GZA GeoEnvironmental of New York

Engineers and Scientists

February 7, 2014
File No.: 21.0056642.10 Task 20

Jaspal Walia, P.E,
New York State Dept. of Environmental Conservation (NYSDEC)
Division of Environmental Remediation – Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

535 Washington Street
11th Floor
Buffalo, New York
14203
716-685-2300
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http://www.gza.com

Re: Imported Soil Source for 129 Holden Street Site (C915261)
Sampling Plan for University of Buffalo School of Medicine and Biomedical Sciences Building Site
Corners of Main Street, High Street & Washington Street
Buffalo, New York 14094

Dear Jaspal:

On behalf of Highland Park Village, LLC (HPV), GZA GeoEnvironmental of New York (GZA) has prepared this sampling work plan to assess a soil source for reuse at the 129 Holden Street Brownfield Cleanup Program (BCP) Site. The project location is shown on the Locus Plan presented as Figure 1.

HPV's construction manager, LPCiminelli, is involved with the redevelopment of approximately 2.44-acres located on the block located between Main Street, Washington Street, and south of High Street as shown on Figure 2. This site is designated for construction of the proposed University of Buffalo Medicine & Biomedical Sciences Building.

The site consists of Sections 100.790, Block 5, Lots 1, 2, 3, 4 and 11 and is bound by High Street to the north, Main Street to the west, Washington Street to the east and the Roosevelt Apartments to the south. The addresses for these properties are 951 Main Street, 963 Main Street and 960 Washington Street.

Surface grade elevations slope downward approximately 15 feet from the north (Elevation 665) to the south end (Elevation 650) of the Site. The excavation work to prepare the Site for building construction, will require excavation activities to extend to a depth of approximately 30 feet below ground surface (bgs) to Elevation 625. Based on the previous geotechnical investigations[1,2] completed at the Site, it is our understanding that the

[1] "SUNY Buffalo School of Medicine and Biological Sciences, Phase I – Subsurface Investigation, Buffalo, NY" dated November 2, 2012. Prepared for HOK Group, by Mueser Rutledge Consulting Engineers.
[2] "Final Geotechnical Report and Foundation Recommendations, SUNY Buffalo School of Medicine and Biological Sciences, Phase I – Subsurface Investigation, Buffalo, NY" dated July 24, 2013. Prepared for HOK Group, by Mueser Rutledge Consulting Engineers.

subsurface soil consists of fill material overlying native soil, which consists of three (3) main soil types: fine sand, clay and silt, and glacial till (a mix of sand and gravel deposits). Cross sections generated from the geotechnical reports have been included in Attachment 1. Based on a construction excavation elevation depth of 625 feet, we have drawn a line in red, on the cross-sections in Attachment 1, identifying the approximate bottom of excavation for site redevelopment. We estimate that approximately 80, 000 cubic yards (cy) of soil present at the Site will need removal to facilitate the proposed building construction. Of that 80,000 cy, about 30,000 is urban fill material and 50,000 cy is native sand and/or silty clay.

HPV proposes to assess the 50,000 cy of native soil below the fill material at the Site for reuse at 129 Holden Street. This work plan will discuss how this native soil will be assessed for reuse.

The urban fill material located above the native soil will be characterized, removed from the Site, and taken to an off-site location in accordance with local, state and federal laws.

PURPOSE

The purpose of this work plan is to define the soil characteristics of the native soils present at the Site for potential reuse at 129 Holden Street, a BCP Site to be redeveloped for restricted residential use.

The redevelopment of the UB Biomedical Site will require excavations ranging from approximately elevation 665 to 625 in the northern portion of the Site and from elevation 650 to 625 in the southern portion. We estimate that approximately 80,000 cubic yards (cy) of soil present at the Site that will need to be removed in order to facilitate the construction of the proposed building. Of that 80,000 cy, about 30,000 is urban fill material and 50,000 cy is native sand and/or silty clay. HPV would like to assess the approximate 50,000 cy of native soil below the fill material at the Site for reuse at 129 Holden Street, similar to their work done at the 1001 Main Street Site[3].

SCOPE OF WORK

Test pit excavations will be completed to assess the subsurface conditions. We are proposing to complete 18 test pit excavations in a grid pattern as shown on Figure 2. GZA will provide oversight of the test pits to collect soil samples, make observations (i.e., visual

[3] "Revised 1001 Main Street Shallow Soil Reuse Sampling Report, Sampling Plan for Kaleida Health Medical Office, Building Site (C915260), Imported Soil Source for 129 Holden Street Site (C915261), Buffalo, NY 14094" dated February 5, 2013. Prepared for NYSDEC by GZA GeoEnvironmental of New York.
"Revised 1001 Main Street Deep Soil Reuse Sampling Report, Sampling Plan for Kaleida Health Medical Office, Building Site (C915260), Imported Soil Source for 129 Holden Street Site (C915261), Buffalo, NY 14094" dated March 13, 2013. Prepared for NYSDEC by GZA GeoEnvironmental of New York.

and olfactory) of the soil conditions and field screen subsurface soils. The general contractor, LPCiminelli Construction (LPC), will provide the equipment and labor to complete the test pit excavations.

We propose to complete 18 test pits in a grid pattern across the portion of the Site to be excavated to Elevation 625 to assess the soil conditions. Soil from the test pits will be field screened with an organic vapor meter (OVM), field observation/soil classification will be made of the conditions observed, and soil samples collected for laboratory analysis.

Because the soil to be characterized for reuse is native soils at the Site, GZA would like to propose an alternative sampling program be used to characterize the soil varying from the DER-10 Table 5.4(e)10 sampling frequencies for the 50,000 cubic yards to be assessed. According to the Table 5.4(e)10, 105 discrete volatile organic compounds (VOCs) samples and 51 composite samples for semi-volatile organic compounds (SVOCs), inorganics, polychlorinated biphenyls (PCBs) and pesticides are required to be collected.

