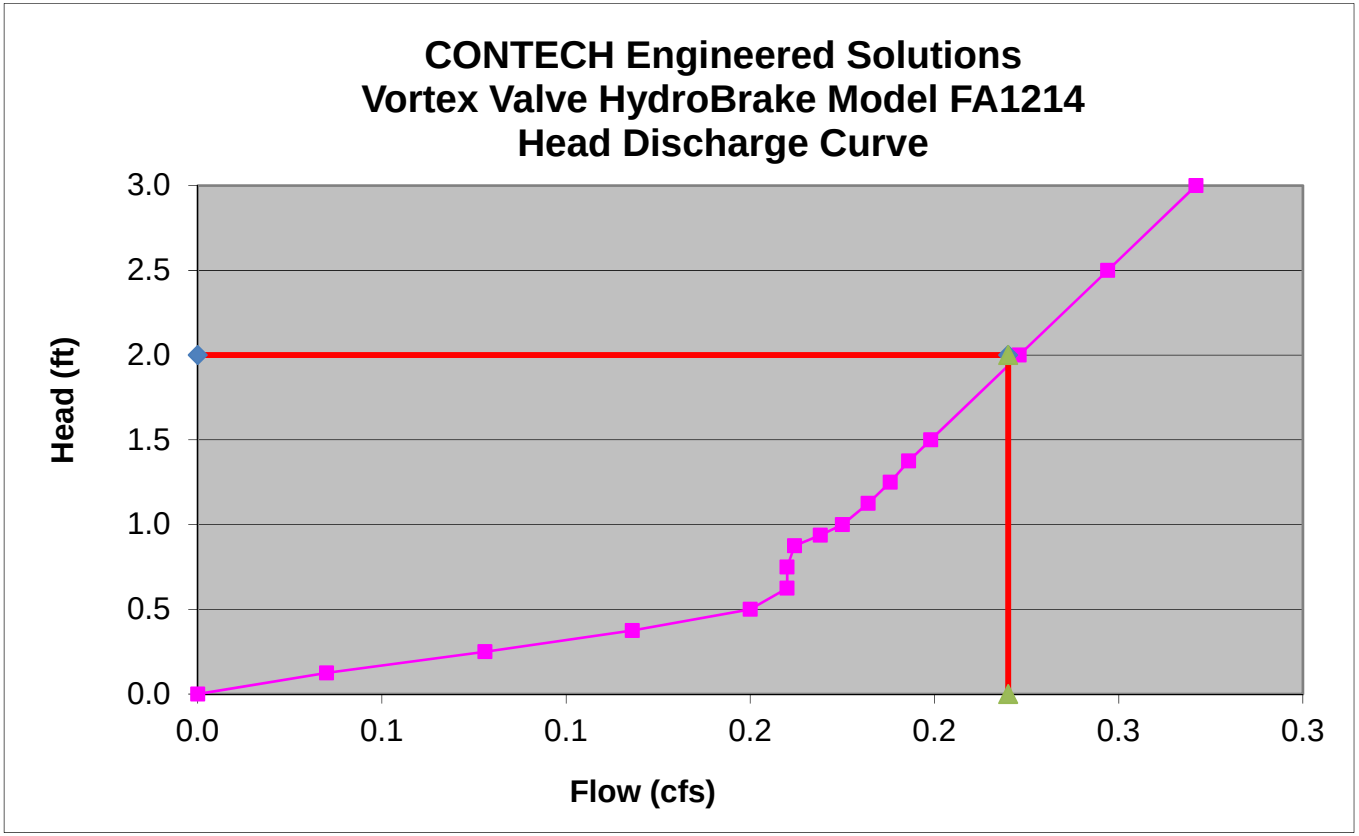
DATE:01/09/2020	SCALE: 1:5	FILE NAME:	DRAWN: NDC	CHECKED: NDC

CONTECH ENGINEERED SOLUTIONS

Vortex Valve FA1214 with 4" Opening

Head (ft)	Flow (cfs)
0	0
0.125	0.035
0.25	0.078
0.375	0.118
0.50	0.150
0.625	0.160
0.75	0.160
0.875	0.162
0.938	0.169
1.00	0.175
1.125	0.182
1.25	0.188
1.375	0.193
1.50	0.199
2.00	0.223
2.50	0.247
3.00	0.271
3.50	0.298
4.00	0.325
4.50	0.351
5.00	0.377
5.50	0.406
6.00	0.435
6.50	0.464
7.00	0.494
7.50	0.526
8.00	0.558
8.50	0.592
9.00	0.626
9.50	0.663
10.00	0.700

Target Head:	2 ft
Target Flow:	0.22 cfs
Achieved Flow:	0.22 cfs



ATTACHMENT 17 – EMAIL CONFIRMING THE SUBMITTAL TO DWM FOR REVIEW

Schnoes, Kris

From: Abigail Mazza <Abby.Mazza@cityofchicago.org>
Sent: Tuesday, March 10, 2020 2:45 PM
To: Brendan Schreiber; Sid Osakada; Girley Abraham
Cc: Anupam Verma; Schnoes, Kris; Nissen, Carol; Kimberly Worthington
Subject: 434 E. 26th Street/Carnotite Sewer Drawing Review Request
Attachments: Carnotite Drawings for DWM 2020-03-10.pdf

Brendan, Sid and Girley,

Attached are sewer drawings for the Carnotite project for your review and feedback ahead of the OUC submittal and as requested by Andrew Billings as part of our stormwater permit application. The drawings include replacement of the sewer within 26th Street in the "north area" impacted by our remedial excavation as well as the sewer lines coming in from the north property from both the north and northeast. These replacements are based on your review of the sewer inspection results summarized below and our own discussions with the north property owner.

Please let me know if you have any comments or concerns or would like to see any of the other sheets. We are finalizing the bid documents for advertisement so would like to get any requested revisions incorporated as soon as possible.

Thanks,

Abby Mazza, P.E. | Environmental Engineer III
City of Chicago | Department of Assets, Information and Services (AIS)
Bureau of Environmental, Health & Safety Management (EHS)
30 N. LaSalle St., Suite 300 | Chicago, Illinois 60602-2575
Tel: 312.744.3161 | Fax: 312.744.6451

From: Brendan Schreiber
Sent: Wednesday, August 07, 2019 4:19 PM
To: Abigail Mazza <Abby.Mazza@cityofchicago.org>
Cc: Nissen, Carol <Carol.Nissen@tetratech.com>; Sid Osakada <Sid.Osakada@cityofchicago.org>; Girley Abraham <Girley.Abraham@cityofchicago.org>; Schnoes, Kris Kruk <Kris.Schnoes@tetratech.com>; Anupam Verma <Anupam.Verma@cityofchicago.org>; Kimberly Worthington <Kimberly.Worthington@cityofchicago.org>
Subject: RE: 434 E. 26th Street/Carnotite Sewer Specification and As-Built Drawing Request

Abby,

Attached are the microfilms we were able to track down. As indicated by the drawings, this appears to have been Michael Reese property at one point. Once you compare these to current parcel/property lines you may be able to shed more light on what is and is not connected to the sewer in 26th St and whether the property to the north would be impacted.

Based on the video inspection reports, the sewer designated by Michels as the "south area" can be abandoned and or removed up to MH G as designated by Michels. The "north area" sewer replacement limit will depend on the need of the sewer that has been identified as running east/northeast from MH B. in the Michels report. At a minimum, this sewer will need to be replaced up to the drain connection identified in the Michels report (MH B).