Soil & Fill Relocation Plan
NYSDEC BCP Site #C828023

Location:

55 Vanguard Parkway
Rochester, New York

Prepared for:

City of Rochester
Division of Environmental Quality
Room 300-B
Rochester, New York 14614

LaBella Project No. 210173 Ph 16

December 11, 2020

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Appendices

1.0 INTRODUCTION

The XLI Manufacturing (XLI) property is located at 55 Vanguard Parkway in the City of Rochester, Monroe County, New York, hereinafter referred to as the "Site". XLI intends to add a 31,000 square foot building extension and two parking areas to the property. This 3.89-acre parcel is partially located within the area filling of the Former Emerson Street Landfill (FESL) footprint and partially outside the area of filling. The location of the Site within the FESL is depicted on Figure 1.

The FESL is a former municipal landfill located in Rochester, New York. The FESL is currently listed as a Class "3" site (No. 828023) on the New York State Department of Environmental Conservation (NYSDEC) Registry of Inactive Hazardous Waste Disposal Sites. A "3" classification indicates a site "at which hazardous waste does not presently constitute a threat to the environment." Investigations completed in 1993 updated on-going studies that have been performed in the past by NYSDEC and the City of Rochester to characterize the type, nature, extent, and impact resulting from waste contained in the FESL. The 1993 investigations included an extensive boring and groundwater monitoring program which indicated the majority of waste contained in the FESL is non-hazardous municipal incinerator ash and municipal refuse. Groundwater containing constituents of concern from the landfill are predominantly co-located within areas of former landfilling of the FESL.

Due to the environmental history of the property, any waste-fill generated during site disturbances requires special consideration and management. NYSDEC regulations regarding management of solid waste and fill materials are contained in 6 NYCRR Part 360. A provision has been included in Part 360 that allows for non-hazardous fill material to be properly managed and replaced within the confines of an area where similar material was previously placed (see Part 360.13(c)). Proper management requires that care be taken in planning, monitoring and testing excavated waste-fill material to confirm non-hazardous nature of the excavated materials and allow proper replacement on site (within the confines of the landfill). The City of Rochester's *Guidance for Waste Fill Management During Site Development, Former Emerson Street Landfill* (LaBella, 2013) for the FESL was used as a basis for this site-specific plan.

This Soil & Fill Relocation Plan (SFRP) is intended to provide guidance in the management of soil, fill materials, and water that will be disturbed during the redevelopment activities at the site.

2.0 HISTORICAL SITE SPECIFIC INFORMAITON

This section summarizes the previously completed investigations at the 55 VanGuard Parkway parcel. The previous investigations have included a number of geotechnical and environmental investigations between the 1990s and early 2000s when the current facility was constructed. A summary of the previous subsurface investigations includes the following:

- *Outer Loop Industrial Park Investigation by Empire Soils Investigations, Inc. November 1979* This work did not include environmental chemical testing; however, as part of assessing the FESL for an industrial park some test borings and test pits were conducted. The locations assessed on the 55 Vanguard Parkway parcel included three borings (designated B-7, B-14 and B-15) and three test pits (designated L-1, L-2 and L-5). These previous testing locations were utilized in developing the extent of fill material placement at the FESL and 55 VanGuard Parkway. Copies of the test pit and boring logs from this report are included in Appendix 1.

- *NYSDEC Phase II Investigation by RECRA Environmental, Inc. dated February 1990 -* This initial investigation of the FESL included one boring/well (GW-2) in the southwest corner of the 55 Vanguard Parkway Parcel. This boring did not identify fill material in the overburden. A copy of the boring log from this report are included in Appendix 1.

- *Test Pit and Soil Sampling Program Report by Sear-Brown Group dated May 1995* – This investigation included five (5) test pits on the Site parcel. This included test pits identified as L-1, L-2, L-5, F-1 and F-2. The three "L" series test pits each identified fill materials (ash, cinders and some glass and metal were also identified). The ash thickness in these test pits ranged between approximately 1 ft. and 3 ft. One sample of the fill material was collected from each of the L series test pits and analyzed for Toxicity Characteristic Leachate Procedure (TCLP) Metals. TCLP Metals were not detected above the laboratory detection limits in the three samples analyzed with the exception of Barium in two of the samples; however, the concentrations detected (2.4 and 2.1 mg/L) were well below the toxicity characteristic (100 mg/L). As such, the fill materials were determined to be non-hazardous. The two (2) "F" series test pits did not identify fill materials in these test pits. Copies of the figure, data table and test pit logs from this report are included in Appendix 1.

- *Foundation Design Geotechnical Evaluation, August 2002* – This work did not include environmental chemical testing; however, prior to the construction of the current building a geotechnical evaluation was conducted that assessed the subsurface for geotechnical considerations and the information obtained was utilized to assess the limits of historic filling. Specifically, ten (10) test pits were excavated across the site (TP02-1, TP02-2, TP02-2A and TP02-3 through TP02-9). It should be noted that LaBella only has nine (9) of the test pit logs (TP02-9 was not made available to LaBella). Copies of the test pit logs from this work are included in Appendix 1.

- *Email Report on Drum Removal from Day Environmental, Inc. to NYSDEC/MCDOH dated November 13, 2003* – This work documented the removal of drums from the property that appear to have been placed after closure of the landfill (i.e., shallow burial of drums in an area where only incinerated material was placed during landfill operations). The drums were characterized and removed/disposed of off-site along with impacted soil from around the drum area. Confirmation soil sampling was collected and indicated all samples were non-detect for VOCs or only minor detections were and all were below the current NYSDEC Part 375-6 Unrestricted Use SCOs. The drums were located within the footprint of the current building. A copy of the correspondence and associated laboratory data from this work is

included in Appendix 1.

- *Geotechnical Engineering Report by Terracon dated September 2, 2020* – This work did not include environmental chemical testing; however, as part of the planning process for the proposed building, a geotechnical evaluation was conducted that assessed the subsurface for geotechnical considerations. Specifically, nine (9) test borings were advanced across the site (designated B-1 through B-9). The information obtained from these borings confirmed the limits of fill material identified in previous testing which generally identified fill material (ash, glass, etc.) north of the current building and no fill materials south of the current building. A copy of this report is included in Appendix 1.

These previous investigations were utilized to determine the aerial extent of filling at the 55 Vanguard Parkway and were documented in the June 2011 Soil Vapor Intrusion Assessment Report by LaBella. A copy of Figure 5 and 6 from that report are attached. Figure 5 from that report illustrates the pre-1964 filling area which includes ash fill areas and Figure 6 from that report illustrates the fill thickness. This previous information is consistent with the recent September 2, 2020 geotechnical report information. Based on the significant amount of work over numerous investigations, the aerial and vertical extent of FESL fill materials on the 55 Vanguard Parkway has been accurately delineated with a high degree of confidence.

3.0 REDEVELOPMENT ACTIVITIES

As part of the redevelopment of the Site, the following activities will disturb the subsurface:

- Floor Slab – In order to facilitate pouring a concrete floor slab for the new building, approximately 18-inches of existing soil/fill will be removed.
- Piers/Footers – Approximately 14 footers will require excavation of soils to a depth of 6-feet.
- New Parking Lots – The areas for the new parkings lot will be graded for construction of a new asphalt parking lot, removing a layer of soil/fill between 6- and 48-inches in depth.
- Utilities – Excavation for sewer and water utilities, including piping and catch basins will require excavations up to approximately 6-feet.

The general areas of the redevelopment activities are shown on Figure 1 and are detailed on the XLI development figures also attached in the figures section. Based on discussions with the owner and their consultant team it is estimated that the southern parking lot generated approximately 1,700 cubic yards of spoils. Approximately 200 CY of that material was fill material (ash) and the remaining 1,500 CY of material was soil that was from outside the limits of the FESL fill placement and thus appears to be undisturbed material. In addition, the planned building expansion and parking lot to the north of the current building are estimated to generate approximately 1,800 CY of spoils and it is anticipated that a majority of this material will be fill materials.

4.0 FILL MANAGEMENT PLAN

Based on the extensive previous testing conducted at the 55 Vanguard Parkway parcel that defined the extent and type of fill materials including where fill materials were not previously placed, it is proposed that the materials be managed separately. It is proposed that fill materials and unregulated/ undisturbed native soil be handled and managed separately at either the 1700 Emerson Street or 60 McCrackenville parcels (refer to Figure 1), which are both properties within the FESL owned by the City of Rochester. The ash/fill materials will be covered with 1 ft. of clean material which is will be the soil material from 55 Vanguard Parkway. Based on the timing of the work, the soil material that was already excavated will be relocated and temporarily staged initially and then when the building/northern parking lot are constructed in early 2021, the fill materials will be relocated and then covered with the clean soil material.

In the event that any contaminated materials are encountered (e.g., material with staining, unusual odors or PID readings above background), that material will be segregated and characterized separately for potential disposal off-site at a regulated landfill. This plan follows the intent 6 NYCRR Part 360.13 (c) that allows for that allows for non-hazardous fill material to be properly managed and replaced within the confines of an area where similar material was previously placed. A classification system will be used to field screen and segregate excavated soil and solid waste during construction. The method to screen and segregate soil and solid waste will rely on photo ionization detector (PID) readings, visual evidence of impairment, and olfactory evidence of impairment. Depth to groundwater at the Site is expected to be greater than 8-feet. Due to the relatively shallow nature of the redevelopment excavations, groundwater is not expected to be encountered. [*Note: This area of the FESL is not anticipated to contain contaminants of concern in groundwater based on historical testing. However, in the event that groundwater is encountered, the groundwater will be evaluated/characterized and NYSDEC will be contacted to assess potential options for dewatering.*] Materials excavated for the routing of subsurface utilities will not be screened or segregated if they will be placed back in the same excavation.

4.1 Field Screening Procedures

During excavation, soils will be screened at a rate of approximately every 10 cubic yards excavated. Screening will consist of visual and olfactory observations, supplemented by a photoionization detector. Any significant findings including staining, non-soil fill types, odors, and elevated PID readings will be noted in the site log book, and the associated material will be segregated for management as described below.

4.2 Management Plan for Excavated Materials

Five classes of soil and solid waste may possibly be encountered at the Site. [*Note: As further discussed below, only two of the classes are anticipated to be encountered.*] Each of these classes of material will be managed and handled in a manner dictated by evidence of environmental impairment or regulated solid waste. These classes of material are described in Table 1 Below.

Table 1 Material Classifications

Class of Material	Physical Description	Screening Parameter	Management
Class 1 Material	Clean soil with no identifiable fill/waste materials (e.g. Ash, glass, metal, brick, concrete, etc.)	No Discernable Odor PID readings less than 10 PPM No ash/cinders/slag or other regulated waste	Unrestricted use/placement within the footprint of the former landfill. Can be used as cover material for Class 2 material.
Class 2 Material	FESL Ash/Fill	Visibly identifiable as ash/cinders/slag or other regulated waste (grey color, characteristic appearance)	Off Site removal for placement at 60 McCrackenville Street or 1700 Emerson Street
Class 3 Material	Soil and Fills with odors, staining, or elevated PID readings	Petroleum or Chemical Odors Moderate Staining PID Readings Greater than 10 PPM	Material to remain on 55-Vanguard Parkway, place on polysheeting and cover with polysheeting. Characterize for Off Site disposal at a NYCRR Part 360 landfill
Class 4 Material	Solid waste Physically unacceptable for re-use (e.g. lumber, refuse, metal scrap, rail road ties)	May or may not contain evidence of Impairment or regulated waste	Off-site disposal per 6 NYCRR Part 360 requirements
Class 5 Material	Radiation Contaminated Soil/Fill	Ludlum Radiation Meter readings 2x greater than background	Off-site Disposal at regulated facility

Based on review of environmental and geotechnical reports for the Site, it appears that the majority of the soil and fill that will be encountered at the Site will contain uncontaminated soil (Class 1 Material) and FESL Ash/Fill (Class 2 Material). It is not anticipated that Class 3, Class 4, or Class 5 Material will be encountered; however these classes are included as a contingency.

Class 1 Materials: will be transported to 1700 Emerson Street or 60 McCrackenville for use as cover soil.

Class 2 Materials: will be transported to 1700 Emerson Street or 60 McCrackenville for placement and then covered with clean soil cover.

Class 3 Materials: in general will be excavated and staged on and covered with polyethylene sheeting at 55 Vanguard Parkway. In accordance with NSYDEC solid waste regulations Class 3 Materials will be disposed at a NYCRR Part 360 landfill within 60 days of stockpiling.

Class 4 Materials: will be either directly loaded onto trucks for off-site transport and disposal, or will be stockpiled on 55 Vanguard Parkway for later off-site disposal. Any municipal waste, refuse, metal scrap, or Class 4 Materials that exhibit evidence of impairment will be transported on Part 364 permitted vehicles to a Part 360 permitted landfill. Class 4 Materials are not expected to be encountered during site redevelopment activities.

Class 5 Materials: will be stockpiled for later off site disposal at a permitted landfill. Stockpiled Class 5 Material will be on and covered with polyethylene sheeting. All Class 5 Material will be analyzed for additional waste stream characterization. Stockpiled Class 5 Material will be transported off site for disposal within 60 days. Class 5 Materials are not expected to be encountered during site redevelopment activities.

5.0 DISTURBED MATERIAL QUANTITIES

Initial estimates of quantities of material to be excavated for the redevelopment activities indicate that approximately 3,500 cubic yards of soil and fill materials could be generated from the excavation.

- Anticipated Class 1 Material – 1,500 CY from box-out of southern parking lot area.
- Anticipated Class 2 Material – 2,000 CY; 200 CY from eastern portion of southern parking lot and 1,800 CY from the northern building expansion and northern parking lot.

Note: The total volumes were provided by others and the actual volumes may vary.

6.0 IMPLEMENTATION AND ENVIRONMENTAL MONITORING

During the northern building expansion and parking lot an experienced LaBella Environmental Analyst or Environmental Geologist will be assigned to the project on a full time basis. The on site environmental personnel will be supported by a LaBella Project Manager, and the LaBella Safety Director assigned to the project.

6.1 Fill Relocation

The relocation of fill materials will be completed either by direct loading to trucks for transport to the 60 McCrackenville Street Parcel or in two stages with the excavated materials being temporarily stockpiled at the 55 Vanguard Street parcel and then subsequently moved to the 60 McCrackenville Street or 1700 Emerson Street Parcels.

Should the two stage approach be used, the temporary stockpile will be staged on and covered by Poly sheeting to prevent contamination of the topsoils and/or runoff. The cover will be maintained and monitored until the materials are relocated to the 60 McCrackenville Street or 1700 Emerson Street Parcels.

With either approach, in the event that the materials are not spread and covered immediately upon placing at 60 McCrackenville Street or 1700 Emerson Street Parcels, the materials will also be covered with Poly sheeting until the final cover material is placed and seeded. In addition, subsequent to placing the cover material and seeding/mulching, silt fencing will be placed around the downgradient edge of the berm area and maintained until the vegetative cover is established.

6.2 Sampling

Based on the extensive previous test pitting, test boring and previous analytical testing, sampling to further characterize the materials is not proposed. However, as noted in Section 4.2 above, in the event that any Class 3, 4 or 5 Materials are encountered, these will remain at 55 Vanguard Parkway for characterization and off-site disposal.

6.3 Environmental Monitor Duties

The responsibilities of the environmental monitor with regard to implementation of the FRP are as follows:

- Working with the contractor to pre determine offsite disposal locations.
- Preparation of waste stream profile(s) should Class 3, 4, and 5 Materials should they be encountered.
- Work closely with the contractor to monitor excavations for evidence of environmental impairment, and/or the presence of regulated solid waste. Specifically, this monitoring will include use of a photo-ionization detector (PID) and a radiation meter. The radiation monitor for screening soil/fill material will be a Ludlum 2241 Digital Survey Meter with 44-9 Pancake Probe (or equivalent). The background range will be established at an off-site location (e.g., LaBella's office parking lot). The pancake probe will be used by a slow sweeping (5-8 cm per second) motion about 1 cm away from the soils being tested. Care will be taken to not touch the face of the probe to the soils.
- Make all determinations with regard to the classification of materials as detailed above.
- Direct the contractor as to the proper placement and covering materials at the Site.
- Direct the property owner (XLI) and/or contractor as to the proper staging and covering of Class 3, 4 and 5 Materials during any disposal waste stream characterization activities.
- Sampling, analysis, and any additional waste stream profiling for Class 3, 4 and 5 Materials as required by the receiving part 360 landfill, or the NYSDEC.
- Implementation of the LaBella Health and Safety Plan (HASP) for LaBella personnel at the Site. The contractor and Vampiro Ventures are responsible for their own health and safety plans, but may refer to the attached plan for assistance in developing its own plan.
- Implementation of the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan (CAMP), and Fugitive Dust and Particulate Monitoring Plan, which are included in Appendix 2, during all fill relocation/grading work where there is exposed fill materials.

7.0 HEALT AND SAFETY

LaBella has developed a Site Specific Health and Safety Plan (HASP) for the project prior to the commencement of redevelopment. The HASP is included as Appendix 3.

Personal decontamination procedures shall follow the procedures set forth in LaBella's Health and Safety Plan and the contractor shall supply a suitable container for disposing of personal protective equipment, such as a steel drum. Disposal of PPE is the responsibility of the contractor.

Contractors disturbing subsurface soil and water will need to have a HASP to manage health and safety issues associated with potential exposure to site COC's. LaBella will adhere to its HASP. Contractors working at the site may refer to the LaBella HASP, but will be required to develop their own HASP.

8.0 REPORTING HEALT AND SAFETY

A report documenting the work completed during the project will be prepared by LaBella subsequent to completion of the project. The report will include soil screening results, estimated quantities of each class of material excavated, a description of berm construction activities, CAMP required documentation, and any deviations from the fill plan.

\\Projects2\ProjectsNZ-2\Rochester, City\210173 FESL\55 Vanguard Parkway\FIll Relocation\RPT.2020.12.08 - DRAFT Fill Relocation Plan - 55 VanG Pkwy.docx

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FIGURES

1700 EMERSON STREET -
FILL RELOCATION PARCEL

60 MCCRACKANVILLE ST. -
FILL RELOCATION PARCEL

55 VANGAURD PKWY
PARCEL BOUNDARY

LEXINGTON AVENUE
EMERSON STREET
FERRANO STREET
LEE ROAD
MCCRACKANVILLE ST
COLFAX STREET
POLARIS ROAD
VANGUARD PKWY
MT READ BLVD
390
940

N
W E
S
1:6,000

LEGEND/NOTES:

HAUL ROUTE

XLI EXPANSION AREAS, REFER TO DEVELOPMENT DRAWINGS

1. PARCLE DATA FROM MONROE COUNTY GIS

2. AERIAL IMAGE MAY NOT REPRESENT CURRENT CONDITIONS

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PROJECT/CLIENT
CITY OF ROCHESTER
XLI MANUFACTURING
FILL RELOCATION PLAN

DRAWING TITLE
XLI MANUFACTURING
FILL RELOCATION PLAN

ISSUED FOR
FINAL

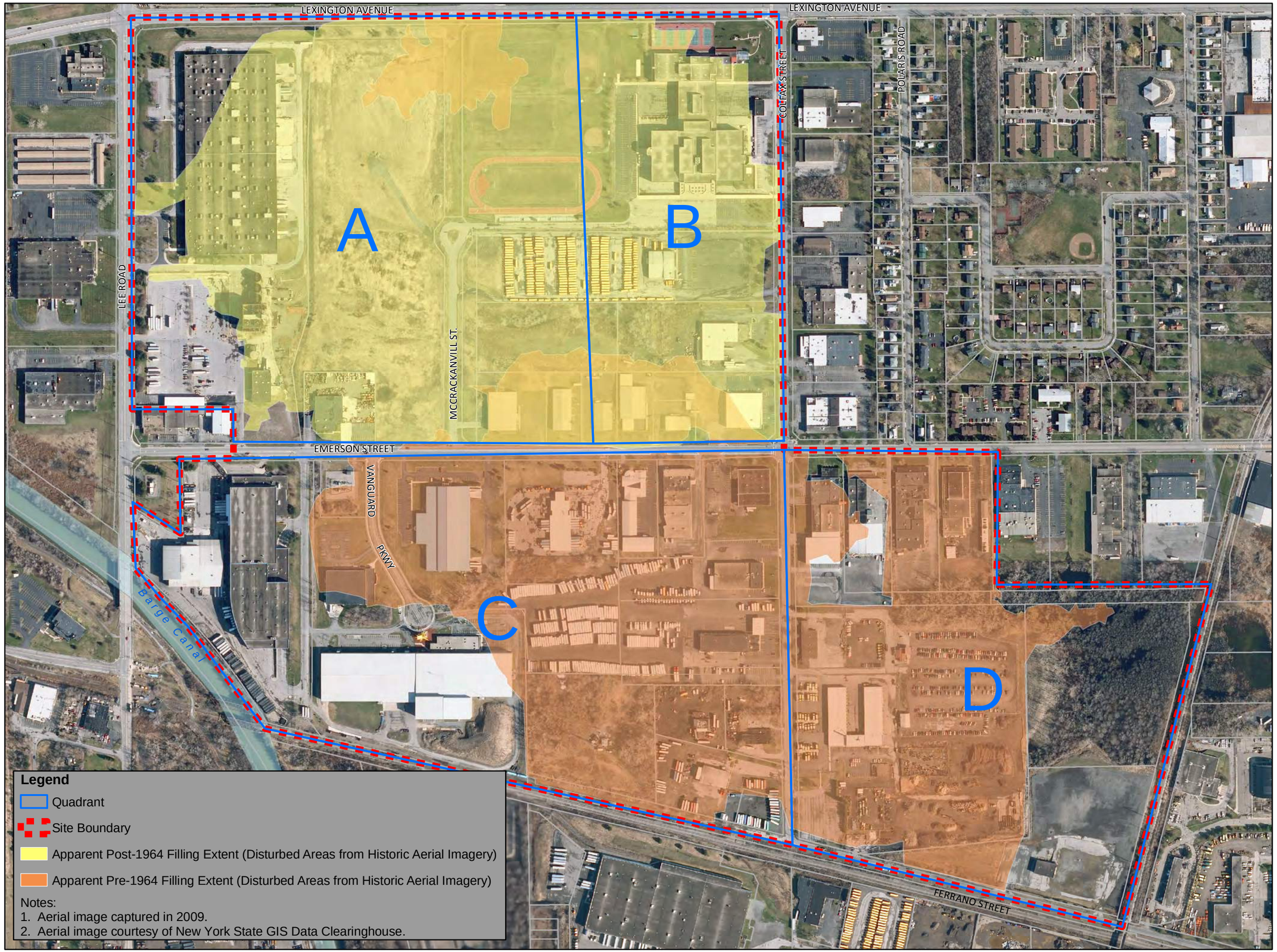
DATE: DECEMBER 2020

DESIGNED BY: RCN
DRAWN BY: RCN
REVIEWED BY: DPN

PROJECT/DRAWING NUMBER
210173

FIGURE 1

JUNE 2011
SOIL VAPOR INTRUSION ASSESSMENT REPORT
FIGURE 5 & 6



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FORMER EMERSON STREET LANDFILL SOIL VAPOR INTRUSION INVESTIGATION

CITY OF ROCHESTER

Total Fill Footprint with Pre- and Post-1964 Filling Areas Defined

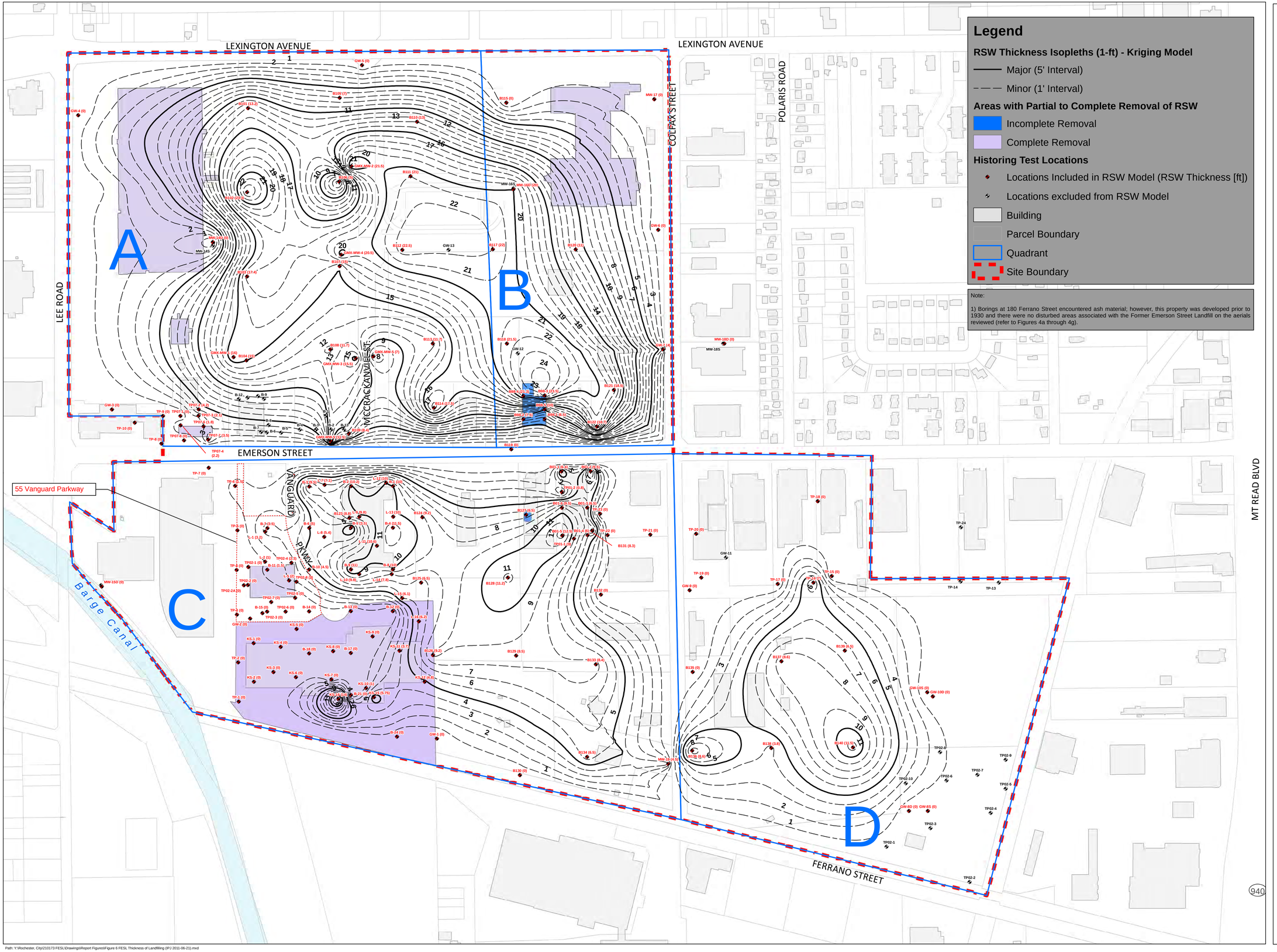
N
W E
S

0 400 Feet

1 inch = 400 feet

210173

FIGURE 5



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FORMER EMERSON STREET LANDFILL SOIL VAPOR INTRUSION INVESTIGATION

CITY OF ROCHESTER

Historic Test Locations with Regulated Solid Waste (RSW) Limitis and Isopleths

210173

FIGURE 6

Path: Y:\Rochester, City\210173 FESL\Drawings\Report Figures\Figure 6 FESL Thickness of Landfilling (RPJ 2011-06-21).mxd

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XLI MANUFACTURING
REDEVELOPMENT FIGURES
BY PASSERO ASSOCIATES

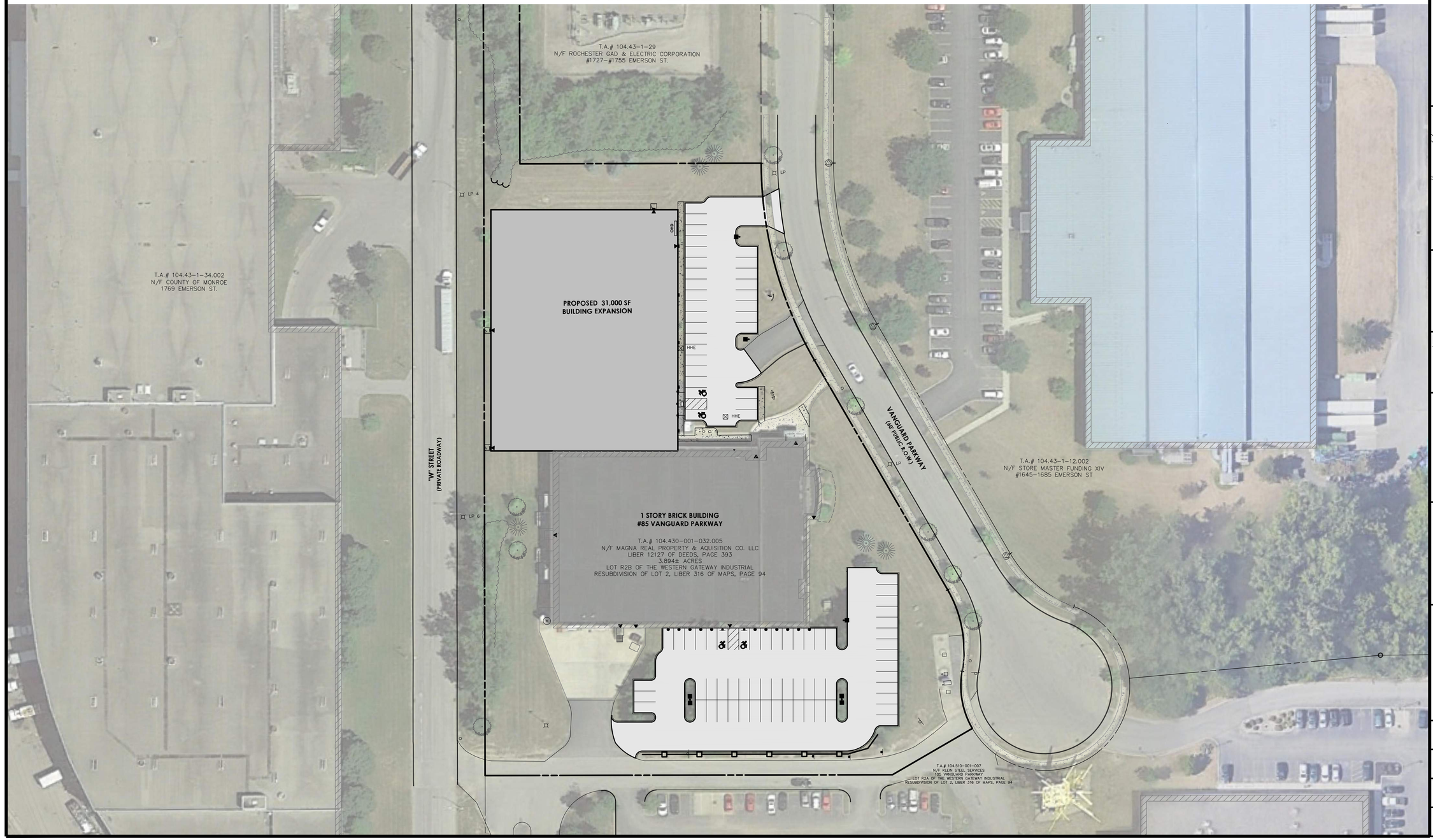
SITE DEVELOPMENT PLANS FOR

XLI MANUFACTURING

CITY OF ROCHESTER, MONROE COUNTY, NEW YORK

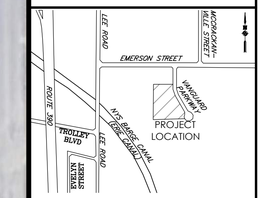
P.N. 20202977.0001

HORIZONTAL SCALE
40 0 20 40 80
SCALE: 1"=40'



PASSERO ASSOCIATES
engineering architecture

DRAWING INDEX



City of Rochester
LOCATION SKETCH

Client:
XLI MANUFACTURING
55 VANGUARD PKWY
ROCHESTER, NY 14606

PASSERO ASSOCIATES
242 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge	Jess Sudol, PE
Project Manager	Tim Harris, PE.
Designed by	Austin Goodwin, EIT.

STATE OF NEW YORK
JESS DANIEL SUDOL
LICENSED PROFESSIONAL ENGINEER
235

Revisions

No.	Date	By	Description
1			

COVER

XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

Project No.
20202977.0001

Drawing No.
C 101

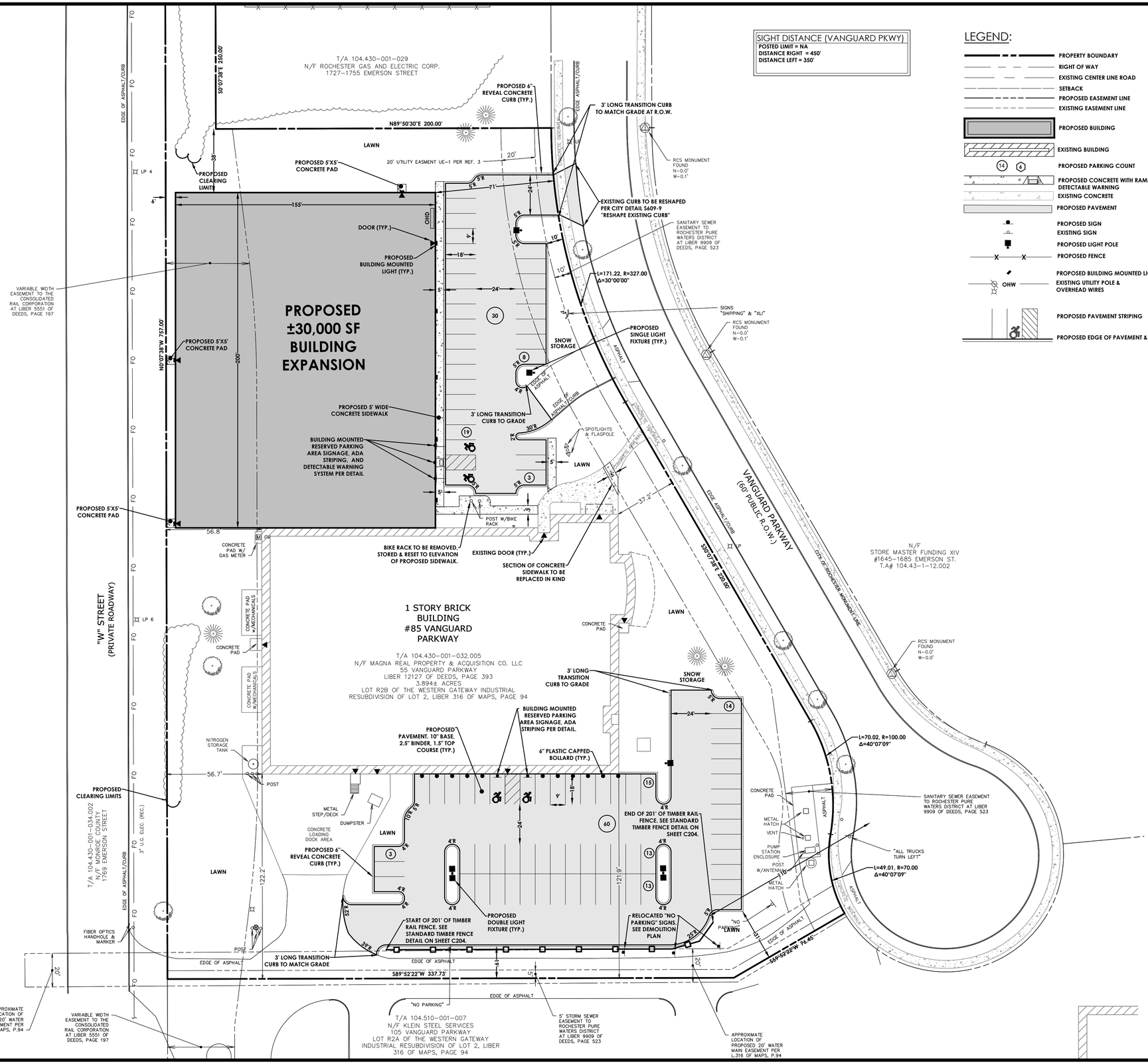
Sheet No.
1

Scale:
1" = 40'

Date
AUGUST 2020

NOT FOR CONSTRUCTION

Y:\PROJECTS-NEW\2020\20202977\20202977.0001\01 CAD - BIM - MODELS\CIVIL\20202977.0001 COVER.DWG 8/28/2020 9:03 AM Austin Goodwin



SIGHT DISTANCE (VANGUARD PKWY)

POSTED LIMIT = NA
DISTANCE RIGHT = 450'
DISTANCE LEFT = 350'

LEGEND:

- PROPERTY BOUNDARY
- RIGHT OF WAY
- EXISTING CENTER LINE ROAD
- SETBACK
- PROPOSED EASEMENT LINE
- EXISTING EASEMENT LINE
- PROPOSED BUILDING
- EXISTING BUILDING
- PROPOSED PARKING COUNT (14 / 4)
- PROPOSED CONCRETE WITH RAMP & DETECTABLE WARNING
- EXISTING CONCRETE
- PROPOSED PAVEMENT
- PROPOSED SIGN
- EXISTING SIGN
- PROPOSED LIGHT POLE
- PROPOSED FENCE
- PROPOSED BUILDING MOUNTED LIGHT
- OHW — EXISTING UTILITY POLE & OVERHEAD WIRES
- PROPOSED PAVEMENT STRIPING
- PROPOSED EDGE OF PAVEMENT & CURB

HORIZONTAL SCALE
30 0 15 30 60
SCALE: 1"=30'

SITE DATA

1. TAX ACCOUNT NUMBER: 104.430-001-032.005
2. PARCEL ADDRESS: 55 VANGUARD PARKWAY, ROCHESTER, NY 14613
3. TOTAL PARCEL AREA: 3.89 ACRES (169,448 SF)
   TOTAL PROJECT AREA: 3.33 ACRES (145,186 SF.)
   TOTAL IMPERVIOUS AREA: 1.08 AC (EXISTING) + 1.50 AC (PROPOSED) = 2.58 ACRES (112,496 SF)
   TOTAL GREENSPACE AREA: 1.31 ACRES (57,064 SF)

EXISTING ZONING: MT REED - EMERSON URD
PROPOSED ZONING: MT REED - EMERSON URD

4. EXISTING USE: MANUFACTURING
5. PROPOSED USE: MANUFACTURING
6. THERE ARE NO FEDERALLY REGULATED WETLANDS ON THIS PARCEL ACCORDING TO THE USACOE FEDERAL WETLAND INVENTORY.
7. THERE ARE NO STATE REGULATED WETLANDS ON THIS PARCEL ACCORDING TO NYSDEC WETLAND INVENTORY.
8. PROPERTY IS LOCATED IN FLOOD PLAIN X (ELEVATION 490) PER FIRM MAP COMMUNITY PANEL NO. 36055C0191G DATED 08/28/2008.
9. PUBLIC WATER WILL BE PROVIDED BY THE ROCHESTER WATER BUREAU
10. ELECTRIC & GAS SERVICE WILL BE SUPPLIED BY RG&E.
11. STORM SEWER AND DRAINAGE FACILITIES WILL BE PRIVATE.
12. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE CURRENT DEVELOPMENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER.

ZONING REQUIREMENTS - (MT REED - EMERSON URD)

	REQUIRED	EXISTING	PROPOSED ADDITION
LOT			
WIDTH	N/A	485'	N/A
DEPTH	N/A	234'	N/A
AREA	N/A	169,448 SF	N/A
BUILDING SETBACK			
FRONT	N/A	37'	71'
SIDE	N/A	122'	38'
REAR	N/A	57'	6'
PARKING SETBACKS			
FRONT YARD SETBACK	10'	12'	10'
BUILDING			
HEIGHT	N/A	30'	30'
GREEN SPACE	N/A	±55%	±40%
DENSITY	N/A	±19%	±37%
PARKING			
STALLS	1 PER 2 EMPLOYEES	53	88
STALL SIZE (PERPENDICULAR)	9'X18'	9'X18	9'X18
DRIVE AISLE WIDTH	24'	24'	24'

NOTES:

1. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY IS TO BE CONSTRUCTED SUCH THAT THE OVERALL AREA IS PEDESTRIAN FRIENDLY, FULLY ACCESSIBLE FOR PERSONS WITH DISABILITIES, AND FULLY COMPLIANT WITH THE PROPOSED GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY (PROWAG)
2. ALL AREAS OF ASPHALT RECONSTRUCTION SHALL RECEIVE 6" ASPHALT BASE, 2" ASPHALT BINDER, 1" ASPHALT TOP COURSE, TO MATCH EXISTING PAVEMENT SECTION.
3. PAVEMENT SAW CUTS ARE TO BE FULL DEPTH, EXTENDING THROUGH THE PAVEMENT BASE COURSE.
4. RECYCLED MATERIALS, PULVERIZED OR RECYCLED PORTLAND CEMENT CONCRETE AGGREGATE (RCA) BRICK, RECLAIMED ASPHALT PAVEMENT (RAP), AND CORIAN ARE UNACCEPTABLE FOR USE AS BACKFILL AND SUBBASE COURSE MATERIALS WITHIN THE PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN APPROVAL OF THE CITY ENGINEER.
5. ALL CURBING ALONG THE PRIVATE DRIVEWAY SHALL STOP AT THE CITY RIGHT OF WAY.

CITY OF ROCHESTER NOTES:

1. ANY WORK WITHIN THE CITY PUBLIC RIGHT-OF-WAY WILL REQUIRE SEPARATE PERMITS FROM DES ENGINEERING BUREAU PERMIT OFFICE; ROOM 121B

APPROVED BY_____ DATE _____
PLANNING BOARD CHAIRMAN

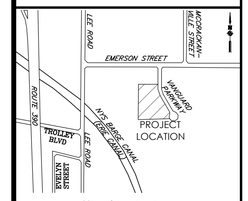
APPROVED BY_____ DATE _____
DIRECTOR OF ENGINEERING AND PLANNING

APPROVED BY_____ DATE _____
DIRECTOR OF BUILDING AND FIRE PREVENTION

APPROVED BY_____ DATE _____
COMMISSIONER OF PUBLIC WORKS

APPROVED BY_____ DATE _____
DRAINAGE, SEWERS AND SIDEWALK DEPARTMENT

PASSERO ASSOCIATES
engineering architecture



City of Rochester
LOCATION SKETCH
N.T.S.

Client:
XLI MANUFACTURING
55 VANGUARD PKWY
ROCHESTER, NY 14606

PASSERO ASSOCIATES
242 West Main Street Suite 100, Rochester, New York 14614 (585) 325-1000 Fax: (585) 325-1691
Principal-in-Charge Jess Sudol, PE
Project Manager Tim Harris, PE.
Designed by Austin Goodwin, EIT.