We are proposing the following sampling program because the soil to be assessed is native soil. We will collect the 105 discrete volatile organic compounds (VOCs) samples and 51 composite samples from the 18 test pits and hold them at the lab. We will initially assign 35% of the discrete VOCs (36 samples or 2 per test pit) and 35% of the composite samples (18 samples or 1 per test pit) for analysis. The samples chosen for initial testing would be based on visual, olfactory and field screening results. Based on the results of the initial analysis, we will consider the following.

- If there are no detections exceeding the Part 375 Restricted Residential Soil Cleanup Objectives (RRSCOs), an additional 20% of samples will be assigned for analysis, in consultation with NYSDEC. We would also request that the parameters list be reduced based on the detections. For example, if no PCBs or pesticides are detected above the Unrestricted SCOs, they would be removed from the parameter requirements for the additional samples to be analyzed. This rationale would be applied to all parameters or a reduction to the lists such as for SVOCs (poly aromatic hydrocarbons (PAHs)) or metals (RCRA 8), if the results warrant the reduction. If, after the second round of samples released, there are no exceedances of the RRSCOs, no additional analysis will be completed.

- If, upon assessment of the initial 35% sample assignment, there are exceedances above RRSCO but below Commercial SCOs (CSCOs), an additional 30% will be assigned for analysis, in consultation with NYSDEC. These samples will include the parameters which were detected above the RRSCO and focus on the sample areas where the RRSCO exceedances occurred. We would also request that the parameters list be reduced based on the detections. For example, if no PCBs or pesticides are detected above the Unrestricted SCOs, they would be removed from the parameter requirements. This rationale would be applied to all parameters or a reduction to the lists such as for SVOCs (poly aromatic hydrocarbons (PAHs)) or metals (RCRA 8), if the results warrant the reduction. If, after the second round of samples assigned, there are no additional exceedances of the RRSCOs, and the

limits of the soil exceeding the CSCOs have been determined, no additional analysis will be completed.

- If, upon assessment of the initial 35% sample assignment, there are exceedances above the CSCOs or Industrial SCOs (ISCOs), HVP will assess the locations and magnitude of the exceedances, and determine if the soil reuse is feasible. If HVP decides to delineate the extent of exceedances and determine areas that are acceptable for reuse, additional samples to be assigned would be done in consultation with NYSDEC.

The discrete samples will be collected as a grab sample from a specific depth. The composite samples will be from 5 foot intervals (i.e., 10 to 15 feet bgs, 15 to 20 feet bgs, 20 to 25 feet bgs, etc.) starting below the urban fill soil layer. The initial two (2) discrete VOC samples to be collected and analyzed from each test pit, as part of the first sample assignment, will be from locations exhibiting the highest OVM field screening results or olfactory evidence. The composite samples from the 5 foot intervals will generally utilize the depth intervals shown on Figure 3 to achieve spacial distribution in the subsurface. However, if during a test pit excavation, suspect material/staining/odors are noted, the sample will be biased to this area.

The data to be generated from this work will be tabulated and provided to NYSDEC prior to additional sample assignments, in consultation with NYSDEC. Summary tables generated summarizing the data will include the laboratory reporting limits for non-detect compounds.

LABORATORY ANALYSIS

The samples analyzed as part of the soil reuse assessment will be completed by a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory. The following methodologies will be used.

Target Compound List VOCs	USEPA Method 8260C
Semi-Volatile Organic Compounds Base-Neutrals	USEPA Method 8270C
Target Analyte List Metals	USEPA Methods 6010C/7471B
Polychlorinated Biphenyls	USEPA Method 8082A
Pesticides	USEPA Method 8081B

REPORTING

The report will contain a summary of the work completed, observations, analytical data, figures, photographic documentation and conclusions relating to reuse of the Site soil at the 129 Holden Street Site.

We respectfully request an expedited review of this work plan, as Site development and remedial activities at the UB Medical Building property will begin soon and we would like to conduct our sampling in advance of construction activities. If you need additional information or would like to discuss the project, please contact Chris Boron (GZA Project Manager) at (716) 844-7046.

