# APPENDIX G

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SECONDARY PROJECT
CONTROL REPORT

CONTRACT NO. D010319
X731.45 BRUCKNER VIADUCT REHABILITATION
BRONX COUNTY, NEW YORK

PREPARED BY:
M.J. ENGINEERING AND
LAND SURVEYING, P.C.
1533 CRESCENT ROAD
CLIFTON PARK, NY 12065

AS SUBCONSULTANT TO:
DEWBERRY-GOODKIND, INC.
31 PENN PLAZA
132 WEST 31ST STREET
3RD FLOOR
NEW YORK, NY 10001

&
AECOM TECHNICAL SERVICES NORTHEAST INC.
1 PENN PLAZA
SUITE 610
NEW YORK, NY 10119

JUNE 1, 2016

NOTE:
UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION
OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.
SECTION 1

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SECTION 2

PROJECT NARRATIVE
Secondary Project Control
Survey Report
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X731.45 Bruckner Viaduct Rehabilitation
Bronx County

INTRODUCTION

M.J. Engineering and Land Surveying, P.C., (MJELS) was retained to provide supplemental survey services as sub consultant to Dewberry-Goodkind, Inc. and AECOM Technical Services Northeast, Inc. for design along the Bruckner Expressway viaduct and the related ramps to repair/replace bridge elements (X731.45) in Bronx County, New York.

The Secondary horizontal and vertical control survey was conducted for the New York State Department of Transportation (NYSDOT) Region 11 under the direction of Morris E. Davis, L.S., Regional Land Surveyor.

Three (3) separate control reports were utilized to establish secondary horizontal and vertical control for the project. The reports are as follows, “GPS Primary Control Report, Contract No. D015181, PIN X720.30, X720.31, X720.32 & X720.33, Bridge Rehabilitation and Operational Improvement on the Major Deegan Expressway”, prepared by MJELS and dated January 29, 2010, “Project Control Survey Report for the Highway Design, Phases I-IV, Reconstruction of the Bruckner/Sheridan Interchange, East 177th Street/ Bronx River Parkway/Cross Bronx Interchange including Edgewood Road, PIN X730.39.123”, prepared by Medina Consultants, P.C. and dated August 7, 2006 and “Survey Control Report, PIN 84111MBPS592, Sheridan Expressway Signalization Concept”, prepared by Gayron de Bruin and dated June 2013. Horizontal control was established using conventional closed loop traverses.

A differential level run was conducted from previously established benchmarks referenced in the survey reports. A “one way” level run was conducted to check the integrity of the existing project benchmarks and then a closed loop level run was conducted to establish additional temporary project benchmarks along the Bruckner corridor and at the northerly limits of the project.

The values are reported in English units and referenced to the New York State Plane Coordinate System Long Island Zone North American Datum of 1983 (NAD 83) and the North American Vertical Datum of 1988 (NAVD 88).
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PERSONNEL

The following is a list of personnel that performed office and field duties in conjunction with the preparation of this report.

Office:

Joseph G. Malinowski, P.L.S. – Principal – Director of Survey Services, oversaw the management of all functions being performed on the project. Performs the final quality control and quality assurance.

David J. Niedbalski, P.L.S. – Project Manager, oversaw the setup, reduction and analysis of the conventional measured data collected. Reviewed the preparation and compilation of the project control survey report.

Michael J. Frisbee – Senior Survey Technician, oversaw the control processing and reduction of field data, computer aided design drafting portion of the project and any other technical procedures. Prepared the compilation of the control survey report.

Michael L. Koterba – Survey Technician, responsible for the GPS planning and processing. Assisted in the preparation of the GPS control portion of the report.

Field:

Robert Boese – Party Chief, oversaw all field operations regarding the setup and collection of conventional horizontal and vertical measurements at each control station and was the daily contact for the project. The duties consisted of the setup of the backsight and foresight stations, along with collection of digital vertical measurements for the establishment of elevations on project control stations and temporary benchmarks.

Daniel Bally – Instrument Person, performed the duties necessary for the setup and collection of conventional horizontal and vertical measurements at each control station. The duties consisted of the setup of the backsight and foresight stations.

Severin Grant – Party Chief, oversaw all field operations regarding the setup and collection of conventional horizontal and vertical measurements at each control station.
for the establishment of project control stations along Arthur Sheridan to 177th Street for the control survey.

Gregory Dessi – Instrument Person, performed the duties necessary for the conventional establishment of the project horizontal and vertical control. The duties consisted of the setup of the backsight and foresight stations, along with collecting field measurements at the stations for the control survey.
SOFTWARE

The following is a list of office software utilized for the establishment of horizontal and vertical values for the project control.

GPS Software – Trimble Business Center, Version 3.40
Coordinate Geometry Software - Traverse PC, Version 9.5
Leica Geosystems, Level Pak-Pro Software, Version 8.3.0.0
Mapping Software – Microstation V8I (Select Series 3) with Inroads Group- SS II
Manufacturer Confirmation
Garantie du fabricant
Certificación del fabricante
Conferma del fabbricante
Herstellerbestätigung

Manufacturer: Leica-Geosystems AG, Heerbrugg

Confirmation no.: MC14 723289-347777

Product: DNA03

Serial No.: 347777

This is to confirm that the product detailed hereon has been tested and complies with the manufacturer’s specifications. This product has been designed and manufactured in compliance with ISO 9001 standard.

Nous confirmons que le produit mentionné a été testé et qu’il correspond aux spécifications du fabricant. Le produit a été développé et fabriqué selon les normes ISO 9001.

Certificamos que el producto indicado se ha ensayado y que corresponde a las especificaciones del fabricante. El producto ha sido desarrollado y fabricado conforme al estándar ISO 9001.

Con la presente confermiamo che il prodotto qui specificato è stato sottoposto a test ed è conforme alle specifiche del fabbricante. Questo prodotto è stato progettato e fabbricato conformemente allo standard ISO 9001.


Leica Geosystems AG,

OCT 19 2014

Pang Siu Thian
Quality Coordinator
Service Certificate

Product: LEICA TCRP1201+R1000
Article no.: 220586
Serial no.: 03/10/14
Order Number: 2173969

Ordered by: MIKE FRISBEE
Customer: M.J. ENGINEERING & LAND SURVEYING
1533 CRESCENT ROAD
CLIFTON PARK, NY 12065

1. Specifications: In accordance with the user manual supplied on delivery.

2. Certificate: We hereby certify that the product described has been tested and complies with the specifications and test results as stated above.

[Technician] [Service Manager]

Maine Technical Source, USA qualifies to be an Authorized Service Center of Leica Geosystems AG. Leica Geosystems AG, Heerbrugg has implemented and maintains a Management System, which fulfills the requirements of the ISO9001:2000 / ISO14001:1996 standards (Reg Nr 10471-8).
EQUIPMENT

The following is a list of survey equipment utilized for the establishment of horizontal and vertical values for the project control.

Conventional Survey Equipment:

Leica Total Station – Model – TCRP 1201
   Serial – 220586

The Leica total station utilized is a 1 second instrument.

Three Leica model GDF 121 with laser plummet tribrachs were set on Dutch Hill tripods.

The data was collected and stored in an Allegro CX data collector, Carlson Surv-CE software.

The maintenance for the equipment was performed prior to conducting the fieldwork and was periodically checked during the project.

GPS Equipment:

Receiver One: Make – Leica
   Model – ATX - Model 1230 GG
   Serial Number – 185862

The Leica receiver requires a Leica RX 1250 XC data collector. The receiver does not have any internal memory for data collection. The receiver and collector have been updated with the latest firmware provided by Leica. The ATX receivers are dual frequency that can track the L1 C/A code and full cycle L1 and L2 carrier phase observables.
Receiver One: Make – Trimble  
Model – GNSS R8  
Serial Number – 4920171659

Receiver Two: Make – Trimble  
Model – GNSS R8  
Serial Number – 4920171558

Receiver Three: Make – Trimble  
Model – GNSS R8  
Serial Number – 4920171549

The Trimble receivers require a Trimble TSC2 data collector. The receivers do not have any internal memory for data collection. The receiver and collector have been updated with the latest firmware provided by Trimble. The three receivers are dual frequency that can track the L1 C/A code and full cycle L1 and L2 carrier phase observables.

All receivers are placed on 6.56’ fixed height tripods with centering level bubbles attached. The center leveling bubbles are checked prior to any data collection and adjusted if needed.

The maintenance for the equipment was performed prior to conducting the field work and was periodically checked during the project.

The vertical values were established on project control and benchmarks utilizing a Leica Digital Level model DNA03, serial number 347777.
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SUPERVISING LICENSED LAND SURVEYOR'S CERTIFICATION

It is hereby certified that this is an accurate survey prepared under my direction in accordance with the New York State Department of Transportation specifications, policies and procedures.

Joseph G. Malinowski, P.L.S.
License No. 050314
SECTION 3

TRAVERSE INFORMATION
(i) Narrative

The objective of the horizontal control survey was to establish a “one way” traverse to follow and meet all criteria set forth in the NYSDOT Surveying Standards & Procedures Manual.

A GPS control network was developed to establish an additional control point designated as CB 5101 to replace MD 18 from “GPS Primary Control Report, PIN X720.30, X720.31, X720.32 & X720.33, Bridge Rehabilitation and Operational Improvement on the Major Deegan Expressway”, prepared by MJELS and dated January 29, 2010 as the site line between MD 18 and MD 19 had become obstructed. MD 19 was recovered in good condition and used for the GPS static network. CB-5101 was controlled utilizing control points CB 1101 (TR-101) and CB 1102 (TR-102) established from a report entitled “Survey Control Report, PIN 84111MBPS592, Sheridan Expressway Signalization Concept”, prepared by Gayron de Bruin and dated June 2013.

Closed loop configurations were established and observed utilizing three (3) Trimble dual frequency model GNSS R8 and one (1) Leica ATX model 1230 GG receiver which were collecting data in the static mode at a rate of one epoch every five (5) seconds with a masking angle of fifteen (15) degrees. The Positional Dilution of Precision (PDOP) was set to be (6) or better.

The field procedures at each station required a minimum of two sets of direct and reverse angles be observed. Sets of observed angles exceeding a spread of five seconds were rejected and measured again. The interval between traverse stations did not exceed one thousand feet. Upon completion of the traverse segment, the first procedure was to apply a grid combined factor to the field measured distance, the second procedure was determining the azimuth misclosure by utilizing the formula of $4.5''\sqrt{n}$ in order to qualify for angular adjustment. After the angular adjustment, the third procedure was determining the linear misclosure by using the balanced angles to calculate the traverse, in order to qualify for compass rule adjustment. The traverse shall achieve a linear precision of 1:20,000 (Second Order Class II) in order for the traverse to be used as project control.

The equipment used for the field procedures was a one second Leica Model – TCRP 1201 total station with three model Leica GDF 121 prisms with laser plummet tribrachs. The Leica total station has the capabilities of storing the temperature, pressure, earth curvature, refraction, and prism offset which is applied to each measurement before being stored into the data collector. The field data collected is entered into a desktop computer
with Traverse PC software, which is used to perform all the computations and adjustments necessary for the final product for project control.

(ii) Traverse Segment Description

(1) Traverse – MDE to Medina

The traverse began at CB 5102 (MD19) and terminated at CB 20219 (T-219), through control baselines designated as CB 5103 through CB 5121 & CB 6120 through CB 6122. The starting azimuth began at CB 5101 with an azimuth of 119°-34'-20" to CB 5102 (MD19) and terminated at CB 20219 (T-219) with an azimuth of 83°-16'-25" to CB 20220 (T-220). A grid combined factor of 0.999999318 was applied to all distances. The traverse consisted of twenty four (24) stations for a length of 13,118 +/- feet along the Bruckner Boulevard corridor from the Major Deegan on the south to Wheeler Avenue on the east. The angular error was 15" meeting the allowable 4.5" \( \sqrt{24} = 22" \). The traverse had a closing linear error of 0.181 feet with its relative precision of 1:72,410 exceeding the minimum of Secondary Order Class II requirements the compass rule adjustment was then performed fixing the coordinates for stations CB 5103 through CB 5121 & CB 6120 through CB 6122.

(2) Traverse - Bruckner control to Gayron de Bruin

The traverse began at CB 5121 and terminated at CB 1104 (TR-104), through control baselines designated as CB 5122 through CB 1103 (TR-103). The starting azimuth began at CB 5120 with an azimuth of 55°-47'-25" to CB 5121 and terminated at CB 1104 (TR-104) with an azimuth of 5°-45'-25" to TR-103. A grid combined factor of 0.999999318 was applied to all distances. The traverse consisted of six (6) stations for a length of 2,205 +/- feet along the Sheridan Expressway corridor from the Bruckner Expressway on the south along West Farms Road to the west of the expressway. The angular error was 03” meeting the allowable 4.5” \( \sqrt{6} = 11" \). The traverse has a closing linear error of 0.073 feet with its relative precision of 1:30,224 exceeding the minimum of Secondary Order Class II requirements the compass rule adjustment was then performed fixing the coordinates for stations CB 5122 through CB 5125.

(3) Traverse - Gayron de Bruin extended

The traverse began at CB 1102 (TR-102) and terminated at CB 1101 (TR-101), through control baselines designated as CB 51 through CB 56. The starting azimuth began at CB 1101 (TR-101) with an azimuth of 201°-25'-58" to CB 1102 (TR-102) and terminated at CB 1102 (TR-102) with an azimuth of 21°-25'-58" to CB 1101 (TR-101). A grid combined factor of 0.99998920 was applied to all distances. The traverse consisted of eight (8) stations for a length of 2,571 +/- feet along the Sheridan Expressway corridor to
East 177th Street forming a closed loop traverse. The angular error is 04” meeting the allowable 4.5” \( \sqrt{8} = 13” \). The traverse has a closing linear error of 0.028 feet with its relative precision of 1:90,615 exceeding the minimum of Secondary Order Class II requirements the compass rule adjustment was then performed fixing the coordinates for stations CB 51 through CB 56.

**Project control points that include a number in parenthesis are control points recorded in previous reports.**
SECTION 4

ELEVATION INFORMATION
(i) Narrative

The objective of the vertical control was to establish differential level runs to follow and meet all criteria set forth in the NYSDOT Surveying Standards & Procedures Manual.

Differential leveling was completed to establish additional benchmarks along the Bruckner and Sheridan Expressway corridor. Additional information can be found for recovered benchmarks designated as BMBRK 4 and BMBRK 7 in a report entitled, “Project Control Survey Report for the Highway Design, Phases I-IV, Reconstruction of the Bruckner/Sheridan Interchange, East 177th Street/ Bronx River Parkway/Cross Bronx Interchange including Edgewood Road, PIN X730.39.123”, prepared by Medina Consultants, P.C., and dated August 7, 2006”, recovered benchmark designated as BM 301 can be found in a report entitled, “Survey Control Report, PIN 84111MBPS592, Sheridan Expressway Signalization Concept”, prepared by Gayron de Bruin and dated June 2013, recovered benchmark designated as MDE 4 and MD 18 can be found in a report entitled, “Secondary Vertical Control Report, Contract No. D015181, Bridge Rehabilitation and Operational Improvement on the Major Deegan Expressway, Bronx County, NY”, prepared by MJ Engineering and Land Surveying, P.C. and dated May 16, 2012. A detailed description and summary of each individual bench run will follow.