Revisions

No.	Date	By	Description
1			

SITE PLAN

XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

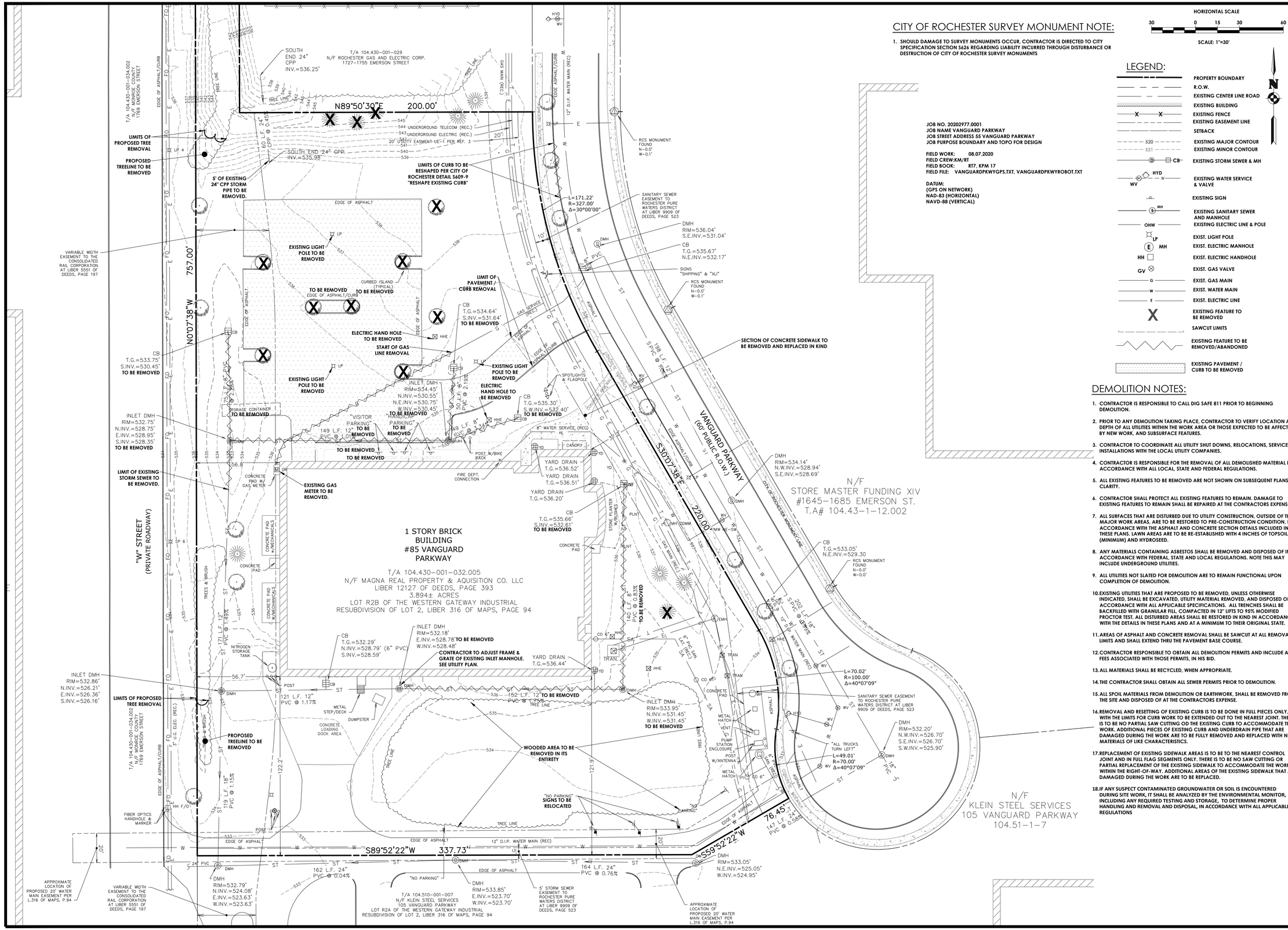
Project No. 20202977.0001

Drawing No. C 102 | Sheet No. 2

Scale: 1" = 30'

Date AUGUST 2020

NOT FOR CONSTRUCTION



CITY OF ROCHESTER SURVEY MONUMENT NOTE:

1. SHOULD DAMAGE TO SURVEY MONUMENTS OCCUR, CONTRACTOR IS DIRECTED TO CITY SPECIFICATION SECTION S626 REGARDING LIABILITY INCURRED THROUGH DISTURBANCE OR DESTRUCTION OF CITY OF ROCHESTER SURVEY MONUMENTS

HORIZONTAL SCALE
30 0 15 30 60
SCALE: 1"=30'

LEGEND:

- PROPERTY BOUNDARY
- R.O.W.
- EXISTING CENTER LINE ROAD
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING EASEMENT LINE
- SETBACK
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER & MH
- EXISTING WATER SERVICE & VALVE
- EXISTING SIGN
- EXISTING SANITARY SEWER AND MANHOLE
- EXISTING ELECTRIC LINE & POLE
- EXIST. LIGHT POLE
- EXIST. ELECTRIC MANHOLE
- EXIST. ELECTRIC HANDHOLE
- EXIST. GAS VALVE
- EXIST. GAS MAIN
- EXIST. WATER MAIN
- EXIST. ELECTRIC LINE
- EXISTING FEATURE TO BE REMOVED
- SAWCUT LIMITS
- EXISTING FEATURE TO BE REMOVED/ABANDONED
- EXISTING PAVEMENT / CURB TO BE REMOVED

JOB NO. 20202977.0001
JOB NAME VANGUARD PARKWAY
JOB STREET ADDRESS 55 VANGUARD PARKWAY
JOB PURPOSE BOUNDARY AND TOPO FOR DESIGN

FIELD WORK: 08.07.2020
FIELD CREW:KM/RT
FIELD BOOK: RT7, KPM 17
FIELD FILE: VANGUARDPKWYGPS.TXT, VANGUARDPKWYROBOT.TXT

DATUM:
(GPS ON NETWORK)
NAD-83 (HORIZONTAL)
NAVD-88 (VERTICAL)

DEMOLITION NOTES:

1. CONTRACTOR IS RESPONSIBLE TO CALL DIG SAFE 811 PRIOR TO BEGINNING DEMOLITION.
2. PRIOR TO ANY DEMOLITION TAKING PLACE, CONTRACTOR TO VERIFY LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE WORK AREA OR THOSE EXPECTED TO BE AFFECTED BY NEW WORK, AND SUBSURFACE FEATURES.
3. CONTRACTOR TO COORDINATE ALL UTILITY SHUT DOWNS, RELOCATIONS, SERVICE INSTALLATIONS WITH THE LOCAL UTILITY COMPANIES.
4. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL DEMOLISHED MATERIAL IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
5. ALL EXISTING FEATURES TO BE REMOVED ARE NOT SHOWN ON SUBSEQUENT PLANS FOR CLARITY.
6. CONTRACTOR SHALL PROTECT ALL EXISTING FEATURES TO REMAIN. DAMAGE TO EXISTING FEATURES TO REMAIN SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
7. ALL SURFACES THAT ARE DISTURBED DUE TO UTILITY CONSTRUCTION, OUTSIDE OF THE MAJOR WORK AREAS, ARE TO BE RESTORED TO PRE-CONSTRUCTION CONDITION, IN ACCORDANCE WITH THE ASPHALT AND CONCRETE SECTION DETAILS INCLUDED IN THESE PLANS. LAWN AREAS ARE TO BE RE-ESTABLISHED WITH 4 INCHES OF TOPSOIL (MINIMUM) AND HYDROSEED.
8. ANY MATERIALS CONTAINING ASBESTOS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. NOTE THIS MAY INCLUDE UNDERGROUND UTILITIES.
9. ALL UTILITIES NOT SLATED FOR DEMOLITION ARE TO REMAIN FUNCTIONAL UPON COMPLETION OF DEMOLITION.
10. EXISTING UTILITIES THAT ARE PROPOSED TO BE REMOVED, UNLESS OTHERWISE INDICATED, SHALL BE EXCAVATED, UTILITY MATERIAL REMOVED, AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE SPECIFICATIONS. ALL TRENCHES SHALL BE BACKFILLED WITH GRANULAR FILL, COMPACTED IN 12" LIFTS TO 95% MODIFIED PROCTOR TEST. ALL DISTURBED AREAS SHALL BE RESTORED IN KIND IN ACCORDANCE WITH THE DETAILS IN THESE PLANS AND AT A MINIMUM TO THEIR ORIGINAL STATE.
11. AREAS OF ASPHALT AND CONCRETE REMOVAL SHALL BE SAWCUT AT ALL REMOVAL LIMITS AND SHALL EXTEND THRU THE PAVEMENT BASE COURSE.
12. CONTRACTOR RESPONSIBLE TO OBTAIN ALL DEMOLITION PERMITS AND INCLUDE ALL FEES ASSOCIATED WITH THOSE PERMITS, IN HIS BID.
13. ALL MATERIALS SHALL BE RECYCLED, WHEN APPROPRIATE.
14. THE CONTRACTOR SHALL OBTAIN ALL SEWER PERMITS PRIOR TO DEMOLITION.
15. ALL SPOIL MATERIALS FROM DEMOLITION OR EARTHWORK, SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT THE CONTRACTORS EXPENSE.
16. REMOVAL AND RESETTING OF EXISTING CURB IS TO BE DONE IN FULL PIECES ONLY, WITH THE LIMITS FOR CURB WORK TO BE EXTENDED OUT TO THE NEAREST JOINT. THERE IS TO BE NO PARTIAL SAW CUTTING OD THE EXISTING CURB TO ACCOMMODATE THE WORK. ADDITIONAL PIECES OF EXISTING CURB AND UNDERDRAIN PIPE THAT ARE DAMAGED DURING THE WORK ARE TO BE FULLY REMOVED AND REPLACED WITH NEW MATERIALS OF LIKE CHARACTERISTICS.
17. REPLACEMENT OF EXISTING SIDEWALK AREAS IS TO BE TO THE NEAREST CONTROL JOINT AND IN FULL FLAG SEGMENTS ONLY. THERE IS TO BE NO SAW CUTTING OR PARTIAL REPLACEMENT OF THE EXISTING SIDEWALK TO ACCOMMODATE THE WORK WITHIN THE RIGHT-OF-WAY. ADDITIONAL AREAS OF THE EXISTING SIDEWALK THAT ARE DAMAGED DURING THE WORK ARE TO BE REPLACED.
18. IF ANY SUSPECT CONTAMINATED GROUNDWATER OR SOIL IS ENCOUNTERED DURING SITE WORK, IT SHALL BE ANALYZED BY THE ENVIRONMENTAL MONITOR, INCLUDING ANY REQUIRED TESTING AND STORAGE, TO DETERMINE PROPER HANDLING AND REMOVAL AND DISPOSAL, IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS

PASSERO ASSOCIATES
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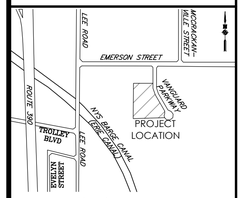

City of Rochester
LOCATION SKETCH

Client:
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55 VANGUARD PKWY
ROCHESTER, NY 14606

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(585) 325-1000 Fax: (585) 325-1691
Principal-in-Charge: Jess Sudol, PE
Project Manager: Tim Harris, PE.
Designed by: Austin Goodwin, EIT.

Revisions

No.	Date	By	Description
1			

EXISTING CONDITIONS / DEMOLITION PLAN XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

Project No.: 20202977.0001

Drawing No.: C 103
Sheet No.: 3

Scale: 1" = 30'

Date: AUGUST 2020

NOT FOR CONSTRUCTION

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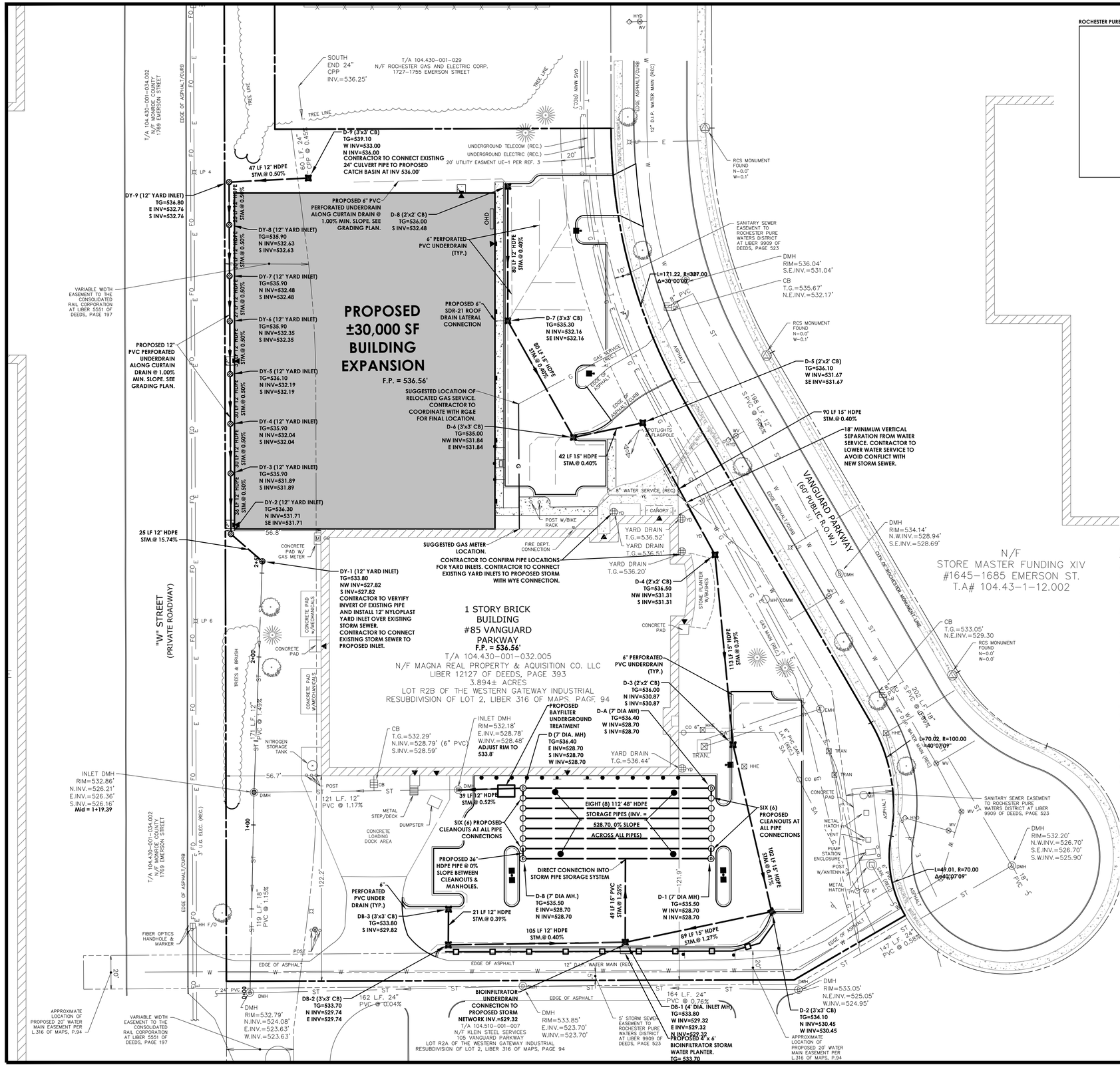


ROCHESTER PURE WATERS DISTRICT

HORIZONTAL SCALE
30 0 15 30 60
SCALE: 1"=30'

LEGEND:

- PROPERTY BOUNDARY
- R.O.W.
- EXISTING CENTER LINE ROAD
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED SIGN
- PROPOSED LIGHT
- PROPOSED STORM SEWER, INLET MH, CB & END SECTION
- PROPOSED 8" STORM LATERAL
- EXISTING STORM SEWER & MH
- PROPOSED WATER SERVICE WITH VALVE, SAMPLING TAP, HYDRANT
- EXISTING WATER SERVICE & VALVE
- PROPOSED SANITARY SEWER SERVICE AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- EXISTING ELECTRIC LINE & POLE
- EXIST. LIGHT POLE
- EXIST. ELECTRIC MANHOLE
- EXIST. ELECTRIC HANDHOLE
- EXIST. GAS VALVE
- EXIST. GAS MAIN
- EXIST. WATER MAIN
- EXIST. ELECTRIC LINE
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING SIGHT LIGHTING ELECTRIC

FORMER EMERSON LANDFILL SITE MANAGEMENT PLAN NOTE:

ALL SUBSURFACE OR INTRUSIVE WORK FOR THE PROJECT SHALL BE IN ACCORDANCE WITH THE FORMER EMERSON LANDFILL SITE MANAGEMENT PLAN, SBL#104.43-1-35.005. WHICH ALSO CONTAINS AN EXCAVATION WORK PLAN AND COMMUNITY AIR MONITORING PLAN. A COPY OF WHICH CAN BE FOUND HERE: www.cityofrochester.gov/eicproperties

HAZARDOUS MATERIALS NOTE:

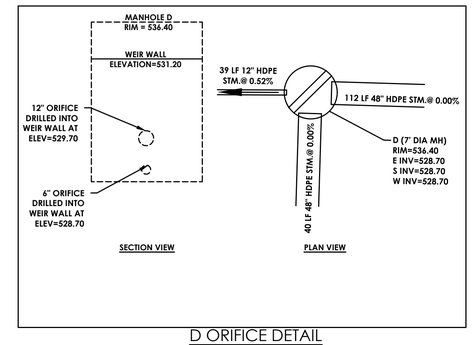
SHOULD ANY SUSPICIOUS OR HAZARDOUS MATERIALS BE ENCOUNTERED DURING CONSTRUCTION, ALL WORK IS TO STOP AND THE NYSDEC & CITY OF ROCHESTER TO BE CONTACTED IMMEDIATELY.

CONTACT INFORMATION: TODD CAFFOE, NYSDEC REGION 8 (585)-226-5350

JOSEPH BIONDOLILLO, CITY OF ROCHESTER (585)-428-6649

MCPW - ROCHESTER PURE WATERS DISTRICT SEWER NOTES:

1. THIS PLAN REQUIRES APPROVAL AND ISSUANCE OF A PLUMBING PERMIT FROM THE CITY OF ROCHESTER PLUMBING DEPARTMENT.
2. PRIOR TO CONSTRUCTION, A SEWER CONNECTION PERMIT MUST BE OBTAINED FROM THE MONROE COUNTY PURE WATERS (MCPW) PERMIT OFFICE AT 145 PAUL ROAD, BUILDING 11, ROCHESTER. NEW YORK 14624, PHONE # 753-7600 (OPT. 5).
3. SEWER CONNECTION PERMIT(S) CAN ONLY BE ISSUED TO A PLUMBER LICENSED IN THE CITY OF ROCHESTER AND WHO IS FULLY INSURED AND BONDED IN THE ROCHESTER PURE WATERS DISTRICT (RPWD). PAYMENT (CHECK OR MONEY ORDER TO "RPWD") OF ALL APPLICABLE PERMIT FEES MUST BE PAID PRIOR TO PERMIT ISSUANCE.
4. THE RPWD SHALL BE NOTIFIED FORTY-EIGHT HOURS IN ADVANCE OF A CONNECTION OR TAP. (753-7600 (OPT. 5)). THE CONTRACTOR SHALL MAKE ALL REQUIRED TAPS TO THE RPWD SEWERS. ALL TAPS AND CONNECTIONS TO DISTRICT UTILITIES MUST BE WITNESSED BY A DISTRICT INSPECTOR.
5. SANITARY/STORM/COMBINATION SEWER LATERAL(S) AND APPURTENANCES SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE *REQUIREMENTS OF THE ROCHESTER PURE WATERS DISTRICT.*
6. CLEANOUTS SHALL BE INSTALLED ON ALL 4" AND 6" DIAMETER SEWER LATERALS AT THE RIGHT-OF-WAY (ROW) LINE, OR THE SEWER EASEMENT LINE WHERE APPLICABLE. (THE SEWER EASEMENT, RIGHT-OF-WAY AND/OR PROPERTY LINE MUST BE STAKED OUT PRIOR TO INSTALLATION OF LOT LINE CLEANOUTS TO ENSURE PROPER LOCATION OF THE CLEANOUTS. [REFER TO CLEANOUT DETAIL FOR PROPER INSTALLATION]).
7. IF AN EXISTING LATERAL IS TO BE UTILIZED, THE PLUMBER/CONTRACTOR MUST ENSURE THAT THE LATERAL IS IN GOOD CONDITION AND IS FREE OF DEBRIS (DIRT, MUD, STONE, ROOTS, ETC.) VIA A VIDEO TAPED INSPECTION PERFORMED BY THE PLUMBER/CONTRACTOR OR HIS/HER/THEIR AGENT, PRIOR TO CONNECTION. THE VIDEO TAPED INSPECTION OF THE EXISTING LATERAL MUST BE PRESENTED TO THE DISTRICT FOR REVIEW AND APPROVAL TO UTILIZE AN EXISTING LATERAL. IT IS THE RESPONSIBILITY OF THE BUILDER OR THEIR AGENT TO CLEAN AND/OR REPLACE THE PIPE/LATERAL AS NEEDED.
8. ANY NEW PORTION OF A SEWER LATERAL INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY AND SEWER EASEMENT MUST BE SDR-21 PVC.
9. ANY EXISTING LATERALS NOT UTILIZED MUST BE ABANDONED TO MONROE COUNTY PURE WATERS (MCPW) STANDARDS AT THE PROPERTY LINE OR, WHERE APPLICABLE, THE SEWER EASEMENT LINE.
10. FLOOR DRAINS IF CONSTRUCTED, SHALL BE CONNECTED TO THE SANITARY/COMBINATION SEWER. FLOOR DRAINS DO NOT INCLUDE FOUNDATION/FOOTER DRAINS. NOTE: ALL DISCHARGES TO THE SANITARY/COMBINATION SEWER MUST COMPLY WITH THE EFFLUENT LIMITS OF THE LOCAL AND/OR MONROE COUNTY SEWER USE LAW.
11. ANY PORTION OF A SEWER/LATERAL WITH LESS THAN FOUR-FEET (4') OF COVER WILL REQUIRE CONCRETE ENCASEMENT. SEWERS/LATERALS WITH LESS THAN THREE-FEET (3') OF COVER ARE NOT ALLOWED.
12. THE REQUIREMENTS OF THE HIGHWAY/PROPERTY OWNER SHALL BE ADHERED TO FOR ITEMS ABOVE THE PIPE BEDDING, INCLUDING, BUT NOT LIMITED TO, MAINTENANCE AND PROTECTION OF TRAFFIC, BACKFILL MATERIAL AND SURFACE RESTORATION.
13. ALL EXISTING AND/OR PROPOSED EASEMENTS AND/OR RIGHT-OF-WAYS (ROW) ARE TO BE STAKED OUT IN THE FIELD BY AN ENGINEER/SURVEYOR PRIOR TO THE START OF ANY SITE CONSTRUCTION/EXCAVATION AND MAINTAINED DURING COURSE OF THE PROJECT TO ENSURE THE PURE WATERS LOT LINE CLEAN OUTS ON THE BUILDING LATERALS ARE PROPERLY PLACED AND THAT NO PERMANENT AND /OR NONPERMANENT STRUCTURES ARE INSTALLED WITHIN EASEMENTS AND/OR ROW. IT IS THE OWNER'S OR THEIR AGENT'S RESPONSIBILITY TO STAKE OUT ALL EASEMENTS. THIS WILL NOT BE THE RESPONSIBILITY OF THE RPWD.



D ORIFICE DETAIL

PASSERO ASSOCIATES
engineering architecture

PASSERO ASSOCIATES
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Principal-in-Charge Jess Sudol, PE
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City of Rochester
LOCATION SKETCH

Client:
XLI MANUFACTURING
55 VANGUARD PKWY
ROCHESTER, NY 14606

Revisions

No.	Date	By	Description
1			

UTILITY PLAN

XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

Project No. 20202977.0001
Drawing No. C 104
Sheet No. 4
Scale: 1" = 30'
Date AUGUST 2020

NOT FOR CONSTRUCTION

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CONSTRUCTION SEQUENCE FOR GRADING AND EROSION CONTROL:

1. INSTALL STABILIZED CONSTRUCTION ENTRANCE.
2. CLEAR AND GRUB THE PROJECT IMPROVEMENTS AREAS.
3. STRIP TOPSOIL AND STOCKPILE FOR LATER USE.
4. GRADE IMPROVEMENTS AREAS WITHIN THE PROJECT SITE. AREAS WHERE CONSTRUCTION ACTIVITY TEMPORARILY CEASES FOR MORE THAN 7 DAYS WILL BE STABILIZED WITH A TEMPORARY SEED AND MULCH WITHIN 7 DAYS OF THE LAST DISTURBANCE.
5. INSTALL UNDERGROUND STORMWATER STORAGE
6. REPLACE TOPSOIL AND FINE GRADE.
7. HYDRO-SEED ALL DISTURBED AREAS WITHIN 10 DAYS AFTER FINAL GRADING. CONTRACTOR IS RESPONSIBLE TO RESEED IF GRADING IS UNSATISFACTORY.
8. UPON APPROVAL OF THE TOWN, REMOVE ALL TEMPORARY SILTATION CONTROLS.
9. SLOPES SHALL NOT EXCEED 1' VERTICAL TO 3' HORIZONTAL MAX. MAINTAIN 1:4 WHERE POSSIBLE.
10. MINIMUM OF 6" OF TOPSOIL IS TO BE PLACED ON ALL GRASS AREAS.
11. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BASED UPON ACTUAL FIELD CONDITIONS AOBE. CONTRACTOR SHALL PROVIDE FOR THIS COST IN HIS CONTRACT.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SILTATION AND EROSION CONTROL MEASURES FROM INSTALLATION THROUGH MAINTENANCE AND REMOVAL AFTER REVEGETATION HAS BEEN ESTABLISHED.
13. ALL END SECTIONS WILL BE PROVIDED WITH RIP-RAP APRONS.
14. ALL EROSION AND SEDIMENT CONTROL METHODS WILL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL

HORIZONTAL SCALE
30 0 15 30 60
SCALE: 1"=30'

LEGEND:

- PROPERTY BOUNDARY
- R.O.W.
- EXISTING CENTER LINE ROAD
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED SIGN
- PROPOSED LIGHT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- SILT FENCE
- PROPOSED STORM SEWER INLET MH, CB & END SECTION
- EXISTING STORM SEWER MH & CATCH BASINS
- EXISTING HYDRANT
- PROPOSED SANITARY MANHOLE
- EXISTING SANITARY MANHOLE
- EXISTING ELECTRIC LINE & POLE
- EXIST. LIGHT POLE
- EXIST. ELECTRIC MANHOLE
- PROPOSED STONE CHECK DAM
- PROPOSED INLET PROTECTION
- TC:492.9 BC:492.4 — TOP OF: CURB (C), WALL (W), STAIRS (S), RAMP (R) BOTTOM OF: CURB (C), WALL (W), STAIRS (S), RAMP (R)
- 492.7 — PROPOSED SPOT ELEVATION
- 534.39 — EXISTING SPOT ELEVATION

EROSION AND SEDIMENT CONTROL NOTES:
(OCTOBER 2017)

1. IN ACCORDANCE WITH SECTIONS 107-12 AND 209-3.01 OF THE NYSDOT STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL REVIEW THE EROSION AND SEDIMENT CONTROL PLAN INCLUDED IN THE CONTRACT DOCUMENTS. AND IF NECESSARY, MODIFY THE PLAN WITH THE CONTRACTOR'S INTENDED SEQUENCE AND TYPES OF OPERATIONS. THE CONTRACTOR'S MODIFIED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, ALONG WITH A PROGRESS SCHEDULE THAT ADDRESSES THIS WORK.
2. IN ACCORDANCE WITH SECTIONS 107-12 AND 209-3.01 OF THE NYSDOT STANDARD SPECIFICATIONS, THE CONTRACTOR SHALL DESIGNATE AN "EROSION AND SEDIMENT CONTROL SUPERVISOR" FOR THE PROJECT. THE SUPERVISOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THE EROSION AND SEDIMENT CONTROL PLAN AND FOR INSPECTING AND MAINTAINING THE CONTROL MEASURES. THE NAME AND QUALIFICATIONS (TRAINING AND EXPERIENCE) OF THIS INDIVIDUAL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO STARTING EARTHWORK.
3. THE DESIGNATED "EROSION AND SEDIMENT CONTROL SUPERVISOR" SHALL NOTIFY THE ENGINEER IN ADVANCE OF ANY FIELD CHANGES TO THE EROSION AND SEDIMENT CONTROL MEASURES INDICATED IN THE CONTRACT DOCUMENTS. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO SUBMIT A MODIFIED EROSION AND SEDIMENT CONTROL PLAN FOR APPROVAL PRIOR TO IMPLEMENTING ANY FIELD CHANGES.
4. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF FROM DISTURBED AREAS IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL DEVICES BEFORE ENTERING A WATER BODY OR WETLAND.
5. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE FOR WHICH THEY ARE INTENDED AND SHALL REMAIN IN PLACE UNTIL SOILS ARE PERMANENTLY STABILIZED.
6. UNDER NO CONDITION SHALL DISCONTINUED CONSTRUCTION ACTIVITIES IN AREAS WITH SOIL DISTURBANCES BE LEFT FOR A PERIOD OF GREATER THAN 7 DAYS WITHOUT TEMPORARILY STABILIZING THOSE AREAS WITH TEMPORARY SEED AND MULCH. MAINTENANCE OF THOSE AREAS SHALL INCLUDE RESEEDING AND REMULCHING AS NEEDED TO ESTABLISH A SATISFACTORY STAND OF GRASS. THERE SHALL BE NO ADDITIONAL PAYMENT FOR RESEEDING AND REMULCHING.

   NO WET OR FRESH CONCRETE, LEACHATE, MATERIAL, OR DEBRIS SHALL BE ALLOWED TO ESCAPE INTO A WATER BODY OR WETLAND, NOR SHALL WASHINGS FROM CONCRETE TRUCKS, MIXERS OR OTHER DEVICES BE ALLOWED TO ENTER A WATER BODY OR WETLAND. ANY MATERIAL OR DEBRIS ACCIDENTALLY DROPPED INTO THE CHANNEL SHALL BE IMMEDIATELY AND COMPLETELY REMOVEDAND DEPOSITED IN AN UPLAND AREA.
7. THE CONTRACTOR SHALL COVER TEMPORARY STOCKPILES OF ERODIBLE MATERIAL (SUCH AS TOPSOIL OR EARTH FILL) WITH POLY SHEETING, OR RING THE STOCKPILES WITH SILT FENCE TO CONTROL EROSION. POLY SHEETING SHALL COMPLETELY COVER THE STOCKPILE AND BE SECURELY ANCHORED AT ALL TIMES. ANY POLY SHEETING OR SILT FENCE THAT IS DAMAGED SHALL BE PROMPTLY REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER. RINGED STOCKPILES EXPOSED OR EXPECTED TO BE EXPOSED FOR LONGER THAN 7 CALENDAR DAYS SHALL IMMEDIATELY BE STABILIZED WITH APPROPRIATE MEASURES. THE COST OF COVERING AND RINGING/STABILIZING STOCKPILES SHALL BE INCLUDED IN THE PRICE BID FOR THE CORRESPONDING STOCKPILED MATERIAL.

PASSERO ASSOCIATES
engineering architecture

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Principal-in-Charge Jess Sudol, PE
Project Manager Tim Harris, PE.
Designed by Austin Goodwin, EIT.

JESS DANIEL SUDOL — 095233 — LICENSED PROFESSIONAL ENGINEER

Revisions

No.	Date	By	Description
1			

GRADING PLAN

XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

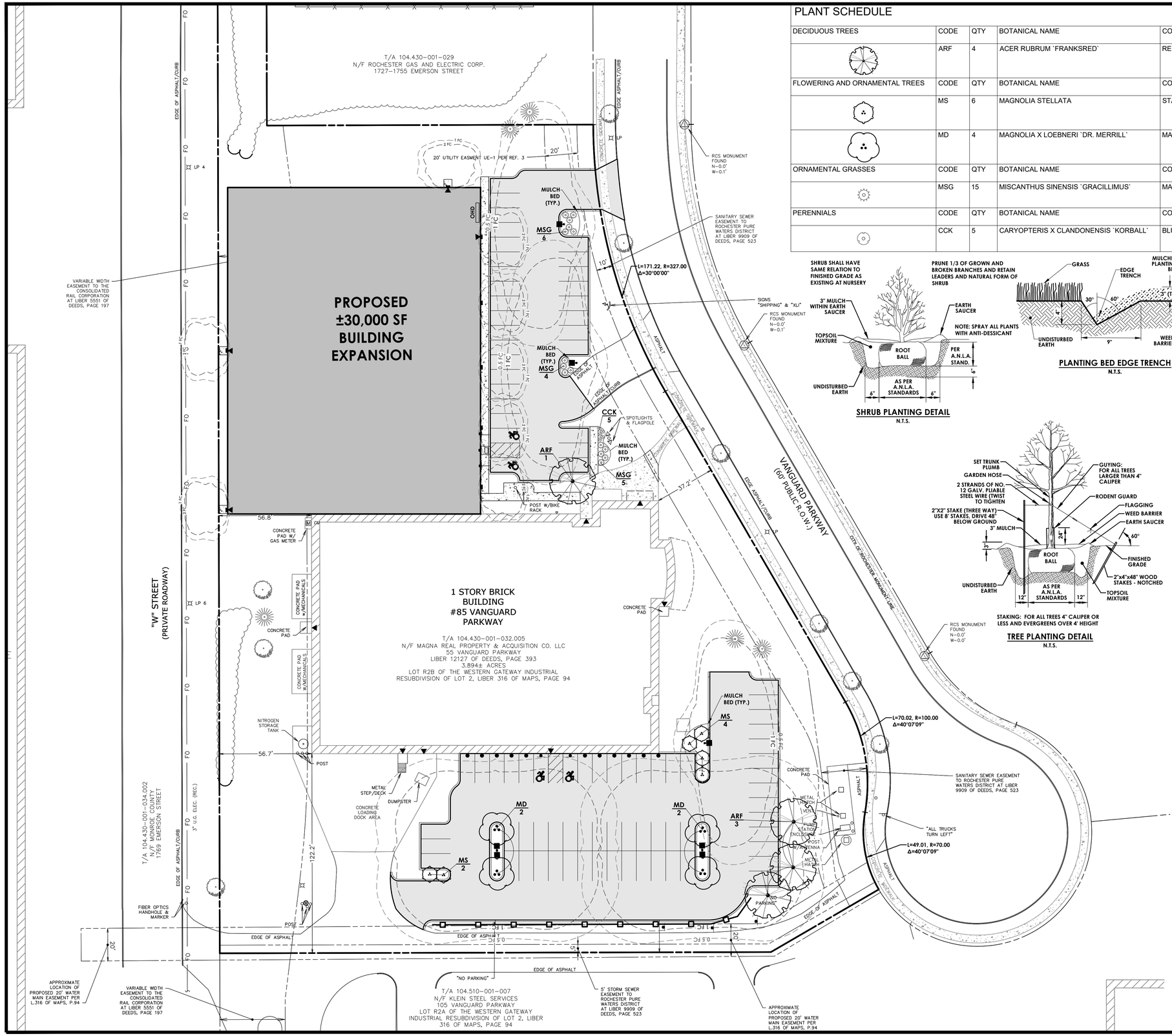
Project No. 20202977.0001

Drawing No. C 105 | Sheet No. 5

Scale: 1" = 30'

Date AUGUST 2020

NOT FOR CONSTRUCTION



PLANT SCHEDULE

HORIZONTAL SCALE 30 0 15 30 60 — SCALE: 1"=30'

DECIDUOUS TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER		REMARKS
	ARF	4	ACER RUBRUM `FRANKSRED`	RED SUNSET MAPLE	CAL. - 2.5-3"	B&B		FALL HAZARD
FLOWERING AND ORNAMENTAL TREES	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**		**REMARKS**
	MS	6	MAGNOLIA STELLATA	STAR MAGNOLIA	HT. - 7-8`	B&B		
	MD	4	MAGNOLIA X LOEBNERI `DR. MERRILL`	MAGNOLIA	HT. - 7-8`	B&B		
ORNAMENTAL GRASSES	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**		**REMARKS**
	MSG	15	MISCANTHUS SINENSIS `GRACILLIMUS`	MAIDEN GRASS	2-3`	#3		
PERENNIALS	**CODE**	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**		**REMARKS**
	CCK	5	CARYOPTERIS X CLANDONENSIS `KORBALL`	BLUE BALLOON BLUEBEARD	15-18"	#3		

SHRUB PLANTING DETAIL
N.T.S.

PLANTING BED EDGE TRENCH
N.T.S.

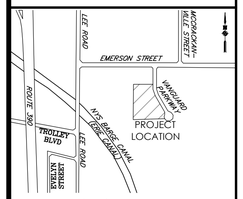
STAKING: FOR ALL TREES 4" CALIPER OR LESS AND EVERGREENS OVER 4' HEIGHT

TREE PLANTING DETAIL
N.T.S.

LANDSCAPING NOTES:

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY STATE AND LOCAL PERMITS REQUIRED. ALL CONSTRUCTION SHALL CONFORM TO APPLICABLE TOWN AND STATE DESIGN STANDARDS AND CODES.
2. IT IS THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE PRIOR TO BID SUBMITTAL, TO BECOME FAMILIAR WITH EXISTING CONDITIONS AT THE SITE.
3. STANDARDS SET FORTH IN THE "AMERICAN STANDARD FOR NURSERY STOCK", ANSI Z60.1 (LATEST EDITION) REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE THE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIALS DELIVERED AND INSTALLED ON THIS PROJECT.
4. ALL PLANTS MUST BE HEALTHY, VIGOROUS AND FREE OF PESTS AND DISEASE.
5. ALL PLANTS MUST BE HARDY UNDER CLIMATE CONDITIONS THAT EXIST AT THE PROJECT SITE AND GROWN AT A NURSERY IN THE SAME HARDINESS ZONE AS THE PROJECT LOCATION.
6. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AN MEET SIZE REQUIREMENTS AS INDICATED ON THE PLANT LIST.
7. ALL TREES MUST BE STRAIGHT-TRUNKED, INJURY FREE, HAVE A FULL, SYMMETRICAL CROWN (HEAD) AND MEET ALL REQUIREMENTS SPECIFIED (E.G. SINGLE STEM, MULTI-STEM, HEAVY BRANCHED, ETC.).
8. ANY PROPOSED DEVIATION TO THE LANDSCAPE PLAN MUST FIRST BE REVIEWED AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO THE INSTALLATION OF THE PROPOSED LANDSCAPING CHANGES.
9. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS. THE BID PRICE SUBMITTED WILL ASSUME THAT ALL PLANT MATERIALS DELINEATED WILL BE SUPPLIED AND INSTALLED. ANY DISCREPANCIES IN THE QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND/OR DESIGN LANDSCAPE ARCHITECT (OWNER'S REPRESENTATIVE) PRIOR TO COMPLETING A BID PRICE.
10. ALL GRADING AND UTILITY WORK SHALL BE COMPLETED PRIOR TO INSTALLATION OF PLANT MATERIAL AND LANDSCAPE MULCH.
11. THE FINAL LOCATION OF TREES AND OTHER LANDSCAPING SHALL BE DETERMINED IN THE FIELD BASED ON UTILITY STAKEOUT AND SHALL NOT CONFLICT WITH TRAFFIC SIGNS AND/OR UTILITIES. STAKE OUT SHALL BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
12. ANY CONCERNS RELATED TO SITE CONDITIONS AND/OR PLANT LOCATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
13. PLANTING BACKFILL MIXTURE: 4 PARTS TOPSOIL (ON-SITE OR IMPORTED), 1 PART PEAT MOSS, 1/2 PART WELL ROTTED MANURE AND 10 LBS. 5-0-5 PLANTING FERTILIZER, MIXED THOROUGHLY PER CUBIC YARD.
14. MULCH ALL PLANT BEDS, AND INDIVIDUAL TREES IN LAWN AREAS WITH SHREDDED HARDWOOD BARK MULCH TO A DEPTH OF THREE (3") INCHES UNLESS OTHERWISE SPECIFIED ON PLANTING DETAILS, OR AS DIRECTED BY THE LANDSCAPE ARCHITECT DUE TO SITE CONDITIONS.
15. ANY PLANT WHICH TURNS BROWN, DEFOLIATES OR DIES PRIOR TO FINAL ACCEPTANCE BY THE OWNER, OR DESIGN LANDSCAPE ARCHITECT, SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH THE SAME PLANT (SPECIES, VARIETY AND SIZE) AS SPECIFIED ON THE PLANT SCHEDULE (LIST).
16. THE CONTRACTOR SHALL MAINTAIN ALL PLANT MATERIALS AND LAWN AREAS UNTIL THE PROJECT HAS RECEIVED FINAL ACCEPTANCE BY THE OWNER OR OWNER'S REPRESENTATIVE. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO: WATERING, MULCHING, FERTILIZING, SPRAYING (FUNGICIDE, PESTICIDE, ANTI-DESICANT), AS WELL AS RAISING PLANTS THAT HAVE SETTLED TOO DEEP OR REQUIRE STRAIGHTENING.
17. UPON COMPLETION AND ACCEPTANCE OF THE LANDSCAPING, THE LANDSCAPE MATERIALS SHALL BE GUARANTEED FOR TWO (2) YEARS. THE GUARANTEE SHALL BE INCLUSIVE OF ALL MATERIAL AND LABOR COSTS. AT THE END OF THE GUARANTEE PERIOD THE OWNERS REPRESENTATIVE WILL INSPECT ALL PLANT MATERIALS. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REQUIRED REPLACEMENTS WITH PLANT MATERIALS MEETING THE SPECIFICATIONS (E.G. SPECIES, SIZE AND CHARACTER).
18. ALL AREAS DISTURBED BY SITE GRADING AND/OR UTILITY INSTALLATION SHALL RECEIVE APPROVED TOPSOIL (BASED ON APPROVED SAMPLES SUBMITTED BY THE CONTRACTOR) AND SPREAD TO A DEPTH NOT LESS THAN SIX (6")INCHES AFTER COMPACTION. TOPSOIL PLACED FOR LAWNS SHALL BE FINE GRADED, SEEDED, MULCHED AND WATERED UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED. THIS IS EXCLUDING FOUNDATION PLANT BEDS, AND ENTRANCE AREAS.
19. LOCATIONS OF EXISTING BURIED UTILITIES SHOWN ON THE SITE PLAN ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE TO CALL FOR A UTILITY STAKEOUT PRIOR TO COMMENCING PLANT INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, AND SITE APPURTENANCES WHICH OCCURS AS A RESULT OF LANDSCAPE INSTALLATION OPERATIONS.
20. EXISTING TREES INDICATED TO BE REMOVED SHALL OCCUR UNDER THE SITE CONTRACT FOR THIS PROJECT. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR NEW PLANTINGS OR RESTORATION OF THE DISTURBED AREA (LAWNS, PLANT BEDS, ISLANDS).
21. PRE-EMERGENT HERBICIDE SHALL BE USED UNDER MULCH IN ALL TREE AND PLANT BED AREAS.
22. ALL SHRUB BEDS ADJACENT TO LAWN AREAS SHALL HAVE A SPADED EDGE BORDER, UNLESS METAL EDGE, CONCRETE, OR OTHER BORDER IS SPECIFIED.

PASSERO ASSOCIATES
engineering architecture

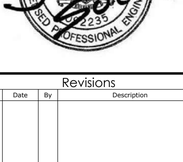


City of Rochester
LOCATION SKETCH
N.T.S.

Client:
XLI MANUFACTURING
55 VANGUARD PKWY
ROCHESTER, NY 14606

PASSERO ASSOCIATES
242 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge	Jess Sudol, PE
Project Manager	Tim Harris, PE.
Designed by	Austin Goodwin, EIT.



Revisions

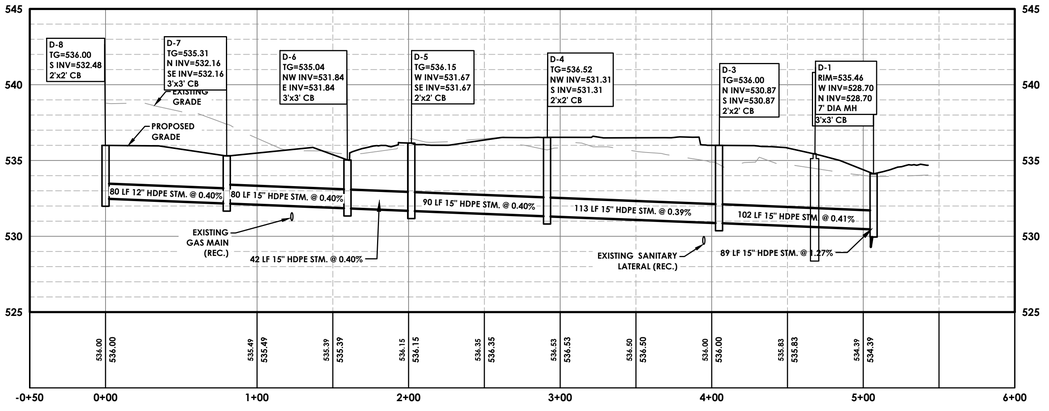
No.	Date	By	Description
1			

LANDSCAPING LIGHTING PLAN XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

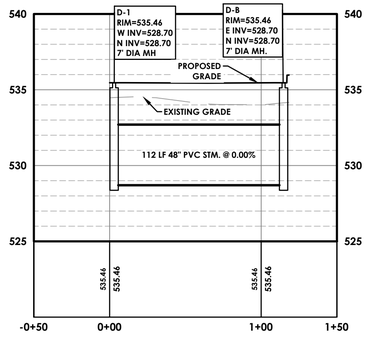
Project No.	20202977.0001
Drawing No.	C 106
Sheet No.	6
Scale:	1" = 30'
Date	AUGUST 2020

NOT FOR CONSTRUCTION



D-8 TO D-1 PROFILE

SCALE: HORIZONTAL - 1" = 50'
VERTICAL - 1: = 5'



UNDERGROUND STORAGE LENGTH PROFILE

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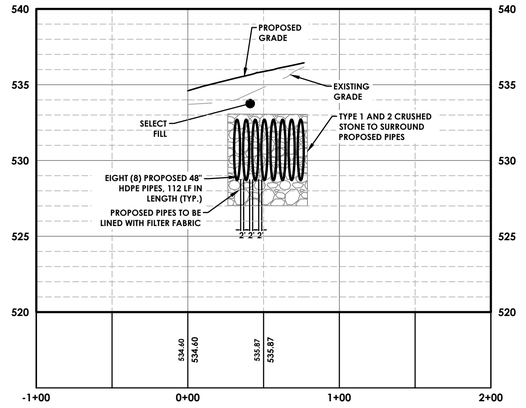
VERTICAL - 1: = 5'



UNDERGROUND STORAGE SECTION PROFILE PROFILE

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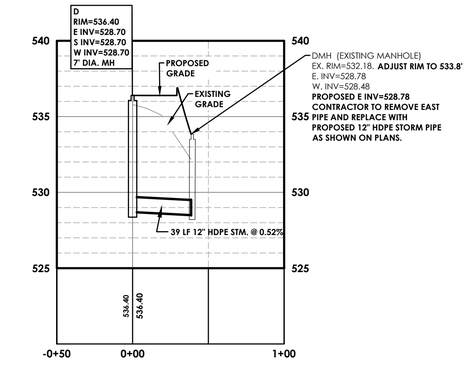
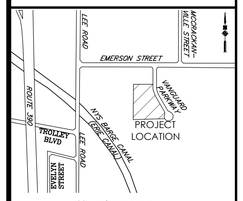


D TO EXISTING STORM MANHOLE PROFILE

SCALE: HORIZONTAL - 1" = 50'
VERTICAL - 1: = 5'

PASSERO ASSOCIATES
engineering architecture



City of Rochester
LOCATION SKETCH

Client:
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55 VANGUARD PKWY
ROCHESTER, NY 14606

PASSERO ASSOCIATES
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Principal-in-Charge	Jess Sudol, PE
Project Manager	Tim Harris, PE.
Designed by	Austin Goodwin, EIT.

STATE OF NEW YORK
JESS DANIEL SUDOL
LICENSED PROFESSIONAL ENGINEER
No. 092233

Revisions

No.	Date	By	Description
1			

PROFILES

XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

Project No.
20202977.0001

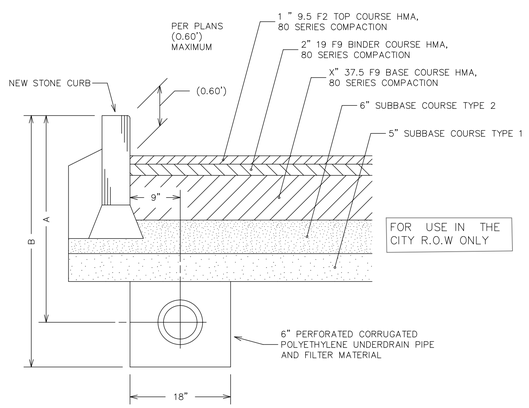
Drawing No.
C 107

Sheet No.
7

Scale:
N/A

Date
AUGUST 2020

NOT FOR CONSTRUCTION



PAVEMENT SECTION	X" THICKNESS BASE COURSE	A (> UNDERDRAIN PIPE)	B (BOTTOM UNDERDRAIN TRENCH)
LIGHT-DUTY	0"	2'-6"	3'-2"
MEDIUM-DUTY	3"	2'-9"	3'-5"
MODIFIED	6"	2'-11"	3'-7"
HEAVY-DUTY	8"	3'-1"	3'-9"

*NOTE: ALL PAVEMENT AREAS IN THE CITY R.O.W. SHALL RECEIVE 6" OF ASPHALT BASE COURSE

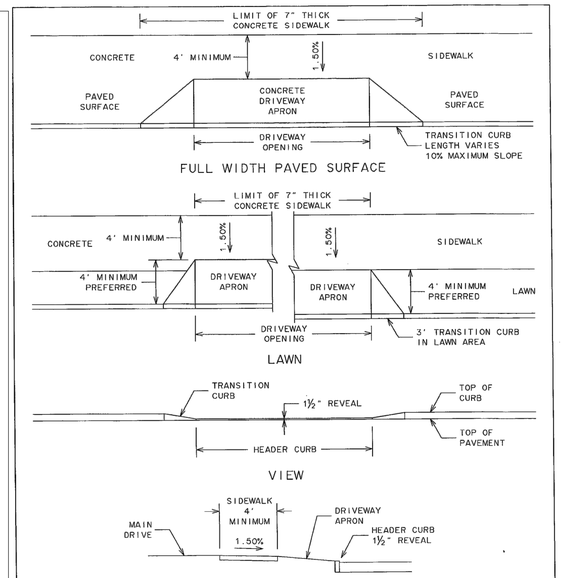
NOTE:

TACK COAT IS TO BE APPLIED BETWEEN ALL LIFTS OF HMA PAVEMENT COURSES AND ON FACE OF CURB BETWEEN CURB AND ASPHALT PAVEMENT.

