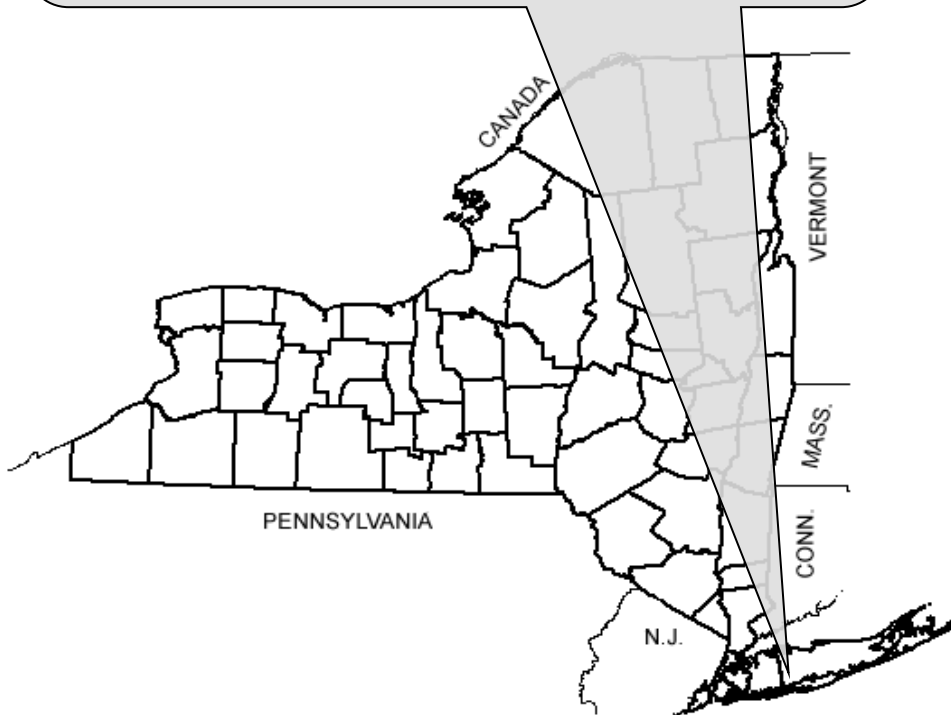


TRANSPORTATION

PROJECT SCOPING REPORT/ FINAL DESIGN REPORT

August 2014

Bridge Project
P.I.N. 0112.57 / BIN: 1019119
Replacement of the
Broadway (NY 110) Bridge over Sunrise Highway (NY 27)
Town of Babylon
Suffolk County



U.S. Department of Transportation Federal Highway Administration

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
ANDREW M. CUOMO, Governor JOAN MCDONALD, Commissioner

TRANSPORTATION



This project is being designed using English units and the text of this report uses English units. The following table of approximate conversion factors provides the relationship between U.S. Customary and metric units for some of the more frequently used units in highway design. The table allows one to calculate the Metric Unit by multiplying the corresponding U.S. Customary Unit by the given factor.

	<u>U.S. Customary Unit</u>	x	<u>Factor</u>	=	<u>Metric Unit</u>
<u>Length</u>	miles (mi)	x	1.610	=	kilometer (km)
	feet (ft.)	x	0.305	=	meter (m)
<u>Area</u>	acres (a)	x	0.405	=	hectare (ha)
	square yards (sy)	x	0.836	=	square meter (m ²)
	square feet (sf)	x	0.093	=	square meter (m ²)
<u>Volume</u>	cubic yards (cy)	x	0.765	=	cubic meter (m ³)
	cubic feet (cf)	x	0.028	=	cubic meter (m ³)
<u>Speed</u>	miles per hour (mph)	x	1.610	=	kilometer per hour (km/h)
	feet per second (ft/s)	x	0.305	=	meter per second (m/s)

PROJECT APPROVAL SHEET

(Pursuant to SAFETEA-LU Matrix)

A. IPP Approval: The project cost and schedule are consistent with the Regional Capital Program.

The IPP was signed by:

Subimal Chakraborti, P.E. – Regional Director

06/15/2009

B. Recommendation for Scoping & Design Approval: The project cost and schedule are consistent with the Regional Capital Program.

Glenn Murrell, P.E. – Acting Regional Planning & Program Manager

C. Recommendation for Scoping, Design, & Nonstandard Feature Approval: All requirements requisite to these actions and approvals have been met, the required independent quality control reviews separate from the functional group reviews have been accomplished, and the work is consistent with established standards, policies, regulations and procedures, except as otherwise noted and explained.

Mark Bocamazo, P.E. – Regional Design Engineer

D. Nonstandard Feature Approval: Nonstandard features have been adequately justified and it is not prudent to eliminate them as part of this project.

Deputy Chief Engineer, Design

E. Scoping & Design Approval: The required environmental determinations have been made and the preferred alternative for this project is ready for final design.

Deputy Chief Engineer, Design

LIST OF PREPARERS

Group Director Responsible for Production of the Design Approval Document:



August 27, 2014

Gerard Bartucci, P.E., Principal, Stantec Consulting Services Inc.

Description of Work Performed: Directed the preparation of the Design Approval Document in accordance with established standards, policies, regulations and procedures, except as otherwise explained in this document.



August 27, 2014

James Kielian, P.E., Sr Associate, Stantec Consulting Services Inc.

Description of Work Performed: Directed the preparation of the Design Approval Document in accordance with established standards, policies, regulations and procedures, except as otherwise explained in this document.



Note: *It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.*

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CHAPTER 1 - EXECUTIVE SUMMARY

1.1. Introduction

This Project Scoping Report/Final Design Report (PSR/FDR) was prepared to address the structural deficiencies in the Bridge (BIN 1019119) carrying Broadway (NY 110) over Sunrise Highway (NY 27) in the Town of Babylon, Suffolk County. The PSR/FDR will identify the existing structural deficiencies, will evaluate alternative solutions to improve or eliminate these deficiencies, and will recommend the preferred alternative to be advanced into Final Design and Construction.

This report was prepared in accordance with the NYSDOT Project Development Manual, 17 NYCRR (New York Codes, Rules and Regulations) Part 15, and 23 CFR (Code of Federal Regulations) 771. Transportation needs have been identified (Section 1.2), objectives established (Section 1.2.3) to address the needs, and cost-effective alternatives developed (Section 1.3). This project is federally funded.

1.2. Purpose and Need

1.2.1. Where is the Project Located?

New York State Route 110 (NY 110): is a major north-south state principal arterial roadway that parallels the western border of Suffolk County, New York. It runs between the Village of Amityville in the Town of Babylon and Halesite in the Town of Huntington, a total length of almost 16 miles.



NY 110, begins as a two-lane village street at the intersection with Merrick Road (NY 27A) at its southern terminus. Proceeding northward 1.2 Miles as Broadway, NY 110 expands to four lanes and crosses over the Sunrise Highway Bridge (BIN 1019119). The Project Site is located within the Sunrise Highway / Broadway (NY110) Cloverleaf Interchange, in the Village of Amityville at the border of North Amityville. The Broadway (NY110) bridge and approach roadways are owned and maintained by the NYSDOT.

- A. Route Name & Number:** Broadway (NY 110) over the Sunrise Highway (NY 27).
B. New York State Highway Number: SH 1633.
C. Bridge BIN Number: 1019119 (220' Long x 96' Wide).
D. Project Location: Town of Babylon, Village of Amityville - Suffolk County
E. Project Length: Approximately ¼ Mile, Sta. BWY15+00 Sprague Ave to BWY27+00 Washington Ave.
F. Other Pertinent Information: Bridge was constructed in 1961 (2012 Condition Rating = 4.119).

1.2.2. Why is the Project Needed?

This project will address structural deficiencies associated with normal deterioration and impact damage. BIN 1019119 shows signs of major deterioration, especially the existing aluminum superstructure, bearings, joints, median island and concrete deck slab. Bridge joints leak to the point that the piers and bearings below the joints are heavily deteriorated. The lack of dielectric isolation between the aluminum superstructure and the steel rocker bearings have also lead to significant corrosion and localized crushing of the superstructure. Additionally, the substructures are inadequate to resist seismic forces and substructure footings are inadequate to resist as-designed loading. There are also signs of minor vehicular impact damage to the bottom flange ribs / aluminum superstructure. The existing vertical clearance below the bridge is 14'-0" (SE Corner at the Right Travel Lane / Shoulder Edge).

1.2.3. What are the Objectives/Purposes of the Project?

- (1) Restore the bridge condition rating to 5 or greater for at least 50 years using construction methods and materials that will prolong the life of the bridge and reduce future bridge maintenance costs, including the use high performance concrete, epoxy reinforcement, span continuity, jointless decks, and elastomeric bearings, where feasible and cost effective,
- (2) Eliminate deficient structural elements such as the aluminum orthotropic superstructure, bearings and joints, wearing surface, substructure & footings (seismic and live load design),
- (3) Provide Desirable Vertical Clearance on the NY110 bridge over Sunrise Hwy (ie: 14'-6" vertical clearance below the bridge),
- (4) Provide for standard pedestrian and bicyclist accommodation on the bridge.
- (5) Improve safety features on the bridge and roadway approaches to bring it to current standards (ie: Bridge Railing / Parapets, Median Island, Approach Slab, Guide Rail, etc.).

The above objectives would ensure the structure remains serviceable for 50 years.

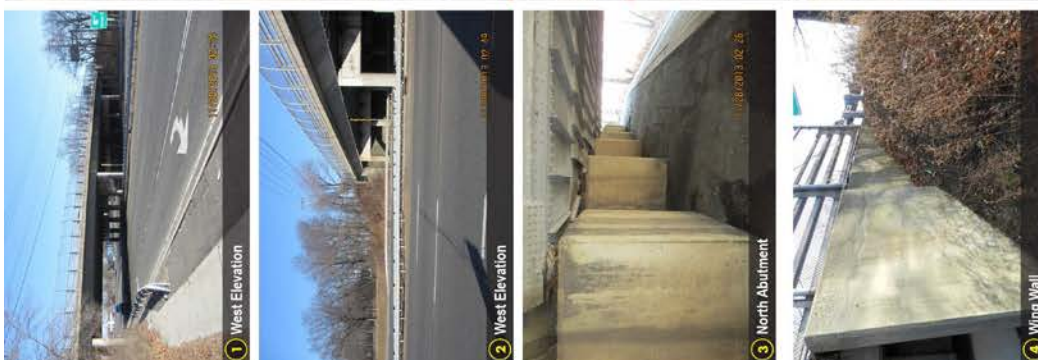
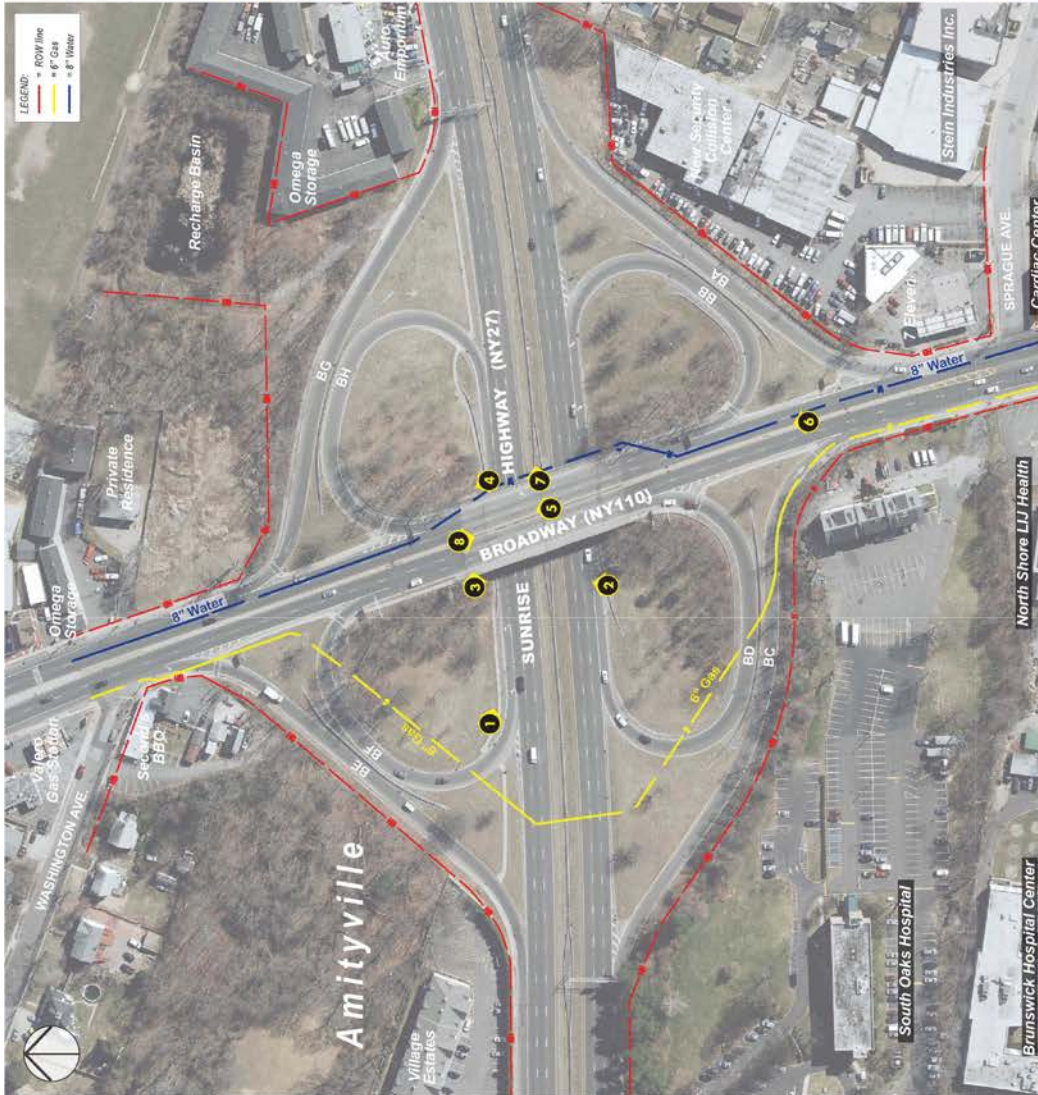
1.3. What Alternative is Being Considered?

Project Alternatives were developed to meet the overall project objectives. A No Build or "No Action" Alternative is presented to establish a baseline of no remedial action for comparison with build / remedial action alternatives.

Alternative 1 - No Build:

The No Build Alternative would make no physical improvements to the bridge and continues the NYSDOT current maintenance / repair program to address the most serious deterioration and keep the bridge operable to the extent possible. Preliminary calculations were performed and it was found that the existing substructure footings are structurally deficient for supporting the as-designed HS-20 loading. Critical structural and vertical clearance deficiencies would remain unaddressed. This alternative will result in the continued deterioration of the bridge elements, especially the aluminum superstructure, bearings, and joints, which would increase the likelihood of damage to the aluminum superstructure at the steel bearings which have no dielectric isolation, localized deck spalls, deterioration of the pier caps and future impact damage to the aluminum superstructure. This alternative would not rectify the structural or operational deficiencies as outlined in the project objectives. See Figure 1A - Existing Bridge Half Section and Figure 1B - Existing Longitudinal Elevation from the As-Built drawings (Note that the railing has been changed to a four-rail galvanized steel bridge rail with a pedestrian fence). Also see the Existing Conditions Graphic showing the existing Broadway / Sunrise Highway Cloverleaf Interchange, and pertinent photos of BIN 1019119.

The No Build Alternative has been eliminated from further consideration because it does not meet the project objectives.



Existing Conditions
 Broadway (NY110) Bridge over Sunrise Highway (NY27)
 (PIN 0112.57/BIN 1019119)

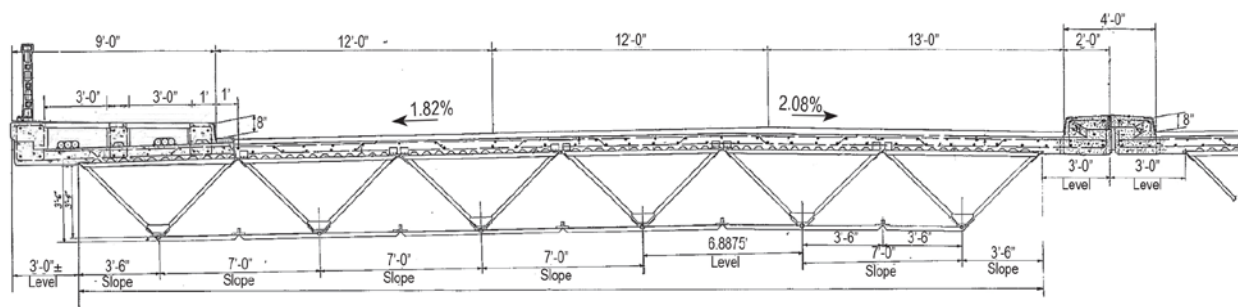


Figure 1A – Existing Bridge Half Section

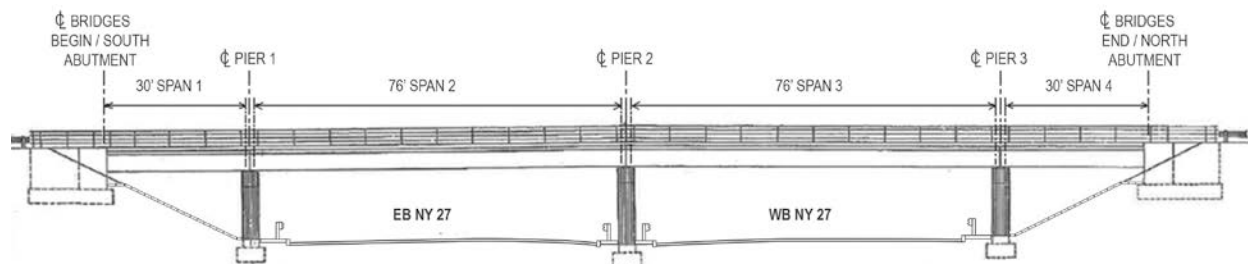


Figure 1B – Existing Bridge Longitudinal Elevation

Alternative 2 - Superstructure Replacement:

This alternative considers replacing the existing four-span superstructure and retrofitting the pier and abutment substructures. The existing aluminum superstructure would be demolished and removed. The new superstructure would be designed to accommodate the AASHTO HS-20 Live Load using Working Stress Design. The new superstructure would be four spans, matching the span lengths of the existing bridge. The end spans (Spans 1 & 4) would be simply supported and Spans 2 & 3 would be continuous. The new superstructure would be supported on retrofitted existing piers and abutments. The existing piers that do not meet current design code will require retrofits. The substructures would be retrofitted to meet current seismic criteria. The proposed bridge railing/parapet design service level is TL-4 as defined in NCHRP Report 350.

The superstructure under this alternative would be widened out slightly to 48'-7" to provide for a 5'-0" wide sidewalk, 4' wide right shoulder, three (3) 12' travel lanes, 8" wide left shoulder and a single slope median barrier in each direction. The fascia parapet would be a vertical faced concrete parapet with a design service level of TL-4. The bridge cannot be widened further without significant modifications to the existing abutments and wingwalls. See Figure 2 - Proposed Bridge Half Section for Superstructure Replacement Alternative 2.

It is assumed that the proposed bridge will be composed of steel stringers composite with a concrete deck. Precast concrete beams were considered and the weight was found to be prohibitive.

The scope of work would also include substructure repairs, new bearings & joints, new bridge approach slabs, modified abutment cheek walls, new bridge seat and pedestals at the abutments, a new raised median, bridge parapets and some approach pavement reconstruction. This alternative would be expected to provide an additional 50 years of service life for the bridge structure provided that the substructures are rehabilitated periodically. The existing 14'-0" vertical clearance would be increased to a 14'-6" to avoid future collision damage. The proposed roadway approach section at the bridge would be 40' wide to accommodate a 4' wide right shoulder (See Figure 2).

Under this alternative, one joint will be eliminated at the center pier. Jointless construction at the abutments would be recommended. Additionally, only one line of bearings would be eliminated due to continuity over the center pier.

Since a new superstructure and modern bearings would be provided, the maintenance issues associated with galvanic corrosion between the aluminum bridge and steel bearings would be eliminated. However, the existing bridge substructures which do not meet current design standards would have to be retrofitted. The cost for this alternative is \$27.0M which is slightly higher than the Alternative 3 replacement cost (101% of the replacement cost). Although this alternative would address most of the structural deficiencies, it does not result in the least amount of joints, does not allow for a wider bridge to accommodate a shoulder, and is more expensive than the cost of the Bridge Replacement Alternative.

The Superstructure Replacement Alternative 2 is eliminated from further consideration, since the rehabilitation cost is greater than the replacement cost (ie: ≥ 0.85).

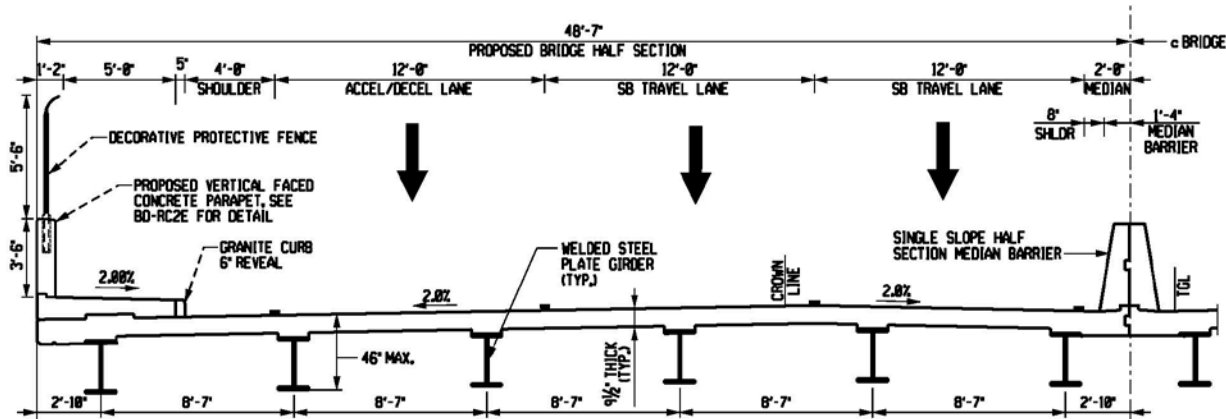


FIGURE 2 - PROPOSED BRIDGE HALF SECTION FOR SUPERSTRUCTURE REPLACEMENT ALTERNATIVE 2

Alternative 3 – Bridge Replacement:

With this alternative, the bridge would be demolished and replaced with a two-span continuous superstructure to address the structural deficiencies associated with the aluminum superstructure and other structural elements. New abutments would be located in the proximity of where existing Piers 1 and 3 are located which decreases the length of the bridge. The proposed bridge would be designed for the current AASHTO HL-93 Live Load and the NYSDOT Design Permit Vehicle.

Under this alternative, the new bridge half section would be 2'-7" wider than the existing bridge half section. A 5'-0" right shoulder would be provided and the sidewalk would be 5'-0" wide. The fascia parapet would be a vertical faced concrete parapet with a design service level of TL-4 and a single slope barrier would be provided in the median. This can be accommodated with new abutments and wingwalls that are configured to support this width. See Figure 3 - Proposed Bridge Half Section for the Bridge Replacement Alternative 3.

The new superstructure and deck would ensure that the bridge remains serviceable for at least 50 years and eliminate the need for costly maintenance repairs associated with impact damage and corrosion. Further, significant reduction in the number of the existing deck joints and a reduction in lines of bearings would also result in maintenance cost savings. Jointless construction at the abutments under this alternative would also be recommended. This alternative would ensure the bridge meets all modern requirements for seismic resistance and would provide 14'-6" vertical clearance. Alternative 3 is estimated to cost approximately \$26.7M. For a more in-depth discussion of the design criteria see Section 2.3.3.2 of this report.

Alternative 3 meets the project objectives, is considered feasible and will be evaluated further.

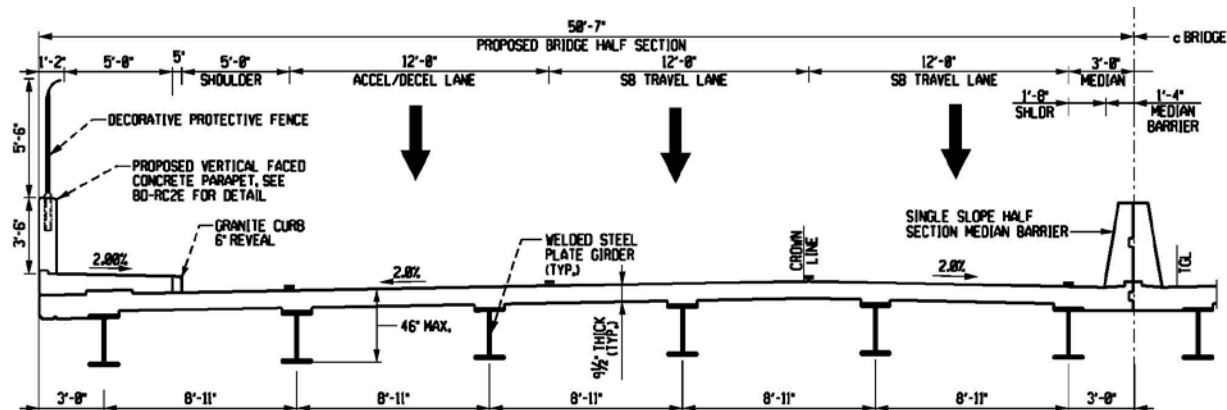


FIGURE 3 - PROPOSED BRIDGE HALF SECTION FOR THE BRIDGE REPLACEMENT ALTERNATIVE 3

1.4 Environmental Review

NEPA (National Environmental Policy Act):

Completing the environmental investigation and NEPA Assessment Checklist (See Appendix B), it was determined that the project is a Class II Programmatic Categorical Exclusion. This project will not cause a significant environmental impact, either individually or cumulatively with other area projects or actions.

SEQRA (State Environmental Quality Review Act):

In accordance with 17 NYCRR Part 15, "Procedures for Implementation of State Environmental Quality Review Act," it has been determined that this project is a SEQR Type II Action and that no further SEQR processing is required. The project has been identified as a Type II Action per 17 NYCRR Part 15, Section 15.14, Subdivision (e), Item (37), Paragraph (iv): "replacement reconstruction or rehabilitation, at present sites of existing bridges, culverts or other transportation structures, including railroad crossing structures, not involving substantial expansion of the structure". This permits the project to be classified as Type II since the project does not violate any of the criteria contained in subdivision (d) of Section 15.14.

1.5 How will the Alternatives Affect the Environment?

Exhibit 1.1 - Comparison of Alternatives			
Category	No Build	Superstructure Replacement	Bridge Replacement
Wetland Impact	None	None	None
100 Year Floodplain Impact	None	None	None
Archeological Sites Impacted	None	None	None
Section 106 / Section 4(f) Impacts	None	None	None
Visual Impact	None	None	None
Impact to Vegetated Areas	None	1 Acre	1 Acre
Noise Impact	None	None	None
Asbestos Impact	None	Suspect ACM Identified	Suspect ACM Identified
Property Impact	None	None	None
Load Rating	HS-20 *	HS-20	HL-93
Construction Cost	None	\$27.00M	\$26.74M

* The existing bridge has substructure elements that do not rate for HS-20 Loading.

Anticipated Permits / Certifications/Coordination:

New York State Department of Environmental Conservation (NYSDEC):

- State Pollutant Discharge Elimination System (SPDES) General Permit (GP-0-10-001).
- Storm Water Pollution Prevention Plan (SWPPP) required if Disturbance is > 1 Acre.

Coordination:

- Federal Highway Administration.
- Town of Babylon and Suffolk County.

Certifications:

- NYS Department of Labor: Asbestos Variances.

Others:

- Construction Staging Permit.

1.6 What are the Costs & Schedules?

Design Approval is scheduled for August of 2014. Construction Duration is 24-30 months.

Exhibit 1.2 - Project Schedule *	
Activity	Date Occurred / Tentative
IPP / Scope Approval	June 2009
Design Approval	August 2014
ROW Acquisition	No ROW Taking Anticipated
Construction Start	Spring 2018
Construction Complete	Fall 2020

* Due to unforeseen circumstances, the Project schedule may be revised or advanced.

Exhibit 1.3 - Project Comparison of Alternatives Project Costs (in millions)			
Activities		Superstructure Replacement	Bridge Replacement
Construction Costs	Bridge	\$9.24	\$9.10
	Highway	\$4.25	\$4.25
SPDES Permit Compliance		\$0.00	\$0.00
Incidentals (10%)		\$1.35	\$1.34
Subtotal 1		\$14.84	\$14.69
Contingency (30% at Design Approval)		\$4.45	\$4.41
Subtotal 2		\$19.29	\$19.10
Field Change Order (5%)		\$0.96	\$0.95
Subtotal 3		\$20.25	\$20.05
Mobilization (4%)		\$0.80	\$0.80
Subtotal 4		\$21.06	\$20.86
Design (8%)		\$1.69	\$1.67
Expected Award Amount (Inflate 3%/yr. to Midpoint of Construction)		\$23.02	\$22.79
Construction Inspection (10%)		\$2.30	\$2.28
ROW Costs (NA)		\$0.00	\$0.00
Total Alternative Costs		\$27.00	\$26.74

1.7 Which Alternative is Preferred?

Only one feasible build alternative (Alternative 3 - Bridge Replacement) has been identified that meets the project objectives. A decision to enter final design will be made after the environmental determination and evaluation of the comments on the draft design approval are completed.

The Preferred Alternative is Alternative 3. This alternative will retain Non-Standard Stopping Sight Distance as indicated in Exhibit 2.6 Critical Design Elements. Non-Standard Feature Justification is provided in Appendix F.

1.8 What are the Opportunities for Public Involvement?

A Public Involvement Plan (PIP) has been prepared in accordance with the NYSDOT Project Development Manual (PDM). A Public Hearing will not be required. Notification letters will be sent to public officials and project stakeholders announcing the project. Refer to Appendix G for the PIP.

Exhibit 1.4 - Public Involvement Plan Schedule of Milestone Dates	
Activity	Tentative Schedule
Notification Letters to Public Officials	Spring 2014
Notification Letters to Project Stakeholders	Spring 2014

Further information regarding this project or contents of this report may be obtained by contacting:

Joseph Zacharia, P.E., Project Manager
Project Identification Number (PIN) 0112.57
Questions or comments
E-Mail: Joseph.Zacharia@dot.ny.gov

Mailing Address
New York State Department of Transportation
Region 10 Design
State Office Building, 250 Veterans Memorial Highway
Hauppauge, New York 11788

The remainder of this PSR/FDR report is a detailed technical evaluation of the existing conditions, the proposed alternatives, the impacts of the alternatives, listing of technical reports and plans and other supporting information.

CHAPTER 2 – PROJECT INFORMATION

2.1 Local Plans for the Project Area

This project is on the approved Transportation Improvement Program (TIP) as Project No. 0112.57.

There are no known developments planned within the project area that will impact traffic operations.

2.2. Abutting Highway Segments and Future Plans for Abutting Highway Segments

Broadway (NY110) is a divided highway separated by a raised curbed median. The typical roadway section consists of 2-12' travel lanes in each direction, plus a parking lane or turn lane at local street intersections. As NY110 enters the Sunrise Highway Cloverleaf Interchange, acceleration/deceleration speed change lanes are provided to handle the ramp weave traffic merges. The bridge approach roadway width is 37' in each direction with a 4' wide raised median. Sidewalks exist on both sides of NY110 and the width varies from 4' to 10' depending on the location / situation. The existing sidewalk on the bridge is ± 8' wide. The horizontal alignment is on straight tangent and the vertical profile over Sunrise Highway (NY27) consists of 4.4% up & down grades with the crest / sag curves that were originally designed for 45 mph. The bridge skew is approximately 13°-10'.

Sunrise Highway (NY 27) has three (3) 12' travel lanes in each direction with a 38' wide grassed center median and ramp acceleration/deceleration speed change lanes within the interchange. Within the interchange, there is an existing 4' wide sidewalk located on the north side of Sunrise Highway.

There are no plans to reconstruct or widen the NY110 and NY27 highway segments, or the adjoining segments, within the next 10 years.

2.3 Transportation Conditions, Deficiencies and Engineering Considerations

2.3.1 Traffic and Safety and Maintenance Operations

2.3.1.1 Functional Classification and National Highway System (NHS):

Exhibit 2.1 - Classification Data		
Route(s)	NY 110 - Broadway	NY 27 – Sunrise Highway
Functional Classification	Urban Principal Arterial	Urban Principal Arterial
National Highway System (NHS)	Yes	Yes
Designated Truck Access Route	No	Yes
Qualifying Highway	No	No
Within 1 Mile of a Qualifying Hwy	No	No
Within 16' Vertical Clearance Network	No	No

2.3.1.2 Control of Access:

Access to Broadway (NY110) & Sunrise Highway (NY27) are confined to ramps in the interchange area. Beyond the interchange, access to Broadway (NY 110) is not controlled. Access on Sunrise Highway is partially controlled, with some at-grade signalized intersections and driveway connections. No changes will result from the project.

2.3.1.3 Traffic Control Devices:

There are traffic signs within the project limits, as well as traffic signals with pedestrian crossing signals and push button controls at the NY 110 intersections with Dixon Ave & North Drive. These traffic signals and pedestrian crossing signals are owned and maintained by the NYSDOT Region 10, and are outside of the NY 27 interchange / project limits. These signalized pedestrian crossings may be useful during construction to maintain and control pedestrians. The project will replace standard traffic signs removed or damaged during construction. Pavement markings on Broadway and Sunrise Highway will be replaced as required. There is also a NYSDOT INFORM CCTV Camera with overhead fiber cable located at the SE corner of the bridge, which may be impacted during construction. Further coordination will be required with the State's INFORM Office during Final Design (See Section 2.3.3.11 - Utilities).

2.3.1.4 Traffic Volumes:

A discussion of the development of existing and future year traffic volumes and well as existing and future year traffic flow diagrams are presented within Appendix C. While some traffic data was collected in 2013, supplemental data from 2009-2010, provided by the Regional Planning Group, was used to develop existing and future year traffic volumes. The estimated Time of Completion (ETC) + 30 design year was selected per PDM Appendix 5. As per the Regional Planning Group, an annual linear growth rate of 1.1 percent was applied to 2013 traffic volumes in order to develop both ETC and design analysis year traffic volumes. Daily truck traffic along both NY 110 and NY 27 is 5 percent.

Exhibit 2.2 - Existing and Future Two Way Traffic Volumes						
Year	ROUTE 110			ROUTE 27		
	ADT	AADT	DHV	ADT	AADT	DHV
Existing (2013)	38,020	36,660	3,360	47,480	44,130	4,520
ETC (2020)	41,040	39,580	3,630	51,260	47,650	4,880
ETC+30 (2050)	56,980	54,950	5,040	71,170	66,160	6,780

Note: ETC is the Estimated Time of Completion

2.3.1.5 Speeds:

Exhibit 2.3 - Speed Data		
Route	ROUTE 110	ROUTE 27
Existing Posted Speed Limit	40 mph	55 mph
Operating Speed and Method Used for Measurement	47 mph NB and 50 mph SB (85 th Percentile Speed)	N/A

Refer to Appendix D for the design speed justification memo. The speed data was collected in 2013.

2.3.1.6 Level of Service:

Existing Level of Service and Capacity Analysis – Capacity analysis, a procedure used to estimate the traffic-carrying ability of roadway facilities over a range of defined operating conditions, was performed using the 2010 Highway Capacity Manual (HCM) and 2010 Highway Capacity Software (HCS), Version 6.1. Capacity analyses were performed at Route 110 / Route 27 interchange, including analyses of on-ramp / off-ramp weaving segments along both Route 110 and Route 27 within the center of the cloverleaf interchange and NY 27 on-ramp merge segments and off-ramp diverge segments (Route 110 on-ramp merge segments and off-ramp diverge segments were not analyzed since the determined operating speeds along Route 110 are below 55 mph, which is the minimum operating speed for freeway merge and diverge segment analyses). The analyses were performed using HCS Ramps and HCS Weaving modules of the HCS software.

Future Year Level of Service – Capacity analyses were also performed for future ETC and design years. Based on the criteria found in the Highway Capacity Manual, none of the analyzed locations are projected to operate at or above capacity in 2020 or 2050.

Results of the existing and future year HCS and capacity analyses are summarized in Exhibit 2.4. Detailed analyses are contained within Appendix C.

Exhibit 2.4 - Level of Service (Alternatives 2 & 3)			
LOCATION	EXISTING (2013)	ETC (2020)	ETC+30 (2050)
MERGE / DIVERGE SECTION			
DIVERGE OF EB NY 27 WITH RAMP BC (AM)	B	B	B
DIVERGE OF EB NY 27 WITH RAMP BC (PM)	B	B	C
MERGE OF RAMP BA WITH EB NY 27 (AM)	A	B	B
MERGE OF RAMP BA WITH EB NY 27 (PM)	B	B	B
DIVERGE OF WB NY 27 WITH RAMP BG (AM)	B	B	C
DIVERGE OF WB NY 27 WITH RAMP BG (PM)	B	B	C
MERGE OF RAMP BE WITH WB NY 27 (AM)	B	B	B
MERGE OF RAMP BE WITH WB NY 27 (PM)	B	B	B
WEAVE SECTION			
NB NY 110 BETWEEN RAMPS BB AND BH (AM)	B	B	B
SB NY 110 BETWEEN RAMPS BF AND BD (AM)	A	B	B
NB NY 110 BETWEEN RAMPS BB AND BH (PM)	A	A	B
SB NY 110 BETWEEN RAMPS BF AND BD (PM)	B	B	B
EB NY 27 BETWEEN RAMPS BD AND BB (AM)	A	A	B
EB NY 27 BETWEEN RAMPS BD AND BB (PM)	B	B	B
WB NY 27 BETWEEN RAMPS BH AND BF (AM)	A	B	B
WB NY 27 BETWEEN RAMPS BH AND BF (PM)	A	A	B

2.3.1.7 Work Zone Safety & Mobility:

Maintaining traffic on Broadway (NY110) during bridge reconstruction will be a major issue for this project. Maintenance of Traffic / Work Zone Traffic Control will require careful sequencing of construction to maintain the continuity of traffic flow and provide adequate safety for both motorists and construction workers. It is anticipated that the Alternative 3 replacement of the Broadway (NY110) bridge over Sunrise Highway (NY27) will be done in halves or in 2 Stages by either; diverting the traffic onto half of the existing bridge while working on the other half, or by utilizing a temporary structure located on the west side of the existing bridge. Traffic is at its highest in the PM Period, and it should be noted that the southbound PM Peak Hour traffic volume approaching the NY110 bridge over the Sunrise Highway is $\pm 1,400$ vph, and that the NW Quadrant Loop On-Ramp adds about 185 vph creating a weaving section across the bridge (ie: Note: ETC Traffic was utilized for WZTC construction analyses).

Option #1A - Maintain Traffic on the Existing Bridge (Maintain All Loop Ramps):

Option 1A maintains traffic on half the bridge while the other half of the bridge is rebuilt. A second stage would then shift traffic onto the new bridge while the second half of the bridge is rebuilt. Only two (2) 10½' lanes can be maintained in each direction on half of the bridge, which is 48' wide. Temporary barriers would be provided at the existing median, between NB/SB traffic, and adjacent to the existing bridge railing. Due to width constraints, the existing sidewalk would be eliminated during construction (See Option 1A Graphic).

Two traffic configurations were considered with this option. Since the travel lanes on bridge would be reduced from 3 to 2 travel lanes in each direction, one configuration would be to maintain one 10½' acceleration / deceleration lane and one 10½' through lane. This would require reducing the 2 lane approach into one 10½' lane, and maintaining a separate ramp acceleration / deceleration lane. Due to the peak volumes on NY 110, reducing traffic into one through lane would result in LOS B and LOS C in the morning and evening peak hours respectively. If two through lanes were maintained on the bridge it would require the NW & SE Quadrant entrance loop ramps to have a "STOP" condition, with no designated acceleration lane. The Loop Ramps affected would be Ramp "BF" (203 VPH peak) and Ramp "BB" (300 VPH peak). Traffic would operate at LOS E with a stop condition. Pedestrian Access is an issue with this option and a temporary pedestrian bridge or cantilevered walkway platform will be required, which could also be used to support the Verizon fiber optic cables located in the existing east sidewalk (See Section 2.3.3.11 - Utilities).

Option #1B - Maintain Traffic on the Existing Bridge (Close Loop Ramp BB & BF Exits):

Option 1B improves upon Option 1A by eliminating the weaving loop ramp traffic movements at the Broadway & Sunrise Highway Cloverleaf Interchange. The Sunrise Highway EB & WB traffic headed onto NY 110 would exit using the near side outer Exit Ramps BG & BC, and the far side Loop Ramps BB & BF would be closed. This partial cloverleaf configuration would eliminate all weaving traffic movements on Broadway (NY 110), and would allow the NB & SB 2-lane detour roadways to operate more efficiently. Two temporary traffic signals would be introduced on Broadway (NY 110) for the required left turn movements at the terminus of the outer ramps. Vehicles waiting to make the left turn onto NY 110 would be stored on half of the 20' wide outer ramp, while maintaining the free right turn movement (ie: two lane operation utilizing proper signage and striping). The signalized intersections were analyzed and would operate at LOS C or better for both peak hours. Further analyses will be required to coordinate with the existing traffic signals at the NY 110 intersections with Dixon Ave & North Drive (See Option 1B Graphic).

Option #2 - Maintain Traffic Utilizing a Temporary Bridge:

Option 2 would construct a temporary structure (In Stage 1) to maintain three (3) 11' lanes of southbound traffic, while the northbound traffic is maintained on half of the existing bridge (See Option 2 Graphic). The existing aluminum bridges would be reconstructed half at a time (In Stages 2 & 3). This alternative maintains traffic & pedestrians similar to existing conditions (ETC weaving analyses indicates that NY 110 would operate at LOS B or better for both AM and PM peak periods). The temporary bridge would be utilized for both WZTC Stages 2 & 3, and would affect 3 LIPA poles and 2 overhead cantilever sign structures. The temporary bridge would be placed to the west of the existing bridge to maximize vertical clearance, and to avoid initial impacts on the existing underground telephone fiber optic lines and the INFORM CCTV Camera on the east side of the bridge. This option would require 3 stages, temporary closures on Sunrise Highway, tight work zones between two bridges / active traffic detours, and locating the crane may be an issue. The cost of the temporary structure would be in the range of \$2 Million.

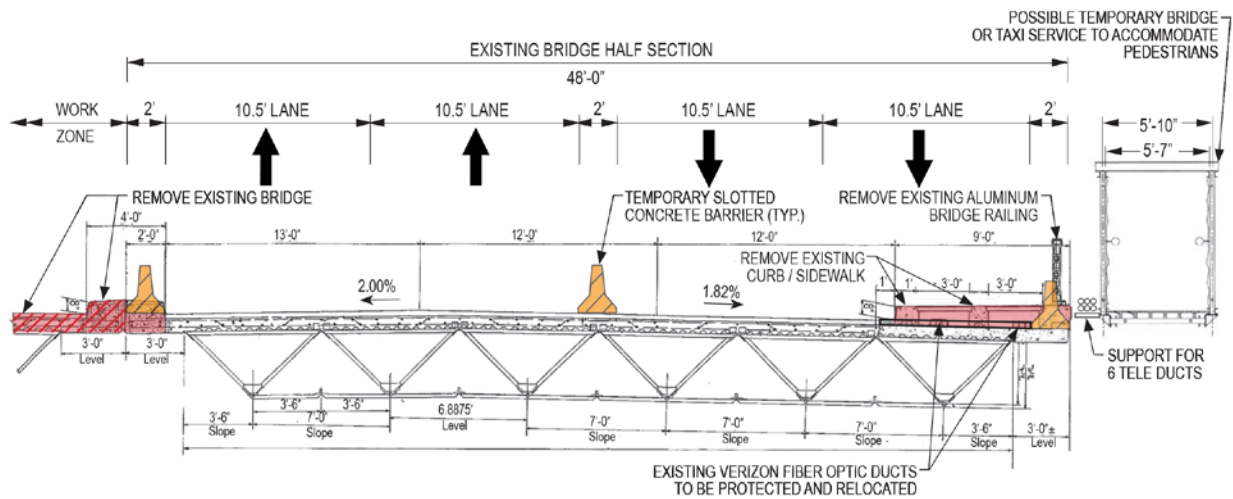
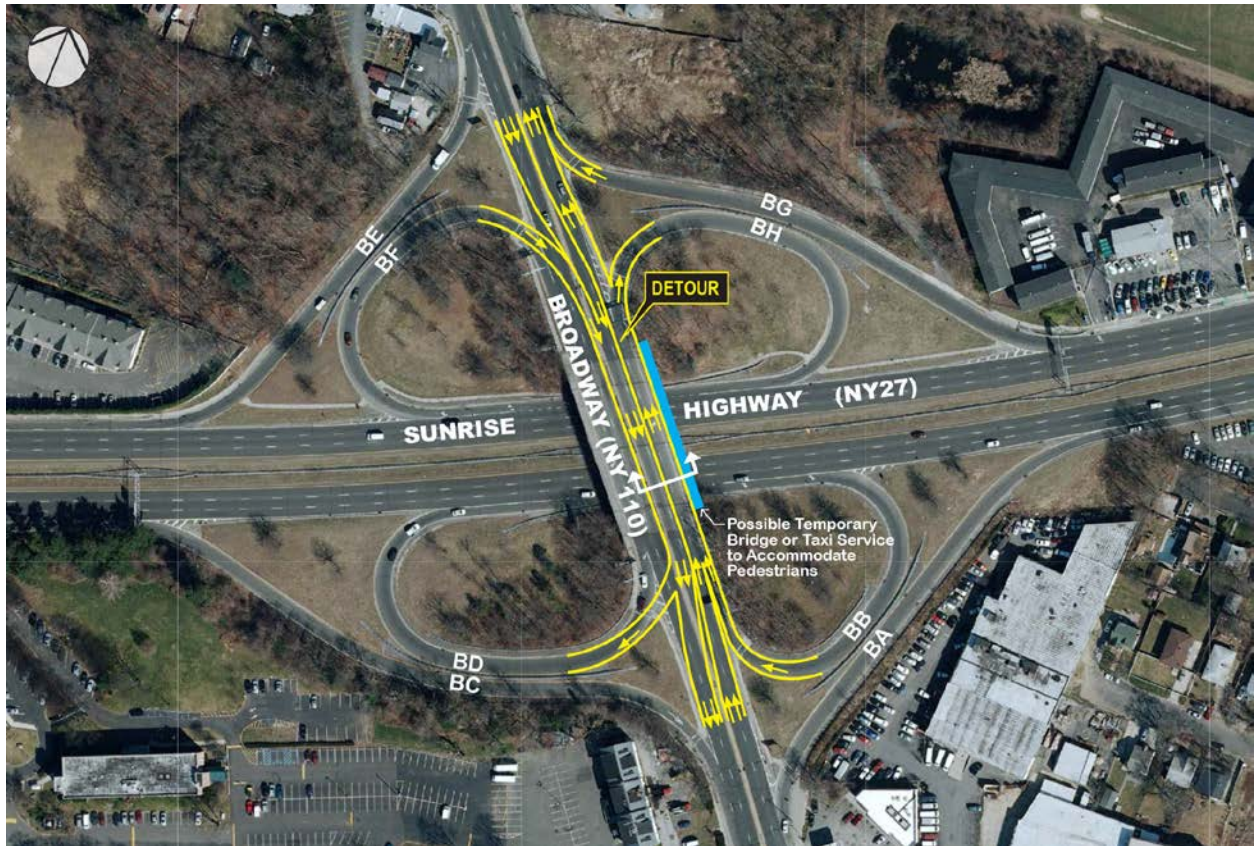
Option #3 - Loop Ramp "Roundabout" Detours with Signalized NY27 Intersections:

Option 3 explores the possibility of opening up the work zone so that the Broadway (NY 110) Replacement Bridge over the Sunrise Highway could be constructed in one Stage, significantly reducing the construction duration. Option 3 utilizes the existing Loop Ramps as bypass detours on both sides of the existing bridge, while maintaining the outer ramps (See Option 3 Graphic). Two new temporary traffic signals would be introduced on Sunrise Highway (NY 27) to allow for the required Broadway (NY 110) thru & left turn movements. Vehicles waiting to make the left turn from EB & WB NY 27 onto NB & SB NY110, respectively, would be stored in left turn bays provided within the existing NY 27 median, on either side of the NY 110 Bridge. However, these signalized intersections were analyzed and failed (Operate at LOS F).