Respectfully,

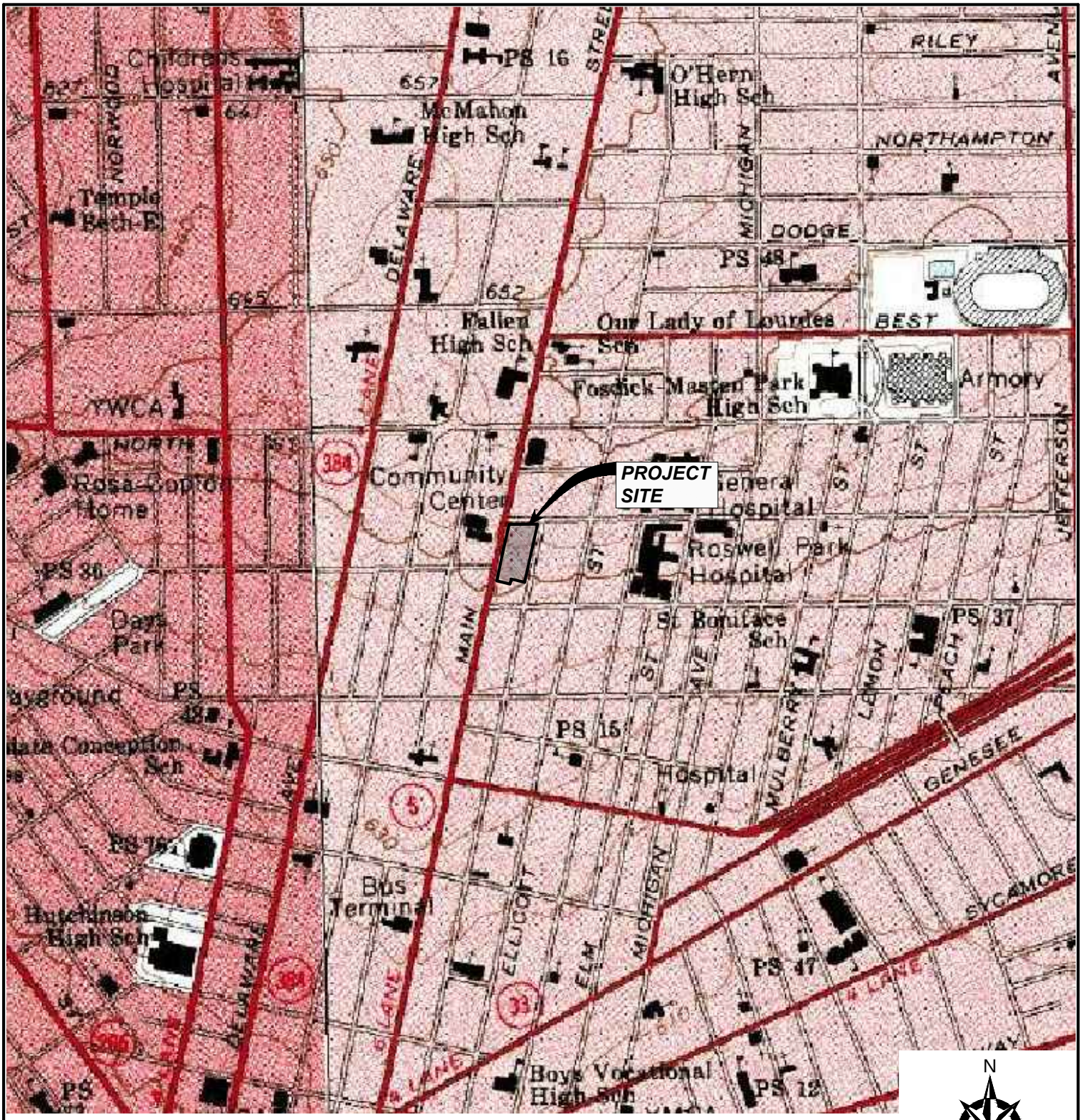
GZA GeoEnvironmental of New York

Christopher Boron
Senior Project Manager

Bart A. Klettke, P. E.
Principal

Attachments
Figure 1 – Locus Plan
Figure 2 – Site Plan and Proposed Test Pit Locations
Figure 3 – Proposed Sampling Interval Plan
Attachment 1 – Geotechnical Report Cross-Sections

cc: John Ciminelli (Strickler Development, electronic copy only)
Vince Kirsch (LPCiminelli, electronic copy only)
Danielle Zientek (LPCiminelli, electronic copy only)



NEW YORK

NOTE:
BASE MAP ADAPTED FROM U.S.G.S. TOPOGRAPHIC MAPS DOWNLOADED FROM TERRASERVER.MICROSOFT.COM

0 500 1000 2000
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

PREPARED BY:
GZA GeoEnvironmental of N.Y.
Engineers and Scientists
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
LOUIS P. CIMINELLI CONSTRUCTION

IMPORTED SOIL SOURCE FOR 129 HOLDEN STREET (C915261)