CITY OF ROCHESTER

ASPHALT PAVEMENT SECTION WITH CURB

ISSUED	9-2-91	STANDARD
REVISED	7-31-12	DWG.NO.R400-1



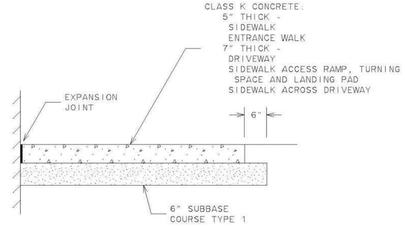
NOTES:

1. NOMINAL DRIVEWAY OPENING WIDTH IS BETWEEN 10 AND 15 FEET FOR RESIDENTIAL DRIVEWAY, 24 FEET MAXIMUM FOR TWO-WAY COMMERCIAL DRIVEWAY, 16 FEET MAXIMUM FOR ONE-WAY COMMERCIAL DRIVEWAY. ACTUAL WIDTH WILL BE AS APPROVED BY CITY.
2. FULL DEPTH 1/2 INCH WIDE EXPANSION JOINT ACROSS SIDEWALK AT BOTH ENDS AND AROUND OUTER LIMITS OF DRIVEWAY APRON WHERE ABUTS OTHER PAVED SURFACES.
3. MAXIMUM DESIRABLE DRIVEWAY APRON SLOPE, 8% FOR RESIDENTIAL DRIVEWAY, 6% FOR COMMERCIAL DRIVEWAY.

CITY OF ROCHESTER

DRIVEWAY APRON AT CURB

ISSUED	9-2-91	STANDARD
REVISED	6-1-18	DWG.NO.R608-5



NOTES:

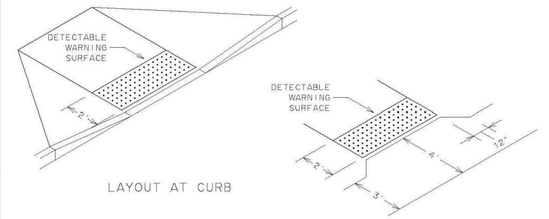
1. MINIMUM CLEAR WIDTH FOR SIDEWALK IS 5 FEET AS MEASURED FROM BACK EDGE OF CURB OR CONCRETE GUTTER.
2. CROSS SLOPE OF SIDEWALK TO BE 1.50%.
3. SURFACE TO BE FIRM, STABLE AND SLIP-RESISTANT.
4. SIDEWALK ACCESS RAMP AND LANDING PAD TO BE 7 INCH THICK CLASS K CONCRETE.
5. PROVIDE ½ INCH WIDE EXPANSION JOINT BETWEEN NEW CONCRETE CONSTRUCTION AND OTHER PAVED SURFACES, STRUCTURES AND APPURTENANCES.
6. EXPANSION JOINT: ½ INCH WIDE PREMOULDED EXPANSION JOINT MATERIAL, SEAL WITH CAULKING SEALANT ½ INCH WIDE ⅜ INCH DEEP.
7. SIDEWALK SURFACE, GRADE AND CROSS SLOPE ARE TO BE MAINTAINED ACROSS DRIVEWAYS.

FOR USE IN THE CITY R.O.W ONLY

CITY OF ROCHESTER

CONCRETE SIDEWALK AND DRIVEWAY

ISSUED	9-2-91	STANDARD
REVISED	7-1-17	DWG.NO.R608-6



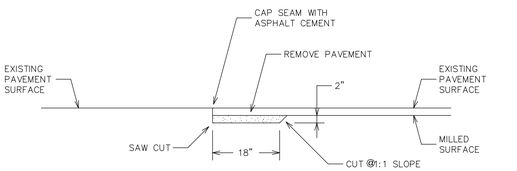
NOTES:

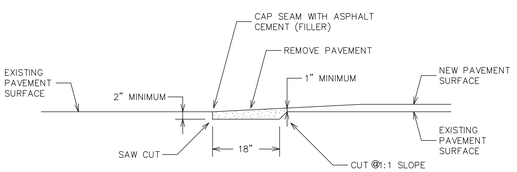
1. QUANTITY OF TRUNCATED DOMES DEPICTED IS FOR ILLUSTRATIVE PURPOSES ONLY.
2. DETECTABLE WARNING SURFACE IS TO BE MINIMUM 24 INCHES DEEP SITUATED IN PREDOMINANT DIRECTION OF PEDESTRIAN TRAFFIC, AND IS TO EXTEND ACROSS FULL WIDTH OF ACCESS RAMP EXCLUDING SIDE FLARES.
3. ONE CORNER OF DETECTABLE WARNING SURFACE TO BE LOCATED AT BACK OF CURB OR CONCRETE GUTTER.
4. ON GRADE (RUNNING SLOPE) OF 5% OR GREATER, ROWS OF TRUNCATED DOMES ARE TO BE ALIGNED PERPENDICULAR OR RADIAL TO LOWER GRADE BREAK. WHERE GRADE (RUNNING SLOPE) IS THAN 5%, ORIENTATION IS LESS CRITICAL AND TRUNCATED DOMES MAY DIFFER FROM PERPENDICULAR OR RADIAL ALIGNMENT TO LOWER GRADE BREAK.
5. DETECTABLE WARNING SURFACE IS TO PROVIDE DARK-ON-LIGHT OR LIGHT-ON-DARK CONTRAST WITH SURROUNDING SURFACE. DEFAULT COLOR FOR ALL AREAS IS #33538 TRAFFIC YELLOW, OR APPROVED EQUIVALENT. COLOR IS TO BE IN ACCORDANCE WITH FEDERAL STANDARD 595C.

CITY OF ROCHESTER

DETECTABLE WARNING SURFACE TRUNCATED DOMES

ISSUED	1-23-03	NON-STANDARD
REVISED	7-1-17	DWG.NO.S608-28





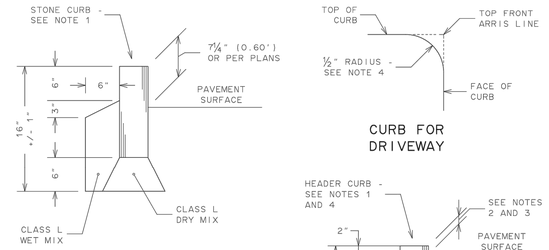
NOTES:

1. PAVEMENT KEYS ARE TO BE CONSTRUCTED SAME DAY AS NEW ASPHALT TOP COURSE IS PLACED, AND ARE NOT TO BE LEFT OPEN OVERNIGHT.
2. SEAMS BETWEEN EXISTING AND NEW PAVEMENT ARE TO BE SEALED WITH ASPHALT CEMENT 702-0700 IN ACCORDANCE WITH NYSDOT SECTION 702 BITUMINOUS MATERIALS.

CITY OF ROCHESTER

PAVEMENT KEY

ISSUED	1-13-06	NON-STANDARD
REVISED	7-31-12	DWG.NO.S406-1



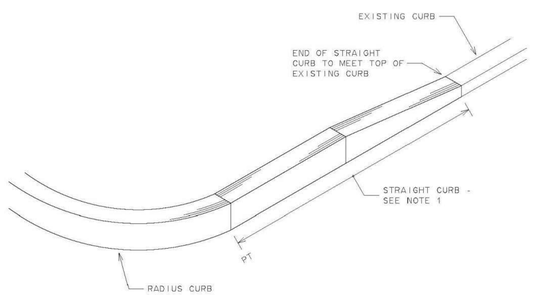
NOTES:

1. WIDTH OF CURB IS TO BE AS REQUIRED IN CONTRACT DOCUMENTS.
2. SIDEWALK ACCESS RAMP HEADER CURB IS TO BE FLUSH WITH PAVEMENT SURFACE.
3. DRIVEWAY HEADER CURB IS TO HAVE CURB REVEAL OF 1½ INCHES.
4. ONLY TRANSITION AND HEADER CURB PIECES USED FOR DRIVEWAYS ARE TO BE ROUNDED.
5. TACK COAT UNEXPOSED SURFACE OF CURB.

CITY OF ROCHESTER

STONE CURB

ISSUED	9-2-91	STANDARD
REVISED	3-1-18	DWG.NO.R609-1



NOTES:

1. LENGTH OF STRAIGHT CURB WILL BE AS REQUIRED IN CONTRACT DOCUMENTS, WITH 6 FEET MINIMUM.
2. TRANSITION LAST 3 TO 5 FEET OF STRAIGHT CURB FROM DOWN TO TOP OF EXISTING CURB.

CITY OF ROCHESTER

NEW CURB TRANSITION TO EXISTING CURB

ISSUED	9-2-91	STANDARD
REVISED	12-1-15	DWG.NO.R609-7

ELEMENT TOLERANCES

ELEMENT	DESIGN AND FIELD LAYOUT	ACCESSIBILITY GUIDELINES AND WORK ACCEPTANCE
SIDEWALK CROSS SLOPE	1.50% MAXIMUM	2% MAXIMUM
TURNING SPACE CROSS SLOPE	1.50% MAXIMUM	2% MAXIMUM
ACCESS RAMP CROSS SLOPE	1.50% MAXIMUM	2% MAXIMUM
BLENDED TRANSITION CROSS SLOPE	1.50% MAXIMUM	2% MAXIMUM
SIDE FLARE CROSS SLOPE (ENCROACHMENT INTO PAVED AREA)	9.50% MAXIMUM	10% MAXIMUM
SIDE FLARE CROSS SLOPE (ABUTS LAWN AREA)	20% MAXIMUM	20% MAXIMUM
ACCESS RAMP GRADE (RUNNING SLOPE)	7.50% MAXIMUM	8.30% MAXIMUM
BLENDED TRANSITION GRADE (RUNNING SLOPE)	4.50% MAXIMUM	5% MAXIMUM

NOTES

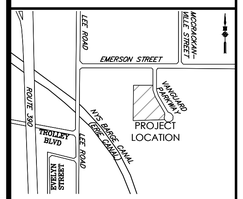
1. ACCESS ELEMENTS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH "PROPOSED GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY (PROWAG)". FOLLOWING NOTES REITERATE OR AMEND REQUIREMENTS OUTLINED IN "PROPOSED GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY (PROWAG)" AND NYSDOT "HIGHWAY DESIGN MANUAL - CHAPTER 18 PEDESTRIAN FACILITY DESIGN". SEE BOTH DOCUMENTS FOR FURTHER INFORMATION, CLARIFICATION OR GUIDANCE AS NEEDED.
2. DESIGN TOLERANCES FOR DIMENSIONS, GRADES (RUNNING SLOPE) AND CROSS SLOPES SHOWN IN CONTRACT DOCUMENTS ARE MINIMUM AND MAXIMUM LIMITS FOR DESIGN AND FIELD LAYOUT OF ACCESSIBLE ELEMENTS. ACCESSIBLE ELEMENTS ARE NOT TO BE CONSTRUCTED WITH VALUES OUTSIDE LIMITS PER ACCESSIBILITY GUIDELINES AND FOR WORK ACCEPTANCE.
3. JOINTS BETWEEN SIDEWALK FLAGS, ACCESS RAMPS, BLENDED TRANSITIONS, TURNING SPACES AND STREETS ARE TO BE FLUSH AND FREE FROM ABRUPT VERTICAL SEPARATIONS GREATER THAN 1/4 INCH. VERTICAL CHANGES BETWEEN 1/4 INCH AND 1/2 INCH ARE TO BE BEVELED ACROSS ENTIRE JOINT WITH STANDARD BEVEL SLOPE OF 1:3, BUT NO STEEPER THAN 1:2. VERTICAL SEPARATIONS GREATER THAN 1/2 INCH ARE UNACCEPTABLE, REQUIRING TOTAL REPLACEMENT.
4. AT STREET CORNERS WITH DUAL PEDESTRIAN STREET CROSSINGS, SEPARATE ACCESS RAMPS OR BLENDED TRANSITIONS ARE TO BE PROVIDED FOR EACH PEDESTRIAN STREET CROSSING, ORIENTED IN DIRECTION OF PEDESTRIAN TRAVEL. WHERE EXISTING CONDITIONS CANNOT BE OVERCOME TO ACCOMMODATE SEPARATE ACCESS RAMPS OR BLENDED TRANSITIONS, SINGLE DIAGONAL ACCESS RAMP OR BLENDED TRANSITION MAY BE PERMITTED THAT IS ORIENTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS.
5. DETECTABLE WARNING SURFACE IS TO PROVIDE LIGHT-ON-DARK OR DARK-ON-LIGHT CONTRAST WITH SURROUNDING SURFACE. DEFAULT COLOR OF DETECTABLE WARNING SURFACE IS #33538 TRAFFIC YELLOW. OTHER ACCEPTABLE COLORS FOR USE IN CONCRETE AREAS ARE #22109 RED BROWN AND #36081 DARK GUNSHIP GRAY. IN ASPHALT OR OTHER SIMILAR DARK SURFACE AREAS #36495 LIGHT GRAY AND #37925 INSIGNIA WHITE; OR APPROVED EQUIVALENTS. COLORS ARE TO BE IN ACCORDANCE WITH FEDERAL STANDARD 595C.
6. TRUNCATED DOME ROWS ARE TO BE ALIGNED PERPENDICULAR OR RADIAL TO LOWER GRADE BREAK ON ACCESSIBLE CONNECTIONS WITH GRADE (RUNNING SLOPE) OF 5% OR GREATER. WHERE TRUNCATED DOMES ARE ARRAYED RADIALLY TRUNCATED DOMES MAY DIFFER IN DIAMETER AND CENTER-TO-CENTER SPACING. WHERE GRADE (RUNNING SLOPE) IS LESS THAN 5%, ORIENTATION IS LESS CRITICAL AND TRUNCATED DOMES MAY DIFFER FROM PERPENDICULAR OR RADIAL ALIGNMENT TO LOWER GRADE BREAK.

CITY OF ROCHESTER

ACCESSIBILITY GUIDELINES

ISSUED	7-1-17	NON-STANDARD
REVISED		DWG.NO.S608-42

PASSERO ASSOCIATES
engineering architecture



City of Rochester
LOCATION SKETCH

Client:
XLI MANUFACTURING
55 VANGUARD PKWY
ROCHESTER, NY 14606

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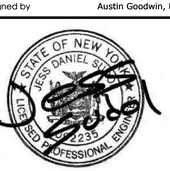


Revisions

No.	Date	By	Description
1			

DETAILS

XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

Project No.
20202977.0001

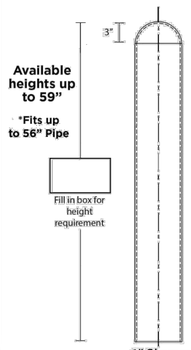
Drawing No.
C 201

Sheet No.
8

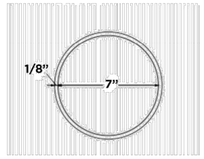
Scale:
N.T.S.

Date
AUGUST 2020

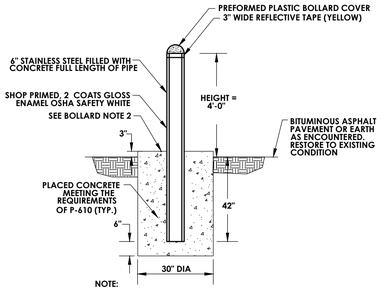
NOT FOR CONSTRUCTION



Steel Pipe ID = 6"
Steel Pipe OD = 6.625"
Circumference = 20.5" - 21.5"
Ideal Sleeve ID = 7"



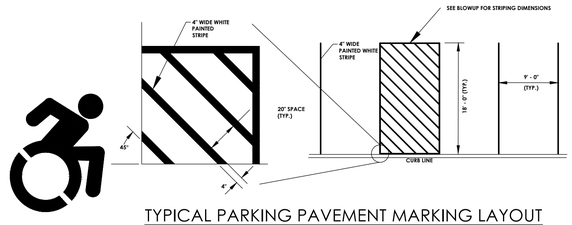
Cross Section of Sleeve



NOTE:
1. ALL BOLLARDS ADJACENT TO GATE OPERATORS SHALL BE 3'-0" ABOVE FINISHED GRADE.
2. ALL BOLLARDS TO BE SET PLUMB.

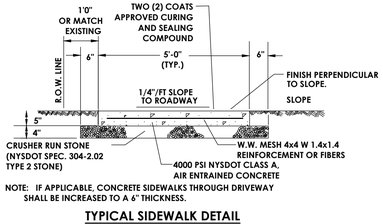
BOLLARD
N.T.S.

1/8" THICK YELLOW PLASTIC BOLLARD COVER



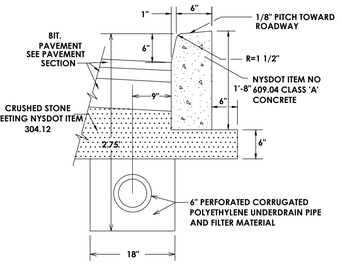
TYPICAL PARKING PAVEMENT MARKING LAYOUT
N.T.S.

MODIFIED INTERNATIONAL SYMBOL OF ACCESS
N.T.S.

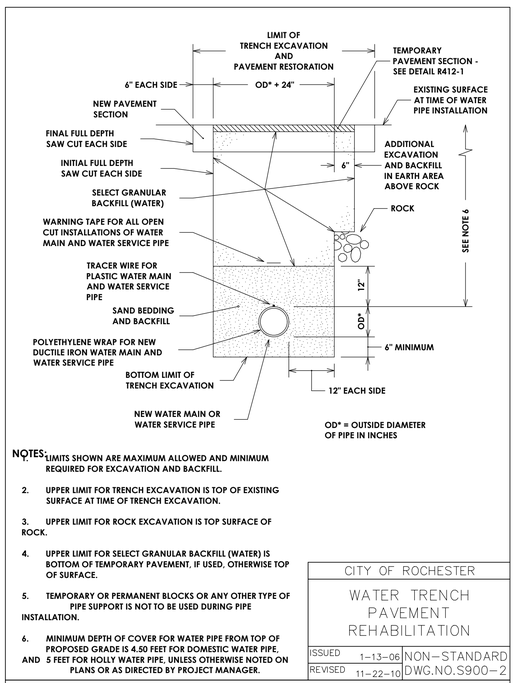


NOTE: IF APPLICABLE, CONCRETE SIDEWALKS THROUGH DRIVEWAY SHALL BE INCREASED TO A 6" THICKNESS.

TYPICAL SIDEWALK DETAIL
N.T.S.

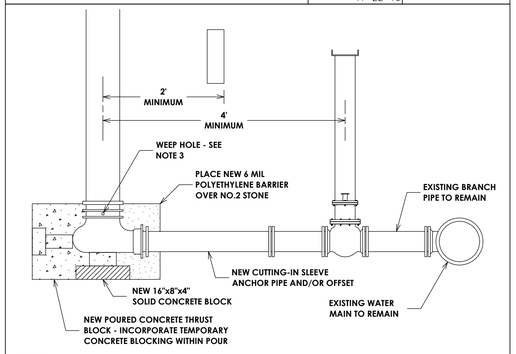


CONCRETE CURB DETAIL
N.T.S.



NOTES:
1. LIMITS SHOWN ARE MAXIMUM ALLOWED AND MINIMUM REQUIRED FOR EXCAVATION AND BACKFILL.
2. UPPER LIMIT FOR TRENCH EXCAVATION IS TOP OF EXISTING SURFACE AT TIME OF TRENCH EXCAVATION.
3. UPPER LIMIT FOR ROCK EXCAVATION IS TOP SURFACE OF ROCK.
4. UPPER LIMIT FOR SELECT GRANULAR BACKFILL (WATER) IS BOTTOM OF TEMPORARY PAVEMENT, IF USED, OTHERWISE TOP OF SURFACE.
5. TEMPORARY OR PERMANENT BLOCKS OR ANY OTHER TYPE OF PIPE SUPPORT IS NOT TO BE USED DURING PIPE INSTALLATION.
6. MINIMUM DEPTH OF COVER FOR WATER PIPE FROM TOP OF PROPOSED GRADE IS 4.50 FEET FOR DOMESTIC WATER PIPE, AND 5 FEET FOR HOLLY WATER PIPE, UNLESS OTHERWISE NOTED ON PLANS OR AS DIRECTED BY PROJECT MANAGER.

CITY OF ROCHESTER	
WATER TRENCH PAVEMENT REHABILITATION	
ISSUED 1-13-06	NON-STANDARD
REVISED 11-22-10	DWG.NO.S900-2

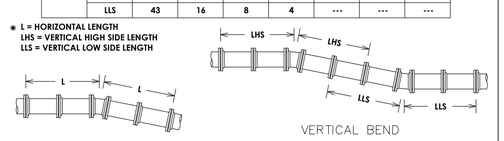


NOTES:
1. PUMPER CONNECTION IS TO FACE PAVEMENT.
2. MECHANICAL JOINT OFFSET OR HYDRANT EXTENSION KIT CAN BE USED TO SET HYDRANT AT PROPER ELEVATION.
3. WHEN GROUND WATER IS ENCOUNTERED IN TRENCH, IF APPROVED OF BY CITY, HYDRANT WEEP HOLES MAY BE PLUGGED AND STONE DRAIN OMITTED. CONTRACTOR IS TO NOTIFY WATER BUREAU IN WRITING WHEN WEEP HOLES HAVE BEEN PLUGGED
4. HYDRANT MARKERS TO BE FURNISHED AND INSTALLED BY WATER BUREAU UNLESS OTHERWISE NOTED ON PLANS OR AS DIRECTED BY PROJECT MANAGER.

CITY OF ROCHESTER	
HYDRANT AT EXISTING BRANCH	
ISSUED 9-2-91	STD. DWG.
REVISED	NO. R917-2

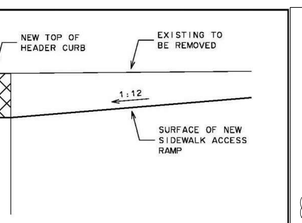
MINIMUM RESTRAINED LENGTH FOR WATER MAIN PIPE ADJACENT TO FITTINGS (IN FEET) (BASED ON INTERNAL PRESSURE OF 250 PSI) (SEE NOTE 1)								
PIPE SIZE (INCHES)	MINIMUM LENGTH ◉	90°	45°	22-1/2°	11-1/4°	REDUCER	TEE	CAP PLUG
4" - 6"	L	23	10	5	3	44	44	85
	LHS	74	35	17	9	---	---	---
	LLS	23	9	5	3	---	---	---
8"	L	30	13	6	3	47	70	111
	LHS	96	46	23	11	---	---	---
	LLS	30	12	6	3	---	---	---
12"	L	43	18	9	5	84	117	159
	LHS	138	66	32	16	---	---	---
	LLS	43	16	8	4	---	---	---

◉ L = HORIZONTAL LENGTH
LHS = VERTICAL HIGH SIDE LENGTH
LLS = VERTICAL LOW SIDE LENGTH

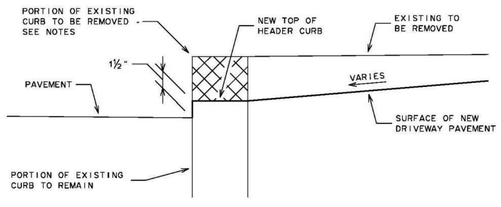


NOTES:
1. SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON HOLLY WATER MAIN PIPE LARGER THAN 12 INCHES AND FOR REDUCERS HAVING MORE THAN ONE PIPE SIZE DIFFERENCE.
2. CONCRETE THRUST BLOCK IS TO BE USED IN ADDITION TO MECHANICAL RESTRAINT DEVICES, SEE DETAILS S900-9 AND S900-10.
3. ALL POLYETHYLENE WRAPPED DUCTILE IRON HOLLY WATER MAIN PIPE AND FITTING JOINTS WITHIN L-LHS-LLS DIMENSIONS MUST BE RESTRAINED USING APPROVED MECHANICAL RESTRAINT DEVICE.
4. ASSUMPTION: SP SOILS, 5 FEET COVER, AND TYPE 4 LAYING CONDITION.

CITY OF ROCHESTER	
WATER MAIN PIPE RESTRAINT HOLLY SYSTEM	
ISSUED 5-8-08	NON-STANDARD
REVISED 9-1-09	DWG.NO.S900-8



SIDEWALK ACCESS RAMP

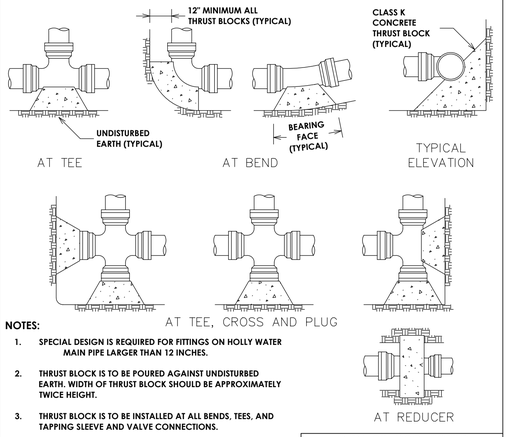


DRIVEWAY

NOTES:
1. RESHAPE TOP OF EXISTING CURB BY SAW CUTTING HORIZONTALLY WITH POWER SAW. SAW CUT FULL WIDTH OF CURB, ALONG NEAT STRAIGHT LINES.
2. TOP OF CURB IS TO BE SAW CUT EITHER FLAT ACROSS, OR ON 1:12 SLOPE.
3. TOP OF CURB IS TO BE MILLED OR GROUND FINISHED TO SMOOTH SURFACE FREE FROM BURRS, NICKS OR OTHER MARKINGS OR DAMAGE FROM SAW CUTTING OPERATION.
4. CURB JOINTS ARE TO BE RE-POINTED WITH MASONRY MORTAR MIX.

CITY OF ROCHESTER	
RESHAPE EXISTING CURB	
ISSUED 4-7-95	NON-STANDARD
REVISED 12-1-15	DWG.NO.S609-9

AREA OF BEARING FACE OF THRUST BLOCK IN SQUARE FEET (AREA BASED ON INTERNAL PRESSURE OF 250 PSIG AND SOIL BEARING PRESSURE OF 2000 PSF) (SEE NOTE 1)							
PIPE SIZE	BEND				TEE PLUG	REDUCER	
	90°	45°	22-1/2°	11-1/4°		SIZE	AREA
4" - 6"	7	4	2	1	5	6" x 4"	3
8"	12	7	4	2	8	8" x 6"	3.5
12"	25	14	7	4	18	12" x 8"	9.5

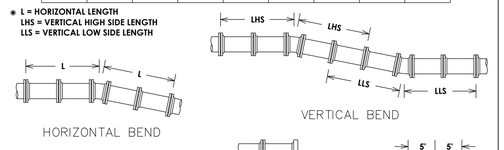


NOTES:
1. SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON HOLLY WATER MAIN PIPE LARGER THAN 12 INCHES.
2. THRUST BLOCK IS TO BE POURED AGAINST UNDISTURBED EARTH. WIDTH OF THRUST BLOCK SHOULD BE APPROXIMATELY TWICE HEIGHT.
3. THRUST BLOCK IS TO BE INSTALLED AT ALL BENDS, TEES, AND TAPPING SLEEVE AND VALVE CONNECTIONS.
4. FACTORY CAST OFFSETS ARE TO BE TREATED AS (2) 45 DEGREE BENDS.
5. FOR REDUCERS, THRUST BLOCK IS TO BE KEYED INTO WALLS AND BOTTOM OF TRENCH.
6. MECHANICAL RESTRAINT IS REQUIRED IN ADDITION TO THRUST BLOCK, SEE DETAIL S900-8.
7. WOOD BLOCKING IS NOT PERMITTED.

CITY OF ROCHESTER	
HORIZONTAL THRUST BLOCK HOLLY SYSTEM	
ISSUED 6-1-09	NON-STANDARD
REVISED 8-7-13	DWG.NO.S900-9

MINIMUM RESTRAINED LENGTH FOR WATER MAIN PIPE ADJACENT TO FITTINGS (IN FEET) (BASED ON INTERNAL PRESSURE OF 150 PSI) (SEE NOTE 1)								
PIPE SIZE (INCHES)	MINIMUM LENGTH ◉	90°	45°	22-1/2°	11-1/4°	REDUCER	TEE	CAP PLUG
4" - 6"	L	16	7	3	2	29	16	56
	LHS	49	24	12	6	---	---	---
	LLS	16	6	3	2	---	---	---
8"	L	20	9	4	2	31	33	74
	LHS	64	31	15	8	---	---	---
	LLS	20	8	4	2	---	---	---
12"	L	28	12	6	3	56	64	105
	LHS	91	44	21	11	---	---	---
	LLS	28	11	5	3	---	---	---

◉ L = HORIZONTAL LENGTH
LHS = VERTICAL HIGH SIDE LENGTH
LLS = VERTICAL LOW SIDE LENGTH



NOTES:
1. SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON DOMESTIC WATER MAIN PIPE LARGER THAN 12 INCHES AND FOR REDUCERS HAVING MORE THAN ONE PIPE SIZE DIFFERENCE.
2. CONCRETE THRUST BLOCK IS TO BE USED IN ADDITION TO MECHANICAL RESTRAINT DEVICES, SEE DETAILS S900-4 AND S900-5.
3. ALL PLASTIC AND POLYETHYLENE WRAPPED DUCTILE IRON DOMESTIC WATER MAIN PIPE AND FITTING JOINTS WITHIN L-LHS-LLS DIMENSIONS MUST BE RESTRAINED USING APPROVED MECHANICAL RESTRAINT DEVICE.
4. ASSUMPTION: SP SOILS, 4.50 FEET COVER, AND TYPE 4 LAYING CONDITION.

CITY OF ROCHESTER	
WATER MAIN PIPE RESTRAINT DOMESTIC SYSTEM	
ISSUED 5-8-08	NON-STANDARD
REVISED 9-1-09	DWG.NO.S900-7

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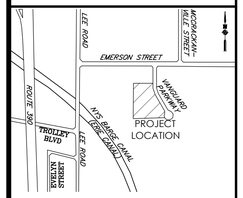
PASSERO ASSOCIATES
engineering architecture



City of Rochester
LOCATION SKETCH
NTS

Client:
XLI MANUFACTURING
55 VANGUARD PKWY
ROCHESTER, NY 14606

PASSERO ASSOCIATES
242 West Main Street Suite 100, Rochester, New York 14614
(585) 325-1000 Fax: (585) 325-1691
Principal-in-Charge: Jess Sudol, PE
Project Manager: Tim Harris, PE.
Designed by: Austin Goodwin, EIT.

Revisions

No.	Date	By	Description
1			

DETAILS

XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

Project No.
20202977.0001

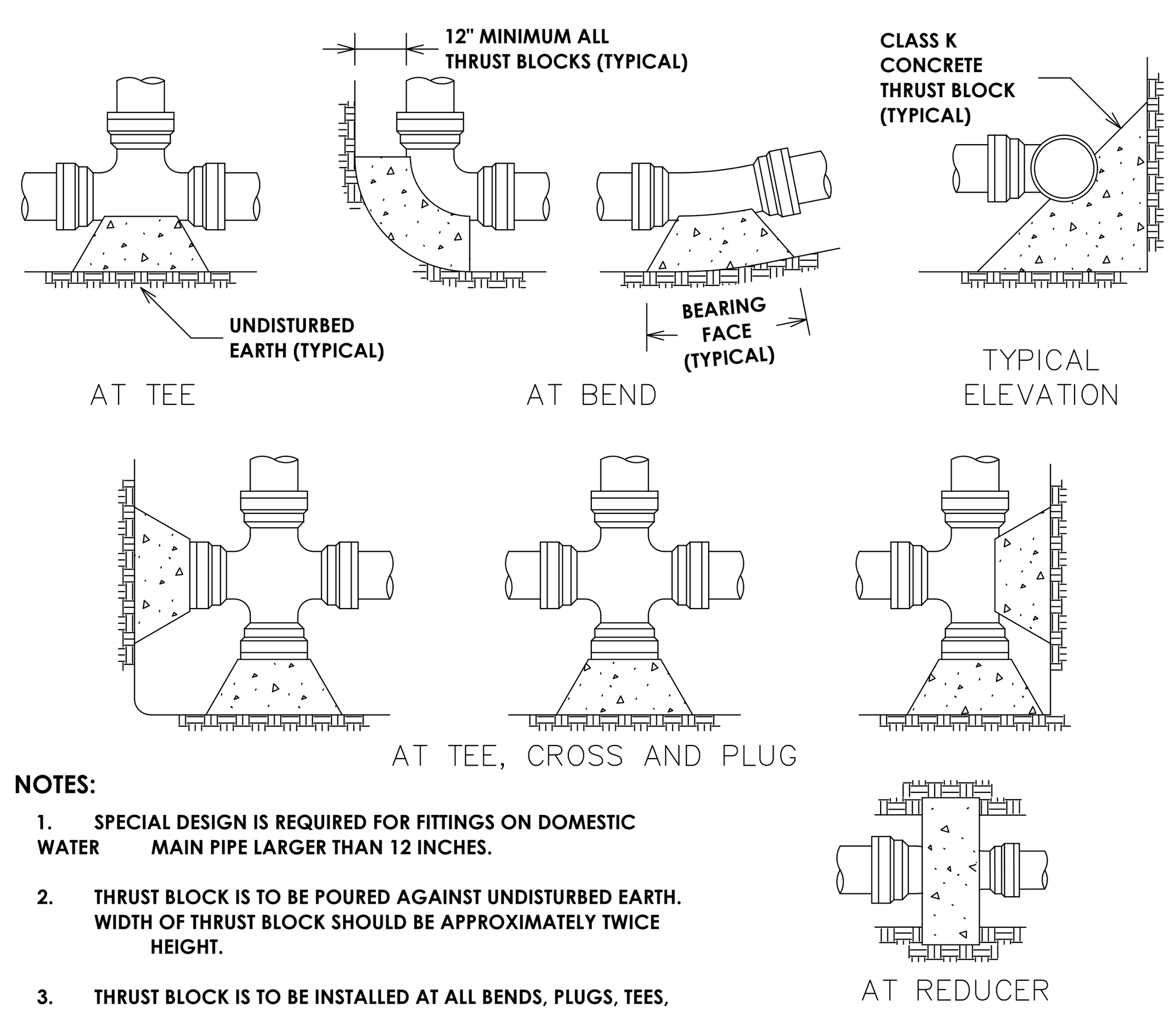
Drawing No. C 202 | Sheet No. 9

Scale: N.T.S.

Date
AUGUST 2020

NOT FOR CONSTRUCTION

AREA OF BEARING FACE OF THRUST BLOCK IN SQUARE FEET (AREA BASED ON INTERNAL PRESSURE OF 150 PSIG AND SOIL BEARING PRESSURE OF 2000 PSF) (SEE NOTE 1)							
PIPE SIZE	BEND				TEE PLUG	REDUCER	
	90°	45°	22-1/2°	11-1/4°		SIZE	AREA
4" - 6"	4	2.5	1.5	1	3	6" x 4"	2
8"	7	4	2	1	5	8" x 6"	2.5
12"	14.5	8	4	2	10.5	12" x 8"	5.5

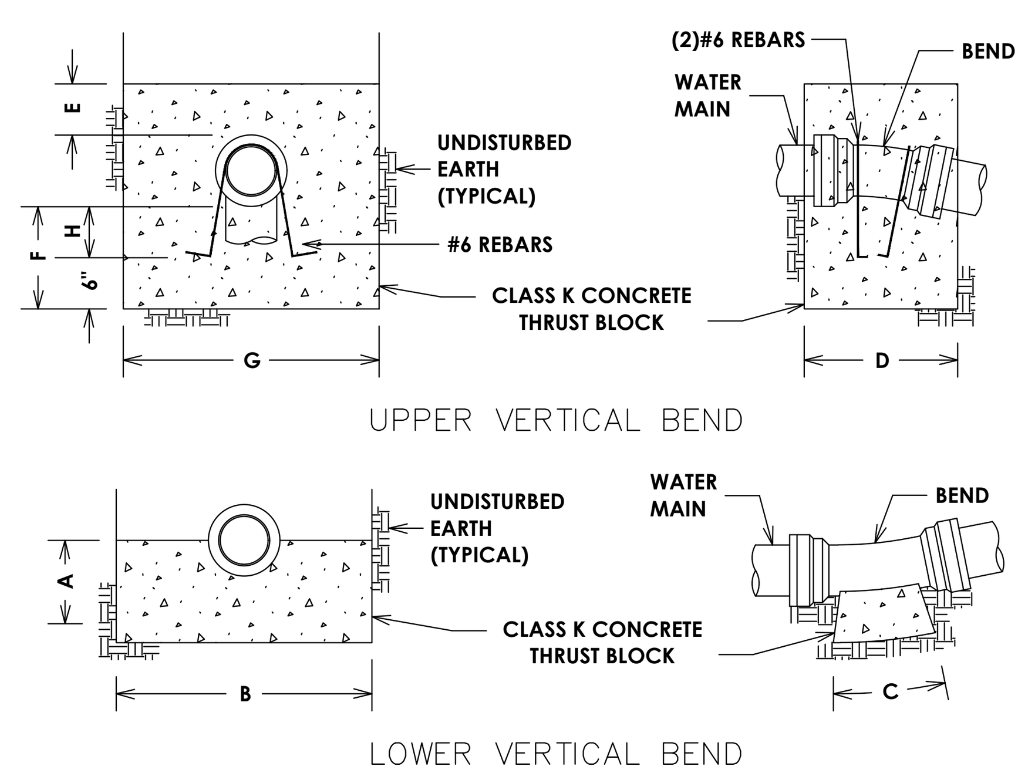


NOTES:

1. SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON DOMESTIC WATER MAIN PIPE LARGER THAN 12 INCHES.
2. THRUST BLOCK IS TO BE POURED AGAINST UNDISTURBED EARTH. WIDTH OF THRUST BLOCK SHOULD BE APPROXIMATELY TWICE HEIGHT.
3. THRUST BLOCK IS TO BE INSTALLED AT ALL BENDS, PLUGS, TEES, AND TAPPING SLEEVE AND VALVE CONNECTIONS.
4. FACTORY CAST OFFSETS ARE TO BE TREATED AS (2) 45 DEGREE BENDS.
5. FOR REDUCERS, THRUST BLOCK IS TO BE KEYED INTO WALLS AND BOTTOM OF TRENCH.
6. MECHANICAL RESTRAINT IS REQUIRED IN ADDITION TO THRUST BLOCK, SEE DETAIL S900-7.
7. WOOD BLOCKING IS NOT PERMITTED.

CITY OF ROCHESTER
HORIZONTAL THRUST BLOCK DOMESTIC SYSTEM
ISSUED 1-13-06 NON-STANDARD
REVISED 8-7-13 DWG.NO.S900-4

PIPE SIZE (INCHES)	BEND	TOP SECTION MINIMUM VOLUME CONCRETE	MINIMUM DIMENSIONS (IN FEET)							
			A	B	C	D	E	F	G	H
6"	11-1/4°	0.25 CY	1.0	2.5	1.0	1.5	0.5	1.0	2.5	0.5
	22-1/2°	0.50 CY	1.0	2.5	1.0	1.5	1.0	2.0	2.5	1.5
	45°	0.95 CY	1.0	2.5	1.0	3.0	1.5	2.0	2.5	1.5
	90°	1.30 CY	1.0	2.5	2.0	3.5	1.5	2.0	2.5	1.5
8"	11-1/4°	0.45 CY	1.0	2.7	1.0	1.5	1.0	1.5	2.7	1.0
	22-1/2°	0.90 CY	1.0	2.7	1.0	2.5	1.0	2.0	2.7	1.5
	45°	1.65 CY	1.0	2.7	1.5	3.5	1.5	2.0	3.0	1.5
	90°	2.35 CY	1.5	2.7	3.0	4.0	2.0	3.0	3.0	2.5
12"	11-1/4°	1.05 CY	1.0	3.0	1.5	2.5	1.5	2.0	3.0	1.5
	22-1/2°	2.00 CY	1.0	3.0	1.5	4.0	2.0	2.0	3.0	1.5
	45°	3.70 CY	1.5	3.0	3.0	5.0	2.0	3.0	3.5	2.5
	90°	5.20 CY	1.5	3.0	5.0	5.5	2.5	3.5	4.0	3.0

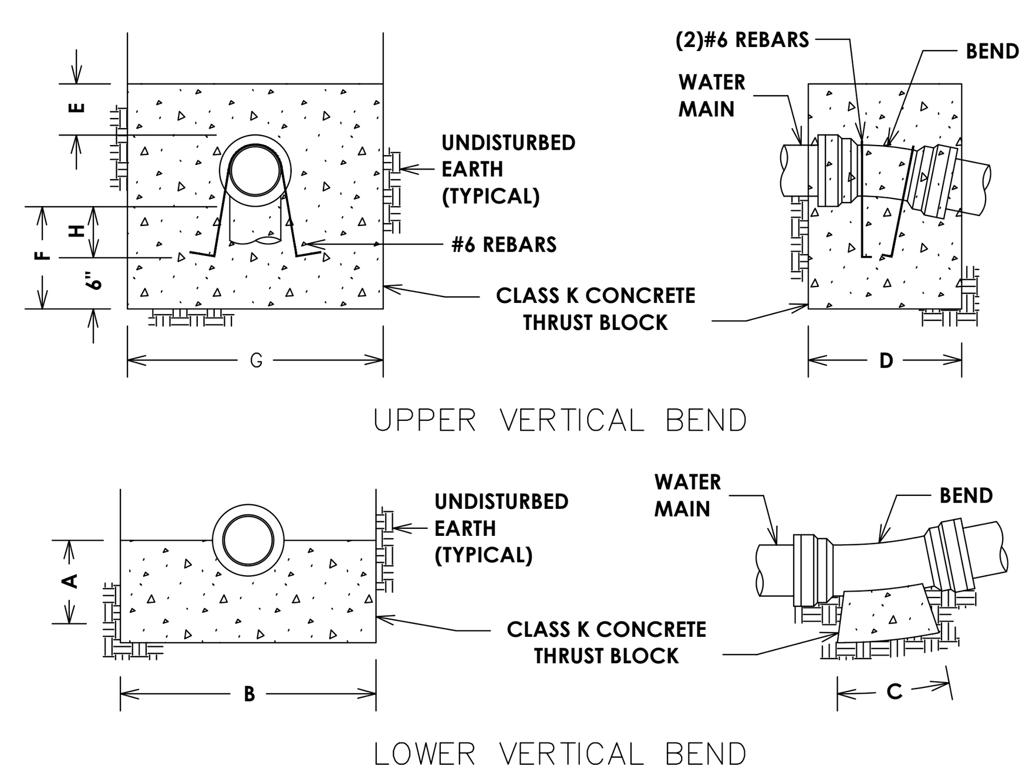


NOTES:

1. SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON DOMESTIC WATER MAIN PIPE LARGER THAN 12 INCHES.
2. MECHANICAL RESTRAINT IS REQUIRED IN ADDITION TO THRUST BLOCK, SEE DETAIL S900-7.

CITY OF ROCHESTER
VERTICAL THRUST BLOCK DOMESTIC SYSTEM
ISSUED 1-13-06 NON-STANDARD
REVISED 6-1-09 DWG.NO.S900-5

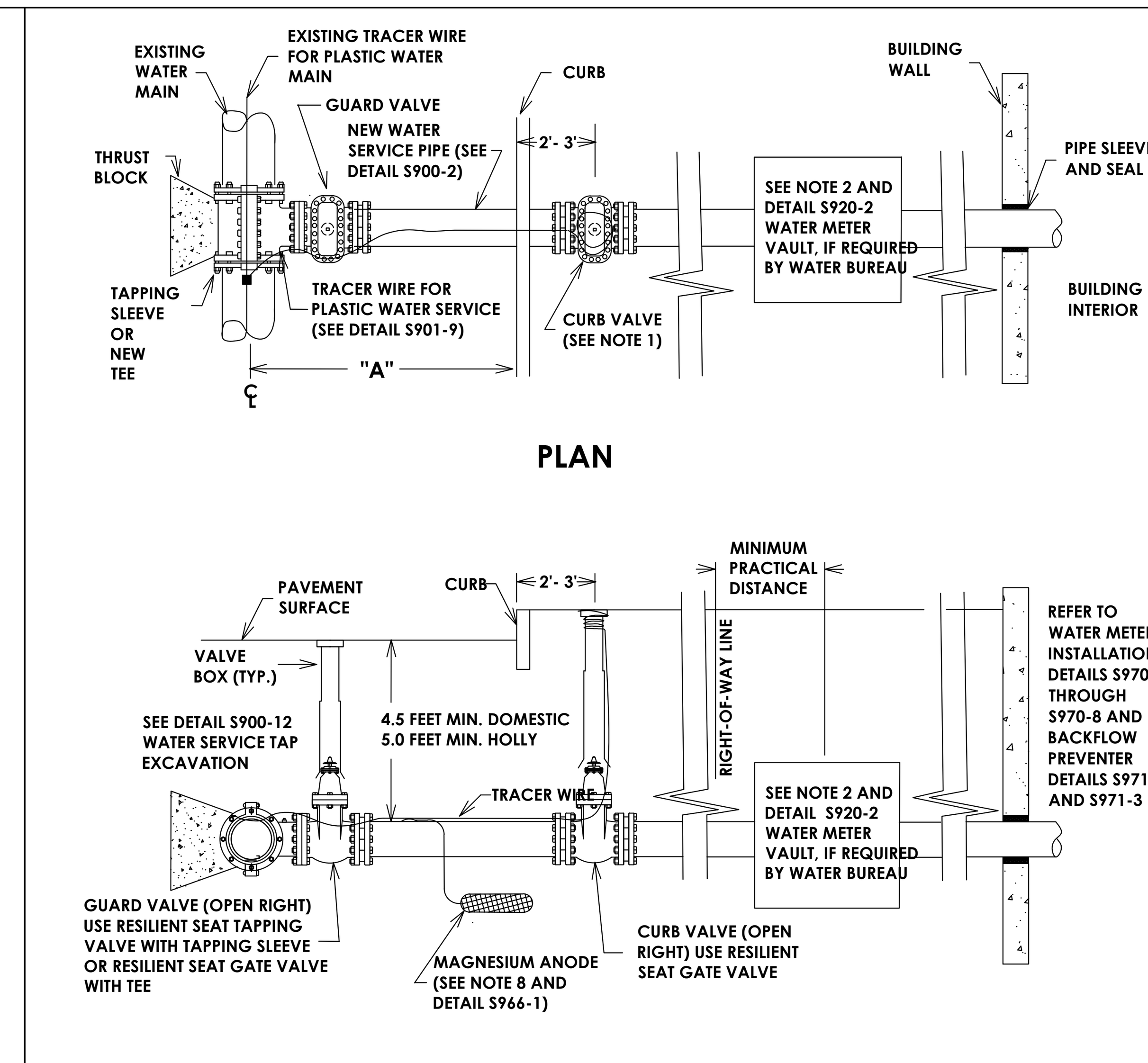
PIPE SIZE	BEND	TOP SECTION MINIMUM VOLUME CONCRETE	MINIMUM DIMENSIONS (IN FEET)							
			A	B	C	D	E	F	G	H
6"	11-1/4°	0.45 CY	1.0	2.5	1.0	2.0	1.0	1.0	2.5	0.5
	22-1/2°	0.85 CY	1.0	2.5	1.0	2.5	1.5	2.0	2.5	1.5
	45°	1.55 CY	1.0	2.5	1.5	4.0	1.5	2.0	2.5	1.5
	90°	2.20 CY	1.0	2.5	3.0	5.0	2.0	2.5	2.5	2.0
8"	11-1/4°	0.75 CY	1.0	2.7	1.0	2.0	1.0	2.0	3.0	1.5
	22-1/2°	1.50 CY	1.0	2.7	1.5	3.5	1.0	2.5	3.0	2.0
	45°	2.75 CY	1.0	2.7	2.5	5.0	1.5	2.5	3.5	2.0
	90°	3.85 CY	1.5	2.7	4.5	5.0	2.0	3.5	3.5	3.0
12"	11-1/4°	1.70 CY	1.0	3.0	1.5	3.5	1.5	2.0	3.0	1.5
	22-1/2°	3.35 CY	1.0	3.0	2.5	5.0	2.0	2.5	3.0	2.0
	45°	6.15 CY	1.5	3.0	4.5	6.5	2.5	4.0	3.5	3.5
	90°	8.70 CY	2.0	3.0	8.5	8.0	2.5	4.0	4.0	3.5



NOTES:

1. SPECIAL DESIGN IS REQUIRED FOR FITTINGS ON HOLLY WATER MAIN PIPE LARGER THAN 12 INCHES.
2. MECHANICAL RESTRAINT IS REQUIRED IN ADDITION TO THRUST BLOCK, SEE DETAIL S900-8.