The equipment used for the field procedure was a Leica DNA 03 digital level with a matching Leica dual faced leveling rod. The Leica digital level has the capabilities of storing the date, time, temperature, pressure, earth curvature and refraction, and a calibration (peg test), which is applied to each measurement before being stored onto a flash card. The field data collected is entered into a desktop computer with Leica Level Pak-Pro software that is used to perform all the computations and adjustments necessary for final elevations on project control.

At each instrument setup three readings were automatically measured with the mean being recorded for both the backsight and foresight. The instrument also measures the distance to the backsight and before reading the foresight it displays if the tolerance was met for proper balance before recording the reading. This measurement procedure was repeated throughout the level run, tracking that the number of setups were even and the cumulative distance measured did not exceed tolerance. The differential level runs achieved Second Order Class II accuracies. The benchmarks are referenced to the North American Vertical Datum (NAVD) 1988 with the unit of measurement being Feet.
(ii) Level Run Segment Description

(1) **Secondary Level Run BMBRK 4 to MD 18** – began at BMBRK 4 with a published elevation of 29.649 feet and terminated at MDE BM 4 with a published elevation of 16.39 feet. The level run did not meet tolerance by 0.005 feet therefore the level run was continued to MD 18 with a published elevation of 36.43 feet. The level run consisted of thirty three (32) turns for a total length of 2.27 miles. The difference in elevation between record ending and calculated ending is -0.038 feet meeting the tolerance of 0.03√D = 0.045 feet achieving Second Order Class II requirements for adjustment. During the benchmark run elevations were established on secondary control monuments CB 5103 through CB 5114, and five (5) additional benchmarks designated as BM 1 through BM 5. Existing benchmark MDE BM 4 vertical check showed a variance of -0.014’ after adjustment.

(2) **Secondary Level Run BMBRK 4 to BMBRK 7** – began at BMBRK 4 with a published elevation of 29.649 feet and terminated at BMRK 7 with a published elevation of 46.487 feet. The level run consisted of fourteen (14) turns for a total length of 1.06 miles. The difference in elevation between record ending and calculated ending is +0.017 feet meeting the tolerance of 0.03√D = 0.031 feet achieving Second Order Class II requirements for adjustment. The bench run level loop was performed for secondary control monuments CB 5115 through CB 5120 and four (4) additional benchmarks designated as BM 6 though BM 9.

(3) **Secondary Level Run BMBRK 7 to BM 301** – began at BMBRK 7 with a published elevation of 46.487 feet and terminated at BM 301 with a published Bronx borough elevation of 14.630 feet converted to a NAVD 88 elevation of 16.670 feet. The level run consisted of sixteen (16) turns for a total length of 1.07 miles. The difference in elevation between record ending and calculated ending is -0.028 feet meeting the tolerance of 0.03√D = 0.031 feet achieving Second Order Class II requirements for adjustment. The bench run level loop was performed for secondary control monuments CB 5121 through CB 5125 and six (6) additional benchmarks designated as BM 401, BM 403, BM 1104 & BM 1106.

(4) **Secondary Level Run BM 301 to BM 301** – began at BM 301 with a published elevation of 16.670 feet and terminated at BM 301 with a published elevation of 16.670 feet. The level run consisted of sixteen (27) turns for a total length of 1.29 miles. The difference in elevation between record ending and calculated ending is +0.006 feet meeting the tolerance of 0.03√D = 0.034 feet achieving Second Order Class II requirements for adjustment. The bench run level loop was performed for secondary control monuments CB 1101 (TR-101), CB 1102 (TR-102), through CB 5125 and two (2) additional benchmarks designated as BM 405 & BM 406.
SECTION 5

SUMMARY TABLE
SUMMARY TABLE


RECORD SECONDARY CONTROL BENCHMARKS HELD FIXED: MD 18, BMBRK 4, BMBRK 7 & BM 301

BRUCKNER-TRAVERSSES

<table>
<thead>
<tr>
<th>#</th>
<th>From (fixed)</th>
<th>To (Fixed)</th>
<th>Traverse Length in Miles</th>
<th># of Trav. Stns. (n)</th>
<th>Record Starting AZ.º ' &quot;</th>
<th>Record Ending AZ.º ' &quot;</th>
<th>Calculated Ending AZ.º ' &quot;</th>
<th>Calculated Angular Misclosure</th>
<th>Allowable Angular Misclosure (4.5' /n)</th>
<th>Linear Closing Error</th>
<th>Linear Precision (1:20,000 minimum)</th>
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<tr>
<td>(1)</td>
<td>CB5102</td>
<td>CB20219</td>
<td>2.48</td>
<td>24</td>
<td>119º 34' 20&quot;</td>
<td>83º 16' 25&quot;</td>
<td>83º 16' 10&quot;</td>
<td>0º 00' 15&quot;</td>
<td>0º 00' 22&quot;</td>
<td>0.181'</td>
<td>1:72,410</td>
</tr>
<tr>
<td>(2)</td>
<td>CB5121</td>
<td>CB1104</td>
<td>0.42</td>
<td>6</td>
<td>55º 47' 25&quot;</td>
<td>5º 45' 25&quot;</td>
<td>5º 45' 28&quot;</td>
<td>0º 00' 03&quot;</td>
<td>0º 00' 11&quot;</td>
<td>0.073'</td>
<td>1:30,224</td>
</tr>
<tr>
<td>(3)</td>
<td>CB1102</td>
<td>CB1101</td>
<td>0.49</td>
<td>8</td>
<td>21º 25' 58&quot;</td>
<td>201º 25' 58&quot;</td>
<td>21º 26' 02&quot;</td>
<td>0º 00' 04&quot;</td>
<td>0º 00' 13&quot;</td>
<td>0.028'</td>
<td>1:90,615</td>
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SECONDARY BENCHRUNS

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<thead>
<tr>
<th>#</th>
<th>From (fixed)</th>
<th>To (Fixed)</th>
<th>Benchrun Length in Mile(s)</th>
<th># of T. P.s</th>
<th>Record Starting Elevation</th>
<th>Record Ending Elevation</th>
<th>Calculated Ending Elevation</th>
<th>Calculated misclosure</th>
<th>Allowable Misclosure (0.03' D)</th>
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</thead>
<tbody>
<tr>
<td>(1)</td>
<td>BMBRK 4</td>
<td>MD 18</td>
<td>2.27</td>
<td>32</td>
<td>29.649'</td>
<td>36.430'</td>
<td>36.392'</td>
<td>-0.038'</td>
<td>0.045'</td>
</tr>
<tr>
<td>(2)</td>
<td>BMBRK 4</td>
<td>BMBRK 7</td>
<td>1.06</td>
<td>14</td>
<td>29.649'</td>
<td>46.487'</td>
<td>46.504'</td>
<td>+0.017'</td>
<td>0.031'</td>
</tr>
<tr>
<td>(3)</td>
<td>BMBRK 7</td>
<td>BM 301</td>
<td>1.07</td>
<td>16</td>
<td>46.487'</td>
<td>16.670'</td>
<td>16.642'</td>
<td>-0.028'</td>
<td>0.031'</td>
</tr>
<tr>
<td>(4)</td>
<td>BM 301</td>
<td>BM 301</td>
<td>1.29</td>
<td>27</td>
<td>16.670'</td>
<td>16.670'</td>
<td>16.676'</td>
<td>+0.006'</td>
<td>0.034'</td>
</tr>
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Record Primary Control Monuments and Secondary Control benchmarks held fixed are from:
APPENDIX
RECORD HORIZONTAL
CONTROL DATA
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: C2-I ORDER
VERTICAL: N/A

PROJECT: BRIDGE REHABILITATION
AND OPERATIONAL IMPROVEMENT ON THE MAJOR DEEGAN EXPRESSWAY

DATE: MARCH 22, 2012

SURVEY METHOD: HORZ. - GPS ☑️ TRAVERSE ☐
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: MD19
MONUMENT TYPE: ALUMINUM DISK

N = 70706.7905
E = 306971.1991
ELEV = N/A

LAT = 40°48'12.13235 N
LONG = 73°55'02.59498 W
ELLIPSOID HT. = -22.867

HORIZ. DATUM = NYSPCS, NAD 83 (CORS 96)
ZONE = L.I. ZONE (3104) (METERS)
VERT. DATUM = N/A
GEOID MODEL = N/A

COMBINED FACTOR = 0.999998810
CONVERGENCE = 0°03'14.527296

DETAILED DESCRIPTION AT STATION:
ALUMINUM DISK SET SOUTH OF THE INTERSECTION OF ST. ANNES PL. AND E134 ST.

SKETCH AT STATION:

NOT TO SCALE
### New York State Department of Transportation

**Survey Control Data**

**Order of Survey:** Horiz. Second Order Class II  
Vert. Second Order Class II

**Date:** 04-01-03

**Established by Medina Consultants, P.C.**

**Date Established:** December, 2002

**Survey Method:** Horizontal - Conventional Traverse  
Vertical - Differential Leveling

**Station Name:** T-219  
**Monument Type:** Cap in Conc. Sidewalk

| Northing  | 72963.7851 |  
| Easting   | 310094.4104 |  
| Elevation | 4.7830 |  

**Combined Scale for Project (Average):** 0.999998468

**Horizontal Datum:**
- NYSPCS, NAD 83-96 (Meters)
- Long Island Zone (3104)

**Vertical Datum:**
- NAVD 88 (Meters)

**Detailed Description at Station:**

Cap in concrete sidewalk, +/- 1.178m from X-cut metal curb guard in northerly curb of Bruckner Blvd., +/- 5.521m from X-cut bolt in light pole, and +/- 3.327m from face of building.

**Sketch at Station:**

![Sketch of location details](image)

- **Bruckner Blvd.**
- **Evergreen Ave.**
- **Not to Scale**

△ T-219
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
SURVEY CONTROL DATA

ORDER OF SURVEY: HORIZ. SECOND ORDER CLASS II
VERT. SECOND ORDER CLASS II
DATE: 03-24-03

ESTABLISHED BY MEDINA CONSULTANTS, P.C.
DATE ESTABLISHED: DECEMBER, 2002

SURVEY METHOD: HORIZONTAL- CONVENTIONAL TRAVERSE VERTICAL- DIFFERENTIAL LEVELING

STATION NAME: T-220 MONUMENT TYPE: CAP IN CONC. SIDEWALK

NORTHING: 72982.2907
EASTING: 310251.3159
ELEVATION: 5.1340

COMBINED SCALE FOR PROJECT (AVERAGE): 0.999998468

HORIZONTAL DATUM: NYSPCS, NAD 83-96 (METERS) LONG ISLAND ZONE (3104)

VERTICAL DATUM: NAVD 88 (METERS)

DETAIL DESCRIPTION AT STATION:

CAP IN CONCRETE SIDEWALK, +/- 1.178M FROM X-CUT METAL CURB GUARD IN NORTHERLY CURB OF BRUCKNER BLVD., +/- 5.521M FROM X-CUT BOLT IN LIGHT POLE, AND +/- 3.327M FROM FACE OF BUILDING.

SKETCH AT STATION:

24 LAUNDROMAT (WHITE BUILDING)
T.J. AUTO
PK SET
PAVEMENT AREA

WHEELER AVE.
LIGHT POLE
X-CUT METAL CURB GUARD

CONCRETE SIDEWALK

BRUCKNER BLVD.

NOT TO SCALE △ T-220
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ________________

CONTRACT: _____ D010319
PIN NUMBER: _____ X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: __ NOVEMBER 11, 2015 __

ESTABLISHED BY: GAYRON DE BRUIN LAND SURVEYING & ENGINEERING, P.C.
DATE ESTABLISHED: __ JUNE 2013 ___

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☒ VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-1104 (TR-104) MONUMENT TYPE: BRASS DISK

N = 241180.1400 LAT = ________________
E = 1015832.1400 LONG = ________________
ELEV = ________________ ELLIPSOID HT. = ________________

HORIZ. DATUM = __ NYSPCS, NAD 83 __
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ________________
GEOID MODEL = ________________

COMBINED FACTOR = 0.999998920 CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: REBAR WITH CAP FOUND +/- 6.2' EAST OF EASTERN GUIDERAIL ON WITLOCK AVENUE +/- 116.8' NORTHEAST OF THE CENTERLINE OF FREEMAN STREET.

SKETCH AT STATION:

GRASS MEDIAN
EXIT RAMP TO WESTCHESTER BLVD.
MAG IN GUIDERAIL
CB-1104 BRASS DISK
RIM WATER MANHOLE
TO CB-1103
TO CB-9125
X-CUT BRICK WALL

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ______________________

CONTRACT: _______ D010319 _______
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: ______ NOVEMBER 11, 2015 ______

ESTABLISHED BY: GAYRON DE BRUIN LAND SURVEYING & ENGINEERING, P.C. DATE ESTABLISHED: ______ JUNE 2013 ______

SURVEY METHOD: HORZ. - GPS ☑ TRAVERSE☐ VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-1103 (TR-103) MONUMENT TYPE: REBAR WITH CAP

N = 241786.8700 LAT = ______________________
E = 1015893.3100 LONG = ______________________
ELEV = ______________________ ELLIPSOID HT. = ______________

HORIZ. DATUM = _______ NYSPCS, NAD 83 _______
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ______________________
GEOID MODEL = ______________________

COMBINED FACTOR = 0.99999820 CONVERGENCE = ______________

DETAILED DESCRIPTION AT STATION: REBAR WITH CAP FOUND SET IN CONCRETE SIDEWALK +/- 13' WEST OF WESTERN GUIDERAIL ON SHERIDAN BOULEVARD AND +/- 249.7' NORTHEAST FROM THE CENTERLINE OF BOONE AVENUE.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: SECOND ORDER CLASS II
VERTICAL: _______________________

SURVEY METHOD: HORZ.-GPS □ TRAVERSE X
VERT.-GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: CB-1102 (TR-102) MONUMENT TYPE: REBAR WITH CAP

N = 243867.2800 LAT = _______________
E = 1016959.4900 LONG = _______________
ELEV = _______________ ELLIPSOID HT. = _______________

COMBINED FACTOR = 0.999998920 CONVERGENCE = _______________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = _______________
GEOID MODEL = _______________

DETAILS DESCRIPTION AT STATION: REBAR WITH CAP FOUND IN GRASS AREA +/- 12.8' WEST OF SHERIDAN EXPRESSWAY SOUTHBOUND AND +/- 188.9' NORTH OF THE INTERSECTION OF EAST 174TH STREET.

SKETCH AT STATION:

NOT TO SCALE
**NEW YORK STATE**  
DEPARTMENT OF TRANSPORTATION  
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II  
VERTICAL:  

ESTABLISHED BY: GAYRON DE BRUIN LAND SURVEYING & ENGINEERING, P.C.  
DATE ESTABLISHED: JUNE 2013  

SURVEY METHOD:  
HORZ. - GPS □ TRAVERSE X  
VERT. - GPS □ DIFFERENTIAL LEVEL □  

NAME OF STATION: CB-1101 (TR-101)  
MONUMENT TYPE: REBAR WITH CAP  

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HORIZ. DATUM = NYSPCS, NAD 83  
ZONE = LONG ISLAND (3104) (FEET)  
VERT. DATUM =  
GEOID MODEL =  

DETAILED DESCRIPTION AT STATION: REBAR WITH CAP FOUND IN GRASS AREA +/- 11.9' WEST OF SHERIDAN EXPRESSWAY SOUTHBOUND AND +/- 104.0' SOUTH OF I-95 NORTHBOUND OVERPASS.