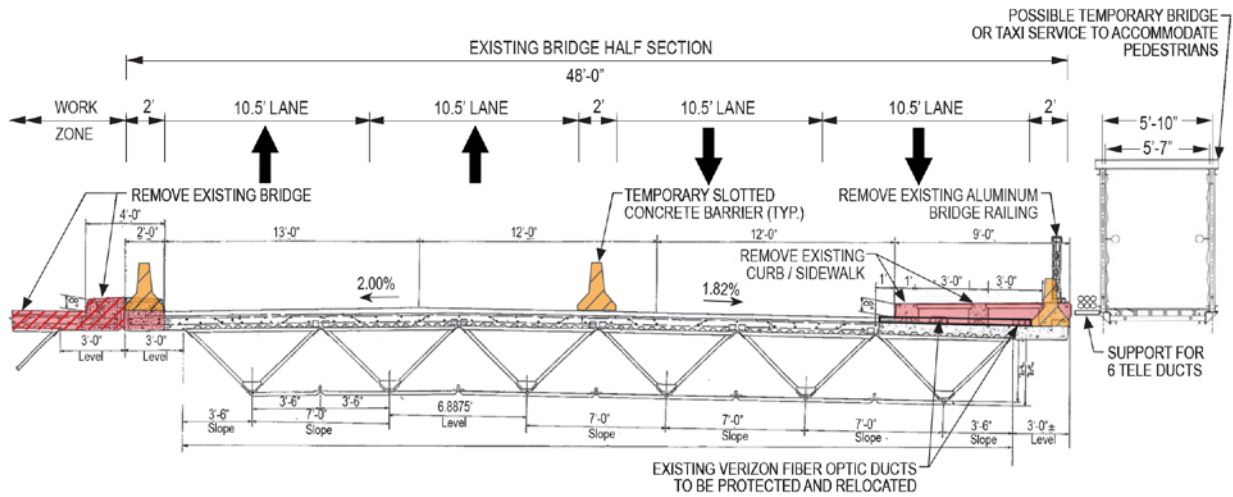
Sunrise Highway (NY27):

On the Sunrise Highway it is anticipated that long term shoulder closures would be required adjacent to the piers and abutments, using temporary concrete barrier to protect the work area. The existing 38' wide median can be utilized for the work. Daily short term single lane closures during off-peak hours (10AM & 3PM) would also be needed to accommodate construction. The existing sidewalk on the north side of Sunrise Highway will require temporary closures and/or diversions.

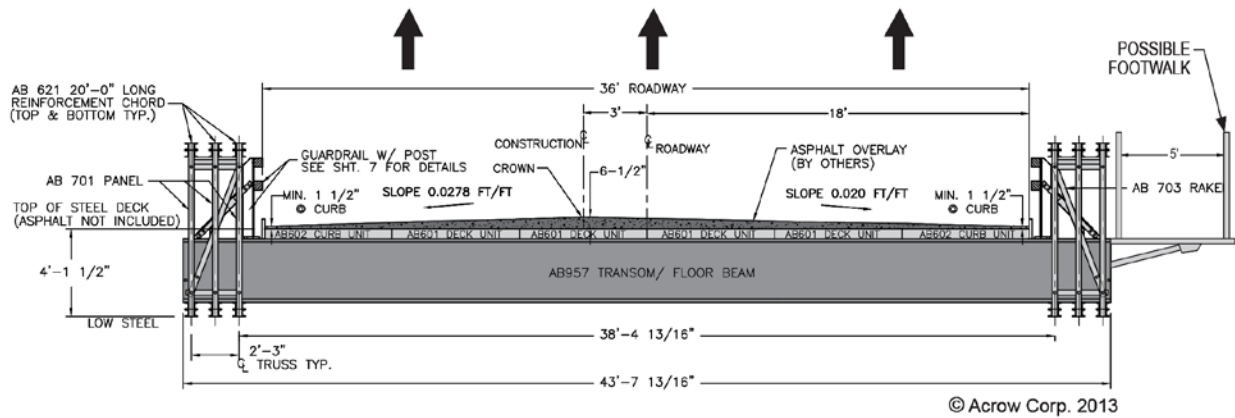
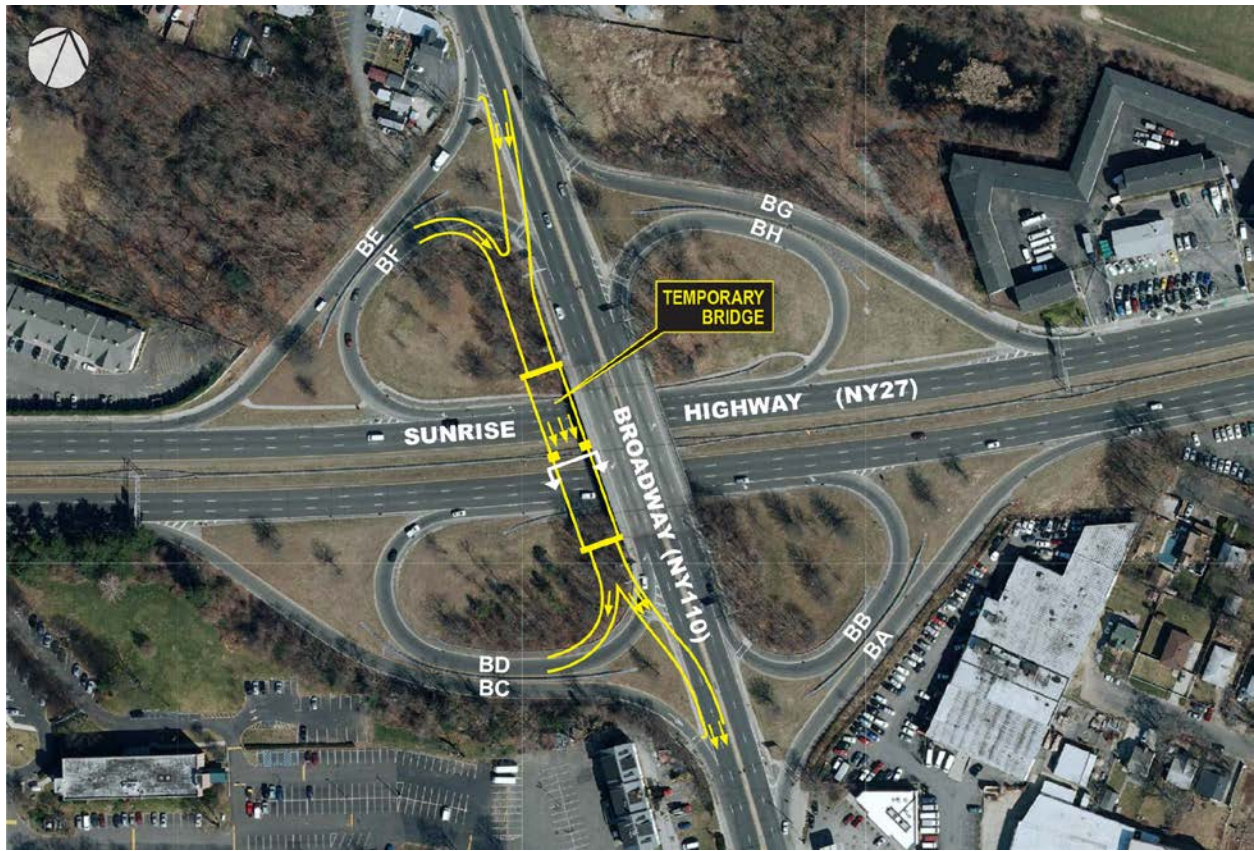
Option #1A - Maintain Traffic on the Existing Bridge (Maintain All Loop Ramps):



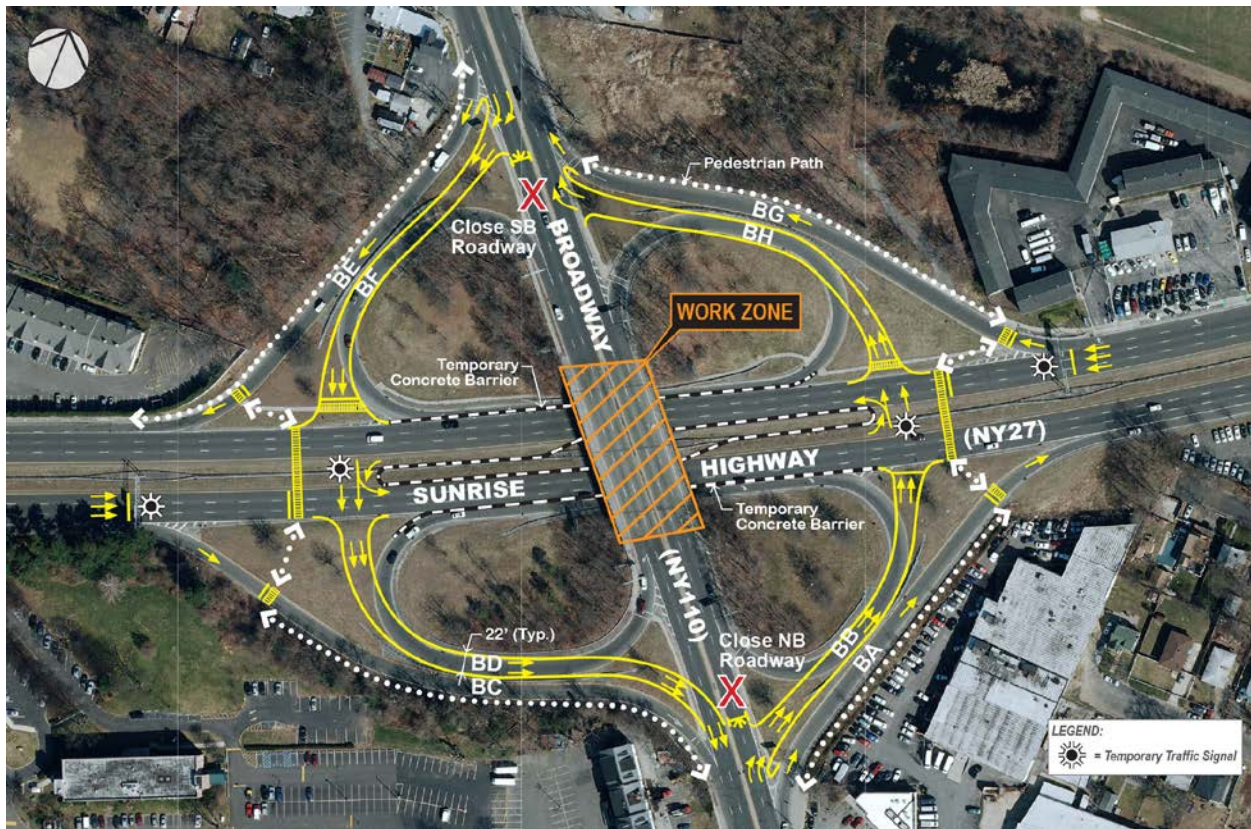
Option #1B - Maintain Traffic on Existing Bridge (Close Loop Ramp BB & BF Exits):



Option #2 - Maintain Traffic Utilizing a Temporary Bridge:



Option #3 - Loop Ramp “Roundabout” Detours with Signalized NY27 Intersections:



A. Preferred Work Zone Traffic Control (WZTC) Plan:

The PSR/FDR has presented various WZTC Options that will require further evaluation during the Final Design Phase, to determine a Preferred WZTC Scheme. It should be noted that in all WZTC Options, two-way traffic is maintained at all times, utilizing either lane shifts, temporary signals and/or a temporary bridge. No off-site detours are required. Routes for emergency vehicles will be maintained and open during construction. Pedestrian access will also be maintained during construction, by utilizing either a temporary pedestrian bridge, cantilevered walkway platform or taxi service. Construction details for the work zone traffic control detours will be prepared and evaluated during final design (See Appendix A).

B. Special Provisions:

The use of time related provisions will be evaluated during final design. The work zone traffic control will need to be coordinated with local officials and residents.

A Building Condition Survey, Report and Monitoring Plan will be required for residences and buildings in proximity to the project area.

C. Significant Projects (per 23 CFR 630.1010):

The Region has determined that this project is significant per 23 CFR 630.1010. A Transportation Management Plan (TMP) will be prepared for the project consistent with 23 CFR 630.1012 and includes:

- A Temporary Traffic Control (TTC) Plan
- A Transportation Operations (TO) Component
- A Public Information Component (PI)

2.3.1.8 Safety Considerations, Accident History and Analysis:

Accident data from May 1, 2009 through April 30, 2012 was analyzed in accordance with NYS Highway Design Manual Chapter 5. The accident rates for the NY 110 and NY 27 corridors are 2.66 accidents per million vehicle miles and 1.48 accidents per million vehicle miles, respectively. Compared to the statewide accident rates for similar facilities, which is 1.71 accidents per million vehicle miles and 1.76 accidents per million vehicle miles, respectively, the NY 110 corridor is above average and the NY 27 corridor is below average. However, within the immediate vicinity of the NY 110 / NY 27 interchange (between Washington Avenue and Sprague Avenue), calculated accident rates for the NY 110 and NY 27 corridors are 1.63 accidents per million vehicle miles and 1.73 accidents per million vehicle miles; this is below the previously stated statewide average.

There are no Priority Investigation Locations within the study area. The predominate accident types are shown in Exhibit 2.5.

Exhibit 2.5 - Collision Summary		
Broadway / Route 110		
From Reference Marker 110 0701 1008 (Mill Street) to 110 0701 1014 (Maple Drive)		
Type of Collision	Number	Percentage
Rear End	29	38
Overtaking	4	5
Left Turn (Against Other Car)	6	8
Right Angle	9	12
Right Turn (Against Other Car)	1	1
Unknown	28	36
Sunrise Highway / Route 27		
From Reference Marker 27 0705 1000 (County Line Road) to 27 0705 1006 (Albany Avenue)		
Type of Collision	Number	Percentage
Rear End	16	30
Overtaking	11	20
Left Turn (With Other Car)	1	2
Right Angle	3	5
Right Turn (With Other Car)	1	2
Sideswipe	1	2
Unknown	21	39

Note: Reportable accidents only.

A technical memorandum detailing the accident analysis, including possible safety improvement recommendations, is included in Appendix E. The accident analysis recommends one countermeasure; the installation of additional speed limit signage within the vicinity of the NY 110 / NY 27 interchange to further inform motorists of the varying speed limits along the NY 110 corridor north and south of the NY 27 interchange. If this improvement recommendation is implemented, it is possible that observed speeding along the corridor could be reduced. Additionally, the potential reduction in speeding may lead to a reduction in rear-end accidents.

2.3.1.9 Ownership and Maintenance Jurisdiction:

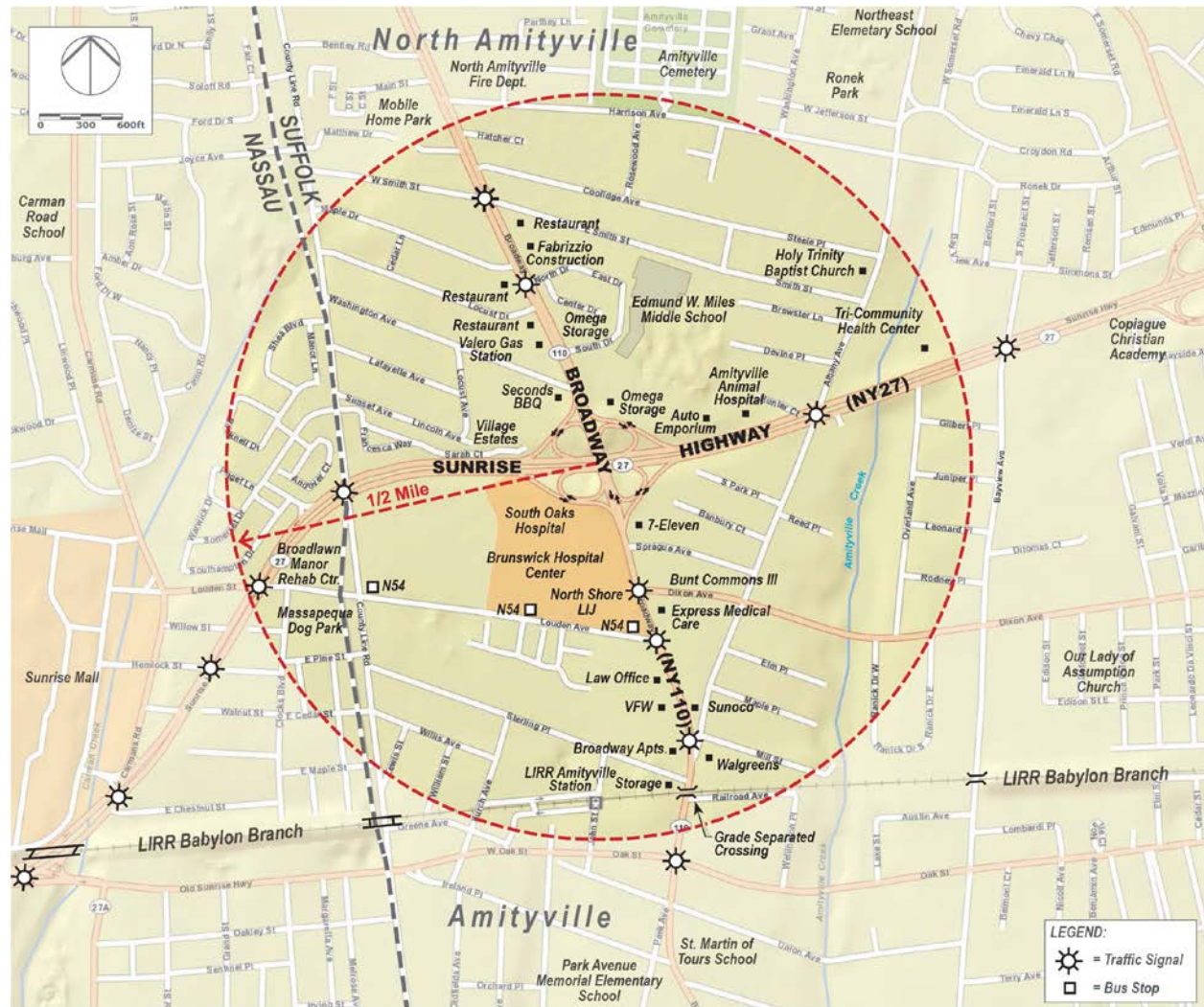
NYSDOT owns the Broadway (NY110) Bridge over the Sunrise Highway (NY27), and is responsible for its maintenance. NYSDOT also maintains the Broadway (NY110) roadway in the vicinity of the Sunrise Highway interchange and the Village of Amityville maintains the sidewalk area. NYSDOT also owns and maintains the roadway and INFORM facilities on Sunrise Highway (NY27) & Broadway (NY110), including the CCTV Camera located at the SE Corner of the bridge. The utilities carried on the bridge are owned and maintained by the respective utility providers (See Section 2.3.3.11).

2.3.2 Multimodal

2.3.2.1 Pedestrians:

An 8' wide sidewalk currently exists on both sides of the existing bridge and cross walks are provided at the interchange ramp gore areas (Ramp Yield Condition). This project will provide a minimum 5' wide sidewalk on both sides of the new bridge, to accommodate the occasional pedestrian activity observed on Broadway (NY110). There is also a 4' wide sidewalk located on the north side of Sunrise Highway (NY27) which would be maintained or diverted during construction.

Outside of the project limits, there are high visibility signalized pedestrian crossings with push button controls at the Broadway (NY110) intersections with Dixon Ave and North Drive, which support the Safe Routes to School Program Objectives. These signals are owned and maintained by the NYSDOT Rg-10. A Pedestrian Generator Checklist is included in Appendix B (Project will provide 5' minimum sidewalks).



2.3.2.2 Bicyclists:

There is no existing designated bike lane on Broadway (NY110). Currently, bicyclists either share the 12' wide right curb lane or utilize the 8' sidewalk over the bridge, as they and pedestrians must cross the conflicting cloverleaf interchange ramp weaving and merging traffic movements. The project will accommodate bicyclists on a new 5' wide shoulder on the bridge and the approach roadway shoulders will be widened between the outer ramps. However, the interchange ramp weaving conflicts will still exist and bicyclists will still have to utilize a shared 12' wide right curb lane outside of this interchange / project limits. It should be noted that all four loop ramps currently have non-standard horizontal curvature (Radii vary from 80' - 90' / 20 mph design).

2.3.3 Infrastructure

2.3.3.1 Design Standards:

Project design standards and critical design elements are provided in Exhibit 2.6 and are based on the NYSDOT Highway Design Manual Chapter 2.7.2.2 Urban Arterials and the NYSDOT Bridge Design Manual. Broadway (NY110) is classified as an Urban Arterial Roadway with a design speed of 50 mph, consistent with the calculated 85% speed study prepared for this project. Broadway (NY110) was originally constructed in 1961 in accordance with 1954 AASHTO design criteria. As a result, the existing stopping sight distance on NY110 only relates to a 45 mph design speed, which is a consequence of changes in AASHTO sight distance guidelines since this section of NY 110 was constructed.

2.3.3.2 Critical Design Elements:

Exhibit 2.6 - Critical Design Elements for NY 110 Broadway Bridge Replacement					
PIN:		0112.57	NHS (Y/N):		Yes
Route No. & Name:		NY 110 Broadway	Functional Classification:		Urban Principal Arterial - Other
Project Type:		Bridge Replacement	Design Classification:		Urban Arterial (<i>HDM Exhibit 2-1</i>)
% Trucks:		5%	Terrain:		Level
ADT (2050):		57,000	Truck Access/Qualifying Hwy.		Neither (NY-110) Truck Access (NY-27)
Element		Standard		Existing	Proposed
1	Design Speed	50 mph ⁽¹⁾		45 mph (40 mph Posted Speed)	50 mph ⁽¹⁾
2	Lane Width	12 ft <i>HDM Section 2.7.2.2 B and BM 2.3.1 Table 2-1</i> Accel / Decel Lanes – 12 ft		2 - 12 ft lanes + 12 ft accel / decel (each direction)	2 - 12 ft lanes + 12 ft accel / decel (each direction)
3	Shoulder Width	5 ft Right Shoulder for Bicycles 0 ft min, 1'-2' desirable Left Shoulder <i>HDM Section 2.7.2.2 C and BM Table 2-1</i>		0 ft Right ⁽²⁾ 1 ft Left	5 ft Right 1'-8" ft Left
4	Bridge Roadway Width	Full Approach Roadway Width <i>HDM Section 2.7.2.2 C and BM Table 2-1</i>		78 ft	78' (Min) ⁽²⁾ 88' (Max)
5	Maximum Grade	6% Max <i>HDM Section 2.7.2.2 E, Table 2-4</i>		4.4%	4.4%
6	Horizontal Curvature	926 ft @ e = 4.0% <i>HDM Section 2.7.2.2 F, Table 2-4</i>		Tangent	Tangent
7	Superelevation Rate	4% Max <i>HDM Section 2.7.2.2 G</i>		Normal Crown	Normal Crown
8	Stopping Sight Distance	425 ft Minimum (Crest) 425 ft Minimum (Sag) / 250 ft Min Riding Comfort <i>HDM Section 2.7.2.2 H, Table 2-4</i>		360 ft (Crest) 225 ft (Sag)	360 ft (Crest) ** 225 ft (Sag) **
9	Horizontal Clearance	1.5 ft without barrier; 0 ft where barrier provided <i>HDM Section 2.7.2.2 I</i>		8 ft	17 ft
10	Vertical Clearance (above traveled way)	14' Minimum, 14'-6" Desirable <i>BM Section 2.4.1 Table 2-2</i>		14'-0"	14'-6"
11	Travel Lane Cross Slope	1.5% Min. to 2% Max. <i>HDM Section 2.7.2.2 K</i>		2%	2%
12	Rollover	4% btwn travel lanes; 8% at edge of traveled way; <i>HDM Section 2.7.2.2 L</i>		4%	4%
13	Structural Capacity	New and Replacement Bridges NYSDOT LRFD Specifications AASHTO HL-93 Live Load and NYSDOT Design Permit Vehicle <i>BM Section 2.6, HDM 19.5.3</i>		HS-20 *** (WSD)	HL-93 Live Load & NYSDOT Design Permit Vehicle
14	Pedestrian Accommodation	Complies with HDM Chapter 18		8' sidewalk	5' sidewalk

(1) The Regional Traffic Engineer concurred that the use of a Design Speed of 50 MPH is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume.
(2) The existing clear bridge width matches the approach roadway width of 37'+ 2' median in each direction. Currently bicyclists either share the 12' wide right curb lane or utilize the 8' sidewalk over the bridge, which complies with the minimum guidelines set in the HDM Chapter 17 (§ 17.4.6). Provide a 5' right shoulder on the bridge for bicycles.
 ** Denotes Non-Standard Feature (SSD for one Crest Curve and HSD on two Sag Curves).
 ***The existing bridge has substructure elements that do not rate for HS-20 Loading.

2.3.3.3 Other Design Parameters: The loop ramp weaving sections / accel-decel lanes on Broadway (NY110) are approximately 450' long, and include an inner loop entrance ramp immediately followed by an exit ramp. Existing peak hour traffic volumes traversing the weave sections vary from about 300vph to 500vph and result in LOS A & B with travel speeds in the range of 20 to 44mph (The ETC+30 traffic scenario would add up to 200vph to the mix). The loop ramps currently have tight turning radii varying from 80' to 90', which relates to a 20 mph running speed at the gore areas. The recommended accel / decel lengths for this condition are 610' / 385' respectively (45 / 55 mph).

2.3.3.4 Existing and Proposed Highway / Bridge Plan and Section:

The existing Broadway (NY110) bridge section consists of two (2) 12' travel lanes in each direction and 12' acceleration / deceleration speed change lanes to handle the ramp weave traffic merges. A 9' wide raised sidewalk area (which includes a 4-rail bridge railing and curbing) exists on both sides of the bridge, and there is a raised 4' wide center median. The proposed NY 110 bridge section also consists of two (2) 12' travel lanes and a 12' acceleration/deceleration speed change lane in each direction with a 1'-8" left shoulder and a new 5' shoulder. A new 5" wide bridge curb and a 5' wide sidewalk adjacent to a vertical faced concrete bridge parapet, as well as a single slope median barrier would be provided. Below the bridge, Sunrise Highway (NY 27) has three (3) 12' travel lanes in each direction with a 38' wide center median and ramp acceleration / deceleration speed change lanes. The NY110 horizontal alignment is a straight tangent and the vertical profile consists of 4.4% up & down grades and a crest curve that was originally designed for 45 mph. The bridge skew is approximately 13^o- 10'. General Plans, Profiles, Typical Sections and a Bridge Layout Plan and Elevation can be found in Appendix A.

2.3.3.5 Non Standard / Non-Conforming Features:

The following non-standard features are proposed to be retained:

- **Stopping Sight Distance (SSD) at Crest Curves:** Standard SSD for a 50mph design speed is 425' and the existing SSD is 360' (45mph). The existing crest vertical curve length is 540' which is 200' short of the required 740' length for 50mph. Due to the existing 14'-0" vertical clearance, the 6" difference between existing and proposed structure depths will be used to obtain a desirable 14'-6" vertical clearance. Therefore, there is no opportunity for incremental SSD improvements. A 50 mph design could be achieved if the Broadway (NY110) roadway was reconstructed between Sprague & Washington Avenues. The estimated cost for this work is \$6M (including the cost of shifting the sag curves), and would require ROW takings and long term lane reductions at the mouth of the interchange, and therefore is not feasible or recommended (See Appendix F for further justification).
- **Headlight Sight Distance (HSD) at Sag Curves:** Standard HSD for a 50mph design speed is 425' and the existing HSD is about 225' (±35mph). This non-standard feature will be retained because the roadway is lighted. A 50 mph design could be achieved if the Broadway roadway was reconstructed between Sprague & Washington Ave. However, this would involve construction at the mouth of the interchange and cause WZTC issues, and therefore is not feasible or recommended.
- **Loop Ramp Accel / Decel Length:** The loop ramp accel / decel or weave length is inconsistent with AASHTO criteria for a 50 mph design speed coupled with the 20 mph ramp running speed, which is an inherent problem with the classic Cloverleaf Interchange. The recommended acceleration length is 610' (50mph) vs. the 450' (45 mph) existing weave length (Operates at LOS A & B). Increasing the weave length is not feasible or recommended and is beyond the scope of this project. It should be noted, that the calculated accident rate within the interchange is below the statewide average.
- **Seismic Design:** Non-standard substructure retained with Alternative #1, retrofitted under Alternative #2 and designed to standard under Alternative #3.
- **Structural Capacity:** Non-standard substructure footings retained with Alternative #1, retrofitted under Alternative #2 and designed to standard under Alternative #3.

The 2011 Public Right-of-Way Accessibility Guidelines specify that where existing physical constraints make it impracticable for altered facilities to fully comply with the requirements for new construction, compliance is required to the extent practicable within the scope of the project. Due to the physical constraints in which the bridge can be constructed, it is impracticable to meet the HDM Chapter 17 guideline for a 5' minimum right shoulder for bicycles in Alternatives #1 & #2.

2.3.3.6 Pavement and Shoulder Conditions:

The Broadway (NY110) bridge approach pavement condition rating is 6. The existing approach roadway is a composite pavement section consisting of a 6" subbase, an 8" concrete foundation and a 2½" asphalt wearing surface. The existing approach pavement will require some reconstruction / widening and asphalt overlay, for the new 5' bicycle shoulder, and to repair MPT crossover areas on the mainline and ramp roadways. New sidewalks and curbs will also be provided within the interchange as needed.

2.3.3.7 Drainage Systems:

The entire NY110 / Sunrise Highway Cloverleaf Interchange is drained utilizing an enclosed drainage system constructed in 1961 under F.A.R.C 60-138. This drainage system discharges into an existing recharge basin in the NE Quadrant of the interchange, and into Amityville Creek, which is located about 0.4 miles to the east (ie: East of Albany Avenue). Modification to the existing drainage system is not anticipated. Any damage repairs or retrofit to the drainage structures due to WZTC detours, as well as cleaning the existing drainage system within project limits, will be included in the project. No scuppers are anticipated on the new bridge structure, due to the short span lengths.

2.3.3.8 Geotechnical:

There are no special geotechnical concerns with the soils within the project area. As-Built plans show that the existing structure was founded on spread footings with a 5KSF allowable soil bearing pressure for piers and a 2.5 KSF allowable soil bearing pressure for abutments. Available Soil Boring Logs Contract FARC 60-138 are included in Appendix I (ie: Located 75' from the NY27 Φ , at the existing shoulder column piers). The soil logs show 4-60' deep soil borings with mostly coarse to fine sand with some silt and fine gravel. The top ± 12 " was recorded as top soil and at the time, ground water was noted between 21' & 23' below the ground surface.

2.3.3.9 Structures:

Description: The existing aluminum bridge carrying NY110 over NY27 is a four span structure with an overall length of 215' and out-to-out width of 96'-0". The bridge is composed of 2 aluminum orthotropic structures (one for each direction of travel) with a reinforced concrete deck and asphalt concrete overlay in the travel lanes. The substructures are comprised of reinforced concrete stub abutments with wide U-wingwalls on spread footings and three multi-column piers each on a spread footing. The bridge has 4 simple spans, each with a longitudinal expansion joint over the piers and abutments. The lengths and features crossed for each span are as follows:

- Span 1 and Span 4 are 30'-0" long and crosses embankment
- Span 2 is 76'-0" long and crosses over Eastbound NY27
- Span 3 is 76'-0" long and crosses over Westbound NY27

Each fascia has a 9' sidewalk slab that supports a four-rail galvanized steel bridge rail with a pedestrian fence. Within the sidewalk slab are recessed troughs that carry Verizon fiber optic telephone cables. There is a 2' wide raised median section on each half of the bridge. The aluminum superstructure is supported by steel bearings without any dielectric isolation. This is responsible for the member and bearing deterioration noted in the inspection reports (See Appendix L). From the Inspection Report, there is a 14' minimum vertical clearance below the bridge and signs of impact damage to the bridge.

Exhibit 2.7 - Structure Data		
DATA	EXISTING STRUCTURE	PROPOSED STRUCTURE
BIN	1019119	1019119
Feature Carried/Crossed	NY110 / NY27	NY110 / NY27
Type of Bridge	Aluminum Orthotropic Superstructure	Multi-Stringer w/ Composite Deck
Number and Length of Spans	4 Spans (30', 76', 76', 30')	2 Spans ($\pm 84'$, $\pm 84'$)
Lane Width(s)	12'	12'
Shoulder Width(s)	$\pm 1'$	1' Left & 5' Right (For Bicycles)
Sidewalk(s)	8'	5'
Utilities Carried	Telephone Conduits (Suspected ACM)	Telephone Conduits
Horizontal Clearance(s)	NA	NA
Vertical Clearance(s)	14'- 0"	14'- 6"
Federal Sufficiency Rating	43.9	100
State Condition Rating	4.119	7

History: This bridge was constructed in 1961 under Contract No. F.A.R.C. 60-138. The bridge inventory shows a history of repair contracts where cleaning of substructure and superstructure elements occurred as well as joint system replacement. Past work on this structure includes:

- 1989 – Clean pier caps and abutments (D252773)
- 1990 – Replace joint system (D252070)
- 1990 – Clean and lubricate bearings (D253271)
- 1992 – Clean pier caps and abutments (D253931)
- 1992 – Replace joints and wearing surface, waterproof deck, clean and seal (D253536)
- 1994 – Clean pier caps and abutments (D254866)
- 1996 – Clean pier caps and abutments (D256811)
- 1998 – Clean pier caps and abutments (D257472)
- 2003 to 2011 – Cleaning of superstructure and joint repairs (No Contract D Numbers)
- 2008 – Work performed was noted as “straighten, repair & replace structural members” (No D #)

The primary members of the structure are composed of aluminum plates forming an orthotropic system. There are no known fatigue prone details on the superstructure.

The original as-built drawings show the railing along the fascia as aluminum railing supported by vertical posts. The bridge currently has steel four-rail galvanized railing with a pedestrian fence behind the railing. The inventory does not indicate when this modification was made.

Inspection & Deficiencies:

According to the 2012 Biennial Inspection, the NYSDOT General Recommendation is a 4 and the Computed Condition Rating is 4.119. NYSDOT performed a biennial inspection of the bridge in December 2012 that was in accordance with the latest edition of NYSDOT Bridge Inspection Manual. A visual inspection was performed on the top and underside of the bridge. The underside of the concrete deck at the median exhibits numerous transverse cracks with efflorescence and water stains. There were also areas of isolated spalls and hollow sounding concrete. The deck below the fascias was noted to be in good condition. The aluminum sheeting that is on the underside of the bridge was noted to exhibit water stains which indicate leakage through the deck. The structural deck for all spans is rated a “4” from the 2012 Biennial Inspection.

The aluminum primary members at the bearings exhibit significant corrosion due to the lack of dielectric isolation between the aluminum structure and the steel bearings. This has resulted in the aluminum members being corroded and compressed at the bearings which have resulted in elevation differences between adjacent spans as well as between Northbound and Southbound structures. At Pier 2 and Pier 3, the areas directly above bearings 6 and 7 have crushed resulting in elevation differences to the adjacent deck units (Up to 1.75”). The report further noted that there are elevation differences in the bottom of the panels at various locations which indicates a possible detachment of the internal structural components (A Yellow Flag had been issued because of this condition). There are also signs of impact damage to the aluminum flange panels, ribs, and web. The primary members are rated a “4” for all spans.

The steel bearings for all spans exhibit severe corrosion and are rated a “3”. The bearings exhibit sliding plate deformations due to pack rust and moderate to heavy corrosion with section loss due to joint leaks to the underside of the bridge. Most expansion bearings at the piers were found to be over extended and primary member ends are touching due to over expansion of expansion bearings.

The joints at the abutments and piers are rated a “3” and exhibit broken concrete headers with portions of the armor angles missing. Portions of the joints are filled with dirt and debris. There is leakage on the underside with corroded bearings.

The begin (south) abutment bridge seat and pedestals are covered with debris up to 5” high and it spills through the deck joint above. The condition at the end (north) abutment is similar and at one of the end abutment pedestals, there is cracking with efflorescence and rust staining along the crack. Abutment seats and pedestals are rated a “4”. Similarly at the top of pier caps, there is heavy accumulation of wet dirt and pigeon droppings are up to 5” high (Top of Cap or Beam rated “4” for all spans).

The pier cap beams have a rating of “5”. They exhibit water marks but sounded solid from the last inspection. Pier 2 column 3 exhibits a spall with exposed rebar measuring 3 SF x 3” deep with a surrounding hollow area. The pier columns at pier 2 have a rating of “4” while the pier columns at the other piers have a rating of “5”.

The 2012 Biennial Bridge Inspection Report is included in Appendix L.

Exhibit 2.8 BIN 1-019119-9 NY110 over NY27 2012 Bridge Inspection Ratings								
Overall Ratings			Spans		1	2	3	4
			Deck Element		Ratings			
State Condition Rating	4.119		Wearing Surface		5	5	5	5
Federal Sufficiency Rating	43.9		Curbs		5	5	5	5
General Recommendation	4		Sidewalk, Fascias		5	5	5	5
Abutment	Begin Ratings	End Ratings						
			Railing, Parapets		5	4	5	5
Joint with Deck	3	3	Scuppers		8	8	8	8
Bearing, Bolts, Pads	3	3	Gratings		8	8	8	8
Seats and Pedestals	4	4	Median		5	5	5	5
Backwall	5	5	Mono Deck Surface		8	8	8	8
Stem (Breastwall)	8	8	Superstructure		Ratings			
Erosion or Scour	5	5	Structural Deck		4	4	4	4
Footing	9	9	Primary Members		4	4	4	4
Piles	8	8	Secondary Members		8	8	8	8
Recommendation	3	3	Paint		4	4	4	4
Wingwall	Begin Ratings	End Ratings						
			Joints		3	3	3	8
Walls	5	5	Recommendation		4	4	4	4
Footing	9	9	Pier		Ratings			
Erosion or Scour	5	5	Bearings, Bolts, Pads		3	3	3	8
Piles	8	8	Pedestals		5	5	5	8
Channel	Ratings							
			Top of Cap or Beam		4	4	4	8
Stream Alignment	8		Stem Solid Pier		8	8	8	8
Erosion and Scour	8		Cap Beam		5	5	5	8
Water Opening	8		Pier Columns		5	4	5	8
Bank Protection	8		Footing		9	9	9	8
Approach	Ratings							
			Erosion or Scour		6	6	6	8
Drainage	5		Piles		8	8	8	8
Embankment	5		Recommendations		4	4	4	8
Settlement	5		Utility		Ratings			
			Lighting		8	8	8	8
Pavement	6		Sign Structure		5	5	5	5
Guide Railing	5		Utilities and Support		8	8	8	8

Restrictions – None

Waterway – None within Project Limits.

2.3.3.10 Hydraulics of Bridges and Culverts

There are no bridges or culverts over waterways within project limits. The nearest waterway is Amityville Creek which is located about 0.4 miles to the east (East of Albany Avenue). Amityville Creek eventually makes its way south to Peterkin Park, Avon Lake and the Amityville Inlet to the Great South Bay.

2.3.3.11 Utilities:

This project will require relocation of both overhead and underground utility lines. The following facilities are located within project limits based on the record plans and utility plates included in Appendix J:

- **Suffolk County Water Authority (SCWA)** has an 8" water main located along the east curblin of Broadway (NY110) as it approaches the interchange. The existing water main was offset around the rigid frame bridge that was replaced, in 1961, under FARC 60-138. Record plans show the water main going under the Sunrise Highway mainline, approximately 5' east of the east fascia of the bridge, and may be impacted during construction. Test pits will be required to verify the location of the main and to determine if it can be maintained in place, supported and protected.
- **National Grid** has an 8" gas main located along the west curblin of Broadway (NY110) as it approaches the interchange. The gas main is offset around the west side of the bridge, going under the Loop Ramps and the Sunrise Highway mainline, approximately 340' west of the bridge. This 8" gas main should be maintained in place and supported and protected during construction.
- **Verizon** has two 6-4" underground duct banks that are located under the east sidewalk of Broadway (NY110). There are two manholes associated with these duct banks; MH #191 at Washington Ave. and MH #192 at Sprague Ave. One of the 6-4" duct banks is offset around the bridge under Sunrise Highway approximately 30' east of the east fascia of the bridge. The telephone conduits should be maintained in place, supported and protected. The other 6-4" duct bank has fiber optic cable and crosses over the bridge utilizing the two existing sidewalk troughs in the deck (ie: 3 ducts per bay). These conduits will require protection and relocation. The conduits are believed to be transite pipe.
- **Utility Poles:** Utility pole lines are located on both sides of Broadway (NY110). Within the interchange project limits there are 7 utility poles; 3 are owned by LIPA and 4 are foreign owned (Verizon / Village). The current pole heights vary from 35' to 45' and the double pole lines contain overhead primary conductors operating at a voltage of 13Kv and must remain energized at all times to provide power to the residences and businesses north and south of the interchange. Cablevision, Crown Castle and Sidera have overhead lines on all of the poles owned by LIPA and Verizon. Some of these poles may need to be relocated due to the loop ramp shoulder widening required for the 5' bicycle shoulder. Further coordination with the Utility Companies will be required during Final Design regarding these pole relocations.
- **INFORM Facilities:** A 60 pair fiber trunk cable is supported aerially on LIPA Poles #54, 55 & 56 adjacent to the west side of the bridge. South of the bridge, the fiber cable crosses over Broadway (NY110) to Pole #57 and runs down the pole riser into an INFORM Pull Box and a CCTV Camera located at the SE corner of the bridge. The aerial fiber cable and CCTV Pole may need to be transferred / relocated and further coordination with the State's INFORM Office during Final Design will be required. It should also be noted that INFORM conduit with fiber cable runs underneath the right shoulder of the Outer Ramp BE to Sunrise Highway. The ramp conduit terminates at an INFORM Control Cabinet at the Broadway (NY110) ramp gore before going aerial on Broadway.

2.3.3.12 Guide Railing and Median Barrier:

HPBO W-beam corrugated guide railing runs along Broadway (NY110) on each side of the approaches from the loop ramps to the bridge. The project will replace the bridge approach guide rail as required. A single slope median barrier is recommended to replace the existing 8" non-mountable curb / raised median. Incidental reconstruction of the Sunrise Highway (NY27) center median and guide rail systems affected by the bridge pier demolition and replacement with new pier substructure will also be necessary.

2.3.3.13 Right of Way:

Right of way acquisition is not required for this project. ROW / Highway Boundaries are depicted on the Existing Conditions Graphic and on the Engineering Plans included in Appendix A.

2.3.3.14 Landscaping / Environmental Enhancement:

There will be some localized clearing and grubbing of trees and vegetation, along the bridge approach side slopes / embankments as required to construct the replacement bridge, guiderail and to relocate utility poles. Replacement trees and shrubs as well as additional landscaping will be required as a visual buffer. The Regional Landscape Architect should be consulted before planting plans are developed.

2.4 Miscellaneous

2.4.1 NYS Smart Growth Public Infrastructure Policy Act (SGPIPA)

Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act (SGPIPA). This project has been determined to meet the relevant criteria, to the extent practicable, described in ECL Sec. 6-0107. Specifically, the project:

- Improves infrastructure by replacing the deficient aluminum superstructure, pier caps with substructures inadequate to resist seismic forces, bearings and joints, etc. Also increases the overall bridge condition rating, provides a standard 14'-6" vertical clearance and improves bridge railing, sidewalk and raised center median.
- Is Consistent with the Community's Vision for the area and maintains access between Amityville and North Amityville. Consistent with Local, County, Regional and State Plans.
- Is located in the Village of Amityville which is considered a Municipal Center.
- Will foster connectivity between Villages and enhance pedestrian & bicycle access.
- Includes new and expanded sidewalks, shoulders, crosswalks, striping and signage improvements.
- Includes a NYSDOT Public Involvement Component to inform all stakeholders.
- Preserves open areas and both surface and ground water.

To the extent practicable this project has met the relevant criteria as described in ECL § 6-0107. The Smart Growth Screening Tool was used to assess the project's consistency and alignment with relevant Smart Growth criteria; the tool was completed and reflects the current project scope. The Smart Growth Screening Tool can be found in Appendix B.

2.4.2 Other Miscellaneous Information

Railroads: There are no at-grade rail crossings within 0.6 mi (1 km) that could impact traffic conditions. The Babylon Branch of the Long Island Railroad crosses over Broadway (NY 110) approximately ½ mile to the south of Sunrise Highway (NY 27), a block east of the Amityville Station. This section of the LIRR runs on an elevated viaduct and crossing over all the local roads in the project area.

Parking: Parking is not permitted within the interchange / project limits. There is on street parking on Broadway (NY 110), north & south of project limits, regulated by parking restrictions.

Lighting: There are street lights located on utility poles on Broadway (NY 110) within the project limits. These lights are owned and maintained by the NYSDOT. Coordination will be required with the NYSDOT during final design to review the lighting requirements, the need for utility pole / luminaire relocations, and to determine the need for additional lighting within the interchange.

CHAPTER 3 - SOCIAL, ECONOMIC & ENVIRONMENTAL CONSIDERATIONS

Refer to the Environmental Checklist included in Appendix B for information on all environmental issues for which the project was screened.

3.1 National Environmental Policy Act (NEPA)

The Department has determined that this project is a NEPA Class II, Programmatic Categorical Exclusion in accordance with 23 CFR 771.117d and the NEPA checklist. Class II actions that do not individually or cumulatively have a significant environmental effect are excluded from the requirement to prepare an Environmental Impact Statement (EIS) or an Environmental Assessment (EA). Refer to the attached NEPA checklist and supplemental information. Programmatic Categorical Exclusions do not require FHWA's concurrence.

3.2 State Environmental Quality Review Act (SEQRA)

New York State Department of Transportation is the SEQRA lead agency as per 17 NYCRR Part 15 "Procedures for Implementation of State Environmental Quality Review Act", Section 15.5.

The Department has determined that this project is a SEQRA Type II Action in accordance with 17 NYCRR, Part 15. No further SEQRA processing is required. The project has been identified as a Type II action, per 17 NYCRR Section 15.14, Subdivision (e), Item 37, Paragraph (iv). This permits the project to be classified as Type II since the project does not violate any of the criteria contained in subdivision (d) of Section 15.14, and is of a scale and scope illustrated by the following:

- Replacement, reconstruction or rehabilitation, at present site or immediately adjacent thereto, of existing bridges, culverts or other transportation structures, including railroad crossing structures, not involving substantial expansion of the structure;

Specifically, the project does not include or result in:

1. The acquisition of an occupied dwelling or business structure;
2. Significant change in vehicle traffic volumes, vehicle mix, local travel patterns or access;
3. More than minor social, economic or environmental effects upon occupied dwelling units, businesses, abutting properties or other established human activities;
4. Significant inconsistency with current plans that have been adopted by local government bodies;
5. Physical alteration of more than 2.5ac (1ha) of publicly owned or operated park land, recreational area or designated open space;
6. An effect on a district, building, structure or site eligible for, or listed on, the National Register of Historic Places;
7. More than minor alteration of, or adverse effect upon, any property, protected area, or natural or man-made resource of national, State or local significance, including but not limited to:
 - (i) Wetlands and associated areas;
 - (ii) Floodplains;
 - (iii) Prime or unique agricultural land;
 - (iv) Agricultural districts, when more than one acre may be affected;
 - (v) Water resources, including lakes, reservoirs, rivers and streams;
 - (vi) Water supply sources;
 - (vii) Designated wild, scenic and recreational rivers;
 - (viii) Unique ecological, natural wooded or scenic areas;
 - (ix) Rare, threatened or endangered species;
 - (x) Any area designated as a critical environmental area;
8. Requirement for an indirect air source quality permit.

3.3 Additional Environmental Information

Endangered or Threatened Species:

According to the Department's latest available GIS information database, there were no federally protected, threatened, or endangered species located in or within ½ mile of the proposed project area. Furthermore, there is no suitable habitat in the proposed work limits for the federally endangered species listed in the US Fish & Wildlife Service's "County List" for Suffolk County. However, the US Fish & Wildlife Service has "proposed" to list the northern long-eared bat as an endangered species under the Endangered Species Act (ie: US-FWS has extended the public comment period – Final Decision Pending).