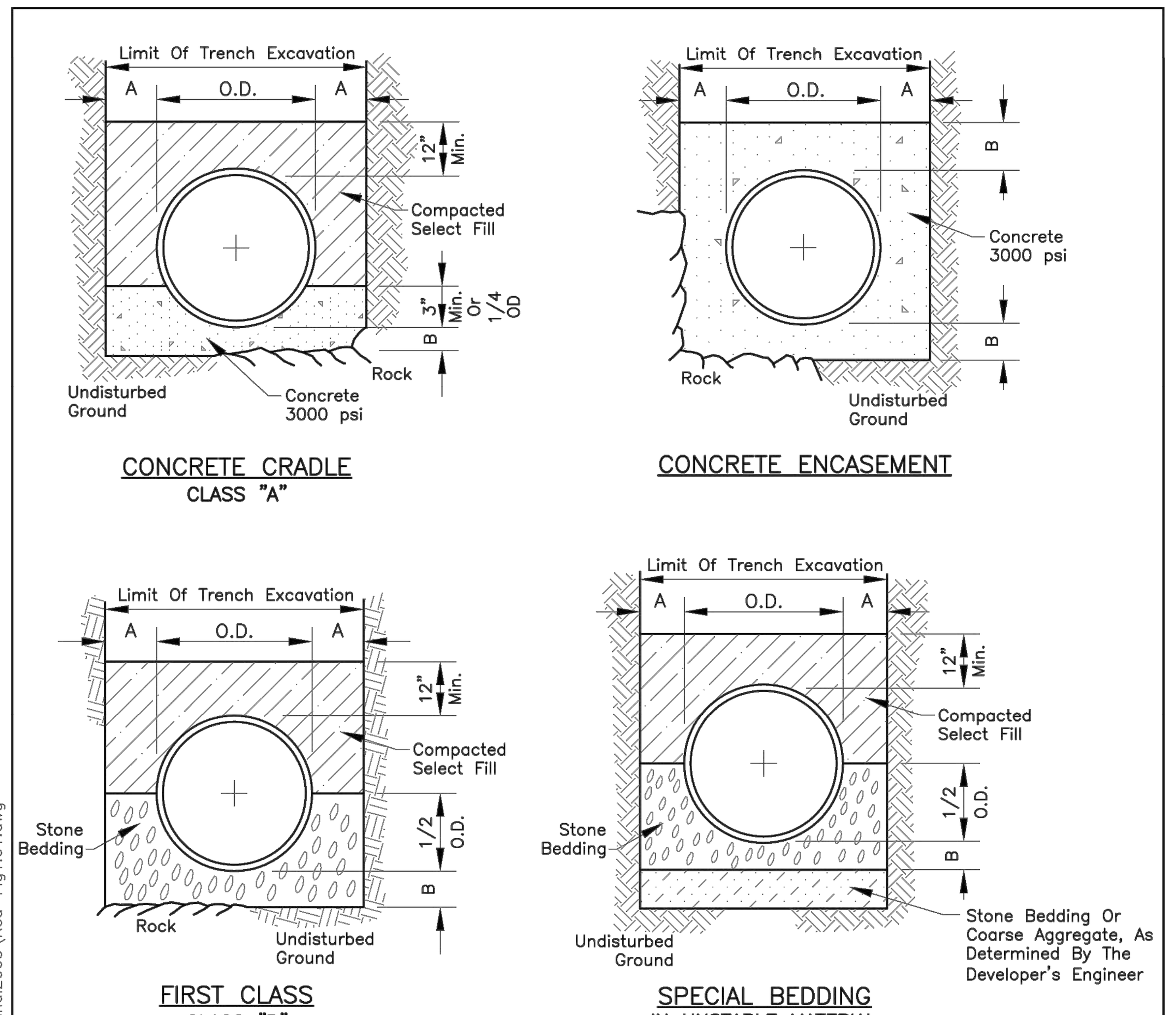
CITY OF ROCHESTER
VERTICAL THRUST BLOCK HOLLY SYSTEM
ISSUED 6-1-09 NON-STANDARD
REVISED DWG.NO.S900-10



NOTE:

FOR NEW WATER SERVICE NOTES, SEE DETAIL S970-5

CITY OF ROCHESTER
NEW WATER SERVICE 4 INCH AND LARGER ON EXISTING WATER MAIN
ISSUED 8-8-11 NON-STANDARD
REVISED DWG.NO.S970-4



PIPE DIA.	DIM. A	DIM. B
UP TO 18"	1.0'	6"
21" TO 36"	1.5'	9"
OVER 36"	1.5'	12"

NOTES:

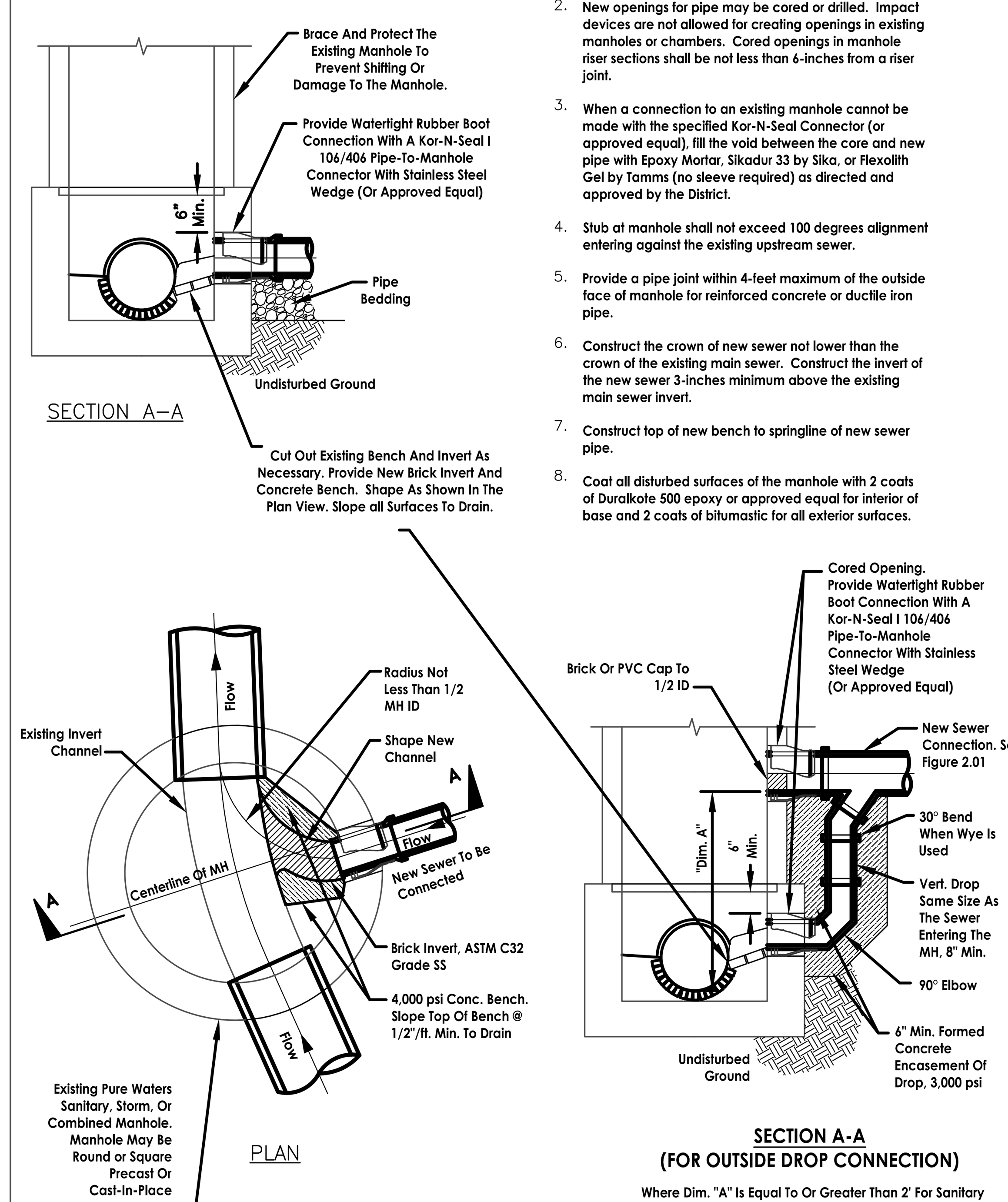
1. Trench backfill shall be as required by the highway owner.
2. Select fill shall be sand, gravel, and similar material which shall be free from clay, loam, organic material, debris, frozen material and shall contain only small amounts of stone, pebbles, or lumps over one inch in greatest dimension, but none over two inches in greatest dimension.
3. Stone bedding shall mean approved imported aggregate meeting the requirements of the New York State Department of Transportation, Standard Specification, "Crushed Stone", primary size 1 or a mixture of primary size 1 and 2, washed.
4. Coarse aggregate shall mean approved imported aggregate meeting the requirements of the New York State Department of Transportation, Standard Specification, "Crushed Stone", primary size 3 or a mixture of primary size 3 and 4.
5. This Figure 1.01 applies to Pure Waters sanitary, storm, and combined mainline sewers and lateral pipe installations, as well as forcemains.

MONROE COUNTY PURE WATERS
Feb 2005 BEDDING DETAILS FIGURE 1.01

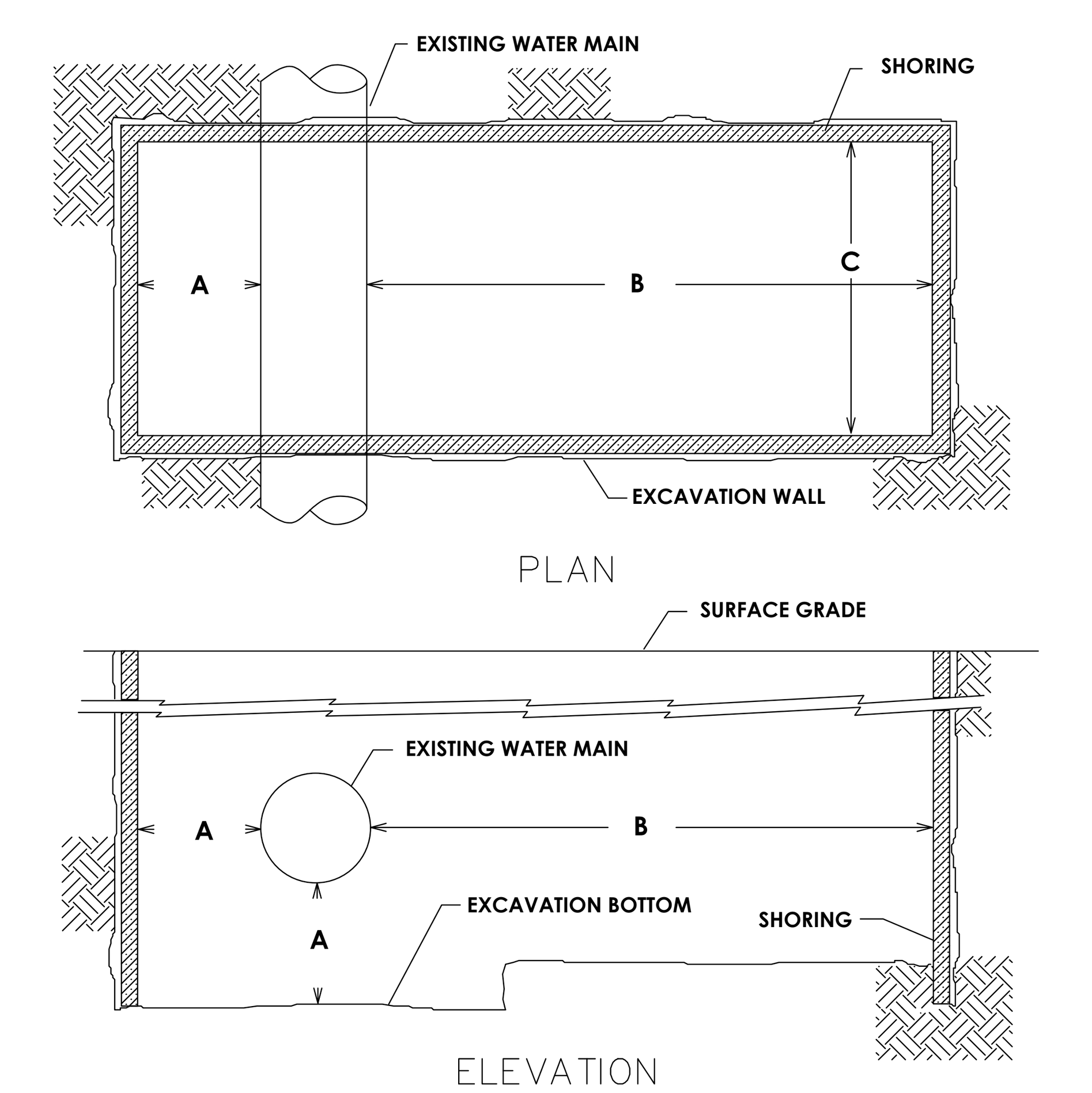
SPECIAL NOTE:
Storm sewers shall not be connected to sanitary sewers, and sanitary sewers shall not be connected to storm sewers.

NOTES:

1. Notify Pure Waters a minimum of 48 hours in advance of construction for inspection of connection. Telephone (585) 753-7600, Option 5.
2. New openings for pipe may be cored or drilled. Impact devices are not allowed for creating openings in existing manholes or chambers. Cored openings in manhole riser sections shall be not less than 6-inches from a riser joint.
3. When a connection to an existing manhole cannot be made with the specified Kor-N-Seal Connector (or approved equal), fill the void between the core and new pipe with Epoxy Mortar, Sikadur 33 by Sika, or Flexolith Gel by Tamms (no sleeve required) as directed and approved by the District.
4. Stub at manhole shall not exceed 100 degrees alignment entering against the existing upstream sewer.
5. Provide a pipe joint within 4-feet maximum of the outside face of manhole for reinforced concrete or ductile iron pipe.
6. Construct the crown of new sewer not lower than the crown of the existing main sewer. Construct the invert of the new sewer 3-inches minimum above the existing main sewer invert.
7. Construct top of new bench to springline of new sewer pipe.
8. Coat all disturbed surfaces of the manhole with 2 coats of Duralkote 500 epoxy or approved equal for interior of base and 2 coats of bitumastic for all exterior surfaces.



MONROE COUNTY PURE WATERS
FEBRUARY 2011 SEWER CONNECTIONS TO EXISTING MANHOLE FIGURE 2.03



NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL EXCAVATIONS ARE ADEQUATELY PROTECTED IN ACCORDANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS.
2. SHORING MUST BE FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH OSHA REGULATIONS, AND ADEQUATE CLEARANCES PROVIDED, WHEREVER WATER BUREAU PERSONNEL MUST ENTER AN EXCAVATION. EXCEPTIONS TO THIS POLICY CAN ONLY BE MADE BY THE DIRECTOR OF WATER OR HIS REPRESENTATIVE.
3. THE CONTRACTOR SHALL MAKE AND SHORE THE EXCAVATION, CLEAN THE AREA OF THE WATER MAIN FOR THE TAP, ATTACH THE TAPPING SLEEVE AND VALVE TO THE MAIN FOR SERVICES 4-INCH DIAMETER AND LARGER OR ATTACH THE TAPPING SADDLE (WHERE REQUIRED) TO THE MAIN FOR SERVICES 2-INCH DIAMETER AND SMALLER AND INSURE THAT THE WORK AREA IS READY FOR INSPECTION BY BUREAU PERSONNEL PRIOR TO MAKING THE TAP.

MINIMUM CLEARANCE DIMENSIONS			
EXCAVATION FOR	A	B	C
SMALL SERVICE TAP (2-INCH AND SMALLER)	0'-6"	5'-0"	4'-0"
LARGE SERVICE TAP (4-INCH AND LARGER)	1'-0"	7'-0"	4'-0"

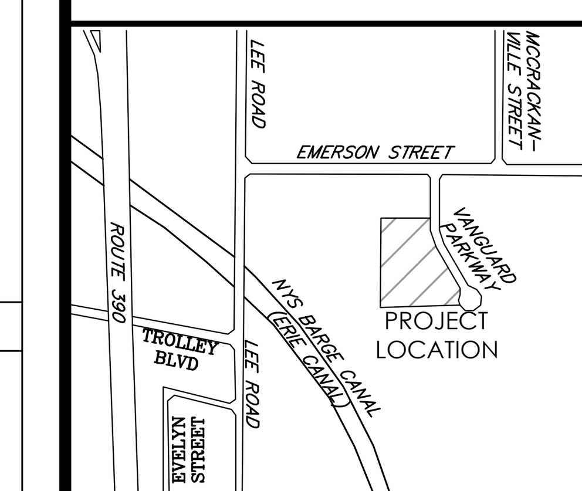
CITY OF ROCHESTER
WATER SERVICE TAP EXCAVATION
ISSUED 4-29-11 NON-STANDARD
REVISED DWG.NO.S900-12

NOTES:

1. IF DIMENSION "A" BETWEEN THE CENTERLINE OF THE WATER MAIN AND THE FACE OF CURB IS 6 FEET OR LESS, THE CURB VALVE IS NOT REQUIRED. CURB VALVE IS REQUIRED WHEN DIMENSION "A" EXCEEDS 6 FEET.
2. A METER VAULT MAY BE REQUIRED FOR A DOMESTIC SERVICE, WHEN THE WATER SERVICE LENGTH, AS MEASURED FROM THE STREET RIGHT-OF-WAY LINE TO THE BUILDING WALL, EXCEEDS 100 FEET. WHEN THE WATER SERVICE LENGTH EXCEEDS 100 FEET, THE WATER BUREAU WILL REVIEW EACH NEW WATER SERVICE PLAN TO DETERMINE IF THE METER SHOULD EITHER BE PLACED; INSIDE OF THE HEATED BUILDING; IN A METER VAULT OUTSIDE OF THE BUILDING NEAR THE RIGHT-OF-WAY LINE OR IN A HEATED ABOVE GROUND ENCLOSURE NEAR THE RIGHT-OF-WAY LINE.
3. ALL JOINTS ON NEW WATER SERVICE PIPE, FITTINGS AND VALVES SHALL BE MECHANICALLY RESTRAINED. CONCRETE THRUST BLOCKS ARE ALSO REQUIRED AT FITTINGS PER DETAIL DRAWINGS S900-4, S900-5, S900-9 AND S900-10.
4. A BACKFLOW PREVENTION DEVICE IS REQUIRED ON ALL DOMESTIC WATER SERVICES 1½ AND LARGER.
5. NEW WATER SERVICE SHALL BE PRESSURE TESTED FROM GUARD VALVE TO WITHIN 5 FEET OF EXTERIOR BUILDING WALL. PRESSURE TESTING SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION S900-3.05. PIPE, FITTING AND VALVE JOINTS ON PORTION OF SERVICE NOT SUBJECT TO PRESSURE TEST SHALL BE LEAK TESTED AT NORMAL OPERATING PRESSURE.
6. WHEN THE LENGTH OF THE NEW WATER SERVICE EXCEEDS 50 FEET, WATER SERVICE SHALL BE DISINFECTED USING THE CONTINUOUS FEED METHOD IN ACCORDANCE WITH SPECIFICATION S900-3.06. FOR WATER SERVICES LESS THAN 50 FEET, ALL WATER SERVICE PIPE, FITTINGS AND VALVES SHALL BE SPRAY OR SWAB DISINFECTED WITH 1%-5% CHLORINE SOLUTION.
7. ON PLASTIC WATER SERVICES, WHEN DIMENSION "A" IS 6 FEET OR LESS AND THE CURB VALVE IS NOT REQUIRED, EXTEND TRACER WIRE ALONG SERVICE TO RIGHT-OF-WAY LINE AND INSTALL TRACER WIRE TERMINATION BOX AT RIGHT-OF-WAY.
8. ONE MAGNESIUM ANODE IS TO BE INSTALLED ON EACH PIECE OF NEW DUCTILE IRON WATER SERVICE PIPE BETWEEN THE WATER MAIN AND RIGHT-OF-WAY LINE. SEE DETAIL S966-2. USE 17 POUND ANODE ON 4 INCH AND 6 INCH PIPE, 32 POUND ANODE ON 8 INCH AND 10 INCH PIPE AND 48 POUND ANODE ON 12 INCH PIPE.
9. ALL DUCTILE IRON WATER SERVICE PIPE, FITTINGS AND VALVES LOCATED WITHIN THE STREET RIGHT-OF-WAY ARE TO BE INSTALLED IN POLYETHYLENE ENCASEMENT.
10. IF PLANS CALL FOR THE INSTALLATION OF A TAPPING SLEEVE AND VALVE, BUT THE WATER MAIN CAN NOT BE TAPPED DUE TO SPATIAL LIMITATIONS , A NEW SERVICE TEE WITH A SERVICE VALVE MAY NEED TO BE CUT INTO THE EXISTING WATER MAIN.
11 PROPOSED DEVIATIONS TO THE APPROVED PLANS REQUIRE WATER BUREAU AUTHORIZATION BEFORE BEGINNING THE WORK.

CITY OF ROCHESTER
NEW WATER SERVICE 4 INCH AND LARGER ON EXISTING WATER MAIN – NOTES
ISSUED 8-11-11 NON-STANDARD
REVISED DWG.NO.S970-5

PASSERO ASSOCIATES
engineering architecture



City of Rochester
LOCATION SKETCH

Client:
XLI MANUFACTURING
55 VANGUARD PKWY
ROCHESTER, NY 14606

PASSERO ASSOCIATES
242 West Main Street Suite 100 Rochester, New York 14614
(585) 325-1000 Fax: (585) 325-1691

Principal-in-Charge Jess Sudol, PE
Project Manager Tim Harris, PE.
Designed by Austin Goodwin, EIT.

Revisions

No.	Date	By	Description
1			

DETAILS

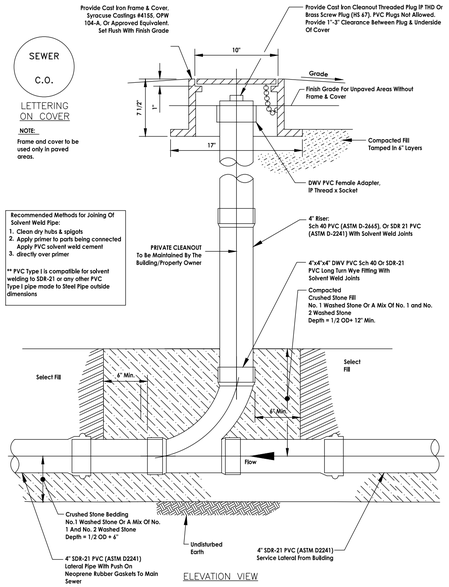
XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

Project No. 20202977.0001
Drawing No. C 203 Sheet No. 10
Scale: N.T.S.
Date AUGUST 2020

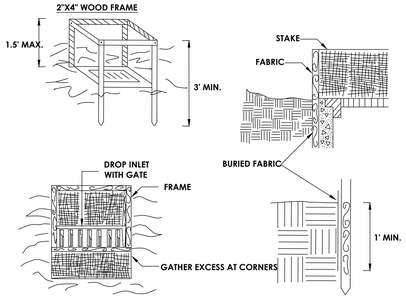
NOT FOR CONSTRUCTION

Y:\PROJECTS-NEW\2020\20202977\20202977.0001\01 CAD - BIM - MODELS\CIVIL\20202977.0001 DETAILS.DWG 8/28/2020 9:04 AM Austin Goodwin



ELEVATION VIEW

STORM CLEANOUT FOR 8" LATERAL CONNECTION

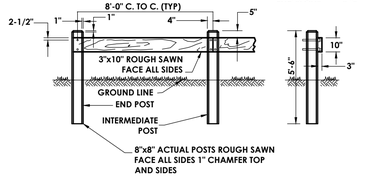


CONSTRUCTION SPECIFICATIONS

1. FILTER FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

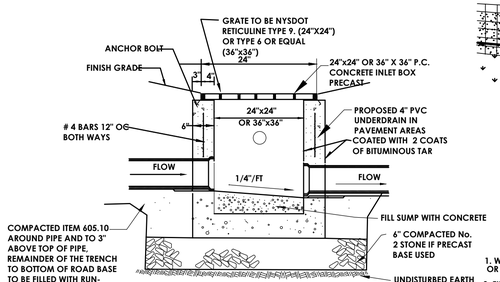
MAXIMUM DRAINAGE AREA 1 ACRE

FILTER FABRIC DROP INLET PROTECTION N.T.S.



TIMBER RAIL FENCE DETAIL

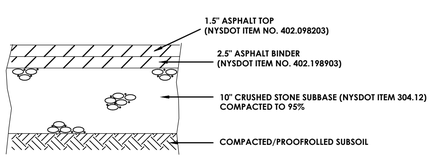
N.T.S.



1. ALL CONCRETE TO BE 3500 psi CLASS A N.Y.S.D.O.T. ITEM 601.05
2. ALL CONCRETE IN CONTACT WITH ASPHALT PAVEMENT SHALL BE COVERED WITH A TACK COAT IN ACCORDANCE WITH N.Y.S.D.O.T. SECTION 407.

STANDARD CATCH BASIN DETAIL

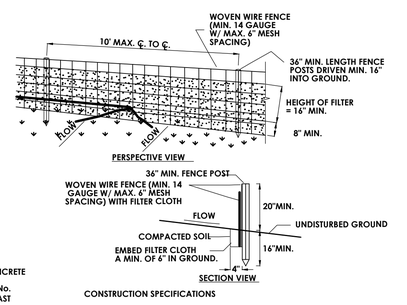
N.T.S.



NOTE: ALL DEPTHS ARE COMPACTED THICKNESSES

TYPICAL PAVEMENT SECTION

N.T.S.

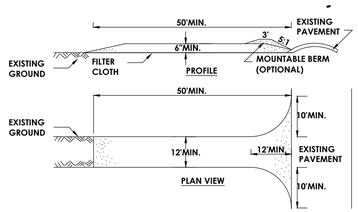


CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 14 GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SILT FENCE DETAIL

N.T.S.

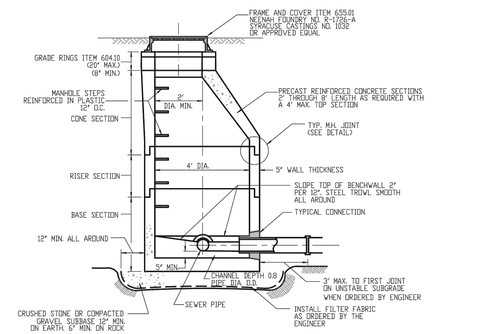


CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN

STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

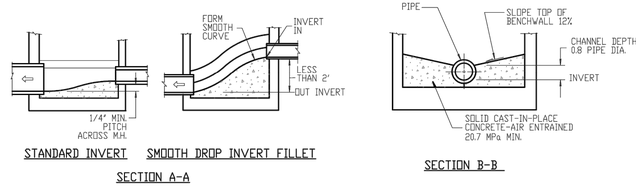


MANHOLE NOTES:

1. PRECAST CONCRETE MANHOLES MUST CONFORM TO THE REQUIREMENTS OF SECTION 706-04.
2. PRECAST CONCRETE MANHOLES TO BE PAID UNDER ITEM 604.40.
3. BASE SECTION SHOULD BE A STANDARD MONOLITHIC
4. MANHOLE STEPS SHALL CONFORM TO MATERIAL SPECIFICATION 725-02.01 AND SHALL BE INCLUDED IN THE PRICE BID FOR DROP INLETS OR MANHOLES. THE STEEL CORE CENTER OF THE REINFORCED PLASTIC STEPS SHALL BE ASTM A575, GRADE M 1020.
5. CORED OPENINGS IN MANHOLE RISER SECTIONS SHALL NOT BE LESS THAN 6" FROM A RISER JOINT.
6. STUBS 4" MAX. R.C.P., 12" MAX. ALL OTHER PIPE MATERIALS FROM OUTSIDE FACE.
7. USE TWO COATS OF SIKAGUARD NO. 62 BY SIKA OR DURALCOTE BY BURAK FOR INTERIOR COATING OF BASE TO TOP OF HIGHEST PIPE. USE TWO COATS OF KOPPERS SUPER SERVICE BLACK ON OTHER INTERIOR AND ALL EXTERIOR SURFACES.
8. ALL RISER JOINTS SHALL BE RUBBER RING GASKETS CONFORMING TO ASTM C443 WITH FLEXIBLE JOINT SEALER ON OUTSIDE OF JOINTS.
9. PIPE CONNECTIONS TO MANHOLE BASE SHALL BE BELL WALL FITTINGS FOR R.C.P. WITH STEEL RING JOINTS; BURA SEAL RUBBER GASKETS OR APPROVED EQUAL FOR ALL OTHER PIPES.
10. PRECAST BASES, RISER SECTIONS AND TOP SLABS SHALL CONFORM WITH ASTM C478.
11. MANHOLE TOP SLABS, FRAMES AND COVERS SHALL BE DESIGNED FOR USE UNDER ANY H-20 LOADING.

MONROE COUNTY MANHOLE - PRECAST CONCRETE

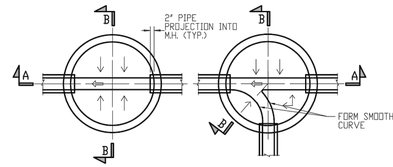
NOT TO SCALE



STANDARD INVERT SMOOTH DROP INVERT FILLET

SECTION A-A

SECTION B-B

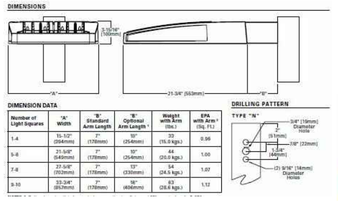


ONE-WAY INVERT MULTIPLE INVERT

PLAN

MONROE COUNTY MANHOLE - PRECAST CONCRETE INVERT

NOT TO SCALE



DIMENSION DATA

Number of Light Squares	"A" Width	"B" Standard Arm Length	"B" Optional Arm Length *	Weight with Arm (lbs.)	EPA with Arm * (Sq. Ft.)
1-4	16-1/2" (254mm)	7' (1778mm)	10' (2540mm)	33 (15.0 kgs.)	0.56
5-8	21-3/8" (543mm)	7' (1778mm)	10' (2540mm)	44 (20.0 kgs.)	1.00
7-8	27-3/8" (702mm)	7' (1778mm)	10' (2330mm)	54 (24.5 kgs.)	1.37
9-10	33-3/8" (847mm)	7' (1778mm)	10' (4064mm)	63 (28.6 kgs.)	1.72

DRILLING PATTERN

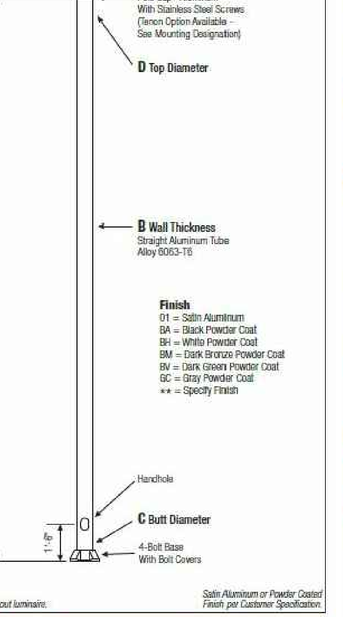
TYPE "N"

T2	4000K/5000K Lumens	6,377	12,461
	3000K Lumens	6,029	11,781
	BUG Rating	B1-U0-G2	B2-U0-G2

RSA20C6-4 - BA

CATALOG NUMBER FINISH

RSA Round Straight Aluminum Pole No Arm — 4-Bolt Base



Finish
01 = Satin Aluminum
BA = Black Powder Coat
BH = White Powder Coat
BM = Dark Bronze Powder Coat
BV = Dark Green Powder Coat
GC = Gray Powder Coat
** = Specify Finish

WARNING: Do not install light pole without luminaire.

Satin Aluminum or Powder Coated Finish per Customer Specification

A Min. Mtg. Hgt.	B Wall Thickness	C Butt Diameter	Tenon Lgth. Weight	Maximum EPA 90	100	110	120	130	Old Cat. Number	Catalog Number
20	0.156"	6	100	12.8	10.2	9.4	7.6	6.4	55-002	RSA20C6-4-**

C Butt Dia.	D Top Dia.	F Bolt Cir. Dia.	G Base Sq.	H Bolt Pads	I Bolt Size
6	5	9 - 10	9.75	2.75	.75 x 30 x 3

Dimensions in inches

Pole

The pole shaft will be constructed of seamless extruded tube of 6063 Aluminum Alloy per the requirements of ASTM B221. The shaft assembly shall be full-length heat treated after base weld to produce a T6 temper.

Base Style

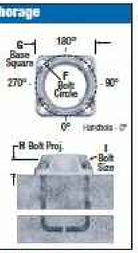
4-Bolt Cast Aluminum Base Flange of Alloy 356-T6 with Aluminum Bolt Covers (Alloy 356-F) and Stainless Steel Hex Head Attaching Screws.

Handhole

Reinforced, 3" x 5" curved Cast Aluminum Frame (Alloy 356-T6) with Aluminum Door and two (2) SS Hex Head Screws. A Grounding Provision incorporating a 3/8" diameter hole is provided opposite the Handhole.

Anchorage

Anchorage kit will include four (4) L-shaped Steel Anchor Bolts conforming to AASHTO M314-90 Grade 55, Ten inches (10") of threaded end will be galvanized per ASTM A153. Kits will contain four (4) Hex Nuts, four (4) Lock Washers, and four (4) Flat Washers (all components Galvanized (Steel). A bolt circle template will be provided.



Vibration Damper

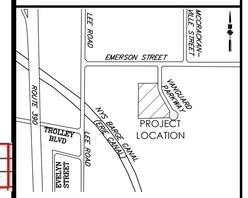
When determined necessary by Hapco, a Vibration Damper will be factory-installed inside the pole shaft. Customer specification of the damper is available.

Mounting Designation

***Side Drill Mount** - For Side Drill Mount applications specify luminaire type, quantity and orientation. A luminaire drilling template must be supplied at time of order.*

Tenon Mount
For Tenon Mount applications specify both Tenon diameter (2.375", 2.875", 3.5", etc.) and length (3", 4", etc.).

PASSERO ASSOCIATES
engineering architecture

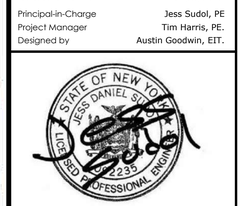


City of Rochester
LOCATION SKETCH

Client:
XLI MANUFACTURING
55 VANGUARD PKWY
ROCHESTER, NY 14606

PASSERO ASSOCIATES
242 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge	Jess Sudol, PE
Project Manager	Tim Harris, PE.
Designed by	Austin Goodwin, EIT.



Revisions

No.	Date	By	Description
1			

DETAILS

XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

Project No.
20202977.0001

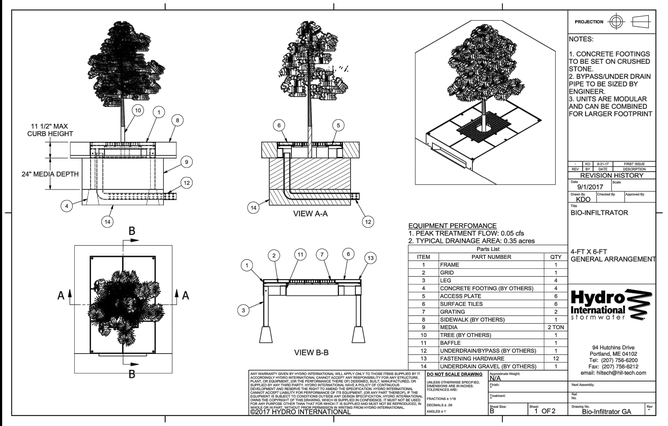
Drawing No.
C 204

Sheet No.
11

Scale:
N.T.S.

Date
AUGUST 2020

NOT FOR CONSTRUCTION



PROJECTION

NOTES:

1. CONCRETE FOOTINGS TO BE SET ON CRUSHED STONE.
2. BYPASS/UNDER DRAIN PIPE TO BE SIZED BY ENGINEER.
3. UNITS ARE MODULAR AND CAN BE COMBINED FOR LARGER FOOTPRINT

REV	BY	DATE	DESCRIPTION

REVISION HISTORY

Date: 9/1/2017 Scale:

Drawn By: KDO Checked By: Approved By:

Title:
BIO-INFILTRATOR

4-FT X 6-FT
GENERAL ARRANGEMENT

EQUIPMENT PERFOMANCE
1. PEAK TREATMENT FLOW: 0.05 cfs
2. TYPICAL DRAINAGE AREA: 0.35 acres

Parts List

ITEM	PART NUMBER	QTY
1	FRAME	1
2	GRID	1
3	LEG	4
4	CONCRETE FOOTING (BY OTHERS)	4
5	ACCESS PLATE	6
6	SURFACE TILES	6
7	GRATING	2
8	SIDEWALK (BY OTHERS)	1
9	MEDIA	2 TON
10	TREE (BY OTHERS)	1
11	BAFFLE	1
12	UNDERDRAIN/BYPASS (BY OTHERS)	1
13	FASTENING HARDWARE	12
14	UNDERDRAIN GRAVEL (BY OTHERS)	1

Hydro International
stormwater

94 Hutchins Drive
Portland, ME 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
email: hitech@hi-tech.com

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:

FRACTIONS ± 1/16
DECIMALS ± .06
ANGLES ± 1°

Approximate Weight: N/A lbs

Finish:

Treatment:

Next Assembly:

Qty:

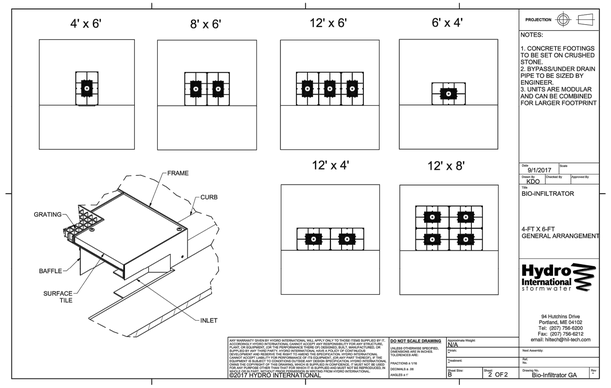
No.:

Sheet Size: B

Sheet: 1 OF 2

Drawing No.: Bio-Infiltrator GA

Rev: -



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Date: 9/1/2017 Scale:

Drawn By: KDO Checked By: Approved By:

Title:
BIO-INFILTRATOR

4-FT X 6-FT
GENERAL ARRANGEMENT

Hydro International
stormwater

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Tel: (207) 756-6200
Fax: (207) 756-6212
email: hitech@hi-tech.com

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FRACTIONS ± 1/16
DECIMALS ± .06
ANGLES ± 1°

Approximate Weight: N/A lbs

Finish:

Treatment:

Next Assembly:

Qty:

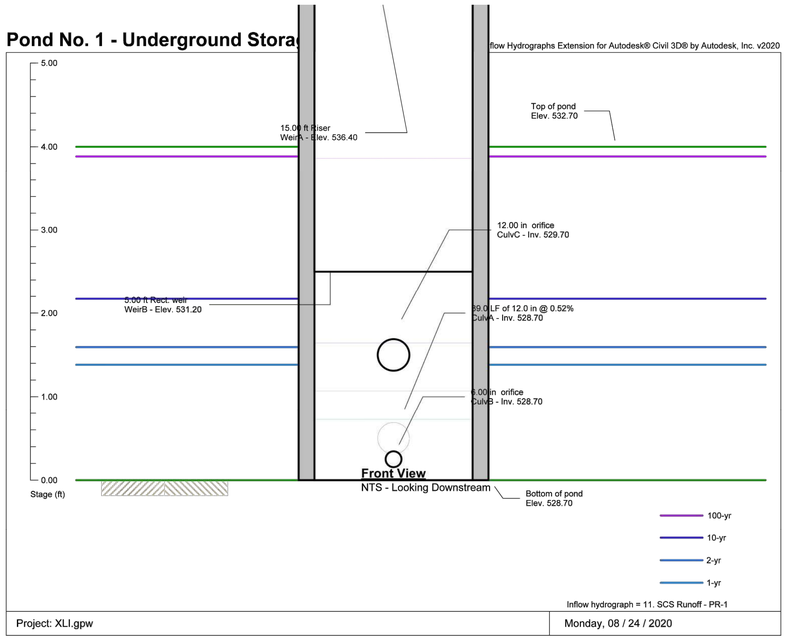
No.:

Sheet Size: B

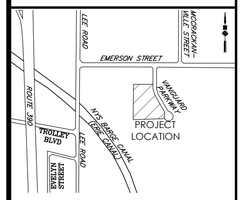
Sheet: 2 OF 2

Drawing No.: Bio-Infiltrator GA

Rev: -



PASSERO ASSOCIATES
engineering architecture



City of Rochester
LOCATION SKETCH
N.T.S.

Client:

XLI MANUFACTURING
55 VANGUARD PKWY
ROCHESTER, NY 14606

PASSERO ASSOCIATES
242 West Main Street Suite 100
Rochester, New York 14614
(585) 325-1000
Fax: (585) 325-1691

Principal-in-Charge: Jess Sudol, PE
Project Manager: Tim Harris, PE.
Designed by: Austin Goodwin, EIT.

Revisions

No.	Date	By	Description
1			

DETAILS

XLI BUILDING ADDITION

Town/City: ROCHESTER
County: MONROE State: NEW YORK

Project No.
20202977.0001

Drawing No.
C 205

Sheet No.
12

Scale:
N.T.S.

Date
AUGUST 2020

NOT FOR CONSTRUCTION

Y:\PROJECTS-NEW\2020\20202977\20202977.0001\01 CAD - BIM - MODELS\CIVIL\20202977.0001 DETAILS.DWG 8/28/2020 9:04 AM Austin Goodwin

APPENDIX 1

Historical Testing Information

OUTER LOOP INDUSTRIAL PARK INVESTIGATION
BY EMPIRE SOILS INVESTIGATIONS, INC.
NOVEMBER 1979

DS-4

DATE
STARTED 11-19-79
FINISHED 11-19-79
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS, INC.

SUBSURFACE LOG

HOLE NO. B-7
SURF ELEV 538.25
G W DEPTH See Note #1

PROJECT Outer Loop Industrial Park
LOCATION Rochester, NY

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6 6/12 12/18 N	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	3 5		Fill: Black CINDERS, Some Silt, little glass, wood, paper, ash, gravel	Note #1: Ground-water information: Boring complete, Casing @ 11.5', No free water in boring @ comple-tion. Augers out, no free water
			5 7 10			
		2	7 9			
			11 54 20			
5		3	19 14		Brown SILT, Some fine Sand	
			20 22 34		(Damp-Firm to Compact) 5.5'	
		4	8 12		Brown fine SAND & SILT, little fine gravel	
			16 23 28			
		5	42 34			
10			27 42			
		6	34 50 86 136			
					(Damp-Compact to Very Compact)	
15					Auger Refusal @ 13.5'	

N = No. blows to drive 2 "spoon 12 "with 140 lb. pin wt. falling 30 "per blow
C = No. blows to drive ____ "casing ____ "with ____ lb. weight falling ____ "per blow.
METHOD OF INVESTIGATION 3¼" HSA Casing

CLASSIFICATION Visual By Laboratory Technician

DS-4

DATE
STARTED 11-27-79
FINISHED 11-27-79
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS, INC.