SKETCH AT STATION:

(Hand-drawn diagram of the survey station with marks for PK IN 8'TREE, CB-1101 REBAR WITH CAP, SW CORNER OF ELECTRIC BOX, MAG NAIL GUIDE RAIL POST, etc.)

NOT TO SCALE
NETWORK DIAGRAM
Points Listing
## Project file data

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--CRD: Alphanumeric
--AL East NAD83
--Equipment: TPS 1200
--TS Scale: 1.00000000
--Scale Point not used
--EDM Mode: Standard
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--P.C. mm Applied: -34.4000 (Leica Circle:foresight)
--Set Collection with Obs Order 123...321...
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BK,OP101,BP18,BS270.0000,BC0.0000
--Backsight by Azimuth
--Backsight calculated during Set Collection
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FR, OP 107, FP 108, AR 353.5841, ZE 270.0925, SD 436.809541, -- CB-108 XCUTS
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FR, OP 107, FP 108, AR 353.5839, ZE 270.0923, SD 436.808884, -- CB-108 XCUTS
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BD, OP 108, FP 107, AR 0.0000, ZE 90.0934, SD 436.812821, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.5000
FD, OP 108, FP 109, AR 187.0659, ZE 90.0732, SD 514.195669, -- CB-109 XCUTS
FR, OP 108, FP 109, AR 7.0658, ZE 269.5226, SD 514.193701, -- CB-109 XCUTS
LS, HI 5.2000, HR 5.3300
BR, OP 108, FP 107, AR 180.0001, ZE 269.5026, SD 436.812493, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.3300
BD, OP 108, FP 107, AR 0.0000, ZE 90.0934, SD 436.813478, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.5000
FD, OP 108, FP 109, AR 187.0658, ZE 90.0731, SD 514.195341, -- CB-109 XCUTS
FR, OP 108, FP 109, AR 7.0657, ZE 269.5231, SD 514.194357, -- CB-109 XCUTS
LS, HI 5.2000, HR 5.3300
BR, OP 108, FP 107, AR 180.0000, ZE 269.5024, SD 436.813806, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.3300
BD, OP 108, FP 107, AR 0.0000, ZE 90.0923, SD 436.812821, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.3400
FD, OP 108, FP 201, AR 344.3825, ZE 90.4003, SD 163.359305, -- HDS-201 XCUTS
FR, OP 108, FP 201, AR 164.3826, ZE 269.1956, SD 163.360290, -- HDS-201 XCUTS
LS, HI 5.2000, HR 5.3300
BR, OP 108, FP 107, AR 179.5958, ZE 269.5034, SD 436.810853, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.3300
BD, OP 108, FP 107, AR 0.0001, ZE 90.0921, SD 436.812821, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.3400
FD, OP 108, FP 201, AR 344.3823, ZE 90.4001, SD 163.360290, -- HDS-201 XCUTS
FR, OP 108, FP 201, AR 164.3823, ZE 269.2000, SD 163.360618, -- HDS-201 XCUTS
LS, HI 5.2000, HR 5.3400
BD, OP 108, FP 107, AR 0.0000, ZE 90.0923, SD 436.812821, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.3400
FD, OP 108, FP 201, AR 344.3825, ZE 90.4003, SD 163.359305, -- HDS-201 XCUTS
FR, OP 108, FP 201, AR 164.3826, ZE 269.1956, SD 163.360290, -- HDS-201 XCUTS
LS, HI 5.2000, HR 5.3300
BR, OP 108, FP 107, AR 179.5958, ZE 269.5034, SD 436.810853, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.3300
BD, OP 108, FP 107, AR 0.0001, ZE 90.0921, SD 436.812821, -- CB-107 XCUTS
LS, HI 5.2000, HR 5.3400
FD, OP 108, FP 201, AR 344.3823, ZE 90.4001, SD 163.360290, -- HDS-201 XCUTS
FR, OP 108, FP 201, AR 164.3823, ZE 269.2000, SD 163.360618, -- HDS-201 XCUTS
LS, HI 5.2000, HR 5.3400
--LS,HI5.430000,HR5.540000
--Set Collection with Obs Order 123...321...
OC,OP111,N 9119.16385,E 13202.16878,EL523.049,—CB-111 XCUTS
LS,HI5.430000,HR5.540000
BK,OP111,BP110,BS201.3006,BC0.0000
LS,HI5.430000,HR5.540000
BD,OP111,FP110,AR0.0000,ZE91.2259,SD675.168462,—CB-110 XCUTS
LS,HI5.430000,HR5.540000
FD,OP111,FP204,AR355.5442,ZE91.1622,SD99.850317,—HDS-204 XCUTS
FR,OP111,FP204,AR175.5444,ZE268.4338,SD99.850317,—HDS-204 XCUTS
LS,HI5.430000,HR5.540000
BR,OP111,FP110,AR180.0000,ZE268.3659,SD675.170431,—CB-110 XCUTS
LS,HI5.430000,HR5.540000
BD,OP111,FP110,AR359.5957,ZE91.2300,SD675.170103,—CB-110 XCUTS
LS,HI5.430000,HR5.540000
FD,OP111,FP204,AR355.5445,ZE91.1624,SD99.851302,—HDS-204 XCUTS
FR,OP111,FP204,AR175.5445,ZE268.4334,SD99.849989,—HDS-204 XCUTS
LS,HI5.430000,HR5.540000
BR,OP111,FP110,AR179.5956,ZE268.3700,SD675.167806,—CB-110 XCUTS
--SS,OP111,FP110,AR0.0000,ZE91.2300,SD675.169200,—CB-110 XCUTS
--LS,HI5.430000,HR5.340000
--SS,OP111,FP204,AR355.5446,ZE91.1623,SD99.850481,—HDS-204 XCUTS
--LS,HI5.430000,HR5.540000
--Set Collection with Obs Order 123...321...
OC,OP111,N 9119.16385,E 13202.16878,EL523.049,—CB-111 XCUTS
LS,HI5.430000,HR5.540000
BK,OP111,BP110,BS201.3006,BC0.0000
LS,HI5.430000,HR5.540000
BD,OP111,FP110,AR0.0000,ZE91.2259,SD675.168462,—CB-110 XCUTS
LS,HI5.430000,HR5.540000
FD,OP111,FP204,AR355.5442,ZE91.1622,SD99.850317,—HDS-204 XCUTS
FR,OP111,FP204,AR175.5444,ZE268.4338,SD99.850317,—HDS-204 XCUTS
LS,HI5.430000,HR5.540000
BR,OP111,FP110,AR180.0000,ZE268.3659,SD675.170431,—CB-110 XCUTS
LS,HI5.430000,HR5.540000
BD,OP111,FP110,AR359.5957,ZE91.2300,SD675.170103,—CB-110 XCUTS
LS,HI5.430000,HR5.540000
FD,OP111,FP204,AR355.5445,ZE91.1624,SD99.851302,—HDS-204 XCUTS
FR,OP111,FP204,AR175.5445,ZE268.4334,SD99.849989,—HDS-204 XCUTS
LS,HI5.430000,HR5.540000
BR,OP111,FP110,AR179.5956,ZE268.3700,SD675.167806,—CB-110 XCUTS
--SS,OP111,FP110,AR0.0000,ZE91.2300,SD675.169200,—CB-110 XCUTS
--LS,HI5.430000,HR5.340000
--SS,OP111,FP204,AR355.5446,ZE91.1623,SD99.850481,—HDS-204 XCUTS
--LS,HI5.430000,HR5.540000
--Set Collection with Obs Order 123...321...
OC,OP111,N 9935.22440,E 13380.99768,EL523.049,—CB-111 XCUTS
LS,HI4.950000,HR5.600000
BK,OP112,BP111,BS192.2137,BC359.5959
LS,HI4.950000,HR5.600000
BD,OP112,FP111,AR359.5959,ZE91.3150,SD87.917427,—HDS-205 XCUTS
FR,OP112,FP113,AR181.1122,ZE90.1020,SD980.672572,—HDS-205 XCUTS
LS,HI4.950000,HR5.540000
BR,OP112,FP111,AR180.0000,ZE270.2206,SD835.440131,—CB-111 XCUTS
LS,HI4.950000,HR5.600000
BD,OP112,FP111,AR359.5959,ZE91.3150,SD87.917427,—HDS-205 XCUTS
FR,OP112,FP113,AR181.1122,ZE90.1020,SD980.672572,—HDS-205 XCUTS
LS,HI4.950000,HR5.540000
BR,OP112,FP111,AR180.0000,ZE270.2206,SD835.440131,—CB-111 XCUTS
LS,HI4.950000,HR5.600000
BD, OP112, FP111, AR359.5959, ZE89.3755, SD835.438819, --CB-111 XCUTS
LS, HI4.9500, HR5.2200
FD, OP112, FP113, AR181.1119, ZE90.1021, SD980.672572, --CB-113 XCUTS
FR, OP112, FP113, AR1.1117, ZE269.4941, SD980.673228, --CB-113 XCUTS
LS, HI4.9500, HR5.6000
BR, OP112, FP111, AR179.5956, ZE270.2206, SD835.439475, --CB-111 XCUTS
--SS, OP112, FP111, AR359.5959, ZE89.3754, SD835.439311, --CB-111 XCUTS
--LS, HI4.950000, HR5.220000
--SS, OP112, FP113, AR181.1120, ZE90.1019, SD980.673064, --CB-113 XCUTS
--LS, HI4.950000, HR5.600000
--Set Collection with Obs Order 123...321...
OC, OP112, N 9935.22440, E 13380.99768, EL518.312, --CB-112 XCUTS
LS, HI4.9500, HR5.6000
BK, OP112, BP111, BS192.2137, BC0.0001
LS, HI4.9500, HR5.6000
BD, OP112, FP111, AR0.0001, ZE89.3755, SD835.437834, --CB-111 XCUTS
LS, HI4.9500, HR5.3400
FD, OP112, FP206, AR181.1152, ZE90.1124, SD127.078017, --HDS-206 XCUTS
FR, OP112, FP206, AR1.1151, ZE269.4837, SD127.078673, --HDS-206 XCUTS
LS, HI4.9500, HR5.6000
BR, OP112, FP111, AR179.5959, ZE270.2210, SD835.438162, --CB-111 XCUTS
LS, HI4.9500, HR5.6000
BD, OP112, FP111, AR359.5957, ZE89.3753, SD835.438162, --CB-111 XCUTS
LS, HI4.9500, HR5.3400
FD, OP112, FP206, AR181.1153, ZE90.1122, SD127.078017, --HDS-206 XCUTS
FR, OP112, FP206, AR1.1152, ZE269.4840, SD127.078345, --HDS-206 XCUTS
LS, HI4.9500, HR5.6000
BR, OP112, FP111, AR179.5954, ZE270.2209, SD835.439147, --CB-111 XCUTS
--SS, OP112, FP111, AR0.0001, ZE89.3752, SD835.438266, --CB-111 XCUTS
--LS, HI4.950000, HR5.340000
--SS, OP112, FP206, AR181.1155, ZE90.1122, SD127.078263, --HDS-206 XCUTS
--LS, HI4.950000, HR5.600000
--Set Collection with Obs Order 123...321...
OC, OP113, N 10888.59954, E 13610.75153, EL515.097, --CB-113 XCUTS
LS, HI5.2200, HR4.9500
BK, OP113, BP112, BS193.3258, BC0.0000
LS, HI5.2200, HR4.9500
BD, OP113, FP112, AR0.0000, ZE89.4947, SD980.673228, --CB-112 XCUTS
LS, HI5.2200, HR5.3400
FD, OP113, FP114, AR176.5832, ZE89.5212, SD662.032145, --CB-114 XCUTS
FR, OP113, FP114, AR356.5829, ZE270.0747, SD662.030832, --CB-114 XCUTS
LS, HI5.2200, HR4.9500
BR, OP113, FP112, AR179.5958, ZE270.1014, SD980.672900, --CB-112 XCUTS
LS, HI5.2200, HR4.9500
BD, OP113, FP112, AR359.5958, ZE89.4944, SD980.672244, --CB-112 XCUTS
LS, HI5.2200, HR5.3400
FD, OP113, FP114, AR176.5834, ZE89.5214, SD662.033129, --CB-114 XCUTS
FR, OP113, FP114, AR356.5831, ZE270.0743, SD662.032145, --CB-114 XCUTS
LS, HI5.2200, HR4.9500
BR, OP113, FP112, AR179.5958, ZE270.1013, SD980.673884, --CB-112 XCUTS
--SS, OP113, FP112, AR0.0000, ZE89.4946, SD980.673064, --CB-112 XCUTS
--LS, HI5.220000, HR5.340000
--SS, OP113, FP114, AR176.5833, ZE89.5214, SD662.032063, --CB-114 XCUTS
--LS, HI5.220000, HR4.950000
--Set Collection with Obs Order 123...321...
OC, OP113, N 10888.59954, E 13610.75153, EL515.097, --CB-113 XCUTS
LS, HI5.2200, HR4.9500
BK, OP113, BP112, BS193.3258, BC0.0000
LS, HI5.2200, HR4.9500
BD, OP113, FP112, AR0.0000, ZE89.4945, SD980.672900, --CB-112 XCUTS
LS, HI5.2200, HR5.3400
FD, OP113, FP209, AR182.0937, ZE89.3103, SD122.741021, --T-209 PKF
FR, OP113, FP209, AR2.0936, ZE270.2858, SD122.741677, --T-209 PKF
LS, HI5.2200, HR4.9500
BR, OP113, FP112, AR179.5958, ZE270.1017, SD980.672444, --CB-112 XCUTS
LS, HI5.2200, HR5.3400
FD, OP113, FP209, AR182.0939, ZE89.3107, SD122.741021, --T-209 PKF
FR, OP113, FP209, AR2.0939, ZE270.2853, SD122.740036, --T-209 PKF
LS, HI5.2200, HR4.9500
BR, OP113, FP112, AR179.5957, ZE270.1016, SD980.674212, --CB-112 XCUTS
--SS, OP113, FP112, AR0.0000, ZE89.4944, SD980.672900, --CB-112 XCUTS
--LS, HI5.220000, HR5.340000
--SS, OP113, FP209, AR182.0939, ZE89.3105, SD122.740939, --T-209 PKF
--LS, HI5.220000, HR4.950000
--Set Collection with Obs Order 123...321...
OC, OP113, N 10888.59954, E 13610.75153, EL515.097, --CB-113 XCUTS
LS, HI5.2200, HR4.9500
BK, OP113, BP112, BS193.3258, BC0.0000
LS, HI5.2200, HR4.9500
BD, OP113, FP112, AR0.0000, ZE89.4942, SD980.672572, --CB-112 XCUTS
LS, HI5.2200, HR5.3400
FD, OP113, FP207, AR203.1530, ZE89.2444, SD119.690786, --HDS-207 XCUTS
FR, OP113, FP207, AR23.1528, ZE270.3517, SD119.690458, --HDS-207 XCUTS
LS, HI5.2200, HR4.9500
BR, OP113, FP112, AR179.5958, ZE270.1021, SD980.672244, --CB-112 XCUTS
LS, HI5.2200, HR4.9500
BD, OP113, FP112, AR359.5959, ZE89.4940, SD980.670931, --CB-112 XCUTS
LS, HI5.2200, HR5.3400
FD, OP113, FP207, AR203.1530, ZE89.2444, SD119.691114, --HDS-207 XCUTS
FR, OP113, FP207, AR23.1528, ZE270.3517, SD119.690458, --HDS-207 XCUTS
LS, HI5.2200, HR4.9500
BR, OP113, FP112, AR180.0000, ZE270.1022, SD980.673884, --CB-112 XCUTS
--SS, OP113, FP112, AR0.0000, ZE89.4940, SD980.672408, --CB-112 XCUTS
--LS, HI5.220000, HR5.340000
--SS, OP113, FP207, AR203.1529, ZE89.2445, SD119.690950, --HDS-207 XCUTS
--LS, HI5.220000, HR4.950000
--Set Collection with Obs Order 123...321...
OC, OP114, N 11539.49095, E 13731.68365, EL516.472, --CB-114 XCUTS
LS, HI5.3400, HR5.2200
BK, OP114, BP113, BS190.3131, BC0.0000
LS, HI5.3400, HR5.2200
BD, OP114, FP113, AR0.0000, ZE90.0753, SD662.032801, --CB-113 XCUTS
LS, HI5.3400, HR5.3300
FD, OP114, FP115, AR174.2258, ZE90.0122, SD620.201574, --CB-115 XCUTS
FR, OP114, FP115, AR354.2255, ZE269.5837, SD620.201902, --CB-115 XCUTS
LS, HI5.3400, HR5.2200
BR, OP114, FP113, AR179.5958, ZE269.5207, SD662.030832, --CB-113 XCUTS
LS, HI5.3400, HR5.2200
BD, OP114, FP113, AR0.0000, ZE90.0749, SD662.031488, --CB-113 XCUTS
LS, HI5.3400, HR5.3300
FD, OP114, FP115, AR174.2259, ZE90.0124, SD620.202887, --CB-115 XCUTS
FR, OP114, FP115, AR354.2259, ZE269.5836, SD620.200590, --CB-115 XCUTS
LS, HI5.3400, HR5.2200
BR, OP114, FP113, AR179.5959, ZE269.5209, SD662.030832,--CB-113 XCUTS
--SS, OP114, FP113, AR0.0000, ZE90.0752, SD662.031488,--CB-113 XCUTS
--LS, HI5.340000, HR5.330000
--SS, OP114, FP115, AR174.2258, ZE90.0123, SD620.201738,--CB-115 XCUTS
--LS, HI5.340000, HR5.220000
--Set Collection with Obs Order 123...321...
OC, OP114, N 11539.49095, E 13731.68365, EL516.472, --CB-114 XCUTS
LS, HI5.3400, HR5.2200
BK, OP114, BP113, BS190.3131, BC0.0000
LS, HI5.3400, HR5.2200
BD, OP114, FP113, AR0.0000, ZE90.0756, SD662.030504,--CB-113 XCUTS
LS, HI5.3400, HR5.3400
FD, OP114, FP208, AR216.1414, ZE89.2312, SD68.302355,--HDS-208 XCUTS
FR, OP114, FP208, AR36.1414, ZE270.3648, SD68.301699,--HDS-208 XCUTS
LS, HI5.3400, HR5.2200
BR, OP114, FP113, AR179.5958, ZE269.5204, SD662.031817,--CB-113 XCUTS
LS, HI5.3400, HR5.2200
BD, OP114, FP113, AR0.0001, ZE90.0755, SD662.031488,--CB-113 XCUTS
LS, HI5.3400, HR5.3400
FD, OP114, FP208, AR216.1411, ZE89.2311, SD68.302027,--HDS-208 XCUTS
FR, OP114, FP208, AR36.1409, ZE270.3648, SD68.301698,--HDS-208 XCUTS
LS, HI5.3400, HR5.2200
BR, OP114, FP113, AR180.0001, ZE269.5207, SD662.032473,--CB-113 XCUTS
--SS, OP114, FP113, AR0.0000, ZE90.0755, SD662.031570,--CB-113 XCUTS
--LS, HI5.340000, HR5.340000
--SS, OP114, FP208, AR216.1412, ZE89.2311, SD68.302027,--HDS-208 XCUTS
--LS, HI5.340000, HR5.220000
--Warning: Set horizontal angles for foresight #1 differ by 0°00'06".
--Set Collection with Obs Order 123...321...
OC, OP115, N 12157.41851, E 13784.74652, EL516.232, --CB-115 XCUTS
LS, HI5.3300, HR5.3400
BK, OP115, BP114, BS184.5429, BC0.0000
LS, HI5.3300, HR5.3400
BD, OP115, FP114, AR0.0000, ZE89.5843, SD620.214042,--CB-144 XCUTS
LS, HI5.3300, HR5.2000
FD, OP115, FP116, AR179.4611, ZE89.3652, SD950.157758,--CB-116 XCUTS
FR, OP115, FP116, AR359.4611, ZE270.3652, SD950.156118,--CB-116 XCUTS
LS, HI5.3300, HR5.3400
BR, OP115, FP114, AR179.5959, ZE270.0118, SD620.214370,--CB-144 XCUTS
LS, HI5.3300, HR5.3400
BD, OP115, FP114, AR0.0002, ZE89.5844, SD620.215354,--CB-144 XCUTS
LS, HI5.3300, HR5.2000
FD, OP115, FP116, AR179.4608, ZE89.3654, SD950.156446,--CB-116 XCUTS
FR, OP115, FP116, AR359.4604, ZE270.2305, SD950.157102,--CB-116 XCUTS
LS, HI5.3300, HR5.3400
BR, OP115, FP114, AR180.0000, ZE270.0114, SD620.213714,--CB-144 XCUTS
--SS, OP115, FP114, AR0.0000, ZE89.5844, SD620.214370,--CB-144 XCUTS
--LS, HI5.330000, HR5.200000
--SS, OP115, FP116, AR179.4607, ZE89.3653, SD950.156856,--CB-116 XCUTS
--LS, HI5.330000, HR5.340000
--Set Collection with Obs Order 123...321...
OC, OP115, N 12157.41851, E 13784.74652, EL516.232, --CB-115 XCUTS
LS, HI5.3300, HR5.3400
BK, OP115, BP114, BS184.5429, BC0.0000
LS, HI5.3300, HR5.3400
BD, OP115, FP114, AR0.0000, ZE89.5841, SD620.214042,--CB-144 XCUTS
FD, OP115, FP209, AR192.4521, ZE89.2350, SD204.837181, --HDC-209 XCUTS
FR, OP115, FP209, AR12.4522, ZE270.3613, SD204.836197, --HDC-209 XCUTS
BR, OP115, FP114, AR180.0001, ZE270.0118, SD620.215026, --CB-144 XCUTS
LS, HI5.3300, HR5.3400
FR, OP115, FP209, AR12.4522, ZE270.3613, SD204.837181, --HDC-209 XCUTS
FR, OP115, FP209, AR12.4516, ZE270.3613, SD204.837181, --HDC-209 XCUTS
BR, OP115, FP114, AR180.0001, ZE270.0118, SD620.215026, --CB-144 XCUTS
LS, HI5.3300, HR5.3400
FR, OP115, FP209, AR12.4522, ZE270.3613, SD204.837181, --HDC-209 XCUTS
FR, OP115, FP209, AR12.4516, ZE270.3613, SD204.837181, --HDC-209 XCUTS
BR, OP115, FP114, AR180.0001, ZE270.0118, SD620.215026, --CB-144 XCUTS
LS, HI5.3300, HR5.3400
BR, OP115, FP114, AR180.0001, ZE270.0118, SD620.215026, --CB-144 XCUTS
LS, HI5.3300, HR5.3400
--SS, OP115, FP114, AR0.0000, ZE89.5843, SD620.214616, --CB-144 XCUTS
--SS, OP115, FP209, AR192.4522, ZE89.2350, SD204.836771, --HDC-209 XCUTS
--Set Collection with Obs Order 123...321...
OC, OP116, N 13104.39038, E 13862.21586, EL522.752, --CB-116 XCUTS
LS, HI5.1000, HR5.0500
BK, OP116, BP115, BS184.4037, BC0.0000
LS, HI5.1000, HR5.0500
FD, OP116, FP2212, AR10.3723, ZE89.4939, SD410.547733, --T-212 DISKF
FR, OP116, FP2212, AR190.3722, ZE270.1020, SD410.553310, --T-212 DISKF
BR, OP116, FP115, AR180.0001, ZE269.3610, SD950.157430, --CB-115 XCUTS
LS, HI5.1000, HR7.2100
FR, OP116, FP2212, AR10.3724, ZE89.4938, SD410.547733, --T-212 DISKF
FR, OP116, FP2212, AR190.3722, ZE270.1020, SD410.547076, --T-212 DISKF
LS, HI5.1000, HR7.2100
BR, OP116, FP115, AR180.0001, ZE269.3610, SD950.157430, --CB-115 XCUTS
LS, HI5.1000, HR7.2100
BR, OP116, FP115, AR180.0001, ZE269.3610, SD950.157430, --CB-115 XCUTS
LS, HI5.1000, HR7.2100
--Set Collection with Obs Order 123...321...
OC, OP116, N 13104.39038, E 13862.21586, EL522.752, --CB-116 XCUTS
LS, HI5.1000, HR5.0500
Bk, OP116, BP115, BS184.4037, BC0.0000
LS, HI5.1000, HR5.0500
BD, OP116, FP115, AR0.0000, ZE90.2345, SD950.159071, --CB-115 XCUTS
LS, HI5.1000, HR5.3400
FD, OP116, FP210, AR184.3332, ZE89.2609, SD68.799408, --HDS-210 XCUTS
FR, OP116, FP210, AR4.3332, ZE270.3349, SD68.799080, --HDS-210 XCUTS
LS, HI5.1000, HR5.0500
BR, OP116, FP115, AR179.5956, ZE269.3612, SD950.157102, --CB-115 XCUTS
LS, HI5.1000, HR5.0500
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FR, OP116, FP210, AR4.3330, ZE270.3351, SD68.799408, --HDS-210 XCUTS
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LS, HI5.4300, HR5.2300
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FR, OP117, FP118, AR355.5915, ZE270.4016, SD664.038403, --CB-118 XCUTS
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FR, OP117, FP118, AR355.5911, ZE270.4013, SD664.038321, --CB-118 XCUTS
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FR, OP118, FP212, AR146.0702, ZE270.3716, SD113.278961, -- HDS-212 XCUTS
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FR, OP2214, FP215, AR 178.1244, ZE 270.2634, SD 103.878582, --HDS-215 XCUTS
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FR, OP2214, FP216, AR 1.5237, ZE 269.3134, SD 235.804756, --HDS-216 XCUTS
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COMPUTER COMPUTATIONS
Closure View (1) Traverse- MDE to Medina (Raw Closure)