Ecological Resources and Protected Species:

Generally, the project is limited to the bridge and ramp loops of the highway interchange. Minimal potential wildlife habitat is available within the project limits (ie: mowed grass, planted trees and shrubs – See Figure 3-1). However, it is possible that some of the vegetation is used by small birds and or mammals for cover, feeding or nesting.

This project proposes to impact approximately 150 trees some of which appear to be suitable potential habitat for the Northern Long-Eared Bat (NLEB), presently listed by the US Fish & Wildlife Service (USFWS) as a "proposed" Endangered Species. These tree removals may be necessary to accommodate the proposed bridge replacement work. Except during the nesting period, any bats, other small mammals or birds that are present in the proposed disturbance area are likely to be mobile and relocate from the construction zone. Consistent with NYSDOT policy for protection of Migratory Birds, the contractor will inspect to determine whether there are any active nests in the proposed disturbance area prior to any tree or shrub removal (See Figure 3-1).

Under conference procedures, NYSDOT contacted USFWS regarding any potential measures to minimize harm to NLEB's due to the proposed tree removals. To avoid adverse effects on the NLEB, USFWS recommends removal of potential habitat trees only during the NLEB hibernation period (November 1st to April 1st). Presently, it is expected that the project can include this conservation measure. In addition, a comparable number of replacement trees will be planted upon completion of the bridge replacement work. Also, a minimum of four bat houses will be installed in the loop infield areas to promote faster re-establishment of any potentially displaced bats. See attached "No Effect determination by the FHWA included in Appendix B.

If the proposed work scope, schedule or new guidance is issued by USFWS or FHWA, consultation with USFWS will be re-initiated prior to the construction phase

Invasive Species Removal and New Landscape Plantings:

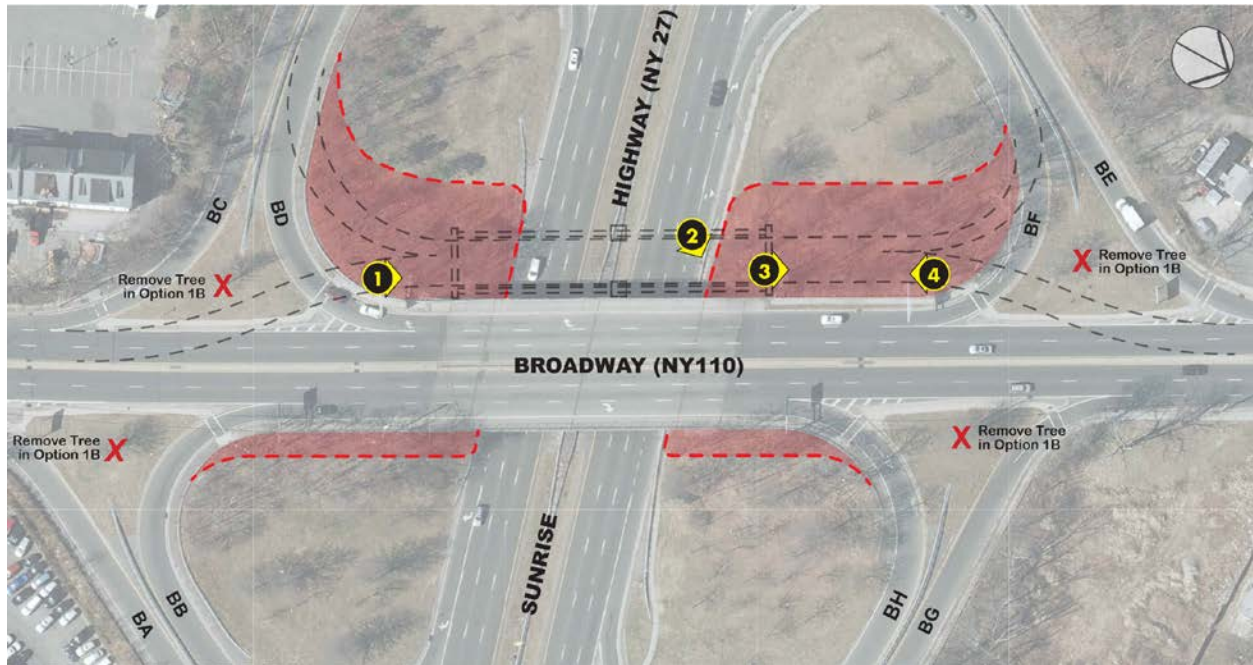
In conformance with NYSDOT EI 09-001 and Presidential Executive Order 13112, the project site should be screened for the presence of NYSDOT's target invasive species during final design. These target species include: Phragmites (*Phragmites Australis*), Japanese Knotweed (*Polygonum Cuspidatum*), Giant Hogweed (*Hercacleum Mantegazzianum*) and Purple Loosestrife (*Lythrum Salicaria*). The screening will be accomplished in the spring after leaf out has occurred and all the non-woody species have emerged. We believe that the vegetated areas within the bridge right-of-way are a typical highway plant species environment dominated by a mix of native and non-native species, both planted and voluntary.

Typically, the most prevalent plant species in this condition are: Black Cherry, Scarlet Oak, Black Locust, Norway Maple, Autumn Olive, Crab Apple, Red Cedars, Japanese Black Pine, Tree-of-Heaven, Multiflora Rose, Japanese Honeysuckle, Poison Ivy, Virginia Creeper, English Ivy, Oriental Bittersweet and Willow Oak. Although many of these plant species are considered undesirable non-natives, they are not the target invasive plants noted above and therefore will not be managed in the same fashion as the target species, where we would use the NYSDOT's specification for removal and disposal. Replacement vegetation for the new bridge slopes shall only include plant species that are not listed on NYS regional invasive plant lists.

Asbestos-Containing Materials:

An Asbestos Assessment and Survey of the existing structure was performed by Environmental Planning & Management, Inc. a NYS Department of Labor licensed firm using certified inspection staff. Suspect asbestos-containing materials were collected and analyzed by a NYSDOH- ELAP certified Laboratory. The materials analyzed include, deck waterproofing material, membrane patch material, asphaltic felt, expansion joint filler material and sealers, black mastics/tar, and various caulks. Based on the results of the survey, caulk at base of the railing posts, conduits in the eastern sidewalk, and abutment weephole drainage pipes are asbestos containing. An Asbestos Assessment Report dated April 2014 is included in Appendix K (Available upon Request). All identified asbestos containing materials impacted as part of the project work will be removed and disposed of in accordance with NYSDOT Standard Specification Section 210 and all applicable State and Federal Regulations.

Figure 3-1 Potential Tree Impacts due to WZTC and Bridge Widening



1 Ramp BD Side Slope



2 NW Quadrant



3 Ramp BF Side Slope



4 Ramp BF Side Slope

APPENDICES:

A.	Engineering Plans, Profiles & Typical Sections (Under Separate Cover 11"x17")
B.	Environmental Information & Checklists
C.	Traffic Analysis Technical Memo
D.	Design Speed Justification Memo
E.	Accident Analysis Technical Memo
F.	Non-Standard Features Justification (SSD & HSD)
G.	Public Information Plan
H.	Pertinent Record Plans FARC 60-138 (Available on Request)
I.	Soil Boring Logs (March 1959) (Available on Request)
J.	Private Utility Plates / Information (Available on Request)
K.	Asbestos Assessment Report (Available on Request)
L.	Biennial Inspection Report - 2012 (Available on Request)
M.	Bridge Data Sheet & Bridge Rehab vs Replacement Worksheet



STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

NY 110 OVER NY 27
BRIDGE REPLACEMENT
SUFFOLK COUNTY

APPENDIX A

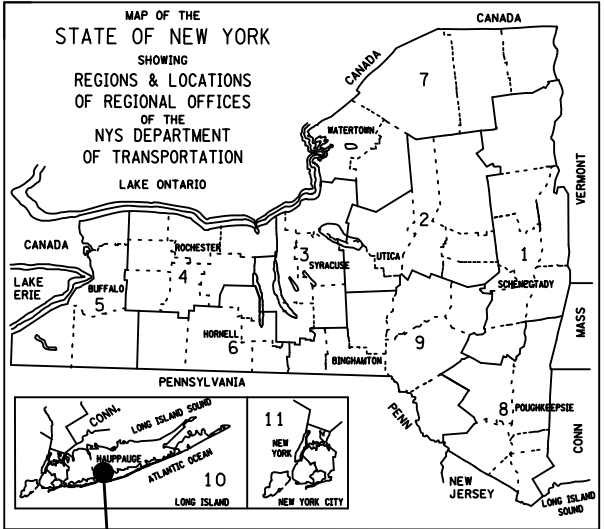
THE LATEST REVISIONS OF THE STANDARD SHEETS MAINTAINED BY THE DEPARTMENT, WHICH ARE CURRENT ON THE DATE OF ADVERTISEMENT FOR BIDS, SHALL BE CONSIDERED TO BE IN EFFECT. ALL PAY ITEMS AND WORK CONTAINED IN THE CONTRACT AND ANY ADDITIONAL PAY ITEMS AND WORK ENCOUNTERED DURING THE COURSE OF THE CONTRACT SHALL BE SUBJECT TO THE APPLICABLE STANDARD SHEET(S) UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.

ALL WORK CONTEMPLATED UNDER THIS CONTRACT IS TO BE COVERED BY AND IN CONFORMITY WITH THE STANDARD SPECIFICATIONS (US CUSTOMARY UNITS) OF MAY 1, 2008, EXCEPT AS MODIFIED ON THESE PLANS AND IN THE ITEMIZED PROPOSAL.

CONTRACT PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH NYS DOT POLICIES AND GUIDELINES AND THE PSR/FDR APPROVED ON X/XX/XXXX.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

FEATURES OF THE HIGHWAY WILL BE MAINTAINED AS INDICATED IN THE TABLE OF MAINTENANCE JURISDICTION SHOWN ON DRAWING HMJ-1 AND NOTES 51 & 52 ON DWG GN-2.



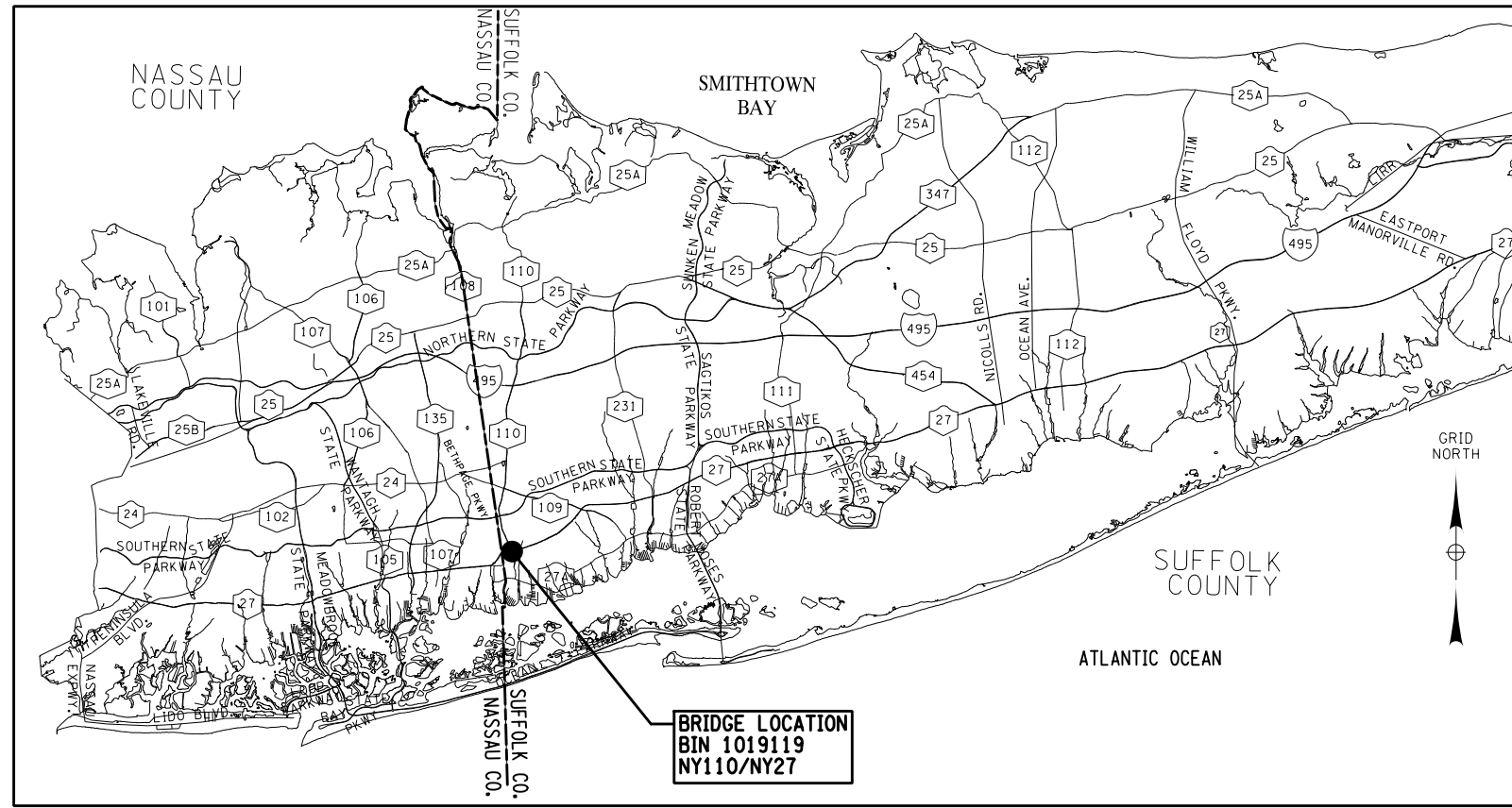
SITE OF WORK
TOWN OF BABYLON,
IN SUFFOLK COUNTY

SUFFOLK COUNTY

CONTRACT DXXXXXX

AS-BUILT DATA

CONTRACTOR'S NAME	_____
AWARD DATE	_____
COMPLETION DATE	_____
FINAL ACCEPTANCE DATE	_____
REGIONAL DIRECTOR	_____
ENGINEER IN CHARGE	_____
FINAL COST TOTAL	_____
FISCAL SHARE	COST(S)



BRIDGE LOCATION
BIN 1019119
NY110/NY27

PROJECT LOCATION
(NOT TO SCALE)

THE PROJECT IS LOCATED IN THE TOWN OF BABYLON IN SUFFOLK COUNTY
THE WORK INCLUDES BRIDGE REPLACEMENT OF NY 110 (BROADWAY) OVER NY 27 (SUNRISE HIGHWAY).

INDEX OF DRAWINGS		
SHEET NUMBER	PLAN DESCRIPTION	DRAWING NUMBER
1	TITLE SHEET	I-1
2	TYPICAL SECTION - 1 - BROADWAY (NY 110)	TS-1
3	TYPICAL SECTION - 2 - SUNRISE HIGHWAY	TS-2
4	TYPICAL SECTION - 3	TS-3
5	GENERAL NOTES - 1	GN-1
6	GENERAL NOTES - 2	GN-2
7	ASBESTOS ABATEMENT GENERAL NOTES	ENV-1
8	LOCATION PLAN	LOC-1
9	WORK ZONE TRAFFIC CONTROL PLAN, OPTION-1A, STAGE 1	WZTC-1
10	WORK ZONE TRAFFIC CONTROL PLAN, OPTION-1A, STAGE 2	WZTC-2
11	WORK ZONE TRAFFIC CONTROL PLAN, OPTION-1B, STAGE 1	WZTC-3
12	WORK ZONE TRAFFIC CONTROL PLAN, OPTION-1B, STAGE 2	WZTC-4
13	WORK ZONE TRAFFIC CONTROL PLAN, OPTION-2, STAGE-1	WZTC-5
14	WORK ZONE TRAFFIC CONTROL PLAN, OPTION-2, STAGE-2	WZTC-6
15	WORK ZONE TRAFFIC CONTROL PLAN, OPTION-3	WZTC-7
16	WORK ZONE TRAFFIC CONTROL PLAN, OPTION-3, PROFILE	WZTC-8
17	HIGHWAY MAINTENANCE JURISDICTION	HMJ-1
18	MISCELLANEOUS DETAILS - 1	MD-01
19	MISCELLANEOUS DETAILS - DECORATIVE PROTECTIVE FENCE	MD-02
20	GUIDE RAIL LAYOUT & DETAILS	MD-03
21	TEMPORARY SEDIMENT FILTER BAG	MD-04
22	ARCHITECTURAL DETAILS	ARCH-1
23	JOINT LAYOUT PLAN - 1	JL-1
24	JOINT LAYOUT PLAN - 2	JL-2
25-27	GENERAL PLANS	GP-1 TO GP-3
28	NY 110 PROFILE	P-1
29	SUNRISE HIGHWAY PROFILE	P-2
30	PAVEMENT MARKING PLAN	PM-1
31	PROPOSED BRIDGE SECTION	S-1
32	BROADWAY NY 110 - EXISTING BRIDGE PLAN AND ELEVATION	S-2
33	BROADWAY NY 110 - PROPOSED BRIDGE PLAN AND ELEVATION	S-3

NY 110 OVER NY 27			
BRIDGE REPLACEMENT			
TOWN OF BABYLON			
COUNTY: SUFFOLK			
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DESIGN SUPERVISOR

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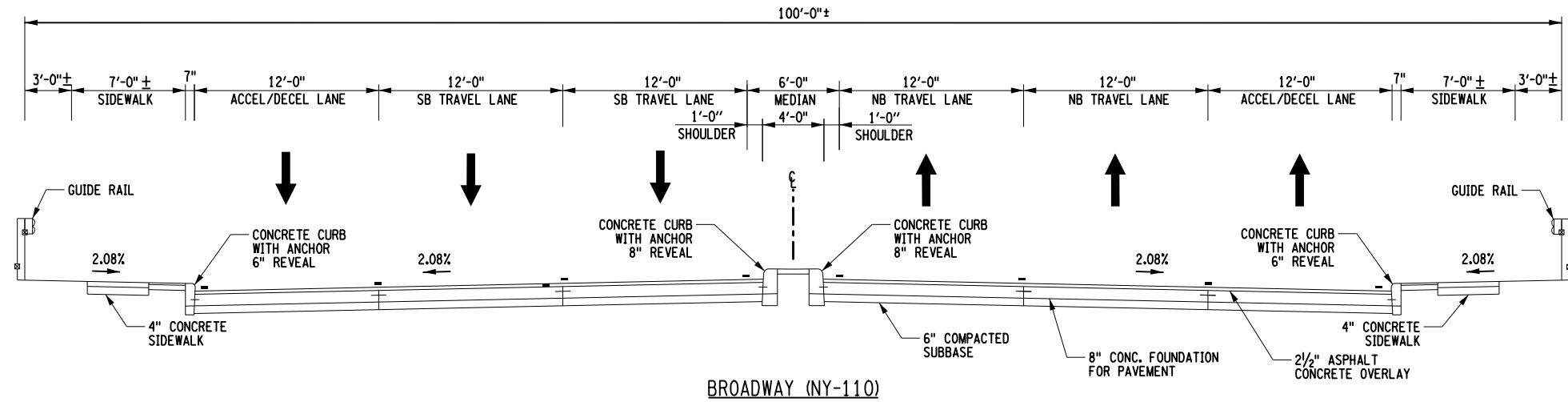
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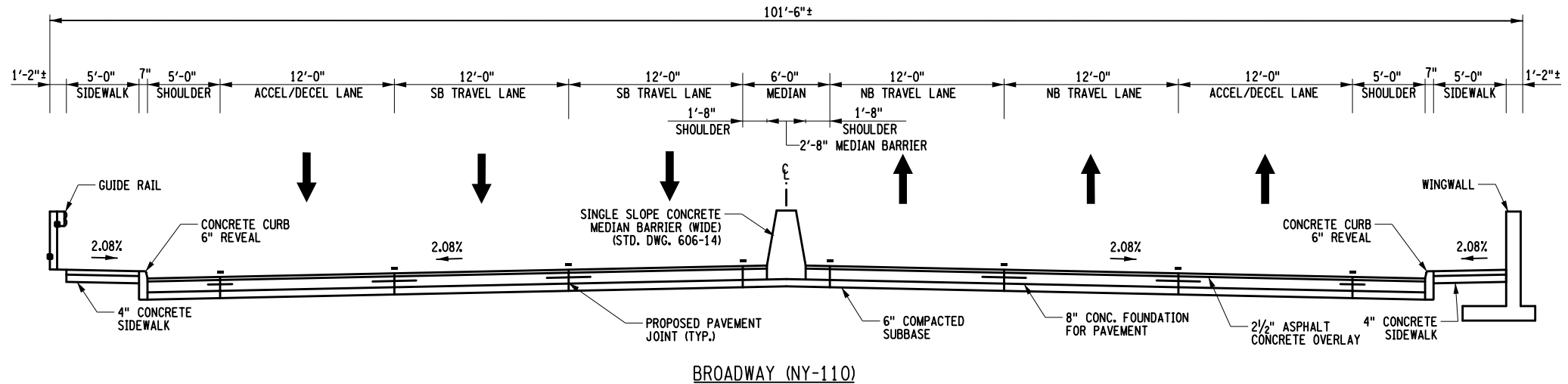
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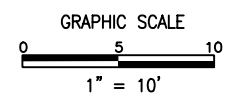
CONSULTANT
DESIGN SUPERVISOR



BROADWAY (NY-110)
 EXISTING BRIDGE APPROACH SECTION A-A
 FROM STA. BWY 19+50± TO STA. BWY 20+40±
 FROM STA. BWY 22+60± TO STA. BWY 24+25±



BROADWAY (NY-110)
 PROPOSED BRIDGE APPROACH SECTION A-A
 FROM STA. BWY 19+50± TO STA. BWY 20+40±
 FROM STA. BWY 22+60± TO STA. BWY 24+25±



AFFIX SEAL: ON:	ALTERED BY: ON:
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NY 110 OVER NY 27 BRIDGE REPLACEMENT
REGION 10
TOWN OF BABYLON
COUNTY: SUFFOLK

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT

BRIDGES 1019119	CULVERTS
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NY 110 - BROADWAY

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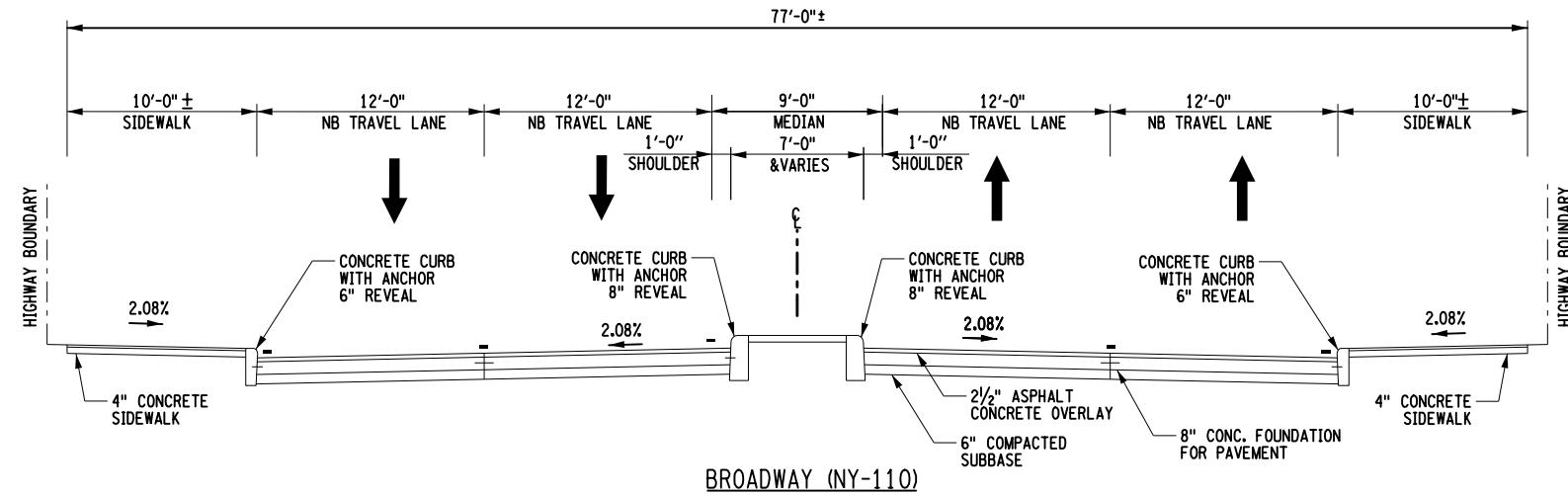
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SHEET NO.	2

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

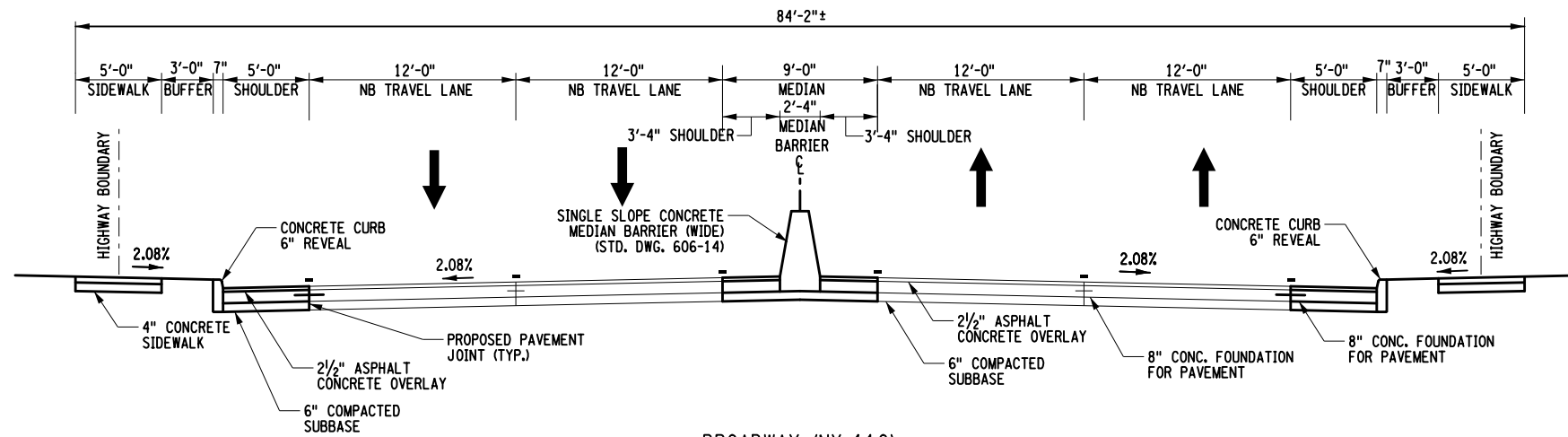
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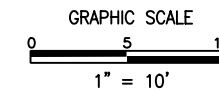
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 CONSULTANT SUPERVISOR



BROADWAY (NY-110)
 EXISTING OUTER RAMP SECTION B-B
 FROM STA. BWY 17+50± TO STA. BWY 19+50±
 FROM STA. BWY 24+25± TO STA. BWY 26+10±



BROADWAY (NY-110)
 PROPOSED OUTER RAMP SECTION B-B
 FROM STA. BWY 17+50± TO STA. BWY 19+50±
 FROM STA. BWY 24+25± TO STA. BWY 26+10±



AFFIX SEAL: ON:	ALTERED BY: ON:
AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	

NY 110 OVER NY 27 BRIDGE REPLACEMENT
REGION 10
TOWN OF BABYLON
COUNTY: SUFFOLK

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT

BRIDGES 1019119	CULVERTS
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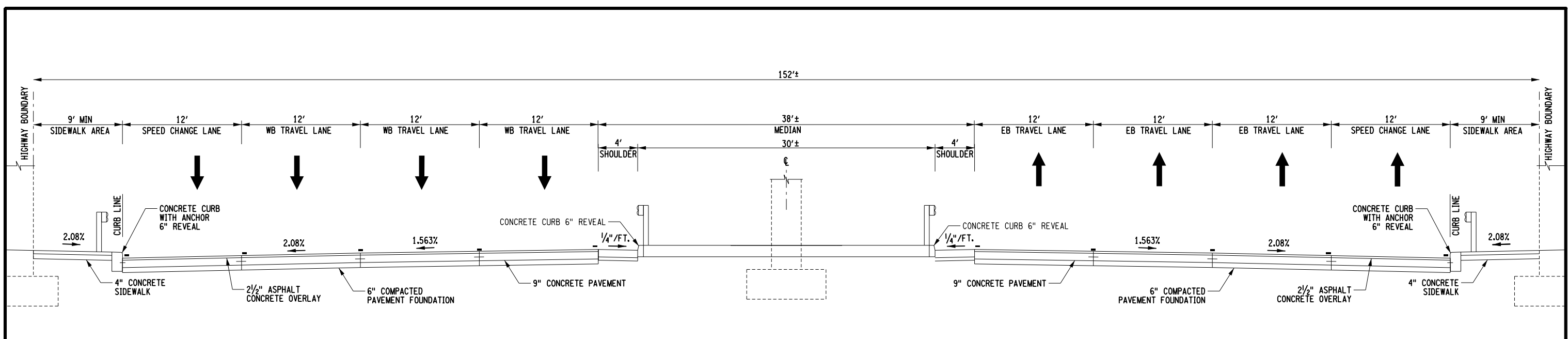
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SHEET NO.	3

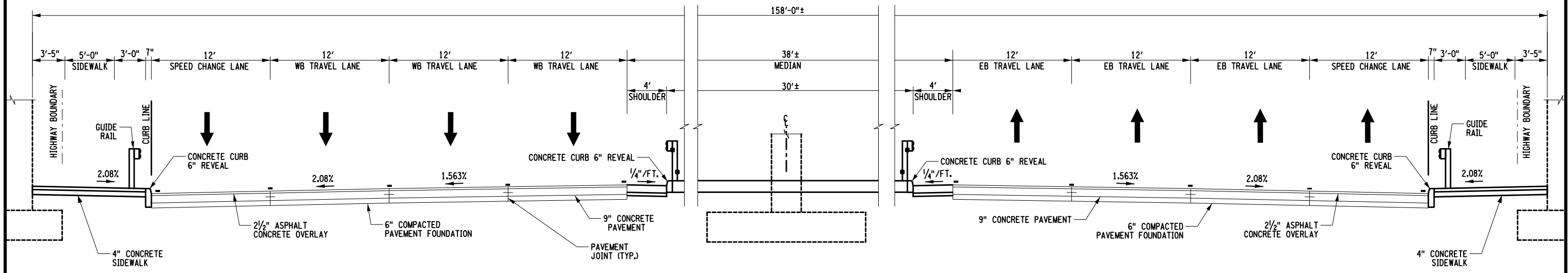
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
 DOCUMENT NAME:

REGION 10 JOB MANAGER
 REGION 10 PROJECT MANAGER
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 CONSULTANT DESIGN
 CONSULTANT JOB MANAGER
 CONSULTANT DESIGN SUPERVISOR
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 DATE/TIME = 9/27/2014
 USER = STN



SUNRISE HIGHWAY (NY-27)
 EXISTING SUNRISE HIGHWAY SECTION C-C
 FROM STA. SRH 56+00± TO STA. SRH 60+50±



SUNRISE HIGHWAY (NY-27)
 PROPOSED SUNRISE HIGHWAY SECTION C-C
 FROM STA. SRH 56+00± TO STA. SRH 60+50±

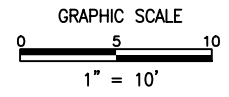
AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	NY 110 OVER NY 27 BRIDGE REPLACEMENT REGION 10 TOWN OF BABYLON COUNTY: SUFFOLK
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PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119
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CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED
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TYPICAL SECTION - 3 (SUNRISE HIGHWAY)	CONTRACT NUMBER DXXXXXX
	DRAWING NO. TS-3 SHEET NO. 4



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
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 USER = STN

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 CONSULTANT DESIGN SUPERVISOR

GENERAL NOTES:

MISCELLANEOUS

- AREAS BEYOND THE WORK LIMITS DISTURBED FOR ANY REASON, BY THE CONTRACTOR AND HIS EMPLOYEES, SHALL BE RESTORED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- OTHER CONTRACTS MAY BE UNDER CONSTRUCTION DURING THE TIME OF THIS PROJECT. THE CONTRACTOR SHALL CONSULT WITH THE VARIOUS PARTIES AND SHALL COORDINATE HIS SCHEDULE WITH THEIRS.
- THE USE OF COMMERCIAL VEHICLES ALONG THE PARKWAY FOR GENERAL SUPERVISION IS RESTRICTED TO WITHIN ONE ENTRANCE BEFORE THE CONTRACT LIMITS AND ONE EXIT FOLLOWING THE CONTRACT LIMITS. COMMERCIAL VEHICLES, DELIVERING MATERIALS AND HEAVY EQUIPMENT TO THIS PROJECT, MAY ONLY ENTER THE PARKWAY ONE ENTRANCE BEFORE THE PARTICULAR CONSTRUCTION INVOLVED AND MUST LEAVE THE PARKWAY AT THE EXIT FOLLOWING THE POINT OF DELIVERY. CONTRACTOR'S EQUIPMENT AND VEHICLES ARE SUBJECT TO ALL TRAFFIC LAWS AND REGULATIONS AT ALL TIMES.
- THE CONTRACTOR IS ADVISED THAT PARKWAY BRIDGES HAVE LESS THAN STANDARD CLEARANCES. THE CONTRACTOR MUST AVOID THESE AREAS OR SELECT VEHICLES CONFORMING TO THE REDUCED CLEARANCES.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT DUE TO THE NATURE OF BRIDGE REHABILITATION PROJECTS, THE EXACT EXTENT OF BRIDGE REHABILITATION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER AVAILABLE INFORMATION. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL TAKE POSITIVE STEPS TO PREVENT THE SPLATTERING OF VEHICLES. THE CONTRACTOR SHALL PROVIDE FOR THE PROMPT CLEANING OF ANY VEHICLES SPLATTERED BY CONTRACTOR'S OPERATIONS AND SHALL PAY FOR THE CLEANING. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS IN THE CONTRACT.
- THE CONTRACTOR IS FURTHER ADVISED THAT ANY OF HIS COMMERCIAL VEHICLES THAT USE THE PARKWAYS WILL REQUIRE A PERMIT FROM THE NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION.

STAGING AREA PERMIT NOTES:

- A (NO-FEE) STAGING AREA PERMIT IS REQUIRED FOR SHORT AND LONG TERM TEMPORARY OCCUPANCY OF STATE OWNED LAND UNDER THE MAINTENANCE JURISDICTION OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION, WITHIN OR OUTSIDE THE PROJECT LIMITS.
 A STAGING AREA PERMIT IS NEEDED FOR EACH DISCONTINUOUS AREA USED FOR A FIELD OFFICE FACILITY, STORAGE OF CONSTRUCTION SUPPLIES, EQUIPMENT AND VEHICLES, STOCKPILING OF SOIL, AGGREGATE OR EXCAVATED MATERIALS, OR OTHER APPROVED USE. THE REGIONAL HIGHWAY MAINTENANCE ENGINEER ISSUES THE NO-FEE, STAGING AREA PERMIT IN CONJUNCTION WITH THE HIGHWAY MAINTENANCE RESIDENCE ENGINEER, REGIONAL LANDSCAPE ARCHITECT AND PROJECT ENGINEER-IN-CHARGE. THE PERMIT FORM AND REQUIREMENTS ARE INCLUDED IN THE PROPOSAL.
 THE INTENT OF THIS PERMIT IS TO AVERT ADVERSE ENVIRONMENTAL, TRAFFIC, VISUAL OR PUBLIC IMPACTS AND TO ESTABLISH RESTORATION REQUIREMENTS WHEN THE USE OF STATE OWNED LAND IS ENDED.
 THE CONTRACTOR SHALL NOT OCCUPY OR USE STATE OWNED LAND WITHOUT AN APPROVED PERMIT AND APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN.
- FOR STAGING AREAS LOCATED ON PARKWAYS, CHAIN LINK FENCING 6' IN HEIGHT WITH SOLID INSERT SLATS SHALL BE REQUIRED TO SCREEN THE STAGING AREA FROM MOTORISTS ON THE PARKWAY SIDE. SLATS SHALL BE DARK BROWN "WINGED" SLATS MADE OF HIGH DENSITY POLYETHYLENE (HDPE). THEY ARE TO BE INSERTED INTO THE MESH OF THE CHAIN LINK FENCE. EACH SLAT SHALL HAVE SUFFICIENT LENGTH TO EXTEND FROM THE BOTTOM TO THE TOP OF THE FENCE FABRIC. FENCING SHALL MEET THE PROVISIONS OF SECTION 607 PERTAINING TO OPTIONAL CHAIN-LINK FENCE, TYPE I, WITH TOP TENSION WIRE SHALL APPLY. POSTS SHALL BE STEEL OF THE TYPE AND SIZE INDICATED ON THE STANDARD SHEETS.
- FENCING TYPE FOR THE REMAINDER OF THE STAGING AREA PERIMETER SHALL BE DETERMINED WHEN A STAGING AREA PERMIT REQUEST IS SUBMITTED TO NYSDOT. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE STAGING AREA FENCING, SLATS AND INSTALLATION, UNLESS OTHERWISE INDICATED ON THE PLANS.

PAVING

- THE SEALING OF TRANSVERSE PAVEMENT JOINTS AND CRACKS SHALL BE DONE AFTER THE COMPLETION OF ALL PAVEMENT REPAIRS WITHIN 1200 FT OF THE SEALING LOCATION.
- TACK COAT - THE USE OF DISTRIBUTOR EQUIPMENT AS DESCRIBED IN THE SPECIFICATIONS WILL NOT BE REQUIRED IN THIS CONTRACT. INSTEAD, SMALL POWER SPRAY UNITS OF HAND SPRAY EQUIPMENT MAY BE USED.
- TACK COAT SHALL BE APPLIED WHENEVER RESURFACING: (1) ANY PORTLAND CEMENT CONCRETE PAVEMENT; (2) ANY MILLED PAVEMENT; AND (3) ANY ASPHALT CONCRETE PAVEMENT EXCEPT WHEN THE EXISTING SURFACE IS EXCESSIVELY FLUSHED, AS DETERMINED BY THE ENGINEER. IN ADDITION, TACK COAT SHALL BE APPLIED TO CONTACT SURFACES BETWEEN ALL HOT MIX ASPHALT PAVEMENT LIFTS REGARDLESS OF TIME PERIOD BETWEEN LIFTS OR CONSTRUCTION VEHICLE USE (EXCLUDING THE SURFACE OF PERMEABLE BASE MATERIAL). CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 402-3.06 OF THE STANDARD SPECIFICATIONS.
- CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTIONS 402-3.02 AND 402-3.06 OF THE STANDARD SPECIFICATIONS. WHEN HOT MIX ASPHALT IS TO BE PLACED BY BITUMINOUS PAVER THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN A CONSISTENT GRADATION ACROSS THE MAT. THIS MAY INCLUDE, BUT NOT BE LIMITED TO, REMIXING OF MATERIAL TRANSFERRED FROM THE HAULING UNIT. THE CONTRACTOR SHALL USE EQUIPMENT SUCH AS MOBILE CONVEYER, MATERIAL TRANSFER VEHICLE DEVICE, SHUTTLE BUGGY, MATERIAL TRANSFER PAVER, OR PAVER WITH REMIXER CONVEYOR SYSTEM. THE ENGINEER WILL CONSIDER OTHER TYPES OF EQUIPMENT OR MODIFICATIONS TO PAVERS, WHICH WILL MINIMIZE SEGREGATION, RAVELING THAT MAY OCCUR TO THE ASPHALT MAT THAT IS SUBJECT TO TRAFFIC DURING ANY PHASE OF CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL NECESSARY REPAIRS TO RAVELED AREAS SHALL BE REPAIRED AT NO COST TO THE STATE. THIS WORK MAY INCLUDE, BUT IS NOT LIMITED TO, SAW CUTTING, REMOVAL OF RAVELED/UNSTABLE HOT MIX ASPHALT AND PLACEMENT OF NEW HOT MIX ASPHALT MATERIAL IN REPAIR AREA.
 THE PAVER SHALL HAVE A CONSTANT FLOW/HEAD OF MATERIAL. THE WINGS OF THE PAVER RECEIVING HOPPER SHALL NOT BE RAISED (DUMPED) AT ANY TIME DURING THE PAVING OPERATION. STOPPING OF PAVING MACHINE SHALL BE KEPT TO A MINIMUM. BROADCASTING OF LOOSE MATERIAL OVER THE PAVED MAT WILL NOT BE PERMITTED.

SAW CUTTING

- WHEN SAW CUTTING IS REQUIRED THE DEPTH WILL BE AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS:
 CONCRETE OR COMPOSITE PAVEMENT - FULL DEPTH - (ITEM 520.05000010)
 ASPHALT PAVEMENT - FULL DEPTH - (ITEM 520.09000010)
- WHEN REMOVING COMPOSITE PAVEMENT (ASPHALT CONCRETE ON CONCRETE PAVEMENT), PAYMENT WILL BE MADE UNDER ITEM 520.05000010 AND NO PAYMENT WILL BE MADE UNDER ITEM 520.09000010 UNLESS THE CONTRACT DOCUMENTS SPECIFICALLY INDICATE THE CUT THROUGH THE ASPHALT IS AT A DIFFERENT LOCATION THAN THE CUT THROUGH THE CONCRETE.
- NO PAYMENT WILL BE PAID UNDER THE SAWCUT ITEMS, IF THE PAYMENT FOR SAWCUT IS INCLUDED IN OTHER ITEMS.

CURBS AND SIDEWALKS

- NEW CURBS NOT ABUTTING EXISTING CURB, SHALL BE RAMPED DOWN TO ZERO HEIGHT REVEAL IN THE LAST 10 FT, AT LOCATIONS FACING TRAFFIC. AT EXIT GORES CURB SHALL BE RAMPED DOWN IN 20 FT ON BOTH SIDES OF THE GORE.
- THE PLANS SPECIFICALLY CALL FOR THE REMOVAL OF EXISTING CURBS AT VARIOUS LOCATIONS. OTHER EXISTING CURBS ARE TO BE REMOVED IN AREAS OF OBVIOUS CONFLICT WITH THE PROPOSED WORK OR WHERE ORDERED BY THE ENGINEER. IF EXCAVATION IS NOT PART OF THE PAYMENT FOR THE ITEM BEING PLACED IN THESE AREAS, PAYMENT WILL BE MADE UNDER ITEM 203.02. IF THERE IS NO OTHER GENERAL EXCAVATION IN THE AREA, THE CURB REMOVAL WILL BE PAID BY THE FACTOR OF 0.4 CUBIC YARD PER YARD OF CURB REMOVAL.
- THE PLANS SHOW AREAS OF FULL DEPTH ASPHALT CONCRETE TRANSVERSELY ACROSS THE MAINLINE PAVEMENT WHICH FUNCTION AS STRESS RELIEF JOINTS. A 1/2" INCH THICKNESS OF PREMOULDED RESILIENT JOINT FILLER CONFORMING TO SUBSECTION 705-07 SHALL BE PLACED IN THE CURB JOINTS AT THE ENDS OF THESE AREAS, TO ACCOMMODATE THE MOVEMENT EXPECTED AT THESE POINTS.

GUIDE RAIL AND MEDIAN BARRIERS

- WHERE NOTED, ON THE PLANS, THE CONTRACTOR SHALL REUSE EXISTING CONCRETE ANCHORS FOR THE MEDIAN BARRIER. NO PAYMENT WILL BE MADE FOR REUSE IN EXISTING LOCATIONS AND NO PAYMENT WILL BE MADE UNDER THE ANCHORAGE ITEM. INSTEAD, PAYMENT WILL BE MADE UNDER THE MEDIAN BARRIER ITEM, CONTINUOUS ALONG THE RAILING TO THE CENTERLINE OF THE CONCRETE ANCHOR. THE TAPERED END WILL STILL BE REQUIRED AS SHOWN ON THE STANDARD SHEET, BUT WILL BE PAID UNDER THE MEDIAN BARRIER ITEM 606.33.
- MEDIAN BARRIER REMOVAL, ITEM 606.72, WILL BE MEASURED TO THE CONCRETE ANCHOR WHEN THE ANCHOR IS RETAINED. WHEN THE ANCHOR IS TO BE REMOVED (ITEM 606.7945), THE LAST 25 FT OF RAIL IS CONSIDERED PART OF THE ANCHOR UNIT AND IS TO BE REMOVED UNDER THAT ITEM. PAYMENT WILL NOT BE MADE FOR ITS REMOVAL UNDER THE MEDIAN BARRIER REMOVAL ITEM.

- AT LOCATIONS WHERE EXISTING GUIDE RAIL OR MEDIAN BARRIER IS TO BE REMOVED, EITHER TO GAIN ACCESS TO A WORK AREA OR TO CONSTRUCT A MOWING STRIP OR TO INSTALL NEW RAIL, THE WORK SHALL BE PERFORMED IN A TIMELY MANNER TO MINIMIZE THE TIME THE AREA IS WITHOUT GUIDE RAIL OR MEDIAN BARRIER. THE WORK SHALL BE FURTHER RESTRICTED AS FOLLOWS: A) DRUMS SHALL BE INSTALLED AT 50 FT INTERVALS THROUGHOUT THE WORK AREA WHEN RAIL IS REMOVED, B) THE CONTRACTOR SHALL SCHEDULE HIS WORK SO THAT NO AREA IS LEFT WITHOUT RAIL FOR LONGER THAN ONE WEEK.
- UNDER ITEM 201.06, THE CONTRACTOR SHALL REMOVE ALL TREE BRANCHES, SHRUBS, ETC., WITHIN 5 FT OF THE BACK OF ALL GUIDE RAIL SYSTEMS TO A HEIGHT OF 16 FT.
- CONCRETE MEDIAN BARRIER EXCEPT AS MODIFIED BY THE PLANS, CONCRETE MEDIAN BARRIER SHALL BE CONSTRUCTED IN CONFORMANCE TO THE STANDARD SHEETS FOR PRECAST, CAST-INPLACE OR SLIPFORMED CONCRETE MEDIAN BARRIER. THE CONTRACTOR, AT HIS OPTION, MAY ELECT TO CONSTRUCT CONCRETE MEDIAN BARRIER WITH A SHAPE AND HEIGHT DIFFERENT THAN THAT SHOWN ON THE STATE STANDARD SHEET SUBJECT TO THE FOLLOWING RESTRICTIONS:
 A. THE MINIMUM WIDTH OF THE TOP OF THE STEM MUST BE 6 INCH. THE MINIMUM BARRIER HEIGHT, FROM THE TOP OF PAVEMENT TO THE TOP OF BARRIER, SHALL BE 32 INCH.
 B. THE ELEVATION FOR THE BREAK IN UPPER AND LOWER FACES MUST BE 13 INCH ABOVE THE PAVEMENT SURFACE.
 C. THE UPPER AND LOWER FACE SLOPES MUST MATCH THOSE ON THE STATE STANDARD SHEETS FOR CONCRETE MEDIAN BARRIER.
 REINFORCEMENT MUST BE SHOWN ON THE SHOP DRAWINGS FOR THE ALTERNATE DESIGN.
 THIS ALTERNATE DESIGN MUST BE APPROVED BY THE REGIONAL DIRECTOR.
 NO EXTRA PAYMENT WILL BE MADE FOR THIS ALTERNATE BARRIER BECAUSE OF MATERIAL.
- AT AREAS WHERE EXISTING GUIDE RAIL OR MEDIAN BARRIER IS TO BE REMOVED AND REPLACED, NO WORK SHALL BEGIN UNTIL THE CONTRACTOR HAS SATISFIED THE ENGINEER THAT ALL MATERIALS, LABOR AND EQUIPMENT ARE AVAILABLE AND THAT THE WORK IS SCHEDULED SO THAT IT WILL PROCEED EFFICIENTLY AND WITHOUT INTERRUPTION FROM ITS START UNTIL COMPLETION. THE WORK SHALL FURTHER BE RESTRICTED AS FOLLOWS:
 (A) THE CONTRACTOR SHALL NOT DISTURB OR OCCUPY A SECTION OF MEDIAN IN EXCESS OF 2000 FT IN ADVANCE OF SATISFACTORILY PLACED NEW MEDIAN BARRIER AND ADJACENT SHOULDER.
 (B) THE CONTRACTOR SHALL SCHEDULE HIS WORK SO THAT NO AREA IS LEFT WITHOUT MEDIAN BARRIER OR GUIDE RAIL FOR LONGER THAN ONE WEEK.
 (C) DRUMS SHALL BE INSTALLED AT 40 FT INTERVALS THROUGHOUT THE WORK AREA WHEN GUIDE RAIL OR MEDIAN BARRIER IS REMOVED.
 (D) DURING THE REMOVAL AND REPLACEMENT OF THE EXISTING GUIDE RAIL OR MEDIAN BARRIER, THE LAST 25 FT OF THE BARRIER FACING TRAFFIC SHALL BE TURNED DOWN AND SECURED TO THE GROUND AT THE END OF EACH WORKING DAY IN A MANNER ACCEPTABLE TO THE ENGINEER. A DRUM SHALL BE PLACED EVERY 5 FT WITHIN THIS 25 FT SECTION.
 THE ABOVE LIMITATIONS DO NOT APPLY TO GUIDE RAIL OR MEDIAN BARRIER AT STRUCTURES. ALL REMOVAL AND REPLACEMENT FOR A DISTANCE OF 200 FT PRIOR TO A STRUCTURE SHALL BE COMPLETED ON A DAILY BASIS.
 EXCEPT FOR TEMPORARY WORK ON GUIDE RAIL OR MEDIAN BARRIER AS DISCUSSED ABOVE, WHICH IS PAID UNDER ITEM 619.01, THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK BUT THE COST SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.
- ALL GUIDE RAIL SHALL INCLUDE A MOWING STRIP WHERE SHOWN ON THE PLANS AND SECTIONS. ON PARKWAYS WITH RAISED GRASSED SHOULDERS, THE MOW STRIP SHALL BE PLACED ONLY DIRECTLY UNDER THE GUIDE RAIL (12" FROM FACE OF RAIL AND/OR 12" FROM THE POST).