SUBSURFACE LOG

HOLE NO B-1
SURF ELEV 534.72
G W DEPTH See Note #1

PROJECT Outer Loop Industrial Park LOCATION Rochester, NY

DEPTH-FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	18-24	BLOW ON CASING C	SOIL OR ROCK CLASSIFICATION	NOTES
		1	3	3				Fill: Brown SILT & fine SAND little fine gravel, trace paper (Damp-Loose) 1.0'	Note #1: Groundwater information: Boring Complete, Casing @ 8.0', No free water in boring at completion.
			5	8		8			
		2	7	9					
			11	16		20		Brown fine SAND, Some Silt, Some fine to medium Gravel (Damp-Firm)	
		3	39	26					
			19	16		45			
		4	19	24					
			31	39		55		Brown SILT, Some fine Sand, Some fine Gravel - possible TILL (Damp-Compact to Very Compact)	
		5	31	39	110	149			
								Refusal @ 9.5'	

N = No blows to drive 2 "spoon 12 "with 140 lb. pin wt. falling 30 "per blow.
C = No blows to drive ____ "casing ____ "with ____ lb. weight falling ____ "per blow.
METHOD OF INVESTIGATION 3¼" HSA Casing

CLASSIFICATION Visual By Laboratory Technician

DS-4

DATE
STARTED 11-27-79
FINISHED 11-27-79
SHEET 1 OF 1

EMPIRE SOILS INVESTIGATIONS, INC.

SUBSURFACE LOG

HOLE NO B-1
SURF ELEV 534.82
G W DEPTH See Note #1

PROJECT Outer Loop Industrial Park
LOCATION Rochester, NY

DEPTH FT	SAMPLES	SAMPLE NO	BLOWS ON SAMPLER 0/6	6/12	12/18	N	BLOW ON CASING, C	SOIL OR ROCK CLASSIFICATION	NOTES
0		1	2	4				Brown Silty fine SAND, Some fine to medium Gravel - grades little silt	Note #1: Groundwater information: Boring Complete, Casing @ 8.0', No free water in boring at completion.
			15	12		19			
		2	12	15					
			11	12		26		(Damp-Firm)	
5		3	20	22				Brown fine to medium GRAVEL & fine to coarse SAND, little silt	
			16	19		38			
		4	17	19				- possible decomposed rock	
			22	22		41			
		5	39	100	/.1			(Damp-Firm to Very Compact)	
10								Auger Refusal @ 8.6'	

N = No blows to drive 2 "spoon 12 "with 140 lb. pin wt. falling 30 "per blow.
C = No blows to drive ____ "casing ____ "with ____ lb. weight falling ____ "per blow.
METHOD OF INVESTIGATION 3¼" HSA Casing

CLASSIFICATION Visual By Laboratory Technician

NYSDEC PHASE II INVESTIGATION
BY RECRA ENVIRONMENTAL, INC.
DATED FEBRUARY 1990

DATE
STARTED 8/18/88
FINISHED 8/19/88
SHEET 1 OF 1

RECRA ENVIRONMENTAL, INC.

SUBSURFACE LOG

HOLE NO. GW-2
SURFACE ELEV. 98.2
G.W. ELEV. 74.99

PROJECT NYSDEC PHASE II INVESTIGATION
SITE #828023

LOCATION EMERSON STREET LANDFILL
ROCHESTER, NEW YORK

DEPTH-FT	RECOVERY	SAMPLE TYPE	SAMPLE NO	BLOWS ON SAMPLER 0/6	BLOWS ON SAMPLER 6/12	BLOWS ON SAMPLER 12/18	BLOWS ON SAMPLER 18/24	DESCRIPTION	NOTES
	2.0.'	SB	1	8	16	13	16	Dark brown organic SILT, trace gravel, grading to light brown fine SAND and SILT, dry, medium dense.	Boring advanced with 4 1/4 in. I.D. HSA, truck mounted CME-55 drill rig. Driller - Rocky Baye Assistant - Shawn Penrod Augering becomes easier at 2.5 ft. HNU = 5-10 ppm on SB-3, possibly due to moisture.
5	2.0'	SB	2	6	10	16	11	At 4.0 ft.: Some gray clay. At 5.0 ft.: Moist.	
	1.4'	SB	3	4	8	6	28	[SAND and SILT] 7.5'	
	1.0'	SB	4	50					
10	REC 100% RQD 100%	NX	1					Light gray fine textured dolomite, moderately hard, little weathering, few horizontal fractures, some 4-6" vertical fractures present. At 12.5 ft.: Few vugs, some light and dark gray mottling. At. 17.5 ft.: Some white precipitate present which is highly reactive to HCl, some yellow precipitate observed which appears to contain sulfur (drilling fluid begins to have a sulfurous odor). At 19.5 ft.: Encountered water table At 23.0 ft.: Core exhibits increased fracture density and weathering, apparent transmissive zone.	Explosimeter = 0% :LEL : Geiger Counter = 0 mr/hr. Micro R Meter = 6-8 micro-rem/hr. NX core run 1 drilled on 8/18/88. Rotary drilled with 4.5 in. tri-cone bit from 7.5 ft. to 12.5 ft. NX core runs 2-4 drilled on 8/19/88. Coring was done using a long ear 5 ft. NQ core barrel. Run 1 was drilled with a 58-60 carat bit.
15	REC 100% RQD 100%	NX	2						
20	REC 100% RQD 100%	NX	3						
25	REC 100% RQD 97%	NX	4					[DOLOMITE BEDROCK] 28.0'	Run 2-4 were drilled with a Series 8 bit. Boring completed at 28.0 ft. G.W. elevation taken on 12/16/88.
30									
35									

CLASSIFICATION VISUAL

METHOD OF INVESTIGATION ASTM D1586-84, D2113-83

LOG DEVELOPED BY ROBERT STEINER

PB.00214.2

TEST PIT AND SOIL SAMPLING PROGRAM REPORT
BY SEAR-BROWN GROUP
DATED MAY 1995

Table 1
Test Pit and Soil Sampling Program
Former Emerson Street Landfill
Summary of Analytical Results (mg/l)

TCLP Metals Compounds	Detection Level	Hazardous Waste Regulatory Level[1]	L-1	L-2	L-3	L-4	DUP-2(=L-4)	L-5	L-6	L-7	L-8	DUP-1(=L-8)	L-9	L-10	L-11	L-12	L-13	L-14	L-15	L-16
Arsenic	0.1	5.0																		
Barium	2	100.0		2.4		2.6		2.1	4.9	4.6	4.6		3.4	4.2	3.2	3.9	3.3	3.2	4.3	4.1
Cadmium	0.2	1.0																		
Chromium	0.1	5.0																		
Lead	2	5.0				10									11	4.1		3.3		
Mercury	0.002	0.2																		
Selenium	0.1	1.0																		
Silver	0.1	5.0																		

Notes: All values expressed in milligrams/liter (mg/l) which is similar to parts per million (ppm).
Blank space indicates these parameters were below the detection level.

Reference: (1) DEC, January 31, 1992, 6 NYCRR Part 371, "Identification and Listing of Hazardous Wastes".

12727\R0004

Test Pit Log

Project No. 2-1407.1 **Page** 1 **of** 1 **Test Pit No.** L-1
Project Name Outer Loop Industrial Park, Lot No. 38, Emerson Street, Rochester, New York
Client The Sear-Brown Group, 85 Metro Park, Rochester, New York
Elevation 539.2 **Weather** Cloudy, 30° **Inspector** J. Metzgand
Date Started 4/7/95 **Completed** 4/7/95 **Operator** Todd
Backhoe Subcontractor The Nichols Team **Equipment** Kato 4D 700

DRAFT

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			ORGANIC MAT 0'3" Firm orange, brown, black & grey mottled FILL - 90% cinders & ash, 10% glass, scrap metal, wire, brick & cobbles
4			3'2" TOPSOIL 3'10"
6			Firm yellow brown moist SILT, some sand 5'10"
8			Compact light brown moist SILT, some sand, little gravel, few cobbles
10			
12			10'10" Refusal on bedrock at 10'10"
14			Notes: 1. Sides vertical and stable 2. Dry on completion 3. Elevations provided by The Sear-Brown Group, Inc.

Test Pit Log

Project No. 2-1407.1 **Page** 1 **of** 1 **Test Pit No.** L-2
Project Name Outer Loop Industrial Park, Lot No. 38, Emerson Street, Rochester, New York
Client The Sear-Brown Group, 85 Metro Park, Rochester, New York
Elevation 540.3 **Weather** Cloudy, 30° **Inspector** J. Netzband
Date Started 4/7/95 **Completed** 4/7/95 **Operator** Todd
Backhoe Subcontractor The Nichols Team **Equipment** Kato 4D 700

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
			Firm black moist ASH & CINDER FILL, trace glass, scrap metal
			0'11"
2			TOPSOIL
			1'10"
			Firm yellow brown moist SILT, some sand, little gravel, few cobbles
4			
6			Compact below 5'0"
8			
10			
12			11'4"
			Refusal on bedrock at 11'4"
			Notes: 1. Sides vertical and stable 2. Dry on completion 3. Elevations provided by The Sear-Brown Group, Inc.
14			

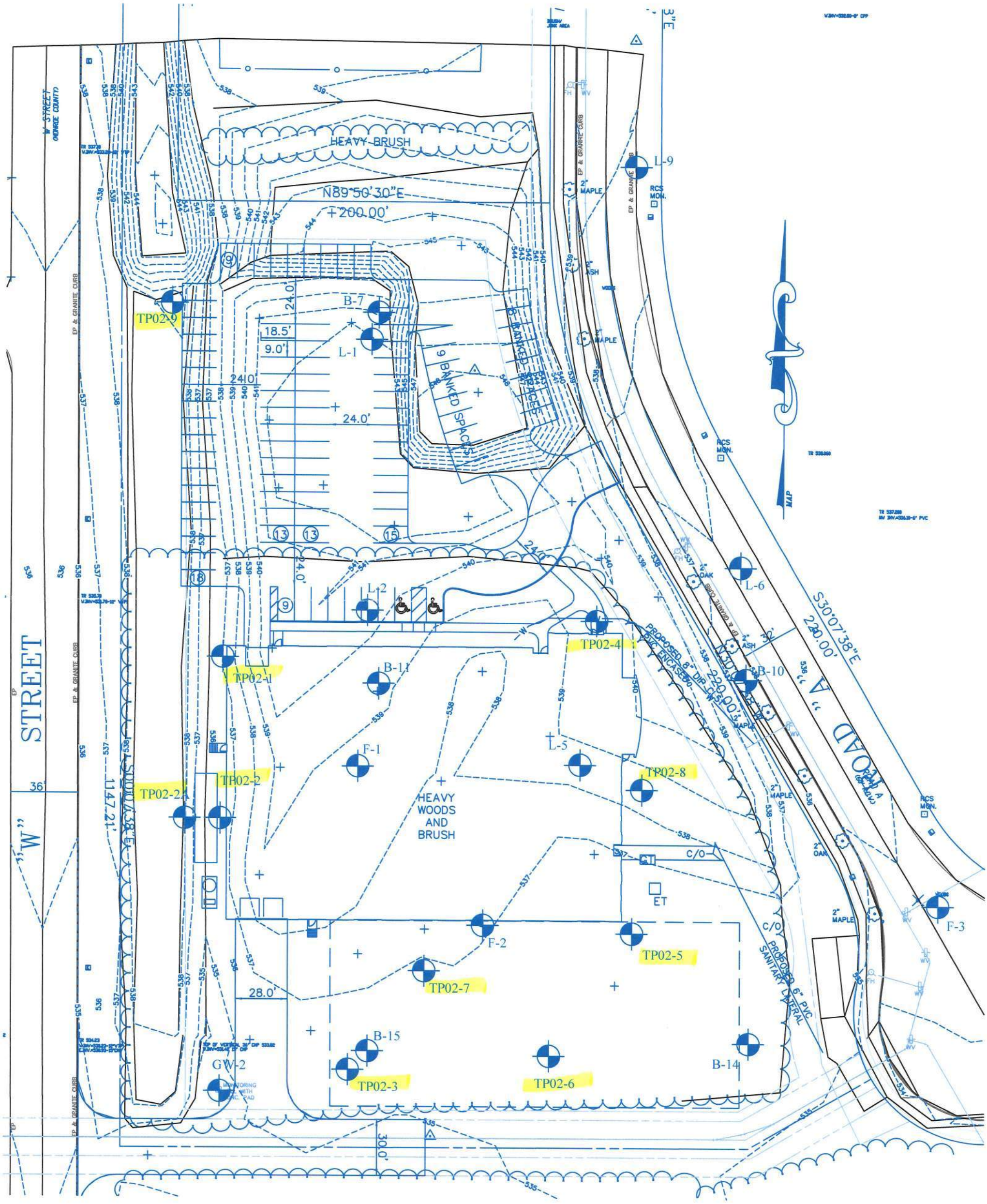
Test Pit Log

Project No. 2-1407.1 **Page** 1 **of** 1 **Test Pit No.** L-5
Project Name Outer Loop Industrial Park, Lot No. 38, Emerson Street, Rochester, New York
Client The Sear-Brown Group, 85 Metro Park, Rochester, New York
Elevation _____ **Weather** Cloudy, 30° **Inspector** J. Nezband
Date Started 4/7/95 **Completed** 4/7/95 **Operator** Joe
Backhoe Subcontractor The Nichols Team **Equipment** Kato 4D 700

DRAFT

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			Black ASH & CINDERS 1'0" GLASS & BOTTLES 2'0"
4			TOPSOIL 3'0" Firm yellow brown moist SILT, some sand, trace gravel
6			
8			Few cobbles & boulders below 7'0"
10			
12			10'7" Refusal on bedrock at 10'7"
14			Notes: 1. Sides vertical and stable 2. Dry on completion 3. Elevations provided by The Sear-Brown Group, Inc.

GEOTECHNICAL EVALUATION
BY FOUNDATION DESIGN
AUGUST 2002



Received By
LaBella Associates, P.C.

MAR 2 5 2011

Client: _____

Proj.#: _____

FOUNDATION DESIGN, P.C.
SOIL • ROCK • EXPLORATION • INSTRUMENTATION

Test Pit Log

Project No.	2-2573.0	**Page** 1 **of** 1		**Test Pit No.**	TP02-1
Project Name	XLI Corporation, Emerson Street, Rochester, New York				
Client	Day Environmental, 40 Commercial Street, Rochester, New York 14614				
Elevation	536.3	**Weather**	Sunny 85°	**Inspector**	J. Netzband
Date Started	08/02/02	**Completed**	08/02/02	**Operator**	Sam
Backhoe Subcontractor	Arrow Contracting			**Equipment**	Cat 312B

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			TOPSOIL 1'0" Compact brown damp SILT, some sand, trace gravel, few cobbles, few boulders to 18" diameter
4			
6			
8			8'0" Refusal on bedrock at 8'0"
10			
12			
14			Notes: 1. Sides vertical and stable. 2. Dry on completion.

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Test Pit Log

Project No. 2-2573.0 **Page** 1 **of** 1 **Test Pit No.** TP02-2
Project Name XLI Corporation, Emerson Street, Rochester, New York
Client Day Environmental, 40 Commercial Street, Rochester, New York 14614
Elevation 536.2 **Weather** Sunny 85° **Inspector** J. Netzband
Date Started 08/02/02 **Completed** 08/02/02 **Operator** Sam
Backhoe Subcontractor Arrow Contracting **Equipment** Cat 312B

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			TOPSOIL 1'4" Compact brown damp SILT and SAND, trace gravel
4			
6			5'4" Test pit terminated at 5'4"
8			
10			
12			
14			Notes: 1. Sides vertical and stable. 2. Dry on completion.

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Test Pit Log

Project No.	2-2573.0	**Page** 1 **of** 1		**Test Pit No.**	TP02-2A
Project Name	XLI Corporation, Emerson Street, Rochester, New York				
Client	Day Environmental, 40 Commercial Street, Rochester, New York 14614				
Elevation	538.2	**Weather**	Sunny 85°	**Inspector**	J. Netzband
Date Started	08/02/02	**Completed**	08/02/02	**Operator**	Sam
Backhoe Subcontractor	Arrow Contracting			**Equipment**	Cat 312B

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			STONE ballast (FILL) 0'9" Run-of-bank GRAVEL (FILL) 1'9" Compact brown dry SILT, some sand
4			3'9" Test pit terminated at 3'9"
6			
8			
10			
12			
14			Notes: 1. Sides vertical and stable. 2. Dry on completion.

Test Pit Log

Project No.	2-2573.0	**Page**	1	**of**	1	**Test Pit No.**	TP02-3
Project Name	XLI Corporation, Emerson Street, Rochester, New York						
Client	Day Environmental, 40 Commercial Street, Rochester, New York 14614						
Elevation	535.9	**Weather**	Sunny 85°			**Inspector**	J. Netzband
Date Started	08/02/02	**Completed**	08/02/02			**Operator**	Sam
Backhoe Subcontractor	Arrow Contracting					**Equipment**	Cat 312B

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			TOPSOIL 0'10" Firm brown dry SILT, little sand, trace gravel, few cobbles
4			
6			6'0" Dense brown moist SILT and SAND
8			
10			9'3" Possible rock at 9'3"
12			
14			Notes: 1. Sides vertical and stable. 2. Dry on completion. 3. Five feet diameter boulder 10' east of test pit.

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Test Pit Log

Project No. 2-2573.0 **Page** 1 **of** 1 **Test Pit No.** TP02-4
Project Name XLI Corporation, Emerson Street, Rochester, New York
Client Day Environmental, 40 Commercial Street, Rochester, New York 14614
Elevation 538.6 **Weather** Sunny 85° **Inspector** J. Netzband
Date Started 08/02/02 **Completed** 08/02/02 **Operator** Sam
Backhoe Subcontractor Arrow Contracting **Equipment** Cat 312B

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications / Remarks
2			ORGANIC MAT 0'2" FILL: Loose gray dry ASH, trace glass, metal, ceramics, tile 2'3"
4			TOPSOIL 3'2" Compact brown moist SILT, some sand, trace gravel
6			(Dense, slightly fractured below 6'0")
8			
10			8'4" Refusal on bedrock at 8'4"
12			
14			Notes: 1. Sides sloughed above 3'0". 2. Dry on completion. 3. Fill thickness towards the east.

Test Pit Log

Project No.	2-2573.0	**Page**	1 of 1	**Test Pit No.**	TP02-5		
Project Name	XLI Corporation, Emerson Street, Rochester, New York						
Client	Day Environmental, 40 Commercial Street, Rochester, New York 14614						
Elevation	536.3	**Weather**	Sunny 85°	**Inspector**	J. Netzband		
Date Started	08/02/02	**Completed**	08/02/02	**Operator**	Sam		
Backhoe Subcontractor	Arrow Contracting			**Equipment**	Cat 312B		

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			TOPSOIL 1'0" Compact brown damp SILT and SAND
4			
6			5'0" Compact brown damp SILT, some sand, little gravel, few cobbles
8			8'0"
10			Test pit terminated at 8'0"
12			
14			Notes: 1. Sides vertical and stable. 2. Dry on completion. 3. Piles of asphalt shingles 40' west of test pit.

Test Pit Log

Project No. 2-2573.0 **Page** 1 **of** 1 **Test Pit No.** TP02-6
Project Name XLI Corporation, Emerson Street, Rochester, New York
Client Day Environmental, 40 Commercial Street, Rochester, New York 14614
Elevation 535.3 **Weather** Sunny 85° **Inspector** J. Netzband
Date Started 08/02/02 **Completed** 08/02/02 **Operator** Sam
Backhoe Subcontractor Arrow Contracting **Equipment** Cat 312B

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			TOPSOIL with SILT and SAND (FILL) 2'0"
4			TOPSOIL 3'1" Compact brown moist SAND, some silt, little gravel, few cobbles
6			
8			7'3" Compact brown wet SAND and GRAVEL, trace silt 8'3"
10			Dense brown moist SILT, some sand, little gravel 9'1" Refusal on bedrock at 9'1"
12			
14			Notes: 1. Sides vertical and stable. 2. Slight seepage at 8'3". 3. 10' diameter boulder on structure next test pit.

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Test Pit Log

Project No.	2-2573.0	**Page** 1 **of** 1		**Test Pit No.**	TP02-7
Project Name	XLI Corporation, Emerson Street, Rochester, New York				
Client	Day Environmental, 40 Commercial Street, Rochester, New York 14614				
Elevation	537.2	**Weather**	Sunny 85°	**Inspector**	J. Netzband
Date Started	08/02/02	**Completed**	08/02/02	**Operator**	Sam
Backhoe Subcontractor	Arrow Contracting			**Equipment**	Cat 312B

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			TOPSOIL with boulders 1'4" Compact damp SILT, some sand, little gravel, cobbles and boulders
4			
6			5'0" Compact brown moist SILT, some sand, little gravel, trace clay
8			
10			8'5" Compact brown moist SILT, some sand, little gravel, few cobbles 10'0" Test pit terminated at 10'0"
12			
14			Notes: 1. Sides vertical and stable. 2. Dry on completion.

FOUNDATION DESIGN, P.C.
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Test Pit Log

Project No. 2-2573.0 **Page** 1 **of** 1 **Test Pit No.** TP02-8
Project Name XLI Corporation, Emerson Street, Rochester, New York
Client Day Environmental, 40 Commercial Street, Rochester, New York 14614
Elevation 539.7 **Weather** Sunny 85° **Inspector** J. Netzband
Date Started 08/02/02 **Completed** 08/02/02 **Operator** Sam
Backhoe Subcontractor Arrow Contracting **Equipment** Cat 312B

Depth Below Surface	Sample Number	Depth of Sample	Soil and Rock Classifications Remarks
2			FILL: Loose gray-white dry ASH, with glass, metal, ceramics 2'0"
4			TOPSOIL 3'0" Compact brown damp SILT, some sand 4'0"
6			Test pit terminated at 4'0"
8			
10			
12			
14			Notes: 1. Sides vertical and stable. 2. Dry on completion. 3. Old car located 20 feet southeast of test pit.

EMAIL REPORT TO NYSDEC/MCDOH ON DRUM REMOVAL
DAY ENVIRONMENTAL, INC.
DATED NOVEMBER 13, 2003

Jeff Danzinger

From: Jeff Danzinger
Sent: Thursday, November 13, 2003 4:41 PM
To: Todd Caffoe (E-mail); Relliott (E-mail)
Cc: Allen Rossignol (E-mail); Peter Schott (E-mail); Joseph Biondolillo (E-mail)
Subject: XLI - 55 vanguard pkwy

Todd/Rick,

Drum #2 and Drum #5 that contained VOCs were removed and placed in overpack containers, and impacted soil was subsequently removed. This action represents a source removal. Attached is a site sketch that depicts the current Drum #2/Drum #5 excavation, confirmatory sample locations, detected VOCs, and depths where samples were collected. Attached is a portion of a drawing depicting the excavation in relation to the building footprint. Also attached is a copy of the preliminary confirmatory soil sample test results and chain of custody for the confirmatory soil samples depicted on the site sketch. PID readings of 0.0 ppm were measured on ambient air headspace samples that were collected next to confirmatory soil sample locations, and volatile odors were not noted to emanate from soils in the excavation.

As shown, 4 out of 9 confirmatory samples contained detectable concentrations of VOCs. The south wall of the Drum #2 excavation is approximately 10 feet long and contained the highest concentrations of detected VOCs. The confirmatory soil sample from the south wall contained 827 ppb of acetone, which exceeds the TAGM 4046 recommended soil cleanup objective of 200 ppb. This sample was collected at a depth of 11 feet at or near the invert with the bottom of the excavation in the middle of the south wall. Other concentrations of VOCs detected in confirmatory soil samples were below TAGM 4046 recommended soil cleanup objectives.

Subsurface exploration (i.e., excavation of test pits and removal of fill) at magnetic anomalies identified during the EM-31 geophysical survey did not encounter additional buried drums in fill at the Site. Based on the work completed to date, residual VOCs are only present at the Site at the Drum #2/Drum #5 excavation.

The following approach for addressing residual VOCs in the Drum #2/Drum #5 excavation is proposed:

Remove additional soil only in proximity to the south Drum #2 excavation wall and subsequently collect new confirmatory samples for VOC testing from the south wall area. If confirmatory sample results are below TAGM 4046 recommended soil cleanup objectives, then the excavation will be backfilled. If confirmatory sample results are above TAGM 4046 recommended soil cleanup objectives, then a section of perforated passive vent piping attached to solid riser piping that leads to the exterior of the building will be installed in the excavation, which will subsequently be backfilled. In either case, an impervious barrier material would be placed near the top of the backfill in the excavation.

In addition to the actions described above, it has been identified that the current building plans produced by Edge Architecture include a vapor barrier (i.e., polyethylene sheet, ASTM 4397, 6-mils thick) beneath the entire building. It is also noted that joint fillers will be used at perimeter and internal floor joints in the building. Building specifications indicate the polyethylene sheeting used for the vapor barrier will be overlapped 6 inches and sealed with tape. These building plans are available for review upon request. The building plans also include the installation of Liquid Boot on exterior foundation walls. Installation of the items should assist in precluding the potential for residual VOCs entering the indoor air of the building from the Drum #2/Drum #5 excavation.

It is requested that the NYSDEC and the MCDOH respond whether the approach identified in

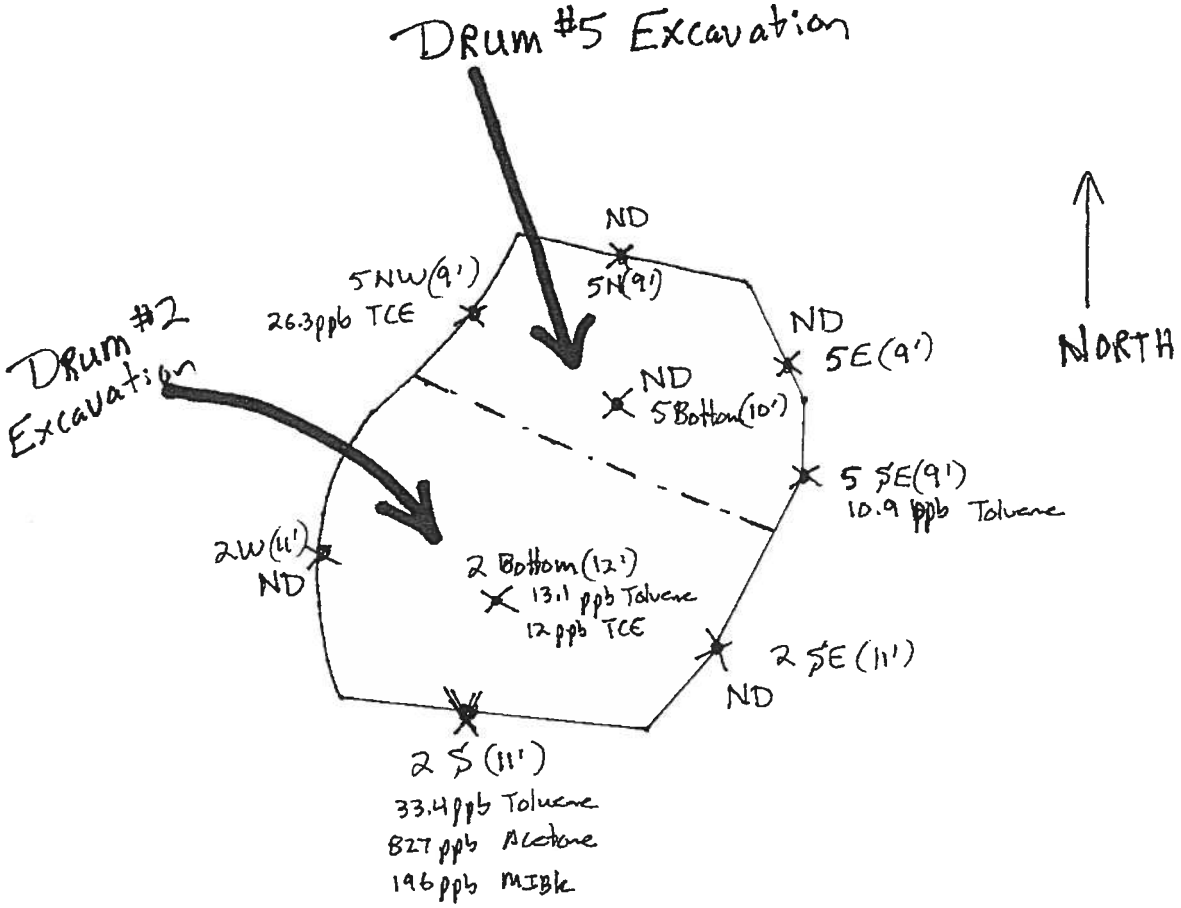
this e-mail for addressing residual VOCs in the Drum #2/Drum #5 excavation is acceptable. If there are any questions, or you would like to review drawings or specifications pertaining to the vapor barrier, etc., please contact this office.


NETSC003.pdf


NETSCAN.pdf

Jeffrey A. Danzinger
Day Environmental, Inc.
40 Commercial Street
Rochester, New York 14614-1008
Phone: (585) 454-0210 ext:114
Fax: (585) 454-0825

DAY ENVIRONMENTAL, INC.
40 COMMERCIAL STREET, ROCHESTER, NY 14614
ENVIRONMENTAL CONSULTANTS



ND = VOCs not detected at concentrations above reported analytical laboratory detection Limits.

CALC. BY: JAD DATE: 11/12/03 PROJECT NO.: XLI.31795-03

CH'KD BY: _____ DATE: _____ DESCRIPTION: Drum #2/Drum #5 Excavation

PARADIGM
ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10094
Client Job Number:	3179		
Field Location:	Drum 2 Bottom (12.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-21	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 10.1	1,2,4-Trimethylbenzene	ND< 10.1
sec-Butylbenzene	ND< 10.1	1,3,5-Trimethylbenzene	ND< 10.1
tert-Butylbenzene	ND< 10.1		
n-Propylbenzene	ND< 10.1	**Miscellaneous**	
Isopropylbenzene	ND< 10.1	Methyl tert-butyl Ether	ND< 10.1
p-Isopropyltoluene	ND< 10.1		
Naphthalene	ND< 25.4		

ELAP Number 10958 Method: EPA 8260B Data File: 17313.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

PARADIGM
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Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10095
Client Job Number:	3179		
Field Location:	Drum 2 West (11.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-22	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 7.31
Bromomethane	ND< 7.31
Bromoform	ND< 7.31
Carbon Tetrachloride	ND< 7.31
Chloroethane	ND< 7.31
Chloromethane	ND< 7.31
2-Chloroethyl vinyl Ether	ND< 7.31
Chloroform	ND< 7.31
Dibromochloromethane	ND< 7.31
1,1-Dichloroethane	ND< 7.31
1,2-Dichloroethane	ND< 7.31
1,1-Dichloroethene	ND< 7.31
cis-1,2-Dichloroethene	ND< 7.31
trans-1,2-Dichloroethene	ND< 7.31
1,2-Dichloropropane	ND< 7.31
cis-1,3-Dichloropropene	ND< 7.31
trans-1,3-Dichloropropene	ND< 7.31
Methylene chloride	ND< 18.3
1,1,2,2-Tetrachloroethane	ND< 7.31
Tetrachloroethene	ND< 7.31
1,1,1-Trichloroethane	ND< 7.31
1,1,2-Trichloroethane	ND< 7.31
Trichloroethene	ND< 7.31
Trichlorofluoromethane	ND< 7.31
Vinyl chloride	ND< 7.31

Aromatics	Results in ug / Kg
Benzene	ND< 7.31
Chlorobenzene	ND< 7.31
Ethylbenzene	ND< 7.31
Toluene	ND< 7.31
m,p-Xylene	ND< 7.31
o-Xylene	ND< 7.31
Styrene	ND< 7.31
1,2-Dichlorobenzene	ND< 7.31
1,3-Dichlorobenzene	ND< 7.31
1,4-Dichlorobenzene	ND< 7.31

Ketones	Results in ug / Kg
Acetone	ND< 36.5
2-Butanone	ND< 18.3
2-Hexanone	ND< 18.3
4-Methyl-2-pentanone	ND< 18.3

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 18.3
Vinyl acetate	ND< 18.3

ELAP Number 10958 Method: EPA 8260B Data File: 17314.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:
Bruce Hoogesteger, Technical Director

Chain of Custody provides additional sample information

File ID: 033056V2.XLS

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Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10095
Client Job Number:	3179		
Field Location:	Drum 2 West (11.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-22	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 7.31	1,2,4-Trimethylbenzene	ND< 7.31
sec-Butylbenzene	ND< 7.31	1,3,5-Trimethylbenzene	ND< 7.31
tert-Butylbenzene	ND< 7.31		
n-Propylbenzene	ND< 7.31	**Miscellaneous**	
Isopropylbenzene	ND< 7.31	Methyl tert-butyl Ether	ND< 7.31
p-Isopropyltoluene	ND< 7.31		
Naphthalene	ND< 18.3		

ELAP Number 10958 Method: EPA 8260B Data File: 17314.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:
Bruce Hoogesteger, Technical Director

Chain of Custody provides additional sample information

File ID: 033056V2.XLS

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10096
Client Job Number:	3179		
Field Location:	Drum 2 South (11.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-23	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 9.26
Bromomethane	ND< 9.26
Bromoform	ND< 9.26
Carbon Tetrachloride	ND< 9.26
Chloroethane	ND< 9.26
Chloromethane	ND< 9.26
2-Chloroethyl vinyl Ether	ND< 9.26
Chloroform	ND< 9.26
Dibromochloromethane	ND< 9.26
1,1-Dichloroethane	ND< 9.26
1,2-Dichloroethane	ND< 9.26
1,1-Dichloroethene	ND< 9.26
cis-1,2-Dichloroethene	ND< 9.26
trans-1,2-Dichloroethene	ND< 9.26
1,2-Dichloropropane	ND< 9.26
cis-1,3-Dichloropropene	ND< 9.26
trans-1,3-Dichloropropene	ND< 9.26
Methylene chloride	ND< 23.2
1,1,2,2-Tetrachloroethane	ND< 9.26
Tetrachloroethene	ND< 9.26
1,1,1-Trichloroethane	ND< 9.26
1,1,2-Trichloroethane	ND< 9.26
Trichloroethene	ND< 9.26
Trichlorofluoromethane	ND< 9.26
Vinyl chloride	ND< 9.26

Aromatics	Results in ug / Kg
Benzene	ND< 9.26
Chlorobenzene	ND< 9.26
Ethylbenzene	ND< 9.26
Toluene	33.4
m,p-Xylene	ND< 9.26
o-Xylene	ND< 9.26
Styrene	ND< 9.26
1,2-Dichlorobenzene	ND< 9.26
1,3-Dichlorobenzene	ND< 9.26
1,4-Dichlorobenzene	ND< 9.26

Ketones	Results in ug / Kg
Acetone	827
2-Butanone	ND< 23.2
2-Hexanone	ND< 23.2
4-Methyl-2-pentanone	196

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 23.2
Vinyl acetate	ND< 23.2

ELAP Number 10958 Method: EPA 8260B Data File: 17315.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

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Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10096
Client Job Number:	3179		
Field Location:	Drum 2 South (11.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-23	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 9.26	1,2,4-Trimethylbenzene	ND< 9.26
sec-Butylbenzene	ND< 9.26	1,3,5-Trimethylbenzene	ND< 9.26
tert-Butylbenzene	ND< 9.26		
n-Propylbenzene	ND< 9.26	**Miscellaneous**	
Isopropylbenzene	ND< 9.26	Methyl tert-butyl Ether	ND< 9.26
p-Isopropyltoluene	ND< 9.26		
Naphthalene	ND< 23.2		

ELAP Number 10958 Method: EPA 8260B Data File: 17315.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

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Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10097
Client Job Number:	3179		
Field Location:	Drum 2 SE(11.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-24	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 9.93
Bromomethane	ND< 9.93
Bromoform	ND< 9.93
Carbon Tetrachloride	ND< 9.93
Chloroethane	ND< 9.93
Chloromethane	ND< 9.93
2-Chloroethyl vinyl Ether	ND< 9.93
Chloroform	ND< 9.93
Dibromochloromethane	ND< 9.93
1,1-Dichloroethane	ND< 9.93
1,2-Dichloroethane	ND< 9.93
1,1-Dichloroethene	ND< 9.93
cis-1,2-Dichloroethene	ND< 9.93
trans-1,2-Dichloroethene	ND< 9.93
1,2-Dichloropropane	ND< 9.93
cis-1,3-Dichloropropene	ND< 9.93
trans-1,3-Dichloropropene	ND< 9.93
Methylene chloride	ND< 24.8
1,1,2,2-Tetrachloroethane	ND< 9.93
Tetrachloroethene	ND< 9.93
1,1,1-Trichloroethane	ND< 9.93
1,1,2-Trichloroethane	ND< 9.93
Trichloroethene	ND< 9.93
Trichlorofluoromethane	ND< 9.93
Vinyl chloride	ND< 9.93

Aromatics	Results in ug / Kg
Benzene	ND< 9.93
Chlorobenzene	ND< 9.93
Ethylbenzene	ND< 9.93
Toluene	ND< 9.93
m,p-Xylene	ND< 9.93
o-Xylene	ND< 9.93
Styrene	ND< 9.93
1,2-Dichlorobenzene	ND< 9.93
1,3-Dichlorobenzene	ND< 9.93
1,4-Dichlorobenzene	ND< 9.93

Ketones	Results in ug / Kg
Acetone	ND< 49.7
2-Butanone	ND< 24.8
2-Hexanone	ND< 24.8
4-Methyl-2-pentanone	ND< 24.8

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 24.8
Vinyl acetate	ND< 24.8

ELAP Number 10958 Method: EPA 8260B Data File: 17316.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 033056V4.XLS

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Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10097
Client Job Number:	3179		
Field Location:	Drum 2 SE(11.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-24	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 9.93	1,2,4-Trimethylbenzene	ND< 9.93
sec-Butylbenzene	ND< 9.93	1,3,5-Trimethylbenzene	ND< 9.93
tert-Butylbenzene	ND< 9.93		
n-Propylbenzene	ND< 9.93	**Miscellaneous**	
Isopropylbenzene	ND< 9.93	Methyl tert-butyl Ether	ND< 9.93
p-Isopropyltoluene	ND< 9.93		
Naphthalene	ND< 24.8		

ELAP Number 10958 Method: EPA 8260B Data File: 17316.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

PARADIGM
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Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10098
Client Job Number:	3179		
Field Location:	Drum 5 Bottom (10.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-25	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 9.73
Bromomethane	ND< 9.73
Bromoform	ND< 9.73
Carbon Tetrachloride	ND< 9.73
Chloroethane	ND< 9.73
Chloromethane	ND< 9.73
2-Chloroethyl vinyl Ether	ND< 9.73
Chloroform	ND< 9.73
Dibromochloromethane	ND< 9.73
1,1-Dichloroethane	ND< 9.73
1,2-Dichloroethane	ND< 9.73
1,1-Dichloroethene	ND< 9.73
cis-1,2-Dichloroethene	ND< 9.73
trans-1,2-Dichloroethene	ND< 9.73
1,2-Dichloropropane	ND< 9.73
cis-1,3-Dichloropropene	ND< 9.73
trans-1,3-Dichloropropene	ND< 9.73
Methylene chloride	ND< 24.3
1,1,2,2-Tetrachloroethane	ND< 9.73
Tetrachloroethene	ND< 9.73
1,1,1-Trichloroethane	ND< 9.73
1,1,2-Trichloroethane	ND< 9.73
Trichloroethene	ND< 9.73
Trichlorofluoromethane	ND< 9.73
Vinyl chloride	ND< 9.73

Aromatics	Results in ug / Kg
Benzene	ND< 9.73
Chlorobenzene	ND< 9.73
Ethylbenzene	ND< 9.73
Toluene	ND< 9.73
m,p-Xylene	ND< 9.73
o-Xylene	ND< 9.73
Styrene	ND< 9.73
1,2-Dichlorobenzene	ND< 9.73
1,3-Dichlorobenzene	ND< 9.73
1,4-Dichlorobenzene	ND< 9.73

Ketones	Results in ug / Kg
Acetone	ND< 48.6
2-Butanone	ND< 24.3
2-Hexanone	ND< 24.3
4-Methyl-2-pentanone	ND< 24.3

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 24.3
Vinyl acetate	ND< 24.3

ELAP Number 10958 Method: EPA 8260B Data File: 17316.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:
Bruce Hoogesteger; Technical Director

Chain of Custody provides additional sample information

File ID: 033056V5.XLS

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Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10098
Client Job Number:	3179		
Field Location:	Drum 5 Bottom (10.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-25	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 9.73	1,2,4-Trimethylbenzene	ND< 9.73
sec-Butylbenzene	ND< 9.73	1,3,5-Trimethylbenzene	ND< 9.73
tert-Butylbenzene	ND< 9.73		
n-Propylbenzene	ND< 9.73	**Miscellaneous**	
Isopropylbenzene	ND< 9.73	Methyl tert-butyl Ether	ND< 9.73
p-Isopropyltoluene	ND< 9.73		
Naphthalene	ND< 24.3		

ELAP Number 10958 Method: EPA 8260B Data File: 17316.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: Bruce Hoogesteger, Technical Director

Chain of Custody provides additional sample information

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10099
Client Job Number:	3179		
Field Location:	Drum 5 SE (9.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-26	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 9.87
Bromomethane	ND< 9.87
Bromoform	ND< 9.87
Carbon Tetrachloride	ND< 9.87
Chloroethane	ND< 9.87
Chloromethane	ND< 9.87
2-Chloroethyl vinyl Ether	ND< 9.87
Chloroform	ND< 9.87
Dibromochloromethane	ND< 9.87
1,1-Dichloroethane	ND< 9.87
1,2-Dichloroethane	ND< 9.87
1,1-Dichloroethene	ND< 9.87
cis-1,2-Dichloroethene	ND< 9.87
trans-1,2-Dichloroethene	ND< 9.87
1,2-Dichloropropane	ND< 9.87
cis-1,3-Dichloropropene	ND< 9.87
trans-1,3-Dichloropropene	ND< 9.87
Methylene chloride	ND< 24.7
1,1,2,2-Tetrachloroethane	ND< 9.87
Tetrachloroethene	ND< 9.87
1,1,1-Trichloroethane	ND< 9.87
1,1,2-Trichloroethane	ND< 9.87
Trichloroethene	ND< 9.87
Trichlorofluoromethane	ND< 9.87
Vinyl chloride	ND< 9.87

Aromatics	Results in ug / Kg
Benzene	ND< 9.87
Chlorobenzene	ND< 9.87
Ethylbenzene	ND< 9.87
Toluene	10.9
m,p-Xylene	ND< 9.87
o-Xylene	ND< 9.87
Styrene	ND< 9.87
1,2-Dichlorobenzene	ND< 9.87
1,3-Dichlorobenzene	ND< 9.87
1,4-Dichlorobenzene	ND< 9.87

Ketones	Results in ug / Kg
Acetone	ND< 49.3
2-Butanone	ND< 24.7
2-Hexanone	ND< 24.7
4-Methyl-2-pentanone	ND< 24.7

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 24.7
Vinyl acetate	ND< 24.7

ELAP Number 10958 Method: EPA 8260B Data File: 17318.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 033056V6.XLS

PARADIGM
ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10099
Client Job Number:	3179		
Field Location:	Drum 5 SE (9.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-26	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 9.87	1,2,4-Trimethylbenzene	ND< 9.87
sec-Butylbenzene	ND< 9.87	1,3,5-Trimethylbenzene	ND< 9.87
tert-Butylbenzene	ND< 9.87		
n-Propylbenzene	ND< 9.87	**Miscellaneous**	
Isopropylbenzene	ND< 9.87	Methyl tert-butyl Ether	ND< 9.87
p-Isopropyltoluene	ND< 9.87		
Naphthalene	ND< 24.7		

ELAP Number 10958 Method: EPA 8260B Data File: 17318.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10100
Client Job Number:	3179		
Field Location:	Drum 5 East (9.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-27	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 8.50
Bromomethane	ND< 8.50
Bromoform	ND< 8.50
Carbon Tetrachloride	ND< 8.50
Chloroethane	ND< 8.50
Chloromethane	ND< 8.50
2-Chloroethyl vinyl Ether	ND< 8.50
Chloroform	ND< 8.50
Dibromochloromethane	ND< 8.50
1,1-Dichloroethane	ND< 8.50
1,2-Dichloroethane	ND< 8.50
1,1-Dichloroethene	ND< 8.50
cis-1,2-Dichloroethene	ND< 8.50
trans-1,2-Dichloroethene	ND< 8.50
1,2-Dichloropropane	ND< 8.50
cis-1,3-Dichloropropene	ND< 8.50
trans-1,3-Dichloropropene	ND< 8.50
Methylene chloride	ND< 21.2
1,1,2,2-Tetrachloroethane	ND< 8.50
Tetrachloroethene	ND< 8.50
1,1,1-Trichloroethane	ND< 8.50
1,1,2-Trichloroethane	ND< 8.50
Trichloroethene	ND< 8.50
Trichlorofluoromethane	ND< 8.50
Vinyl chloride	ND< 8.50

Aromatics	Results in ug / Kg
Benzene	ND< 8.50
Chlorobenzene	ND< 8.50
Ethylbenzene	ND< 8.50
Toluene	ND< 8.50
m,p-Xylene	ND< 8.50
o-Xylene	ND< 8.50
Styrene	ND< 8.50
1,2-Dichlorobenzene	ND< 8.50
1,3-Dichlorobenzene	ND< 8.50
1,4-Dichlorobenzene	ND< 8.50

Ketones	Results in ug / Kg
Acetone	ND< 42.5
2-Butanone	ND< 21.2
2-Hexanone	ND< 21.2
4-Methyl-2-pentanone	ND< 21.2

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 21.2
Vinyl acetate	ND< 21.2

ELAP Number 10958 Method: EPA 8260B Data File: 17319.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:
Bruce Hoogesteger, Technical Director

Chain of Custody provides additional sample information

PARADIGM ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10100
Client Job Number:	3179		
Field Location:	Drum 5 East (9.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-27	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 8.50	1,2,4-Trimethylbenzene	ND< 8.50
sec-Butylbenzene	ND< 8.50	1,3,5-Trimethylbenzene	ND< 8.50
tert-Butylbenzene	ND< 8.50		
n-Propylbenzene	ND< 8.50	**Miscellaneous**	
Isopropylbenzene	ND< 8.50	Methyl tert-butyl Ether	ND< 8.50
p-Isopropyltoluene	ND< 8.50		
Naphthalene	ND< 21.2		

ELAP Number 10958 Method: EPA 8260B Data File: 17319.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: _____
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 033056V7.XLS