[ Traverse Summary ]
Closed Point-to-Point  24 Points From 5102 To 2019
Horizontal Distance: 13117.410 Feet  Slope Distance: 13118.370 Feet

[ Error Summary ]
Relative: 1 : 20195 Linear: 0.650 Feet  Direction: S30°42'11"E
Northing: 0.558 Feet  Easting: -0.332 Feet  Elevation: -
Angular: -0°00'15"  Per Angle Point: -0°00'01"

[ Closing Points ]
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[ Adjustments ]

Closure View (1) Traverse- MDE to Medina (Combined Factor Applied)

[ Traverse Summary ]
Closed Point-to-Point  24 Points From 5102 To 2019
Horizontal Distance: 13117.397 Feet  Slope Distance: 13118.357 Feet

[ Error Summary ]
Relative: 1 : 20226 Linear: 0.649 Feet  Direction: S31°48'56"E
Northing: 0.551 Feet  Easting: -0.342 Feet  Elevation: -
Angular: -0°00'15"  Per Angle Point: -0°00'01"

[ Closing Points ]
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[ Adjustments ]
Factor=0.999999318
Closure View (1) Traverse- MDE to Medina (Angular Adjustment Applied)

[ Traverse Summary ]
Closed Point-to-Point  24 Points From 5102 To 2019
Horizontal Distance: 13117.397 Feet  Slope Distance: 13118.357 Feet

[ Error Summary ]
Relative: 1 : 72410  Linear:0.181 Feet  Direction:S21°58'29"E
Northing:0.168 Feet  Easting:-0.068 Feet  Elevation:-
Angular: 0°00'00"  Per Angle Point: 0°00'00"

[ Closing Points ]
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[ Adjustments ]
Angle
Factor=0.999999318

Closure View (1) Traverse- MDE to Medina (Final Adjustment Applied)

[ Traverse Summary ]
Closed Point-to-Point  24 Points From 5102 To 2019
Horizontal Distance: 13117.355 Feet  Slope Distance: 13118.315 Feet

[ Error Summary ]
Relative: 1 : 0  Linear:0.000 Feet  Direction:S75°57'50"E
Northing:0.000 Feet  Easting:-0.000 Feet  Elevation:0.000 Feet
Angular: -0°00'00"  Per Angle Point: -0°00'00"

[ Closing Points ]
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[ Adjustments ]
Coordinates-Compass
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Angle
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Closure View (2) Bruckner Control to Gayron de Debruin  (Raw Closure)

[ Traverse Summary ]
Closed Point-to-Point  6 Points From 5121 To 54104
Horizontal Distance: 2205.683 Feet  Slope Distance: 2205.826 Feet

[ Error Summary ]
Relative: 1 : 29598  Linear:0.075 Feet  Direction:S21°28'17"W
Northing:0.069 Feet  Easting:0.027 Feet  Elevation:-
Angular: 0°00'03"  Per Angle Point: 0°00'00"

[ Closing Points ]
Point  Northing  Easting
From  5121  239007.0463  1015463.9075
To  54104  241180.2093  1015832.1673
Correct  1104  241180.1400  1015832.1400

[ Adjustments ]
Factor=0.999999318

Closure View (2) Bruckner Control to Gayron de Debruin
(Angular Adjustment Applied)

[ Traverse Summary ]
Closed Point-to-Point  6 Points From 5121 To 54104
Horizontal Distance: 2205.683 Feet  Slope Distance: 2205.826 Feet

[ Error Summary ]
Relative: 1 : 30224  Linear:0.073 Feet  Direction:S8°13'00"W
Northing:0.072 Feet  Easting:0.010 Feet  Elevation:-
Angular: 0°00'00"  Per Angle Point: 0°00'00"

[ Closing Points ]
Point  Northing  Easting
From  5121  239007.0463  1015463.9075
To  54104  241180.2122  1015832.1504
Correct  1104  241180.1400  1015832.1400

[ Adjustments ]
Angle
Factor=0.999999318
Closure View (2) Bruckner Control to Gayron de Debruin
(Final Adjustment Applied)

[ Traverse Summary ]
Closed Point-to-Point 6 Points From 5121 To 54104
Horizontal Distance: 2205.611 Feet Slope Distance: 2205.753 Feet

[ Error Summary ]
Relative: 1 : 0 Linear:0.000 Feet Direction:N0°00'00"E
Northing:0.000 Feet Easting:0.000 Feet Elevation:0.000 Feet
Angular: 0°00'00" Per Angle Point: 0°00'00"

[ Closing Points ]
Point Northing Easting
From 5121 239007.0463 1015463.9075
To 54104 241180.1400 1015832.1400
Correct 1104 241180.1400 1015832.1400

[ Adjustments ]
Coordinates-Compass
Elevation Angle
Factor=0.999999318

(2) Traverse Bruckner Control to Gayron de Debruin (Raw Angles)

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Closure View (3) Gayron de Bruin extended (Raw Closure)