SURVEY

- THE CENTERLINE SHOWN ON THESE PLANS IS APPROXIMATE AND IS SHOWN FOR TABULATING AND FILING PURPOSES ONLY. THE CENTERLINE STATIONING MAY BE ESTABLISHED BY FLAT CHAINING ALONG THE EXISTING SURFACE UTILIZING CONTROLS FURNISHED BY THE CONTRACTOR. THESE CONTROL POINTS SHALL BE SUBMITTED TO THE EIC FOR APPROVAL. PAYMENT SHALL BE INCLUDED IN THE SURVEY OPERATIONS ITEM 625.01.
- ALL ELEVATIONS SHOWN REFER TO THE NORTH AMERICAN VERTICAL DATUM ESTABLISHED IN 1988 (NGVD 88).
- ALL COORDINATES SHOWN ARE IN NEW YORK STATE PLANE LAMBERT NAD 83 NEW YORK, LONG ISLAND ZONE (ENGLISH).

LANDSCAPING

- TREES AND SHRUBS ARE TO BE PRUNED IN ACCORDANCE WITH BOTH SECTION 201 AND THE FOLLOWING REQUIREMENTS. ALL COSTS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 201.06.
 A. THE CONTRACTOR SHALL CAREFULLY CUT OFF ALL BRANCHES OF PLANTS HANGING WITHIN 16 FT ABOVE ANY PART OF THE ROADWAY OR WITHIN 2 FT OF THE EDGE OF THE SHOULDER. BRANCHES SHALL BE TRIMMED AT THE TRUNK TO MAINTAIN A CALLOUS RIDGE.

- PRUNING MAY BE REQUIRED BEYOND THE LIMITS INDICATED IN ORDER TO MAINTAIN ADEQUATE SIGHT DISTANCE FOR ALL TRAFFIC SIGNS AND SIGNALS. ADDITIONAL BRANCH PRUNING MAY ALSO BE REQUIRED ON ANY TREE WHERE BRANCHES ARE REMOVED IN ORDER TO MAINTAIN AN ESTHETIC BALANCE. ALL SUCH ADDITIONAL PRUNING SHALL BE AS ORDERED BY THE ENGINEER.
- ALL WORK SHALL BE DONE ACCORDING TO ACCEPTABLE HORTICULTURAL AND PRUNING PRACTICES.
- THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE ANY EXISTING TREES THAT ARE TO REMAIN. ANY DAMAGE THROUGH CARELESSNESS OF THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, ABOVE.
- IN LOCATIONS WHERE NARROW VEGETATIVE BUFFERS EXIST BETWEEN PARKWAYS AND ADJACENT BUILDINGS (RESIDENCIES) THE CONTRACTOR SHALL NOT REMOVE VEGETATION AS TO CREATE SIGHT LINES FROM ADJACENT BUILDINGS TO THE PARKWAY OR FROM THE PARKWAY TO ADJACENT BUILDINGS.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 107-08A OF THE STANDARD SPECIFICATIONS. SPECIFIC AREAS WITHIN THE WORK LIMITS SUBJECT TO THE SEEDING PROVISION SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE AREAS ADJACENT TO THE BRIDGE PARRAPEL, SIDEWALKS, AND WZTC STAGING AREAS AND ENTRANCES.
- AREAS TO BE SEEDON ON THIS PROJECT MAY BE SUBJECT TO VEHICLE INTRUSIONS WHICH MAY RESULT IN THE NECESSITY OF RESEEDING. THE CONTRACTOR IS ADVISED TO TAKE ADEQUATE PROTECTIVE MEASURES TO MINIMIZE SUCH VEHICLE INTRUSIONS. THE FOLLOWING PROTECTIVE MEASURES ARE SUGGESTED:
 A. ORANGE PAINTED 1 X 1 WOODEN STAKES EXTENDING 1 FT ABOVE THE GROUND SURFACE SHOULD BE PLACED IMMEDIATELY IN BACK OF THE CURB AT 50 FT INTERVALS.
 B. SIGNS APPROXIMATELY 18 IN X 6 IN IN SIZE, PROJECTING 1 FT ABOVE THE GROUND, WITH THE WORDS "SEEDON AREA" SHOULD BE PLACED AT MAXIMUM 200 FT INTERVALS AND 7 FT OFFSET FROM THE CURB THROUGHOUT THE SEEDON AREA SUBJECT TO INTRUSION.
 C. REFLECTORIZED DRUMS, AT A 7 FT OFFSET FROM THE CURB, SHALL BE PLACED AT 200 FT LONGITUDINAL INTERVAL. THESE DRUMS SHOULD ALTERNATE WITH THE SIGNS SUGGESTED UNDER B ABOVE.
- THE DISTURBED AREAS SHALL BE SEEDON, FERTILIZED AND MULCHED AS SPECIFIED FOR THE STANDARD SEEDING ITEM, TURF ESTABLISHMENT EXCEPT THE SEED SHALL BE TALL FESCUE, COMMERCIAL IMPROVED VARIETIES, 85% MINIMUM GERMINATION, 56 LB OF PURE LIVE SEED PER ACRE, RED FESCUE, COMMERCIAL, 85% MINIMUM GERMINATION, 10 LB OF PURE LIVE SEED PER ACRE, AND PERENNIAL RYE GRASS COMMERCIAL IMPROVED VARIETIES, 80% MINIMUM GERMINATION, 40 LB OF PURE LIVE SEED PER ACRE, TOTAL 106 LB OF PURE LIVE SEED PER ACRE, UNLESS OTHERWISE DIRECTED BY THE REGIONAL LANDSCAPE ARCHITECT.
 WHEN SMALL AMOUNTS OF SEEDING, LESS THAN 1 ACRE, ARE REQUIRED FOR RESTORATION AND THE SEED MIX AS SPECIFIED ABOVE IS NOT AVAILABLE AT THE TIME OF SEEDING, EQUIVALENT SEED MIX MAY BE APPROVED BY THE REGIONAL LANDSCAPE ARCHITECT.
 NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK BUT THE COST SHALL BE INCLUDED IN THE PRICE BID FOR VARIOUS CONTRACT ITEMS.

TREE REMOVAL

- ONLY THOSE TREES DESIGNATED FOR REMOVAL ON EACH BASIS IN THE PLANS SHALL BE REMOVED AND PAID FOR UNDER THE CONTRACT ITEMS(S) FOR TREE REMOVAL. ALL OTHER TREE REMOVALS SHALL BE PAID FOR UNDER THE CLEARING AND GRUBBING ITEM. THE CONTRACTOR SHALL NOTIFY THE E.I.C TWO (2) WEEKS PRIOR TO REMOVAL OF ANY TREES AND SHALL NOT START HIS OPERATION UNTIL APPROVED BY THE E.I.C.

CLEARING AND GRUBBING

- CLEARING AND GRUBBING IS NOT ANTICIPATED FOR THE FULL LENGTH OF THE CONTRACT. THE PLANS SHOW ONLY CERTAIN SPECIFIC WORK REQUIREMENTS, ADJACENT TO THE WINGWALLS (SEE DWG. MD-1).
- CLEARING AND GRUBBING SHALL INCLUDE THE REMOVAL OF ALL TREES 6 INCHES IN DIAMETER OR LESS. TREES LARGER THAN 6 INCHES IN DIAMETER SHALL BE REMOVED UNDER ITEMS 614.06XX, AS SHOWN AND TABULATED ON THE PLANS OR AS ORDERED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE E.I.C TWO (2) WEEKS PRIOR TO REMOVAL OF ANY TREES AND SHALL NOT START HIS OPERATION UNTIL APPROVED BY THE E.I.C.
- UNDER ITEM 201.06, THE CONTRACTOR SHALL REMOVE ALL TREE BRANCHES, SHRUBS, ETC., WITHIN 2 FT OF THE BACK OF ALL GUIDE RAIL SYSTEMS AND/OR WINGWALLS TO A HEIGHT OF 16 FT.

AFFIX SEAL: ON:	ALTERED BY: ON:				
AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:					
<table border="1"> <tr> <td>NY 110 OVER NY 27 BRIDGE REPLACEMENT</td> </tr> <tr> <td>REGION 10</td> </tr> <tr> <td>TOWN OF BABYLON</td> </tr> <tr> <td>COUNTY: SUFFOLK</td> </tr> </table>		NY 110 OVER NY 27 BRIDGE REPLACEMENT	REGION 10	TOWN OF BABYLON	COUNTY: SUFFOLK
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NY 110 OVER NY 27 BRIDGE REPLACEMENT		PIN 0112.57	BRIDGES	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED		CONTRACT NUMBER	
REGION 10		NY 110 OVER NY27 BRIDGE REPLACEMENT	1019119	GENERAL NOTES - 1		DXXXXXX	
TOWN OF BABYLON				DRAWING NO. GN-1		SHEET NO. 5	

GENERAL NOTES (CONTINUED):

SOIL AND SOIL EROSION CONTROL

40. TEMPORARY SILT SEDIMENT FILTER BAGS, ITEM 209.11000010 SHALL BE INSTALLED ON ALL DRAINAGE STRUCTURES THAT FALL WITHIN THE WORK ZONE (AOBE). SEE DWGS. SEC-1 AND SEC-2.

SIGNS

- 41. RESTORATION OF THE AREA AROUND SIGNS TO BE REMOVED, WHERE NO OTHER WORK IS PROPOSED, SHALL BE INCLUDED IN THE PRICE BID FOR SIGN REMOVAL. THE AREA SHALL BE RESTORED SIMILAR TO THE SURROUNDING AREAS, AOB.
- 42. CURRENT REQUIREMENTS FOR LATERAL CLEARANCE AND HEIGHT REQUIREMENTS FOR SIGNS ARE GIVEN ON THE STANDARD SHEET TITLED STANDARD HEIGHT AND LATERAL LOCATION FOR TRAFFIC SIGNS, TYP. REG. & WARNING SIGNS ASSEMB. FOR SIGNS WHICH ARE TO BE ERCTED ON THE PARKWAY SYSTEM, THOSE REQUIREMENTS WHICH ARE SET FORTH FOR FREEWAYS/EXPRESSWAYS SHALL APPLY.
- 43. FLEXIBLE POST DELINEATORS UNLESS INDICATED OTHERWISE ON THE PLANS, DELINEATORS SHALL BE LOCATED AND SPACED IN ACCORDANCE WITH SECTIONS 6F.74 AND 3D.04 OF THE MUTCD. THE MINIMUM SIZE OF REFLECTIVE SHEETING APPLIED TO EACH SINGLE UNIT DELINEATOR SHALL BE AS SPECIFIED IN SECTION 3D.02 OF THE MUTCD WITH A MINIMUM WIDTH OF 3 IN. WHERE DOUBLE UNITS ARE SPECIFIED, TWO SUCH SHEETS SHALL BE AFFIXED TO THE POST.
- 44. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SUBSECTION 645-2.02 "SIGN PANELS" OF THE 2008 STANDARD SPECIFICATIONS. THE REQUIRED IDENTIFICATION SHALL BE APPLIED TO ALL NEW SIGN PANELS.
- 45. CONTRACTOR SHALL REMOVE EXISTING BRIDGE MOUNTED SIGN PANELS IN A NEAT AND SKILLFUL MANNER, PAYMENT SHALL BE MADE UNDER ITEM 647.24. THE SIGN PANELS SHALL BE TEMPORARILY GROUND MOUNTED AS PER NYS DOT STANDARD SHEET 645-10, PAYMENT MADE UNDER ITEMS 645.830203, & 645.830303. SEE DWG WZTC-2 FOR TEMPORARY SIGN LOCATIONS. TEMPORARILY GROUND MOUNTED SIGNS SHALL BE REMOVED ONCE NEW BRIDGE MOUNTED SIGN PANELS ARE INSTALLED. PAYMENT SHALL BE MADE UNDER ITEMS 647.52, 647.53 & 647.65. SEE DWGS. WZTC-6, WZTC-9, AND ST-22 FOR SIGN STRUCTURE LOCATIONS, DETAILS AND NOTES.

IN ADDITION TO NEW STEEL NEEDED FOR CONNECTIONS, SOME OF THE EXISTING STEEL MEMBERS (EXISTING ANGLE MEMBERS, EXISTING WT CONNECTION MEMBERS, ETC.) FROM THE EXISTING SIGN STRUCTURE FRAMES WILL BE REPLACED WITH NEW STEEL MEMBERS. MATERIAL FOR NEW STEEL MEMBERS TO CONFORM TO THE REQUIREMENTS OF SPECIFICATION SECTION 644-2.01. THE NEW SIGN STRUCTURE STEEL SHALL HAVE A MINIMUM YIELD STRESS OF 36 KSI AND BE GALVANIZED PER THE REQUIREMENTS OF SPECIFICATION SECTION 644-2.01. THE COST FOR THE NEW SIGN STRUCTURE GALVANIZED STEEL SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 645.61.

PAVEMENT MARKINGS

- 46. WHERE BROKEN LINES ARE PLACED ADJACENT TO ONE ANOTHER, THE LINES SHALL START AND STOP OPPOSITE EACH OTHER.
- 47. EXISTING PAVEMENT MARKINGS REMOVED UNDER ITEM 619.0801 AND LINES IN MILLING AREAS SHALL BE REPLACED USING THE 685 SERIES, EPOXY REFLECTORIZED PAVEMENT MARKINGS.

UTILITIES

- 48. THE UTILITY LOCATION QUALITY LEVEL LABELING CONVENTION SHOWN ON THE PLANS DOES NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS UNDER SECTIONS 660 THROUGH 680 OF THE STANDARD SPECIFICATIONS. FOR THESE PLANS, QUALITY LEVEL D - EXISTING NYS DOT AND UTILITY COMPANY RECORDS WERE USED TO LOCATE SUBSURFACE UTILITIES (SHOWN AS QLD).
- 49. THE CONTRACTOR SHALL KEEP ALL ADJACENT CATCH BASINS WITHIN THE WORK ZONE CLEAN AND FREE FLOWING DURING THE LIFE OF THE CONTRACT. THE COST SHALL BE INCLUDED IN THE UNIT PRICES FOR THE VARIOUS BRIDGE REHABILITATION ITEMS IN THE CONTRACT.

LOCATION OF UNDERGROUND CABLES AND LIGHTING

50. THE CONTRACTOR IS ADVISED THAT STATE OWNED LIGHTING FACILITIES EXIST WITHIN THE PROJECT LIMITS. LOCATION AND MARKOUT OF UNDERGROUND CABLES SERVING THESE FACILITIES WILL BE PERFORMED BY OTHERS. THE CONTRACTOR IS RESPONSIBLE FOR THE COST TO REPAIR ALL DAMAGE TO THESE FACILITIES. FOR SPECIFIC INFORMATION REGARDING LOCATION AND MARKOUT OF THESE FACILITIES AND THE REPAIR OF DAMAGES SEE THE SPECIAL NOTE "CONFLICTS WITH UNDERGROUND AND OVERHEAD LIGHTING FACILITIES" IN THE PROJECT PROPOSAL.

MAINTENANCE RESPONSIBILITY

- 51. THE CONTRACTOR'S RESPONSIBILITY FOR HIGHWAY MAINTENANCE DURING THE CONSTRUCTION PERIOD ARE LISTED ON DWG HMJ-01.
- 52. AFTER COMPLETION OF THE CONTRACT, ALL FEATURES OF THE BRIDGE AND ASSOCIATED ROADWAY FEATURES WILL BE MAINTAINED BY THE AGENCIES PRESENTLY RESPONSIBLE FOR THEIR MAINTENANCE (SEE DWG HMJ-01).

STRUCTURAL NOTES


- 53. DESIGN SPECIFICATIONS: NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES WITH ALL PROVISIONS IN EFFECT AS OF JULY 24, 2003. (FOR DESIGN PURPOSES, COMPRESSIVE STRENGTH OF CONCRETE FOR SUBSTRUCTURES AND DECK SLABS AT 28 DAYS: f'c = 3000 psi.)
- 54. LIVE LOAD: HS20
- 55. CONSTRUCTION AND MATERIALS SPECIFICATIONS: STANDARD SPECIFICATIONS, CONSTRUCTION AND MATERIALS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, OFFICE OF ENGINEERING, DATED MAY 1, 2008, WITH CURRENT ADDITIONS AND MODIFICATIONS.
- 56. DETAILS ON THE DRAWINGS LABELED AS "NOT TO SCALE" ARE INTENTIONALLY DRAWN NOT TO SCALE FOR VISUAL CLARITY. ALL OTHER DETAILS FOR WHICH NO SCALE IS SHOWN ARE DRAWN PROPORTIONAL AND ARE FULLY DIMENSIONED.
- 57. ALL SHOP DRAWINGS SUBMITTED FOR THIS PROJECT SHALL BE IN US CUSTOMARY UNITS.
- 58. THE COST OF ALL JOINT MATERIAL SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT, UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 59. THIS BRIDGE SHALL BE MAINTAINED IN ACCORDANCE WITH THE GUIDELINES CONTAINED IN THE CURRENT EDITION OF THE AASHTO MAINTENANCE MANUAL: THE MAINTENANCE AND MANAGEMENT OF ROADWAYS AND BRIDGES.
- 60. THE CONTRACTOR IS CAUTIONED THAT MATERIALS CONTAINING ASBESTOS ARE BELIEVED TO EXIST AT VARIOUS LOCATIONS ON OR IN CERTAIN STRUCTURAL ELEMENTS OF THIS CONTRACT. THESE MATERIALS WERE NOTED ON THE ORIGINAL CONTRACT PLANS OF THE STRUCTURES AND/OR DURING FIELD INSPECTIONS. (SEE DWG. ENV-1)
- 61. ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A709-GRADE 50 UNLESS OTHERWISE NOTED. STEEL PLATES SHALL CONFORM TO ASTM A709-GRADE 56.
- 62. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE PROVISIONS OF THE CURRENT SPECIFICATIONS FOR SUPERSTRUCTURE SLABS, WHICH ALLOW THE OPTION OF 3 FORMING SYSTEMS FOR THE UNDERSIDE OF THE SLABS. HOWEVER, ON THIS BRIDGE, ONLY THE FOLLOWING OPTION WILL BE PERMITTED: REMOVABLE WOODEN FORMS.
- 63. NO DEVIATIONS FROM THE HAUNCH DETAILS SHOWN ON THESE PLANS MAY BE MADE WITHOUT THE PERMISSION OF THE D.C.E.S.
- 64. THE EXISTING STRUCTURAL STEEL FOR THIS BRIDGE SHALL BE PAINTED AT LOCATIONS THAT ARE IMPACTED BY STEEL RETROFITS AND AREAS WHERE THE EXISTING PAINT IS DETERIORATED. FINISH COAT COLOR SHALL BE SAGE GREEN. THE COLOR SHALL CONFORM TO FEDERAL COLOR #34227. VIEWING SHALL BE DONE UNDER NORTH STANDARD DAYLIGHT. THE ESTIMATED QUANTITY IS 620 SQUARE FEET OF PAINTED STRUCTURAL STEEL ON THIS BRIDGE. THE ITEM NUMBER IS 574.030001 (STRUCTURAL STEEL PAINTING: LOCALIZED). CLASS B CONTAINMENT FOR PAINT REMOVAL, ITEM 570.160001, SHALL BE USED WITH LOCALIZED PAINTING OPERATIONS.
- 65. PROPOSED STEEL PLATES SHALL BE PAINTED UNDER ITEM 572.010001 (STRUCTURAL STEEL PAINT SYSTEM: SHOP APPLIED).
- 66. ALL BRIDGE SEATS AND STEEL SURFACES SHALL BE POWER WASHED. PRICE INCLUDED UNDER ITEM 574.030001.
- 67. THE COST OF SPOT PAINTING FOR THE REPAIRS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE APPROPRIATE STRUCTURAL STEEL ITEM.
- 68. THE FAYING SURFACES OF ALL CONNECTIONS SHALL BE BASE METAL. ALL PAINT REMOVAL AND CLEANING OF EXISTING STRUCTURAL STEEL TO BE REPAIRED, INCLUDING THE REMOVAL OF PAINT TO BASE METAL OF ALL FAYING SURFACES, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE STRUCTURAL STEEL ITEM FOR THAT SPECIFIC REPAIR TYPE.
- 69. THE CONTRACTOR SHALL PROVIDE FOR THE STABILITY OF STRUCTURAL STEEL DURING ALL PHASES OF ERECTION AND CONSTRUCTION, AS PROVIDED IN SUBSECTION 204 OF THE NEW YORK STATE STEEL CONSTRUCTION MANUAL (SCM). THE METHODS USED BY THE CONTRACTOR SHALL BE DOCUMENTED ON THE ERECTION DRAWINGS WITH ALL SUPPORTING STABILITY CALCULATIONS SUBMITTED AND STAMPED BY A LICENSED NEW YORK STATE PROFESSIONAL ENGINEER AND SUBMITTED TO THE DCES IN ACCORDANCE WITH THE SCM.

- 70. THE DETAILS FOR THE BARRIER REINFORCEMENT ARE FOR THE SLIP-FORMED OR CAST-IN-PLACE OPTION ONLY. COST OF BARRIER AND ANCHORAGE REINFORCEMENT ORIGINATING IN THE SLAB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE BARRIER ITEM.
- 71. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE PROVISIONS OF THE CURRENT SPECIFICATIONS FOR PERMANENT CONCRETE TRAFFIC BARRIER FOR STRUCTURES, WHICH ALLOWS THE OPTION OF THREE CONSTRUCTION METHODS: CAST-IN-PLACE, SLIP FORMED, OR PRECAST. HOWEVER, ON THIS BRIDGE, ONLY CAST-IN-PLACE AND SLIP FORMING ARE ALLOWED.
- 72. RECORD PLANS FOR THIS STRUCTURE ARE AVAILABLE AT THE REGIONAL OFFICE OF THE DEPARTMENT OF TRANSPORTATION. (SEE CONR 9 FORM)
- 73. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CANNOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. THESE CONTRACT DOCUMENTS HAVE BEEN PREPARED BASED ON FIELD INSPECTION AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS.
- 74. THE CONTRACTOR SHALL VERIFY DIMENSIONS NECESSARY FOR THE PROPER FIT OF STEEL PIECES PRIOR TO THE FABRICATION OF THE STEEL. THE COST OF FIELD VERIFYING DIMENSIONS SHALL BE INCLUDED IN THE PRICE BID FOR STRUCTURAL STEEL ITEMS.
- 75. THE CONTRACTOR SHALL PERFORM ALL WORK WITH CARE SO THAT ANY MATERIALS WHICH ARE TO REMAIN IN PLACE, OR WHICH ARE TO REMAIN THE PROPERTY OF THE STATE, WILL NOT BE DAMAGED. IF THE CONTRACTOR DAMAGES ANY MATERIALS WHICH ARE TO REMAIN IN PLACE OR WHICH ARE TO REMAIN THE PROPERTY OF THE STATE, THE DAMAGED MATERIALS SHALL BE REPAIRED OR REPLACED IN A MANNER SATISFACTORY TO THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR.
- 76. WHENEVER ITEMS IN THE CONTRACT REQUIRE MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF SUPPLYING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THOSE ITEMS.
- 77. DURING REMOVAL OPERATIONS, THE CONTRACTOR SHALL NOT BE ALLOWED TO DROP WASTE CONCRETE, DEBRIS AND OTHER MATERIAL TO THE AREA BELOW THE BRIDGE EXCEPT WHERE THE PLANS SPECIFICALLY PERMIT THE DROPPING OF MATERIAL. PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE USED TO CATCH THE MATERIAL. IF THE ENGINEER DETERMINES THAT ADEQUATE PROTECTIVE DEVICES ARE NOT BEING EMPLOYED, THE WORK SHALL BE SUSPENDED UNTIL ADEQUATE PROTECTION IS PROVIDED.
- 78. ALL MATERIAL FALLING ON THE ARE BELOW AND ADJACENT TO THE BRIDGE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AT NO COST TO THE STATE.
- 79. THE COST OF FURNISHING, INSTALLING, MAINTAINING, REMOVING AND DISPOSING OF ALL PLATFORMS, NETS, SCREENS OR OTHER PROTECTIVE DEVICES SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE CONCRETE REMOVAL ITEMS (580.01 AND 580.02).
- 80. THE DETAILS ON DRAWING NOS. ST-3, ST-16, AND ST-17 INDICATE THE SPALLS, SCALES AND CRACKS NOTED ON A FIELD INSPECTION BY THE DESIGNER. ALL OF THE MAJOR AREAS OF SPALLING, SCALING AND CRACKING KNOWN TO EXIST AT THE TIME OF CONTRACT PREPARATION HAVE BEEN SHOWN TO INDICATED THE APPROXIMATE EXTENT OF DETERIORATION THAT WILL HAVE TO BE REPAIRED BY THE CONTRACTOR.
- 81. AREAS OF CONCRETE DETERIORATION SHALL BE REPAIRED USING ITEM 582.05 - REMOVAL OF STRUCTURAL CONCRETE - REPLACEMENT WITH CLASS A CONCRETE, ITEM 582.06 - REMOVAL OF STRUCTURAL CONCRETE - REPLACEMENT WITH CLASS D CONCRETE, OR ITEM 582.07 - REMOVAL OF STRUCTURAL CONCRETE - REPLACEMENT WITH VERTICAL AND OVERHEAD PATCHING MATERIAL AS SHOWN ON THE PLANS OR AS ORDERED BY THE ENGINEER.
- 82. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE LENGTHS OF EXISTING STRUCTURAL STEEL COMPONENTS TO BE REPLACED PRIOR TO THE FABRICATION OF THE REPLACEMENT COMPONENTS.
- 83. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE TOP OF PEDESTAL AND BRIDGE SEAT ELEVATIONS PRIOR TO CASTING THE NEW PEDESTALS AND INSTALLING THE NEW BEARINGS.
- 84. IF THE STRUCTURE HAS A BRIDGE IDENTIFICATION NUMBER (B.I.N.) PLATE ATTACHED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT IT DURING CONSTRUCTION OR REMOVE AND REMOUNT IT AFTER CONSTRUCTION IS COMPLETED.
- 85. VEHICULAR TRAFFIC OR CONSTRUCTION EQUIPMENT SHALL NOT BE PERMITTED ON THE LIFTED SPAN UNTIL SHIMS, CRIBBING, BOLSTERS OR OTHER SUITABLE SUPPORTS ARE IN THEIR REQUIRED POSITION.
- 86. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT CONDUITS MAY BE PRESENT IN THE STRUCTURAL SLABS, PARAPETS OR SIDEWALKS OF BRIDGES RECEIVING NEW OR REWORKED JOINT SYSTEMS. THEIR EXISTENCE AND LOCATIONS SHALL BE FIELD VERIFIED. IF CONDUITS ARE PRESENT AND ARE ENCOUNTERED DURING CONSTRUCTION OPERATIONS, CARE SHALL BE EXERCISED NOT TO DAMAGE CONDUITS, EXPANSION COUPLINGS, OR CONTENTS OF CONDUITS. ANY DAMAGE SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER, AT NO COST TO THE STATE.

- 87. THE MINIMUM TOTAL COVER (EXISTING CONCRETE OR SLAB RECONSTRUCTION CONCRETE PLUS THICKNESS OF DP OR MICRO-SILICA OVERLAY) SHALL BE 2 INCHES. THE TOTAL COVER TO THE SCARIFIED DECK SHALL VARY FROM 2" TO 2 1/4".
- 88. THE TRANSITION LENGTHS BETWEEN THE EXISTING PROFILE AND REVISED FINISHED PROFILE SHALL BE THE SAME AS THOSE SHOWN ON THE PLANS.
- 89. SHOULD THE TYPE OF RECONSTRUCTION WORK REQUIRED TO BE PERFORMED ON THE STRUCTURAL SLAB, TOGETHER WITH APPLICATION OF THE CONTRACTOR'S CHOICE OF SPECIALIZED CONCRETE OVERLY, RESULT IN A REVISED FINISHED PROFILE HIGHER THAN THAT SHOWN ON THE PLANS, THE CONTRACTOR SHALL SUBMIT THE REVISED PROFILE TO THE REGIONAL DIRECTOR FOR APPROVAL AT LEAST TWO WEEKS PRIOR TO PLACEMENT OF THE CONCRETE OVERLAY.
- 90. ALL ROADWAY SURFACES RECEIVING A SPECIALIZED CONCRETE OVERLAY SHALL BE GROOVED UNDER THE SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE ITEM (ITEM 558.02) AND SEALED UNDER THE PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE DECKS AND BRIDGE DECK OVERLAYS ITEM (ITEM 559.18960118).
- 91. CONCRETE PLACEMENT AND FINISHING OPERATIONS SHALL BE PERFORMED AS RAPIDLY AS POSSIBLE. THE ENGINEER MAY ORDER THE CONTRACTOR TO STOP PLACEMENT OPERATIONS AT ANY TIME IF, IN THE ENGINEER'S OPINION, CONCRETE PLACED DURING THE PLACEMENT HAS STARTED TO SET, OR IS ABOUT TO SET, AND FURTHER PLACEMENT OF CONCRETE WILL CAUSE DEFLECTION CRACKING.
- 92. FINISHING MACHINE(S) SHALL BE OPERATED AS CLOSE TO THE SKEW ANGLE AS PRACTICABLE FOR SKEW ANGLES BETWEEN 0° AND 50°.
- 93. WET BURLAP CURING BLANKETS ARE REQUIRED TO BE PLACED ON THE CONCRETE DECK WITHIN 30 MINUTES OF THE CONCRETE BEING DEPOSITED INTO THE FORMS OR 5 MINUTES AFTER FINISHING, WHICHEVER COMES FIRST. THE PLACEMENT OF THE TURF DRAG TEXTURE SHALL NOT INTERFERE WITH THESE REQUIREMENTS.
- 94. IN THE EVENT THE CONTRACTOR'S DECK PLACEMENT OPERATION IS STOPPED PRIOR TO COMPLETION, WHETHER BY THE CONTRACTOR'S OWN DECISION OR BY ORDER OF THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FINISHED DECK GRADE WHICH MATCHES THE PLANNED PROFILE. ANY SUBSEQUENT REVISIONS TO DECK FORMS MADE NECESSARY BY SUCH ACTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
- 95. THERE WILL BE NO EXCEPTIONS MADE TO THE POURING SEQUENCE AS SHOWN ON THE CONTRACT PLANS.
- 96. BECAUSE A WET CURE OF THE RIGID OVERLAY IS ANTICIPATED AT A TIME WHEN THE PIER JOINTS ARE OPEN, THE STRUCTURAL PAINTING SHALL NOT COINCIDE WITH THIS OPERATION. THE PAINTING SHALL NOT BE DONE UNTIL AFTER THE OVERLAY IS IN PLACE AND ALL JOINTS ARE SEALED.
- 97. CONTRACTORS ATTENTION IS DIRECTED TO OSHA STANDARDS. SECTION 1926.62(d)(7) ADDITIONAL EXPOSURE ASSESSMENTS. THE REQUIRED ADDITIONAL MONITORING SHALL BE CONDUCTED FOR EACH TASK AT THE BRIDGE. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 570.02.

AFFIX SEAL: ON:	ALTERED BY: ON:
<p>AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:</p> <p>NY 110 OVER NY 27 BRIDGE REPLACEMENT</p> <p>REGION 10</p> <p>TOWN OF BABYLON</p> <p>COUNTY: SUFFOLK</p>	

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER DXXXXXX
GENERAL NOTES - 2			DRAWING NO. GN-2	SHEET NO. 6



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
DOCUMENT NAME:

FILE NAME = U:\192310\356\cadd\p\lot_sheets\gen\011257_CPH_GNN_GN-2.dgn
DATE/TIME = 8/15/2014
USER = STN
CONSULTANT DESIGN SUPERVISOR

REGION 10 PROJECT MANAGER
REGION 10 JOB MANAGER
DRAFTING
CHECK
CONSULTANT DESIGN
CONSULTANT JOB MANAGER

TABLE: SUMMARY OF IDENTIFIED ASBESTOS CONTAINING MATERIALS

BIN 1019119 ROUTE 110 (BROADWAY AVENUE) OVER NY 27 (SUNRISE HIGHWAY)

MATERIAL DESCRIPTION	MATERIAL LOCATION	QUANTITY	RECOMMENDED NYS DOT REMOVAL ITEM NUMBER
TRANSITE DRAINAGE PIPES THROUGH BACKWALL	NORTH ABUTMENT BACKWALL SOUTH ABUTMENT BACKWALL (2 CONDUITS X 2 ABUTMENTS X 2 LF)	8 LF	210.3011 REMOVAL AND DISPOSAL OF CONCRETE-ENCASED PIPE ACM (BV-14); FOOT
TRANSITE DRAINAGE PIPES ON EARTHEN SIDE OF BACKWALL	NORTH ABUTMENT BACKWALL SOUTH ABUTMENT BACKWALL (2 ABUTMENTS, ENTIRE WIDTH AT 100 LF)	200 LF	210.3111 REMOVAL AND DISPOSAL OF UNDERGROUND PIPE ACM (BV14); FOOT
TRANSITE CONDUITS BURIED IN APPROACHES	EAST SIDEWALK APPROACHES (6 CONDUITS X 100 FEET FOR EACH 50 FEET OF APPROACH)	600 LF	210.3111 REMOVAL AND DISPOSAL OF UNDERGROUND PIPE ACM (BV14); FOOT
RAILING BASE POST CAULK	AROUND SELECT RAILING BASES (12"X12" X 9 BASES)	36 LF	210.3411-REMOVAL AND DISPOSAL OF CAULKING ACM (BV14); FOOT
TRANSITE CONDUITS IN paneled COVERED BAYS	EAST SIDEWALK EASTERN BAY EAST SIDEWALK WESTERN BAY (6 CONDUITS X 220 FT. ABUTMENT TO ABUTMENT)	1,320 LF	210.4811XX REMOVAL AND DISPOSAL OF MISCELLANEOUS ACM (BV14); FOOT

LEGEND:

BV - BLANKET VARIANCE
LF - LINEAR FEET
SF - SQUARE FEET

NYS DOT REMOVAL ITEM NUMBERS AND SPECIAL NOTES:

ITEM 210.3011: REMOVAL AND DISPOSAL OF CONCRETE-ENCASED PIPE (BV-14); FOOT

ITEM 210.3111: REMOVAL AND DISPOSAL OF UNDERGROUND PIPE ACM (BRIDGES & HIGHWAYS) (BV14); FOOT

ITEM 210.3411: REMOVAL AND DISPOSAL OF CAULKING ACM (BV14); FOOT

ITEM 210.4811XX: REMOVAL AND DISPOSAL OF MISCELLANEOUS ACM (BV14); FOOT

SPECIAL NOTES:

- THE CONTRACTOR SHALL NOTE THE PROJECT WORK INVOLVES ASBESTOS REMOVAL. THE CONTRACTOR PERFORMING THE ASBESTOS REMOVAL SHALL BE A LICENSED NEW YORK STATE ABATEMENT CONTRACTOR. THE PERSONS PERFORMING THE ASBESTOS REMOVAL SHALL BE NEW YORK STATE CERTIFIED ASBESTOS HANDLERS AND SHALL COMPLY WITH ALL APPLICABLE LAWS, RULES AND REGULATIONS.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE ASBESTOS CONTAINING MATERIALS, AND ANY ASBESTOS DEBRIS AND/OR CONTAMINATED MATERIALS THAT MAY BE IN THE VICINITY OF THE ASBESTOS CONTAINING MATERIALS. REMOVAL OF ANY ASBESTOS-CONTAMINATED DEBRIS SHALL BE A PART OF THE ASBESTOS PROJECT AND BE PERFORMED BY CERTIFIED PERSONS.
- THE CONTRACTOR SHALL PERFORM ABATEMENT PROCEDURES UTILIZING ITEM NO. 210.3011(FOOT)(BV14), ON THE ASBESTOS CONTAINING TRANSITE DRAINAGE PIPES LOCATED THROUGH THE CONCRETE ABUTMENT BACKWALLS. INCLUDE ANY SURFACES IN CONTACT WITH THESE ASBESTOS CONTAINING MATERIALS / DEBRIS. THE CONTRACTOR SHALL NOTE THAT BLANKET VARIANCE NO. 14 ASSOCIATED WITH ITEM 210.3011 IS AVAILABLE FOR USE ON THIS PROJECT.
- THE CONTRACTOR SHALL PERFORM ABATEMENT PROCEDURES UTILIZING ITEM NO. 210.3111(FOOT)(BV14), ON THE ASBESTOS CONTAINING TRANSITE DRAINAGE PIPES LOCATED ALONG THE EARTHEN SIDE OF THE ABUTMENT BACKWALLS. INCLUDE ANY SURFACES IN CONTACT WITH THESE ASBESTOS CONTAINING MATERIALS / DEBRIS. THE CONTRACTOR SHALL NOTE THAT BLANKET VARIANCE NO. 14 ASSOCIATED WITH ITEM 210.3111 IS AVAILABLE FOR USE ON THIS PROJECT.
- THE CONTRACTOR SHALL PERFORM ABATEMENT PROCEDURES UTILIZING ITEM NO. 210.3111(FOOT)(BV14), ON THE ASBESTOS CONTAINING TRANSITE CONDUITS LOCATED BENEATH THE EASTERN CONCRETE SIDEWALK OF THE NORTH AND SOUTH APPROACHES. INCLUDE ANY SURFACES IN CONTACT WITH THESE ASBESTOS CONTAINING MATERIALS / DEBRIS. THE CONTRACTOR SHALL NOTE THAT BLANKET VARIANCE NO. 14 ASSOCIATED WITH ITEM 210.3111 IS AVAILABLE FOR USE ON THIS PROJECT.
- THE CONTRACTOR SHALL PERFORM ABATEMENT PROCEDURES UTILIZING ITEM NO. 210.3411(FOOT)(BV14), ON THE ASBESTOS CONTAINING CAULK AROUND THE RAILING BASES ON THE ABUTMENTS. INCLUDE ANY SURFACES IN CONTACT WITH THESE ASBESTOS CONTAINING MATERIALS / DEBRIS. THE CONTRACTOR SHALL NOTE THAT BLANKET VARIANCE NO. 14 ASSOCIATED WITH ITEM 210.3411 IS AVAILABLE FOR USE ON THIS PROJECT.
- THE CONTRACTOR SHALL PERFORM ABATEMENT PROCEDURES UTILIZING ITEM NO. 210.4811XX (FOOT)(BV14), ON THE ASBESTOS CONTAINING TRANSITE CONDUITS PRESENT WITHIN paneled COVERED UTILITY BAYS WITHIN THE EASTERN SIDEWALK. INCLUDE ANY SURFACES IN CONTACT WITH THESE ASBESTOS CONTAINING MATERIALS / DEBRIS. THE CONTRACTOR SHALL NOTE THAT BLANKET VARIANCE NO. 14 ASSOCIATED WITH ITEM 210.4811XX IS AVAILABLE FOR USE ON THIS PROJECT.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE THE ASBESTOS-CONTAINING MATERIALS PRESENT ON THIS PROJECT IN ACCORDANCE WITH NEW YORK STATE ICR 56 REGULATIONS RELATIVE TO A LARGE ASBESTOS PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR PLANNING THE REMOVAL, INCLUDING SCOPING, TIMING, PHASING, AND REMOVAL METHODS TO BE UTILIZED. ALL REMOVAL OPERATIONS SHALL BE PERFORMED WITHIN THE CONTEXT OF THE GENERAL CONSTRUCTION STAGED OPERATION. ANY NECESSARY SAMPLING (FOR OSHA COMPLIANCE) AND ANALYSIS SHALL BE PERFORMED BY THE CONTRACTOR. THE COST FOR ANY NECESSARY COMPLIANCE SAMPLING AND ANALYSIS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED IN THE PRICE BID (S) FOR ALL ITEM NUMBERS WHERE APPLICABLE.
- THE CONTRACTOR SHALL BASE ITS BID UPON THE QUANTITY OF THESE MATERIALS AT THEIR RESPECTIVE LOCATIONS IN THEIR UNDISTURBED STATES. THE CONTRACTOR SHALL REMOVE THE ASBESTOS CONTAINING MATERIALS AND THEIR RESPECTIVE DEBRIS FROM ALL SURFACES ON WHICH THEY ARE LOCATED.
- IF NECESSARY, CONFIRMED, ASSUMED, OR SUSPECT ASBESTOS-CONTAINING MATERIAL(S) IDENTIFIED AS BEING COVERED, BURIED AND/OR CONCRETE ENCASED WILL BE EVALUATED FOR ASBESTOS CONTENT BY NYS DOT AFTER STAGED CONSTRUCTION ACTIVITIES ARE IMPLEMENTED AND THE CONTRACTOR REMOVES ANY OVERBURDEN TO UNCOVER AND PROVIDE ACCESS TO THE MATERIALS. IF ANY SUCH MATERIALS ARE NOT PRESENT, OR ARE DETERMINED TO BE NEGATIVE FOR ASBESTOS, THEN THE ASSOCIATED QUANTITY AND/OR CONTRACT PAY ITEM WILL BE REMOVED FROM THE CONTRACT.
- THE CONTRACTOR SHALL BE PAID ONLY FOR ACTUALLY REMOVED QUANTITIES OF ASBESTOS MATERIALS, TO BE QUANTIFIED IN THE FIELD, AND TO BE VERIFIED BY THE ENGINEER IN CHARGE (EIC). IF ADDITIONAL ASBESTOS CONTAINING MATERIALS ARE IDENTIFIED DURING CONSTRUCTION / DEMOLITION ACTIVITIES THAT ARE NOT IDENTIFIED IN THE ASBESTOS ABATEMENT DESIGN, THE CONTRACTOR SHALL BE PAID FOR THE REMOVAL OF THESE MATERIALS AT THE NYS DOT APPROVED UNIT COST AGREED UPON IN THIS CONTRACT.

- THE CONTRACTOR SHALL NOT INCLUDE IN HIS/HER BID THE ASBESTOS ABATEMENT PROJECT/AIR MONITORING SERVICES REQUIRED UNDER THE NEW YORK STATE INDUSTRIAL CODE RULE 56 (ICR 56) ASBESTOS ABATEMENT REGULATIONS. NYS DOT SHALL PROVIDE THE PROJECT AIR MONITORING VIA USE OF A CONSULTANT.
- THE CONTRACTOR MUST MAKE AVAILABLE A POWER SUPPLY SOURCE, I.E. STANDARD ELECTRICAL OUTLET OR ELECTRICAL GENERATOR (MINIMUM 2400 WATT), FOR THE CONSULTANT'S USE DURING ASBESTOS ABATEMENT AIR MONITORING.
- THIS PROJECT REQUIRES A PRE-ABATEMENT MEETING ON WHICH THE E.I.C. SHALL INVITE THE REGIONAL CONSTRUCTION SAFETY COORDINATOR FOR REGION 10 AT (631) 952-6046 (FAX: 631-952-6772).
- BEFORE THE PRE-ABATEMENT MEETING, THE CONTRACTOR IS REQUIRED TO SUBMIT TO THE EIC THE FOLLOWING INFORMATION:
 - A VALID ASBESTOS HANDLING LICENSE;
 - INSURANCE COVERAGE DOCUMENTATION;
 - EMERGENCY CONTACT NUMBERS;
 - ASBESTOS WASTE HAULER DOCUMENTATION AND COPY OF NYSDEC PART 364 PERMIT;
 - NAME OF EPA APPROVAL LANDFILL AS WELL AS COPIES OF ALL PERMITS;
 - COPIES OF NYS DOL HANDLERS AND SUPERVISOR CERTIFICATES;
 - COPIES OF ALL CURRENT RESPIRATOR FIT TESTS AND MEDICAL EXAM CERTIFICATIONS;
 - NYS DOL, EPA LOCAL (IF APPLICABLE) NOTIFICATIONS. NOTIFICATIONS MUST BE IN PLACE A MINIMUM OF 10 DAYS PRIOR TO THE START OF THE JOB;
 - DETAILED PROJECT SCHEDULE (ASBESTOS ABATEMENT) INCLUDING ALL PHASES (MOBILIZATION, PREP, REMOVAL, CLEARANCE).
- AT LEAST TWENTY BUSINESS DAYS BEFORE THE SCHEDULED ABATEMENT OF ASBESTOS CONTAINING MATERIALS ON THIS PROJECT, THE E.I.C. SHALL NOTIFY THE REGIONAL CONSTRUCTION SAFETY COORDINATOR FOR REGION 10 AT (631) 952-6046 OF PENDING COMMENCEMENT OF ABATEMENT ACTIVITIES.
- UPON SUCCESSFUL COMPLETION OF POST-ABATEMENT AIR MONITORING AND THE REMOVAL OF DECONTAMINATION FACILITIES, UNCERTIFIED PERSONS MAY RE-ENTER THE WORK AREA.
- THE PROJECT WILL NOT BE CONSIDERED COMPLETED AND FINAL PAYMENTS MAY BE DISPERSED, ONLY AFTER RECEIPT OF THE NYS DOT ASBESTOS REPRESENTATIVE'S (PROJECT MONITOR) FINAL REPORT (CLOSURE REPORT). THIS REPORT WILL ONLY BE DISTRIBUTED FROM THE NYS DOT REPRESENTATIVE UPON THEIR RECEIPT AND VERIFICATION OF ALL ASBESTOS CONTRACTOR'S WASTE MANIFEST(S). THE CONTRACTOR SHALL GIVE A COPY OF THE WASTE MANIFESTS TO THE EIC. ONLY LEGIBLE COPIES OF WASTE MANIFEST(S) WILL BE ACCEPTABLE. IN ADDITION, THE CONTRACTOR SHALL SEND ALL ORIGINAL WASTE MANIFESTS TO NYS DOT'S CONSTRUCTION ENVIRONMENTAL COORDINATOR, AT THE FOLLOWING ADDRESS: NYS DOT CONSTRUCTION, STATE OFFICE BUILDING, VETERANS MEMORIAL HIGHWAY, HAUPPAUGE, NY 11788.