UNIVERSITY OF BUFFALO SCHOOL OF MEDICINE AND BIOMEDICAL SCIENCES BUILDING SITE

CORNERS OF MAIN STREET, HIGH STREET & WASHINGTON STREET, BUFFALO, NEW YORK

LOCUS PLAN

FIGURE 1

PROJ MGR: CZB	REVIEWED BY:	CHECKED BY:	DATE	PROJECT NO.	REVISION NO.
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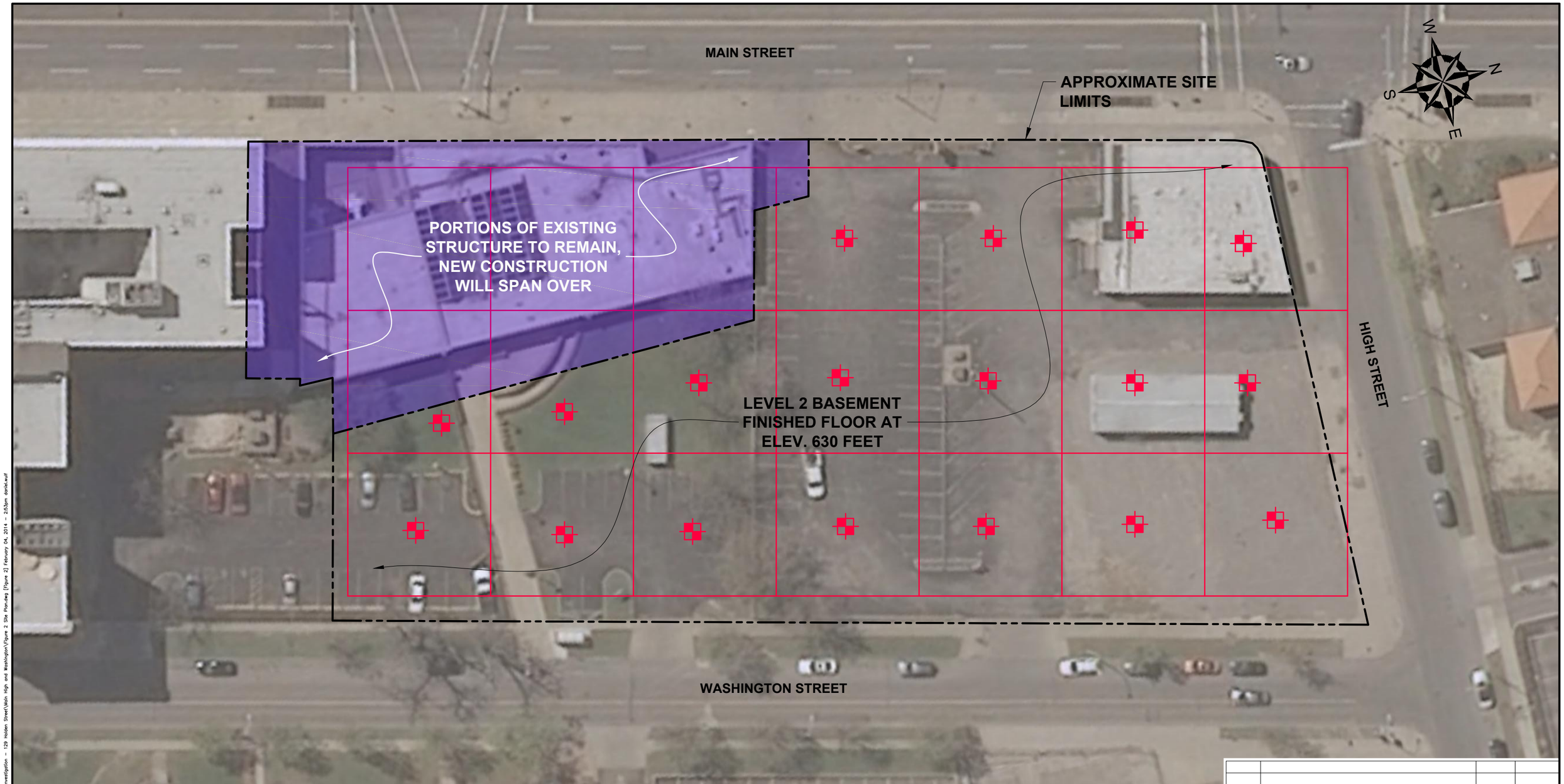

LEGEND:

APPROXIMATE LOCATION OF PROPOSED TEST PIT

GRID SHOWN IS A 60-FOOT INTERVAL

NOTES:

1. BASE MAP ADAPTED FROM A 2011 AERIAL PHOTO AND PROPERTY LINE DOWNLOADED FROM http://www.nysgis.state.ny.us/gateway/mg/index.html AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

3. STRUCTURES SHOWN WITHIN THE LEVEL 2 BASEMENT AREA ARE NO LONGER PRESENT.

0 20 40 80

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

IMPORTED SOIL SOURCE FOR 129 HOLDEN STREET (C915261)

UNIVERSITY OF BUFFALO SCHOOL OF MEDICINE AND BIOMEDICAL SCIENCES BUILDING SITE

CORNERS OF MAIN STREET, HIGH STREET & WASHINGTON STREET, BUFFALO, NEW YORK

SUBSURFACE EXPLORATION LOCATIONS

PREPARED BY:
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PREPARED FOR:
LOUIS P. CIMINELLI CONSTRUCTION

PROJ MGR: CZB	REVIEWED BY:	CHECKED BY:	FIGURE 2
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	
DATE JANUARY 2014	PROJECT NO. 21.0056642.10	REVISION NO.	

MAIN STREET

APPROXIMATE SITE LIMITS

PORTIONS OF EXISTING STRUCTURE TO REMAIN, NEW CONSTRUCTION WILL SPAN OVER

LEVEL 2 BASEMENT FINISHED FLOOR AT ELEV. 630 FEET

HIGH STREET

WASHINGTON STREET

25-30' 15-20' 25-30' 15-20'

10-15 15-20' 20-25' 10-15 30-32' 10-15' 25-30'

20-25' 10-15' 25-30' 15-20' 25-30' 15-20' 20-25'

LEGEND:

20-25' APPROXIMATE LOCATION OF PROPOSED TEST PIT AND PROPOSED SOIL SAMPLING DEPTH INTERVAL

GRID SHOWN IS A 60-FOOT INTERVAL

NOTES:

1. BASE MAP ADAPTED FROM A 2011 AERIAL PHOTO AND PROPERTY LINE DOWNLOADED FROM http://www.nysgis.state.ny.us/gateway/mg/index.html AND FIELD OBSERVATIONS.

2. THE SIZE AND LOCATION OF EXISTING SITE FEATURES SHOULD BE CONSIDERED APPROXIMATE.

3. STRUCTURES SHOWN WITHIN THE LEVEL 2 BASEMENT AREA ARE NO LONGER PRESENT.

0 20 40 80

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

IMPORTED SOIL SOURCE FOR 129 HOLDEN STREET (C915261)