[ Traverse Summary ]
Closed Point-to-Point  8 Points From 1102 To 901
Horizontal Distance: 2571.368 Feet  Slope Distance: 2571.536 Feet

[ Error Summary ]
Relative: 1 : 76977  Linear:0.033 Feet  Direction:S51°16'47"E
Northing:0.021 Feet  Easting:-0.026 Feet  Elevation:
Angular: 0°00'04"  Per Angle Point: 0°00'01"

[ Closing Points ]

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[ Adjustments ]

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Closure View (3) Gayron de Bruin extended (Combined Factor Applied)

[ Traverse Summary ]
Closed Point-to-Point  8 Points From 1102 To 901
Horizontal Distance: 2571.340 Feet  Slope Distance: 2571.509 Feet

[ Error Summary ]
Relative: 1 : 79760  Linear:0.032 Feet  Direction:S60°11'39"E
Northing:0.016 Feet  Easting:-0.028 Feet  Elevation:
Angular: 0°00'04"  Per Angle Point: 0°00'01"

[ Closing Points ]

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[ Adjustments ]
Factor=0.99998920
[ Traverse Summary ]
Closed Point-to-Point  8 Points From 1102 To 901
Horizontal Distance: 2571.340 Feet  Slope Distance: 2571.509 Feet

[ Error Summary ]
Relative: 1 : 90615  Linear:0.028 Feet  Direction:S69°05'02"E
Northing:0.010 Feet  Easting:-0.027 Feet  Elevation:
Angular: 0°00'00"  Per Angle Point: 0°00'00"

[ Closing Points ]
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[ Adjustments ]
Angle
Factor=0.99998920

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[ Traverse Summary ]
Closed Point-to-Point  8 Points From 1102 To 901
Horizontal Distance: 2571.340 Feet  Slope Distance: 2571.509 Feet

[ Error Summary ]
Relative: 1 : 0  Linear:0.000 Feet  Direction:S90°00'00"W
Northing:0.000 Feet  Easting:0.000 Feet  Elevation:0.000 Feet
Angular: 0°00'00"  Per Angle Point: 0°00'00"

[ Closing Points ]
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[ Adjustments ]
Coordinates-Compass
Elevation
Angle
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COORDINATE LISTING
## RECORD HORIZONTAL CONTROL

## COORDINATE CONVERSION SUMMARY

(Meters) to (U.S. Survey Feet)

Conversion factor: 1 meter = 3.280833333333 U.S. Survey Foot

### BASELINE COORDINATES

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### BASELINE COORDINATES

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Horizontal Datum:

New York State Plane Coordinate System Long Island Zone NAD 83
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HORIZONTAL CONTROL
DATA SHEETS
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: SECOND ORDER CLASS II
VERTICAL: ________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☒ TRAVERSE ☐
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-5101
MONUMENT TYPE: X-CUT

N = 232265.9506 LAT = ________________
E = 1006612.4683 LONG = ________________
ELEV = ________________ ELLIPSOID HT. = ________________
HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ________________
GEOID MODEL = ________________
COMBINED FACTOR = 0.99999318 CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: X-CUT SET IN THE SIDEWALK +/- 5.2' SOUTHWEST OF THE SOUTHWEST CURBLINE OF EAST 134TH STREET AND +/- 33.0' SOUTHEAST OF THE CENTERLINE OF ST. ANN'S AVENUE.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: __________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: MARCH, 2009

SURVEY METHOD: HORZ. - GPS ☑ TRAVERSE☐
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-5102 (MD19)
MONUMENT TYPE: DISK

N = 231977.1952 LAT = N 40° 48'12.13236"
E = 1007121.3424 LONG = W 73° 55'02.59498"
ELEV = ________________ ELLIPSOID HT. = ____________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LI. ZONE (3104) (FEET)
VERT. DATUM = __________________
GEOID MODEL = __________________

COMBINED FACTOR = 0.99999318 CONVERGENCE = 0°03'15"

DETAILED DESCRIPTION AT STATION: ALUMINUM DISK SET +/-19.0' SOUTHWEST OF THE SOUTHERN CURBLINE OF EAST 134TH STREET AND +/- 350.1' SOUTHEAST OF THE CENTERLINE OF ST. ANN'S PLACE.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ________________

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS □ TRAVERSE X
VERT. - GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: CB-5103 MONUMENT TYPE: REBAR WITH CAP

N = 232123.8409 LAT = ________________
E = 1007376.3979 LONG = ________________
ELEV = ________________ ELLIPSOID HT. = ________________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ________________
GEOID MODEL = ________________

COMBINED FACTOR = 0.99999318 CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: REBAR WITH CAP SET +/- 45.8’ SOUTHWEST OF THE CENTERLINE OF BRUCKNER BOULEVARD AND +/- 150.5’ NORTHWEST OF THE CENTERLINE OF EAST 135TH STREET.

SKETCH AT STATION:

[DIAGRAM OF STATION WITH LABELS]

NOT TO SCALE
**NEW YORK STATE**
**DEPARTMENT OF TRANSPORTATION**
**CONTROL SURVEY DATA**

**ORDER OF SURVEY:** HORIZONTAL: SECOND ORDER CLASS II  
VERTICAL: _________________

**CONTRACT:** D010319  
**PIN NUMBER:** X731.45  
**PROJECT:** REHABILITATION OF THE BRUCKNER EXPRESSWAY  
BRONX COUNTY

**DATE:** NOVEMBER 11, 2015  
**DATE ESTABLISHED:** JULY 2015

**SURVEY METHOD:** HORZ. - GPS ☐  TRAVERSE ☑  VERT. - GPS ☐  DIFFERENTIAL LEVEL ☐

**NAME OF STATION:** CB-5104  
**MONUMENT TYPE:** X-CUT

**N =** 232088.2328  
**LAT =** _________________  
**E =** 1007810.3802  
**LONG =** _________________  
**ELEV =** _________________  
**ELLIPSOID HT. =** _________________

**HORIZ. DATUM =** NYSPCS, NAD 83  
**ZONE =** LONG ISLAND (3104) (FEET)  
**VERT. DATUM =** _________________  
**GEOID MODEL =** _________________  

**COMBINED FACTOR =** 0.99999318  
**CONVERGENCE =** _________________

**DETAILED DESCRIPTION AT STATION:** X-CUT SET +/- 4.0’ SOUTH OF THE SOUTHERN EDGE OF PAVEMENT OF BRUCKNER BOULEVARD AND +/- 145.3’ WEST OF THE CENTERLINE OF EAST 136TH STREET.

**SKETCH AT STATION:**

![Sketch of the station location](image_url)

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: SECOND ORDER CLASS II
VERTICAL: _____________

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☑ VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-5105 MONUMENT TYPE: X-CUT

N = 232416.7365 LAT = _____________
E = 1008452.9551 LONG = _____________
ELEV = _____________ ELLIPSOID HT. = _____________

COMBINED FACTOR = 0.99999318 CONVERGENCE = _____________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = _____________
GEOID MODEL = _____________

DETAILED DESCRIPTION AT STATION: X-CUT SET +/- 1.5' SOUTHEAST OF THE NORTHERN CURBLINE OF THE CENTER MEDIAN OF THE SOUTHBOUND LANE OF BRUCKNER BOULEVARD AND +/- 64' SOUTHWEST OF THE CENTERLINE OF EAST 138TH STREET.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ______________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS □ TRAVERSE X
VERT. - GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: CB-5106 MONUMENT TYPE: X-CUT

N = 232630.7404 LAT = ______________________
E = 1008861.5428 LONG = ______________________
ELEV = ______________________ ELLIPSOID HT. = ______________________

HORIZ. DATUM = NYSPCS, NAD 83 ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ______________________
GEOID MODEL = ______________________

COMBINED FACTOR = 0.99999318 CONVERGENCE = ______________________

DETAILED DESCRIPTION AT STATION: X-CUT SET +/- 7.9' NORTHWEST OF THE SOUTHERN CURBLINE OF MEDIAN BETWEEN THE CENTER AND SOUTHERN LANES OF THE SOUTHBOUND LANE OF BRUCKNER BOULEVARD AND +/- 88.5' NORTHEAST OF THE CENTERLINE OF EAST 139TH STREET.

SKETCH AT STATION:

BRUCKNER BLVD
RIM OF ELECTRIC MANHOLE
FACE OF LIGHT POLE W/ SIGN
FACE OF LIGHT POLE
62.88' 42.63' 24.80'
62.88'
TO CB-5106 X-CUT MEDIAN TO CB-5107
TO CB-5105

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ________________

CONTRACT: __________ D010319
PIN NUMBER: __________ X731.45
PROJECT: ________________ REHABILITATION OF THE
______________ BRUCKNER EXPRESSWAY
______________ BRONX COUNTY
DATE: __________ NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: __________ JULY 2015

SURVEY METHOD: HORZ. - GPS □ TRAVERSE☑ VERT. - GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: CB-5107 MONUMENT TYPE: X-CUT

N = ______ 232903.1574 LAT = __________
E = ______ 109896.0248 LONG = __________
ELEV = _______________ ELLIPSOID HT. = __________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = _______________
GEOID MODEL = _______________

COMBINED FACTOR = 0.99999318 CONVERGENCE = _______________

DETAILED DESCRIPTION AT STATION: X-CUT SET +/- 5.5' SOUTHWEST OF THE NORTHERN CURBLINE OF THE MEDIAN BETWEEN THE CENTER AND SOUTHERN LANES OF THE SOUTHBOUND LANE OF BRUCKNER BOULEVARD AND AT THE CENTERLINE OF WALES AVENUE.

SKETCH AT STATION:

[Diagram of the location with labels and coordinates]

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: 

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE X
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-5108
MONUMENT TYPE: X-CUT

N = 233172.7355 LAT = 
E = 1009639.7202 LONG = 
ELEV = 
ELLIPSOID HT. = 

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = 
GEOID MODEL = 

COMBINED FACTOR = 0.99999318
CONVERGENCE = 

DETAILED DESCRIPTION AT STATION: X-CUT SET +/- 62.0' NORTHWEST OF THE WESTERN CURB LINE OF THE CENTER MEDIAN OF BRUCKNER BOULEVARD AND +/- 24.8' SOUTH OF THE MEDIAN AT SOUTHERN BOULEVARD AND BRUCKNER BOULEVARD.

SKETCH AT STATION:

NOT TO SCALE
NAME OF STATION: CB-5109  
MONUMENT TYPE: X-CUT

N = 233437.5093  LAT =  
E = 1010080.5017  LONG = 
ELEV =  
ELLIPSOID HT. = 

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = 
GEOID MODEL = 

COMBINED FACTOR = 0.99999318  CONVERGENCE = 

DETAIL DESCRIPTION AT STATION: X-CUT SET IN THE SIDEWALK +/- 2.4' NORTHWEST OF THE NORTHERN CURBLINE OF BRUCKNER BLVD AND +/- 386.0' NORTHEAST OF THE CENTERLINE OF SOUTHERN BOULEVARD.

SKETCH AT STATION:
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☑
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-5110
MONUMENT TYPE: X-CUT

N = 233842.9842
LAT = ________________
E = 1010510.6187
LONG = ________________
ELEV = ________________
ELLIPSOID HT. = ________________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ________________
GEOID MODEL = ________________

COMBINED FACTOR = 0.99999318
CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: X-CUT SET IN THE SIDEWALK +/- 4.1' NORTHWEST OF NORTHERN CURBLINE OF BRUCKNER BOULEVARD AND +/- 38.0' SOUTH OF THE CENTERLINE OF EAST 144TH STREET.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY:  SECOND ORDER CLASS II
VERTICAL:  

ESTABLISHED BY:  M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED:  JULY 2015

SURVEY METHOD:  TRAVERSE
VERT. - GPS  
DIFFERENTIAL LEVEL  

NAME OF STATION:  CB-5111
MONUMENT TYPE:  X-CUT

N =  234233.1242  LAT =  
E =  1011081.4172  LONG =  
ELEV =  
ELLIPSOID HT. =  
COMBINED FACTOR =  0.99999318  CONVERGENCE =  

Hориз. Датум =  NYSPCS, NAD 83
ZONE =  LONG ISLAND (3104) (FEET)

VERT. ДАТУМ =  
GEOID MODEL =  

DETAIL DESCRIPTION AT STATION:  X-CUT SET IN THE MEDIAN +/- 20' SOUTHEAST FROM THE NORTHERN CURBLINE OF THE CENTER MEDIAN BETWEEN THE NORTHBOUND AND SOUTHBOUND LANES OF BRUCKNER BOULEVARD AND +/- 35.0' SOUTHWEST OF THE CENTERLINE OF EAST 149TH STREET.

SKETCH AT STATION:

NOT TO SCALE
NAME OF STATION: CB-5112
MONUMENT TYPE: X-CUT

N = 234818.1766
LAT = 

E = 1011657.7726
LONG = 

ELEV = 
ELLIPSOID HT. = 

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)

VERT. DATUM = 

GEOID MODEL = 

COMBINED FACTOR = 0.99999318
CONVERGENCE = 


SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
           BRUCKNER EXPRESSWAY
           BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS □ TRAVERSE X
                VERT. - GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: CB-5113
MONUMENT TYPE: X-CUT

N = 235490.2657
LAT = ________________
E = 1012371.9124
LONG = ________________
ELEV = ________________
ELLIPSOID HT. = ________________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ________________
GEOID MODEL = ________________

COMBINED FACTOR = 0.99999318
CONVERGENCE = ________________


SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: SECOND ORDER CLASS II
VERTICAL: 

HORIZONTAL: 

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: TRAVERSE
VERT. - GPS
DIFFERENTIAL LEVEL

NAME OF STATION: CB-5114
MONUMENT TYPE: X-CUT

N = 235968.7808
E = 1012829.4072
ELEV = 

LAT = 
LONG = 
ELLIPSOID HT. = 

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)

VERT. DATUM = 
GEOID MODEL = 

COMBINED FACTOR = 0.99999318
CONVERGENCE = 

DETAILED DESCRIPTION AT STATION:

SKETCH AT STATION:

NOT TO SCALE
NAME OF STATION: CB-5115  

N = 236456.8576  
E = 1013212.0630  
ELEV =  

LAT =  
LONG =  
ELLIPSOID HT. =  

HORIZ. DATUM = NYSPCS, NAD 83  
ZONE = LONG ISLAND (3104) (FEET)  
VERT. DATUM =  
GEOID MODEL =  

COMBINED FACTOR = 0.99999318  
CONVERGENCE =  

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ________________

CONTRACT: ______ D010319 ______
PIN NUMBER: ______ X731.45 ______
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: __ NOVEMBER 11, 2015 __

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: __ JULY 2015 __

SURVEY METHOD: HORZ. - GPS □ TRAVERSE X
VERT. - GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: CB-5116 MONUMENT TYPE: X-CUT

N = ___________ 237206.9398 ___________ LAT = ___________
E = ___________ 1013795.2609 ___________ LONG = ___________
ELEV = ___________ ELLIPSOID HT. = ___________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ___________
GEOID MODEL = ___________

COMBINED FACTOR = 0.99999318 CONVERGENCE = ___________


SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: SECOND ORDER CLASS II
VERTICAL: 

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: 
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: TRAVERSE
VERT. - GPS 
DIFFERENTIAL LEVEL 

NAME OF STATION: CB-5117
MONUMENT TYPE: X-CUT

N = 237632.8157 LAT = 
E = 1014132.7403 LONG = 
ELEV = 
ELLIPSOID HT. = 

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = 
GEOID MODEL = 

COMBINED FACTOR = 0.99999318
CONVERGENCE = 

DETAIL DESCRIPTION AT STATION: X-CUT SET IN CONCRETE SIDEWALK +/- 9.0' FROM THE SOUTHERLY CURBLINE OF THE CENTER MEDIAN BETWEEN THE NORTHBOUND AND SOUTHBOUND LINES OF BRUCKNER BOULEVARD AND +/- 32.0' NORTHEAST OF THE CENTERLINE OF BARRETT STREET.