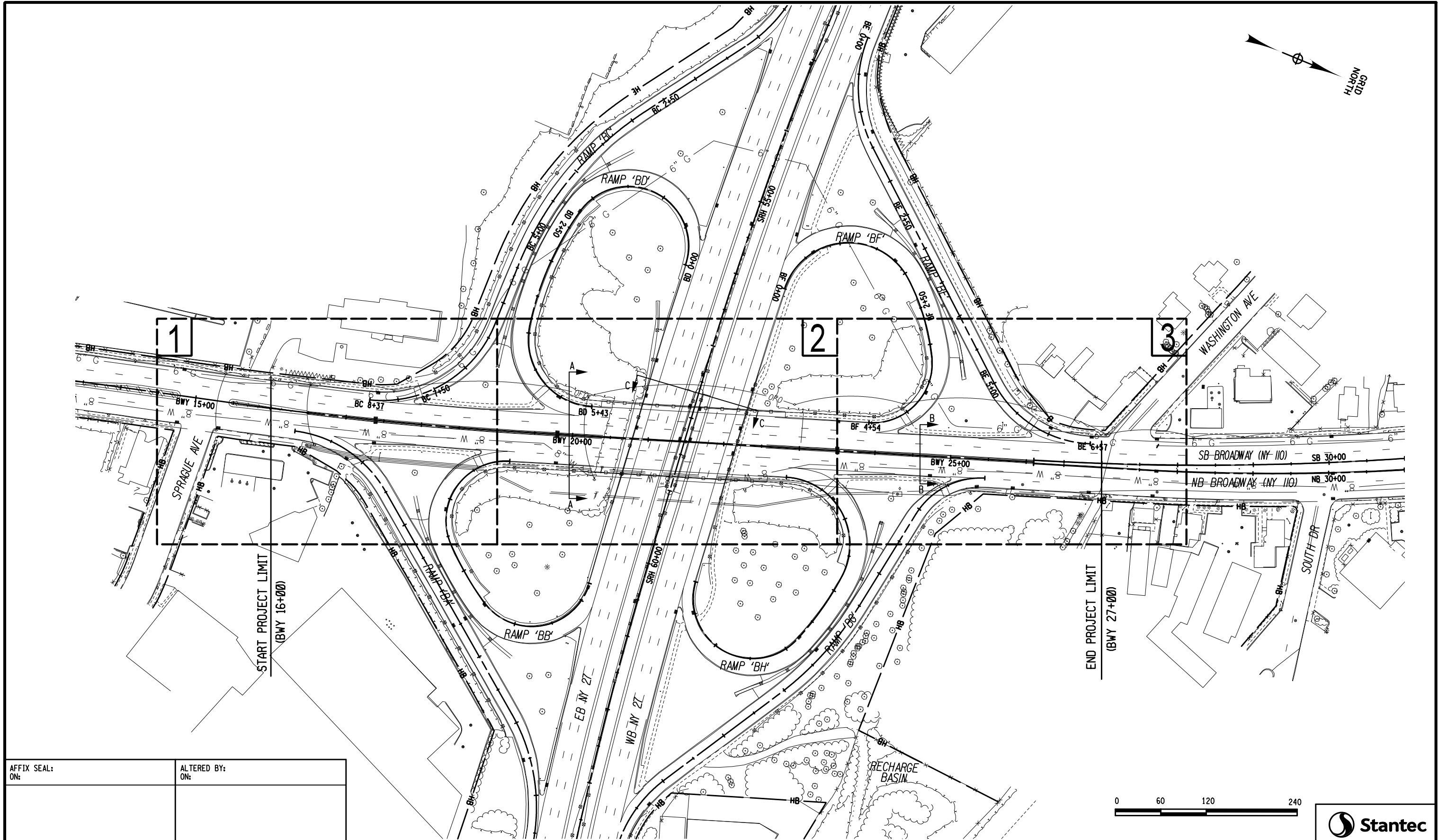
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<table border="1"> <tr> <td>AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:</td> <td>NY 110 OVER NY 27 BRIDGE REPLACEMENT</td> <td>PIN 0112.57</td> <td>BRIDGES 1019119</td> <td>CULVERTS</td> <td>ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED</td> <td>CONTRACT NUMBER</td> <td rowspan="3"></td> </tr> <tr> <td></td> <td>REGION 10</td> <td>NY 110 OVER NY27 BRIDGE REPLACEMENT</td> <td></td> <td></td> <td rowspan="2">ASBESTOS ABATEMENT GENERAL NOTES</td> <td>DXXXXXX</td> </tr> <tr> <td></td> <td>TOWN OF BABYLON</td> <td></td> <td></td> <td></td> <td>DRAWING NO. ENV-1</td> </tr> <tr> <td colspan="2"></td> <td>COUNTY: SUFFOLK</td> <td></td> <td></td> <td></td> <td>SHEET NO. 7</td> </tr> </table>		AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	NY 110 OVER NY 27 BRIDGE REPLACEMENT	PIN 0112.57	BRIDGES 1019119	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER			REGION 10	NY 110 OVER NY27 BRIDGE REPLACEMENT			ASBESTOS ABATEMENT GENERAL NOTES	DXXXXXX		TOWN OF BABYLON				DRAWING NO. ENV-1			COUNTY: SUFFOLK				SHEET NO. 7
AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	NY 110 OVER NY 27 BRIDGE REPLACEMENT	PIN 0112.57	BRIDGES 1019119	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER																							
	REGION 10	NY 110 OVER NY27 BRIDGE REPLACEMENT			ASBESTOS ABATEMENT GENERAL NOTES	DXXXXXX																							
	TOWN OF BABYLON					DRAWING NO. ENV-1																							
		COUNTY: SUFFOLK				SHEET NO. 7																							

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NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
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 REGION 10 JOB MANAGER



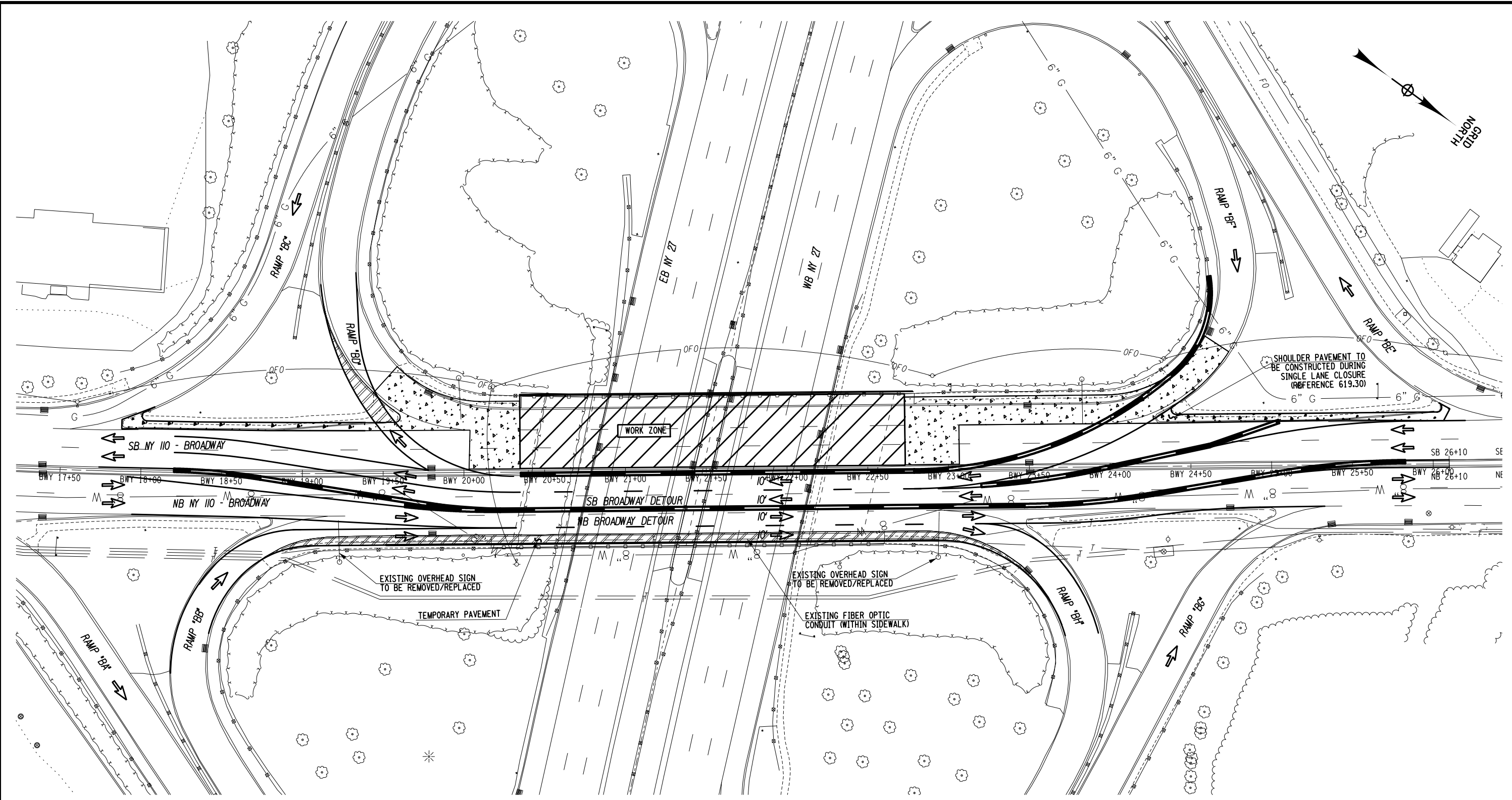
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	TOWN OF BABYLON				DRAWING NO. LOC-1
	COUNTY: SUFFOLK				SHEET NO. 8
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.					NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:

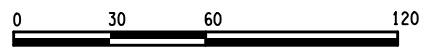


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WZTC OPTION 1A - NY 110 STAGE 1

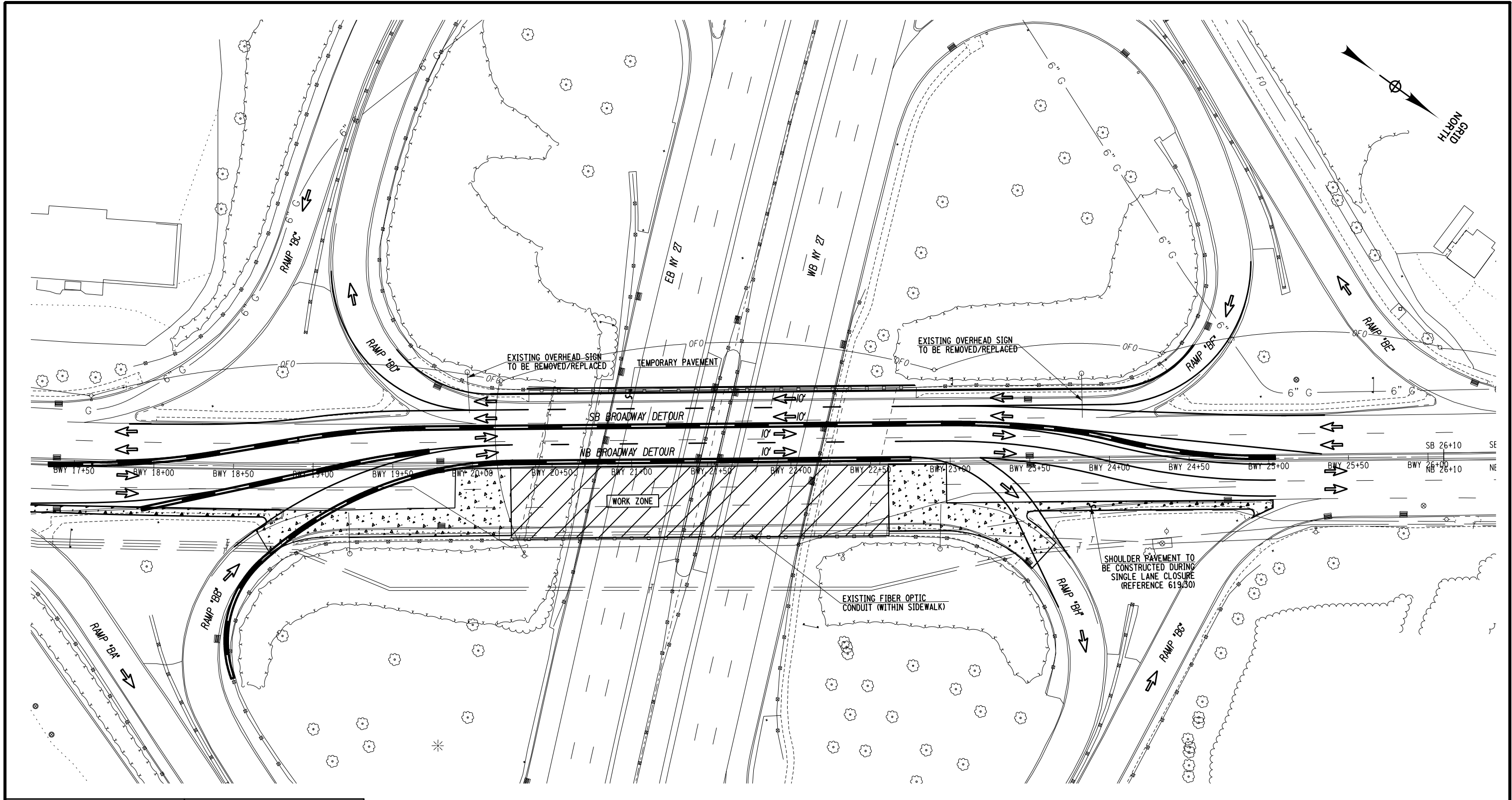


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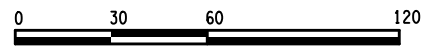
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	TOWN OF BABYLON				DRAWING NO. WZTC-1
	COUNTY: SUFFOLK			WORK ZONE TRAFFIC CONTROL	SHEET NO. 9
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.				OPTION-1A - STAGE 1	NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:

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WZTC OPTION 1A - NY 110 STAGE 2

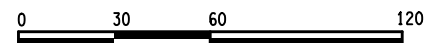
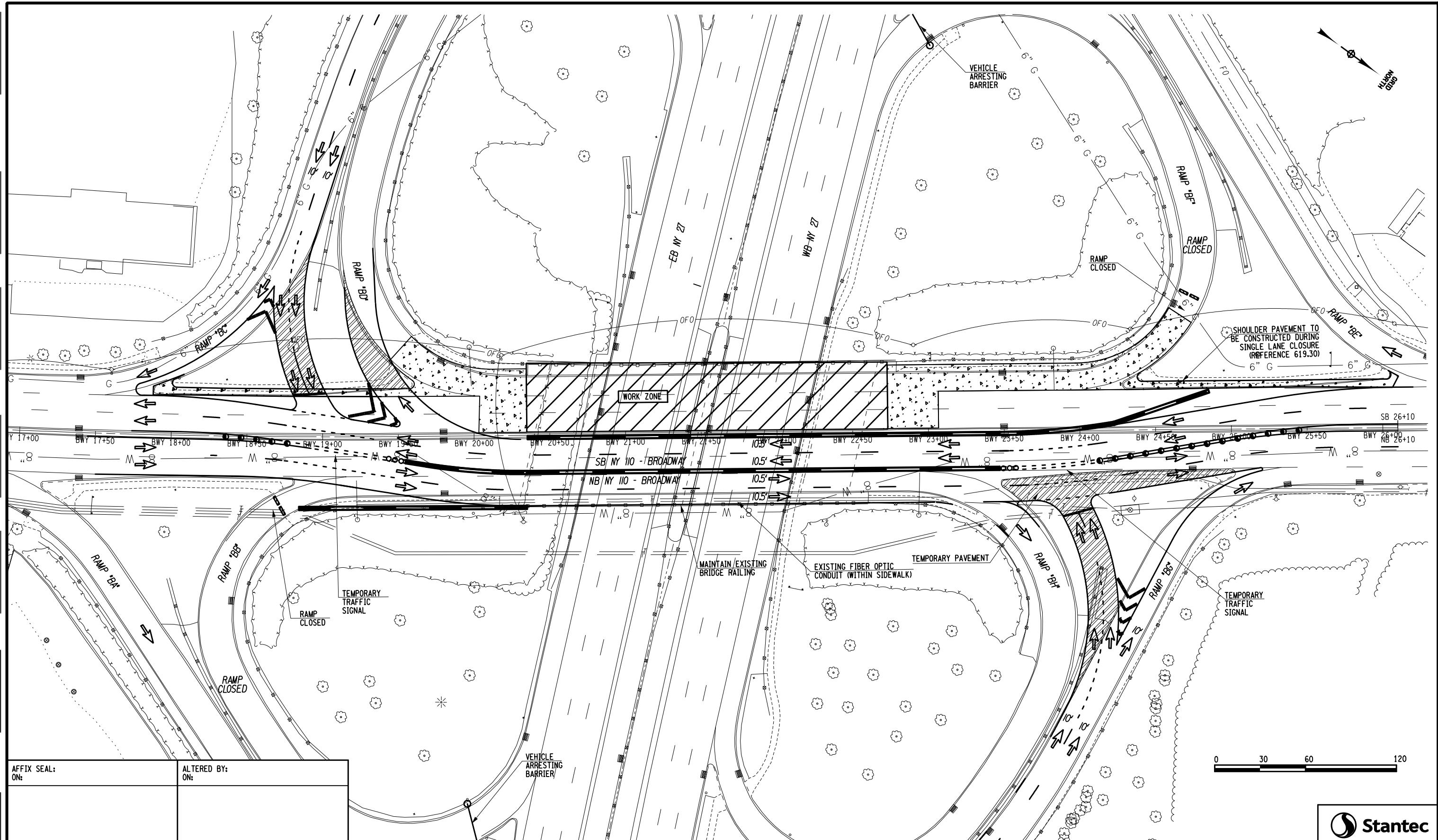


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	TOWN OF BABYLON					DRAWING NO. WZTC-2
	COUNTY: SUFFOLK				WORK ZONE TRAFFIC CONTROL	SHEET NO. 10
OPTION-1A - STAGE 2						NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.						DOCUMENT NAME:

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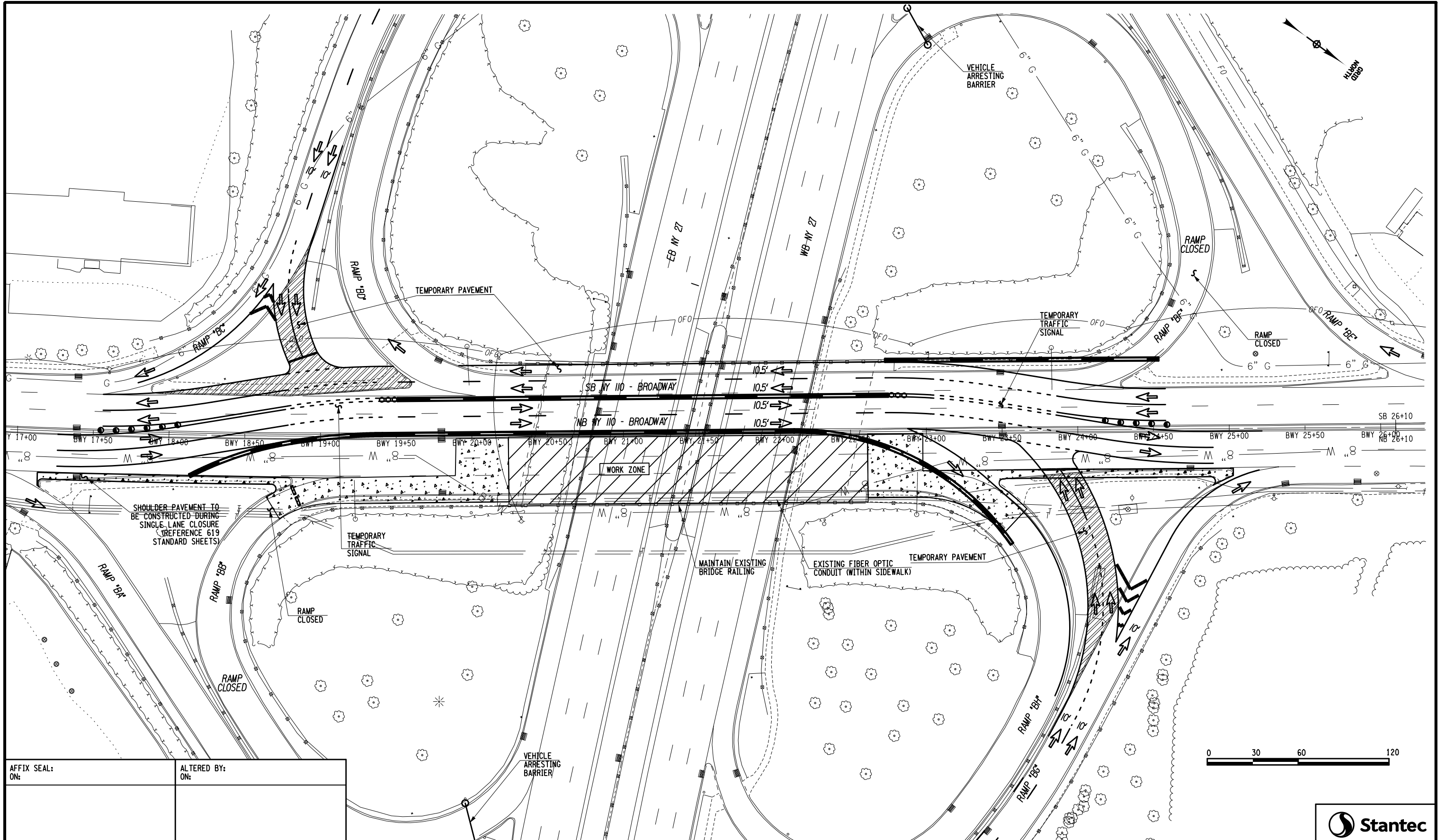
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	TOWN OF BABYLON				DRAWING NO. WZTC-3
	COUNTY: SUFFOLK				SHEET NO. 11
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.					NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
					DOCUMENT NAME:



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REGION 10 PROJECT MANAGER
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 CONSULTANT SUPERVISOR



AFFIX SEAL: ON: _____
 ALTERED BY: ON: _____

AS-BUILT REVISIONS
 DESCRIPTION OF ALTERATIONS:

NY 110 OVER NY 27 BRIDGE REPLACEMENT
 REGION 10
 TOWN OF BABYLON
 COUNTY: SUFFOLK

PIN 0112.57
 NY 110 OVER NY27
 BRIDGE REPLACEMENT

BRIDGES 1019119
 CULVERTS
 ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED
 WORK ZONE TRAFFIC CONTROL
 OPTION-1B - STAGE 2

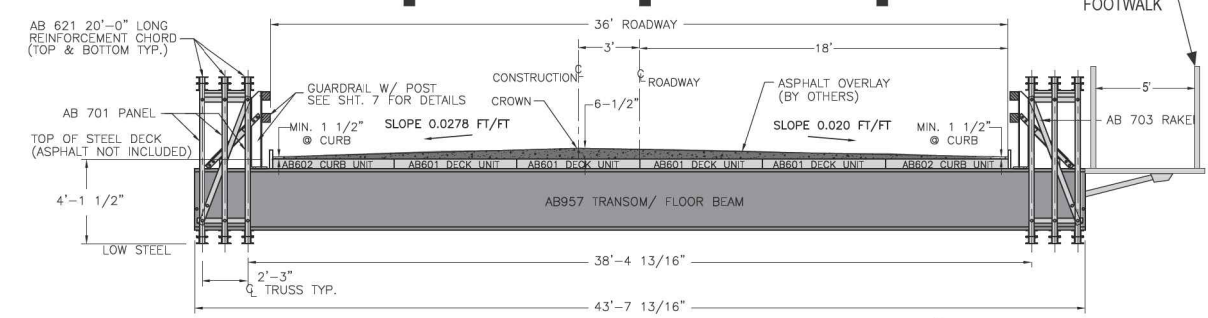
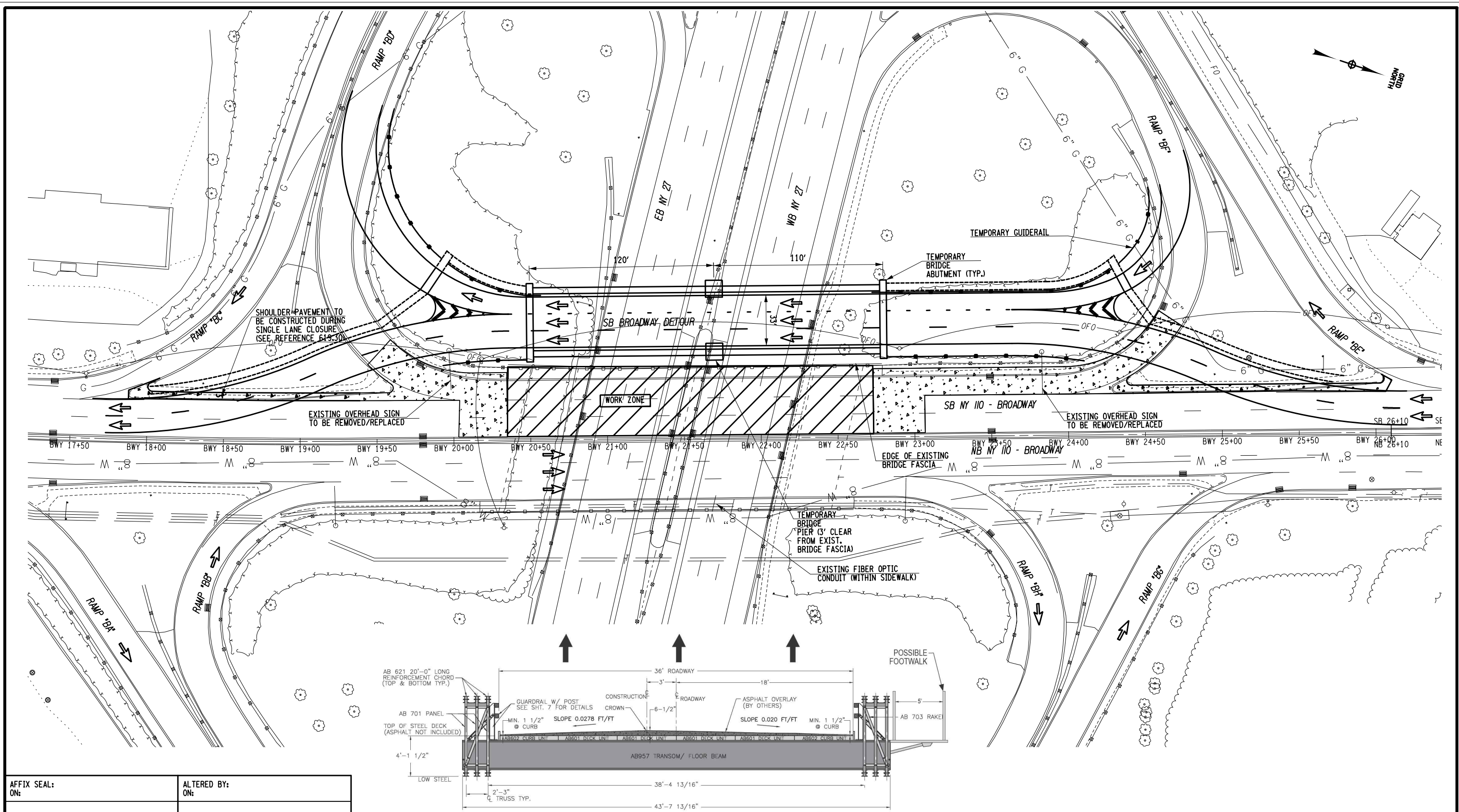
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 DRAWING NO. WZTC-4
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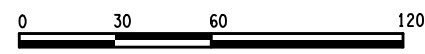
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 DATE/TIME = 8/15/2014
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OPTION-2: TEMPORARY BRIDGE
STAGE-1



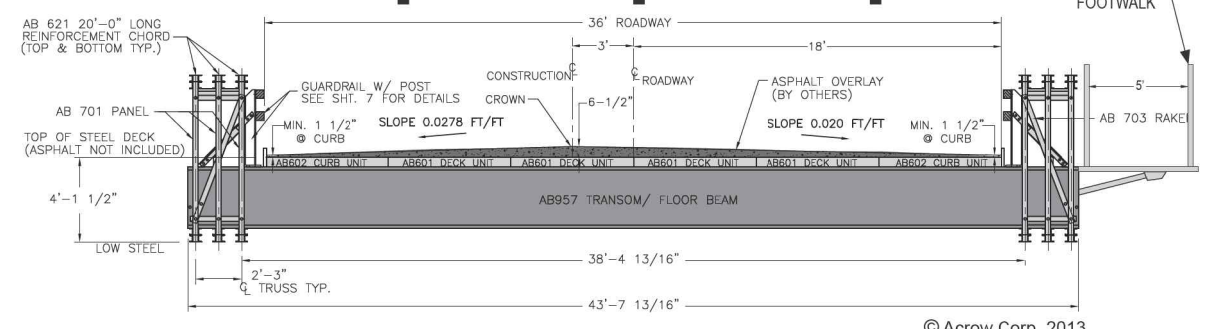
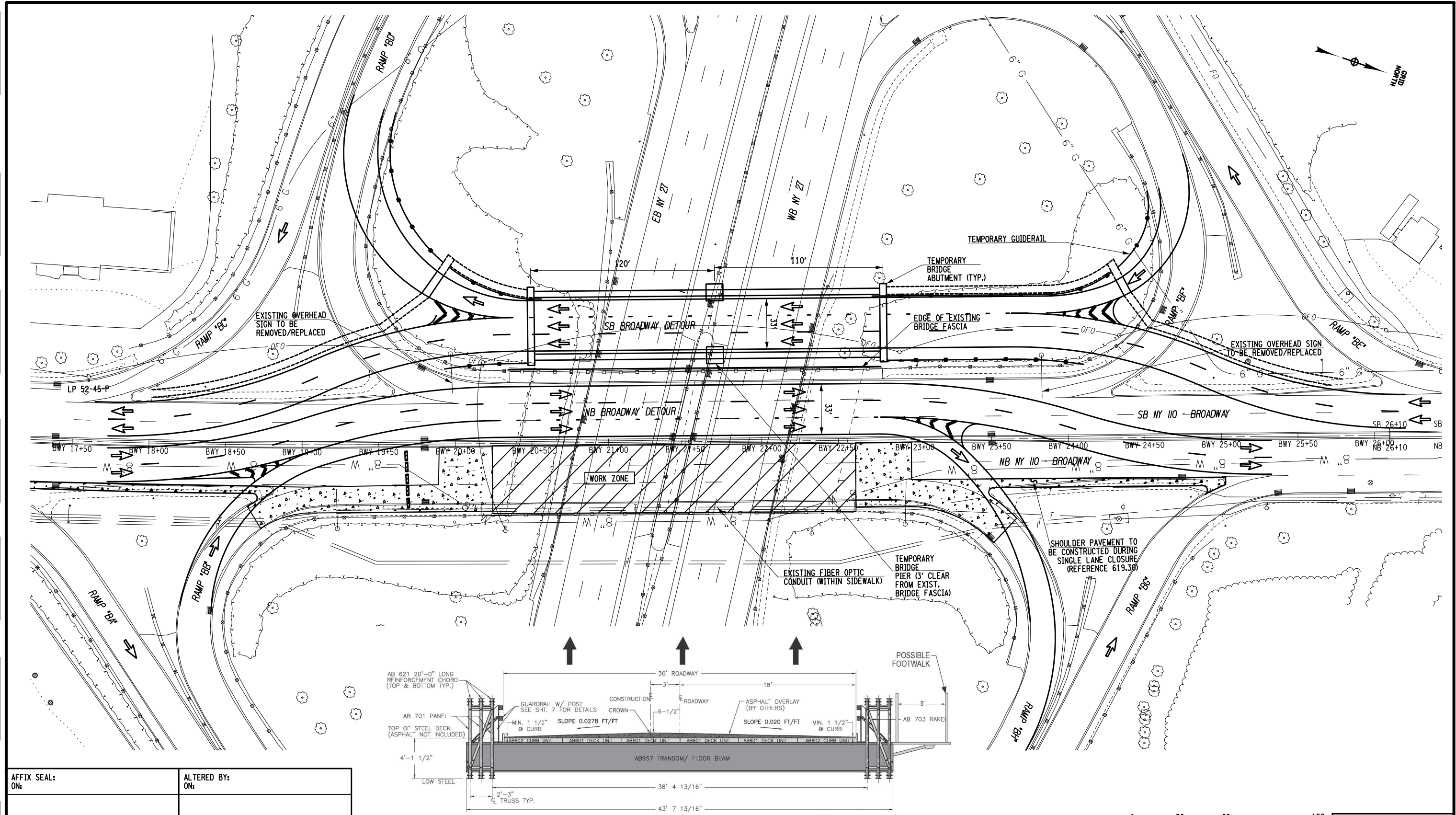
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	TOWN OF BABYLON				WORK ZONE TRAFFIC CONTROL PLAN
	COUNTY: SUFFOLK				OPTION-2, STAGE-1
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.					NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:

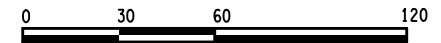
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REGION 10 PROJECT MANAGER
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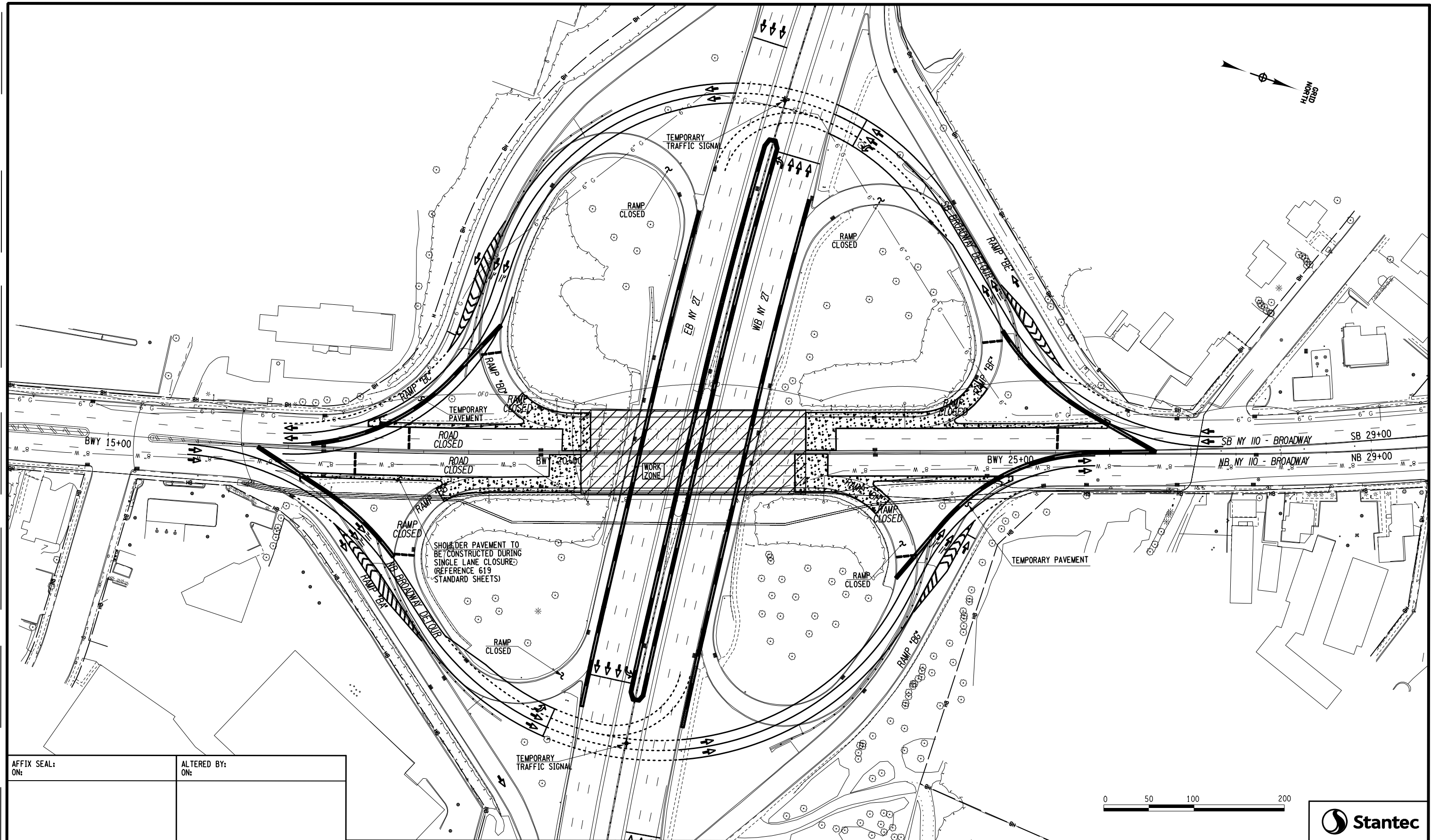


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	TOWN OF BABYLON					DRAWING NO. WZTC-6
	COUNTY: SUFFOLK					SHEET NO. 14
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.					NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:	

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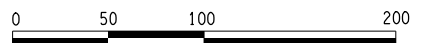


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<p>AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:</p>	

NY 110 OVER NY 27 BRIDGE REPLACEMENT
REGION 10
TOWN OF BABYLON
COUNTY: SUFFOLK

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS
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ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER DXXXXXX
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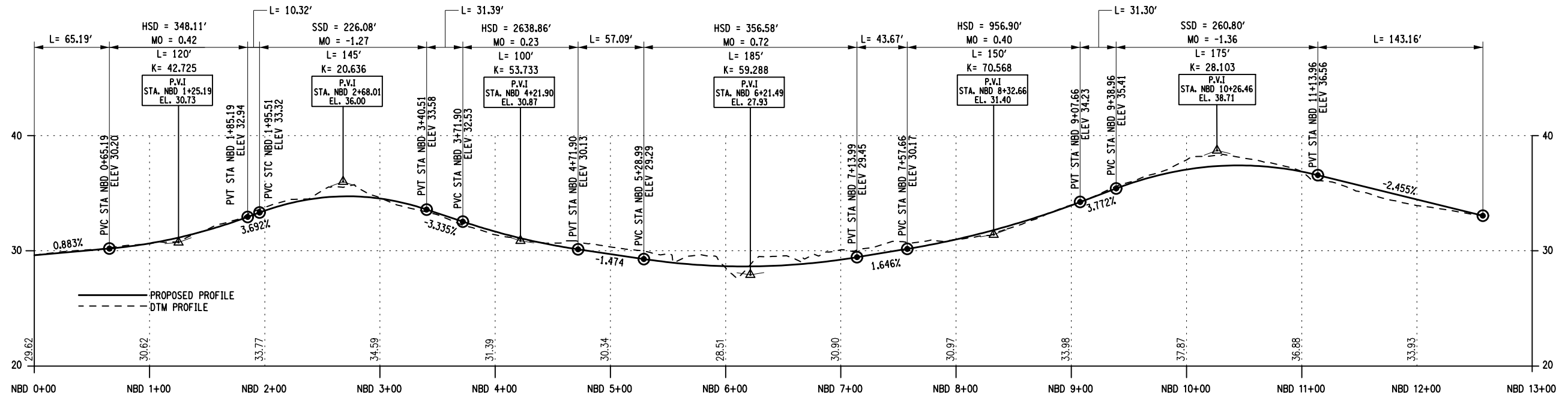


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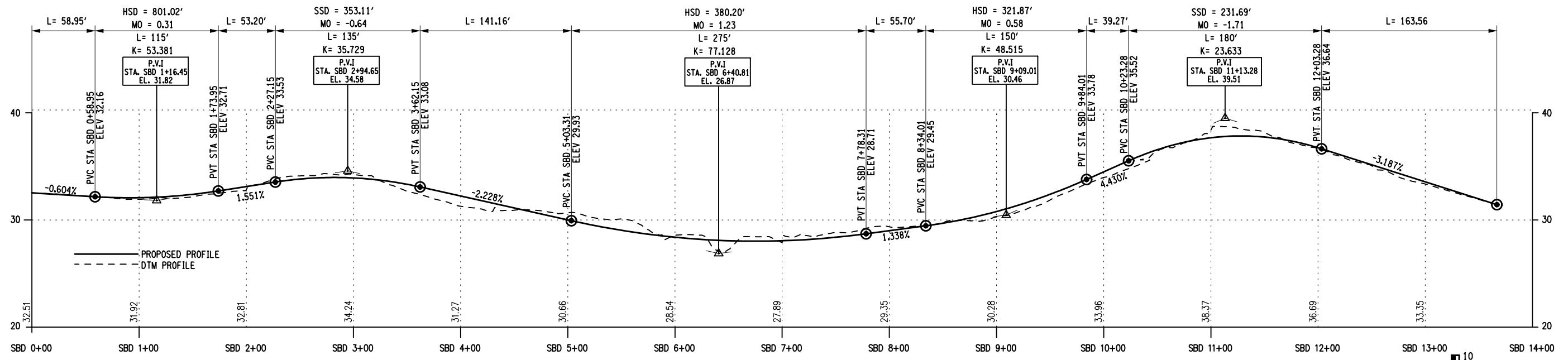
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NY 110 NORTHBOUND DETOUR OPTION 3
ROADWAY PROFILE



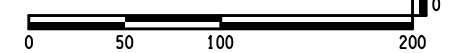
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ROADWAY PROFILE

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NY 110 OVER NY 27 BRIDGE REPLACEMENT
REGION 10
TOWN OF BABYLON
COUNTY: SUFFOLK

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS
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ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER DXXXXXX
WZTC CONCEPT - NY 110 DETOUR OPTION 3 ROADWAY PROFILE	DRAWING NO. WZTC-8 SHEET NO. 16



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
DOCUMENT NAME:

CONTRACTORS SHOULD TAKE NOTE OF THEIR RESPONSIBILITIES IN THE MAINTENANCE TABLES

TABLE OF HIGHWAY MAINTENANCE RESPONSIBILITIES DURING CONTRACT NY 110, NY 27 AND NY 27 SERVICE ROADS

FEATURE	RESPONSIBLE PARTY	ITEM
SNOW AND ICE REMOVAL	STATE FORCES SEE NOTE 3	---
MEDIAN BARRIER AND GUIDE RAIL	CONTRACTOR SEE NOTE 2	ITEM 619.01 AND APPROPRIATE CONTRACT ITEMS
DRAINAGE	CONTRACTOR SEE NOTES 2 AND 4	ITEM 619.01 AND APPROPRIATE CONTRACT ITEMS
SIGNS	CONTRACTOR AND STATE FORCES SEE NOTES 2 AND 8	---
MOWING EXISTING TURF	STATE FORCES SEE NOTE 9	---
ROADWAY AND ROADSIDE DEBRIS	CONTRACTOR SEE NOTE 5	ITEM 619.01
CURB, PAVEMENT & SHOULDERS	CONTRACTOR SEE NOTE 2	APPROPRIATE CONTRACT ITEMS
BRIDGE PARAPETS, CURBS, SIDEWALK, GUIDERAIL, REPAIR OF BRIDGE DECK WEARING COURSE.	CONTRACTOR RESPONSIBILITY (BY CONTRACTOR AGREEMENT)	APPROPRIATE CONTRACT ITEMS
REMAINING BRIDGE STRUCTURES ELEMENTS, BRIDGE DECK	STATE FORCES	---
PAVEMENT MARKINGS	CONTRACTOR SEE NOTE 2	APPROPRIATE CONTRACT ITEMS
INFORM	STATE FORCES	---
HIGHWAY LIGHTING	CONTRACTOR SEE NOTE 6	APPROPRIATE CONTRACT ITEMS
GRAFFITI REMOVAL	STATE	---

TABLE OF MAINTENANCE JURISDICTION AFTER CONSTRUCTION - NY 110 (1019119)

DESCRIPTION	LIMITS	AGENCY	AUTHORITY FOR MAINTENANCE JURISDICTION
ROADWAY	PROJECT LIMITS (STA BWY 16+00 TO 27+00)	STATE OF NEW YORK	HIGHWAY LAW, SECTION 10
MEDIAN BARRIER AND GUIDERAIL	PROJECT LIMITS (SEE GP-1 THRU GP-3)	STATE OF NEW YORK	HIGHWAY LAW, SECTION 10
DRAINAGE	PROJECT LIMITS (STA BWY 16+00 TO 27+00)	STATE OF NEW YORK	HIGHWAY LAW, SECTION 10
SIGNS	PROJECT LIMITS (STA BWY 16+00 TO 27+00)	STATE OF NEW YORK	HIGHWAY LAW, SECTION 10
LANDSCAPING	PROJECT LIMITS (STA BWY 16+00 TO 27+00)	STATE OF NEW YORK	HIGHWAY LAW, SECTION 10
CURB, PAVEMENT AND SHOULDERS	PROJECT LIMITS (SEE GP-1 THRU GP-3)	STATE OF NEW YORK	HIGHWAY LAW, SECTION 10
PAVEMENT MARKINGS	PROJECT LIMITS (SEE PM-1)	STATE OF NEW YORK	HIGHWAY LAW, SECTION 10
LIGHTING	PROJECT LIMITS (STA BWY 16+00 TO 27+00)	STATE OF NEW YORK	HIGHWAY LAW, SECTIONS 140 & 10 (SUBSECTION 25)
SNOW AND ICE REMOVAL	PROJECT LIMITS (SEE GP-1 & GP-3)	STATE OF NEW YORK	HIGHWAY LAW, SECTION 10
BRIDGE PARAPETS, CURBS, SIDEWALK, GUIDERAIL, REPAIR OF BRIDGE DECK WEARING COURSE.	PROJECT LIMITS (STA BWY 16+00 TO 27+00)	STATE OF NEW YORK	HIGHWAY LAW, SECTION 10

MAINTENANCE RESPONSIBILITY NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF THE AREA WITHIN THE RIGHT OF WAY (R.O.W.) LINES AND LIMITS OF WORK AT EACH INDIVIDUAL WORK LOCATION AS DEFINED IN THE TABLES FOR THE DURATION OF THE CONTRACT. DURATION OF THE CONTRACT FOR EACH AREA IS FROM MOBILIZATION TO CONTRACT ACCEPTANCE BY MAINTENANCE. MAINTENANCE RESPONSIBILITY INCLUDES WINTER SHUTDOWN.
- MAINTENANCE OF THE PROPOSED FEATURES IS THE CONTRACTOR'S RESPONSIBILITY AND IS COVERED UNDER SUBSECTION 107-09.

EXISTING FEATURES DAMAGED DURING THE CONTRACT MUST BE REPAIRED BY THE CONTRACTOR. THE COST OF THE WORK WILL BE PAID UNDER SUBSECTION 109-05, A AND B, OF THE STANDARD SPECIFICATIONS.
- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE REQUIREMENTS OF SUBSECTION 619-1.02B.

B. LOCAL MUNICIPALITIES SHALL BE RESPONSIBLE FOR SNOW AND ICE REMOVAL ON THEIR LOCAL ROADS.
- THE CONTRACTOR'S RESPONSIBILITIES SHALL INCLUDE THE NECESSARY RESPONSE, AS ORDERED BY THE ENGINEER (A.O.B.E.) TO DRAINAGE PROBLEMS THAT OCCUR DURING CONSTRUCTION. THIS MAY INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING:

A. SLOPE EROSION AND THE DRAINAGE PROBLEMS THAT MAY RESULT.

B. THE COST OF THE WORK FOR PUMPING FLOODED AREAS WITHIN THE CONTRACT LIMITS WILL BE INCLUDED IN THE PRICE BID FOR THE ITEM 619.01.

C. COLLAPSED STRUCTURES, PIPES AND BROKEN FRAMES, GRATES AND COVERS.
- THE CONTRACTOR SHALL PATROL THE CONTRACT SITE DAILY AND REMOVE ALL DEBRIS, INCLUDING DEAD ANIMALS, FROM THE ROADWAY. THIS INCLUDES SWEEPING, REMOVING ACCIDENT DEBRIS, ETC., A.O.B.E. THE COST FOR THIS WORK WILL BE INCLUDED IN THE PRICE BID FOR ITEM 619.01.

ONE MONTH PRIOR TO ACCEPTANCE THE CONTRACTOR SHALL REMOVE ALL DEBRIS WITHIN THE CONTRACT LIMITS.
- VACANT.
- VACANT.
- THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE OF ALL CONSTRUCTION SIGNS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR THE MAINTENANCE OF ALL EXISTING NON-ILLUMINATED GROUND MOUNTED SIGNS AND POSTS FOR MUTCD PANEL CODES G, I, M, P, R AND W UP TO A WIDTH OF 64" (CLASSES 1, 2 AND 3). THE STATE WILL MAINTAIN ALL OTHER SIGNS WITHIN THE PROJECT LIMITS.
- WHERE THE CONTRACTOR'S OPERATIONS DO NOT AFFECT THE EXISTING TURF, NYS DOT FORCES WILL MOW THE EXISTING TURF. PRIOR TO MOWING BY STATE FORCES, THE CONTRACTOR SHALL REMOVE ALL DEBRIS ATTRIBUTED TO HIS OPERATIONS A.O.B.E. WHERE THE CONTRACTOR'S OPERATIONS IMPEDE GRASS MOWING BY STATE FORCES, THE CONTRACTOR SHALL EITHER REMOVE THE IMPEDIMENTS OR MOW THE TURF TO A HEIGHT OF THREE INCHES WHEN THE GROWTH REACHES SIX INCHES. ALL DEBRIS SHALL BE REMOVED JUST PRIOR TO MOWING. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 619.01.