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10101
Client Job Number:	3179		
Field Location:	Drum 5 North (9.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-28	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 9.34
Bromomethane	ND< 9.34
Bromoform	ND< 9.34
Carbon Tetrachloride	ND< 9.34
Chloroethane	ND< 9.34
Chloromethane	ND< 9.34
2-Chloroethyl vinyl Ether	ND< 9.34
Chloroform	ND< 9.34
Dibromochloromethane	ND< 9.34
1,1-Dichloroethane	ND< 9.34
1,2-Dichloroethane	ND< 9.34
1,1-Dichloroethene	ND< 9.34
cis-1,2-Dichloroethene	ND< 9.34
trans-1,2-Dichloroethene	ND< 9.34
1,2-Dichloropropane	ND< 9.34
cis-1,3-Dichloropropene	ND< 9.34
trans-1,3-Dichloropropene	ND< 9.34
Methylene chloride	ND< 23.4
1,1,2,2-Tetrachloroethane	ND< 9.34
Tetrachloroethene	ND< 9.34
1,1,1-Trichloroethane	ND< 9.34
1,1,2-Trichloroethane	ND< 9.34
Trichloroethene	ND< 9.34
Trichlorofluoromethane	ND< 9.34
Vinyl chloride	ND< 9.34

Aromatics	Results in ug / Kg
Benzene	ND< 9.34
Chlorobenzene	ND< 9.34
Ethylbenzene	ND< 9.34
Toluene	ND< 9.34
m,p-Xylene	ND< 9.34
o-Xylene	ND< 9.34
Styrene	ND< 9.34
1,2-Dichlorobenzene	ND< 9.34
1,3-Dichlorobenzene	ND< 9.34
1,4-Dichlorobenzene	ND< 9.34

Ketones	Results in ug / Kg
Acetone	ND< 46.7
2-Butanone	ND< 23.4
2-Hexanone	ND< 23.4
4-Methyl-2-pentanone	ND< 23.4

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 23.4
Vinyl acetate	ND< 23.4

ELAP Number 10958 Method: EPA 8260B Date File: 17320.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 033056V8.XLS

PARADIGM
ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10101
Client Job Number:	3179		
Field Location:	Drum 5 North (9.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-28	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 9.34	1,2,4-Trimethylbenzene	ND< 9.34
sec-Butylbenzene	ND< 9.34	1,3,5-Trimethylbenzene	ND< 9.34
tert-Butylbenzene	ND< 9.34		
n-Propylbenzene	ND< 9.34	**Miscellaneous**	
Isopropylbenzene	ND< 9.34	Methyl tert-butyl Ether	ND< 9.34
p-Isopropyltoluene	ND< 9.34		
Naphthalene	ND< 23.4		

ELAP Number 10958 Method: EPA 8260B Data File: 17320.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

PARADIGM ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10102
Client Job Number:	3179		
Field Location:	Drum 5 NW (9.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-29	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 7.94
Bromomethane	ND< 7.94
Bromoform	ND< 7.94
Carbon Tetrachloride	ND< 7.94
Chloroethane	ND< 7.94
Chloromethane	ND< 7.94
2-Chloroethyl vinyl Ether	ND< 7.94
Chloroform	ND< 7.94
Dibromochloromethane	ND< 7.94
1,1-Dichloroethane	ND< 7.94
1,2-Dichloroethane	ND< 7.94
1,1-Dichloroethene	ND< 7.94
cis-1,2-Dichloroethene	ND< 7.94
trans-1,2-Dichloroethene	ND< 7.94
1,2-Dichloropropane	ND< 7.94
cis-1,3-Dichloropropene	ND< 7.94
trans-1,3-Dichloropropene	ND< 7.94
Methylene chloride	ND< 19.9
1,1,2,2-Tetrachloroethane	ND< 7.94
Tetrachloroethene	ND< 7.94
1,1,1-Trichloroethane	ND< 7.94
1,1,2-Trichloroethane	ND< 7.94
Trichloroethene	26.3
Trichlorofluoromethane	ND< 7.94
Vinyl chloride	ND< 7.94

Aromatics	Results in ug / Kg
Benzene	ND< 7.94
Chlorobenzene	ND< 7.94
Ethylbenzene	ND< 7.94
Toluene	ND< 7.94
m,p-Xylene	ND< 7.94
o-Xylene	ND< 7.94
Styrene	ND< 7.94
1,2-Dichlorobenzene	ND< 7.94
1,3-Dichlorobenzene	ND< 7.94
1,4-Dichlorobenzene	ND< 7.94

Ketones	Results in ug / Kg
Acetone	ND< 39.7
2-Butanone	ND< 19.9
2-Hexanone	ND< 19.9
4-Methyl-2-pentanone	ND< 19.9

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 19.9
Vinyl acetate	ND< 19.9

ELAP Number 10958 Method: EPA 8260B Data File: 17321.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 033056V9.XLS

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3056
		Lab Sample Number:	10102
Client Job Number:	3179		
Field Location:	Drum 5 NW (9.0')	**Date Sampled:**	11/10/2003
Field ID Number:	3179-29	**Date Received:**	11/10/2003
Sample Type:	Soil	**Date Analyzed:**	11/11/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 7.94	1,2,4-Trimethylbenzene	ND< 7.94
sec-Butylbenzene	ND< 7.94	1,3,5-Trimethylbenzene	ND< 7.94
tert-Butylbenzene	ND< 7.94		
n-Propylbenzene	ND< 7.94	**Miscellaneous**	
Isopropylbenzene	ND< 7.94	Methyl tert-butyl Ether	ND< 7.94
p-Isopropyltoluene	ND< 7.94		
Naphthalene	ND< 19.9		

ELAP Number 10958 Method: EPA 8260B Data File: 17321.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: _____
Bruce Hoogesteger, Technical Director

Chain of Custody provides additional sample information

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue
Rochester, NY 14608
(585) 647-2530 * (800) 724-1997
FAX: (585) 647-3311

CHAIN OF CUSTODY

PROJECT NAME/SITE NAME: XL1

REPORT TO:		INVOICE TO:	
COMPANY:	Day Environmental	COMPANY:	"
ADDRESS:	40 Commercial St	ADDRESS:	SAME
CITY / STATE / ZIP:	Rochester NY	CITY / STATE / ZIP:	
PHONE / FAX:	454-0210 / 454-0825	PHONE / FAX:	
ATTN:	J. Danzinger	ATTN:	
COMMENTS:			

LAB PROJECT #:
CLIENT PROJECT #: 3179

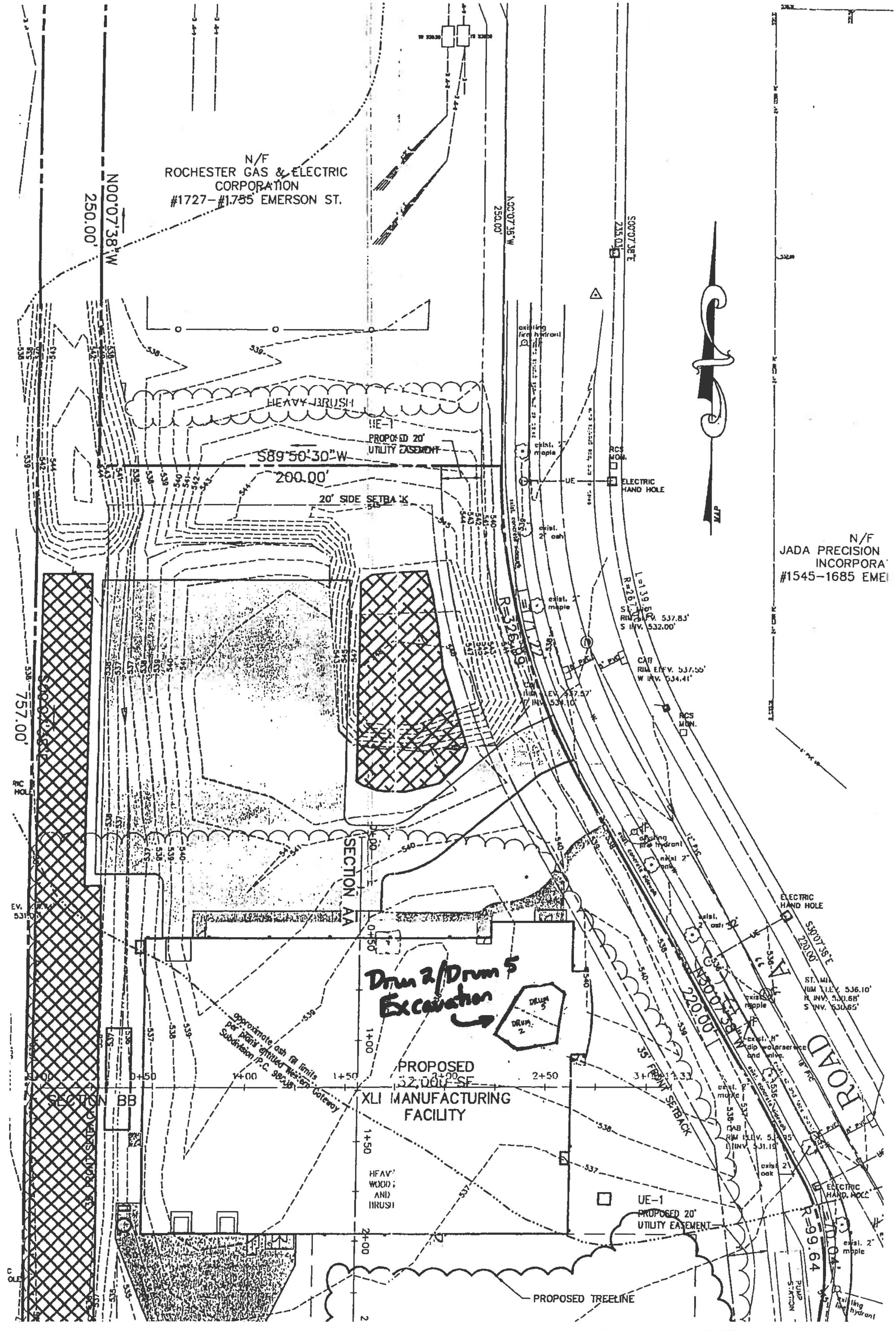
TURNAROUND TIME (WORKING DAYS): [X] 1 [ ] 2 [ ] 3 [ ] 5 (STD) [ ] OTHER

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER OF CONTAINERS	8260 TCL + STARS	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	11-10-03	1600		X	3179-21 / DRUM 2 BOTTOM (12.0')	S	1	X		
2	↓	↓		↓	3179-22 / DRUM 2 WEST (11.0')	↓	↓	X		
3					3179-23 / DRUM 2 SOUTH (11.0')			X		
4					3179-24 / DRUM 2 SE (11.0')			X		
5					3179-25 / DRUM 5 BOTTOM (10.0')			X		
6					3179-26 / DRUM 5 SE (9.0')			X		
7					3179-27 / DRUM 5 EAST (9.0')			X		
8					3179-28 / DRUM 5 NORTH (9.0')			X		
9					3179-29 / DRUM 5 N.D (9.0')			X		
10										

LAB USE ONLY

SAMPLE CONDITION: Check box if acceptable or note deviation:
CONTAINER TYPE: [ ] PRESERVATIONS: [ ] HOLDING TIME: [ ] TEMPERATURE: [ ]

Sampled By:	Date/Time:	Relinquished By:	Date/Time:	Total Cost:
Aaron Ferrell	11-10-03/1600	[signature]	11-10-03/1623	
Relinquished By:	**Date/Time:**	**Received By:**	**Date/Time:**	
Aaron Farrell	11-10-03/1610	[signature]	11/10/03 16:23	
Received By:	**Date/Time:**	**Received @ Lab By:**	**Date/Time:**	**P.I.F.**
CS [signature]	11-10-03/1610			


N/F
ROCHESTER GAS & ELECTRIC
CORPORATION
#1727-#1755 EMERSON ST.
N00°07'38"W
250.00'
HEAVY BRUSH
UE-1
PROPOSED 20'
UTILITY EASEMENT
S89°50'30"W
200.00'
20' SIDE SETBACK
ELECTRIC
HAND HOLE
757.00'
SECTION AA
Drum 2/Drum 5
Excavation
DRUM 5
DRUM 2
PROPOSED
52,000 SF
XLI MANUFACTURING
FACILITY
SECTION BB
HEAVY
WOOD
AND
BRUSH
35' FRONT SETBACK
220.00'
ROAD
UE-1
PROPOSED 20'
UTILITY EASEMENT
PROPOSED TREELINE

Jeff Danzinger

From: Jeff Danzinger
Sent: Friday, November 21, 2003 5:07 PM
To: Todd Caffoe (E-mail)
Cc: Allen Rossignol (E-mail); P. E. Sean G. Donohoe (E-mail); Peter Schott (E-mail); 'Robert Newman' (E-mail); Walt Burrows (E-mail); Joseph Biondolillo (E-mail)
Subject: FW: 55 Vanguard Parkway - Waste Management Proposal

Todd, as per an earlier conversation, it is our understanding that the NYSDEC will allow soil/fill containing VOCs below NYSDEC TAGM 4046 RSCOs that were excavated from drum locations on the above-referenced site to be relocated at the fill relocation site (6060 McCrackanville Street parcel) as part of this project.

Please respond ASAP as to whether the NYSDEC concurs.

Thanks,

Jeff

-----Original Message-----
From: Joseph Biondolillo [mailto:Biondj@cityofrochester.gov]
Sent: Friday, November 21, 2003 4:57 PM
To: pschott@xli-corp.com
Cc: Donald Brion; Mark Gregor; Anne Spaulding; Jeff Danzinger
Subject: Re: 55 Vanguard Parkway - Waste Management Proposal

Peter,

The City has discussed XLI's request to relocate the stockpiled fill that contains VOCs below the NYSDEC soil cleanup objectives to fill relocation parcel at 6060 McCrackenville St. This is acceptable to the City provided that the NYSDEC approves. I have asked DAY to confirm this in writing (e-mail) with the NYSDEC. Assuming that NYSDEC approves, XLI can relocate the fill on the 6060 McCrackenville St. parcel in the area identified to DAY representatives yesterday at an on-site meeting. DAY will be responsible for designating which stockpiles of fill can be relocated onto the City property. Other non-VOC contaminated fill can also be relocated to 6060 McCrackenville per the approved plan, and assuming it can be placed in a level and flat manner with the proper side slopes, does not create a drainage issue, and is covered with clean cover per the approved plan. Please provide me with an estimate of the total volume to be relocated.

Fill and soil which contains VOCs that exceed NYSDEC soil cleanup objectives cannot be relocated to 6060 McCrackenville St., and must be transported off-site for disposal at a permitted landfill. Thanks.

Joseph J. Biondolillo
Sr. Environmental Specialist
Division of Environmental Quality
Department of Environmental Services
City Hall, Room 300-B
30 Church Street
Rochester, NY 14614
Phone: (585) 428-6649
Fax: (585) 428-6010

>>> "Peter Schott" <pschott@xli-corp.com> 11/21/03 03:57PM >>>
November 21 ,2003

Gentlemen:

I rec'd. a proposal from Waste Management for transportation and disposal of
the suspect soil.

The proposal is based on the profile prepared by Ann Spaulding and our estimated volume of 1000 tons.

The material will go to Mill Seat. The disposal cost is $19/ton. The transportation cost is $8/ton w/ a 22 ton minimum (includes a fuel surcharge).

I am waiting to hear back from my contact at WM, Eileen Carbone, about their
ability to schedule the work for next week.

We need a determination now from the City regarding the dispostion of this
soil. Is it all going to Mill Seat? Is any soil going to the designated
lot off McCrackenville?

Peter Schott
XLI Corporation
950 Exchange Street
Rochester NY 14608
585-436-2250 (phone)
585-235-5260 (fax)

DAY

MEMORANDUM OF TELEPHONE CONVERSATION

PERSON WHO (WE) CALLED: Joe Albert

COMPANY OR AGENCY: MCOOH

TELEPHONE NUMBER: 274-6904

DATE: 11/19/03 TIME: 4:20 AM/PM

CALLER: JCHD PROJECT: XLI. 31795-03

REGARDING: response to DAY's approach to address addl'l material

NOTES: as per DAY's 11/13/03 e-mail to DEC/DOH.

Joe Albert / Rick Elliott accept approach with following exceptions:

→ soil confirmatorys must be below TAGM RSCOs

→ can forego vent pipe in excavation.

- Plastic liner in excavation is OK for use as impermeable barrier material in backfill.

- Joe or Rich will formally respond via letter or e-mail.

ACTION REQUIRED: _____

SUSPENSE DATE: ____/____/____

Jeff Danzinger

From: RElliott@monroecounty.gov
Sent: Friday, November 21, 2003 9:28 AM
To: Jeff Danzinger
Cc: JAlbert@monroecounty.gov; tmcaffoe@gw.dec.state.ny.us; biondj@cityofrochester.gov
Subject: XLI - 55 VanGuard Parkway

Jeff,

We have reviewed your memo of 11-13-03 with Todd Caffoe at NYSDEC Region 8 regarding the remediation approach to deal with Drum #2 / Drum #5 excavation area. Your proposal is acceptable with the exception that contaminated soil must be removed and properly disposed of and residual contamination must be below TAGM 4046 recommended soil cleanup objectives.

Thanks for your continuing cooperation in this matter.

Rick Elliott

Jeff Danzinger

From: Jeff Danzinger
Sent: Wednesday, November 26, 2003 2:40 PM
To: Allen Rossignol (E-mail); Peter Schott (E-mail)
Cc: Aaron Farrell; Joseph Biondolillo (E-mail); P. E. Sean G. Donohoe (E-mail); 'Robert Newman' (E-mail); Walt Burrows (E-mail); 'Donald Brion' (E-mail); JAlbert (E-mail); Todd Caffoe (E-mail)
Subject: XLI - 55 Vanguard Pkwy

On November 24, 2003, additional contaminated soil was removed from the bottom (8-11' bgs) of the south wall of the Drum #2/Drum#5 excavation. Two confirmatory soil samples (3179S-30 and 3179S-31) were subsequently collected from the bottom of this excavation wall and analyzed for volatile organic compounds (VOCs). Refer to attached Figure.

Also, DAY collected one confirmatory soil sample (designated as 3179S-32) of upper soils (about 0-8 ft bgs) that were removed from the Drum #2/Drum#5 excavation to get at the deeper contaminated soil. This samples was tested for VOCs in order to confirm this upper soil does not contain VOCs and can be re-used.

In addition, two confirmatory soil samples (designated as 3179S-33 and 3179S-34) were collected from the staged area of Drum #2 Low-VOC soils (i.e., elongated pile totaling approximately 260 cubic yards) and tested for VOCs in order to confirm VOC content is below TAGM recommended soil cleanup objectives for re-use at the 6060 McCrackenville Street.

The test results attached and are summarized as follows:

The test results for the confirmatory samples 3179S-0 and 3179S-31 from the Drum #2/Drum#5 excavation were non-detected or below respective NYSDEC recommended soil cleanup objectives. As such, further removal of soils is not required for this excavation. The excavation can now be backfilled and should including an impervious barrier material placed near the top of the backfill in the excavation (plastic polyethylene sheeting, clay-type soil, flowable fill, etc.). The NYSDEC and MCDOH has agreed to this approach.

The test results for confirmatory soil sample 3179S-32 (Drum #2/Drum#5 excavation upper soils) were non-detect; thus, they can be re-used on-site.

The test results for confirmatory soil samples 3179S-33 and 3179S-34 were below TAGM recommended soil cleanup objectives; thus, this material can be relocated for re-use at the 6060 McCrackenville Street. However, this soil material must be covered with a minimum of one-foot thick layer of clean soil.

Attached for reference is a site sketch depicting the locations of removed and staged soils and overpacked drums.

Off-Site Disposal through Waste Management is required for the following materials: Overpacked drums; Drum #2 Excavation #1 soils; Drum #2 Excavation #3 soils; Drum #5 Excavation #1 soils; and Drum #1 Excavations #1 & #2 soils

On-Site Re-Use is allowed for the following material: Drum #2 (upper soil) that is not staged on plastic.

Relocation to 6060 McCrackenville Street is allowed for the following material: Drum #2 Excavation #2 (Low-Level VOCs).

DAY plans to be on-site to assist in ensuring these materials are disposed, relocated, re-used as outlined above.

NETSC001.pdf NETSC002.pdf NETSC003.pdf

Jeffrey A. Danzinger
Day Environmental, Inc.
40 Commercial Street
Rochester, New York 14614-1008
Phone: (585) 454-0210 ext:114
Fax: (585) 454-0825

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3205
		Lab Sample Number:	10514
Client Job Number:	3179S-03		
Field Location:	Drum #2 Excav S Wall East	**Date Sampled:**	11/24/2003
Field ID Number:	3179S-30	**Date Received:**	11/24/2003
Sample Type:	Soil	**Date Analyzed:**	11/26/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 9.98
Bromomethane	ND< 9.98
Bromoform	ND< 9.98
Carbon Tetrachloride	ND< 9.98
Chloroethane	ND< 9.98
Chloromethane	ND< 9.98
2-Chloroethyl vinyl Ether	ND< 9.98
Chloroform	ND< 9.98
Dibromochloromethane	ND< 9.98
1,1-Dichloroethane	ND< 9.98
1,2-Dichloroethane	ND< 9.98
1,1-Dichloroethene	ND< 9.98
cis-1,2-Dichloroethene	ND< 9.98
trans-1,2-Dichloroethene	ND< 9.98
1,2-Dichloropropane	ND< 9.98
cis-1,3-Dichloropropene	ND< 9.98
trans-1,3-Dichloropropene	ND< 9.98
Methylene chloride	ND< 24.9
1,1,2,2-Tetrachloroethane	ND< 9.98
Tetrachloroethene	ND< 9.98
1,1,1-Trichloroethane	ND< 9.98
1,1,2-Trichloroethane	ND< 9.98
Trichloroethene	ND< 9.98
Trichlorofluoromethane	ND< 9.98
Vinyl chloride	ND< 9.98

Aromatics	Results in ug / Kg
Benzene	ND< 9.98
Chlorobenzene	ND< 9.98
Ethylbenzene	ND< 9.98
Toluene	ND< 9.98
m,p-Xylene	ND< 9.98
o-Xylene	ND< 9.98
Styrene	ND< 9.98
1,2-Dichlorobenzene	ND< 9.98
1,3-Dichlorobenzene	ND< 9.98
1,4-Dichlorobenzene	ND< 9.98

Ketones	Results in ug / Kg
Acetone	133
2-Butanone	ND< 24.9
2-Hexanone	ND< 24.9
4-Methyl-2-pentanone	35.2

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 24.9
Vinyl acetate	ND< 24.9

ELAP Number 10958 Method: EPA 8260B Data File: 17776.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: _____
Bruce Hoogesteger; Technical Director

Chain of Custody provides additional sample information

PARADIGM
ENVIRONMENTAL SERVICES, INC.
179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3205
		Lab Sample Number:	10514
Client Job Number:	3179S-03		
Field Location:	Drum #2 Excav S Wall East	**Date Sampled:**	11/24/2003
Field ID Number:	3179S-30	**Date Received:**	11/24/2003
Sample Type:	Soil	**Date Analyzed:**	11/26/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 9.98	1,2,4-Trimethylbenzene	ND< 9.98
sec-Butylbenzene	ND< 9.98	1,3,5-Trimethylbenzene	ND< 9.98
tert-Butylbenzene	ND< 9.98		
n-Propylbenzene	ND< 9.98	**Miscellaneous**	
Isopropylbenzene	ND< 9.98	Methyl tert-butyl Ether	ND< 9.98
p-Isopropyltoluene	ND< 9.98		
Naphthalene	ND< 24.9		

ELAP Number 10958 Method: EPA 8260B Data File: 17776.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: _____
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 033205V1.XLS

PARADIGM ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3205
		Lab Sample Number:	10515
Client Job Number:	3179S-03		
Field Location:	Drum #2 Excav S Wall Wes	**Date Sampled:**	11/24/2003
Field ID Number:	3179S-31	**Date Received:**	11/24/2003
Sample Type:	Soil	**Date Analyzed:**	11/26/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 10.5
Bromomethane	ND< 10.5
Bromoform	ND< 10.5
Carbon Tetrachloride	ND< 10.5
Chloroethane	ND< 10.5
Chloromethane	ND< 10.5
2-Chloroethyl vinyl Ether	ND< 10.5
Chloroform	ND< 10.5
Dibromochloromethane	ND< 10.5
1,1-Dichloroethane	ND< 10.5
1,2-Dichloroethane	ND< 10.5
1,1-Dichloroethene	ND< 10.5
cis-1,2-Dichloroethene	ND< 10.5
trans-1,2-Dichloroethene	ND< 10.5
1,2-Dichloropropane	ND< 10.5
cis-1,3-Dichloropropene	ND< 10.5
trans-1,3-Dichloropropene	ND< 10.5
Methylene chloride	ND< 26.2
1,1,2,2-Tetrachloroethane	ND< 10.5
Tetrachloroethene	ND< 10.5
1,1,1-Trichloroethane	ND< 10.5
1,1,2-Trichloroethane	ND< 10.5
Trichloroethene	ND< 10.5
Trichlorofluoromethane	ND< 10.5
Vinyl chloride	ND< 10.5

Aromatics	Results in ug / Kg
Benzene	ND< 10.5
Chlorobenzene	ND< 10.5
Ethylbenzene	ND< 10.5
Toluene	ND< 10.5
m,p-Xylene	ND< 10.5
o-Xylene	ND< 10.5
Styrene	ND< 10.5
1,2-Dichlorobenzene	ND< 10.5
1,3-Dichlorobenzene	ND< 10.5
1,4-Dichlorobenzene	ND< 10.5

Ketones	Results in ug / Kg
Acetone	ND< 52.3
2-Butanone	ND< 26.2
2-Hexanone	ND< 26.2
4-Methyl-2-pentanone	ND< 26.2

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 26.2
Vinyl acetate	ND< 26.2

ELAP Number 10958 Method: EPA 8260B Data File: 17777.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:

Bruce Hoogesteger, Technical Director

Chain of Custody provides additional sample information

File ID: 033205V2.XLS

PARADIGM
ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3205
		Lab Sample Number:	10515
Client Job Number:	3179S-03		
Field Location:	Drum #2 Excav S Wall West	**Date Sampled:**	11/24/2003
Field ID Number:	3179S-31	**Date Received:**	11/24/2003
Sample Type:	Soil	**Date Analyzed:**	11/26/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 10.5	1,2,4-Trimethylbenzene	ND< 10.5
sec-Butylbenzene	ND< 10.5	1,3,5-Trimethylbenzene	ND< 10.5
tert-Butylbenzene	ND< 10.5		
n-Propylbenzene	ND< 10.5	**Miscellaneous**	
Isopropylbenzene	ND< 10.5	Methyl tert-butyl Ether	ND< 10.5
p-Isopropyltoluene	ND< 10.5		
Naphthalene	ND< 26.2		

ELAP Number 10958 Method: EPA 8260B Data File: 17777.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: Bruce Hoogesteger, Technical Director

Chain of Custody provides additional sample information

PARADIGM ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site: XLI
Client Job Number: 3179S-03
Field Location: Drum #2 Top 8'
Field ID Number: 3179S-32
Sample Type: Soil

Lab Project Number: 03-3205
Lab Sample Number: 10516
Date Sampled: 11/24/2003
Date Received: 11/24/2003
Date Analyzed: 11/26/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 9.00
Bromomethane	ND< 9.00
Bromoform	ND< 9.00
Carbon Tetrachloride	ND< 9.00
Chloroethane	ND< 9.00
Chloromethane	ND< 9.00
2-Chloroethyl vinyl Ether	ND< 9.00
Chloroform	ND< 9.00
Dibromochloromethane	ND< 9.00
1,1-Dichloroethane	ND< 9.00
1,2-Dichloroethane	ND< 9.00
1,1-Dichloroethene	ND< 9.00
cis-1,2-Dichloroethene	ND< 9.00
trans-1,2-Dichloroethene	ND< 9.00
1,2-Dichloropropane	ND< 9.00
cis-1,3-Dichloropropene	ND< 9.00
trans-1,3-Dichloropropene	ND< 9.00
Methylene chloride	ND< 22.5
1,1,2,2-Tetrachloroethane	ND< 9.00
Tetrachloroethene	ND< 9.00
1,1,1-Trichloroethane	ND< 9.00
1,1,2-Trichloroethane	ND< 9.00
Trichloroethene	ND< 9.00
Trichlorofluoromethane	ND< 9.00
Vinyl chloride	ND< 9.00

Aromatics	Results in ug / Kg
Benzene	ND< 9.00
Chlorobenzene	ND< 9.00
Ethylbenzene	ND< 9.00
Toluene	ND< 9.00
m,p-Xylene	ND< 9.00
o-Xylene	ND< 9.00
Styrene	ND< 9.00
1,2-Dichlorobenzene	ND< 9.00
1,3-Dichlorobenzene	ND< 9.00
1,4-Dichlorobenzene	ND< 9.00

Ketones	Results in ug / Kg
Acetone	ND< 45.0
2-Butanone	ND< 22.5
2-Hexanone	ND< 22.5
4-Methyl-2-pentanone	ND< 22.5

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 22.5
Vinyl acetate	ND< 22.5

ELAP Number 10958 Method: EPA 8260B Data File: 17778.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: _____
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 033205V3.XLS

PARADIGM
ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3205
		Lab Sample Number:	10516
Client Job Number:	3179S-03		
Field Location:	Drum #2 Top 8'	**Date Sampled:**	11/24/2003
Field ID Number:	3179S-32	**Date Received:**	11/24/2003
Sample Type:	Soil	**Date Analyzed:**	11/26/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 9.00	1,2,4-Trimethylbenzene	ND< 9.00
sec-Butylbenzene	ND< 9.00	1,3,5-Trimethylbenzene	ND< 9.00
tert-Butylbenzene	ND< 9.00		
n-Propylbenzene	ND< 9.00	**Miscellaneous**	
Isopropylbenzene	ND< 9.00	Methyl tert-butyl Ether	ND< 9.00
p-Isopropyltoluene	ND< 9.00		
Naphthalene	ND< 22.5		

ELAP Number 10958 Method: EPA 8260B Data File: 17778.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: _____
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

PARADIGM ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site: XLI
Client Job Number: 3179S-03
Field Location: Low VOC South Half
Field ID Number: 3179S-33
Sample Type: Soil

Lab Project Number: 03-3205
Lab Sample Number: 10517

Date Sampled: 11/24/2003
Date Received: 11/24/2003
Date Analyzed: 11/26/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 9.91
Bromomethane	ND< 9.91
Bromoform	ND< 9.91
Carbon Tetrachloride	ND< 9.91
Chloroethane	ND< 9.91
Chloromethane	ND< 9.91
2-Chloroethyl vinyl Ether	ND< 9.91
Chloroform	ND< 9.91
Dibromochloromethane	ND< 9.91
1,1-Dichloroethane	ND< 9.91
1,2-Dichloroethane	ND< 9.91
1,1-Dichloroethene	ND< 9.91
cis-1,2-Dichloroethene	ND< 9.91
trans-1,2-Dichloroethene	ND< 9.91
1,2-Dichloropropane	ND< 9.91
cis-1,3-Dichloropropene	ND< 9.91
trans-1,3-Dichloropropene	ND< 9.91
Methylene chloride	ND< 24.8
1,1,2,2-Tetrachloroethane	ND< 9.91
Tetrachloroethene	ND< 9.91
1,1,1-Trichloroethane	ND< 9.91
1,1,2-Trichloroethane	ND< 9.91
Trichloroethene	ND< 9.91
Trichlorofluoromethane	ND< 9.91
Vinyl chloride	ND< 9.91

Aromatics	Results in ug / Kg
Benzene	ND< 9.91
Chlorobenzene	ND< 9.91
Ethylbenzene	ND< 9.91
Toluene	ND< 9.91
m,p-Xylene	ND< 9.91
o-Xylene	ND< 9.91
Styrene	ND< 9.91
1,2-Dichlorobenzene	ND< 9.91
1,3-Dichlorobenzene	ND< 9.91
1,4-Dichlorobenzene	ND< 9.91

Ketones	Results in ug / Kg
Acetone	ND< 49.6
2-Butanone	ND< 24.8
2-Hexanone	ND< 24.8
4-Methyl-2-pentanone	ND< 24.8

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 24.8
Vinyl acetate	ND< 24.8

ELAP Number 10958 Method: EPA 8260B Data File: 17779.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature:
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 033205V4.XLS

PARADIGM
ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3205
		Lab Sample Number:	10517
Client Job Number:	3179S-03		
Field Location:	Low VOC South Half	**Date Sampled:**	11/24/2003
Field ID Number:	3179S-33	**Date Received:**	11/24/2003
Sample Type:	Soil	**Date Analyzed:**	11/26/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 9.91	1,2,4-Trimethylbenzene	ND< 9.91
sec-Butylbenzene	ND< 9.91	1,3,5-Trimethylbenzene	ND< 9.91
tert-Butylbenzene	ND< 9.91		
n-Propylbenzene	ND< 9.91	**Miscellaneous**	
Isopropylbenzene	ND< 9.91	Methyl tert-butyl Ether	ND< 9.91
p-Isopropyltoluene	ND< 9.91		
Naphthalene	ND< 24.6		

ELAP Number 10958 Method: EPA 8260B Data File: 17779.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: _____
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 03320SV4.XLS

PARADIGM ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3205
		Lab Sample Number:	10518
Client Job Number:	3179S-03		
Field Location:	Low VOC North Half	**Date Sampled:**	11/24/2003
Field ID Number:	3179S-34	**Date Received:**	11/24/2003
Sample Type:	Soil	**Date Analyzed:**	11/26/2003

Halocarbons	Results in ug / Kg
Bromodichloromethane	ND< 6.40
Bromomethane	ND< 6.40
Bromoform	ND< 6.40
Carbon Tetrachloride	ND< 6.40
Chloroethane	ND< 6.40
Chloromethane	ND< 6.40
2-Chloroethyl vinyl Ether	ND< 6.40
Chloroform	ND< 6.40
Dibromochloromethane	ND< 6.40
1,1-Dichloroethane	ND< 6.40
1,2-Dichloroethane	ND< 6.40
1,1-Dichloroethene	ND< 6.40
cis-1,2-Dichloroethene	ND< 6.40
trans-1,2-Dichloroethene	ND< 6.40
1,2-Dichloropropane	ND< 6.40
cis-1,3-Dichloropropene	ND< 6.40
trans-1,3-Dichloropropene	ND< 6.40
Methylene chloride	ND< 16.0
1,1,2,2-Tetrachloroethane	ND< 6.40
Tetrachloroethene	ND< 6.40
1,1,1-Trichloroethane	ND< 6.40
1,1,2-Trichloroethane	ND< 6.40
Trichloroethene	18.7
Trichlorofluoromethane	ND< 6.40
Vinyl chloride	ND< 6.40

Aromatics	Results in ug / Kg
Benzene	ND< 6.40
Chlorobenzene	ND< 6.40
Ethylbenzene	ND< 6.40
Toluene	ND< 6.40
m,p-Xylene	ND< 6.40
o-Xylene	ND< 6.40
Styrene	ND< 6.40
1,2-Dichlorobenzene	ND< 6.40
1,3-Dichlorobenzene	ND< 6.40
1,4-Dichlorobenzene	ND< 6.40

Ketones	Results in ug / Kg
Acetone	ND< 32.0
2-Butanone	ND< 16.0
2-Hexanone	ND< 16.0
4-Methyl-2-pentanone	ND< 16.0

Miscellaneous	Results in ug / Kg
Carbon disulfide	ND< 16.0
Vinyl acetate	ND< 16.0

ELAP Number 10968 Method: EPA 8260B Data File: 17780.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: Bruce Hoogesteger, Technical Director

Chain of Custody provides additional sample information

File ID: 033205V5.XLS

PARADIGM
ENVIRONMENTAL SERVICES, INC. 179 Lake Avenue Rochester, New York 14608 (585) 647 - 2530 FAX (585) 647 - 3311

Volatile Analysis Report for Soils/Solids/Sludges (Additional STARS Compounds)

Client: Day Environmental

Client Job Site:	XLI	**Lab Project Number:**	03-3205
		Lab Sample Number:	10518
Client Job Number:	3179S-03		
Field Location:	Low VOC North Half	**Date Sampled:**	11/24/2003
Field ID Number:	3179S-34	**Date Received:**	11/24/2003
Sample Type:	Soil	**Date Analyzed:**	11/26/2003

Aromatics	Results in ug / Kg	Aromatics	Results in ug / Kg
n-Butylbenzene	ND< 6.40	1,2,4-Trimethylbenzene	ND< 6.40
sec-Butylbenzene	ND< 6.40	1,3,5-Trimethylbenzene	ND< 6.40
tert-Butylbenzene	ND< 6.40		
n-Propylbenzene	ND< 6.40	**Miscellaneous**	
Isopropylbenzene	ND< 6.40	Methyl tert-butyl Ether	ND< 6.40
p-Isopropyltoluene	ND< 6.40		
Naphthalene	ND< 16.0		

ELAP Number 10958 Method: EPA 8260B Data File: 17760.D

Comments: ND denotes Non Detect
ug / Kg = microgram per Kilogram

Signature: _____
Bruce Hoogesteger: Technical Director

Chain of Custody provides additional sample information

File ID: 033205VS.XLS

PARADIGM ENVIRONMENTAL SERVICES, INC.

179 Lake Avenue
Rochester, NY 14608
(585) 647-2530 * (800) 724-1997
FAX: (595) 647-3311

CHAIN OF CUSTODY

REPORT TO

COMPANY: Day Environmental
ADDRESS: 40 Commercial St
CITY: Rochester STATE: NY ZIP:
PHONE: 454 0210 ext 114 FAX: 454 0825
ATTN: Jeff Danziger
COMMENTS:

INVOICE TO

COMPANY: SAME
ADDRESS:
CITY: STATE: ZIP:
PHONE: FAX:
ATTN:

LAB PROJECT #: 03-3205
CLIENT PROJECT #: 31795-03

TURNAROUND TIME: (WORKING DAYS)

1	2	3	STD 5	OTHER
X				

PROJECT NAME/SITE NAME: XL1

CLIENT SAMPLE INFO

	DATE	TIME	COMPOSITE	GRAB	SAMPLE LOCATION/FIELD ID	MATRIX	NUMBER CONTAINERS	Blue Top Stars	REMARKS	PARADIGM LAB SAMPLE NUMBER
1	11.24.03	1030		X	31795-30/Drum #2 Excavation Sidewall East (9.5')	S	1	X		10514
2		1030		X	31795-31/Drum #2 Excavation Sidewall West (9.5')		1	X		10515
3		1100		X	31795-32/Drum #2 Top B' (6-6")		1	X		10516
4		1043		X	31795-33/Low VOC South half		1	X		10517
5		1040		X	31795-34/Low VOC North half		1	X		10518
6										
7										
8										
9										
10										

****LAB USE ONLY****

SAMPLE CONDITION: Check box if acceptable or note deviation:

CONTAINER TYPE: ✓ PRESERVATIONS: ✓ HOLDING TIME: ✓ TEMPERATURE: ✓ 21°C

Sampled By: Aaron Farwell Date/Time: 11.24.03

Relinquished By: Date/Time: 11.24.03 / 1255

Received By: Date/Time: 11/24/03, 12:55

Relinquished By: Date/Time:

Received By: Date/Time:

Received @ Lab By: Pamela M. Blake Date/Time: 11/24/03 @13:20

Total Cost:

P.I.F.

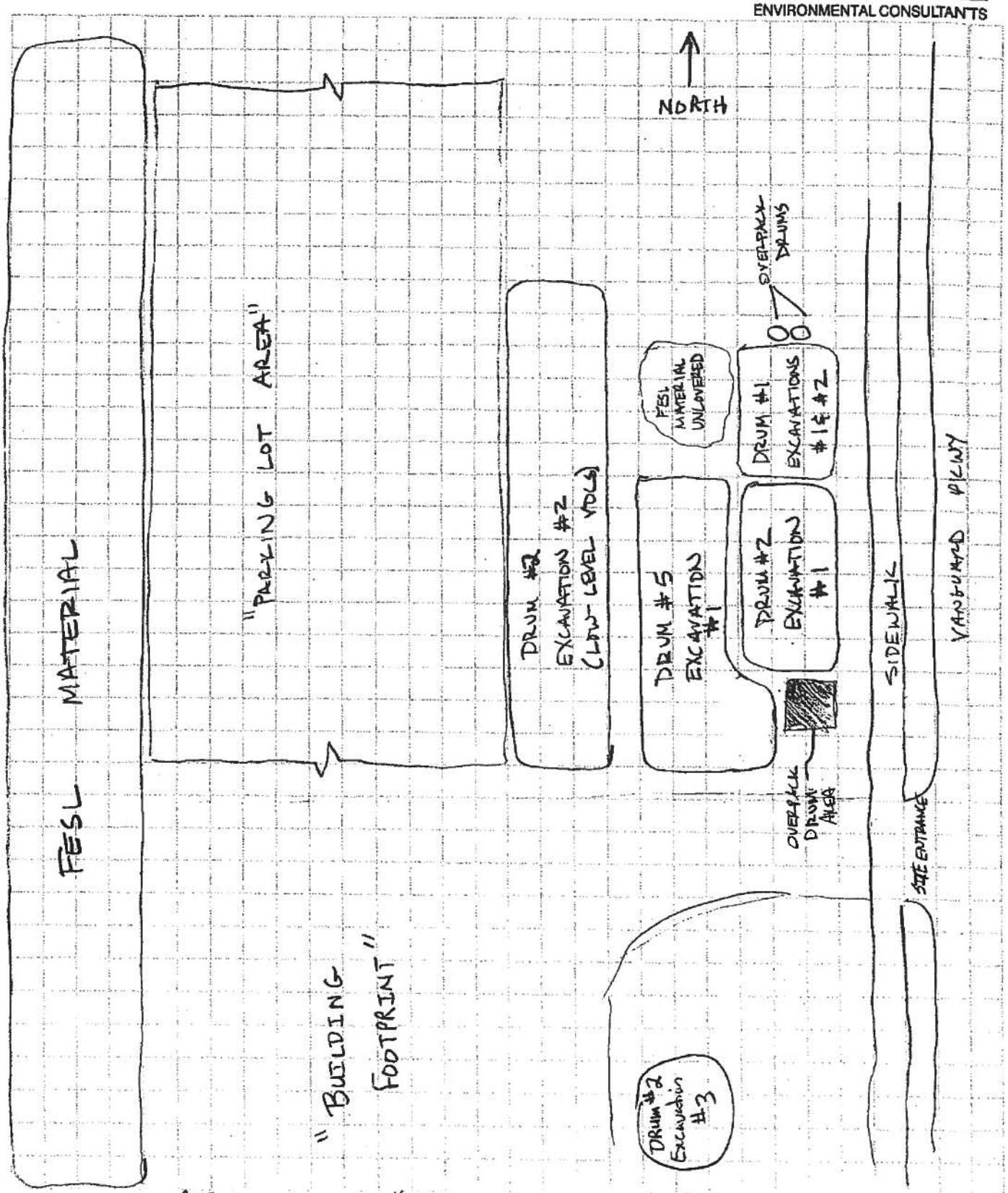
day

DAY ENVIRONMENTAL, INC.

SHEET 1 OF 1

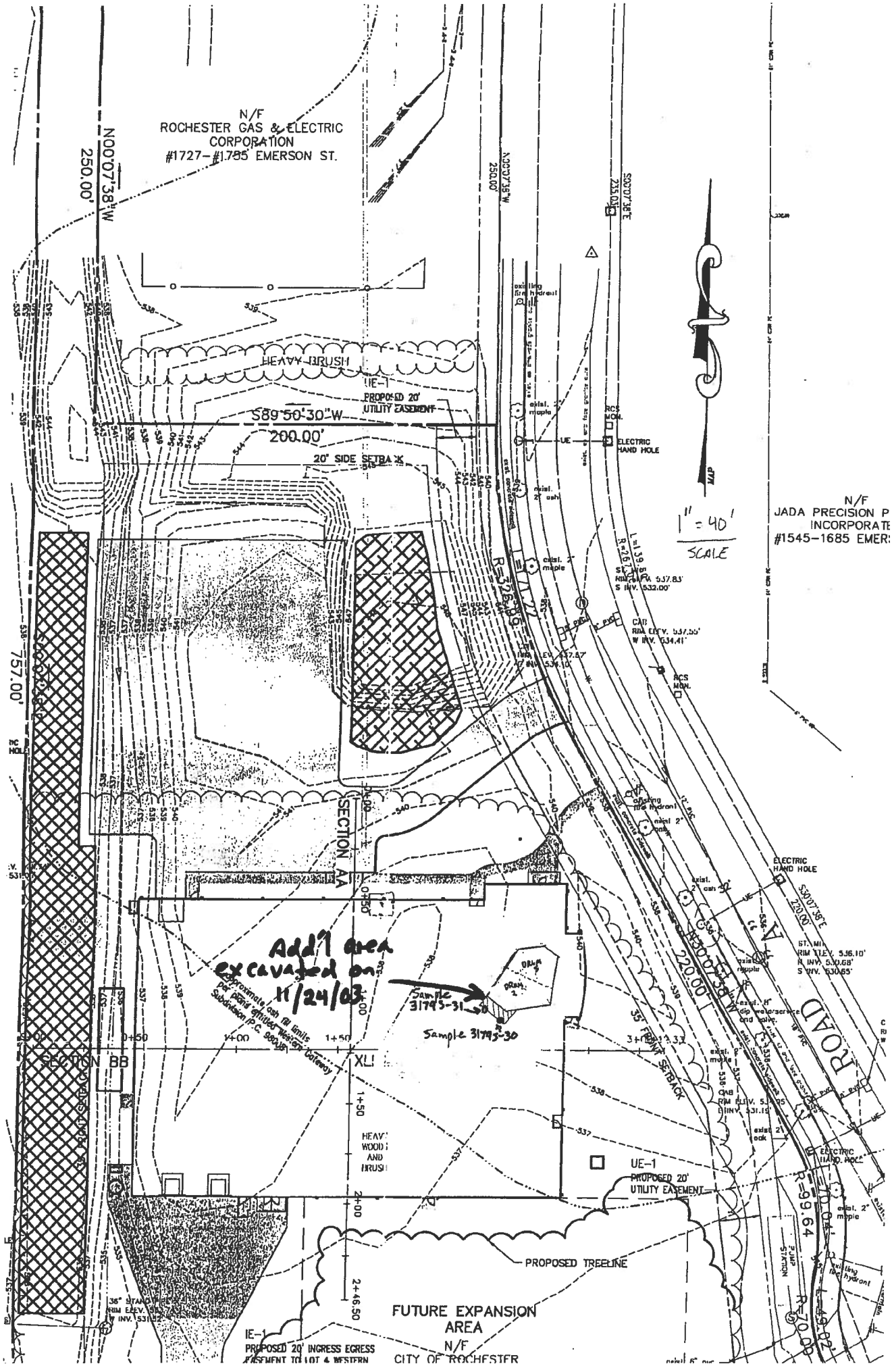
40 COMMERCIAL STREET, ROCHESTER, NY 14614

ENVIRONMENTAL CONSULTANTS



CALC. BY: AF DATE: 11.24.03 PROJECT NO.: XL. 31795-03

CH'KD BY: _____ DATE: _____ DESCRIPTION: Site Sketch - Staged Materials.