SKETCH AT STATION:

NOT TO SCALE
**NEW YORK STATE DEPARTMENT OF TRANSPORTATION**

**CONTROL SURVEY DATA**

**ORDER OF SURVEY:** SECOND ORDER CLASS II  
**HORIZONTAL:**  
**VERTICAL:**

**CONTRACT:** D010319  
**PIN NUMBER:** X731.45  
**PROJECT:** REHABILITATION OF THE BRUCKNER EXPRESSWAY  
**BRONX COUNTY**

**DATE:** NOVEMBER 11, 2015  
**DATE ESTABLISHED:** JULY 2015

**ESTABLISHED BY:** M.J. ENGINEERING AND LAND SURVEYING, P.C.  
**SURVEY METHOD:** HORZ. - GPS [ ] TRAVERSE [X]  
**VERT. - GPS [ ] DIFFERENTIAL LEVEL [ ]

**NAME OF STATION:** CB-5118  
**MONUMENT TYPE:** X-CUT

\[
\begin{align*}
N &= 238180.8001 \\
E &= 1014507.6955 \\
ELEV &= \quad \text{ELLIPSOID HT.} =
\end{align*}
\]

**HORIZ. DATUM:** NYSPCS, NAD 83  
**ZONE:** LONG ISLAND (3104) (FEET)  
**VERT. DATUM:**  
**GEOID MODEL:**

**COMBINED FACTOR:** 0.99999318  
**CONVERGENCE:**

**DETAILED DESCRIPTION AT STATION:** X-CUT SET IN PAVEMENT +/- 1.5' SOUTH OF THE CURBLINE OF THE CENTER MEDIAN OF THE SOUTHBOUND LANE OF BRUCKNER BOULEVARD AND +/- 35.7' NORTH OF THE INTERSECTION OF HUNTS POINT AVENUE.

**SKETCH AT STATION:**

![Sketch of survey station with annotations](image-url)
NAME OF STATION: CB-5119
MONUMENT TYPE: DISK

N = 238351.7000  LAT =  
E = 1014610.0169  LONG =  
ELEV =  
ELLIPSOID HT. =  

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)

VERT. DATUM =  
GEOID MODEL =  
COMBINED FACTOR = 0.99999318
CONVERGENCE =  

DETAILED DESCRIPTION AT STATION: DISK FOUND IN CONCRETE SIDEWALK +/- 3.2' NORTHWEST OF THE NORTHWEST CURBLINE OF BRUCKNER BOULEVARD AND +/- 28.2' SOUTHWEST OF CENTERLINE OF EAST 163RD STREET.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☑
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-5120 MONUMENT TYPE: DISK

N = 238888.4507 LAT = ________________
E = 1014995.2776 LONG = ________________
ELEV = ________________ ELLIPSOID HT. = ________________
HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ________________
GEOID MODEL = ________________
COMBINED FACTOR = 0.99999318 CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: DISK FOUND IN CONCRETE SIDEWALK +/- 21.7' NORTHWEST OF THE CENTERLINE OF BRUCKNER BOULEVARD AND +/- 143.7' NORTHEAST OF THE INTERSECTION OF FAILE AVENUE.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY:  HORIZONTAL:  SECOND ORDER CLASS II
VERTICAL:  

CONTRACT:  D010319
PIN NUMBER:  X731.45
PROJECT:  REHABILITATION OF THE BRUCKNER EXPRESSWAY

BRONX COUNTY

DATE:  NOVEMBER 11, 2015

ESTABLISHED BY:  M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED:  JULY 2015

SURVEY METHOD:  HORZ. - GPS  TRAVERSE
VERT. - GPS  DIFFERENTIAL LEVEL

NAME OF STATION:  CB-5121
MONUMENT TYPE:  X-CUT

N = 239007.0463  LAT = 
E = 1015463.9075  LONG = 
ELEV =  
ELLIPSOID HT. = 

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)

VERT. DATUM = 

GEOID MODEL = 

COMBINED FACTOR = 0.99999318  CONVERGENCE = 

DETAILED DESCRIPTION AT STATION: X-CUT  SET IN CONCRETE SIDEWALK +/- 6.7' NORTH OF THE NORTHERN CURBLINE OF BRUCKNER EXPRESSWAY AND +/- 112.0' EAST OF CENTERLINE-CENTERLINE INTERSECTION OF WHITLOCK AVENUE AND LONGFELLOW AVENUE.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: _______________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ.-GPS □ TRAVERSE X
VERT.-GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: CB-6120
MONUMENT TYPE: X-CUT

N = 239083.6997  LAT = _______________________
E = 1015871.7399  LONG = _________________
ELEV = _________________  ELLIPSOID HT. = ____________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = _______________________
GEOID MODEL = _______________________

COMBINED FACTOR = 0.9999318  CONVERGENCE = _______________

DETAILED DESCRIPTION AT STATION: X-CUT SET +/- 6.5' NORTH OF THE NORTHERN CURB LINE OF BRUCKNER BOULEVARD AND +/- 322' WEST OF THE WEST END OF THE BRUCKNER BLVD DRAWBRIDGE OVER THE BRONX RIVER.

SKETCH AT STATION:

CHAINLINK FENCE
SIDEWALK
TO CB-6121 CENTER OF ELECTRIC BOX
CB-6120 X-CUT 54.75'
CORNER OF
UTILITY CABINET 2.97'
FACE OF LIGHT POLE 11.38'
BRUCKNER BOULEVARD

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ____________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS □ TRAVERSE X VERT. - GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: CB-6121 MONUMENT TYPE: X-CUT

N = 239169.5070 LAT =
E = 1016370.8716 LONG =
ELEV = Ellipsoid HT. =

COMBINED FACTOR = 0.99999318 CONVERGENCE =

HORIZ. DATUM = NYSPCS, NAD 83 ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM =
GEOID MODEL =

DETAILED DESCRIPTION AT STATION: X-CUT SET +/- 6.2' NORTH OF THE NORTHWERN CURBLINE OF BRUCKNER BOULEVARD AND +/- 331.6' WEST OF THE INTERSECTION OF BRUCKNER BOULEVARD AND BRONX RIVER AVENUE.

SKETCH AT STATION:

WOODED AREA
FENCE POST
1.28' TO CORNER OF VAULT
TO CB-6120
CB-6121 X-CUT
TO CB-6122
CENTER OF ELECTRIC MANHOLE

VAULT

BRUCKNER BOULEVARD

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ______________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☑ VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-6122 MONUMENT TYPE: X-CUT

N = 239323.9677 LAT = ____________________
E = 1017022.0480 LONG = ____________________
ELEV = ____________________ ELLIPSOID HT. = ____________

HORIZ. DATUM = NYSPCS, NAD 83 ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ____________________ GEOID MODEL = ____________________

COMBINED FACTOR = 0.99999318 CONVERGENCE = ____________________

DETAILED DESCRIPTION AT STATION: X-CUT SET +/- 8.7' NORTH OF THE NORTHERN CURBLINE OF BRUCKNER BOULEVARD AND +/- 57.3' EAST OF THE CENTERLINE OF CLOSE AVENUE.

SKETCH AT STATION:

WROUGHT IRON FENCE

CLOSE AVENUE

FACE OF PILLAR

TO CB-6121

15.98'

FACE OF LIGHT POLE

23.21'

CB-6122 X-CUT

TO CB-20219

CONC SIDEWALK

FACE OF TREE

BRUCKNER BOULEVARD

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: SECOND ORDER CLASS II
VERTICAL: ________________

NAME OF STATION: CB-5122
MONUMENT TYPE: X-CUT

N = 239269.6049  LAT = ________________
E = 1015518.9040  LONG = ________________
ELEV = ________________  ELLIPSOID HT. = ________________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)

VERT. DATUM = ________________
GEOID MODEL = ________________

COMBINED FACTOR = 0.99999318  CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: X-CUT SET IN CONCRETE SIDEWALK +/- 1.6' EAST OF THE EASTERN CURBLINE OF WHITLOCK AVENUE AND +/- 17.1' NORTH OF THE CENTERLINE OF ALDUS STREET.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: SECOND ORDER CLASS II
HORIZONTAL: TRAVERSE
VERTICAL: 

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015
ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015
SURVEY METHOD: TRAVERSE
VERT. - GPS
DIFFERENTIAL LEVEL

NAME OF STATION: CB-5123
MONUMENT TYPE: MAG NAIL

N = 239620.6873
LAT = 
E = 1015572.3335
LONG = 
ELEV = 
ELLIPTOISD HT. =
HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = 
GEOID MODEL =
COMBINED FACTOR = 0.99999318
CONVERGENCE =

DETAILED DESCRIPTION AT STATION: MAG NAIL SET IN CONCRETE SIDEWALK +/- 4.4' WEST OF THE WESTERN CURBLINE OF WHITLOCK AVENUE AND +/- 353.7' SOUTH OF THE INTERSECTION OF EAST 165TH STREET.

SKETCH AT STATION:

CENTERLINE FENCEPOST
TO CB-5124
CENTERLINE FENCEPOST
TO CB-5123 MAGNAIL
TO CB-5122
MAG IN UP

WHITLOCK AVENUE
BUILDING
NOT TO SCALE
### NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

- **ORDER OF SURVEY:** HORIZONTAL: SECOND ORDER CLASS II  
  VERTICAL: 
- **CONTRACT:** D010319  
- **PIN NUMBER:** X731.45  
- **PROJECT:** REHABILITATION OF THE BRUCKNER EXPRESSWAY  
- **BRONX COUNTY**  
- **DATE:** NOVEMBER 11, 2015  
- **DATE ESTABLISHED:** JULY 2015  

**SURVEY METHOD:**  
- HORZ. - GPS  
- TRAVERSE  
- VERT. - GPS  
- DIFFERENTIAL LEVEL  

**NAME OF STATION:** CB-5124  
**MONUMENT TYPE:** X-CUT

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<th>N</th>
<th>E</th>
<th>LAT</th>
<th>LONG</th>
<th>HORIZ. DATUM</th>
<th>ZONE</th>
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<td>1015658.1475</td>
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<td>NYSPCS, NAD 83</td>
<td>LONG ISLAND (3104) (FEET)</td>
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<th>ELEV</th>
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<th>COMBINED FACTOR</th>
<th>CONVERGENCE</th>
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</thead>
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<td></td>
<td>0.99999318</td>
<td></td>
</tr>
</tbody>
</table>

**DETAILED DESCRIPTION AT STATION:** X-CUT SET IN CONCRETE SIDEWALK +/- 27.4' WEST OF THE CENTERLINE OF WHITLOCK AVENUE AND +/- 81.6' SOUTH OF THE CENTERLINE OF LOWELL STREET.

**SKETCH AT STATION:**

![Sketch of station layout](image-url)
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: SECOND ORDER CLASS II
VERTICAL: 

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: TRAVERSE
VERT. - GPS 
DIFFERENTIAL LEVEL

NAME OF STATION: CB-5125
MONUMENT TYPE: X-CUT

N = 240709.4824  LAT = 
E = 1015726.4481  LONG = 
ELEV =  
ELLIPSOID HT. = 
HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = 
GEOID MODEL = 
COMBINED FACTOR = 0.99999318
CONVERGENCE =

DETAILED DESCRIPTION AT STATION: X-CUT SET IN CONCRETE SIDEWALK +/- 17.5' WEST OF THE CENTERLINE OF WHITELOCK AVENUE AND +/- 103.8' SOUTH OF THE INTERSECTION OF WESTCHESTER AVENUE.

SKETCH AT STATION:

NOT TO SCALE
NAME OF STATION: CB-1108 (TR108)
MONUMENT TYPE: CROSS CUT

N = 242255.4200
LAT = 

E = 1015984.5100
LONG = 

ELEV = 
ELLIPSOID HT. = 

COMBINED FACTOR = 0.99998920
CONVERGENCE = 

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)

VERT. DATUM = 
GEOID MODEL = 

DETAILED DESCRIPTION AT STATION: CROSS CUT SET IN SIDEWALK +/- 3.6' NORTHWEST OF THE WEST CURB LINE OF WEST FARMS ROAD +/- 335.9' NORTHEAST OF JENNINGS STREET.
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY:      HORIZONTAL:  SECOND ORDER CLASS II
VERTICAL:                 

CONTRACT:   D010319
PIN NUMBER:   X731.45
PROJECT:   REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE:   NOVEMBER 11, 2015

ESTABLISHED BY: GAYRON DE BRUIN LAND SURVEYING & ENGINEERING, P.C.
DATE ESTABLISHED: JUNE 2013

SURVEY METHOD:   HORZ. - GPS ☐   TRAVERSE ☑   VERT. - GPS ☐   DIFFERENTIAL LEVEL ☐

NAME OF STATION:   CB-1107 (TR-107)
MONUMENT TYPE:   CROSS CUT

N = 242575.3800   LAT = 
E = 1016145.8700   LONG = 
ELEV =          ELLIPSOID HT. =

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM =
GEOID MODEL =

COMBINED FACTOR = 0.99998920 CONVERGENCE =

DETAILED DESCRIPTION AT STATION: CROSS CUT SET ON TOP OF CURB ON THE WEST SIDE OF WEST FARMS ROAD AND +/- 37.0' NORTHEAST OF EAST 172ND STREET.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY:         SECOND ORDER CLASS II
VERTICAL:                  

ESTABLISHED BY:           GAYRON DE BRUIJN LAND SURVEYING & ENGINEERING, P.C.
DATE ESTABLISHED:         JUNE 2013

SURVEY METHOD:            HORZ. - GPS ☐ TRAVERSE ☒
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION:          CB-1106 (TR-106)
MONUMENT TYPE:            CROSS CUT

N = 243083.6000          LAT = 
E = 1016453.8700         LONG = 
ELEV =                   ELLIPSOID HT. = 

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)

VERT. DATUM =           GEOID MODEL =

COMBINED FACTOR = 0.99998920 CONVERGENCE =

DETAILED DESCRIPTION AT STATION: CROSS CUT SET ON TOP OF CURB ON THE WEST SIDE OF WEST FARMS ROAD +/- 41.1` SOUTH OF THE CENTERLINE E 173RD STREET.

SKETCH AT STATION:

[Sketch of the station with marked features such as E 173RD STREET, X-CUT NE CORNER OF CATCH BASIN, TO CB-1105, 2 STORY BLOCK BUILDING, CB-1106 CROSS CUT, NE CORNER ELECTRIC VAULT, WATER VALVE, WEST FARMS ROAD, NOT TO SCALE.]
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: GAYRON DE BRUIN LAND SURVEYING & ENGINEERING, P.C.
DATE ESTABLISHED: JUNE 2013

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☒ VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: CB-1105 (TR-105) MONUMENT TYPE: MAG NAIL

N = 243425.0300 LAT = ________________
E = 1016647.5900 LONG = ________________
ELEV = ________________ ELLIPSOID HT. = ________________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)

VERT. DATUM = ________________
GEOID MODEL = ________________

COMBINED FACTOR = 0.999998920 CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: MAG NAIL SET IN PAVEMENT +/-9.1' SOUTHEAST OF THE WEST CURBLINE
OF WEST FARMS ROAD +/- 338.3' NORTH OF E 173RD STREET.