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CONSULTANT SUPERVISOR

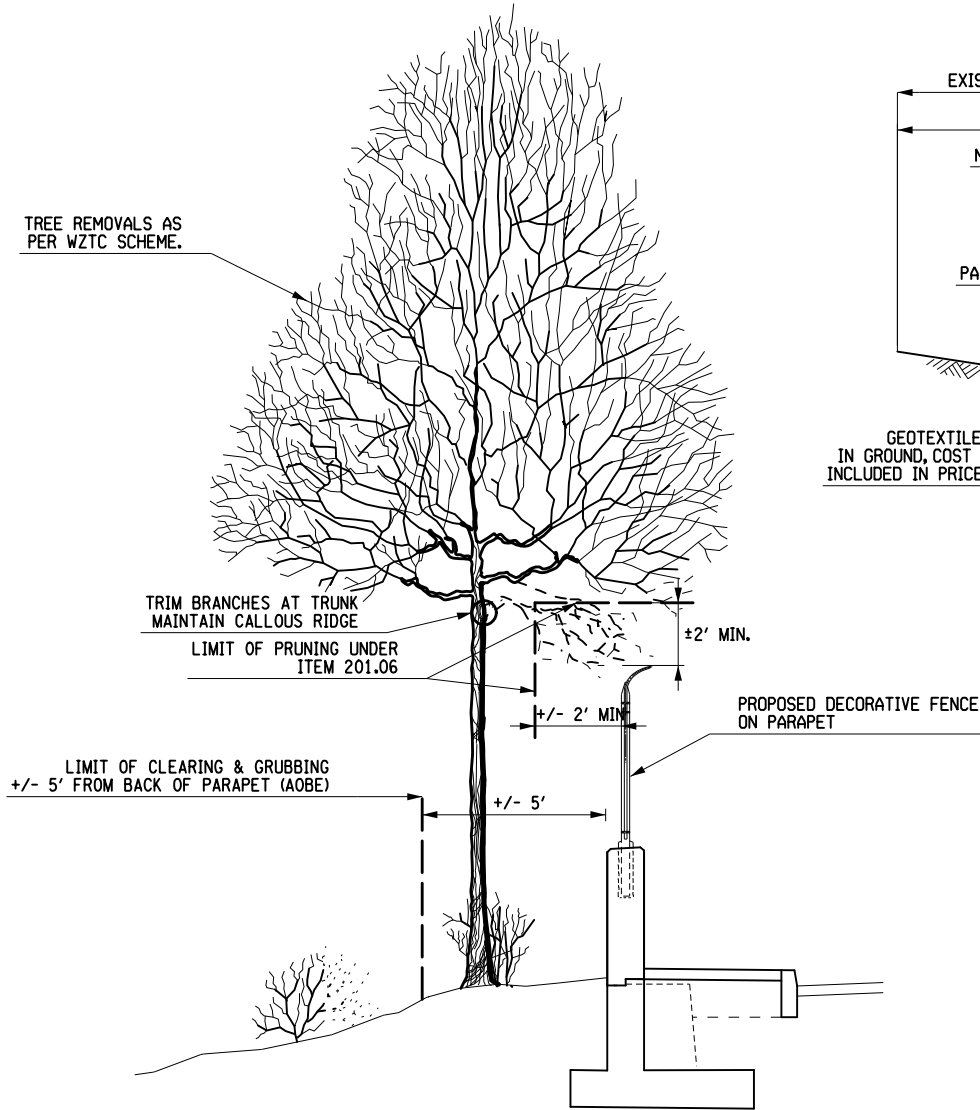
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PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER DXXXXXX
HIGHWAY MAINTENANCE JURISDICTION			DRAWING NO. HMJ-1	SHEET NO. 17
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.				NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:



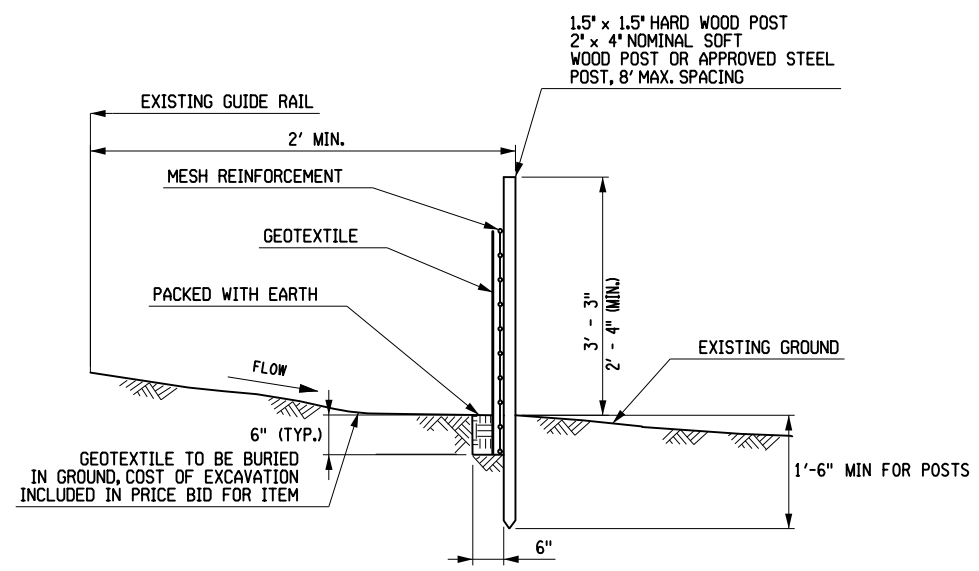
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 CONSULTANT JOB MANAGER
 CONSULTANT SUPERVISOR

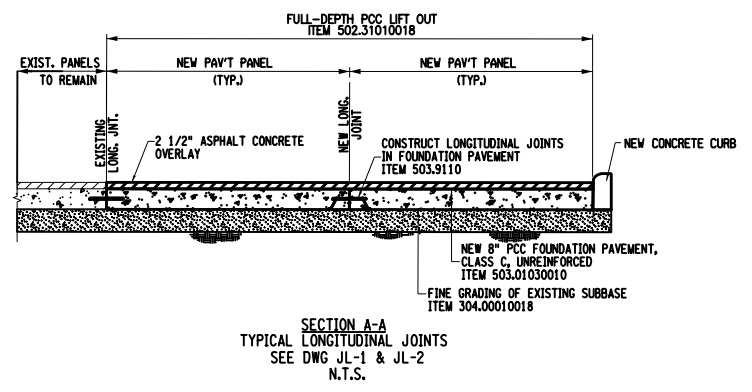


**DETAIL OF CLEARING & GRUBBING
 ITEM 201.06**

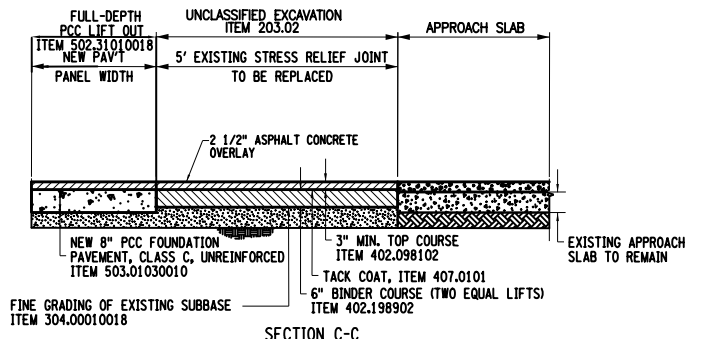
CLEARING & GRUBBING NOTES:
 TREES AND SHRUBS ARE TO BE PRUNED IN ACCORDANCE WITH SECTION 201 AND WITH THE FOLLOWING REQUIREMENTS. THE COST IS TO BE INCLUDED IN THE PRICE BID FOR ITEM 201.06.
 PRUNING MAY BE REQUIRED BEYOND THE LIMITS INDICATED IN ORDER TO INSTALL THE BRIDGE FENCING OR DUE TO OVERHEAD UTILITY LINES. ADDITIONAL BRANCH PRUNING MAY ALSO BE REQUIRED ON ANY TREE WHERE BRANCHES ARE REMOVED IN ORDER TO MAINTAIN AN AESTHETIC BALANCE, ALL SUCH ADDITIONAL PRUNING SHALL BE AS ORDERED BY THE ENGINEER.
 ALL WORK SHALL BE DONE ACCORDING TO ACCEPTABLE HORTICULTURAL AND PRUNING PRACTICES.



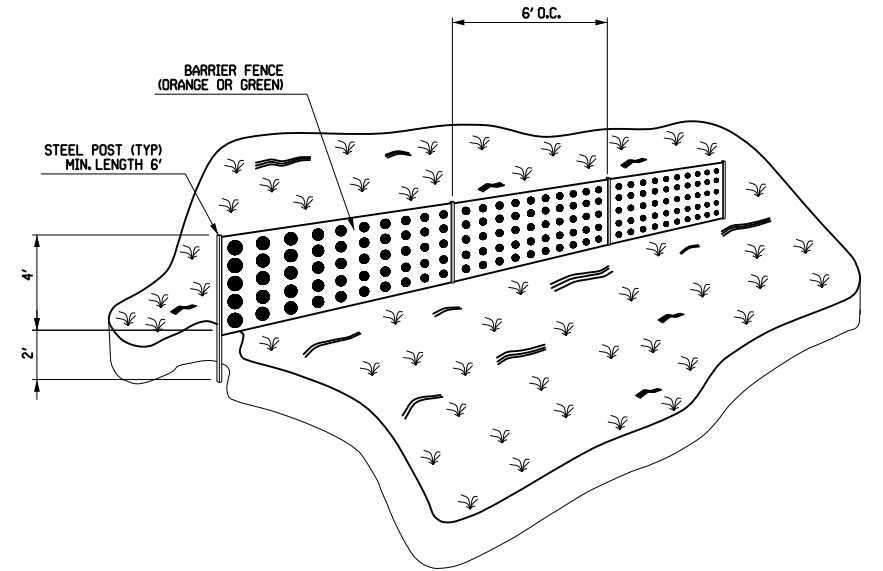
**SECTION
 SILT FENCE (ITEM 209.13)**



**SECTION A-A
 TYPICAL LONGITUDINAL JOINTS
 SEE DWG JL-1 & JL-2
 N.T.S.**

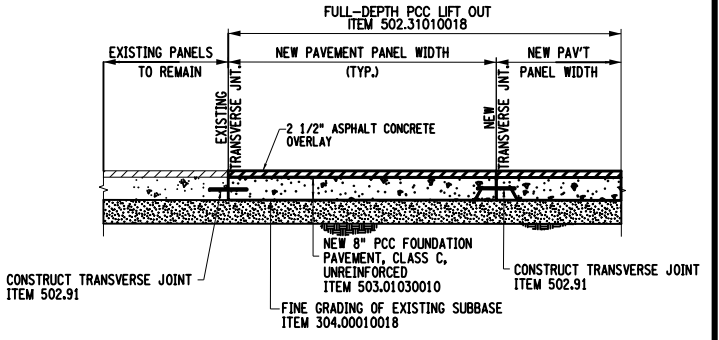


**SECTION C-C
 TYPICAL STRESS RELIEF JOINT DETAIL
 SEE DWG JL-1 & JL-2
 N.T.S.**

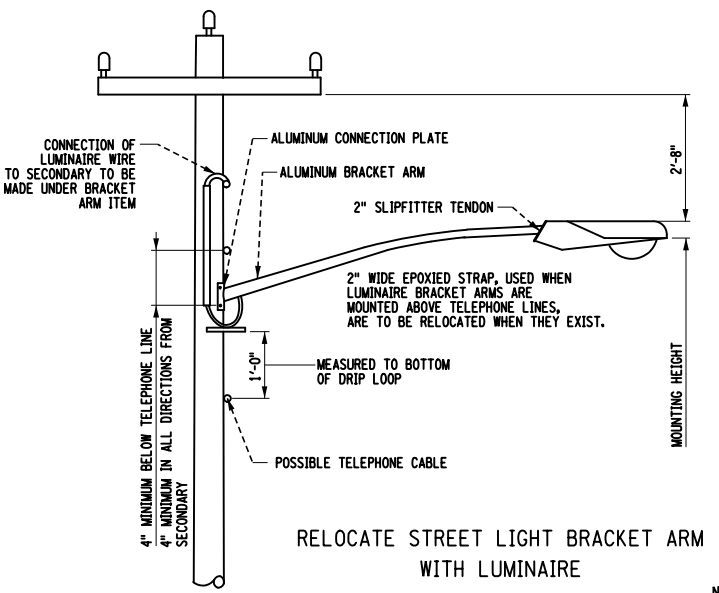


**TREE/VEGETATION PROTECTION BARRIER
 ITEM 615.04020004**

NOTES:
 1. SEE SPECIAL SPECIFICATIONS FOR PROPER ATTACHMENT TO POSTS AND PROPER OVERLAPPING.



**SECTION B-B
 TYPICAL TRANSVERSE JOINTS
 SEE DWG JL-1 & JL-2
 N.T.S.**



**RELOCATE STREET LIGHT BRACKET ARM
 WITH LUMINAIRE
 ITEM 670.91000010**

NOTE: REFER TO ELECTRICAL SAFETY REQUIREMENTS UNDER SECTION 107-05

AFFIX SEAL: ON:	ALTERED BY: ON:
AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	
NY 110 OVER NY 27 BRIDGE REPLACEMENT	
REGION 10	
TOWN OF BABYLON	
COUNTY: SUFFOLK	

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER DXXXXXX
MISCELLANEOUS DETAILS-1			DRAWING NO. MD-01	SHEET NO. 18

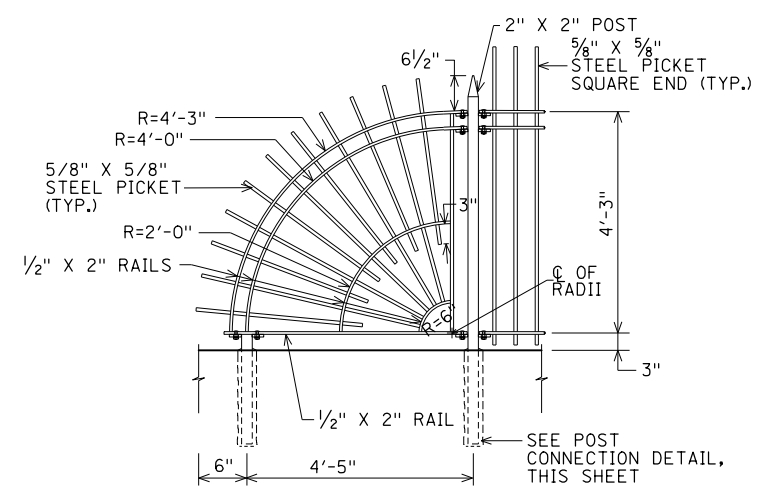
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
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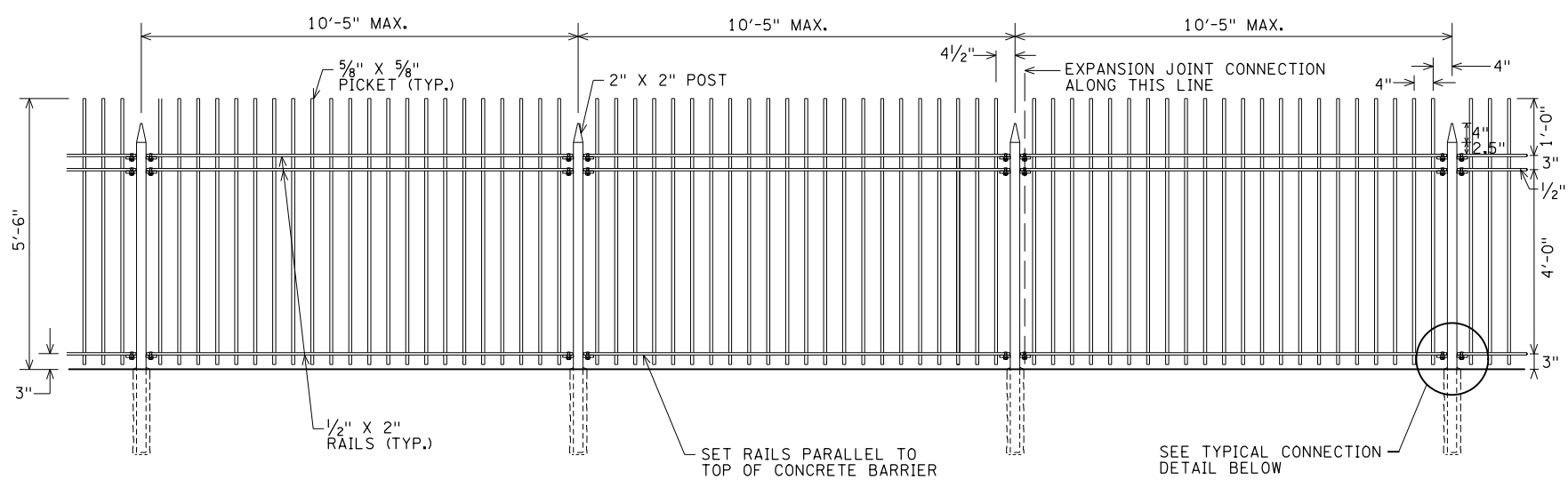
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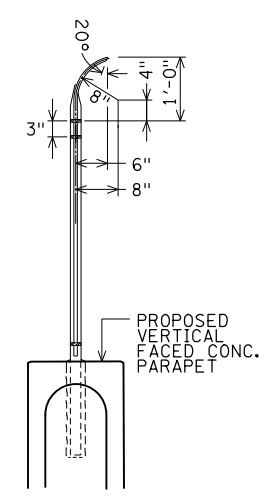
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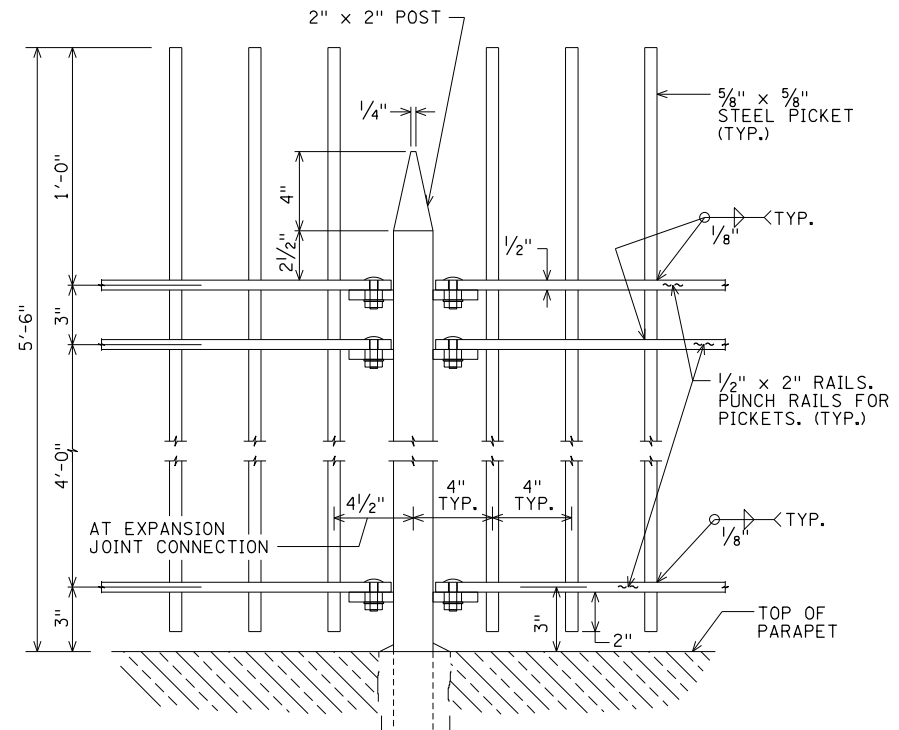
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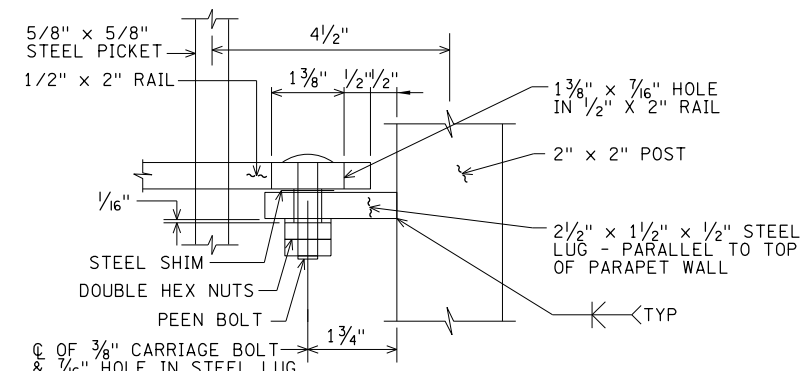
TYPICAL PANEL ELEVATION VIEW
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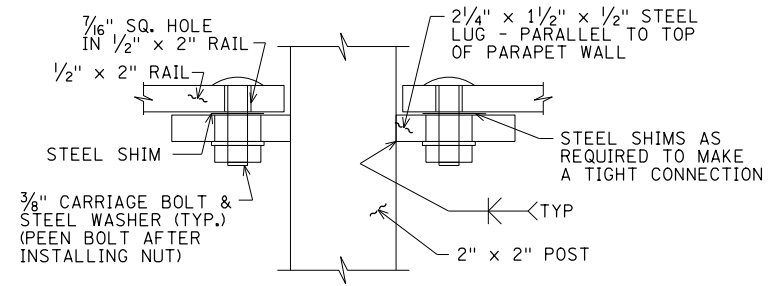
SECTION-THROUGH FENCE
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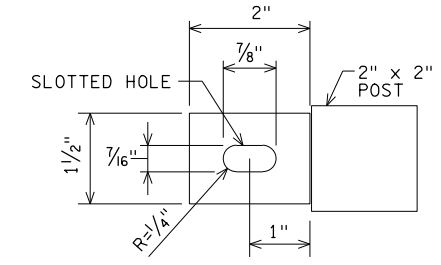
FENCE AT POST DETAIL
NOT TO SCALE



EXPANSION JOINT CONNECTION DETAIL
NOT TO SCALE



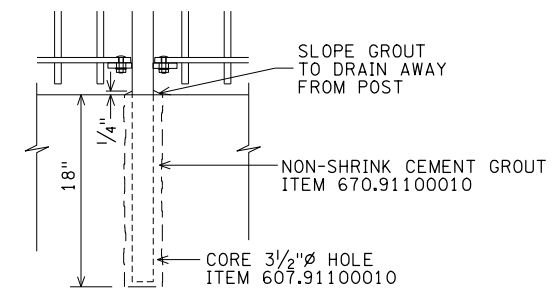
TYPICAL CONNECTION DETAIL
NOT TO SCALE



PLAN - LUG

NOTES:

1. FIELD MEASUREMENTS WILL BE REQUIRED TO DETERMINE THE LENGTH OF EACH FENCE PANEL.
2. ALL WORK SHOWN UNLESS OTHERWISE NOTED SHALL BE PAID FOR UNDER ITEM 607.91100010, DECORATIVE PROTECTIVE FENCE.
3. ALL COMPONENTS OF THE DECORATIVE FENCE SHALL BE PAINTED. THE COLOR OF THE FINISH COAT OF PAINT SHALL MATCH FEDERAL STANDARD 595A COLOR NUMBER 36357 (MEDIUM GRAY).
4. 2" X 2" POSTS ADJACENT TO EXPANSION JOINTS SHALL BE LOCATED A MINIMUM OF 9" FROM CONCRETE EDGE OF EXPANSION JOINT.
5. PRIOR TO FABRICATION THE CONTRACTOR IS REQUIRED TO SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUPPLY TO THE ENGINEER CATALOG CUTS OR ACTUAL SAMPLES OF ALL FITTINGS AND CONNECTIONS TO BE USED IN THIS WORK FOR THE ENGINEER'S APPROVAL. THESE SHALL BE BASED ON ACTUAL FIELD MEASUREMENTS MADE BY THE CONTRACTOR PRIOR TO FABRICATION TO AVOID ANY FIELD CONFLICTS.
6. AFTER THE DECORATIVE FENCE IS ERECTED, THE THREADS OF ALL BOLTS ON HARDWARE EXPOSED TO PEDESTRIAN TRAFFIC SHALL BE PEENED, AS DIRECTED BY THE ENGINEER, TO PREVENT REMOVAL OF THE NUTS.



POST CONNECTION DETAIL
NOT TO SCALE

DECORATIVE PROTECTIVE FENCE NOTES & DETAILS
ITEM 607.91100010

AFFIX SEAL: ON:	ALTERED BY: ON:
<p>IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.</p>	

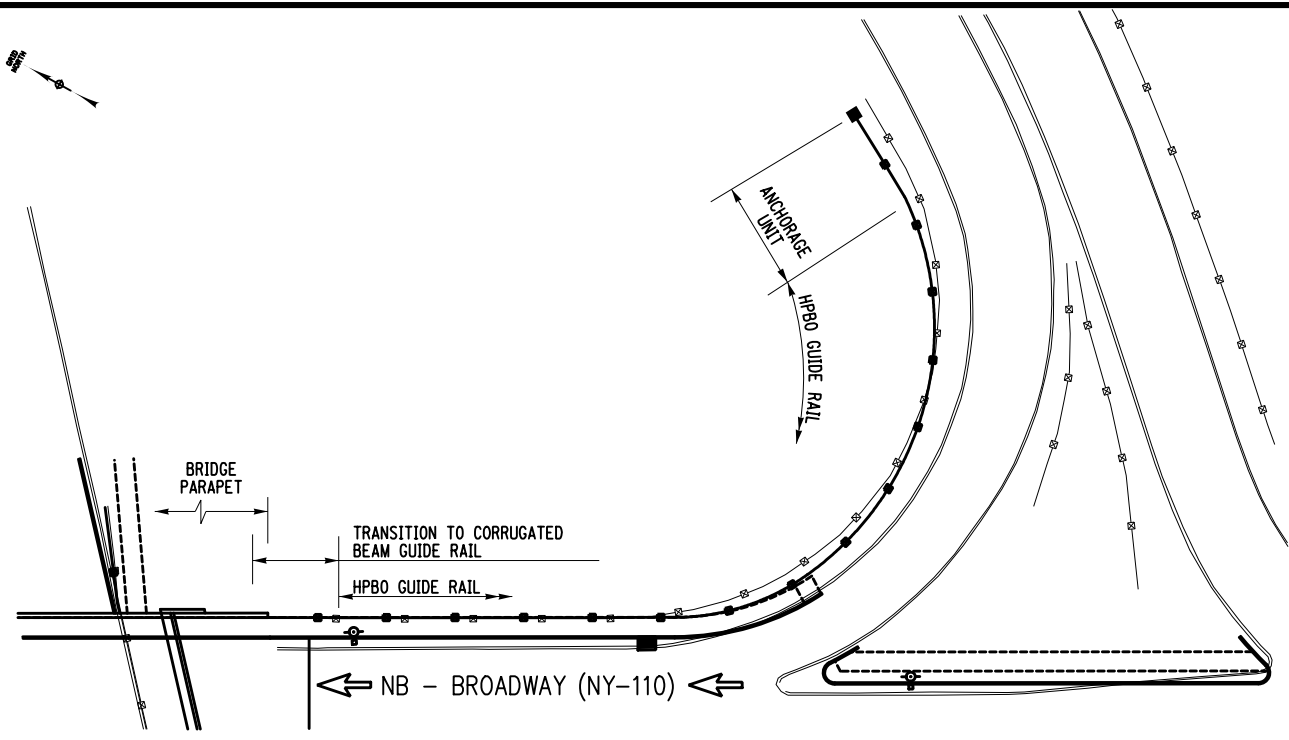
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	TOWN OF BABYLON				DRAWING NO. MD-02
	COUNTY: SUFFOLK				SHEET NO. 19



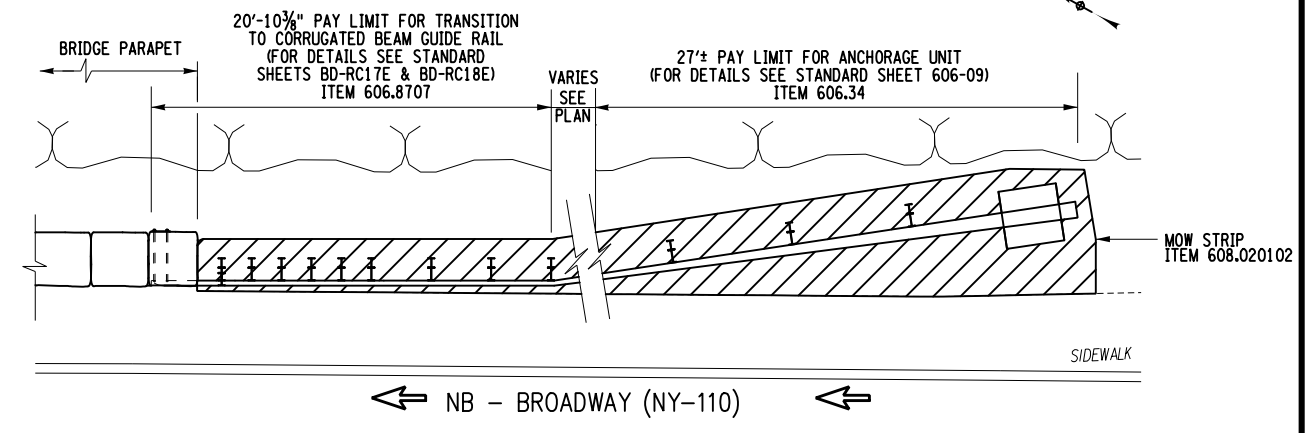
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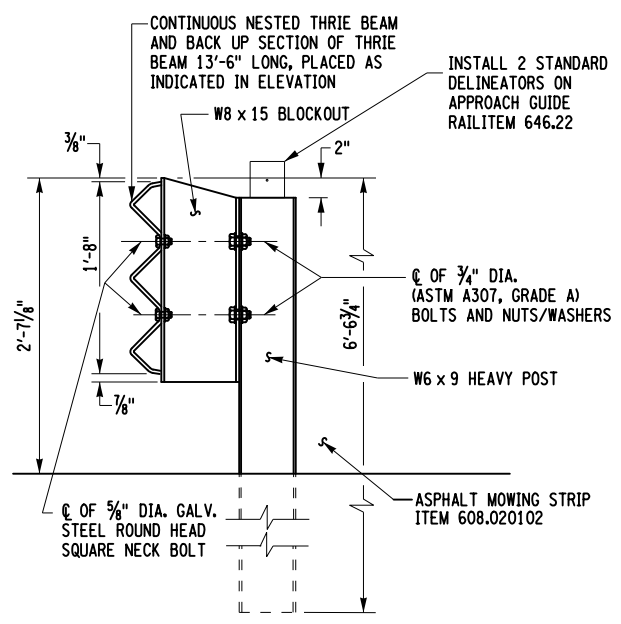
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 CONSULTANT SUPERVISOR



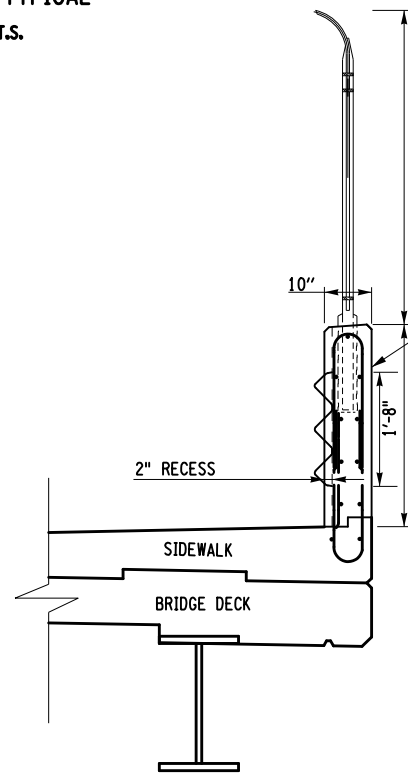
PLAN - TYPICAL
N.T.S.



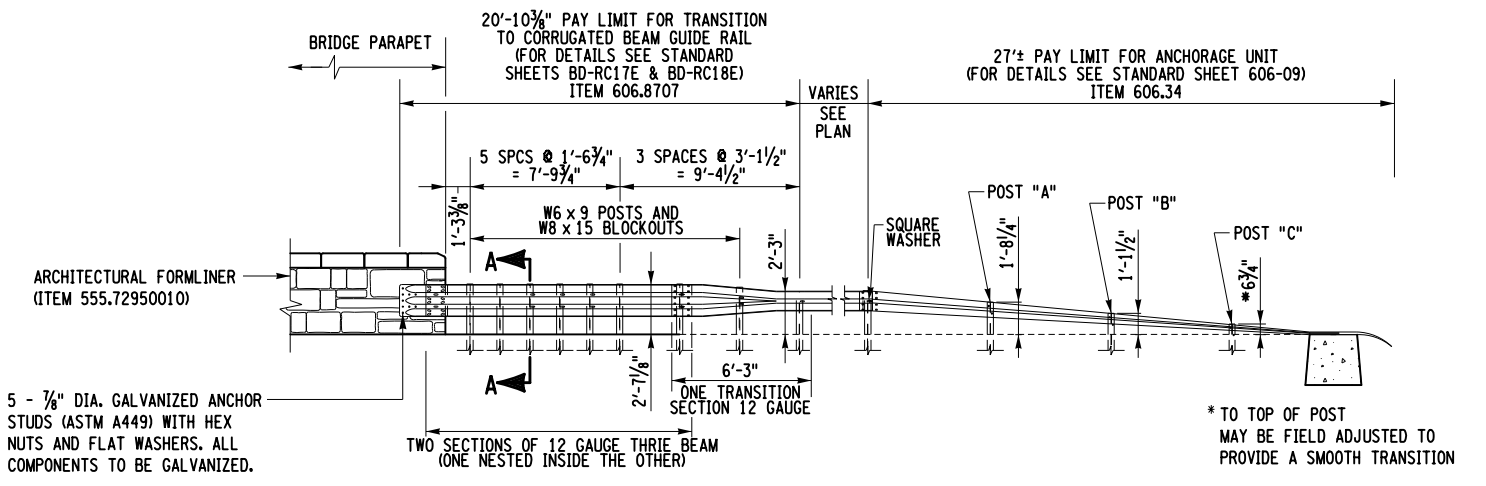
PLAN - NORTHBOUND APPROACH (SOUTHBOUND DIMENSIONS/CALLOUTS TYPICAL)
SCALE: 1" = 10'



SECTION A-A
POST ELEVATION
N.T.S.

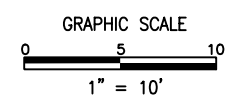


END VIEW
N.T.S.



ELEVATION
SCALE: 1" = 10'

CONNECTION, TRANSITION, AND APPROACH END ANCHORAGE UNIT CORRUGATE BEAM GUIDE RAILING
(GUIDE RAIL TYPICAL TO ALL APPROACHES)



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	WELLWOOD AVE OVER NY 27 BRIDGE REPLACEMENT	PIN 0059.10	BRIDGES	1018259	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER		
	REGION 10	WELLWOOD OVER NY27 BRIDGE REPLACEMENT	CULVERTS			DXXXXXX		
	TOWN OF BABYLON					GUIDE RAIL LAYOUT & DETAILS		DRAWING NO. MD-03
	COUNTY: SUFFOLK							SHEET NO. 20

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

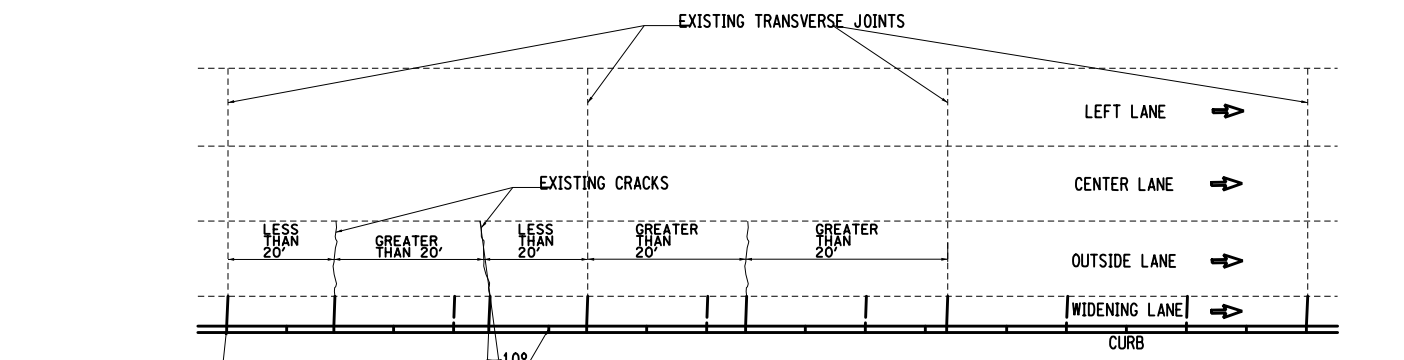
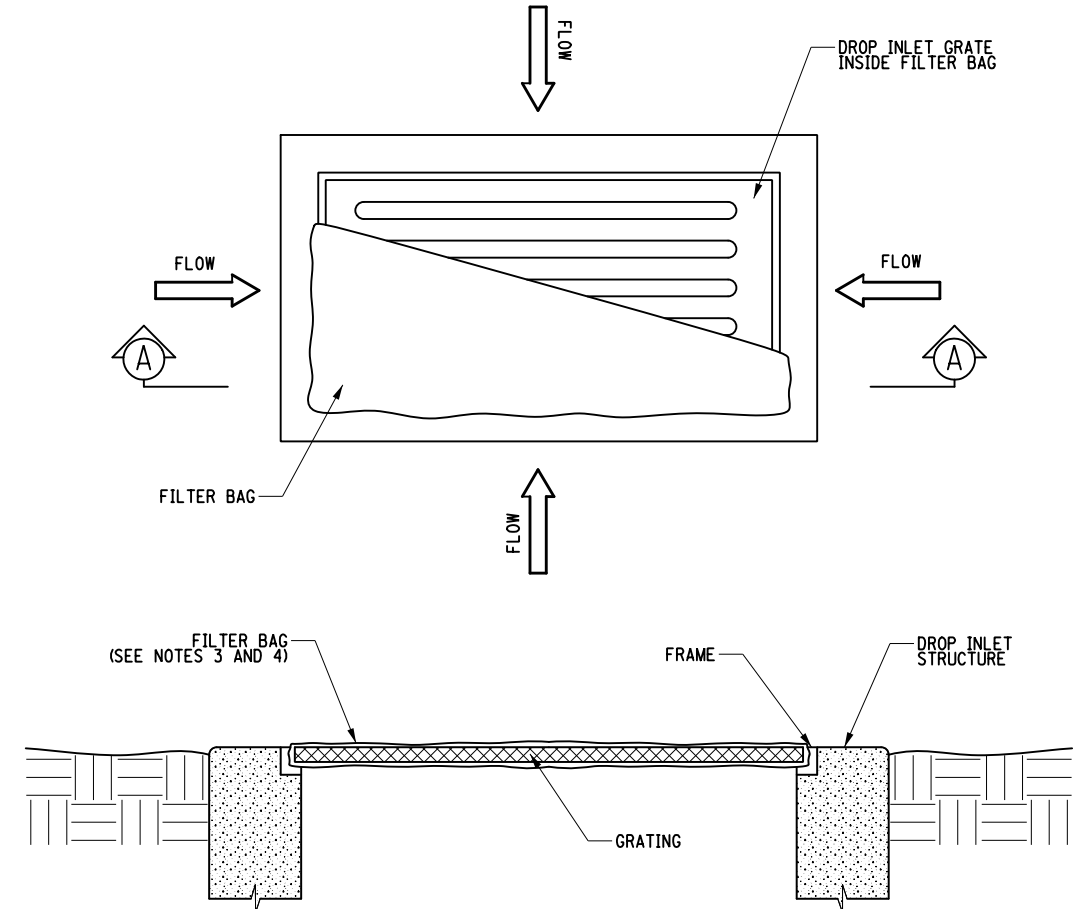
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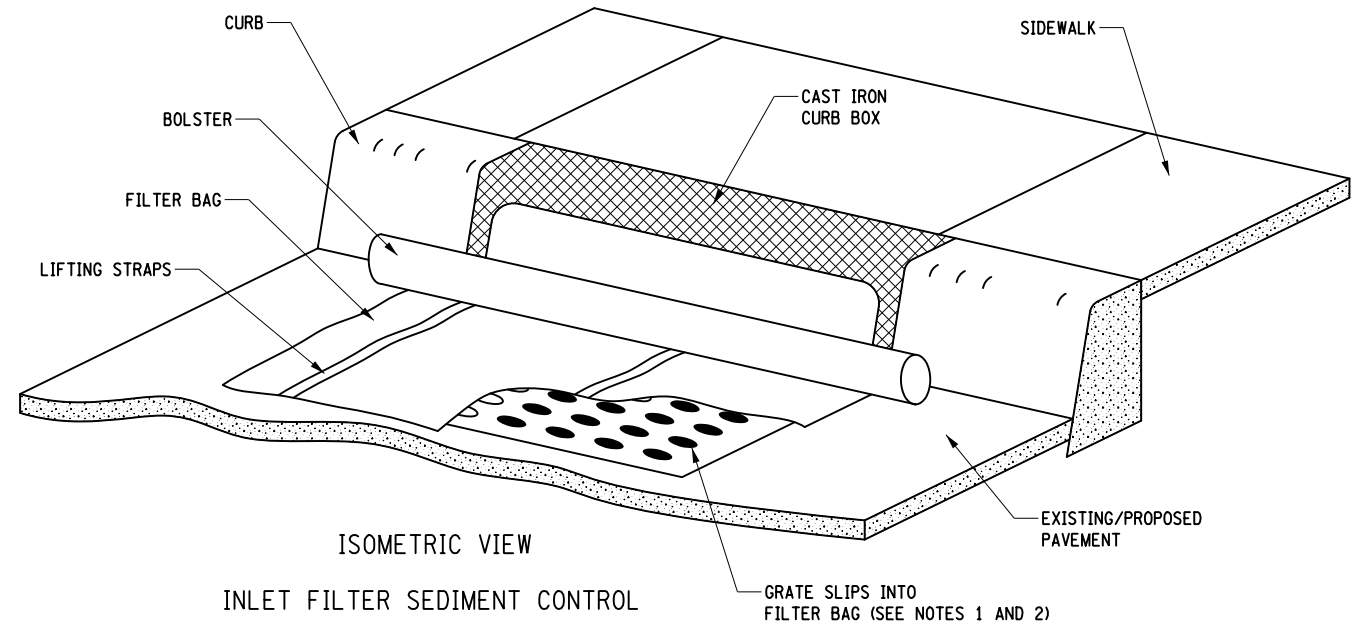
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 CHECK
 CONSULTANT DESIGN
 CONSULTANT JOB MANAGER
 CONSULTANT SUPERVISOR

INLET FILTER SEDIMENT CONTROL NOTES:

1. MAINTENANCE: WITH A STIFF BRISTLE BROOM, SWEEP SILT AND OTHER DEBRIS OFF SURFACE AFTER EACH EVENT.
2. INSTALLATION: STAND GRATE ON END. SLIDE THE SILT BAG ON WITH THE DAM ON TOP OF THE GRATE. PULL ALL THE EXCESS OWN. LAY THE UNIT ON ITS SIDE AND CAREFULLY TUCK THE FLAP IN. PRESS THE VELCRO STRIPS TOGETHER. INSTALL THE UNIT MAKING SURE THE FRONT EDGE OF THE GRATE IS INSERTED IN THE FRAME FIRST THEN LOWER IT BACK INTO PLACE. PRESS THE VELCRO DOTS THAT ARE LOCATED UNDER THE LIFTING STRAPS TOGETHER. THIS INSURES THAT THE STRAPS REMAIN FLUSH WITH THE GUTTER.
3. INSTALLATION: STAND THE GRATE ON END. PLACE THE SILT BAG OVER THE GRATE. FLIP THE GRATE OVER SO THAT THE OPEN END IS UP. PULL UP THE SLACK AND TUCK THE FLAP IN. BE SURE THAT THE END OF THE GRATE IS COMPLETELY COVERED BY THE FLAP OR THE DANDY BAG WILL NOT FIT PROPERLY. WHILE HOLDING HANDLES, CAREFULLY PLACE DANDY BAG WITH THE GRATE INSERTED INTO THE CATCH BASIN FRAME SO THAT THE RED DOT ON THE TOP OF THE DANDY BAG IS VISIBLE.
4. MAINTENANCE: AFTER THE SILT HAS DRIED, REMOVE IT FROM THE SURFACE OF THE SILT BAG WITH A BROOM.



INTERMITTENT SAWCUTS DETAIL
N.T.S.



INLET FILTER SEDIMENT CONTROL
FOR DRAINAGE STRUCTURES
ITEMS 209.11000011 & 209.12000011

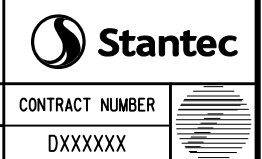
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NY 110 OVER NY 27 BRIDGE REPLACEMENT
REGION 10
TOWN OF BABYLON
COUNTY: SUFFOLK

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS
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ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED
MISCELLANEOUS DETAILS - 4

CONTRACT NUMBER DXXXXXX	DRAWING NO. MD-04
SHEET NO. 21	

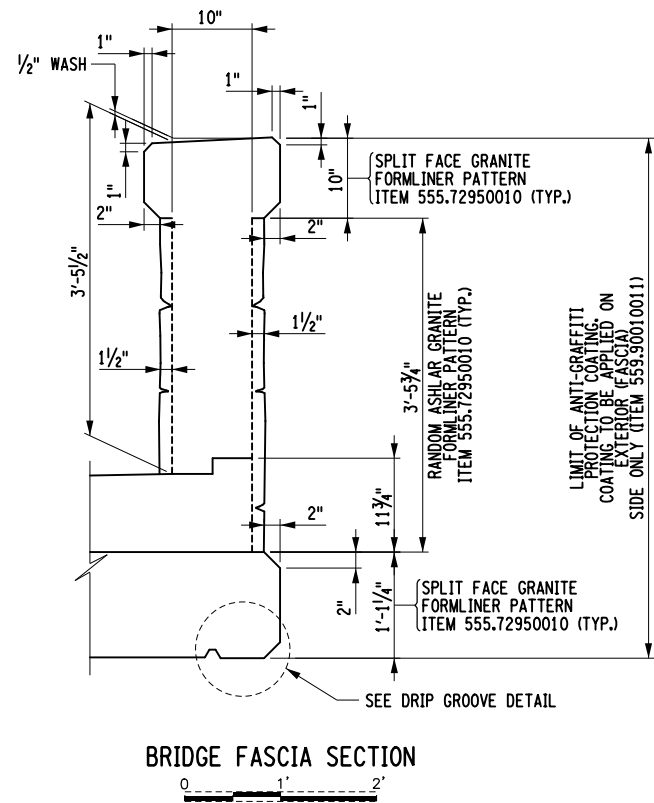


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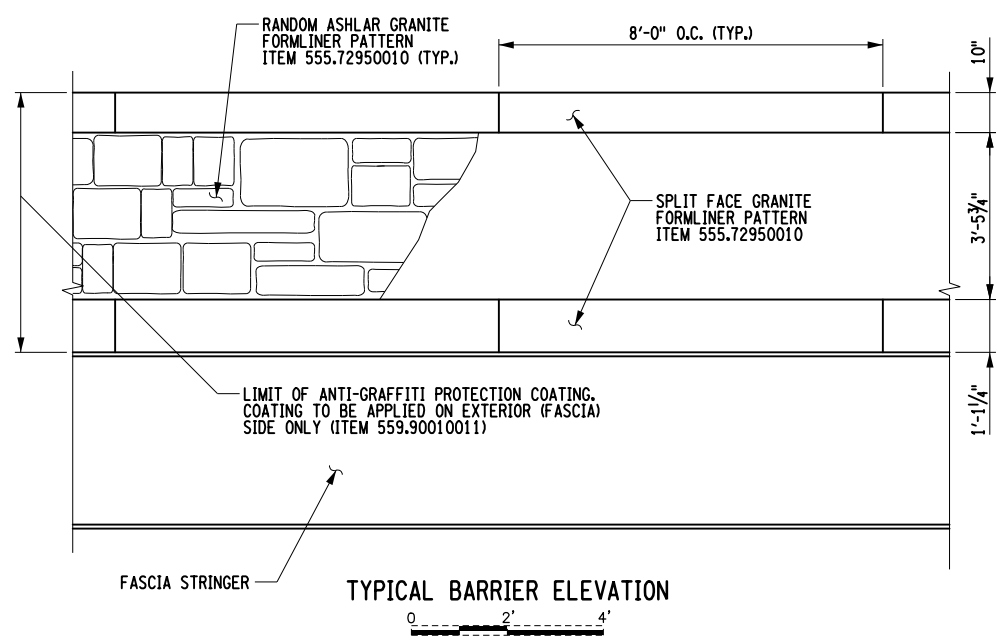
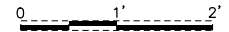
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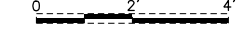
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 REGION 10 JOB MANAGER
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 CONSULTANT DESIGN
 CONSULTANT JOB MANAGER
 CONSULTANT DESIGN SUPERVISOR



BRIDGE FASCIA SECTION



TYPICAL BARRIER ELEVATION



A. GENERAL

- FOR STONE MASONRY AND FORM LINER WORK, PROVIDE A MOCK UP PANEL 5' WIDE AND 5' HIGH FOR APPROVAL BY THE ENGINEER AND REGIONAL LANDSCAPE ARCHITECT. THE MOCK UP PANEL SHALL BE AN EXACT REPRODUCTION OF THE BRIDGE FASCIA AND PARAPET AS THEY ARE VISIBLE FROM SUNRISE HIGHWAY (NY 27). DO NOT PROCEED WITH THE BALANCE OF THE WORK UNTIL MOCK UP PANEL HAS BEEN APPROVED.
- EXPOSED CONCRETE AND MASONRY SURFACES SHALL RECEIVE A ONE-COAT APPLICATION OF ANTI-GRAFFITI COATING. ANTI-GRAFFITI COATING SHALL BE PAID FOR UNDER ITEM 559.90010011. REFER TO THIS DRAWING AND DWG. GP-1 TO GP-3 FOR LIMITS AND LOCATIONS OF ANTI-GRAFFITI COATING. STONE SURFACES SHALL BE CLEANED OF EFFLORESCENCE BEFORE APPLICATION OF ANTI-GRAFFITI COATING.