N/F
ROCHESTER GAS & ELECTRIC
CORPORATION
#1727–#1785 EMERSON ST.
N00°07'38"W
250.00'
S89°50'30"W
200.00'
PROPOSED 20'
UTILITY EASEMENT
20' SIDE SETBACK
HEAVY BRUSH
UE-1
757.00'
SECTION AA
SECTION BB
Add'l area
excavated on
11/24/03
Approximate ash fill limits
per piping plotter western Gateway
Subdivision P.C. 9000
Sample 31795-31
Sample 31795-30
HEAVY WOODS AND BRUSH
UE-1
PROPOSED 20'
UTILITY EASEMENT
PROPOSED TREELINE
FUTURE EXPANSION
AREA
N/F
CITY OF ROCHESTER
IE-1
PROPOSED 20' INGRESS EGRESS
EASEMENT TO LOT 4 WESTERN
ELECTRIC
HAND HOLE
RCS
MON.
1" = 40'
SCALE
N/F
JADA PRECISION P
INCORPORATE
#1545–1685 EMER
ROAD
35' FRONT SETBACK
R=99.64
R=70.00
S30°07'38"E
220.00'

GEOTECHNICAL ENGINEERING REPORT
BY TERRACON
DATED SEPTEMBER 2, 2020

Geotechnical Engineering Report

XLI Building Addition
Rochester, New York
September 2, 2020
Terracon Project No. J5205212

Prepared for:
XLI Manufacturing, LLC
Rochester, New York

Prepared by:
Terracon Consultants-NY, Inc.
Rochester, New York

September 2, 2020

XLI Manufacturing, LLC
55 Vanguard Pkwy
Rochester, New York 14606

Attn: Mr. Chad Carta – President
P: (585) 436-2250
E: ccarta@xlionline.com

Re: Geotechnical Engineering Report
XLI Building Addition
55 Vanguard Parkway
Rochester, New York
Terracon Project No. J5205212

Dear Mr. Carta:

We have completed the Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. PJ5205212 dated August 11, 2020. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, and pavement areas for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants-NY, Inc.

Michele A. Fiorillo, P.E.
Geotechnical Department Manager

Carl W. Thunberg, P.E.
Senior Engineer

REPORT TOPICS

Note: This report was originally delivered in a web-based format. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

Note: Refer to each individual Attachment for a listing of contents.

Geotechnical Engineering Report

XLI Building Addition
55 Vanguard Parkway
Rochester, New York

Terracon Project No. J5205212
September 2, 2020

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed XLI building addition to be located at 55 Vanguard Parkway in Rochester, New York. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Site preparation and earthwork
- Demolition considerations
- Excavation considerations
- Dewatering considerations
- Foundation design and construction
- Floor slab design and construction
- Seismic site classification per IBC
- Frost consideration
- Pavement design and construction

The geotechnical field engineering Scope of Services for this project included the advancement of nine test borings to depths ranging from approximately 4 to 16 feet below existing site grades.

Maps showing the site and boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The boring logs are included in the **Exploration Results** section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The project is located at 55 Vanguard Parkway in Rochester, New York. The site is developed with an existing building and associated pavement and landscaped areas. We understand that the site is located within the limits of the Former Emerson Street Landfill (FESL), which is a closed solid waste landfill. Information of historic information, subsurface testing, and environmental studies completed by others for the FESL are available on-line at the following City of Rochester website (accessed on September2, 2020): https://www.cityofrochester.gov/article.aspx?id=8589936796 Our scope pf services for this project does not include, either specifically or by implication, an environmental assessment of the site intended to identify or quantify potential site contaminants. If the client/owner is concerned about the potential for such conditions, an environmental site assessment should be conducted.
Current Ground Cover	The site is developed with an existing 1-story building and associated pavement and landscaped areas. A loading dock area is located along the southwestern side of the existing building, and a small wooded area is located within the south/southeastern portion of the site, just to the east of the existing concrete loading dock area. The approximate borders of the sites are shown with the orange circle in the aerial image below (from Bing Maps). 
Existing Topography (From Grading Plan prepared by Passero Associates dated August 2020)	The site is generally level with ground surface elevations (El.) ranging from about El. 539 to 533 feet. A sloped area is located along the northernmost portion of the site, with ground surface elevation up to El. 545 feet at the top of the slope.

Item	Description
Geology[1]	The project is located within the Ontario-Erie Lowlands physiographic province. The surficial deposits within this province generally consist of both glacially derived deposits, such as glacial till (i.e. terminal moraines and ground moraines), granular deposits (i.e. kame, glacial outwash, and beach ridges) and glaciolacustrine deposits (i.e. varved silts, clay, and fine sand deposits). Our review of published geological maps indicate surficial native deposits at the project site to consist of glacial till deposits and the underlaying sedimentary bedrock to consist of dolostone of the Upper Silurian Lockport Group (Penfield Dolostone Member).

1. References: Fisher, D.W., Isachsen, Y.W., and Rickard, L.V., 1970, Geologic Map of New York State, consisting of 5 sheets: Niagara, Finger Lakes, Hudson-Mohawk, Adirondack, and Lower Hudson, New York State Museum and Science Service, Map and Chart Series No. 15, scale 1: 250,000.

We also collected photographs at the time of our field exploration program. Representative photos are provided in our **Photography Log**.

PROJECT DESCRIPTION

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	The following information were provided by XLI: ■ Site Development Plans (12 pages) prepared by Passero Associates dated August 2020 ■ Preliminary Floor, Foundation, Roof, and Exterior Elevations Plans (4 pages) prepared by Pardi Partnership Architects Dated 8/27/2020
Project Description	The project consists of construction of a new 31,000 square feet building addition to the existing building. The new addition is proposed along the northern side of the existing building. New parking areas are proposed within the northern and southern portion of the site. The remainder of the project consists of associated concrete sidewalks and landscaped areas.
Proposed Structure	The proposed addition will consist of a 1-story building with a concrete slab-on-grade (non-basement).
Building Construction	Steel frame; Slab-on-grade; Cast-in-place concrete spread foundations.
Finished Floor Elevation	Finished floor elevation for the new building addition is proposed at El. 536.5 feet. It is anticipated that minor (i.e. less than 3 feet) earthwork cut and fill may be required across the site to attain finished grades.

Item	Description
Maximum Loads[1]	Structural loads were not provided. We have assumed the following: ■ Columns: 150 kips ■ Walls: 2 kips per linear foot (klf) ■ Slabs: 200 pounds per square foot (psf)
Pavements[1]	We assume both rigid (concrete) and flexible (asphalt) pavement sections should be considered. Assumed traffic is as follows: ■ Car Parking: 1.54 equivalent Single Axle Loads (ESALs) per day ■ Drive Areas: 4.20 ESALs per day The pavement design period is 20 years.

1. Please contact our office if structural loads and pavement traffic information are significantly higher, since revision to our recommendations may be required.

GEOTECHNICAL CHARACTERIZATION

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of site preparation and foundation options. Conditions encountered at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** section and the GeoModel can be found in the **Figures** section of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
Surface		Topsoil or Asphalt
1	**Fill**[1]	Mixtures of silt and sand with gravel, ash, cinders; fragments of bricks, glass, woods; brown, red-brown, gray, black
2	**Native Soil**	Silt Sand (SM), Silt with sand, Sandy Silt (ML); trace gravel; brown and gray; medium dense to very dense or very stiff
3	**Bedrock**[2]	Dolostone; gray

1. Fill was encountered in borings B-1, B-3, B-4, and B-5 to depths of about 2 to 5 feet below ground surface. In B-2 fill was encountered to a depth of about 13.5 feet, and in B-9 to a depth of about 7.5 feet below ground surface.
2. Bedrock was encountered at depths of about 7 to 16 feet below existing ground surface.

The dimensions of the sampling equipment may preclude sampling particles larger than 2-inch in any dimension. The variability in the SPT N-values, particularly when sampler refusal is noted,

may be indicative of encountering cobbles and/or small boulders within the soils. Cobbles and boulders are commonly found in glacially deposited soil and should be anticipated at the site.

Bedrock

Borings B-1 through B-5 and B-9 encountered bedrock at depths ranging from about 7 to 16 feet below ground surface, or at about El. 522 to 529 feet. The bedrock unit underlying the site is generally mapped as Penfield member of the Lockport Group. The Penfield member is generally a light gray, medium to thin bedded dolostone, with occasional argillaceous partings, and zones of pits and vugs.

It should be noted that some variations in the depths/elevations and the quality of the bedrock were noted. This could result in encountering bedrock in localized areas which may be slightly shallower or deeper, or sounder, than the trend.

Groundwater Conditions

The boreholes were observed while drilling and after completion for the presence and level of groundwater. The water levels observed in the boreholes can be found on the boring logs in **Exploration Results**. In B-1 and B-2 ground water was encountered at depths of 6.5 to 16 feet, respectively. The soils encountered in the borings appear to contain a high percentage of low permeability silt that may release water very slowly, and it may take several days for the groundwater levels to rise within the borings. Therefore, the groundwater levels recorded during our subsurface exploration may not be representative of long-term levels.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Water may also become temporarily perched over low permeability layers, such as top of bedrock or dense native soils. Groundwater levels during construction or at other times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should therefore be considered when developing the design and construction plans for the project.

GEOTECHNICAL OVERVIEW

As discussed in **Site Conditions**, the site may be located within the limits of the Former Emerson Street Landfill (FESL), which is a closed solid waste landfill. Our review of published documents indicate that the existing building had a complete removal of fill material beneath the building during construction[1].

The subsurface conditions encountered in the test borings performed at the project site generally consist of 2 to 13.5 feet of fill material overlying in turn native soils over bedrock. The native soil tends to increase in density with depth. Bedrock was encountered at depths ranging from about 7 to 16 feet below ground surface, or at about El. 522 to 529 feet.

The key geotechnical consideration impacting the proposed construction is the presence of up to 13 feet of uncontrolled fill at the site. It is noted that the borings at the site were completed at discrete locations and significant spacing (i.e. greater than 50 feet). This report does not reflect conditions that may occur between the borings investigated, or between sampling intervals in the test borings. The nature and extent of variations between test borings and sampling intervals may not become evident until the course of construction. We recommend that during the preliminary stage of construction, test pits be excavated under the observation of a Terracon's engineer to further investigate the vertical and lateral extent of the existing fill material, and confirm our recommendations presented in this report.

In our opinion, the fill materials are unsuitable in their current condition for direct or indirect support of the proposed building foundations and floor slabs due to the risk of greater than normal settlements associated with inherent variations in the nature and consistency of the fill. The underlying native materials are, in our opinion, suitable for foundation support.

The proposed building may be supported on shallow foundation bearing upon compacted Structural Fill placed upon stable native soil. Existing fill is not suitable to support foundations and if encountered should be excavated and replaced in accordance with the recommendations presented in the **Shallow Foundations** section.

To allow for the use of conventional slab-on-grade without the risk described above, we recommend complete removal and replacement of the uncontrolled fill within the building footprint. To reduce costs, partial removal of the upper 2 to 3 feet of existing fill and replacement with compacted Structural Fill below the floor slab may be an option. However, the Owner must recognize that there will be a risk that compressible, deleterious or otherwise unsuitable materials may go undiscovered and remain in-place and is willing to accept the risk of cracking, uneven or

[1] *2011 SVI Guidance Doc Tables* - available at https://www.cityofrochester.gov/article.aspx?id=8589936796 (accessed September 2, 2020)

unacceptable settlement, and the potential for periodic repairs over the life of the building. If the owner accepts this risk and elects to construct floor slabs on the existing fill, exposed subgrades beneath proposed floor slab areas should be proof-rolled, as discussed in **Site Preparation**. Areas that exhibit excessive pumping, waving, or rutting during proof rolling should be scarified, dried, and recompacted, or undercut and replaced with compacted Structural Fill as recommended by the Geotechnical Engineer.

Support of pavements on or above existing fill (where encountered), is discussed in this report. As discussed above for the floor slab, there is an inherent risk for the owner that unsuitable material within or buried during re-grading will not be discovered. This risk of unforeseen conditions cannot be eliminated without completely removing the existing fill from beneath pavement areas but can be reduced by following the recommendations contained in this report. To take advantage of the cost benefit of not removing the entire amount of undocumented fill from beneath pavement areas, the owner must be willing to accept the risk associated with building over the undocumented fills following the recommended reworking of the material. Exposed subgrades beneath proposed pavement areas should be proof-rolled as discussed in **Site Preparation**.

The **Floor Slabs** and **Pavement** section addresses recommendations for design of the slabs-on-grade and pavement.

Filled slopes composed of compacted Subgrade or Structural Fill should be no steeper than one (1) vertical on three (3) horizontal (1V:3H). To reduce erosion potential, we recommend a diversion swale at the top of the slope to prevent off-site drainage from running onto the slope. Slopes should be vegetated as soon as possible after grading and protected from erosion until vegetation is established. Erosion control matting may be required until vegetation is established. Slope planting should consist of ground vegetation that possess deep, dense root structures that require minimum irrigation. It is the responsibility of the owner to maintain such planting.

Our Scope for this project does not include, either specifically or by implication, an environmental assessment of the site intended to identify or quantify potential site contaminants. If the client/owner is concerned about the potential for such conditions, an environmental site assessment should be conducted.

Monitoring of the construction operations discussed herein will be critical in achieving the design subgrade support. We recommend Terracon be retained to evaluate soil bearing subgrades exposed after excavation to confirm they are suitable for footing, or slab support. Subsurface conditions in the explorations have been reviewed and evaluated with respect to the proposed construction plans known to us now.

The **General Comments** section provides an understanding of the report limitations.

EARTHWORK

Earthwork will include removal of topsoil or asphalt, removal of any unsuitable soft soil and fill, excavations, and fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria as necessary to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavement.

Demolition

If encountered, removed buried structures should be backfilled with approved imported Structural Fill, which is placed and compacted in accordance with recommendations presented in this report. We also recommend the following:

- Existing structures and utilities (if encountered) beneath proposed foundations should be removed in their entirety; utilities relocated, if needed.
- Existing structures should be removed from proposed pavement or floor slab areas to a minimum depth of 3 feet below of the subgrade. Existing floor slabs (if left in place at a minimum depth of 3 feet below the bottom of the pavement or floor slab subgrade) should be broken up to promote drainage and minimize the potential for trapped water.
- The void created from removal of existing structure should be backfilled with approved Structural Fill placed and compacted in accordance with recommendations presented herein.
- Existing underground pipes may remain in-place if the top of the pipe is at least 2 ft below pavement subgrade or floor slab bottom and filled with Flowable Fill with a compressive strength between 100 and 200 psi.
- Existing piping/structures should be disconnected from other existing piping intended to be left in place and functioning, and properly capped prior to placing Flowable Fill

Site Preparation

Subgrades should be proof-rolled with a minimum 10-ton (static weight) smooth drum roller compactor. We recommend a minimum of two overlapping passes in one direction, followed by two overlapping passes in a direction perpendicular to the first passes. The intent is to compact areas with relatively loose surficial soil, to re-compact areas loosened by stripping operations, and to identify unacceptable subgrade areas. As an alternative, proof-rolling can also be performed with an adequately loaded vehicle such as a fully loaded tandem axle dump truck or other heavy, rubber-tired construction equipment weighing at least 20 tons.

Areas which excessively deflect under the proof-roll should be delineated and subsequently addressed by the Geotechnical Engineer. Unstable subgrades, as identified by the Geotechnical

Engineer, should be over-excavated from the building footprint, footing bearing zones, and pavement areas to competent material and replaced with compacted Structural Fill.

Fill Material Types

Fill materials should meet the following material property requirements:

Type [1,2,3,4]	NYSDOT Item Number	Acceptable Location for Placement
General Fill	Embankment in Place, Item 203.03	For general site grading or as embankment fill where finished grade is no steeper than 3H:1V. General Fill should not be placed within the foundation bearing zone of settlement sensitive structures.
Underdrain Filter Material	Underdrain Filter Material, ■ Item No. 733-2001, Type 1 ■ Item 733-2002, Type 2	Generally used in drainage systems
Structural Fill	Subbase Course Type 2, Item 304.12	Beneath foundations and Floor Slabs
Subgrade Fill	Select Granular Fill, Item 733-1101 ((with the percent passing the No. 200 sieve adjusted to less than 25 percent);	Below Aggregate Base/Subbase Course in pavement and building areas.
Aggregate Base/ Subbase Course	Subbase Course Type 2, Item 304.12	Below floor slabs or pavements as aggregate base course
Crushed Stone	Crushed Stone, Item 703-0201	Generally used to level subgrades at the bottom of pipe trenches and to facilitate dewatering.
Non-Frost Susceptible (NFS) Fill	■ Select Granular Fill, Item 203.07 (with the percent passing the No. 200 sieve adjusted to 0-5 percent); ■ Stone Size Designation #2, 3, 3A, and 4A (Table 703-4 of NYSDOT Standard Specifications)	Exterior slabs, sidewalks.
Lean Concrete	Not applicable	Lean Concrete should be self-compacting concrete with a compressive strength between 750 and 2,000 psi.
Flowable Fill	Controlled Low Strength Material (CLSM), NYSDOT Item 204.01	With a compressive strength between 100 and 200 psi.

Type [1,2,3,4]	NYSDOT Item Number	Acceptable Location for Placement

1. Fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.
2. General or Embankment Fill should have a maximum particle size of 6 inches and no more than 25 percent passing the No. 200 sieve.
3. Crushed Stone should be uniform ¾-inch angular Crushed Stone wrapped in a separation geotextile (Mirafi 140N, or approved equivalent).
4. NFS Fill should contain less than 5 percent material passing No. 200 sieve size and have a maximum particle size of 3 inches. NFS Fill should wrapped in a separation geotextile (Mirafi 140N, or approved equivalent).

Excavated on-site soils may likely be re-used as Subgrade Fill in controlled compacted lifts more than 12 inches below pavement subgrades provided it is 6-inch minus material, compactible, free of organic matter, and satisfies New York State environmental regulations. We recommend that at the time of construction the Geotechnical Engineer be consulted for approval of the excavated soils as fill material. We anticipate that additional testing consisting of grain-size distributions, Atterberg limits, organic content, and Proctor testing obtained from bulk samples representative of the on-site excavated material may be required to confirm the suitability of excavated material as Subgrade Fill.

If construction is performed during the wet season, it is possible the moisture content of the excavated soils is in excess of the optimum moisture content required to achieve proper compaction, and that proper compaction of the on-site soils may be very difficult to achieve. Saturated soils which cannot achieve compaction should be removed or used in non-structural areas where significant post construction settlement is acceptable. The contractor is ultimately responsible for moisture conditioning of fill/backfill materials to achieve proper compaction.

Fill Compaction Requirements

Structural and General fill should meet the following compaction requirements.

Item	Structural Fill	General Fill
Maximum Lift Thickness	12 inches or less in loose thickness when heavy, self-propelled compaction equipment is used. 6 to 8 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used.	Same as Structural fill
Minimum Compaction Requirements [1, 2, 3]	95% of maximum dry density below foundations and within 1 foot of finished pavement subgrade 92% of max. above foundations, below floor slabs, and more than 1 foot below finished pavement subgrade	90% of max.

Item	Structural Fill	General Fill
Water Content Range [1]	Workable moisture levels	As required to achieve min. compaction requirements

1. Maximum density and optimum water content as determined by the modified Proctor test (ASTM D 1557).
2. We recommend testing fill for moisture content and compaction during placement. Should the results of the in-place density tests indicate the specified moisture or compaction limits have not been met, the area represented by the test should be reworked and retested, as required, until the specified moisture and compaction requirements are achieved. The zone of fill compacted to meet this criterion should extend at least 5 feet horizontally beyond the building footprint.
3. For NFS fill material (with less than 5 percent fines), compaction testing is typically not feasible. We recommend that NFS fill be thoroughly tamped in place in horizontal lifts not to exceed 6 inches loose thickness. Compaction should be by uniform passes of compaction equipment in sufficient number, but not less than four passes, such that no further consolidation is evident. The NFS fill should not be dumped into place but should be distributed in horizontal lifts by blading and dozing in such a manner as to ensure proper placement into final position.

Utility Trench Backfill

Trench excavations should be made with sufficient working space to permit construction including backfill placement and compaction. Trenches should be backfilled with material that approximately matches the permeability characteristics of the surrounding soil to reduce the infiltration and preferential conveyance of surface water through the trench backfill. Fill placed as backfill for utilities located below the slab should consist of compacted Structural Fill or suitable bedding material.

Utility trenches are a common source of water infiltration and migration. All utility trenches that penetrate beneath the building should be effectively sealed to restrict water intrusion and flow through the trenches, which could migrate below the building. The trench should provide an effective trench plug that extends at least 5 feet out from the face of the building exterior. The plug material should consist of cementitious flowable fill or low permeability clay. The trench plug material should be placed to surround the utility line. If used, the clay trench plug material should be placed and compacted to comply with the water content and compaction recommendations for Structural Fill stated previously in this report.

Grading and Drainage

Grades must provide effective drainage away from the building during and after construction and should be maintained throughout the life of the structure. Water retained next to the building can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks. The roof should have gutters/drains with downspouts discharging onto splash blocks at a distance of at least 10 feet from the buildings.

Exposed ground should be sloped and maintained at a minimum 5 percent away from the building for at least 10 feet beyond the perimeter of the building. Locally, flatter grades may be necessary

to transition ADA access requirements for flatwork. After buildings construction and landscaping, final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically inspected and adjusted as necessary as part of the structure's maintenance program. Where paving or flatwork abuts the structure a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

Earthwork Construction Considerations

Shallow excavations, for the proposed structure, are anticipated to be accomplished with conventional construction equipment. Excavation advanced within the native soils may be difficult as a result of encountering large cobbles and/or boulders. Based upon the subsurface conditions encountered in the boring logs, we anticipate top of bedrock to be encountered at about El. 522 to 529 feet. We do not anticipate excavation for the building foundations to extend into the bedrock.

The contractor shall assure himself by site investigation or other necessary means that he is familiar with the type, quantity, quality, and character of excavation to be performed. We strongly recommend that the contractor be provided the opportunity to review the boring logs and data presented in our geotechnical report to determine the most efficient means and methods for excavation at the project site.

Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of foundations and floor slabs. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over, or adjacent to, construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted, prior to floor slab construction.

Groundwater level fluctuations due to seasonal variations in the amount of rainfall, runoff and other factors should be anticipated. Fine-grained soil layers, dense native soil, and sedimentary rock were encountered in the borings and would be considered to be relatively impermeable layers. Therefore, perched groundwater conditions could be encountered in excavations where these soil/rock conditions are encountered, particularly after rainfall events or irrigation. If necessary, the contractor should select a dewatering method to lower groundwater at least 2 feet below the excavation subgrade in order to minimize bearing surface disturbance during construction of footings and utilities. It is our opinion conventional sump pumping techniques could be implemented to minimize water ponding in the excavation area.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local, and/or state regulations. The contractor should be aware that slope height, slope inclination, and

excavation depth should in no instance exceed OSHA guidelines. OSHA guidelines are strictly enforced and if they are not followed, the owner, contractor, and/or earthwork and utility subcontractor could be liable and subject to substantial penalties.

Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety, or the contractor's activities; such responsibility shall neither be implied nor inferred.

Construction Observation and Testing

The earthwork efforts should be monitored under the direction of the Geotechnical Engineer. Monitoring should include documentation of adequate removal of vegetation and topsoil, proofrolling and mitigation of areas delineated by the proof-roll to require mitigation.

Each lift of compacted fill should be tested, evaluated, and reworked as necessary until approved by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the building areas and 5,000 square feet in pavement areas. One density and water content test for every 50 linear feet of compacted utility trench backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated under the direction of the Geotechnical Engineer. If unanticipated conditions are encountered, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer’s evaluation of subsurface conditions, including assessing variations and associated design changes.

SHALLOW FOUNDATIONS

Based upon the subsurface conditions encountered in the boring logs, fill was encountered within the footprint of the new building addition to depths ranging from about 2 to 13 feet below existing grades. The proposed building may be supported on shallow foundation bearing upon compacted Structural Fill placed upon stable native soil. Existing fill is not suitable to support foundations and if encountered should be excavated and replaced

If the site has been prepared in accordance with the requirements noted in **Earthwork**, the following design parameters are applicable for shallow foundations.

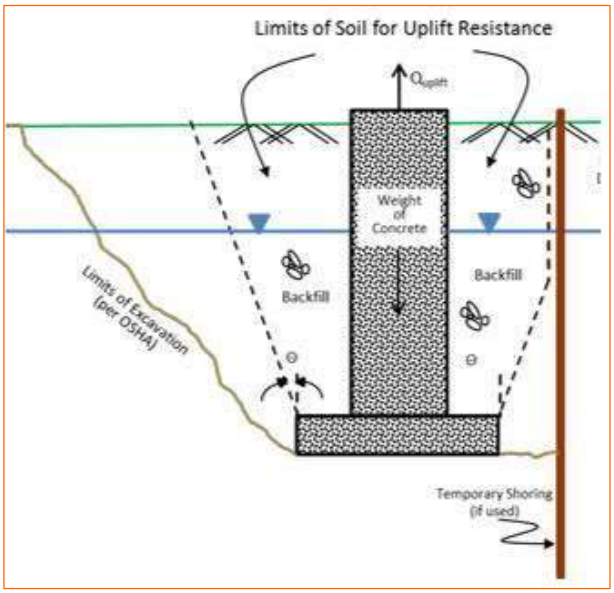
Design Parameters – Compressive Loads

Item	Description
Maximum Net Allowable Bearing Pressure [1, 2]	3,000 psf
Required Bearing Stratum [3]	Minimum 12 inches of compacted Structural Fill placed upon stable native soil. The Structural fill should extend a minimum lateral distance of 12 inches beyond the edge of the foundation.
Minimum Foundation Dimensions	Columns: 30 inches Continuous: 18 inches
Ultimate Passive Resistance [4] **(equivalent fluid pressures)**	390 pcf (compacted Structural Fill)
Ultimate Coefficient of Sliding Friction [5]	0.50 (Footing on compacted Aggregate Base)
Minimum Embedment below Finished Grade [6]	Exterior footings in unheated areas: 48 inches Exterior footings in heated areas: 48 inches Interior footings in heated areas: 18 inches
Estimated Total Settlement from Structural Loads [2]	Less than about 1 inch
Estimated Differential Settlement [2, 7]	About 2/3 of total settlement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. An appropriate factor of safety has been applied. These bearing pressures can be increased by 1/3 for transient loads unless those loads have been factored to account for transient conditions. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. Values provided are for maximum loads noted in **Project Description**.
3. Unsuitable or soft soils should be over-excavated and replaced per the recommendations presented in the **Earthwork**. The test borings encountered up to 13 feet of fill within the building footprint, which could require deep undercuts.
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted Structural Fill be placed against the vertical footing face. The Structural Fill must extend out and up from the base of the foundation at an angle of at least 60 degrees from vertical for the passive case.
5. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Should be neglected for foundations subject to net uplift conditions.
6. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
7. Differential settlements are as measured over a span of 50 feet.

Design Parameters - Uplift Loads

Uplift resistance of spread footings can be developed from the effective weight of the footing and the overlying soils. As illustrated on the subsequent figure, the effective weight of the soil prism defined by diagonal planes extending up from the top of the perimeter of the foundation to the ground surface at an angle, θ, of 20 degrees from the vertical can be included in uplift resistance. The maximum allowable uplift capacity should be taken as a sum of the effective weight of soil plus the dead weight of the foundation, divided by an appropriate factor of safety. A maximum total unit weight of 100 pcf should be used for the backfill. This unit weight should be reduced to 40 pcf for portions of the backfill or natural soils below the groundwater elevation.

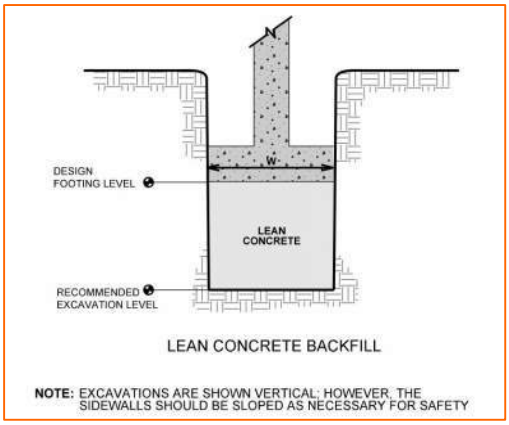


Foundation Construction Considerations

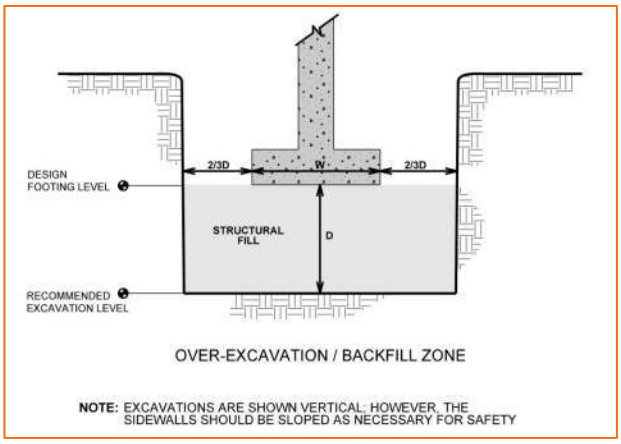
As noted in **Earthwork**, the footing excavations should be evaluated under the direction of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Any large cobbles and/or boulders encountered beneath the proposed foundations at the bearing grade elevation shall be removed from the bearing surface as necessary to avoid point-bearing, and then backfilled with properly compacted Structural Fill.

Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.

If unsuitable bearing soils are encountered at the base of the planned footing excavation, the excavation should be extended deeper to suitable native soils, and the footings could bear on Lean Concrete backfill placed in the excavations. This is illustrated on the sketch below.



Over-excavation for removal of unsuitable soils below footings should be conducted as shown below. The over-excavation should be backfilled up to the footing base elevation, with imported Structural Fill, as recommended in the **Earthwork** section.



SEISMIC CONSIDERATIONS

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC) and are presented in the table below.

Site Class	v_s (ft/sec)	N or N_{ch}	s_u (psf)
A. Hard rock	>5,000	NA	NA
B. Rock	2,500 to 5,000	NA	NA
C. Very dense soil and soft rock	1,200 to 2,500	>50	>2,000
D. Stiff soil	600 to 1,200	15 to 50	1,000 to 2,000
E. Soft clay soil[1]	<600	<15	<1,000
F. Soils requiring site response analysis	■ Soils vulnerable to potential failure or collapse under seismic loading, such as liquefiable soils, quick and highly sensitive clays, and collapsible weakly cemented soils[2]. ■ Peats and/or highly organic clays (H>10 ft 3 m), where H=thickness of soil ■ Very high plasticity clays (H>25 ft with PI>75 ■ Very thick soft/medium stiff clays (H>120 ft with s_u<1,000 psf)		

1. Any profile with more than 10 feet of soil having the following characteristics:
   - Plasticity index, PI > 20
   - Moisture content, w > 40 percent
   - Undrained shear strength, s_u < 500 psf
2. Subject to exceptions stated in Section 20.3.1 in Chapter 20 of ASCE 7.

Based on the properties of subsurface materials encountered at the site, it is our opinion that the Seismic Site Classification for the site is **D**. Subsurface explorations at the site were extended to a maximum depth of 16 feet. The properties of materials below the bottom of the deepest boring at the site to a depth of 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. If a more precise seismic site classification is desired, additional deeper borings or geophysical testing may be performed to confirm the conditions below the deepest current boring depth.

FLOOR SLABS

As discussed in **Geotechnical Overview**, to reduce costs, partial removal of the upper 2 to 3 feet of existing fill and replacement with compacted Structural Fill below the floor slab may be an option. The Structural Fill (where feasible) should extend a minimum lateral distance of 10 feet beyond the footprint of the new addition.

If the owner elects to construct floor slabs on the existing fill, exposed subgrades beneath proposed floor slab areas should be proof-rolled as discussed in **Site Preparation**. Once areas of unsuitable materials have been remediated, and the subgrade has passed the proof-roll test, existing and undocumented fill that was removed can be evaluated for reuse as General Fill.

As a result of the variable nature of the existing fill, we recommend a separation woven geotextile be placed upon all new approved floor slab subgrades prior to placing the Aggregate Base

materials. A Mirafi HP270 or approved equivalent may be used. The geotextile should provide separation (i.e. mitigate migration of fines into the overlying subbase course material, which may contribute to its degradation and loss of strength), filtration (i.e. allows for movement of water across the plane of the geotextile with limited soil loss), confinement (i.e. will restrain lateral movement of the aggregate), and reinforcement. Underground utilities should be installed prior to geotextile placement.

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

Floor Slab Design Parameters

Item	Description
Floor Slab Support [1]	Minimum 24 inches of Structural Fill (Aggregate Base) material compacted to at least 95% of Modified Proctor (ASTM D 1557) placed directly upon proofrolled stable on-site subgrade soils.
Estimated Modulus of Subgrade Reaction [2]	100 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in **Earthwork**, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

We understand a vapor mitigation system is proposed due to the possible presence of methane gas generated from decomposition of solid waste. The vapor mitigation system components should be designed by the project mechanical engineer. The vapor mitigation system should incorporate an impermeable vapor barrier. Plumbing, electrical, or other penetrations should be sealed. The vapor mitigation collection system should be vented through the roof via a mechanical chase. A minimum 6-inch thick venting sand layer should be incorporated below the impermeable vapor barrier.

Saw-cut control joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations refer to the ACI Design Manual. Joints or cracks should be sealed with a waterproof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the

length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.

Floor Slab Construction Considerations

Finished subgrade within and for at least 10 feet beyond the floor slab should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and Structural Fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should approve the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

PAVEMENTS

General Pavement Comments

Pavement designs are provided for the traffic conditions and pavement life conditions as noted in **Project Description** and in the following sections of this report. A critical aspect of pavement performance is site preparation. Pavement designs, noted in this section, must be applied to the site, which has been prepared as recommended in the **Earthwork** section.

Pavement Design Parameters

Pavement designs were based on *AASHTO Guide for Design of Pavement Structures (1993)* and our experience with similar projects. The thickness of each course is a function of subgrade strength, traffic, design life, serviceability factors, and frost susceptibility.

A subgrade CBR of 3 was used for the AC pavement designs, and a modulus of subgrade reaction of 100 pci was use for the PCC pavement designs. The values were empirically derived based upon our experience with the on-site soils and our understanding of the quality of the subgrade as prescribed by the **Site Preparation** conditions as outlined in **Earthwork**. A modulus of rupture of 600 psi was used for pavement concrete.

Pavement Section Thicknesses

Frost susceptibility is a major factor in the overall pavement section thickness. The total pavement structural sections presented in this report are based also upon the expected depth of freeze, which for the project site is anticipated at 48 inches. Based on local field data and experience, and provided positive pavement drainage is maintained, we anticipate that the minimum pavement structural sections presented in the following sections are required to minimize pavement heave and keep cracking within tolerable amounts.

As a result of the variable nature of the existing fill, we recommend a separation woven geotextile be placed upon all new approved flexible pavement subgrades prior to placing the subbase course materials. A Mirafi HP270 or approved equivalent may be used. The geotextile should provide separation (i.e. mitigate migration of fines into the overlying subbase course material, which may contribute to its degradation and loss of strength), filtration (i.e. allows for movement of water across the plane of the geotextile with limited soil loss), confinement (i.e. will restrain lateral movement of the aggregate), and reinforcement. Underground utilities should be installed prior to geotextile placement.

The following tables provides options for Asphaltic Concrete and for Portland Cement Sections:

Asphaltic Concrete Design		
Layer	**Thickness (inches)**	
	Light Duty [1]	**Heavy Duty** [1]
Asphalt Top Course [2]	1.5	1.5
Asphalt Binder Course [2]	2.5	3.5
Aggregate Base Course [2]	12.0	12.0

1. See **Project Description** for more specifics regarding pavement type.
2. All materials should meet the current NYSDOT Department of Transportation (NYSDOT) Standard Specifications.
   - Asphalt Top Course – NYSDOT Section 402 for Type 12.5 F2 Top Course HMA, Item No. 402.127202
   - Asphalt Binder Course – NYSDOT Section 402 for Type 19 F9 Binder Course HMA, Item No. 402.197902
   - Aggregate Base Course – NYSDOT Section 304 for Type 2 Subbase Course, Item No. 304.12

Portland Cement Concrete Design		
Layer	Thickness (inches)	
	Light Duty [2,3]	Heavy Duty [2,3,4]
PCC [1]	6.0	8.0
Aggregate Base [1]	12.0	12.0

1. All materials should meet the current State, County, and City Department of Transportation (NYSDOT) Standard Specifications for Highway and Bridge Construction.
   - Concrete Pavement, NYSDOT Portland Cement Concrete Section 502, with a minimum compressive strength of 4,000 psi at 28 days.
   - Aggregate Base Course, NYSDOT Section 304 for Type 2 Subbase Course, Item No. 304.12
2. Proper joint spacing will be required to prevent excessive slab curling and shrinkage cracking. Joints should be sealed to prevent entry of foreign material and doweled where necessary for load transfer.
3. Where practical, we recommend early-entry cutting of crack-control joints in PCC pavements. Cutting of the concrete in its "green" state typically reduces the potential for micro-cracking of the pavements prior to the crack control joints being formed, compared to cutting the joints after the concrete has fully set. Micro-cracking of pavements may lead to crack formation in locations other than the sawed joints, and/or reduction of fatigue life of the pavement.
4. In areas of anticipated heavy traffic, fire trucks, delivery trucks, or concentrated loads (e.g. dumpster pads), and areas with repeated turning or maneuvering of heavy vehicles.

The estimated pavement sections provided in this report are minimums for the assumed design criteria, and as such, periodic maintenance should be expected. Areas for parking of heavy vehicles, concentrated turn areas, and start/stop maneuvers could require thicker pavement sections. Edge restraints (i.e. concrete curbs or aggregate shoulders) should be planned along curves and areas of maneuvering vehicles. A maintenance program that includes surface sealing, joint cleaning and sealing, and timely repair of cracks and deteriorated areas will increase the pavement's service life. As an option, thicker sections could be constructed to decrease future maintenance.

Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section. Appropriate sub-drainage or connection to a suitable daylight outlet should be provided to remove water from the granular subbase. Subdrains (if required) should be sloped to provide positive gravity drainage to reliable discharge points. Periodic maintenance of subdrains (if required) is required for long-term proper performance.

Openings in pavements, such as decorative landscaped areas, are sources for water infiltration into surrounding pavement systems. Water can collect in the islands and migrate into the surrounding subgrade soils thereby degrading support of the pavement. This is especially applicable for islands with raised concrete curbs, irrigated foliage, and low permeability near-surface soils. The civil design for the pavements with these conditions should include features to restrict or to collect and discharge excess water from the islands. Examples of features are edge drains connected to the storm water collection system, longitudinal subdrains, or other suitable outlet and impermeable barriers preventing lateral migration of water such as a cutoff wall installed to a depth below the pavement structure.

Pavement Maintenance

The pavement sections represent minimum recommended thicknesses and, as such, periodic maintenance should be anticipated. Therefore, preventive maintenance should be planned and provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Maintenance consists of both localized maintenance (e.g. crack and joint sealing and patching) and global maintenance (e.g. surface sealing). Preventive maintenance is usually the priority when implementing a pavement maintenance program. Additional engineering observation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%
- Subgrade and pavement surfaces should be properly sloped to promote proper surface drainage
- Drainage systems should be installed below pavements where surrounding areas are anticipated to be wet frequently
- Joint sealant and seal cracks should be installed immediately
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils

FROST CONSIDERATIONS

The soils on this site are frost susceptible, and small amounts of water can affect the performance of the slabs on-grade, sidewalks, and pavements. Exterior slabs should be anticipated to heave during winter months. If frost action needs to be eliminated in critical areas, we recommend the use of non-frost susceptible (NFS) fill or structural slabs (for instance, structural stoops in front of building doors). Placement of NFS material in large areas may not be feasible; however, the following recommendations are provided to help reduce potential frost heave:

- Provide surface drainage away from the building and slabs, and toward the site storm drainage system.
- Install drains around the perimeter of the building, stoops, below exterior slabs, and connect them to the storm drainage system.
- Place NFS fill as backfill beneath slabs and pavements critical to the project.
- Place a 3 horizontal to 1 vertical (3H:1V) transition zone between NFS fill and other soils.
- Place NFS materials in critical sidewalk areas.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client, and is not intended for

third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

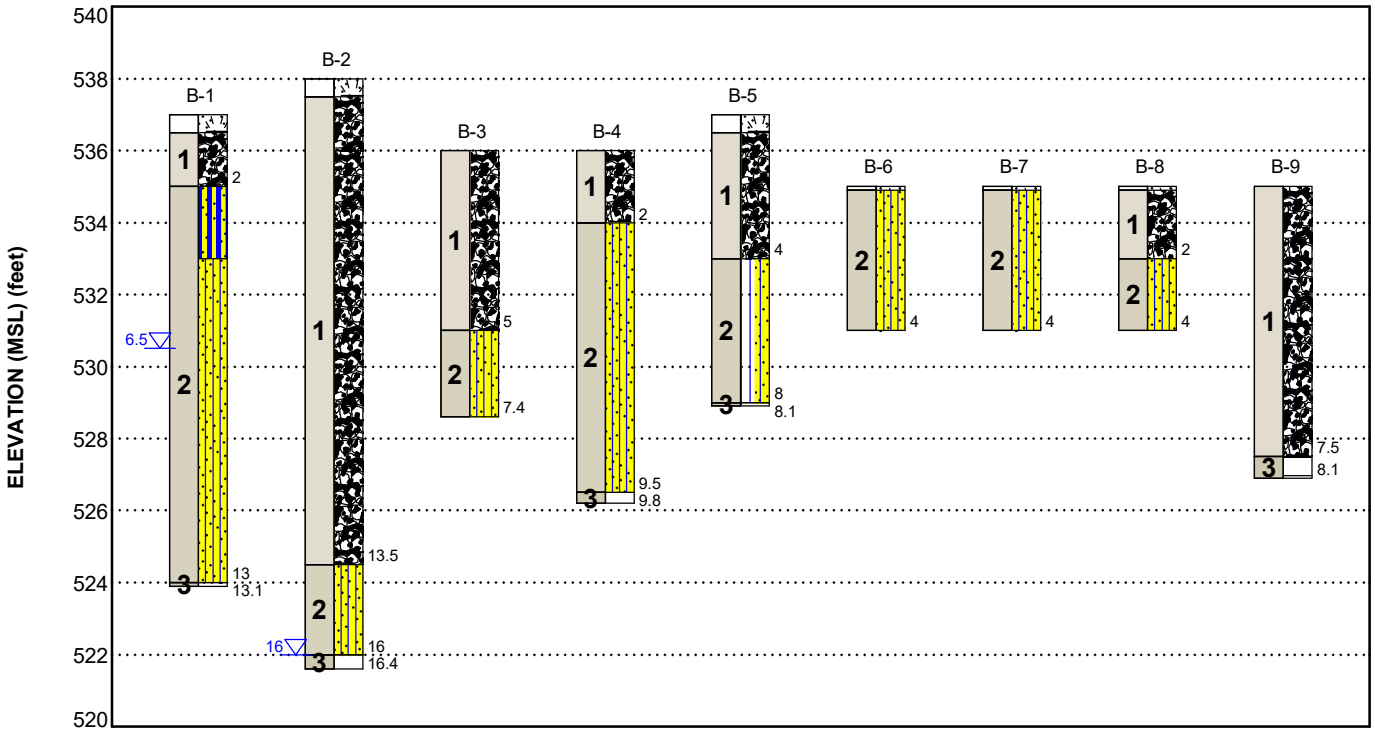
Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

FIGURES

Contents:

GEOMODEL

XLI Building Addition ■ Rochester, NY
Terracon Project No. J5205212



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Fill	Mixtures of silt and sand with gravel, ash, cinders; fragments of bricks, glass, woods; brown, red-brown, gray, black
2	Native Soil	Silt Sand (SM), Silt with sand, Sandy Silt (ML); trace gravel; brown and gray; medium dense to very dense or very stiff
3	Bedrock	Dolostone, gray

LEGEND

- Topsoil
- Fill
- Sandy Silt
- Silty Sand
- Dolomite
- Silt with Sand

▽ First Water Observation

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time.
Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Number of Borings	Boring Depth (feet)	Location
6 (B-1 to B-5 and B-9)	7.4 to 16.4	Proposed building addition
3 (B-6 to B-8)	4	Proposed pavement

Boring Layout and Elevations: Terracon personnel provided the boring layout. Coordinates were obtained with a handheld GPS unit (estimated horizontal accuracy of about ±20 feet) and approximate elevations were obtained by interpolation from a grading plan prepared by Passero Associates dated August 2020. If elevations and a more precise boring layout are desired, we recommend borings be surveyed following completion of fieldwork.

Subsurface Exploration Procedures: We advanced the borings with a track-mounted CME-550X rotary drill rig using continuous hollow stem flight augers. Soil samples were obtained using a split-spoon sampler. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the middle 12 inches of a normal 24-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion.

The sampling depths, penetration distances, and other sampling information were recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The laboratory testing program consisted of examination of soil samples by a geologist. Based on the material's texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System.

Rock classification was conducted using locally accepted practices for engineering purposes; petrographic analysis may reveal other rock types. Rock core samples typically provide an

improved specimen for this classification. Boring log rock classification was determined using the Description of Rock Properties.

PHOTOGRAPHY LOG

Photo 1: Facing west – near boring B-1

Photo 2: Facing west – near boring B-2

Photo 3: Facing north- near Boring B-5

Photo 4: Facing north – near boring B-3

Photo 5: Facing south – near boring B-9

Photo 6: Facing south - near Boring B-9

Photo 7: Facing Southeast

Photo 8: Facing Southeast

SITE LOCATION AND EXPLORATION PLANS

Contents:

Note: All attachments are one page unless noted above.