SKETCH AT STATION:

#1725 2 STORY BLOCK
BUILDING CORNER

TO CB-1102
WEST FARMS ROAD

TO CB-1105
MAG NAIL

TO CB-1106
X-CUT ELECTRIC MANHOLE

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: ______________________

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS □ TRAVERSE X
VERT. - GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: MJ-56
MONUMENT TYPE: PK NAIL

N = 244581.4244  LAT = ______________
E = 1017361.9501  LONG = ______________
ELEV = ______________  ELLIPSOID HT. = ______________

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM = ______________
GEOID MODEL = ______________

COMBINED FACTOR = 0.999998920  CONVERGENCE = ______________

DETAILED DESCRIPTION AT STATION: PK NAIL SET IN ASPHALT MEDIAN BETWEEN SHERIDAN EXPRESSWAY NORTH AND RAMP TO I-95 SOUTH AND +/- 137.4' NORTH OF I-95 SOUTHBOUND OVERPASS.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: 

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☑ VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: MJ-55 MONUMENT TYPE: X-CUT

N = 244824.5364 LAT = 
E = 101710.7954 LONG = 
ELEV = 
ELLIPSOID HT. =

HORIZ. DATUM = NYSPCS, NAD 83
ZONE = LONG ISLAND (3104) (FEET)
VERT. DATUM =
GEOID MODEL =

COMBINED FACTOR = 0.999998920 CONVERGENCE =

DETAILED DESCRIPTION AT STATION: X-CUT IN BASE OF CONCRETE BARRIER ON THE NORTHWEST SIDE OF THE ON RAMP TO I-95 AND +/- 443.0 NORTH OF THE I-95 SOUTHBOUND OVERPASS.

SKETCH AT STATION:

FACE OF LIGHT POLE 2.96'
CENTER MANHOLE
FACE OF SIGN BASE 71.17'
MJ-55 X-CUT
RAMP TO I-95 NORTH
TO MJ-55

NOT TO SCALE
HORIZONTAL CONTROL
DIAGRAM
RECORD VERTICAL
CONTROL DATA SHEETS
Secondary Project Control  
Survey Report  
D010319  
X731.45 Bruckner Viaduct Rehabilitation  
Bronx County

**SCHEDULE OF PROJECT BENCHMARKS**

Conversion Meters to Feet

Conversion factor “Foot”= 3.280833333333

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NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: C2-I ORDER
VERTICAL: SECOND ORDER CLASS II

DATE: MARCH 22, 2012

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: MARCH, 2009

SURVEY METHOD: HORIZ - GPS ☒ TRAVERSE ☐
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☒

NAME OF STATION: MD18
MONUMENT TYPE: ALUMINUM DISK

N = 70966.0213
E = 306548.7273
ELEV = 11.104m

LAT = 40°48'20.22442 N
LONG = 73°25'20.60903 W
ELPSOID HT. = -20.367

HORIZ. DATUM = NYSPCS, NAD 83 (CORS 96)
ZONE = U.S. ZONE (3104) (METERS)
VERT. DATUM = NAVD 88
GEOID MODEL = N/A

COMBINED FACTOR = 0.999999990
CONVERGENCE = 0°03'02.744630

DETAILED DESCRIPTION AT STATION:
ALUMINUM DISK SET IN BRICKWORK NORTHWEST OF BROWN PL. AND NORTHERLY OF E134 ST.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: ____________________________
VERTICAL: SECOND ORDER CLASS II

DATE: OCTOBER 09, 2009

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: FEBRUARY, 2009

SURVEY METHOD: HORZ. - GPS ☒ TRAVERSE ☐
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☐

NAME OF STATION: BENCHMARK 4
MONUMENT TYPE: BOX-CUT

N = ____________________ LAT = ____________________
E = ____________________ LONG = ____________________
ELEV = 4.999m ELIPSOLID HT. = ____________________

HORIZ. DATUM = ____________________ ZONE = ____________________
VERT. DATUM = NAVD 88 GEOID MODEL = ____________________

COMBINED FACTOR = ____________________ CONVERGENCE = ____________________

DETAILED DESCRIPTION AT STATION:
BOX-CUT SET SOUTHEAST OF THE CORNER OF BROOK AVENUE AND EAST OF E 135 STREET.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
SURVEY CONTROL DATA

ORDER OF SURVEY: HORIZ. SECOND ORDER CLASS II
VERT. SECOND ORDER CLASS II
DATE: 05-15-04

ESTABLISHED BY MEDINA CONSULTANTS, P.C.
DATE ESTABLISHED: MAY, 2004

SURVEY METHOD: HORIZONTAL - CONVENTIONAL TRAVERSE
VERTICAL - DIFFERENTIAL LEVELING

STATION NAME: BENCHMARK 4
MONUMENT TYPE: CAP IN CONC. CURB

NORTING:
EASTING:
ELEVATION: 9.0373

HORIZONTAL DATUM:
NYSPCS, NAD 83-96 (METERS)
LONG ISLAND ZONE (3104)

VERTICAL DATUM:
NAVD 88 (METERS)

DETAILED DESCRIPTION AT STATION:

BENCHMARK 4 IS A CAP IN THE NORTHEASTERLY CURB OF THE INTERSECTION OF
LONGWOOD AVE. AND BRUCKNER BLVD, 0.68 M SOUTHEAST FROM THE CORNER
OF A FIRE ALARM BOX, 0.13 M NORTHEAST FROM THE FACE OF THE NORTHERLY
CURB OF LONGWOOD AVE. AND 4.67 M SOUTHWEST FROM THE CORNER OF THE
BASE OF A TRAFFIC LIGHT ON BRUCKNER BLVD.

SKETCH AT STATION:

NOT TO SCALE
BENCHMARK 7 IS A CAP IN THE NORTHEASTERLY CURB OF THE INTERSECTION OF BRYANT AVE. AND BRUCKNER BLVD. 6.50 M SOUTHEAST FROM A ONE WAY STOP SIGN, 0.13 M NORTH FROM THE FACE OF THE NORTHERLY CURB OF BRUCKNER AVE. AND 0.43 M WEST FROM THE CORNER OF THE BASE OF A LIGHT ON BRUCKNER BLVD.
**NEW YORK STATE**  
**DEPARTMENT OF TRANSPORTATION**  
**CONTROL SURVEY DATA**

**ORDER OF SURVEY:**  
**HORIZONTAL:**  
**VERTICAL:** SECOND ORDER CLASS II

**CONTRACT:** D010319  
**PIN NUMBER:** X731.45  
**PROJECT:** REHABILITATION OF THE BRUCKNER EXPRESSWAY  
**BRONX COUNTY**

**DATE:** NOVEMBER 11, 2015

**ESTABLISHED BY:** GAYRON DE BRUIN LAND SURVEYING & ENGINEERING, P.C.  
**DATE ESTABLISHED:** JULY 2015

**SURVEY METHOD:**  
**HORZ. - GPS** □  
**TRAVERSE** □  
**VERT. - GPS** □  
**DIFFERENTIAL LEVEL** ✗

**NAME OF STATION:** BM 301  
**MONUMENT TYPE:** X-CUT

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**DETAILED DESCRIPTION AT STATION:** X-CUT SET ON TOP OF THE EAST BOLT ON HYDRANT BONNET. THE HYDRANT IS LOCATED 50’ SOUTH OF EAST 174 STREET OVERPASS AND 1’ WEST OF THE WEST CURB LINE OF WEST FARMS ROAD.

**SKETCH AT STATION:**

![Sketch of the location with markings: 2 STY BRICK BUILDING "CHAMPION PAINT" and BM 301 X-CUT HYDRANT along with West Farms Road.]

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<td>124+01.00</td>
<td>20.90’ LF</td>
<td>46.49’</td>
<td>Cap in Top of Curb</td>
</tr>
<tr>
<td>BM 401</td>
<td>SH 2+68.26</td>
<td>-</td>
<td>45.30’</td>
<td>X-Cut in sidewalk</td>
</tr>
<tr>
<td>BM 403</td>
<td>SH 11+61.31</td>
<td>-</td>
<td>32.11’</td>
<td>X-Cut in sidewalk</td>
</tr>
<tr>
<td>BM 1104</td>
<td>SH 22+05.61</td>
<td>-</td>
<td>37.76’</td>
<td>Brass Disk at curb</td>
</tr>
<tr>
<td>BM 1106</td>
<td>SH 42+45.37</td>
<td>-</td>
<td>13.82’</td>
<td>Cross cut on top of curb</td>
</tr>
<tr>
<td>BM 301</td>
<td>SH 48+69.91 1.49’ RT</td>
<td>16.67’</td>
<td>X-Cut on Hydrant bonnet</td>
<td></td>
</tr>
<tr>
<td>BM 405</td>
<td>SH 67+21.60 6.10’ RT</td>
<td>25.76’</td>
<td>Square cut on concrete wall</td>
<td></td>
</tr>
<tr>
<td></td>
<td>F.T.P.A.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BM 406</td>
<td>SH 62+08.35 333.52’ LF</td>
<td>18.47’</td>
<td>X-Cut on Hydrant bonnet</td>
<td></td>
</tr>
</tbody>
</table>
VERTICAL CONTROL
DATA SHEETS
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: SECOND ORDER CLASS II

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS □ TRAVERSE □ VERT. - GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: BM-5104 MONUMENT TYPE: X-CUT

N =   LAT =   HORIZ. DATUM =
E =   LONG =   ZONE =
ELEV =  37.32' ELLIPSOID HT. =

COMBINED FACTOR = CONVERGENCE =

DETAILED DESCRIPTION AT STATION: X-CUT SET +/- 4.0' SOUTH OF THE SOUTHERN EDGE OF PAVEMENT OF BRUCKNER BOULEVARD AND +/- 145.3' WEST OF THE CENTERLINE OF EAST 136TH STREET.

SKETCH AT STATION:

8' CHAIN LINK FENCE
FACE OF LIGHT POLE
FACE OF HYDRANT
BM-5104 X-CUT
MAJOR DEEGAN EXPY
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY:  HORIZONTAL:  SECOND ORDER CLASS II
VERTICAL:  SECOND ORDER CLASS II

CONTRACT:  D010319
PIN NUMBER:  X731.45
PROJECT:  REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE:  NOVEMBER 11, 2015

ESTABLISHED BY:  M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED:  JULY 2015

SURVEY METHOD:  HORZ. - GPS  TRAVERSE  VERT. - GPS  DIFFERENTIAL LEVEL

NAME OF STATION:  BM-5107
MONUMENT TYPE:  X-CUT

N =  LAT =  HORIZ. DATUM =
E =  LONG =  ZONE =
ELEV = 24.81'  ELLIPSOID HT. =
VERT. DATUM =  NAVD 88
GEOID MODEL =
COMBINED FACTOR =  CONVERGENCE =

DETAILED DESCRIPTION AT STATION:  X-CUT SET +/- 5.5' SOUTHWEST OF THE NORTHERN CURBLINE OF THE MEDIAN BETWEEN THE CENTER AND SOUTHERN LANES OF THE SOUTHBOUND LANE OF BRUCKNER BOULEVARD AND AT THE CENTERLINE OF WALES AVENUE.

SKETCH AT STATION:

NOT TO SCALE
**NEW YORK STATE**  
**DEPARTMENT OF TRANSPORTATION**  
**CONTROL SURVEY DATA**  

**ORDER OF SURVEY:** HORIZONTAL: ____________________  
VERTICAL: SECOND ORDER CLASS II  

**CONTRACT:** D0103019  
**PIN NUMBER:** X731.45  
**PROJECT:** REHABILITATION OF THE  
BRUCKNER EXPRESSWAY  
BRONX COUNTY  
**DATE:** NOVEMBER 11, 2015  

**ESTABLISHED BY:** M.J. ENGINEERING AND LAND SURVEYING, P.C.  
**DATE ESTABLISHED:** JULY 2015  

**SURVEY METHOD:** HORZ. - GPS ☐ TRAVERSE ☐  
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☒  

**NAME OF STATION:** BM1  
**MONUMENT TYPE:** BOX-CUT  

<table>
<thead>
<tr>
<th>N</th>
<th>LAT</th>
<th>HORIZ. DATUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>LONG</td>
<td>ZONE</td>
</tr>
</tbody>
</table>
| ELEV   | ELLIPSOID HT. | VERT. DATUM | NAVD 88  
| COMBINED FACTOR | CONVERGENCE | GEOFID MODEL |  

**DETAILED DESCRIPTION AT STATION:** BOX-CUT SET IN CONCRETE BASE OF LIGHT POLE +/- 109.7' NORTHEAST OF THE INTERSECTION OF BRUCKNER BLVD AND SOUTHERN AVE AND 2.88' NORTHEAST FROM CURBLINE.  

**SKETCH AT STATION:**
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: ____________________
                      VERTICAL: SECOND ORDER CLASS II

CONTRACT: D0103019
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE
                      BRUCKNER EXPRESSWAY
                      BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☐
                VERT. - GPS ☐ DIFFERENTIAL LEVEL ☑

NAME OF STATION: BM2
MONUMENT TYPE: BOX-CUT

N = ____________________   LAT = ____________________
E = ____________________   LONG = ____________________
ELEV = 25.50'            ELLIPSOID HT. = __________

HORIZ. DATUM = __________
ZONE = __________
VERT. DATUM = NAVD 88
GEOID MODEL = __________

COMBINED FACTOR = __________ CONVERGENCE = __________

DETAILED DESCRIPTION AT STATION: BOX-CUT SET IN CONCRETE BASE OF LIGHTPOLE +/- 793.0' NORTH OF THE INTERSECTION OF BRUCKNER BLVD AND SOUTHERN AVENUE AND +/- 2.0' SOUTHEAST FROM EDGE OF PAVEMENT

SKETCH AT STATION:

NOT TO SCALE
**NEW YORK STATE**
**DEPARTMENT OF TRANSPORTATION**
**CONTROL SURVEY DATA**

ORDER OF SURVEY: HORIZONTAL: ___________________________
VERTICAL: SECOND ORDER CLASS II

CONTRACT: _______ D0103019 _______
PIN NUMBER: _______ X731.45 _______
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY

BRONX COUNTY

DATE: __________ NOVEMBER 11, 2015 __________

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: __________ JULY 2015 __________

SURVEY METHOD: HORZ. - GPS □ TRAVERSE □
VERT. - GPS □ DIFFERENTIAL LEVEL □

NAME OF STATION: BM3 ________________ MONUMENT TYPE: BOX-CUT ________________

N = ________________ LAT = ________________ HORIZ. DATUM = ________________
E = ________________ LONG = ________________ ZONE = ________________
ELEV = 35.90' ELLIPSOID HT. = ________________ VERT. DATUM = NAVD 88

COMBINED FACTOR = ________________ CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: BOX-CUT SET IN BASE OF LIGHT POLE +/- 35.1' NORTHEAST OF THE INTERSECTION OF EAST 149TH STREET AND BRUCKNER BLVD AND +/- 4.12 SOUTH EAST OF CURBLINE.

SKETCH AT STATION:

[Diagram of the location showing BM3 Box Cut, East 149th Street, Bruckner Blvd, Light Pole Base, etc.]