UNIVERSITY OF BUFFALO SCHOOL OF MEDICINE AND BIOMEDICAL SCIENCES BUILDING SITE

CORNERS OF MAIN STREET, HIGH STREET & WASHINGTON STREET, BUFFALO, NEW YORK

SAMPLING INTERVAL PLAN

PREPARED BY:
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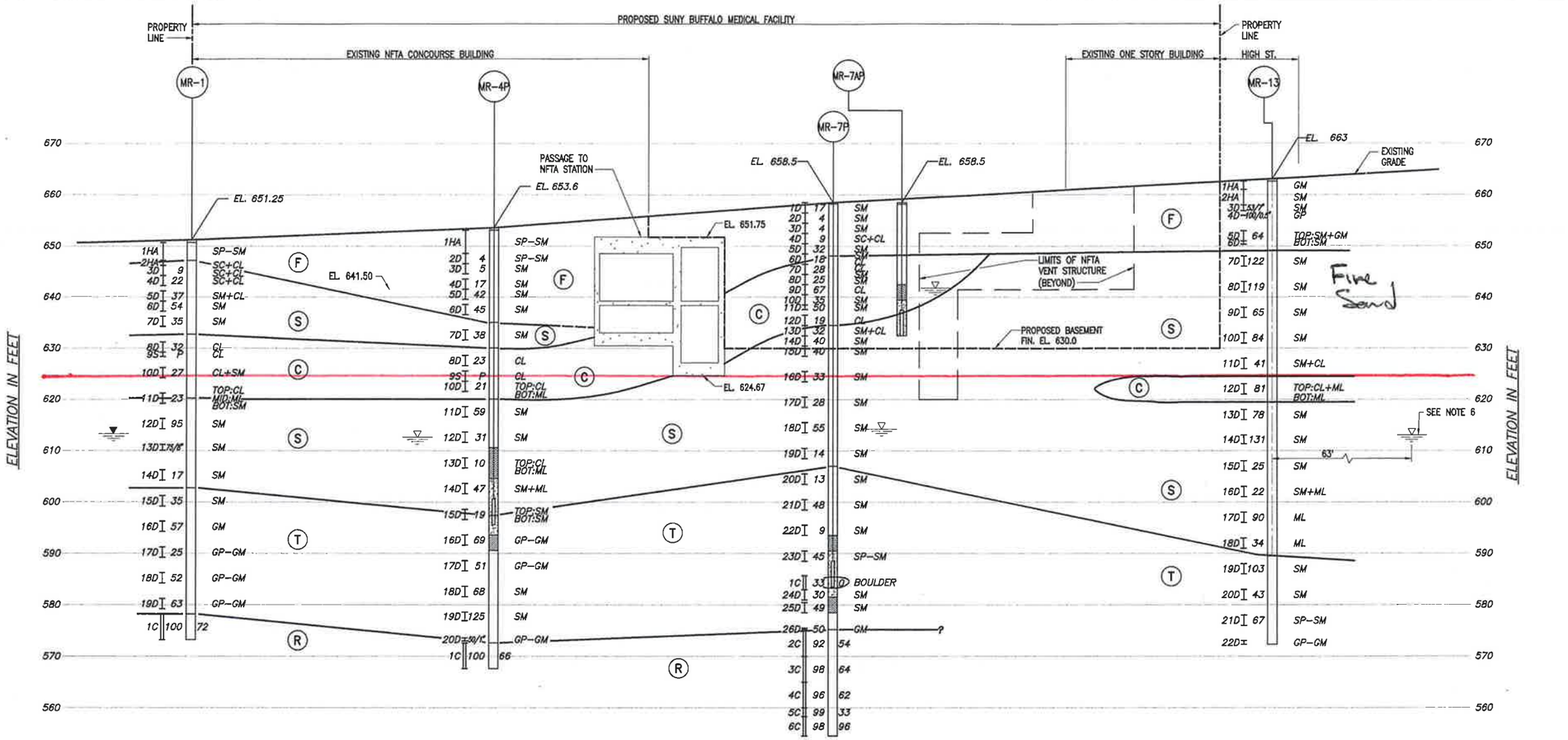
535 WASHINGTON STREET 11th FLOOR
BUFFALO, NEW YORK 14203
(716) 685-2300

PREPARED FOR:
LOUIS P. CIMINELLI CONSTRUCTION

PROJ MGR: CZB	REVIEWED BY:	CHECKED BY:	FIGURE 3
DESIGNED BY:	DRAWN BY: DEW	SCALE: AS SHOWN	
DATE JANUARY 2014	PROJECT NO. 21.0056642.10	REVISION NO.	



GEOLOGIC SECTION A-A

NOTES:

1. FOR GENERAL NOTES, SEE DRAWING NO. B-1.
2. BORINGS ILLUSTRATED ON GEOLOGIC SECTIONS ARE IN SOME CASES PROJECTED TO THE SECTION. STRATIFICATIONS SHOWN ON GEOLOGIC SECTIONS ARE BASED ON BORINGS AND ARE NECESSARY INTERPOLATIONS BETWEEN AND BEYOND BORINGS AND MAY NOT REPRESENT ACTUAL SUBSURFACE CONDITIONS.
3. SEE DRAWING NO. GS-R FOR BORING LEGEND AND SUMMARY OF UNIFIED SOIL CLASSIFICATION SYSTEM. SEE DRAWING NO. RC-1 FOR ROCK CORE CLASSIFICATION CRITERIA.
4. GROUNDWATER LEVELS SHOWN ON GEOLOGIC SECTION ARE IN SOME CASES PROJECTED TO THE SECTION. SEE DRAWING NO. B-1 FOR PIEZOMETER LOCATIONS. SEE REFERENCED DOCUMENTS IN GEOTECHNICAL REPORT FOR PIEZOMETER DETAILS AND OBSERVATIONS.
5. LOCATION, PROFILE, AND ELEVATION OF EXISTING NFTA STRUCTURES TAKEN FROM NFTA LIGHT RAIL RAPID TRANSIT SECTION: B-21 RECORD DRAWINGS, DATED APRIL 1981.
6. WATER LEVEL MEASURED IN MW-36 BY MRCE ON SEPTEMBER 25, 2012. WELL LOCATED ON 1001 MAIN STREET PROPERTY, FOR DETAILS SEE REMEDIAL INVESTIGATION/INTERIM REMEDIAL MEASURE WORK PLAN BY C & S ENGINEERS OF BUFFALO, NY DATED AUGUST 2012.
7. WATER/MUD LEVELS MEASURED IN BORINGS MAY OR MAY NOT INDICATE ACTUAL GROUND WATER LEVELS. WATER LEVELS MEASURED IN PIEZOMETERS INDICATE ACTUAL GROUND WATER PRESSURE AT INTAKE POINT.