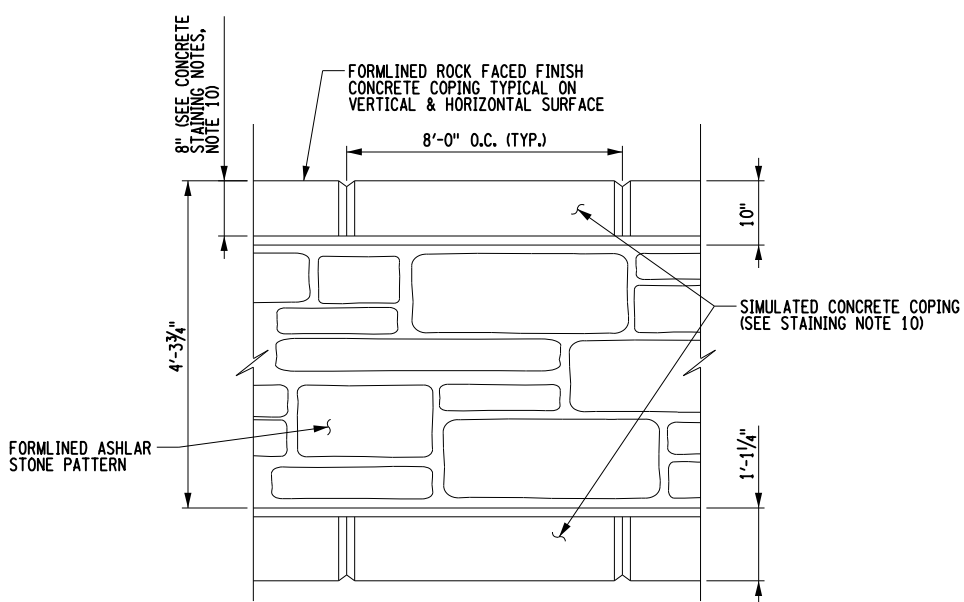
B. ASHLAR STONE PATTERN, CONCRETE FORMLINERS ITEM 555.72950010

- CUSTOM FORMLINER SHALL BE AS SHOWN ON THE PLANS. FORMLINERS SHALL CONFORM TO THE REQUIREMENTS OF ITEM 555.72950010 AND AS MODIFIED BELOW.
- PATTERN FOR CONCRETE FORM LINER SHALL BE CUSTOM NON-REPEATING ASHLAR STONE PATTERN WITH A MINIMUM RELIEF OF 1.5". STONES SHALL BE APPROXIMATELY 4", 6", 8", 10", 12" AND 14" IN HEIGHT, BUT AT LEAST 35% OF ALL STONES SHALL BE 12" TO 14" IN HEIGHT. THEIR HORIZONTAL DIMENSION SHALL BE FOUR TO SIX TIMES THEIR HEIGHT, BUT IN NO CASE LESS THAN TWO TIMES NOR MORE THAN SEVEN TIMES THEIR HEIGHT. THERE SHALL BE NO SQUARE STONES. ALL JOINTS SHALL BE 3/4" TO 1" WIDE.
- THE HORIZONTAL JOINT THAT SEPARATES THE ASHLAR STONE PATTERN FROM THE ROCK FACED FINISH CONCRETE COPING SHALL HAVE A DEPTH OF 1/2" AND A HEIGHT OF 1 1/8".
- THERE SHALL BE NO CLUSTERS OF STONE OF THE SAME LENGTH AND HEIGHT. STONES OF THE SAME SIZE SHALL NOT BE PLACED SIDE BY SIDE. VERTICAL JOINTS SHALL BE STAGGERED AND THERE SHALL NOT BE MORE THAN 3 STONES ABUTTING ONE VERTICAL JOINT. HORIZONTAL JOINTS SHALL NOT EXTEND UNBROKEN BEYOND 5 STONES IN ONE FORM LINER NOR 7 STONE WHEN PATTERNS ARE COMBINED.
- THE ASHLAR STONE PATTERN SHALL BE NON-REPEATING BETWEEN EXPANSION JOINTS. THE STONE PATTERN SHALL BE CONTINUOUS OVER INTERMEDIATE CONSTRUCTION JOINTS. ADJOINING LINERS SHALL BE BUTTED TIGHTLY TOGETHER. NO VISIBLE VERTICAL OR HORIZONTAL SEAMS AS A RESULT OF ADJOINING FORM LINERS WILL BE PERMITTED. FINISHED TEXTURE SHALL BE CONTINUOUS WITHOUT INTERRUPTIONS BY LINERS SEAMS OR PERIMETER JOINTS EXCEPT AT EXPANSION JOINTS. RE-USED STONES SHALL BE CLEANED OF JOINT SEALER, TAR, GROUT, ETC. BEFORE BEING RE-INSTALLED.
- APPLY PENETRATING CONCRETE STAIN TO ASHLAR STONE PATTERNED CONCRETE. PROVIDE VARIATION IN COLOR AND PROPORTIONS WITHIN SEPARATE STONE OUTLINES TO MATCH ADJACENT STONE MASONRY. MASK MOLDED MORTAR JOINTS TO PREVENT STAIN PENETRATION.

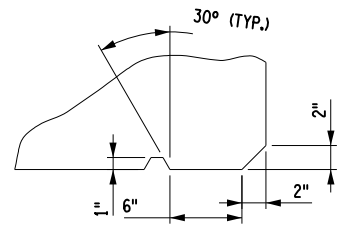
- FORM LINERS SHALL LEAVE CRISP, SHARP-DEFINITION ARCHITECTURAL PATTERNS, CUTS AND TEARS IN FORM LINERS SHALL BE SEALED AND REPAIRED BEFORE USE OF THE LINERS. FORM LINERS THAT ARE DELAMINATED FROM THE FORM SHALL NOT BE USED. JOINTS BETWEEN FORM LINERS SHALL BE CLEANED BEFORE EACH USE TO REMOVE ANY MORTAR IN THE JOINT. A FORM RELEASE AGENT IS TO BE USED AND TINTED FEDERAL COLOR #36251.
- FORM LINER FOR FRONT FACE OF THE CONCRETE COPING SHALL DEVELOP A ROCK FACE FINISH WITH A MAXIMUM PROJECTION OF 2 1/2".
- CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL LAYOUT DRAWINGS OF FORM LINER PANELS SHOWING PANEL SIZES, NON-REPEATING STONE PATTERN DIMENSIONS AND PANEL CONFIGURATIONS.
- ALL FORM LINER RELATED WORK, INCLUDING MOCK UP PANELS, WILL BE PAID FOR UNDER ITEM 555.72950010.
- INDIVIDUAL FORMLINER PANELS MAY NEED TO BE TRIMMED IN ORDER TO ACCOUNT FOR THE PROFILE OF THE ROAD AND CROWN OF THE BRIDGE PARAPET WHILE MATCHING STONE PATTERNS AT THE EXPANSION JOINTS. NOTE THAT THE CONTRACTOR MAY NEED TO FIELD SURVEY EACH OF THE BRIDGES TO DETERMINE THE ACTUAL PROFILE OF THE ROAD AND DETERMINE IF FORMLINER PANELS WILL HAVE TO BE CUSTOM FIT AND TRIMMED IN ORDER TO ENSURE THAT THE PATTERN MATCHES AT THE EXPANSION JOINTS.

C. CONCRETE STAINING ITEM 555.72950010

- THE CONCRETE PENETRATING STAIN SHALL BE APPLIED TO THE FORMLINED CONCRETE SURFACES OF THE BRIDGE PARAPET WALLS BY A COMBINATION OF HAND WIPING, SPRAYING, SPONGING, BRUSH PAINTING, RAGGING OR OTHER METHODS APPROVED BY THE ENGINEER, WITH AS MANY LAYERS AND PATTERNS NECESSARY TO ACHIEVE BELIEVABLE COLORATION WITHIN STONES AND NATURAL RANDOM VARIATION FROM STONE TO STONE.
- THE COMPLETED COLORED AND FORMED CONCRETE SURFACE SHALL MATCH THE ACTUAL STONE TREATMENT USED ON THE BRIDGE ABUTMENT AS CLOSELY AS POSSIBLE.
- FINAL COLORATION OF CAST STONE CONCRETE SURFACE SHALL ACCURATELY SIMULATE THE APPEARANCE OF REAL STONE INCLUDING THE MULTIPLE COLORS, SHADES, FLECKING AND VEINING THAT IS APPARENT IN REAL STONE.
- STAIN SHALL CREATE A SURFACE FINISH THAT IS BREATHABLE (ALLOWING WATER VAPOR TRANSMISSION) AND THAT RESIST DETERIORATION FROM WATER, ACID, ALKALI, FUNGI, SUNLIGHT OR WEATHERING. STAIN MIX SHALL BE A WATERBORNE, LOW V.O.C. MATERIAL, LESS THAN 180 GRAMS/LITER. IT SHALL ALSO BE COATED WITH AND COMPATIBLE WITH THE ANTI-GRAFFITI COATING SPECIFIED ITEM 559.90010011.
- THE RELEASE AGENT MUST BE COMPATIBLE WITH SIMULATED STONE MASONRY MOLDS AND WITH COLOR STAIN SYSTEM TO BE APPLIED TO SURFACE. THE RELEASE AGENT SHALL BE TINTED FEDERAL COLOR #36251.
- THE STAINING CONTRACTOR SHALL HAVE A MINIMUM OF 3 YEARS OF EXPERIENCE STAINING FORMLINED, SIMULATED STONE WALLS AND SHALL USE A VARIETY OF ARTISTIC STAIN APPLICATION TECHNIQUES. THE CONTRACTOR SHALL BE APPROVED BY THE REGIONAL LANDSCAPE ARCHITECT. THIS WORK IS WAIVED FROM DBE REQUIREMENTS.
- ALL MORTAR JOINTS SHALL BE COLORED FEDERAL COLOR #36173 TO SIMULATE REAL MORTAR.
- SPECIAL STAIN MIX AS PROVIDED BY MANUFACTURER OR APPROVED EQUAL. THE COLORS SHALL ACHIEVE COLOR VARIATIONS PRESENT IN THE NATURAL STONE BEING SIMULATED FOR THIS PROJECT. AS APPROVED BY REGIONAL LANDSCAPE ARCHITECT. THE FINAL SAMPLE SHALL BE A COMBINATION OF FIVE FEDERAL COLORS "0": 33448 (10%), 30279 (20%), 36251 (30%), 36132 (30%) AND 30227 (30%).
- THE SPECIFIED SYSTEM IS BASED ON CUSTOM ROCK'S "YELLOWSTONE" CONCRETE STAIN PATTERN, ST. PAUL, MINNESOTA 55116, PHONE (651) 699-1345, OR EQUAL AS APPROVED BY THE REGIONAL LANDSCAPE ARCHITECT.
- THE FORMLINED CONCRETE COPING SHALL REMAIN THE NATURAL CONCRETE COLOR WITH NO STAIN.
- CONCRETE STAIN SHALL BE INCLUDED IN ITEM 555.72950010.



TYPICAL CONCRETE PARAPET ELEVATION
NOT TO SCALE



DRIP GROOVE DETAIL
NOT TO SCALE

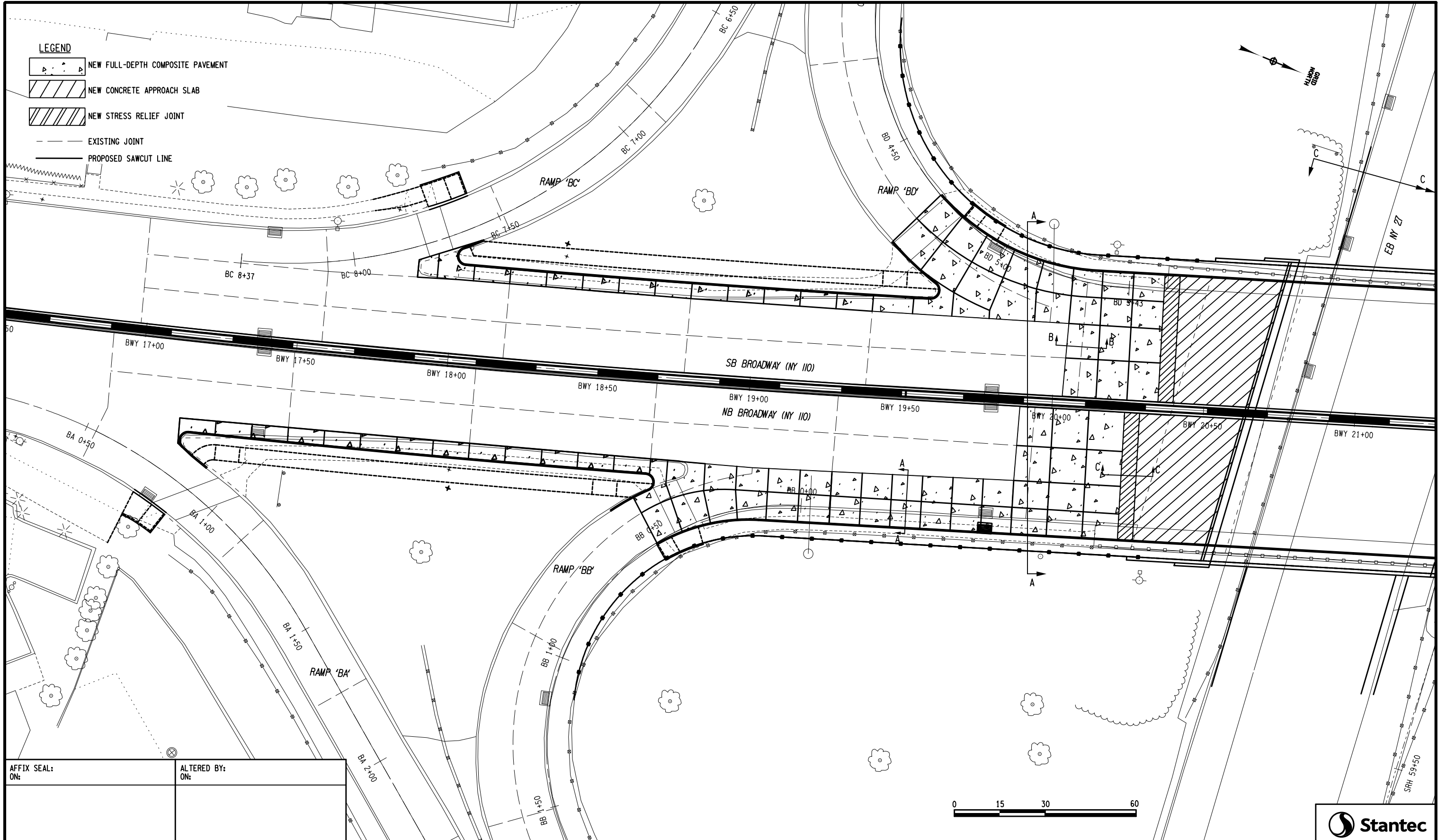
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NY 110 OVER NY 27 BRIDGE REPLACEMENT REGION 10 TOWN OF BABYLON COUNTY: SUFFOLK	
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.	

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER DXXXXXX
ARCHITECTURAL DETAILS			DRAWING NO. ARCH-1 SHEET NO. 22	
NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION				DOCUMENT NAME:



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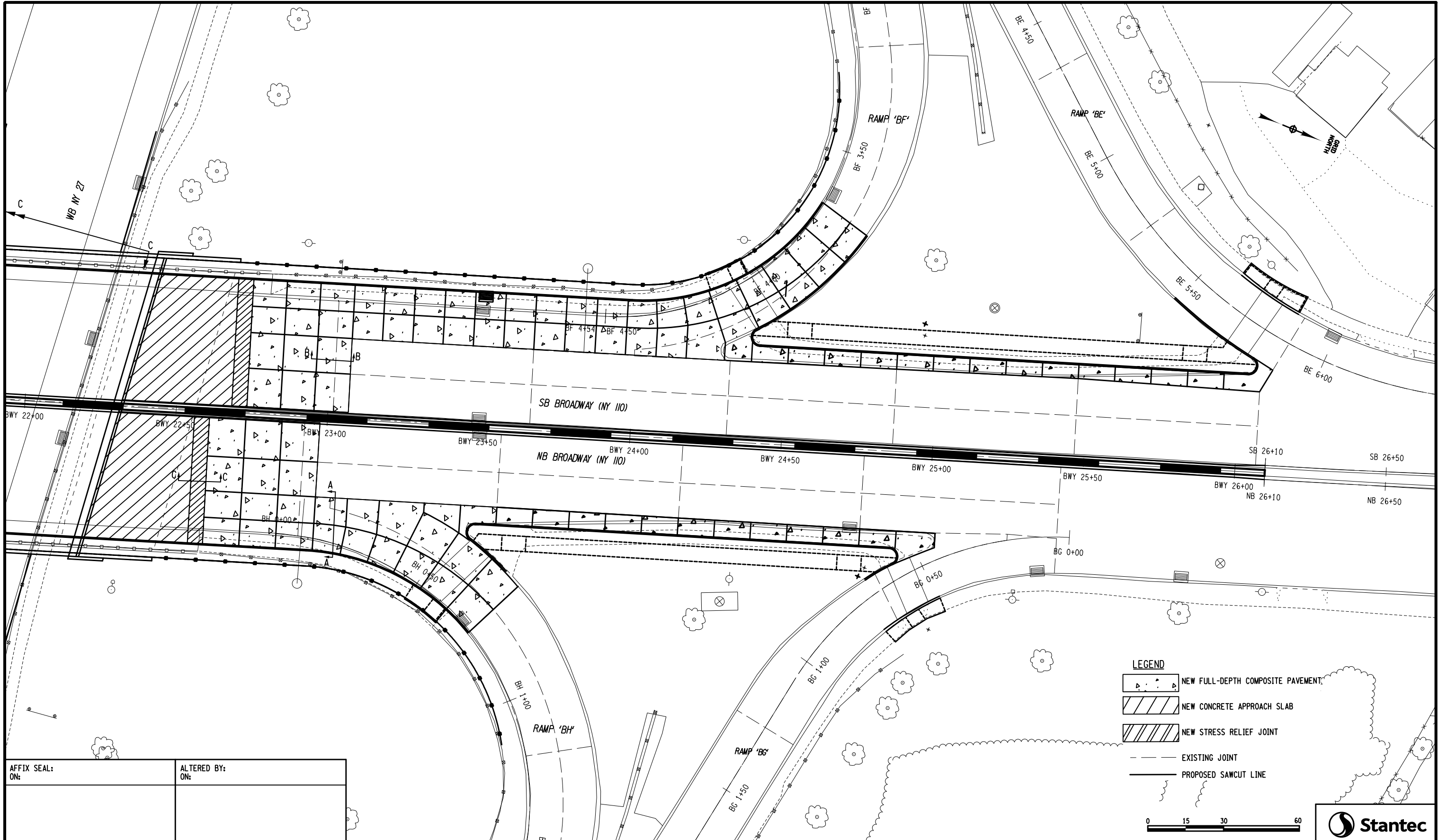
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AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	NY 110 OVER NY 27 BRIDGE REPLACEMENT	PIN 0112.57	BRIDGES	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER	
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	TOWN OF BABYLON	BRIDGE REPLACEMENT				DRAWING NO. JL-1
	COUNTY: SUFFOLK					SHEET NO. 23
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.					NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:	



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AS-BUILT REVISIONS
 DESCRIPTION OF ALTERATIONS:

NY 110 OVER NY 27 BRIDGE REPLACEMENT
 REGION 10
 TOWN OF BABYLON
 COUNTY: SUFFOLK

PIN 0112.57
 NY 110 OVER NY27
 BRIDGE REPLACEMENT

BRIDGES
 1019119

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

JOINT LAYOUT PLAN - 2

CONTRACT NUMBER
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DRAWING NO. JL-2
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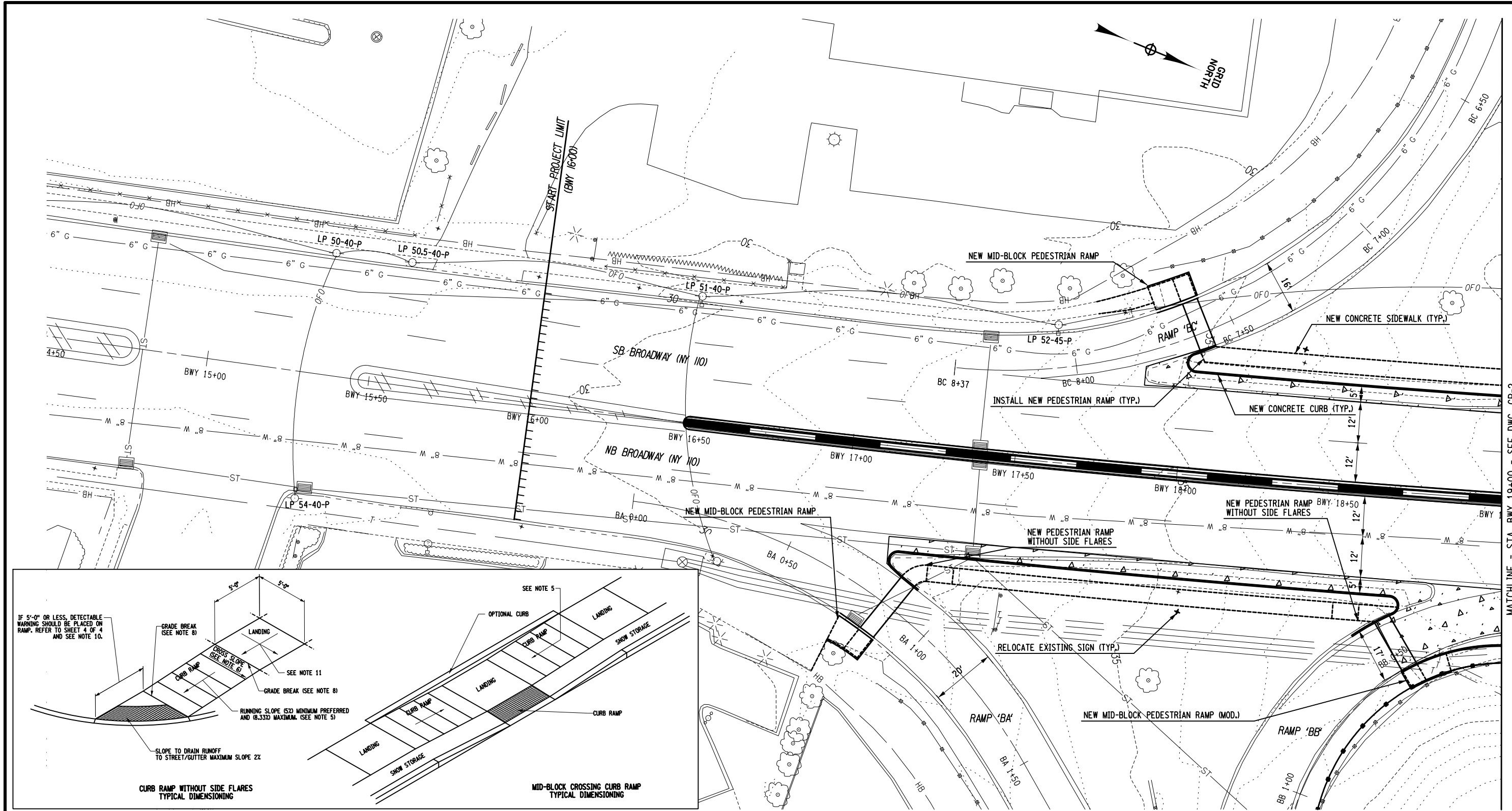
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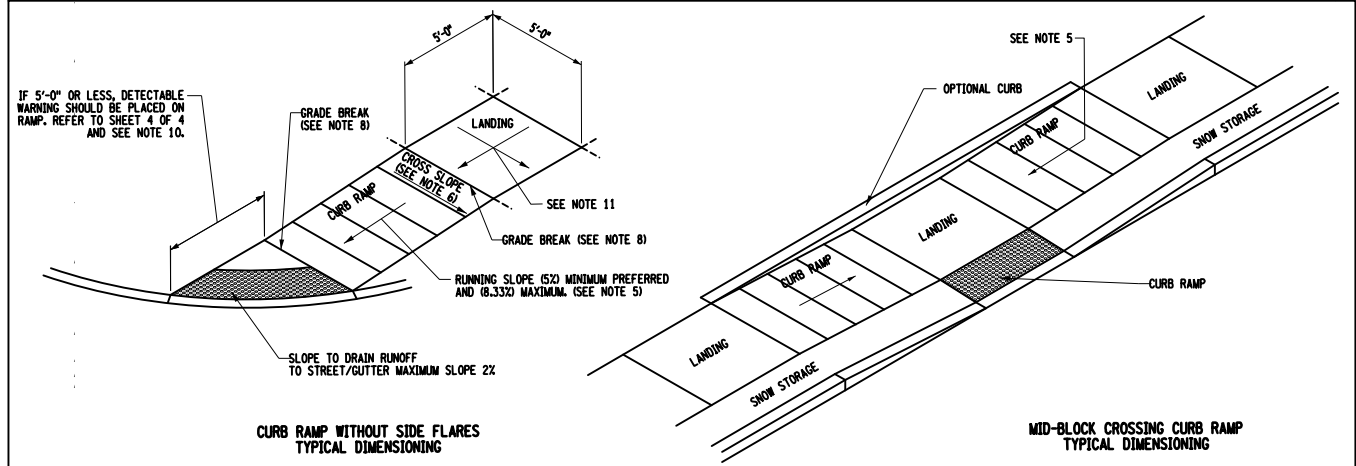


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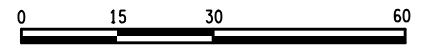
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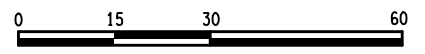
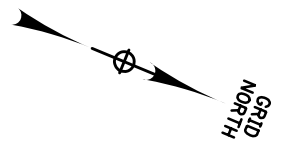
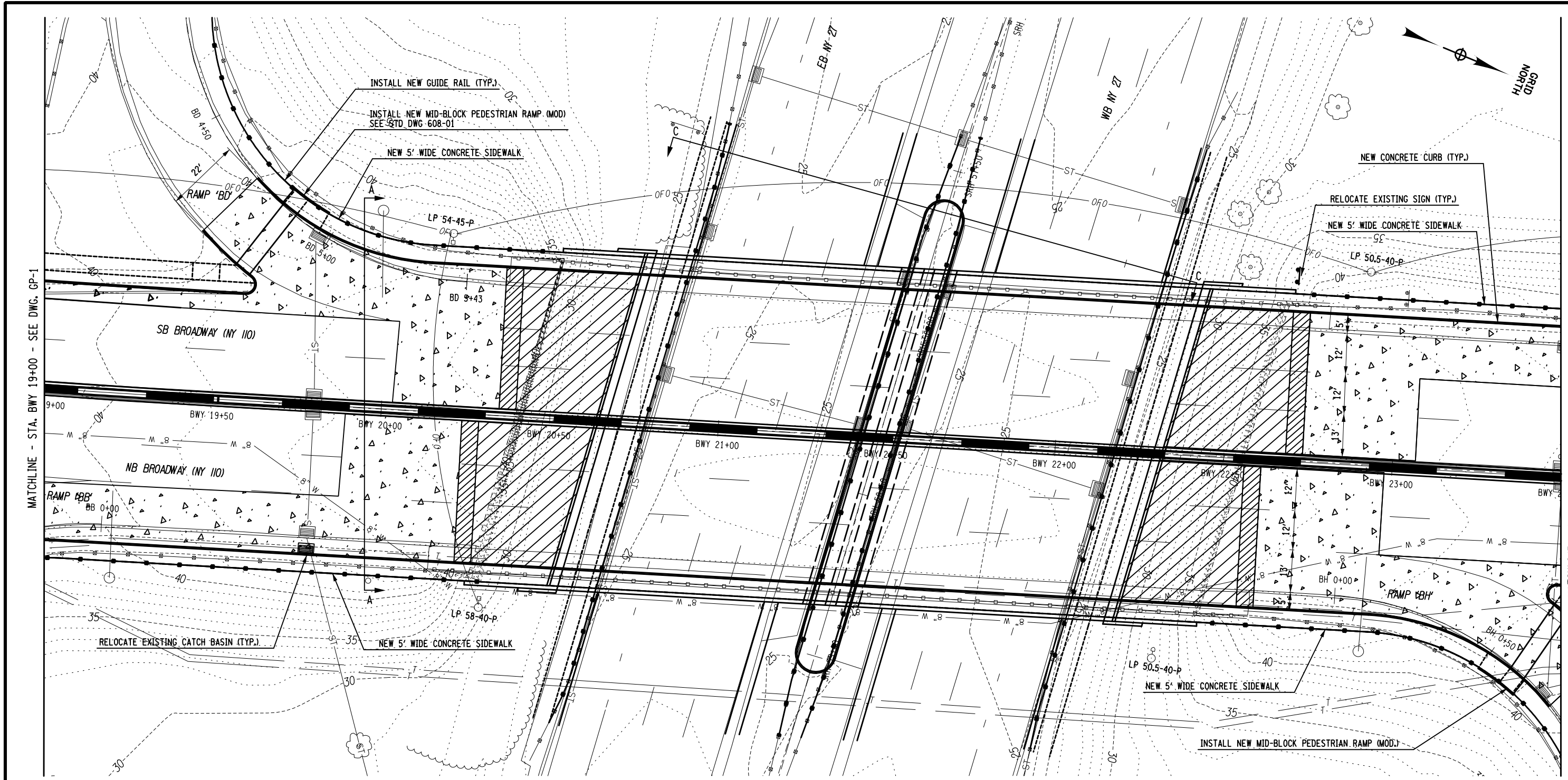
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	REGION 10
	TOWN OF BABYLON
	COUNTY: SUFFOLK

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS
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GENERAL PLAN - 2

CONTRACT NUMBER DXXXXXX	SHEET NO. 26
DRAWING NO. GP-2	

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

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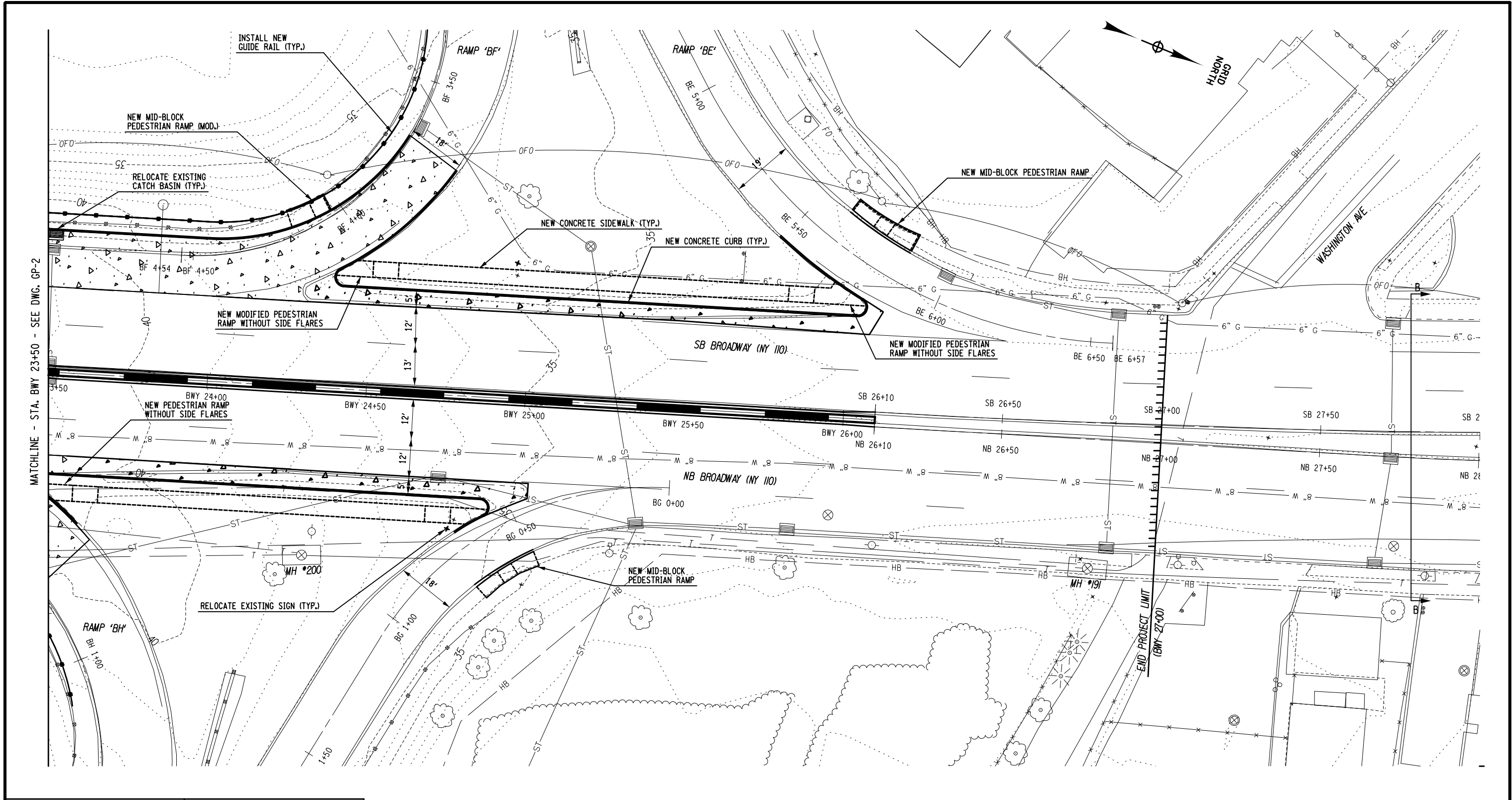


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MATCHLINE - STA. BWY 19+00 - SEE DWG. GP-1

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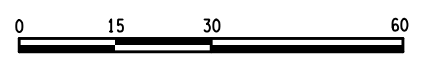
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MATCHLINE - STA. BWY 23+50 - SEE DWG. GP-2

END PROJECT LIMIT
(BWY 27+00)

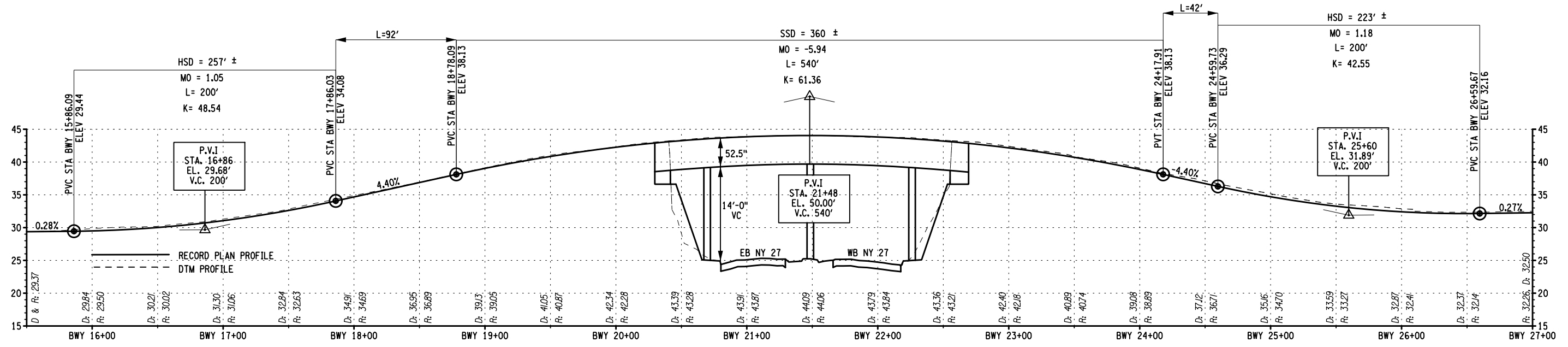
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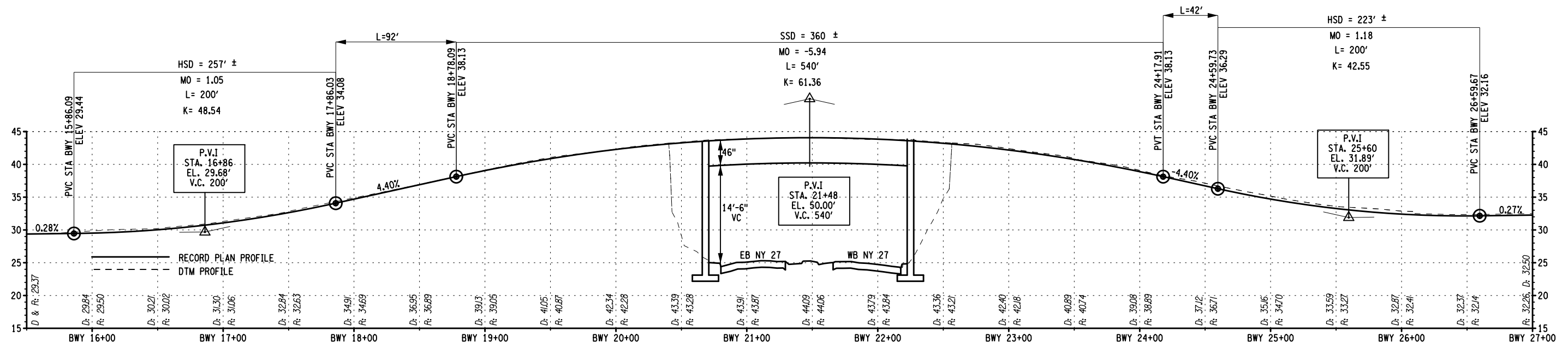
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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.					NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:	

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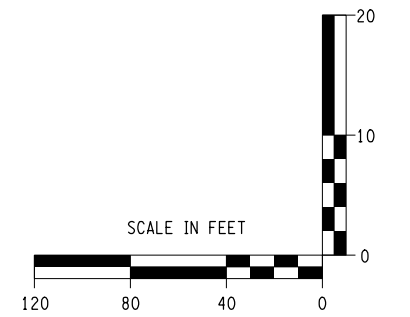
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EXISTING NY 110 PROFILE - 45 MPH CREST CURVE

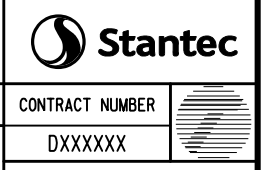


PROPOSED NY 110 PROFILE - 45 MPH CREST CURVE



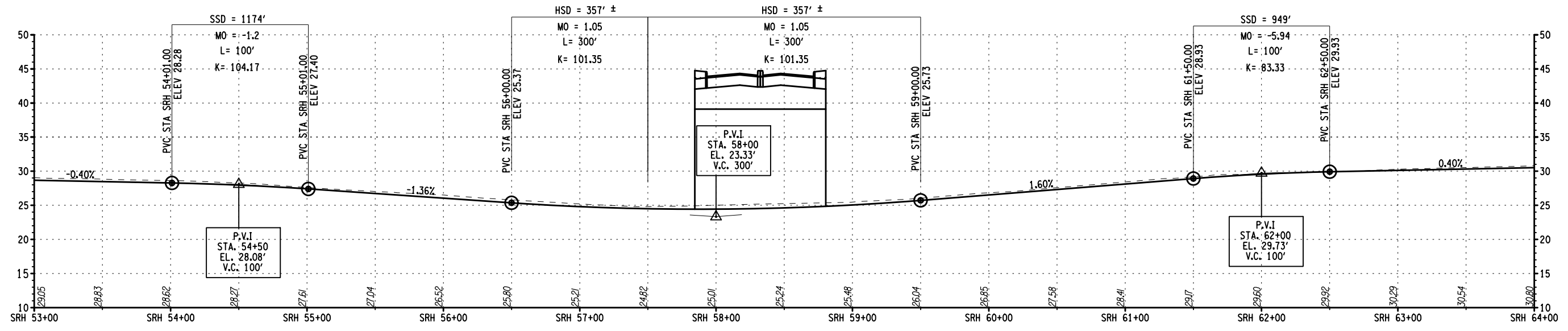
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	COUNTY: SUFFOLK					SHEET NO. 28
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.						NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:

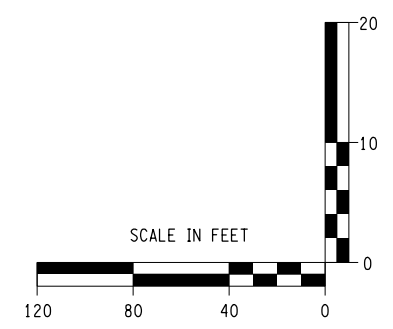


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SUNRISE HIGHWAY PROFILE



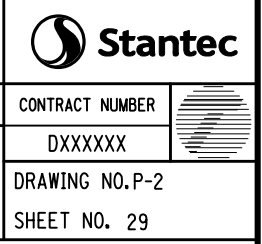
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	REGION 10
	TOWN OF BABYLON
	COUNTY: SUFFOLK

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS
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ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED
SUNRISE HIGHWAY PROFILE

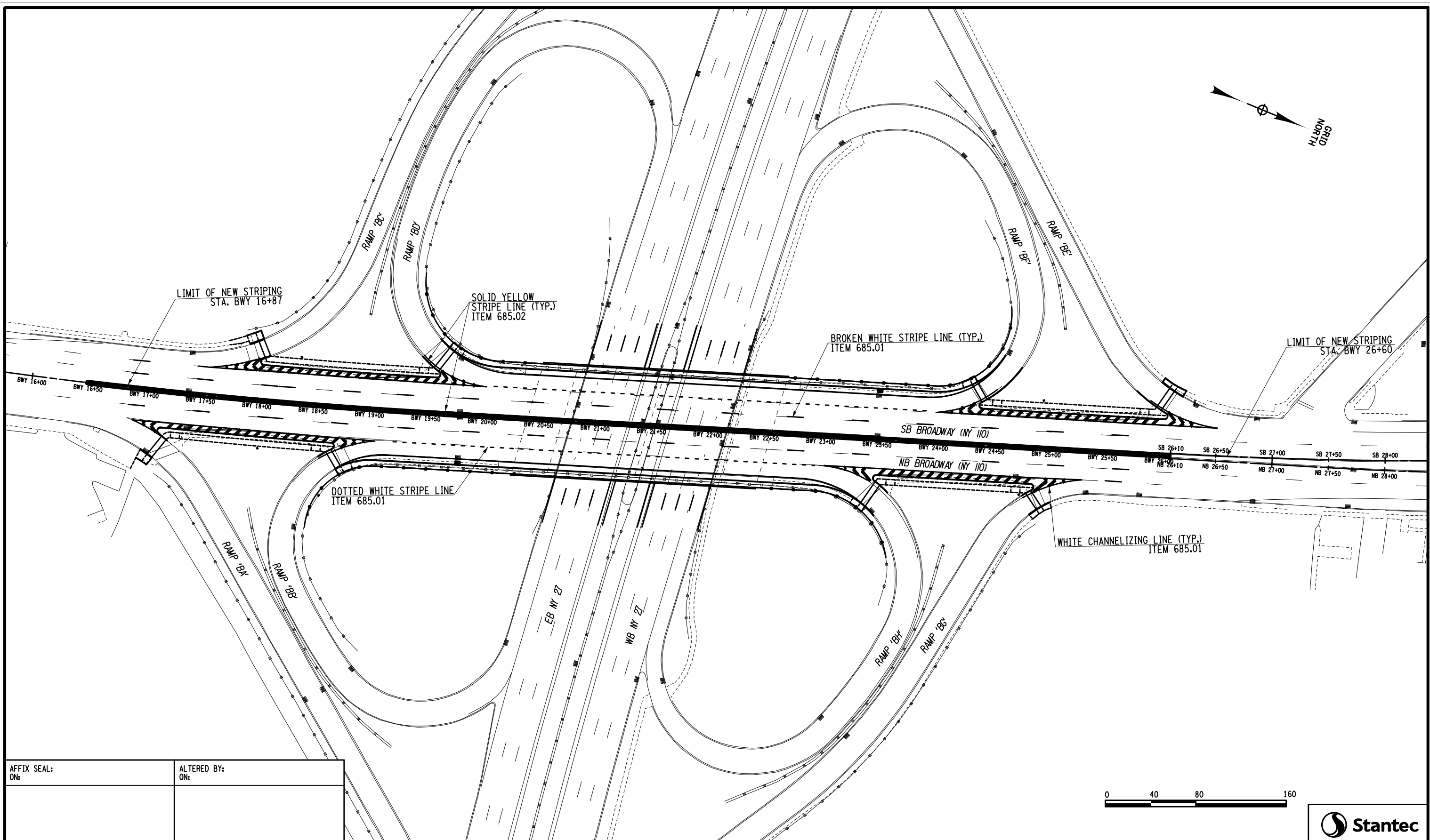
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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

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NY 110 OVER NY 27 BRIDGE REPLACEMENT
REGION 10
TOWN OF BABYLON
COUNTY: SUFFOLK