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: 

PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY

DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☐
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☒

NAME OF STATION: BM4 MONUMENT TYPE: BOX-CUT

N = LAT = 
E = LONG = 
ELEV = 30.47' ELLIPSOID HT. = 

HORIZ. DATUM = ZONE =
VERT. DATUM = NAVD 88
GEOID MODEL =

COMBINED FACTOR = CONVERGENCE =

DETAILED DESCRIPTION AT STATION: BOX-CUT SET IN CONCRETE BASE OF LIGHTPOLE +/- 159.9' NORTHEAST OF THE INTERSECTION OF AUSTIN PLACE AND BRUCKNER BLVD AND +/- 3.75' SOUTHEAST FROM EDGE OF PAVEMENT

SKETCH AT STATION:

AUSTIN PLACE

BM4 BOXCUT LIGHT POLE BASE

CON ED

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: SECOND ORDER CLASS II

CONTRACT: D0103019
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☐
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☑

NAME OF STATION: BM5 MONUMENT TYPE: BOX-CUT

N = LAT = HORIZ. DATUM =
E = LONG = ZONE =
ELEV = 31.99' ELLIPSOID HT. = VERT. DATUM =
COMBINED FACTOR = CONVERGENCE = GEOID MODEL =

DETAILED DESCRIPTION AT STATION: BOX-CUT SET IN CONCRETE BASE OF LIGHT POLE +/- 203.8' NORTHEAST OF THE INTERSECTION OF EAST 156TH STREET AND BRUCKNER BLVD AND +/- 4.16' SOUTHWEST FROM CURBLINE.

SKETCH AT STATION:

NOT TO SCALE
NAME OF STATION: BM6

MONUMENT TYPE: BOX-CUT

N = 
LAT = 

E = 
LONG = 

ELEV = 33.33'
ELLIPSOID HT. = 

HORIZ. DATUM = 
ZONE = 

VERT. DATUM = NAVD 88

GEOID MODEL = 

COMBINED FACTOR = 
CONVERGENCE = 

DETAILED DESCRIPTION AT STATION: BOX-CUT SET IN CONCRETE BASE OF LIGHT POLE +/- 334.1' NORTHEAST OF THE INTERSECTION OF LONGWOOD AVENUE AND BRUCKNER BLVD AND +/- 3.68' SOUTHWEST FROM CURBLINE

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL:

CONTRACT: D0103019
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☐ VERT. - GPS ☐ DIFFERENTIAL LEVEL ☒

NAME OF STATION: BM7 MONUMENT TYPE: BOX-CUT

N = LAT =
E = LONG =
ELEV = 45.80' ELLIPSOID HT. =

HORIZ. DATUM =
ZONE =
VERT. DATUM = NAVD 88
GEOID MODEL =

COMBINED FACTOR = CONVERGENCE =

DETAILED DESCRIPTION AT STATION: BOX-CUT SET IN CONCRETE BASE OF LIGHT POLE +/- 306.8' NORTHEAST OF THE INTERSECTION OF TIFFANY STREET AND BRUCKNER BLVD AND +/- 3.15' SOUTHWEST FROM PAVEMENT EDGE.

SKETCH AT STATION:

[Diagram showing a box-cut set in concrete base with various markings and distances.]
**NEW YORK STATE**
**DEPARTMENT OF TRANSPORTATION**
**CONTROL SURVEY DATA**

**ORDER OF SURVEY:** HORIZONTAL: ____________________
    VERTICAL: SECOND ORDER CLASS II

**CONTRACT:** D0103019

**PIN NUMBER:** X731.45

**PROJECT:** REHABILITATION OF THE
    BRUCKNER EXPRESSWAY

**BRONX COUNTY**

**DATE:** NOVEMBER 11, 2015

**ESTABLISHED BY:** M.J. ENGINEERING AND LAND SURVEYING, P.C.

**DATE ESTABLISHED:** JULY 2015

**SURVEY METHOD:** HORZ. - GPS □ TRAVERSE□
    VERT. - GPS □ DIFFERENTIAL LEVEL □

**NAME OF STATION:** BM8

**MONUMENT TYPE:** BOX-CUT

<table>
<thead>
<tr>
<th>N</th>
<th>LAT</th>
<th>HORIZ. DATUM</th>
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</thead>
<tbody>
<tr>
<td>E</td>
<td>LONG</td>
<td>ZONE</td>
</tr>
<tr>
<td>ELEV</td>
<td>ELLPSOHD HT.</td>
<td>VERT. DATUM</td>
</tr>
<tr>
<td>COMBINED FACTOR</td>
<td>CONVERGENCE</td>
<td>GEOID MODEL</td>
</tr>
</tbody>
</table>

**DETAINED DESCRIPTION AT STATION:** BOX-CUT SET IN CONCRETE BASE OF LIGHT POLE +/- 306.8' NORTHEAST OF THE INTERSECTION OF HUNTS POINT AVENUE AND BRUCKNER BLVD AND +/- 2.83' SOUTHWEST OF CURBLINE.

**SKETCH AT STATION:**

![Sketch of the area showing BM8 BOX CUT LTP BASE, BRUCKNER BLVD, TSP WiSIGN, TRAFFIC CAMERA, ELEC, METAL WiSIGN, and other elements.]
NAME OF STATION: BM9
MONUMENT TYPE: BOX-CUT

N = ____________________  LAT = ____________________
E = ____________________  LONG = ____________________
ELEV = 43.55'  ELLIPSOID HT. = ______________

HORIZ. DATUM = ______________  ZONE = ______________
VERT. DATUM = NAVD 88  GEOID MODEL = ______________

COMBINED FACTOR = ______________  CONVERGENCE = ______________

DETAILED DESCRIPTION AT STATION: BOX-CUT SET IN CONCRETE BASE OF LIGHT POLE +/- 73.1' NORTHEAST OF THE INTERSECTION OF EAST 163RD STREET AND BRUCKNER BLVD.

SKETCH AT STATION:
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL:

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☐ VERT. - GPS ☐ DIFFERENTIAL LEVEL ☒

NAME OF STATION: BM 401 MONUMENT TYPE: X-CUT

N = LAT = Horiz. Datum =
E = Long = Zone =
ELEV = 45.30' Ellipsoid ht. = Vert. Datum = NAVD 88
COMBINED FACTOR = Convergence = Geoid model =

DETAILED DESCRIPTION AT STATION: X-CUT SET IN CONCRETE SIDEWALK +/- 11.7' EAST OF CENTERLINE OF WHITLOCK AVE. AND +/- 16.9' NORTH OF THE INTERSECTION OF ALDUS STREET.

SKETCH AT STATION:

ALDUS ST.
WHITLOCK AVENUE
BM 401 X-CUT
FACE OF LIGHT POLE
FACE OF SIGN
CONCRETE WALL

NOT TO SCALE
NAME OF STATION: BM 403
MONUMENT TYPE: X-CUT

N = ________________  LAT = ________________
E = ________________  LONG = ________________
ELEV = 32.11'  ELLIPSOID HT. = ________________

HORIZ. DATUM = ________________  ZONE = ________________
VERT. DATUM = NAVD 88  GEOID MODEL = ________________
COMBINED FACTOR = ________________  CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: X-CUT SET IN CONCRETE SIDEWALK +/- 27.4' WEST OF THE CENTERLINE OF WHITLOCK AVE. AND +/- 56.1' SOUTH OF CENTERLINE OF LOWELL STREET.

SKETCH AT STATION:

LOWELL STREET

FACE OF LIGHT POLE

BUILDING

BM 403  X-CUT

LIGHT POLE

COLUMN

WHITLOCK AVENUE

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: __________
VERTICAL: SECOND ORDER CLASS II

PROJECT: REHABILITATION OF THE
BRUCKNER EXPRESSWAY
BRONX COUNTY

DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☐
VERT. - GPS ☐ DIFFERENTIAL LEVEL ☒

NAME OF STATION: BM 1104 MONUMENT TYPE: DISK

N = _______________ LAT = _______________
E = _______________ LONG = _______________
ELEV = 37.76' ELLIPSOID HT. = ___________

HORIZ. DATUM = ___________
ZONE = ___________
VERT. DATUM = NAVD 88

COMBINED FACTOR = ___________ CONVERGENCE = ___________

GEOID MODEL = ___________

DETAILED DESCRIPTION AT STATION: BRASS DISK SET 3.0' EAST OF THE EDGE OF PAVEMENT OF THE EXIT RAMP TO WESTCHESTER BLVD. AND 56.0' NORTHEAST OF THE INTERSECTION OF FREEMAN STREET.

SKETCH AT STATION:

NOT TO SCALE
NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
CONTROL SURVEY DATA

ORDER OF SURVEY: HORIZONTAL: SECOND ORDER CLASS II
VERTICAL: SECOND ORDER

CONTRACT: D010319
PIN NUMBER: X731.45
PROJECT: REHABILITATION OF THE BRUCKNER EXPRESSWAY
BRONX COUNTY
DATE: NOVEMBER 11, 2015

ESTABLISHED BY: M.J. ENGINEERING AND LAND SURVEYING, P.C.
DATE ESTABLISHED: JULY 2015

SURVEY METHOD: HORZ. - GPS ☐ TRAVERSE ☐ VERT. - GPS ☐ DIFFERENTIAL LEVEL ☒

NAME OF STATION: BM 1106 MONUMENT TYPE: CROSS CUT

N = ___________________ LAT = ________________
E = ___________________ LONG = ________________
ELEV = 13.82' ELLIPSOID HT. = ________________

HORIZ. DATUM = ________________ ZONE = ________________
VERT. DATUM = NAVD 88 GEOID MODEL = ________________
COMBINED FACTOR = ________________ CONVERGENCE = ________________

DETAILED DESCRIPTION AT STATION: CROSS CUT TOP OF CURB +/- 41.1' SOUTH OF THE CENTERLINE E 173RD STREET SET ON THE WEST SIDE OF WEST FARMS ROAD.

SKETCH AT STATION:

NOT TO SCALE
NAME OF STATION: BM 405
MONUMENT TYPE: SQUARE CUT

HORIZ. DATUM = 
ZONE = 
VERT. DATUM = NAVD 88
GEOID MODEL = 

COMBINED FACTOR = 
CONVERGENCE = 

DETAIL DESCRIPTION AT STATION:
SQUARE CUT ON THE NORTHWEST TOP OF A 3' HIGH CONCRETE WALL
ON THE SOUTHERLY SIDE OF EAST 177 STREET AT THE ENTRANCE TO
BUS DEPOT.

SKETCH AT STATION:

NOT TO SCALE
**NEW YORK STATE DEPARTMENT OF TRANSPORTATION**  
**CONTROL SURVEY DATA**

**ORDER OF SURVEY:** SECOND ORDER CLASS II  
**DATE:** NOVEMBER 11, 2015  
**DATE ESTABLISHED:** JULY 2015

**SURVEY METHOD:** TRAVERSE  
**MONUMENT TYPE:** X-CUT

**NAME OF STATION:** BM 406  
**N =** _______  
**E =** _______  
**LAT =** _______  
**ELEV =** 18.47'  
**HORIZ. DATUM =** _______  
**LONG =** _______  
**ELLIPSOID HT. =** _______  
**ZONE =** _______  
**CONVERGENCE =** _______  

**DETAILED DESCRIPTION AT STATION:** X-CUT ON TOP OF EAST BONNET BOLT ON HYDRANT. THE HYDRANT IS LOCATED 55' NORTH OF RODMAN PLACE AND 1' WEST OF THE WEST CURB LINE WEST FARMS ROAD.

**SKETCH AT STATION:**
VERTICAL CONTROL
DIAGRAM
### PROPERTIES TO BE ACQUIRED

**MAP NO.** | **PARCEL NO.** | **RELEVANT OWNER** | **MIN. LBR NO.** | **PAGE NO.** | **SHEET NO.** | **TYPE OF EASE** | **ACRES** | **TOTAL REMAINING ACRES** | **ISOLATED AREA** | **REMARKS**  
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---  
1 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 167 | P.E. | 13549 | 0.311 |  
2 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 7 | FEE | 54 | 0.001 |  
3 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 7 | FEE | 32 | 0.001 |  
4 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 7 | FEE | 54 | 0.001 |  
5 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 7 | FEE | 27323 | 0.627 |  
6 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 7 | FEE | 28000 | 0.645 |  
7 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 7 | FEE | 4706 | 0.108 |  
8 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 9810 | P.E. | 5845 | 0.130 |  
9 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 11 | P.E. | 1257 | 0.029 |  
10 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 11 | P.E. | 6132 | 0.158 |  
11 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 12 | P.E. | 8271 | 0.190 |  
12 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 12 | P.E. | 2719 | 0.064 |  
13 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 13 | P.E. | 2411 | 0.055 |  
14 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 13 | P.E. | 2515 | 0.058 |  
15 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 13 | P.E. | 1274 | 0.029 |  
16 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 13 | P.E. | 15081 | 0.346 | 0.346 | 0.000 |  
17 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 13 | P.E. | 1746 | 0.040 |  
18 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 15 | P.E. | 4448 | 0.102 |  
19 | 1 | NATIONAL RAILROAD PASSENGER CORPORATION | 1 | 374 | 225 | 15 | P.E. | 854 | 0.020 | 0.297 | 0.277 |  
20 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 3-14 | P.E. | 14928 | 34.270 |  
21 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 5 | P.E. | 76 | 0.002 |  
22 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 5 | P.E. | 9192 | 0.188 |  
23 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 4 | FEE | 7619 | 0.175 |  
24 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 4 | FEE | 12478 | 0.286 |  
25 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 4 | FEE | 13675 | 0.314 |  
26 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 4 | FEE | 12183 | 0.280 |  
27 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 5 | FEE | 6675 | 0.153 |  
28 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 5 | FEE | 9442 | 0.217 |  
29 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 5 | FEE | 7919 | 0.182 |  
30 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 6 | FEE | 45768 | 1.051 |  
31 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 7 | FEE | 35288 | 0.764 |  
32 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 8 | FEE | 15009 | 0.345 |  
33 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 10 | P.E. | 27171 | 0.623 |  
34 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 11 | FEE | 7524 | 0.172 |  
35 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 11 | FEE | 4501 | 0.104 |  
36 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 11 | FEE | 12270 | 0.281 |  
37 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 11 | FEE | 15212 | 0.349 |  
38 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 12 | P.E. | 21289 | 0.488 |  
39 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 12 | P.E. | 51579 | 1.184 |  
40 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 13 | P.E. | 23361 | 0.536 |  
41 | 1 | BED OF BRUCKNER EXPRESSWAY | 1 | 374 | 225 | 13 | P.E. | 12102 | 0.277 |  
42 | 1 | CITY OF NEW YORK DEPARTMENT OF PARKS AND RECREATION | 1 | 374 | 225 | 1374 | P.E. | 7449 | 0.171 | 2.11 | 1.94 |  

### TABLE OF CONVEYANCES

**MAP NO.** | **PARCEL NO.** | **TYPE** | **AREA** | **POINT OF BEGINNING** | **REMARKS**  
--- | --- | --- | --- | --- | ---  

### TABLE OF REVISIONS

**REVISION NO.** | **DESCRIPTION OF REVISION** | **REVIEWED BY** | **DATE REVIEWED**  
--- | --- | --- | ---  

### STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION

**RIGHT OF WAY PLAN**

**TABLE OF AFFECTED PROPERTIES**

**STATE NO.** | **CITY OF NEW YORK**
--- | ---
3-21-37 | **REGION NO.**
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