GENERAL STRATA DESCRIPTIONS:

(F) **GRANULAR FILL** – MEDIUM COMPACT TO COMPACT BROWN, GRAY BROWN, AND RED FINE SAND, SOME GRAVEL, TRACE TO SOME SILT, COBBLES, CONCRETE BRICK, METAL, GLASS, REMNANT FOUNDATIONS AND ABANDONED EXCAVATION SHORING ARE ALSO EXPECTED IN THE FILL.

(S) **FINE SAND** – COMPACT TO VERY COMPACT SILTY FINE SAND TO SANDY FINE SILT INTERMIXED WITH OCCASIONAL COARSER SAND AND CLAY LAYERS.

(C) **CLAY AND SILT** – STIFF TO HARD BROWN AND RED BROWN SILTY CLAY AND FINE SANDY SILT TO FINE SANDY CLAY WITH TRACE FINE SAND PARTINGS.

(T) **GLACIAL TILL** – VERY COMPACT GRAY AND GRAY BROWN FINE TO COARSE SAND AND GRAVEL WITH SOME SILT, COBBLES, BOULDERS AND FRAGMENTS OF LIMESTONE.

(R) **ROCK** – INTERMEDIATE TO MEDIUM HARD SLIGHTLY TO MODERATELY WEATHERED GRAY LIMESTONE, MODERATELY JOINTED TO JOINTED WEATHERED JOINTS, TRACE MINERALIZED JOINTS.

LEGEND:

▽ – WATER LEVEL

▼ – MUD LEVEL

GRAPHIC SCALE

HORIZ. 20' 10' 0 20' 40'

VERT. 10' 5' 0 10' 20'

REV.	DATE	BY	DESCRIPTION
1	05-31-13	A.M.D.	FINAL SUBSURFACE INVESTIGATION

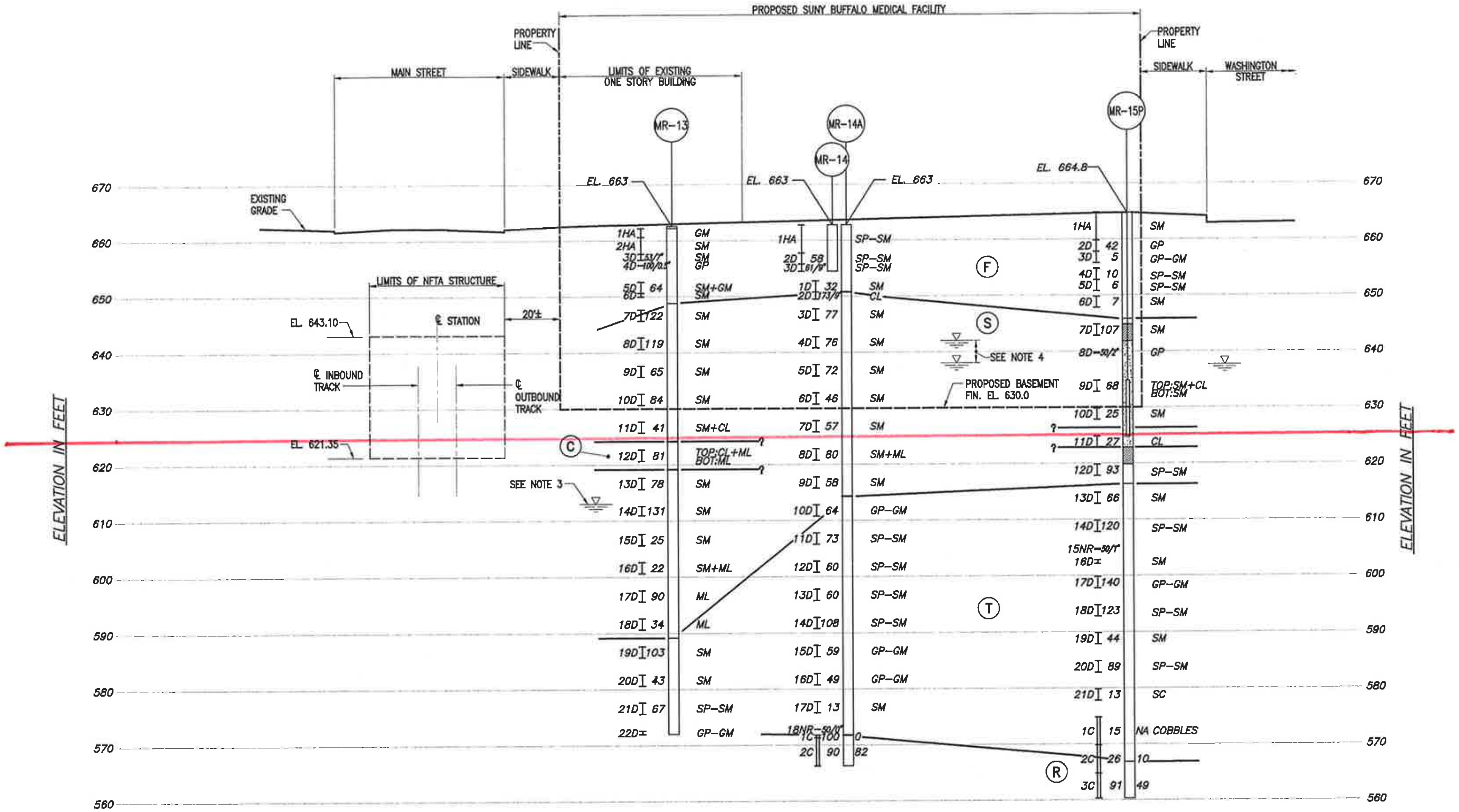
SUNY BUFFALO SCHOOL OF MEDICINE AND BIOLOGICAL SCIENCES
BUFFALO NEW YO

HOK GROUP
NEW YORK NEW YO

MUESER RUTLEDGE CONSULTING ENGINEER
14 PENN PLAZA – 225 W. 34TH STREET; NY, NY 10122

SCALE:	MADE BY:	DATE:	FILE NUMBER
GRAPHIC	I.Y.	11-02-12	11768
	CH'KD BY: A.M.D.	DATE: 11-02-12	DRAWING NUMBE

GEOLOGIC SECTION A-A — GS-1



GEOLOGIC SECTION B-B

NOTES:

1. FOR GENERAL NOTES, SEE DRAWING NO. B-1.
2. FOR GEOLOGIC SECTION NOTES AND GENERAL STRATA DESCRIPTIONS SEE DRAWING NO. GS-1.
3. WATER LEVEL MEASURED IN MW-36 BY MRCE ON SEPTEMBER 25, 2012. WELL LOCATED ON 1001 MAIN STREET PROPERTY, FOR DETAILS SEE REMEDIAL INVESTIGATION/INTERIM REMEDIAL MEASURE WORK PLAN BY C & S ENGINEERS OF BUFFALO, NY DATED AUGUST 2012.
4. RANGE OF WATER LEVELS OBSERVED IN WELLS INSTALLED AT 960 WASHINGTON ST. DURING PHASE II ESA BY FISHER ASSOCIATES IN SUMMER 2012, FOR LOCATIONS SEE DRAWING B-1.

GRAPHIC SCALE

HORIZ. 20' 10' 0 20' 40'

VERT. 10' 5' 0 10' 20'

REV.	DATE	BY	DESCRIPTION
1	05-31-13	A.M.D.	FINAL SUBSURFACE INVESTIGATION

SUNY BUFFALO SCHOOL OF MEDICINE AND BIOLOGICAL SCIENCES

BUFFALO NEW YORK

HOK GROUP

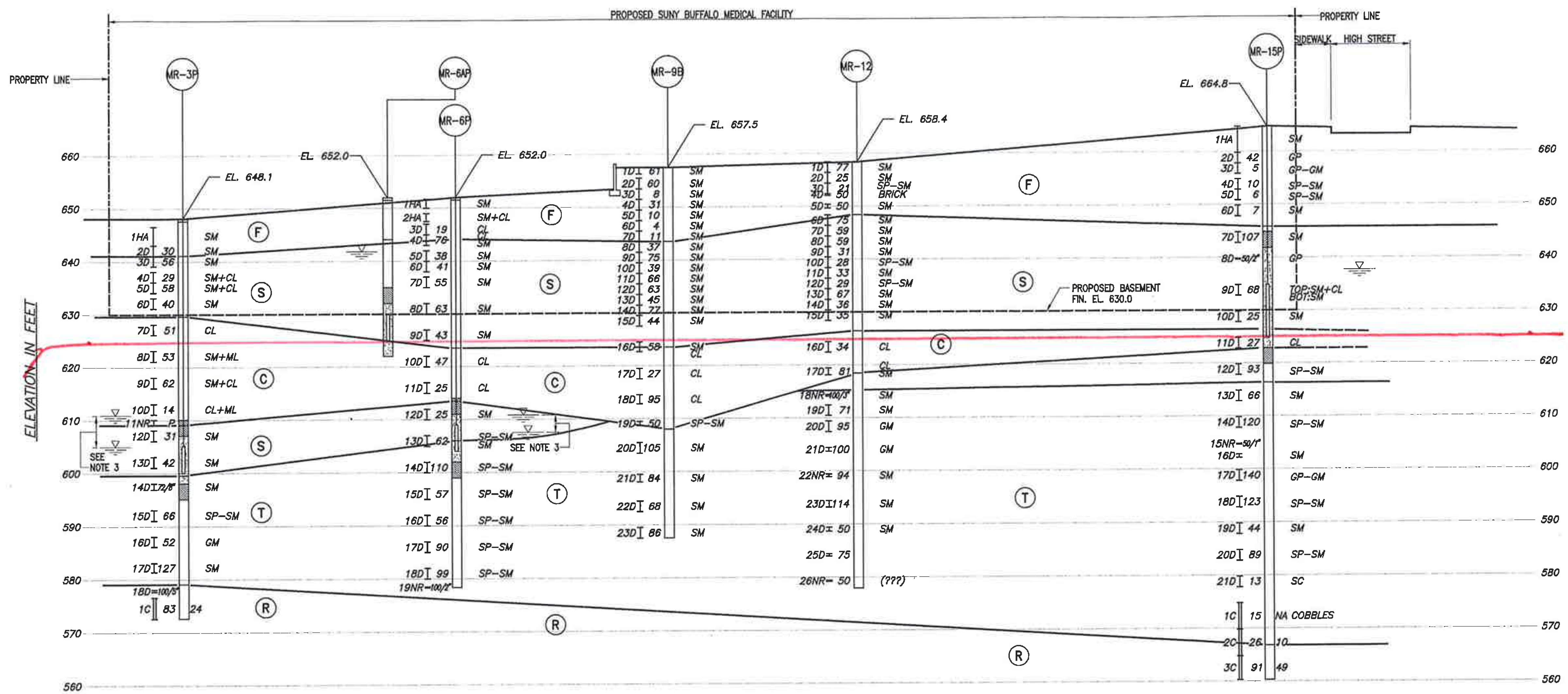
NEW YORK NEW YORK

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 W. 34TH STREET, NY, NY 10122

SCALE	MADE BY: I.Y.	DATE: 11-02-12	FILE NUMBER
GRAPHIC	CH'KD BY: A.M.D.	DATE: 11-02-12	11768

GEOLOGIC SECTION B-B

DRAWING NUMBER GS-2



GEOLOGIC SECTION C-C

LEGEND:

- WATER LEVEL
- MUD LEVEL

NOTES:

1. FOR GENERAL NOTES, SEE DRAWING NO. B-1.
2. FOR GEOLOGIC SECTION NOTES AND GENERAL STRATA DESCRIPTIONS SEE DRAWING NO. GS-1.
3. RANGE OF WATER LEVELS OBSERVED IN ADJACENT BORING.