SITE LOCATION

XLI Building Addition ■ Rochester, New York
September 2, 2020 ■ Terracon Project No. J5205212

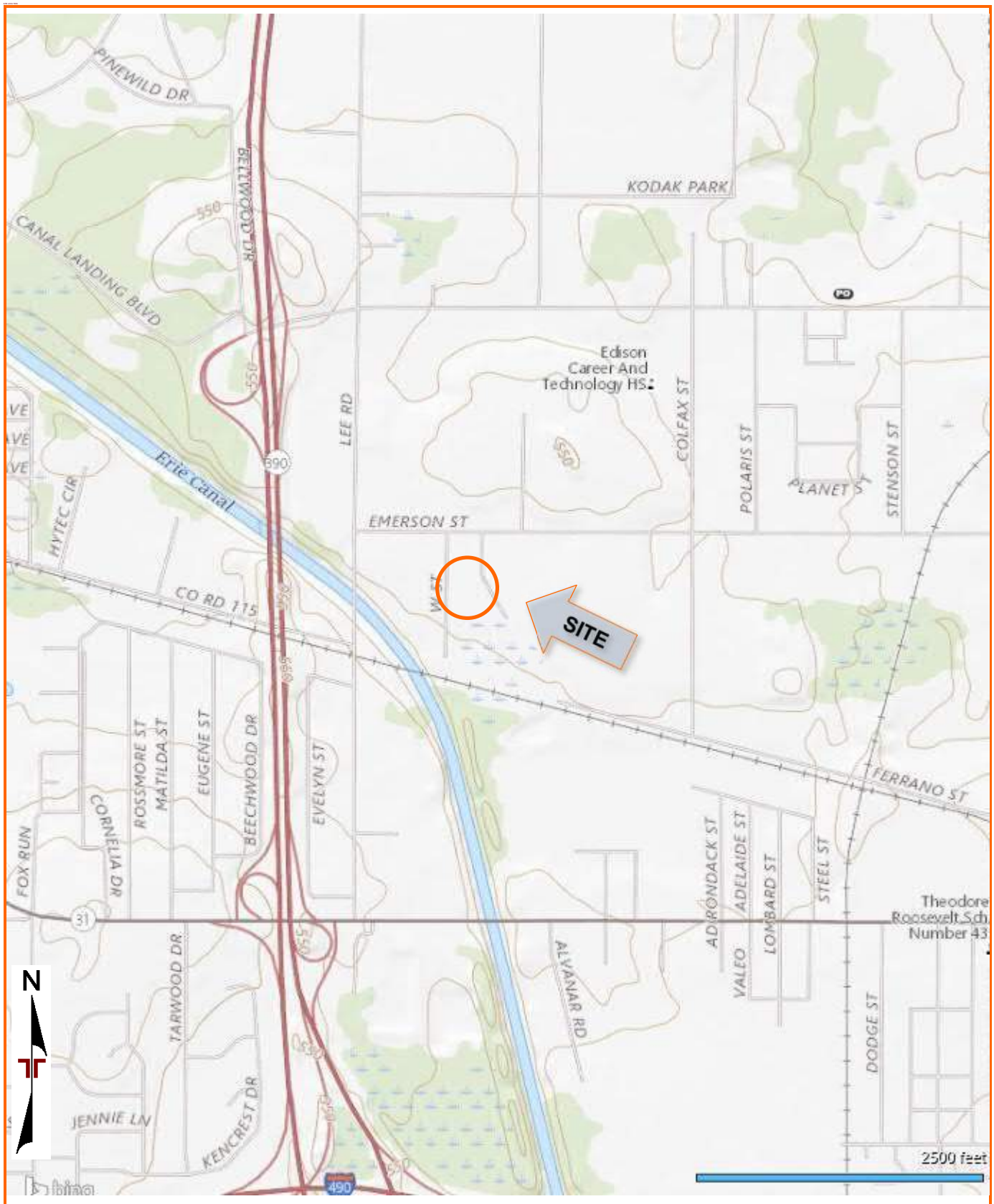


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN WITH AERIAL IMAGE

XLI Building Addition ■ Rochester, New York

September 2, 2020 ■ Terracon Project No. J5205212

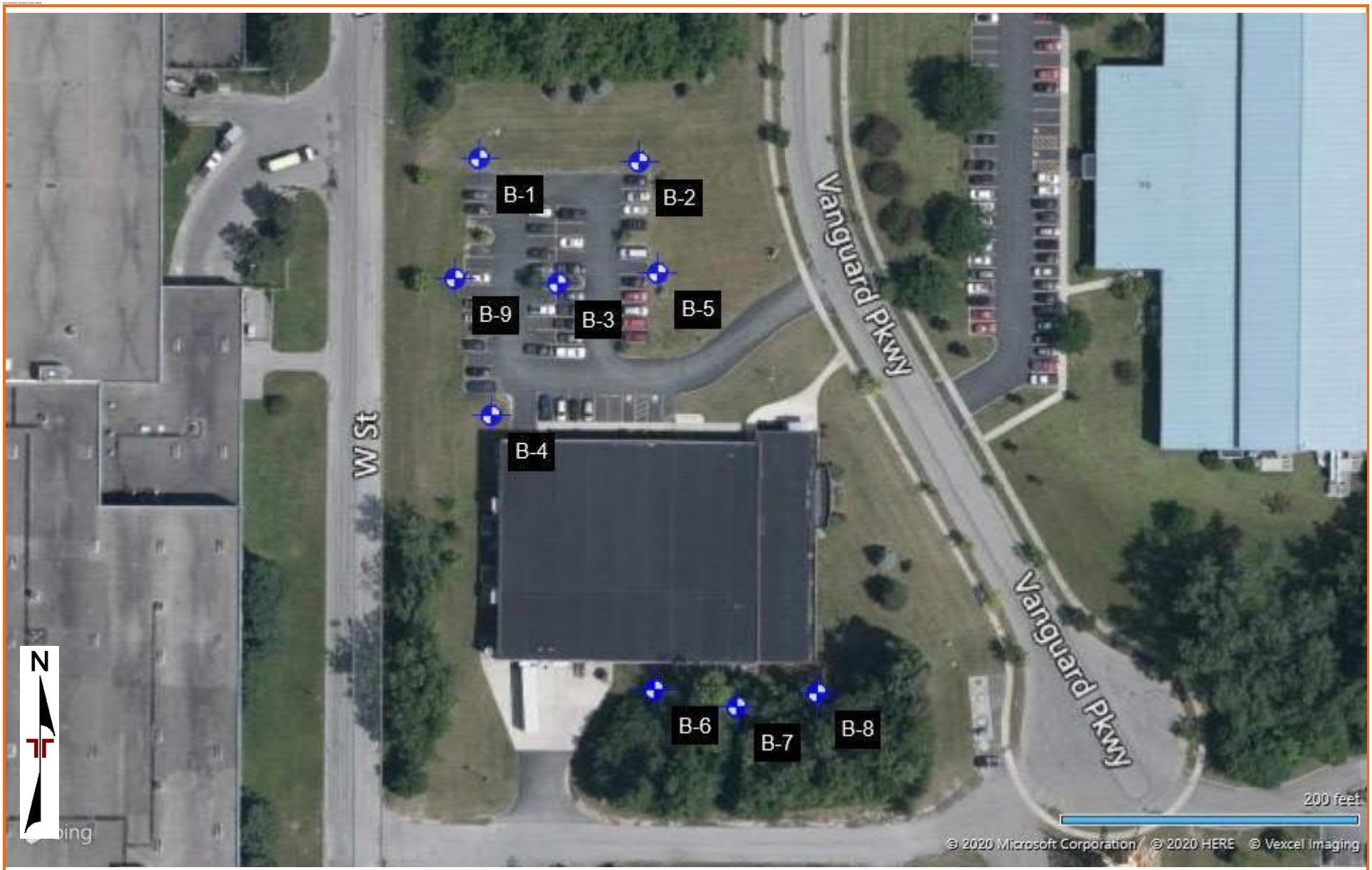


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN WITH PROJECT OVERLAY

XLI Building Addition ■ Rochester, New York
September 2, 2020 ■ Terracon Project No. J5205212

Terracon GeoReport

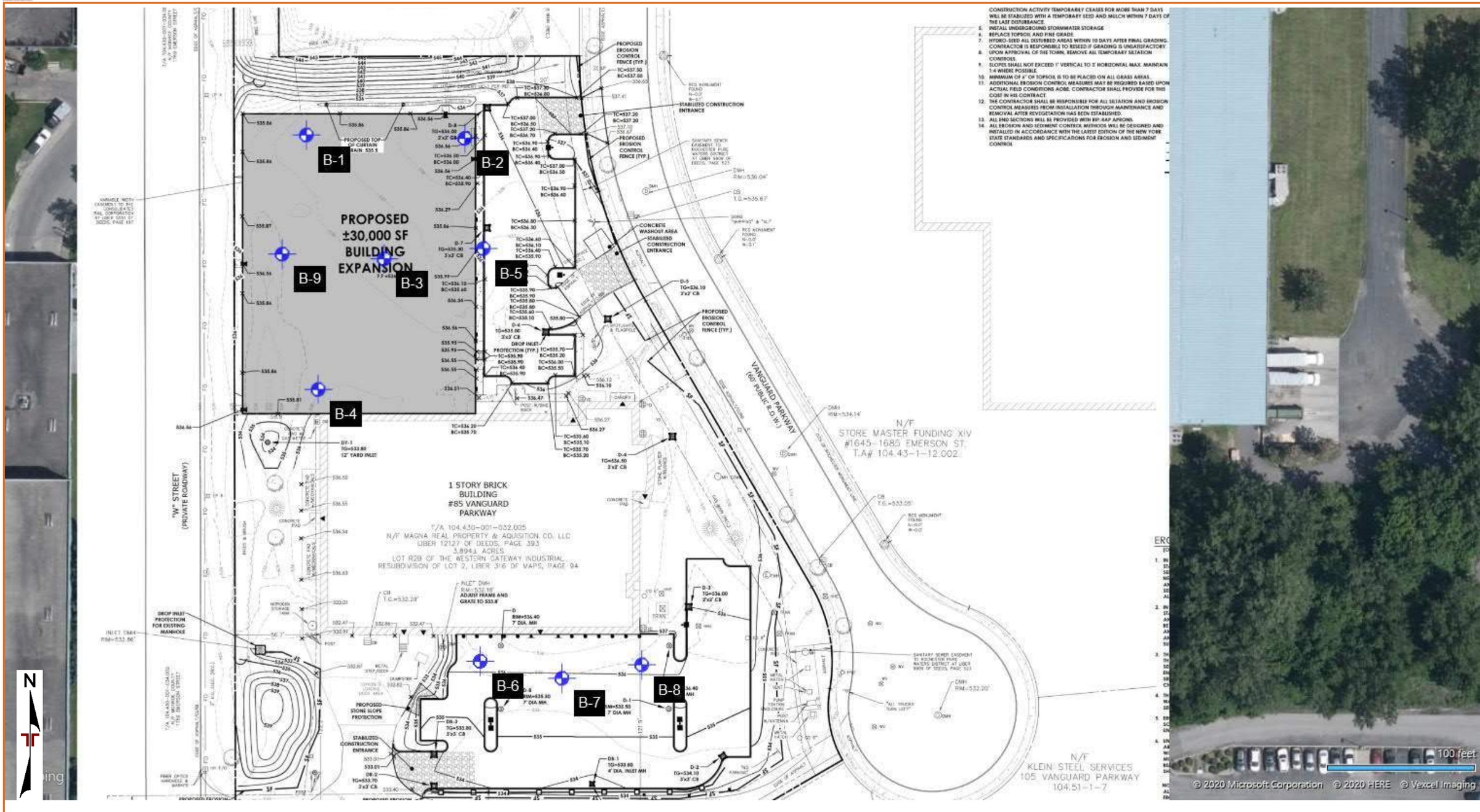


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

BASE MAP PROVIDED BY PATHSTONE

EXPLORATION RESULTS

Contents:

Note: All attachments are one page unless noted above.

BORING LOG NO. B-1

PROJECT: XLI Building Addition

CLIENT: XLI Manufacturing LLC
Rochester, New York

SITE: 55 Vanguard Pkwy
Rochester, NY

LOCATION See Exploration Plan

Latitude: 43.173° Longitude: -77.6774°

Approximate Surface Elev.: 537 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
		0.5	536.5+/-					Hand Dig
		TOPSOIL						
1		**FILL - SILTY SAND** , trace gravel, red brown					13	5-5-5 N=10
		2.0	535+/-					
		SANDY SILT (ML), trace gravel, brown gray, very stiff					13	6-6-12-8 N=18
		4.0	533+/-					
		SILTY SAND (SM), trace gravel, fine grained, porange brown and gray, medium dense to dense		5			13	13-13-14-13 N=27
		Becomes brown			▽		16	19-15-19-17 N=34
2							17	10-17-19-22 N=36
		Becomes very dense		10			18	16-34-41-35 N=75
		13.0	524+/-					
3		13.1 **DOLOSTONE**, gray	524+/-				1	50/1"
		Sample Spoon and Auger Penetration Refusal encountered at 13.1 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

▽ *6.5' BGS at completion of sampling*

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan provided by Passero.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 08-21-2020 | Boring Completed: 08-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5205212

BORING LOG NO. B-2

PROJECT: XLI Building Addition

CLIENT: XLI Manufacturing LLC
Rochester, New York

SITE: 55 Vanguard Pkwy
Rochester, NY

LOCATION See Exploration Plan

Latitude: 43.173° Longitude: -77.677°

Approximate Surface Elev.: 538 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
		0.5	537.5+/-					Hand Dig
1		**TOPSOIL**						
		FILL - SANDY SILT , trace gravel, brown					14	11-15-22 N=37
		2.0	536+/-					
		FILL - SILTY SAND WITH CINDERS , trace ash, trace brick fragments , trace glass fragments, black		5			12	5-37-13-10 N=50
							16	2-2-2-2 N=4
							14	2-2-2-2 N=4
				10			7	1-1-2-1 N=3
							8	2-2-2-1 N=4
							11	2-1-6-18 N=7
2		13.5	524.5+/-					
		SILTY SAND (SM), trace gravel, fine grained, red brown, very dense					9	27-50/4"
				15				
		16.0	522+/-		▽			
3		16.4 **DOLOSTONE**, gray	521.5+/-				4	50/5"
		Sample Spoon Penetration refusal Encountered at 16.4 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

▽ *16.0' BGS at completion of sampling*

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan provided by Passero.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 08-21-2020 | Boring Completed: 08-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5205212

BORING LOG NO. B-3

PROJECT: XLI Building Addition

CLIENT: XLI Manufacturing LLC
Rochester, New York

SITE: 55 Vanguard Pkwy
Rochester, NY

LOCATION See Exploration Plan

Latitude: 43.1728° Longitude: -77.6772°

Approximate Surface Elev.: 536 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0	536+/-					
			FILL - SILTY SAND WITH CRUSHED STONE, trace wood fragments, brown				18	3-4-23-19 N=27
							17	5-8-10-12 N=18
		5.0	531+/-	5			18	6-8-12-14 N=20
2			**SILTY SAND (SM)**, trace gravel, fine grained, orange brown, medium dense				6	17-19-50/5"
		7.4	528.5+/-					
			Sample Spoon Penetration refusal Encountered at 7.4 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan provided by Passero.

Notes:

WATER LEVEL OBSERVATIONS

No reading obtained at completion of sampling

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 08-24-2020	Boring Completed: 08-24-2020
Drill Rig: CME-550X	Driller: B. Duffey
Project No.: J5205212	

BORING LOG NO. B-4

PROJECT: XLI Building Addition

CLIENT: XLI Manufacturing LLC
Rochester, New York

SITE: 55 Vanguard Pkwy
Rochester, NY

LOCATION See Exploration Plan

Latitude: 43.1725° Longitude: -77.6774°

Approximate Surface Elev.: 536 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0					16	10-15-17-19 N=32
		FILL - SILTY SAND WITH CRUSHED STONE, brown gray						
		2.0	534+/-					
2		**SILTY SAND (SM)**, trace gravel, fine grained, brown, medium dense to dense		5			12	13-13-12-8 N=25
							13	8-12-13-15 N=25
							18	13-21-22-25 N=43
							13	11-21-50/4"
		9.5	526.5+/-					
3		9.8 **DOLOSTONE ROCK**, gray	526+/-				2	50/4"
		Sample Spoon Penetration refusal Encountered at 9.8 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan provided by Passero.

Notes:

WATER LEVEL OBSERVATIONS

No reading obtained at completion of sampling

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 08-21-2020 | Boring Completed: 08-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5205212

BORING LOG NO. B-5

PROJECT: XLI Building Addition

CLIENT: XLI Manufacturing LLC
Rochester, New York

SITE: 55 Vanguard Pkwy
Rochester, NY

LOCATION See Exploration Plan

Latitude: 43.1728° Longitude: -77.677°

Approximate Surface Elev.: 537 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
		0.5	536.5+/-					Hand Dig
1		**TOPSOIL**						
		FILL - SILTY SAND, trace gravel, trace brick fragments, trace glass fragments, brown gray and black					9	12-7-8 N=15
							18	7-6-5-6 N=11
		4.0	533+/-					
2		**SILT WITH SAND (ML)**, trace gravel, gray, very stiff		5			13	5-10-8-10 N=18
							18	12-12-13-50 N=25
		8.0	529+/-					
3		8.1 **DOLOSTONE**, gray	529+/-				1	50/1"
		Sample Spoon Penetration refusal Encountered at 8.1 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan provided by Passero.

Notes:

WATER LEVEL OBSERVATIONS

No reading obtained at completion of sampling

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 08-24-2020 | Boring Completed: 08-24-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5205212

BORING LOG NO. B-6

PROJECT: XLI Building Addition

CLIENT: XLI Manufacturing LLC
Rochester, New York

SITE: 55 Vanguard Pkwy
Rochester, NY

LOCATION See Exploration Plan

Latitude: 43.172° Longitude: -77.677°

Approximate Surface Elev.: 535 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
2		0.1	535+/-					
			TOPSOIL					
			SILTY SAND (SM), trace gravel, trace root fragments, brown, medium dense				15	5-11-15-14 N=26
							16	10-10-12-8 N=22
		4.0	531+/-					
			Boring Terminated at 4 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan provided by Passero.

Notes:

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 08-21-2020 | Boring Completed: 08-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5205212

BORING LOG NO. B-7

PROJECT: XLI Building Addition

CLIENT: XLI Manufacturing LLC
Rochester, New York

SITE: 55 Vanguard Pkwy
Rochester, NY

LOCATION See Exploration Plan

Latitude: 43.172° Longitude: -77.6768°

Approximate Surface Elev.: 535 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
		0.1	535+/-					
		TOPSOIL						
2		**SILTY SAND (SM)**, trace gravel, fine grained, medium dense					16	2-8-12-17 N=20
2							13	17-16-12-10 N=28
		4.0	531+/-					
		Boring Terminated at 4 Feet						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan provided by Passero.

Notes:

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 08-21-2020 | Boring Completed: 08-21-2020

Drill Rig: CME-550X | Driller: B. Duffey

Project No.: J5205212

BORING LOG NO. B-8

PROJECT: XLI Building Addition

CLIENT: XLI Manufacturing LLC
Rochester, New York

SITE: 55 Vanguard Pkwy
Rochester, NY

LOCATION See Exploration Plan

Latitude: 43.172° Longitude: -77.6766°

Approximate Surface Elev.: 535 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)		DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0.1	535+/-	**TOPSOIL**					
				FILL - SILTY SAND, trace gravel, dark brown				14	2-5-13-14 N=18
		2.0	533+/-						
2				**SILTY SAND (SM)**, trace fines, fine grained, orange brown, dense				16	15-19-17-10 N=36
		4.0	531+/-						
				Boring Terminated at 4 Feet					

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan provided by Passero.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 08-21-2020	Boring Completed: 08-21-2020
Drill Rig: CME-550X	Driller: B. Duffey
Project No.: J5205212	

BORING LOG NO. B-9

PROJECT: XLI Building Addition

CLIENT: XLI Manufacturing LLC
Rochester, New York

SITE: 55 Vanguard Pkwy
Rochester, NY

LOCATION See Exploration Plan

Latitude: 43.1728° Longitude: -77.6775°

Approximate Surface Elev.: 535 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS
1		0					18	3-3-4-4 N=7
			Becomes black, contains trace glass fragments, trace brick fragments, trace ash				10	4-4-3-2 N=7
				5			10	2-4-4-4 N=8
							6	6-5-4-50 N=9
		7.5	527.5+/-					
3		8.1	527+/-				1	50/1"

FILL - SILTY SAND, trace gravel, brown and black

DOLOSTONE, gray

Sample Spoon Penetration refusal Encountered at 8.1 Feet

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
3.25 inch ID Hollow Stem Augers and 2 inch OD Split Barrel Sampler

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

WATER LEVEL OBSERVATIONS

None encountered at completion of sampling

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were interpolated from a topographic site plan provided by Passero.

Notes:

Terracon
15 Marway Cir, Ste 2B
Rochester, NY

Boring Started: 08-24-2020	Boring Completed: 08-24-2020
Drill Rig: CME-550X	Driller: B. Duffey
Project No.: J5205212	

SUPPORTING INFORMATION

Contents:

Note: All attachments are one page unless noted above.

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS
XLI Building Addition ■ Rochester, NY
Terracon Project No. J5205212

SAMPLING	WATER LEVEL	FIELD TESTS
Grab Sample Standard Penetration Test	**Water Initially Encountered** **Water Level After a Specified Period of Time** **Water Level After a Specified Period of Time** **Cave In Encountered** Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	**N** Standard Penetration Test Resistance (Blows/Ft.) **(HP)** Hand Penetrometer **(T)** Torvane **(DCP)** Dynamic Cone Penetrometer **UC** Unconfined Compressive Strength **(PID)** Photo-Ionization Detector **(OVA)** Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

LOCATION AND ELEVATION NOTES

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength Qu, (tsf)**	**Standard Penetration or N-Value Blows/Ft.**
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	4 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	8 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	15 - 30
		Hard	> 4.00	> 30

RELEVANCE OF SOIL BORING LOG

The soil boring logs contained within this document are intended for application to the project as described in this document. Use of these soil boring logs for any other purpose may not be appropriate.

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$ [E]		GW	Well-graded gravel [F]
			$Cu < 4$ and/or [$Cc<1$ or $Cc>3.0$] [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$ [E]		SW	Well-graded sand [I]
			$Cu < 6$ and/or [$Cc<1$ or $Cc>3.0$] [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G, H, I]
			Fines classify as CL or CH		SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A"		CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K, L, M]
		Organic:	Liquid limit - oven dried / Liquid limit - not dried	< 0.75	OL	Organic clay [K, L, M, N] / Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K, L, M]
			PI plots below "A" line		MH	Elastic Silt [K, L, M]
		Organic:	Liquid limit - oven dried / Liquid limit - not dried	< 0.75	OH	Organic clay [K, L, M, P] / Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

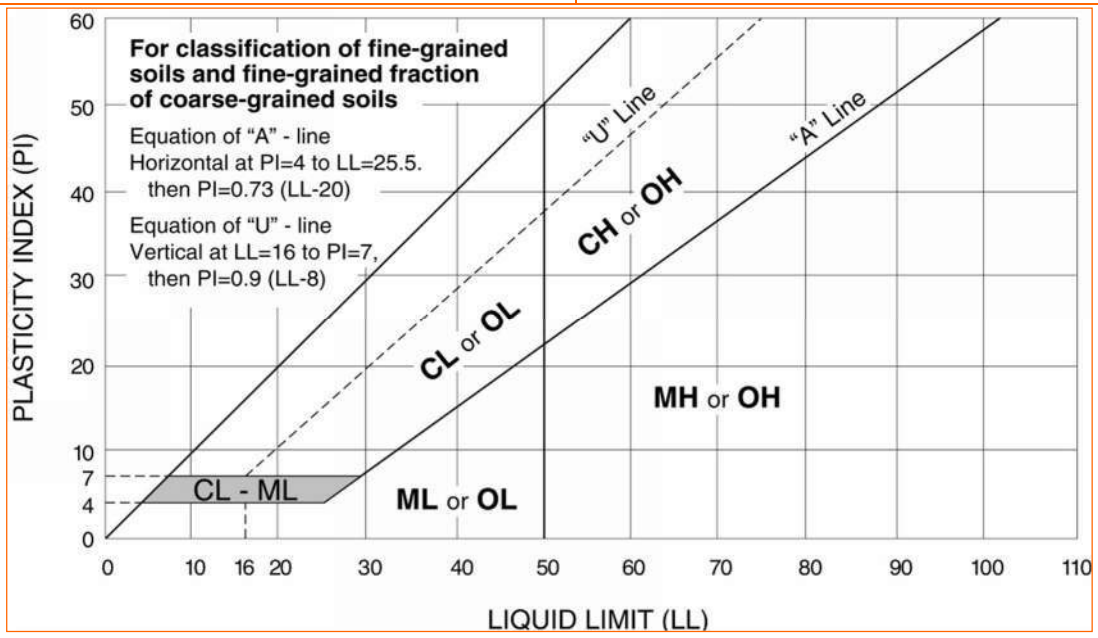
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



DESCRIPTION OF ROCK PROPERTIES

WEATHERING	
Term	**Description**
Unweathered	No visible sign of rock material weathering, perhaps slight discoloration on major discontinuity surfaces.
Slightly weathered	Discoloration indicates weathering of rock material and discontinuity surfaces. All the rock material may be discolored by weathering and may be somewhat weaker externally than in its fresh condition.
Moderately weathered	Less than half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discolored rock is present either as a continuous framework or as corestones.
Highly weathered	More than half of the rock material is decomposed and/or disintegrated to a soil. Fresh or discolored rock is present either as a discontinuous framework or as corestones.
Completely weathered	All rock material is decomposed and/or disintegrated to soil. The original mass structure is still largely intact.
Residual soil	All rock material is converted to soil. The mass structure and material fabric are destroyed. There is a large change in volume, but the soil has not been significantly transported.

STRENGTH OR HARDNESS		
Description	**Field Identification**	**Uniaxial Compressive Strength, psi (MPa)**
Extremely weak	Indented by thumbnail	40-150 (0.3-1)
Very weak	Crumbles under firm blows with point of geological hammer, can be peeled by a pocket knife	150-700 (1-5)
Weak rock	Can be peeled by a pocket knife with difficulty, shallow indentations made by firm blow with point of geological hammer	700-4,000 (5-30)
Medium strong	Cannot be scraped or peeled with a pocket knife, specimen can be fractured with single firm blow of geological hammer	4,000-7,000 (30-50)
Strong rock	Specimen requires more than one blow of geological hammer to fracture it	7,000-15,000 (50-100)
Very strong	Specimen requires many blows of geological hammer to fracture it	15,000-36,000 (100-250)
Extremely strong	Specimen can only be chipped with geological hammer	>36,000 (>250)

DISCONTINUITY DESCRIPTION			
Fracture Spacing (Joints, Faults, Other Fractures)		**Bedding Spacing (May Include Foliation or Banding)**	
Description	**Spacing**	**Description**	**Spacing**
Extremely close	< ¾ in (<19 mm)	**Laminated**	< ½ in (<12 mm)
Very close	¾ in – 2-1/2 in (19 - 60 mm)	**Very thin**	½ in – 2 in (12 – 50 mm)
Close	2-1/2 in – 8 in (60 – 200 mm)	**Thin**	2 in – 1 ft. (50 – 300 mm)
Moderate	8 in – 2 ft. (200 – 600 mm)	**Medium**	1 ft. – 3 ft. (300 – 900 mm)
Wide	2 ft. – 6 ft. (600 mm – 2.0 m)	**Thick**	3 ft. – 10 ft. (900 mm – 3 m)
Very Wide	6 ft. – 20 ft. (2.0 – 6 m)	**Massive**	> 10 ft. (3 m)

Discontinuity Orientation (Angle): Measure the angle of discontinuity relative to a plane perpendicular to the longitudinal axis of the core. (For most cases, the core axis is vertical; therefore, the plane perpendicular to the core axis is horizontal.) For example, a horizontal bedding plane would have a 0-degree angle.

ROCK QUALITY DESIGNATION (RQD) [1]	
Description	**RQD Value (%)**
Very Poor	0 - 25
Poor	25 – 50
Fair	50 – 75
Good	75 – 90
Excellent	90 - 100

1. The combined length of all sound and intact core segments equal to or greater than 4 inches in length, expressed as a percentage of the total core run length.

Reference: U.S. Department of Transportation, Federal Highway Administration, Publication No FHWA-NHI-10-034, December 2009
Technical Manual for Design and Construction of Road Tunnels – Civil Elements

APPENDIX 2

Community Air Monitoring Plan

APPENDIX 1A

New York State Department of Health
Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

APPENDIX 3

Health and Safety Plan

Site Health and Safety Plan

Location:

55 Vanguard Parkway
Former Emerson Street Landfill
Rochester, New York 14606

Prepared For:

City of Rochester
Division of Environmental Quality
Room 300-B
Rochester, New York 14614

LaBella Project No. 210173 Ph 16

December 2020

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SITE HEALTH AND SAFETY PLAN

Project Title:	Former Emerson Street Landfill Pilot Test
Project Number:	210173
Project Location (Site):	Emerson Street, Rochester, New York
Environmental Director:	Gregory Senecal, CHMM
Project Manager:	Dan Noll, P.E.
Site Safety Supervisor:	To Be Determined
Site Contact:	To Be Determined
Safety Director:	Steven Szymanski
Proposed Date(s) of Field Activities:	To Be Determined
Site Conditions:	Slightly sloping, encompassing approximately 250 acres
Site Environmental Information Provided By:	Prior Environmental Reports by LaBella Associates, P.C. and various other consultants (refer to Work Plan)
Air Monitoring Provided By:	To Be Determined

EMERGENCY CONTACTS

	Name	Phone Number
Ambulance:	As Per Emergency Service	911
Hospital Emergency:	Unity Health Systems	585-723-7070
Poison Control Center:	Finger Lakes Poison Control	585-273-4621
Police (local, state):	Monroe County Sheriff	911
Fire Department:	Rochester Fire Department	911
Site Contact:	To Be Determined	
Agency Contact:	NYSDEC – Todd Caffoe, P.E. NYSDOH – Melissa Doroski Finger Lakes Poison Control MCDOH – Wade Silkworth	585-226-5357 518-402-7860 1-800-222-1222 585-753-5470
Environmental Director:	Greg Senecal, CHMM	Direct: 585-295-6243 Cell: 585-752-6480
Project Manager:	Dan Noll, P.E.	Direct: 585-295-611 Cell: 585-301-8458
Site Safety Supervisor:	To Be Determined	
LaBella Safety Director	Steven Szymanski	Direct: 585-295-6633

MAP AND DIRECTIONS TO THE MEDICAL FACILITY
PARK RIDGE HOSPITAL

Total Time: 8 minutes
Total Distance: 3.2 miles

Start: 1700 Emerson St, Rochester, NY, 14606-3122

1. Start out going SOUTH on MCCRACKANVILLE ST toward EMERSON ST.
2. Turn RIGHT on EMERSON ST.
2. Turn RIGHT onto LEE RD/CR-154.
3. Turn LEFT onto RIDGEWAY AVE.
4. 1555 LONG POND ROAD is on the LEFT.

End: 1555 Long Pond Road, Rochester, NY 14626

1.0 Introduction

The purpose of this Health and Safety Plan (HASP) it to provide guidelines for responding to potential health and safety issues that may be encountered during construction and associated environmental monitoring work at 55 Vanguard Parkway located within the former Emerson Street Landfill (FESL) in the City of Rochester, Monroe County, New York. This HASP only reflects the policies of LaBella Associates D.P.C. The requirements of this HASP are applicable to LaBella personnel at the work site. It is the responsibility of each sub-consultant and sub-contractor to follow their own companies HASP. In addition, the injection contractors will be required to provide copies of their HASP for review prior to initiating work so that all personnel on-Site are aware of health and safety issues and measures for these activities. This document's project specifications should be consulted for guidance in preventing and quickly abating any threat to human safety or the environment. The provisions of the HASP were developed in general accordance with 29 CFR 1910 and 29 CFR 1926 and do not replace or supersede any regulatory requirements of the USEPA, NYSDEC, OSHA or and other regulatory body.

2.0 Responsibilities

This HASP presents guidelines to minimize the risk of injury to project personnel, and to provide rapid response in the event of injury. The HASP is applicable only to activities of approved LaBella personnel. It is the responsibility of LaBella employees to follow the requirements of this HASP, or HASPs specific to individual activities, and all applicable company safety procedures.

3.0 Activities Covered

The activities covered under this HASP are limited to the following:

- Soil and fill excavation work
- Soil and fill loading and transport
- Re-grading construction

4.0 Work Area Access and Site Control

Site control during the project will be the responsibility of the contractor overseeing the overall construction project. LaBella will have primary responsibility for maintaining a safe work area for all activities conducted by LaBella personnel. Subcontractors and sub-consultants will be responsible for maintaining a safe work area for work conducted by their own personnel. Such work area controls will consist of:

- Site security fencing with locking gate.
- Air monitoring.
- Use of Personal Protective Equipment (PPE).

5.0 Potential Health and Safety Hazards

This section lists some potential health and safety hazards that project personnel may encounter at the FESL, and some actions to be implemented by approved personnel to control and reduce the associated risk to health and safety. This is not intended to be a complete listing of any and all potential health and safety hazards. New or different hazards may be encountered as site environmental and site work conditions change. The suggested actions to be taken under this plan are not to be substituted for good judgment on the part of project personnel.

5.1 Hazards Due to Heavy Machinery and Equipment

Potential Hazard:
Heavy machinery including trucks, excavators, backhoes, drill rigs, manufacturing equipment and processes, etc will be in operation at the site. The presence of such equipment presents the danger of being struck or crushed. Use caution when working near heavy machinery and manufacturing equipment.

Protective Action:
Make sure that operators are aware of your activities, and heed operator's instructions and warnings. Wear bright colored clothing and walk safe distances from heavy equipment. Do not wear loose clothing that could be caught by moving parts. A hard hat, safety glasses and steel toe shoes are required.

5.2 Excavation Hazards

Potential Hazard:
Excavations and trenches can collapse, causing injury or death. Edges of excavations can be unstable and collapse. Fracturing and injection work will introduce pressure and will alter the pressure of the formation. Toxic and asphyxiant gases can accumulate in confined spaces and trenches. Excavations that require working within the excavation will require air monitoring in the breathing zone (refer to Section 9.0).

Excavations left open create a fall hazard which can cause injury or death.

Protective Action:
Approved personnel are not to enter excavations over 4 feet in depth unless excavations are adequately sloped. Additional personal protective equipment may be required based on the air monitoring.

Personnel should exercise caution near all excavations at the site as it is expected that excavation sidewalls will be unstable. All excavations will be backfilled by the end of each day. Additionally, no test pit will be left unattended during the day. Personnel should exercise caution during fracturing and ZVI injection and keep a safe distance from all equipment and machinery. Personnel should be cautious of well covers and other well materials that may be removed from wells due to the pressurization of the subsurface during bedrock blasting and/or chemical injection. Well caps from nearby wells should be locked in place to the steel casing or completely removed from wells prior to injection of ZVI.

Fencing and/or barriers accompanied by "no trespassing" signs should be placed around all excavations when left open for any period of time when work is not being conducted.

5.3 Cuts, Punctures and Other Injuries

Potential Hazard:
In any excavation or construction work site there is the potential for the presence of sharp or jagged edges on rock, metal materials, and other sharp objects. Serious cuts and punctures can result in loss of blood and infection.

Protective Action:
The Project Manager is responsible for making First Aid supplies available at the work site to treat minor injuries. The Site Safety Officer is responsible for arranging the transportation of authorized on-site personnel to medical facilities when First Aid treatment in not sufficient. Do not move seriously injured workers. All injuries requiring treatment are to be reported to the Project Manager. Serious injuries are to be reported immediately to the Site Safety Officer.

5.4 Injury Due to Exposure of Chemical Hazards

Potential Hazards:
Volatile organic vapors from petroleum products, chlorinated solvents or other chemicals may be encountered during the work. Inhalation of high concentrations of organic vapors can cause headache, stupor, drowsiness, confusion and other health effects. Skin contact can cause irritation, chemical burn, or dermatitis. ZVI will be utilized during the Pilot Test which can develop dust. ZVI contains approximately 96% iron and is non-toxic; however, the dust is a respiratory concern.

Protective Action:
The presence of organic vapors may be detected by their odor and by monitoring instrumentation. Approved employees will not work in environments where hazardous concentrations of organic vapors are present. Air monitoring will be performed in accordance with the NYSDOH Generic CAMP. Personnel are to leave the work area whenever PID measurements of ambient air exceed 25 ppm consistently for a 5 minute period. In the event that sustained total volatile organic compound (VOC) readings of 25 ppm is encountered personnel should upgrade personal protective equipment to Level C (refer to Section 8.0) and an Exclusion Zone should be established around the work area to limit and monitor access to this area (refer to Section 6.0). Personnel handling and mixing ZVI should attempt to prevent generating dust. A dust mask may be worn when mixing or transferring ZVI between containers to prevent inhalation. ZVI spilled to the ground in excess should be picked up using a shovel and placed in a container. The Safety Data Sheet for ZVI is included as an Appendix to the Pilot Test Work Plan.

5.5 Injuries Due to Extreme Hot or Cold Weather Conditions

Potential Hazards:
Extreme hot weather conditions can cause heat exhaustion, heat stress and heat stroke or extreme cold weather conditions can cause hypothermia.

Protective Action:
Precaution measures should be taken such as dress appropriately for the weather conditions and drink plenty of fluid. If personnel should suffer from any of the above conditions, proper techniques should be taken to cool down or heat up the body and taken to the nearest hospital if needed.

5.6 Potential Exposure to Asbestos

Potential Hazards:
During ground intrusive activities (e.g., test pitting or drilling) soil containing asbestos may be encountered. Asbestos is friable when dry and can be inhaled when exposed to air.

Protective Action:
The presence of asbestos can be identified through visual observation of a white magnesium silicate material. If encountered, work should be halted and a sample of the suspected asbestos should be collected and placed in a plastic sealable bag. This sample should be sent to the asbestos laboratory at LaBella Associates for analysis.

5.7 Potential Explosive Atmospheres

Potential Hazards:
During ground intrusive activities (e.g., drilling, chemical injections, bedrock blasting, etc.), methane rich vapors within the explosive range could be encountered and pose an explosion risk once encountered.

Protective Action:
For all subsurface work, the work area environment will be monitored for methane concentrations. In the event that methane levels are measured at 50% of the lower explosive limit (LEL), meaning methane levels of 2.5% (i.e., methane LEL is 5%) then the work should be ceased until levels decrease to below 2.5%.

5.8 Potential Exposure to Radiation

Potential Hazards:
During ground intrusive activities (e.g., test pitting or drilling), radioactive material could be encountered and pose an exposure risk to humans once encountered.

Protective Action:
Each area of soil/ fill excavated should be screened with the Ludlum meter to check the level of radiation on the soil as compared to the Site background level of radiation. Should the level of radiation on the soil sample exceed 2 times the Site background level, then work should be halted at the specified location and Mr. Rick Rote of LaBella Associates, P.C. should be contacted immediately (see page ii Emergency Contacts).

6.0 Work Zones

In the event that conditions warrant establishing various work zones (i.e., based on hazards - Section 5.4), the following work zones should be established:

Exclusion Zone (EZ):
The EZ will be established in the immediate vicinity and adjacent downwind direction of site activities that elevate breathing zone VOC concentrations to unacceptable levels based on field screening. These site activities include contaminated soil excavation and soil sampling activities. If access to the site is required to accommodate non-project related personnel then an EZ will be established by constructing a barrier around the work area (yellow caution tape and/or construction fencing). The EZ barrier shall encompass the work area and any equipment staging/soil staging areas necessary to perform the associated work. The contractor(s) will be responsible for establishing the EZ and limiting access to approved personnel. LaBella will not enter the EZ unless deemed necessary to do so. Depending on the condition for establishing the EZ, access to the EZ may require adequate PPE (e.g., Level C).

Contaminant Reduction Zone (CRZ):
The CRZ will be the area where personnel entering the EZ will don proper PPE prior to entering the EZ and the area where PPE may be removed. The CRZ will also be the area where decontamination of equipment and personnel will be conducted as necessary.

7.0 Decontamination Procedures

Upon leaving the work area, approved personnel shall decontaminate footwear as needed. Under normal work conditions, detailed personal decontamination procedures will not be necessary. Work clothing may become contaminated in the event of an unexpected splash or spill or contact with a contaminated substance. Minor splashes on clothing and footwear can be rinsed with clean water. Heavily contaminated clothing should be removed if it cannot be rinsed with water. Personnel assigned to this project should be prepared with a change of clothing whenever on site.

8.0 Personal Protective Equipment

Generally, site conditions at this work site require level of protection of Level D or modified Level D. However, air monitoring will be conducted to determine if up-grading to Level C PPE is required (refer to Section 9.0). Descriptions of the typical safety equipment associated with Level D and Level C are provided below:

Level D:
Hard hat, safety glasses, rubber nitrile sampling gloves, steel toe construction grade boots, etc.

Level C:
Level D PPE and full or ½-face respirator and tyvek suit (if necessary). [*Note: Organic vapor cartridges are to be changed after each 8-hours of use or more frequently.*]

9.0 Air Monitoring

According to 29 CFR 1910.120(h), air monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection required for personnel working onsite. Air monitoring will consist at a minimum of the procedures described in "NYSDOH Generic CAMP", included as Appendix 1A to the NYSDEC DER-10 *Technical Guidance for Site Investigation and Remediation* dated November 2009. Please refer to the NYSDOH Generic CAMP for further details on air monitoring at the Site.

The Air Monitor will utilize a photoionization Detector (PID) to screen the ambient air in the work areas for total Volatile Organic Compounds (VOCs) and a DustTrak tm Model 8520 aerosol monitor or equivalent for measuring particulates. Ambient air will generally be monitored upwind and downwind of the work area and logged in a minimum of 15-minute intervals during subsurface work.

If sustained PID readings of greater than 25 ppm are recorded in the breathing zone, then either personnel are to leave the work area until satisfactory readings are obtained or approved personnel may re-enter the work areas wearing at a minimum a ½ face respirator with organic vapor cartridges for an 8-hour duration (i.e., upgrade to Level C PPE). Organic vapor cartridges are to be changed after each 8-hours of use or more frequently, if necessary. If PID readings are sustained, in the work area, at levels above 25 ppm for a 5 minute average, work will be stopped immediately until safe levels of VOCs are encountered or additional PPE will be required (i.e., Level B).

If dust concentrations exceed the upwind concentration by 150 $\mu g/m^3$ (0.15 mg/m^3) consistently for a 10 minute period within the work area or at the downwind location, then LaBella personnel may not re-enter the work area until dust concentrations in the work area decrease below 150 $\mu g/m^3$ (0.15 mg/m^3), which may be accomplished by the construction manager implementing dust control or suppression measures.

10.0 Emergency Action Plan

In the event of an emergency, employees are to turn off and shut down all powered equipment and leave the work areas immediately. Employees are to walk or drive out of the Site as quickly as possible and wait at the assigned 'safe area'. Follow the instructions of the Site Safety Officer.

Employees are not authorized or trained to provide rescue and medical efforts. Rescue and medical efforts will be provided by local authorities.

11.0 Medical Surveillance

Medical surveillance will be provided to all employees who are injured due to overexposure from an emergency incident involving hazardous substances at this site.

12.0 Employee Training

Personnel who are not familiar with this site plan will receive training on its entire content and organization before working at the Site.

Individuals involved with the fieldwork must be 40-hour OSHA HAZWOPER trained with current 8-hour refresher certification.

Table 1
Exposure Limits and Recognition Qualities

Compound	PEL-TWA (ppm)(b)(d)	TLV-TWA (ppm)(c)(d)	STEL	LEL (%)(e)	UEL (%)(f)	IDLH (ppm)(g)(d)	Odor	Odor Threshold (ppm)	Ionization Potential
Acetone	750	500	NA	2.15	13.2	20,000	Sweet	4.58	9.69
Anthracene	0.2	0.2	NA	NA	NA	NA	Faint aromatic	NA	NA
Benzene	1	0.5	5	1.3	7.9	3000	Pleasant	8.65	9.24
Benzo (a) pyrene (coal tar pitch volatiles)	0.2	0.1	NA	NA	NA	700	NA	NA	NA
Benzo (a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (b) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (k) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	10.88
Carbon Disulfide	20	1	NA	1.3	50	500	Odorless or strong garlic type	0.096	10.07
Chlorobenzene	75	10	NA	1.3	9.6	2,400	Faint almond	0.741	9.07
Chloroform	50	2	NA	NA	NA	1,000	ethereal odor	11.7	11.42
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethylene	200	200	NA	9.7	12.8	400	Acrid	NA	9.65
1,2-Dichlorobenzene	50	25	NA	2.2	9.2		Pleasant		9.07
Ethylbenzene	100	100	NA	1	6.7	2,000	Ether	2.3	8.76
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	NA	NA	NA	5	15	NA	NA	NA	12.98
Methylene Chloride	500	50	NA	12	23	5,000	Chloroform-like	10.2	11.35
Naphthalene	10, Skin	10	NA	0.9	5.9	250	Moth Balls	0.3	8.12
n-propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	Sweet	NA	NA
Toluene	100	100	NA	0.9	9.5	2,000	Sweet	2.1	8.82
Trichloroethylene	100	50	NA	8	12.5	1,000	Chloroform	1.36	9.45
1,2,4-Trimethylbenzene	NA	25	NA	0.9	6.4	NA	Distinct	2.4	NA
1,3,5-Trimethylbenzene	NA	25	NA	NA	NA	NA	Distinct	2.4	NA
Vinyl Chloride	1	1	NA	NA	NA	NA	NA	NA	NA
Xylenes (o,m,p)	100	100	NA	1	7	1,000	Sweet	1.1	8.56
Metals									
Arsenic	0.01	0.2	NA	NA	NA	100, Ca	Almond	NA	NA
Cadmium	0.2	0.5	NA	NA	NA	NA	NA	NA	NA
Chromium	1	0.5	NA	NA	NA	NA	NA	NA	NA
Lead	0.05	0.15	NA	NA	NA	700	NA	NA	NA
Mercury	0.05	0.05	NA	NA	NA	28	Odorless	NA	NA
Selenium	0.2	0.02	NA	NA	NA	Unknown	NA	NA	NA
Other									
Asbestos	0.1 (f/cc)	NA	1.0 (f/cc)	NA	NA	NA	NA	NA	NA

(a) Skin = Skin Absorption

(b) OSHA-PEL Permissible Exposure Limit (flame weighted average, 8-hour): NIOSH Guide, June 1990

(c) ACGIH – 8 hour time weighted average from Threshold Limit Values and Biological Exposure Indices for 2003

(d) Metal compounds in mg/m3

(e) Lower Exposure Limit (%)

(f) Upper Exposure Limit (%)

(g) mmediately Dangerous to Life or Health Level: NIOSH Guide, June 1990

Notes:

1. All values are given in parts per million (PPM) unless otherwise indicated
2. Ca = Possible Human Carcinogen, no IDLH information