GRAPHIC SCALE

HORIZ. 20' 10' 0 20' 40'

VERT. 10' 5' 0 10' 20'

REV.	DATE	BY	DESCRIPTION

SUNY BUFFALO SCHOOL OF MEDICINE AND BIOLOGICAL SCIENCES

BUFFALO NEW YORK

HOK GROUP

NEW YORK NEW YORK

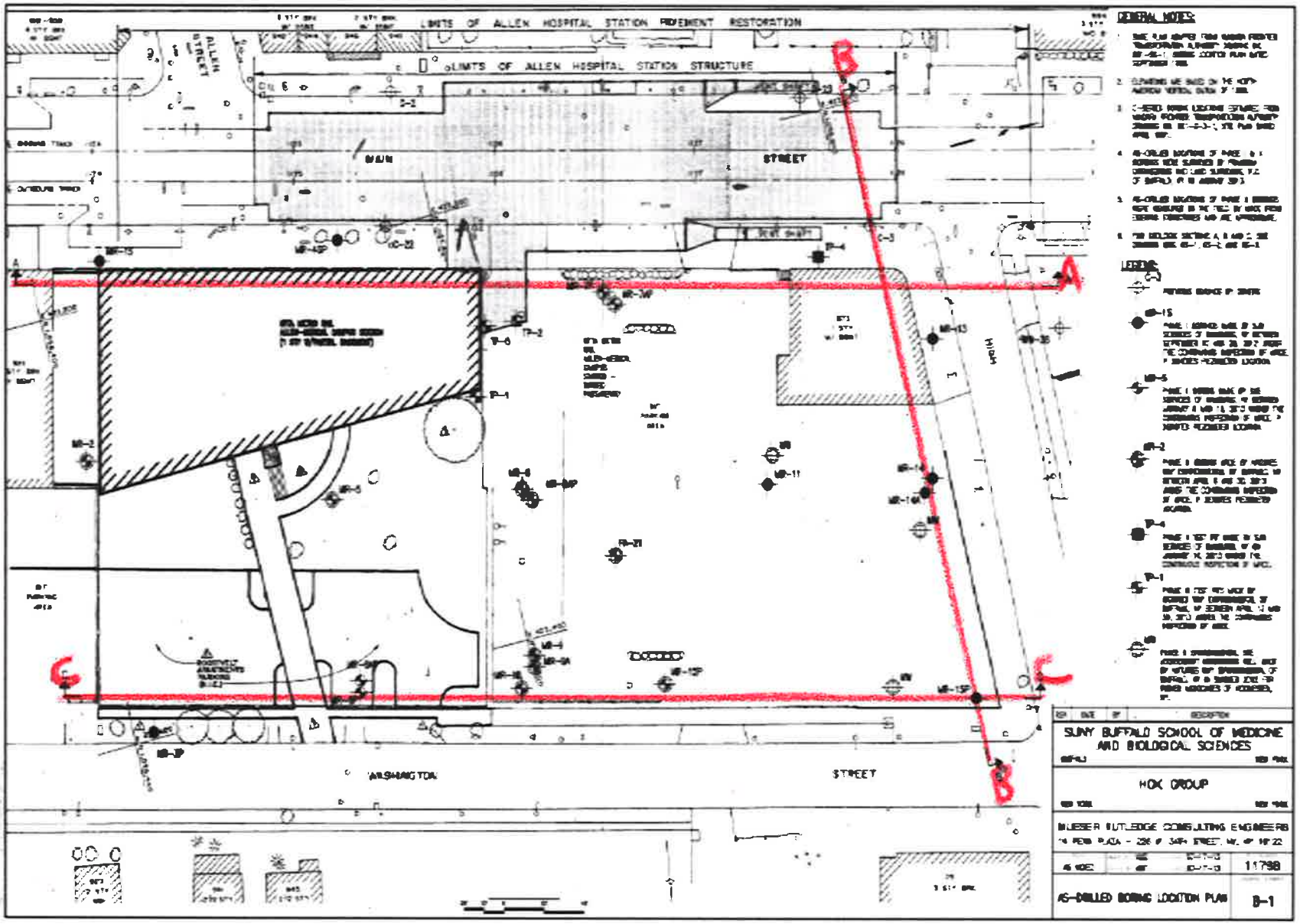
MUESER RUTLEDGE CONSULTING ENGINEERS

14 PENN PLAZA – 225 W. 34TH STREET, NY, NY 10122

SCALE	MADE BY: E.C.	DATE: 05-28-2013	FILE NUMBER
GRAPHIC	CH'KD BY: A.M.D.	DATE: 05-28-2013	11768

GEOLOGIC SECTION C-C

DRAWING NUMBER GS-3


LIMITS OF ALLEN HOSPITAL STATION PAVEMENT RESTORATION
LIMITS OF ALLEN HOSPITAL STATION STRUCTURE
ALLEN STREET
MAIN
STREET
WASHINGTON
STREET
HIGH
A
B
C
GENERAL NOTES:
LEGEND:
SUNY BUFFALO SCHOOL OF MEDICINE AND BIOLOGICAL SCIENCES
HOK GROUP
MUESER RUTLEDGE CONSULTING ENGINEERS
11798
AS-DRILLED BORING LOCATION PLAN
B-1