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT

BRIDGES 1019119	CULVERTS
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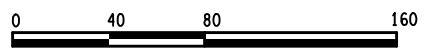
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CONTRACT NUMBER DXXXXXX
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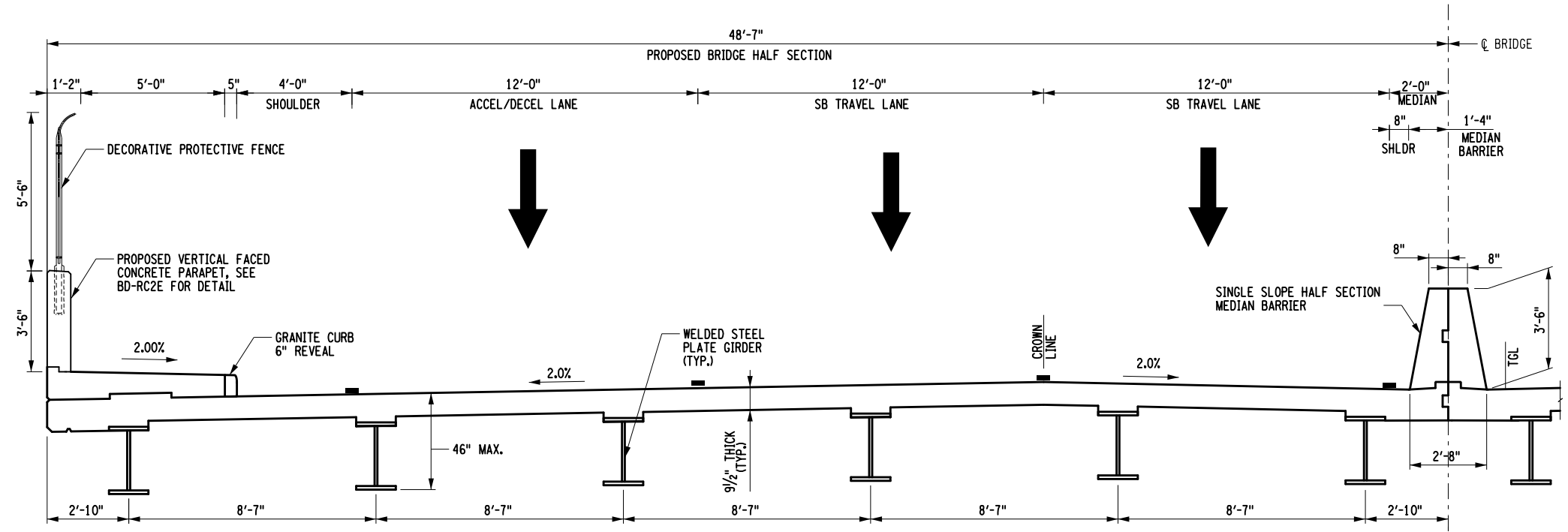
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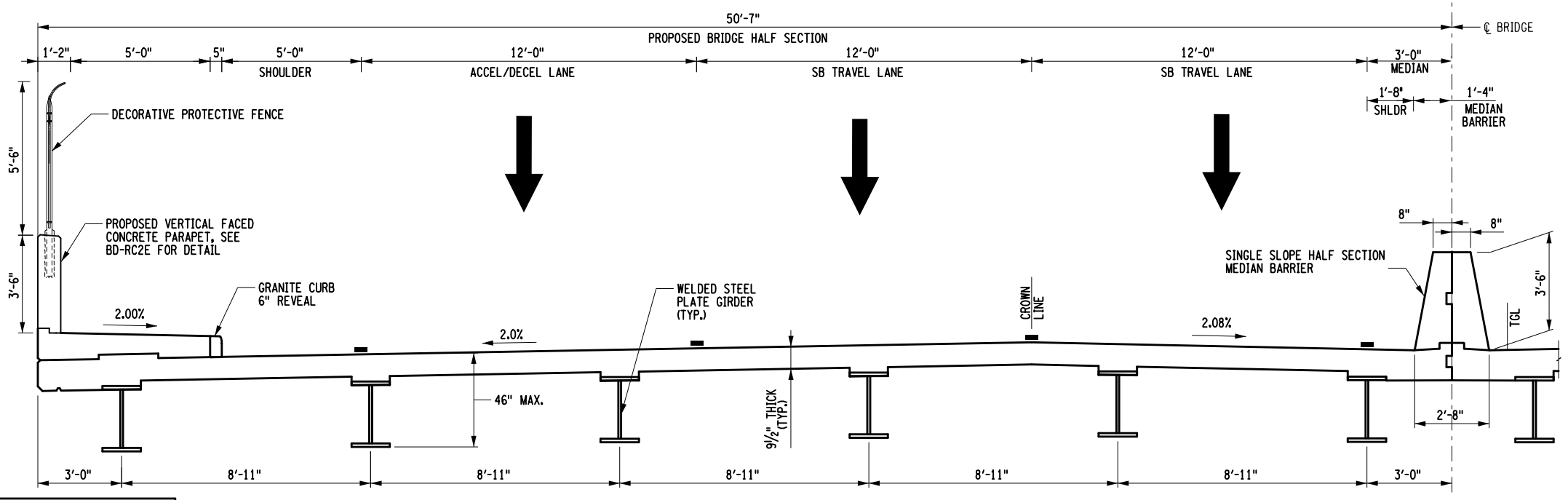


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REGION 10 JOB MANAGER
 REGION 10 PROJECT MANAGER
 DRAFTING
 CHECK
 CONSULTANT DESIGN
 CONSULTANT JOB MANAGER
 CONSULTANT DESIGN SUPERVISOR



ALT. 2 SUPERSTRUCTURE REPLACEMENT
 PROPOSED BRIDGE HALF SECTION
 STEEL STRINGER OPTION SHOWN



ALT. 3 BRIDGE REPLACEMENT
 PROPOSED BRIDGE HALF SECTION
 STEEL STRINGER OPTION SHOWN

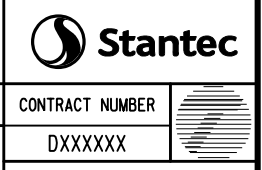
NOTE:
 STEEL STRINGER
 OPTION SHOWN

AFFIX SEAL:
 ON: _____
 ALTERED BY:
 ON: _____

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	NY 110 OVER NY 27 BRIDGE REPLACEMENT	PIN 0112.57	BRIDGES 1019119	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER DXXXXXX
	REGION 10	NY 110 OVER NY27 BRIDGE REPLACEMENT			PROPOSED BRIDGE SECTIONS	DRAWING NO. S-1
	TOWN OF BABYLON					SHEET NO. 31
	COUNTY: SUFFOLK					

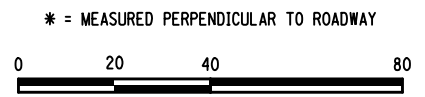
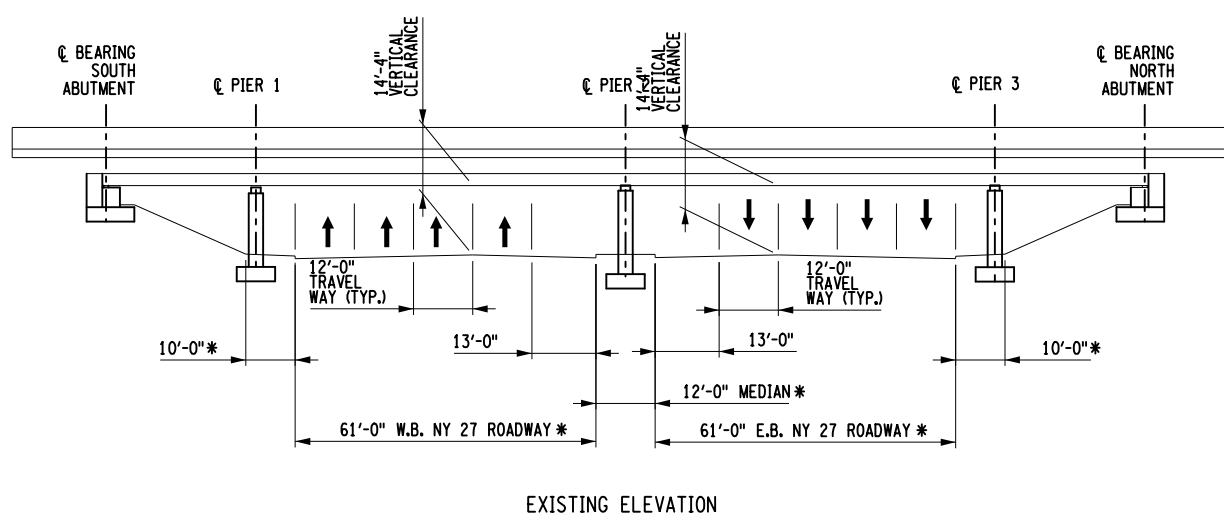
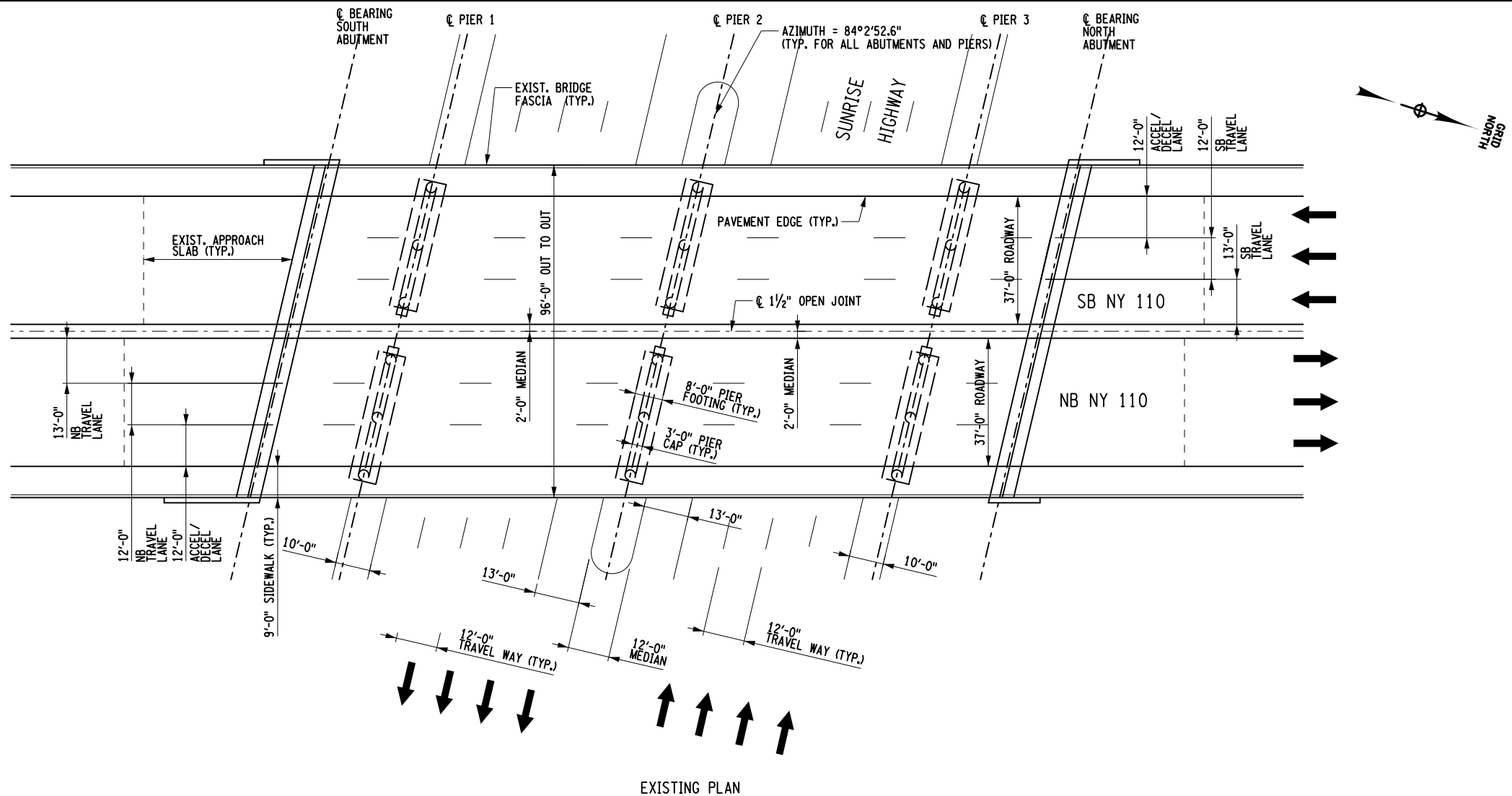
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
 DOCUMENT NAME:



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 DATE/TIME = 8/15/2014
 USER = STN

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 CONSULTANT SUPERVISOR

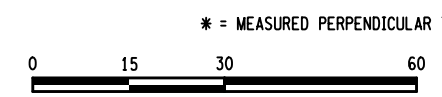
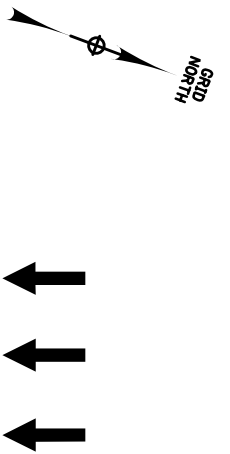
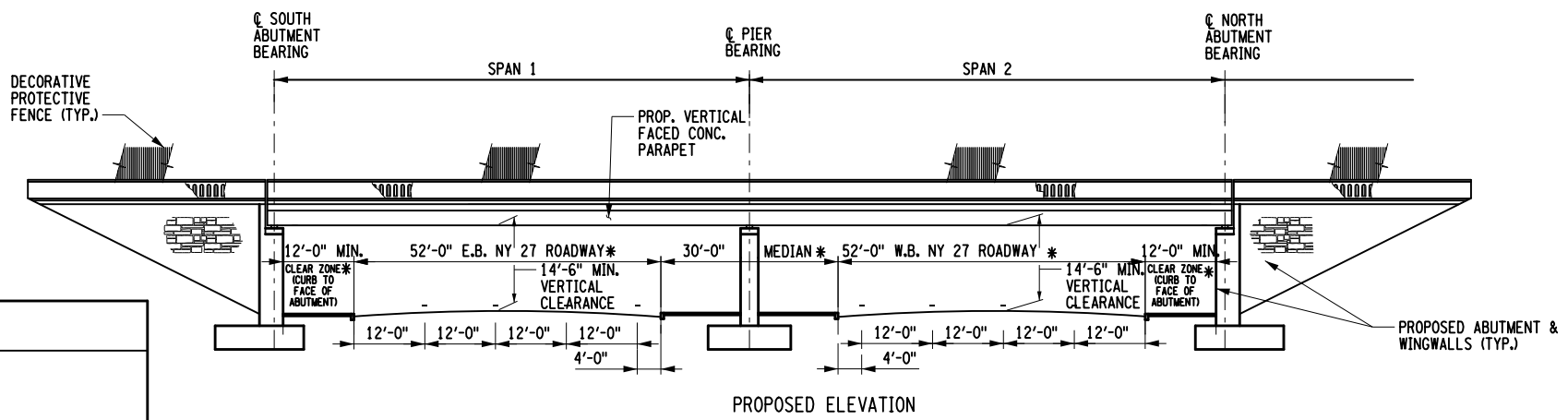
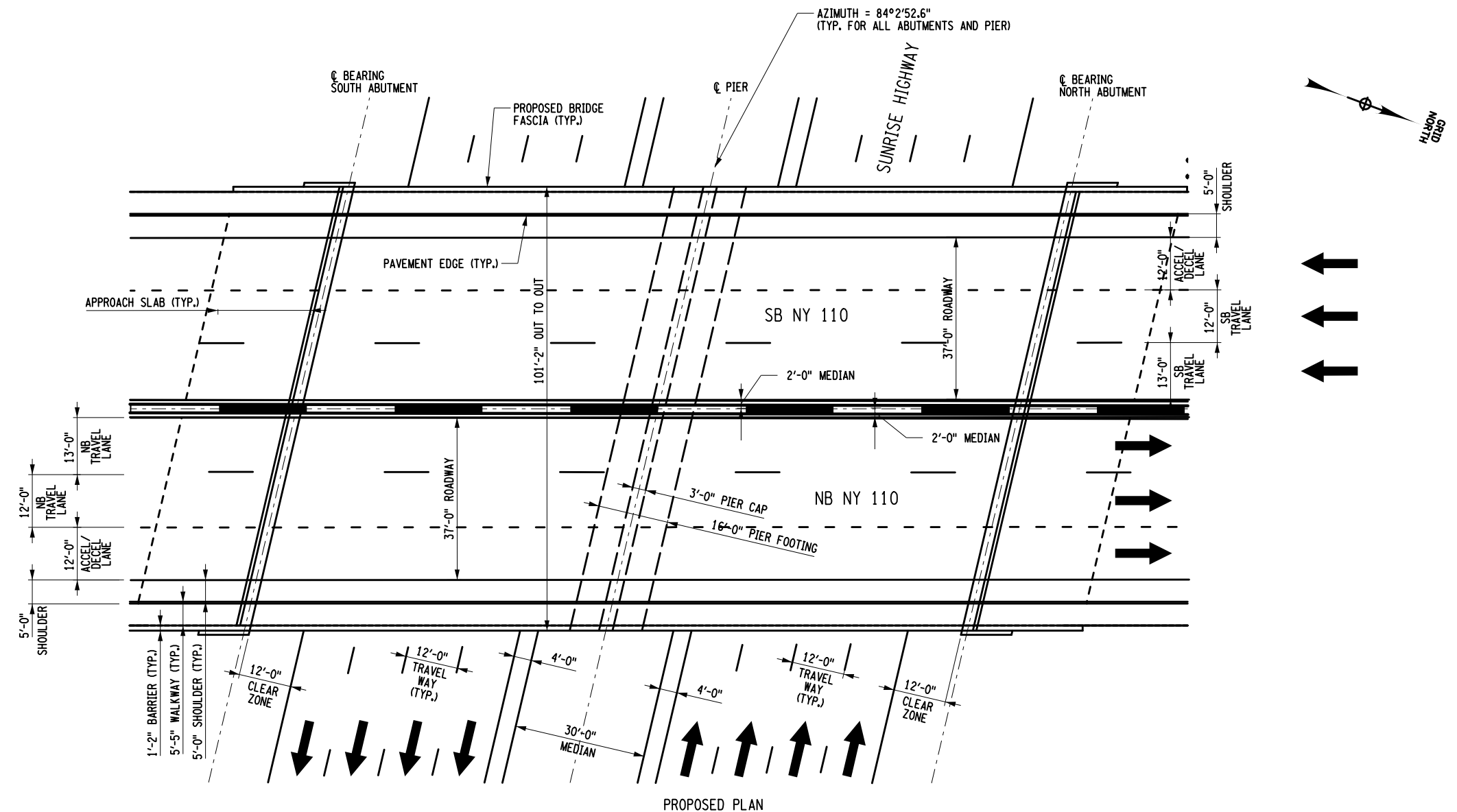


AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	NY 110 OVER NY 27 BRIDGE REPLACEMENT	PIN 0112.57	BRIDGES 1019119	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER
	REGION 10	NY 110 OVER NY27 BRIDGE REPLACEMENT			DXXXXXX
	TOWN OF BABYLON				DRAWING NO. S-2
	COUNTY: SUFFOLK				SHEET NO. 32
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.				NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:	

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 DATE/TIME = 8/15/2014
 USER = STN

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* = MEASURED PERPENDICULAR TO ROADWAY

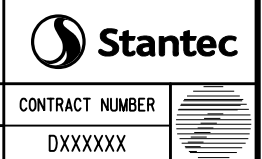
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AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	NY 110 OVER NY 27 BRIDGE REPLACEMENT
	REGION 10
	TOWN OF BABYLON
	COUNTY: SUFFOLK

PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS
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ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	
BROADWAY NY 110 PROPOSED BRIDGE PLAN & ELEVATION	

CONTRACT NUMBER DXXXXXX
DRAWING NO. S-3
SHEET NO. 33



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NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION
 DOCUMENT NAME:



U.S. Department
of Transportation
**Federal Highway
Administration**



**NEW YORK STATE
DEPARTMENT OF TRANSPORTATION**
ANDREW M. CUOMO, Governor
JOAN MCDONALD, Commissioner

PIN 0112.57

BIN 1019119

**Bridge Rehabilitation / Replacement
Broadway (NY110) over Sunrise Hwy (NY27)**
Town of Babylon, Suffolk County

APPENDIX B
**Environmental Information
and Checklists**



U.S. Department
of Transportation
**Federal Highway
Administration**

New York Division

August 6, 2014

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
518-431-4127
Fax: 518-431-4121
New York.FHWA@dot.gov

In Reply Refer To:
HED-NY

Mr. Sheref Fathi
Supervisor, Regional Landscape & Environmental Unit
New York State Department of Transportation, Region 10
250 Veterans Memorial Highway
Hauppauge, NY 11788-5518

**Subject: PINs 0112.57 and 0059.10 - Bridge Replacements
NY110 over NY 27 and Wellwood Ave over NY 27, Suffolk County**

Dear Mr. Fathi:

We received your July 4 letter and have reviewed the information provided. You have provided a well-worded document that discusses each of the potential issues related to the Northern Long-eared Bat (NLEB) and assessed the impacts the proposed project might have on the NLEB community.

FHWA can concur with the determination that the projects will result in "No Effect" as a Section 7 "Conference" decision to NLEB due to the following factors: the close proximity to the highly urbanized areas of New York City, the small amount of trees in comparison to the available habitat that will remain in New York, the far distance of the projects from intact woodland areas and wetland systems, the unlikelihood of the area to host maternity colonies, the significant distance from known exclusion areas, and the commitment to cut during the tree cutting window (November 1 thru March 31). If the NLEB becomes listed (off of the "proposed" list) under the Endangered Species Act while construction is on-going, this determination is valid for Section 7 "Consultation" purposes, as well. FHWA concurs with your recommendation that the subject project will have *No Effect* on federally-listed or proposed endangered species or designated critical habitat.

If at any time during construction the presence of federally listed species or its habitat, is discovered or suspected, construction activities must be halted. Activities cannot resume until FHWA and the USFWS are consulted.

If you have any questions, please feel free to contact me at (518) 431-8887.

Sincerely,
/s/JOHN D NICKELSON
John D Nickelson, P.E.
Area Engineer

cc: M. Bocamazo, R-10 Design; J. Zacharia, R-10 Design; B. Greco, OOE
R. Davies, FHWA; M. Toni, FHWA

NEPA ASSESSMENT CHECKLIST

(Revised 12-29-03)

Date: **January, 2014**

PIN: **0112.57**

Project Description: **Bridge Replacement**

Answer the following questions by checking YES or NO.

I. THRESHOLD QUESTION

1. Does the project involve unusual circumstances as described in 23 CFR ' 771.117(b)? YES NO

If **YES**, the project does not qualify as a Categorical Exclusion and an EA or EIS is required. You may STOP COMPLETING THE CHECKLIST.

- OR -

If **NO**, continue...

II. AUTOMATIC CATEGORICAL EXCLUSION

2. Is the project an action listed as an Automatic Categorical Exclusion in 23 CFR ' 771.117(c) (C List) and/or is the project an element-specific project classified by FHWA as a Categorical Exclusion on July 22, 1996? YES NO

If **YES** to question 2, the project qualifies for a C List Categorical Exclusion, "Automatic Categorical Exclusion". You may STOP COMPLETING THE CHECKLIST. The checklist should be included in the appendix of the Final Design Report (or Project Scoping Report/Final Design Report). The CATEGORICAL EXCLUSION DETERMINATION memo is to be sent to the appropriate Main Office Design liaison unit with a copy of the Final Design Report (or Project Scoping Report/Final Design Report). A copy of the CATEGORICAL EXCLUSION DETERMINATION memo must also be sent to the Office of Budget and Finance, Project and Letting Management, and others (see sample DETERMINATION memo attached).

(Note - Even if YES to question 2, there may be specific environmental issues that still require an action such as an EO 11990 Wetland Finding or a determination of effect on cultural resources. The project is still an Automatic Categorical Exclusion but the necessary action must be taken, such as obtaining FHWA's signature on the wetland finding. Refer to the appropriate section of the Environmental Procedures Manual for guidance.)

-OR-

If **NO** to question 2 above, continue below...

III. PROGRAMMATIC CATEGORICAL EXCLUSION

3. Is the project on new location or does it involve a change in the functional classification or added mainline capacity (add through-traffic lanes)? YES NO

4. Is this a Type I project under 23 CFR 772, "Procedures for Abatement of Highway Traffic Noise and Construction"? **YES** **NO**
5. If the project is located within the limits of a designated sole source aquifer area or the associated stream flow source area, is the drainage pattern altered? **YES** **NO**
6. Does the project involve changes in travel patterns? **YES** **NO**
7. Does the project involve the acquisition of more than minor amounts of temporary or permanent right-of-way (a minor amount of right-of-way is defined as not more than 10 percent of a parcel for parcels under 4 ha (10 acres) in size, 0.4 ha (1 acre) of a parcel 4 ha to 40.5 ha (10 to 100 acres) in size and 1 percent of a parcel for parcels greater than 40.5 ha (100 acres) in size? **YES** **NO**
8. Does the project require a Section 4(f) evaluation and determination in accordance with the FHWA guidance? **YES** **NO**
9. Does the project involve commercial or residential displacement? **YES** **NO**
10. If Section 106 applies, does FHWA's determination indicate an opinion of adverse effect? **YES** **NO**
11. Does the project require an ACOE Nationwide Permit #23 – Approved Categorical Exclusion? * **YES** **NO**
12. Does the project require any work in wetlands requiring an "Individual" Executive Order 11990 Wetland Finding? * **YES** **NO**

13. Has it been determined that the project will significantly encroach upon a flood plain based on preliminary hydraulic analysis and consideration of EO 11988 criteria as appropriate? YES NO
14. Does the project involve construction in, across or adjacent to a river designated as a component proposed for or included in the National System of Wild and Scenic Rivers? YES NO
15. Does the project involve any change in access control? YES NO
16. Does the project involve any known hazardous materials sites or previous land uses with potential for hazardous material remains within the right-of-way? YES NO
17. Does the project occur in an area where there are Federally listed endangered or threatened species or critical habitat? YES NO
18. Is the project, pursuant to EPM Chapter 1A and Table 2 and Table 3 of 40 CFR Parts 51 and 93, non-exempt or does it exceed any ambient air quality standard? YES NO
19. Does the project lack consistency with the New York State Coastal Zone Management Plan and policies of the Department of State, Office of Coastal Zone Management? YES NO
20. Does the project impact or acquire any Prime or Unique Farmland as defined in 7 CFR Part 657 of the Federal Farmland Protection Policy Act and

are there outstanding compliance activities necessary? (Note: Interpret compliance activity to mean completion of Form AD 1006.)

YES NO

If **NO** for questions, 3-20, go on to answer question 21...

-OR-

If **YES** to any question 3-20, project will not qualify as a Programmatic Categorical Exclusion. Answer questions 21 and 22 for documentation only and go on to question 23...

21. Does the project involve the use of a temporary road, detour or ramp closure?

YES NO

If **NO** to questions 3-20 and **NO** to question 21, the project qualifies as a Programmatic Categorical Exclusion. You may **STOP COMPLETING THE CHECKLIST**. The checklist should be included in the appendix of the Final Design Report (or Scope Summary Memorandum/Final Design Report). The **CATEGORICAL EXCLUSION DETERMINATION** memo is to be sent to the appropriate Main Office Design liaison unit with a copy of the Final Design Report (or Scope Summary Memorandum/Final Design Report). A copy of the Categorical Exclusion memo must also be sent to the Office of Budget and Finance, Project and Letting Management, and others.

-OR-

If **YES** to question 21, preparer should complete question 22 (i-v). If questions 3-20 are **NO** and 21 is **YES**, the project will still qualify as a Programmatic Categorical Exclusion if questions 22 (i-v) are **YES**.

22. Since the project involves the use of temporary road, detour or ramp closure, will all of the following conditions be met:

i. Provisions will be made for pedestrian access, where warranted, and access by local traffic and so posted.

YES NO

ii. Through-traffic dependent business will not be adversely affected.

YES NO

iii. The detour or ramp closure, to the extent possible, will not interfere with any local special event or festival.

YES NO

iv. The temporary road, detour or ramp closure

does not substantially change the environmental consequences of the action. YES NO

v. There is no substantial controversy associated with the temporary road, detour or ramp closure. YES NO

If questions 3-20 are **NO**, 21 is **YES** and 22 (i-v) are YES, the project qualifies for a Programmatic Categorical Exclusion. You may STOP COMPLETING THE CHECKLIST. The checklist should be included in the appendix of the Final Design Report (or Scope Summary Memorandum/Final Design Report). The CATEGORICAL EXCLUSION DETERMINATION memo should be sent to the appropriate Main Office Design liaison unit with a copy of the Final Design Report (or Scope Summary Memorandum/Final Design Report.) A copy of the CATEGORICAL EXCLUSION DETERMINATION memo must also be sent to the Office of Budget and Finance, Project and Letting Management, and others.

-OR-

If questions 3-20 are **NO** or effect is **clarified**, 21 is **YES** and any part of 22 is **NO**, go on to question 23.

23. Is the project section listed in 23 CFR ' 771.117(d) (D List) or is the project an action similar to those listed in 23 CFR ' 771.117(d)? YES NO

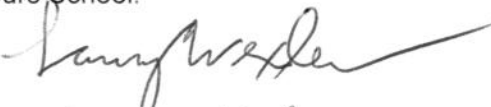

For those questions which precluded a Programmatic Categorical Exclusion, documentation should be provided for any **YES** response to questions 3-20 or for a **NO** response to any part of questions 22 (i-v). This documentation, as well as the checklist, should be included in the Design Approval Document, i.e., Final Design Report, etc., to be submitted to the Main Office/FHWA Design liaison unit for submission to the FHWA Division for classification of the project as a D List Categorical Exclusion, "Categorical Exclusion with Documentation".

PEDESTRIAN FACILITY DESIGN

Exhibit 18-1 Pedestrian Generator Checklist

P.I.N.: 0112.57 / BIN 1019119 NY110 over NY27

Project Location: Town of Babylon

PEDESTRIAN GENERATOR CHECKLIST		
<p><i>Note: The term "generator" in this document refers to both pedestrian generators (where pedestrians originate) and destinations (where pedestrians travel to).</i></p> <p><i>A check of "yes" indicates a potential need to accommodate pedestrians and coordination with the Regional Bicycle and Pedestrian Coordinator is necessary during project scoping. Answers to the following questions should be checked with the local municipality to ensure accuracy.</i></p>		
1.	Is there an existing or planned sidewalk, trail, or pedestrian-crossing facility?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
2.	Are there bus stops, transit stations or depots/terminals located in or within ½ mile of the project area?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
3.	Is there more than occasional pedestrian activity? Evidence of pedestrian activity may include a worn path.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
4.	Are there existing or approved plans for generators of pedestrian activity in or within ½ mile of the project that promote or have the potential to promote pedestrian traffic in the project area, such as schools, parks, playgrounds, places of employment, places of worship, post offices, municipal buildings, restaurants, shopping centers, or other commercial areas, or shared-use paths?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
5.	Are there existing or approved plans for seasonal generators of pedestrian activity in or within ½ mile of the project that promote or have the potential to promote pedestrian traffic in the project area, such as ski resorts, state parks, camps, amusement parks?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
6.	Is the project located in a residential area within ½ mile of existing or planned pedestrian generators such as those listed in 4 above?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
7.	From record plans, were pedestrian facilities removed during a previous highway reconstruction project?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
8.	Did a study of secondary impacts indicate that the project promotes or is likely to promote commercial and/or residential development within the intended life cycle of the project?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
9.	Does the community's comprehensive plan call for development of pedestrian facilities in the area?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
10.	Based on the ability of students to walk and bicycle to school, would the project benefit from engineering measures under the Safe-Routes-To-School program? Eligible infrastructure-related improvements must be within a 2 mile radius of the project.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
<p><i>Note: This checklist should be revisited due to a project delay or if site conditions or local planning changes during the project development process.</i></p> <p>Comments: Sidewalks currently exist on both sides of Broadway (NY 110) and this project will maintain these sidewalks. There are several schools within the designated radius including; the Edmond W. Miles M.S; Copiague H.S. & Christian Academy; the Northwest and Park Avenue Memorial Elementary Schools and Saint Martin of Tours School.</p> <p>Regional Bicycle and Pedestrian Coordinator: L. Wexler </p> <p>Project Designer: Stantec Consulting – James Kielian, P.E. </p>		

Smart Growth Screening Tool

PIN 0112.57

Prepared By:

Smart Growth Screening Tool (STEP 1)

NYSDOT & Local Sponsors – Fill out the Smart Growth Screening Tool until the directions indicate to **STOP** for the project type under consideration. For all other projects, complete answering the questions. For any questions, refer to [Smart Growth Guidance](#) document.

Title of Proposed Project: Bridge Rehabilitation / Replacement Project

Location of Project: Broadway, (NY110) Bridge over Sunrise Highway (NY27)

Brief Description: Address Structural Deficiencies associated with normal deterioration, fatigue prone elements and impact damage.

A. Infrastructure:

Addresses SG Law criterion a. –

(To advance projects for the use, maintenance or improvement of existing infrastructure)

1. Does this project use, maintain, or improve existing infrastructure?

Yes No N/A

Explain: (use this space to expand on your answers above – the form has no limitations on the length of your narrative)

This Project is a bridge rehabilitation / replacement project to improve infrastructure by replacing the deficient aluminum superstructure, pier caps with substructures inadequate to resist seismic forces, bearings and joints, etc. The project will also increase the overall bridge condition rating and provides a standard 14' - 6" vertical clearance below the bridge. It also maintains safety features including the bridge railing, sidewalk and raised center median, etc.

Maintenance Projects Only

a. Continue with screening tool for the four (4) types of maintenance projects listed below, as defined in **NYSDOT PDM Exhibit 7-1 and described in 7-4:**

<https://www.dot.ny.gov/divisions/engineering/design/dqab/pdm>

- Shoulder rehabilitation and/or repair;
- Upgrade sign(s) and/or traffic signals;

Smart Growth Screening Tool

- Park & ride lot rehabilitation;
- 1R projects that include single course surfacing (inlay or overlay), per Chapter 7 of the NYSDOT Highway Design Manual.

b. For all other maintenance projects, **STOP here**. Attach this document to the programmatic Smart Growth Impact Statement and signed Attestation for Maintenance projects.

For all other projects (**other than maintenance**), continue with screening tool.

B. Sustainability:

NYSDOT defines Sustainability as follows: A sustainable society manages resources in a way that fulfills the community/social, economic and environmental needs of the present without compromising the needs and opportunities of future generations. A transportation system that supports a sustainable society is one that:

- Allows individual and societal transportation needs to be met in a manner consistent with human and ecosystem health and with equity within and between generations.
- Is safe, affordable, and accessible, operates efficiently, offers choice of transport mode, and supports a vibrant economy.
- Protects and preserves the environment by limiting transportation emissions and wastes, minimizes the consumption of resources and enhances the existing environment as practicable.

For more information on the Department's Sustainability strategy, refer to Appendix 1 of the Smart Growth Guidance and the NYSDOT web site, www.dot.ny.gov/programs/greenlites/sustainability

(Addresses SG Law criterion j : to promote sustainability by strengthening existing and creating new communities which reduce greenhouse gas emissions and do not compromise the needs of future generations, by among other means encouraging broad based public involvement in developing and implementing a community plan and ensuring the governance structure is adequate to sustain and implement.)

1. Will this project promote sustainability by strengthening existing communities?

Yes No N/A

2. Will the project reduce greenhouse gas emissions?

Yes No N/A

Explain: (use this space to expand on your answers above)

The project is consistent with the Community's Vision for the area and maintains access between the Villages of Amityville & North Amittyville. The project does not reduce automobile dependancy, however, it does maintain and enhance existing pedestrian / bicycle access by adding a shoulder, accessible to bicycles, on both sides of the bridge.

Smart Growth Screening Tool

C. Smart Growth Location:

Plans and investments should preserve our communities by promoting its distinct identity through a local vision created by its citizens.

(Addresses SG Law criteria b and c: to advance projects located in municipal centers; to advance projects in developed areas or areas designated for concentrated infill development in a municipally approved comprehensive land use plan, local waterfront revitalization plan and/or brownfield opportunity area plan.)

1. Is this project located in a developed area?

Yes No N/A

2. Is the project located in a municipal center?

Yes No N/A

3. Will this project foster downtown revitalization?

Yes No N/A

4. Is this project located in an area designated for concentrated infill development in a municipally approved comprehensive land use plan, waterfront revitalization plan, or Brownfield Opportunity Area plan?

Yes No N/A

Explain: (use this space to expand on your answers above)

The project is located in the Village of Amityville & North Amityville which are considered municipal centers.

D. Mixed Use Compact Development:

Future planning and development should assure the availability of a range of choices in housing and affordability, employment, education transportation and other essential services to encourage a jobs/housing balance and vibrant community-based workforce.

(Addresses SG Law criteria e and i: to foster mixed land uses and compact development, downtown revitalization, brownfield redevelopment, the enhancement of beauty in public spaces, the diversity and affordability of housing in proximity to places of employment, recreation and commercial

Smart Growth Screening Tool

development and the integration of all income groups; to ensure predictability in building and land use codes.)

1. Will this project foster mixed land uses?
Yes No N/A
2. Will the project foster brownfield redevelopment?
Yes No N/A
3. Will this project foster enhancement of beauty in public spaces?
Yes No N/A
4. Will the project foster a diversity of housing in proximity to places of employment and/or recreation?
Yes No N/A
5. Will the project foster a diversity of housing in proximity to places of commercial development and/or compact development?
Yes No N/A
6. Will this project foster integration of all income groups and/or age groups?
Yes No N/A
7. Will the project ensure predictability in land use codes?
Yes No N/A
8. Will the project ensure predictability in building codes?
Yes No N/A

Explain: (use this space to expand on your answers above)

The project will foster connectivity between diverse neighborhoods and the Village of Amityville & North Amityville. It will maintain / enhance access from the residential and commercial development as well as the ability of students to walk and ride to school, as per the Safe-Routes-To-School-Program.

E. Transportation and Access:

NYSDOT recognizes that Smart Growth encourages communities to offer a wide range of transportation options, from walking and biking to transit and automobiles, which increase people's access to jobs, goods, services, and recreation.

(Addresses SG Law criterion f: to provide mobility through transportation choices including improved public transportation and reduced automobile dependency.)

Smart Growth Screening Tool

1. Will this project provide public transit?

Yes No N/A

2. Will this project enable reduced automobile dependency?

Yes No N/A

3. Will this project improve bicycle and pedestrian facilities (such as shoulder widening to provide for on-road bike lanes, lane striping, crosswalks, new or expanded sidewalks or new/improved pedestrian signals)?

Yes No N/A

(Note: Question 3 is an expansion on question 2. The recently passed Complete Streets legislation requires that consideration be given to complete street design features in the planning, design, construction, reconstruction and rehabilitation, but not including resurfacing, maintenance, or pavement recycling of such projects.)

Explain: (use this space to expand on your answers above)

This is a bridge rehabilitation / replacement project which will both maintain and enhance the bicycle and pedestrian access on the bridge and approaches (ie: Within Project Limits). Project includes new / expanded sidewalks, crosswalks, shoulders, striping and signage improvements.

F. Coordinated, Community-Based Planning:

Past experience has shown that early and continuing input in the transportation planning process leads to better decisions and more effective use of limited resources. For information on community based planning efforts, the MPO may be a good resource if the project is located within the MPO planning area.

(Addresses SG Law criteria g and h: to coordinate between state and local government and inter-municipal and regional planning; to participate in community based planning and collaboration.)

1. Has there been participation in community-based planning and collaboration on the project?

Yes No N/A

2. Is the project consistent with local plans?

Yes No N/A

3. Is the project consistent with county, regional, and state plans?

Yes No N/A

Smart Growth Screening Tool

4. Has there been coordination between inter-municipal/regional planning and state planning on the project?

Yes No N/A

Explain: (use this space to expand on your answers above)

This contract is a product of the Department's goal to eliminate bridge structural deficiencies and improve the vertical clearance through the New York Works Program. The NYSDOT public outreach component will coordinate project information to foster a close working relationship with the key stakeholders, residents, land owners, community groups, local officials, educational institutions, businesses, etc. This will consist primarily of notifications of road closures, project milestones and construction related activities.

G. Stewardship of Natural and Cultural Resources:

Clean water, clean air and natural open land are essential elements of public health and quality of life for New York State residents, visitors, and future generations. Restoring and protecting natural assets, and open space, promoting energy efficiency, and green building, should be incorporated into all land use and infrastructure planning decisions.

(Addresses SG Law criterion d :To protect, preserve and enhance the State's resources, including agricultural land, forests surface and ground water, air quality, recreation and open space, scenic areas and significant historic and archeological resources.)

1. Will the project protect, preserve, and/or enhance agricultural land and/or forests?

Yes No N/A

2. Will the project protect, preserve, and/or enhance surface water and/or groundwater?

Yes No N/A

3. Will the project protect, preserve, and/or enhance air quality?

Yes No N/A

4. Will the project protect, preserve, and/or enhance recreation and/or open space?

Yes No N/A

5. Will the project protect, preserve, and/or enhance scenic areas?

Yes No N/A

6. Will the project protect, preserve, and/or enhance historic and/or archeological resources?

Yes No N/A

Explain: (use this space to expand on your answers above)

Smart Growth Screening Tool

This project is a localized bridge rehabilitation / replacement project and therefore does not have much opportunity in scope to enhance forests, open areas, air quality, etc. However, it will preserve all these items as well as both surface and groundwater. the Broadway (NY110) bridge over the Sunrise Highway is not a historic bridge.

Smart Growth Screening Tool

Smart Growth Impact Statement (STEP 2)

NYSDOT: Complete a Smart Growth Impact Statement (SGIS) below using the information from the Screening Tool.

Local Sponsors: The local sponsors are **not** responsible for completing a Smart Growth Impact Statement. Proceed to **Step 3**.

Smart Growth Impact Statement

PIN: 0112.57

Project Name: Broadway (NY110) over Sunrise Highway (NY27) Bridge Replacement

Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act. This project has been determined to meet the relevant criteria, to the extent practicable, described in ECL Sec. 6-0107. Specifically, the project:

- Improves the existing bridge infrastructure by replacing the bridge.
- Is Consistent with the Community's Vision for the area and maintains access between Amityville and North Amityville.
- Is located in the Village of Amityville which is considered a Municipal Center.
- Will foster connectivity between Villages and enhance pedestrian & bicycle access.
- Includes new / expanded sidewalks, crosswalks, striping and signage improvements.
- Includes a NYSDOT Public Involvement Component to inform all stakeholders.
- Preserves open areas and both surface and ground water.

This publically supported infrastructure project complies with the state policy of maximizing the social, economic and environmental benefits from public infrastructure development. The project will not contribute to the unnecessary costs of sprawl development, including environmental degradation, disinvestment in urban and suburban communities, or loss of open space induced by sprawl.

Smart Growth Screening Tool

Review & Attestation Instructions (STEP 3)

Local Sponsors: Once the Smart Growth Screening Tool is completed, the next step is to submit the project certification statement (**Section A**) to Responsible Local Official for signature. After signing the document, the completed Screening Tool and Certification statement should be sent to NYSDOT for review as noted below.

NYSDOT: For state-let projects, the Screening Tool and SGIS is forwarded to Regional Director/ RPPM/Main Office Program Director or designee for review, and upon approval, the attestation is signed (**Section B.2**). For locally administered projects, the sponsor's submission and certification statement is reviewed by NYSDOT staff, the appropriate box (**Section B.1**) is checked, and the attestation is signed (Section B.2).

A. CERTIFICATION (LOCAL PROJECT)

I HEREBY CERTIFY, to the best of my knowledge, all of the above to be true and correct.

Preparer of this document:

Signature

Date

Title

Printed Name

Responsible Local Official (for local projects):

Signature

Date

Title

Printed Name

Smart Growth Screening Tool

B. ATTESTATION (NYSDOT)

1. I HEREBY:

Concur with the above certification, thereby attesting that this project is in compliance with the State Smart Growth Public Infrastructure Policy Act

Concur with the above certification, with the following conditions (information requests, confirming studies, project modifications, etc.):

(Attach additional sheets as needed)

do not concur with the above certification, thereby deeming this project ineligible to be a recipient of State funding or a subrecipient of Federal funding in accordance with the State Smart Growth Public Infrastructure Policy Act.

2. **NOW THEREFORE**, pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act, to the extent practicable, as described in the attached Smart Growth Impact Statement.

NYSDOT Commissioner, Regional Director, MO Program Director,
Regional Planning & Programming Manager (or official designee):

Glenn R. Musrell
Signature

5/2/14
Date

Acting Regional Planning & Program Manager
Title

Glenn R. Musrell
Printed Name

Social, Economic and Environmental Resources Checklist				
PIN: 0112.57		TYPE FUNDING: Federal/State		
DESCRIPTION: BIN 1019119 - Broadway (NY 110) Bridge Replacement over Sunrise Highway (NY 27)		DATE: January 2014		
TOWN: Babylon		REVISION DATE:		
COUNTY: Suffolk		NEPA CLASS: 2		
		SEQRA TYPE: 2		
SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS	PRESENCE OR ANALYSIS NEEDED?		IMPACT OR ISSUE?	
	YES	NO	YES	NO
Social				
Land Use			<input type="checkbox"/>	<input checked="" type="checkbox"/>
Neighborhoods and Community Cohesion	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
General Social Groups	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
School Districts, Recreation Areas and Places of Worship	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Economic				
Regional and Local Economies			<input type="checkbox"/>	<input checked="" type="checkbox"/>
Business Districts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Specific Business Impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental				
Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface Waterbodies and Watercourses	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wild, Scenic, and Recreational Rivers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Navigable Waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Floodplains	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Coastal Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aquifers, Wells, and Reservoirs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Stormwater Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
General Ecology and Wildlife Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Critical Environmental Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Historic and Cultural Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks and Recreational Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Visual Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Farmlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Air Quality Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Energy Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Noise Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Asbestos	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contaminated and Hazardous Materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Construction Effects	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Indirect (Secondary) Effects	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cumulative Effects	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ANTICIPATED PERMITS
[list permits anticipated for project]
NYSDEC, State Pollutant Discharge Elimination System (SPDES) General Permit
NYSDEC, Article 24 - Freshwater Wetlands Permit
NYSDEC, Water Quality Certification (Blanket Section 401)
U.S. Coast Guard Section 9 Permit
U.S. Army Corps of Engineers, Nationwide Permit – PCN needed? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no
U.S. Army Corps of Engineers, Section 404 Individual Permit
Coastal Zone Consistency Certification Statement

Instructions:

Use this checklist to document the evaluation of social, economic and environmental issues for Maintenance and Simple projects.

1. Whenever the evaluation indicates the presence of a resource or the need for further investigation into the presence of a resource, check the YES checkbox in the “Presence or Analysis Needed” column and document the issue in the DAD (Design Approval Document), such as IPP/FDR or PSR/FDR. This documentation must indicate the location, extent and a full description of the resource appropriate to determine any impacts or effects.
2. Once enough information is available, the “Impact or Issue” checkboxes must be checked either YES or NO. For any YES answer, appropriate documentation must be included in the report (IPP/FDR, PSR/FDR) section that documented the presence of the resource under #1 above. This documentation must include the nature and size or extent of an impact; measures taken to avoid or minimize impacts; and any mitigation being provided. Documentation for each issue should clearly note any necessary approvals and/or expected permits.

Prior to seeking approval (“design approval”) of the DAD, this checklist and the appropriate sections of the DAD should be reviewed to ensure checkmarks and statements are valid and also for consistency between the checklist and DAD sections.

CATEGORY	ID	DESCRIPTION	POINTS		INSTRUCTIONS	EXPLANATION OR COMMENTS (optional)	
			Available	Scored			
Sustainable Sites (S)	S-1 Alignment Selection	S-1a	Avoidance of previously undeveloped lands (open spaces or "greenfields").	2	0		
	S-1b	Selecting an alignment that establishes a minimum 100-foot buffer zone between the edge of pavement and a natural watercourse or significantly sized natural wetland to serve the purpose of stormwater filtration.	2	0			
	S-1c	Alignments which minimize overall construction "footprint." Examples: use of retaining walls, selecting design option with minimal footprint.	2	2			
	S-1d	Design vertical alignments which minimize total earthwork. (Applicable only for projects modifying existing vertical alignments.)	1	1			
	S-1e	Adjust alignment to avoid or minimize impacts to social/environmental resources (avoidance of parklands, wetlands, historic sites, farmlands, residential and commercial buildings, etc.).	1	0			
	S-1f	Alignments that optimize benefits among competing constraints. (The goal is not always the minimum-length alignment, but the one with the best benefit overall.)	1	1			
	S-1g	Micro-adjustments that do not compromise safety or operation but make the difference in providing sufficient clear area for tree planting.	1	0			
	S-1h	Clear zones seeded with seed mixtures that help to reduce maintenance needs and increase carbon sequestration.	1	1			
	S-1i	Provide a depressed roadway alignment.	1	0			
	S-1j	Use of launched soil nails as a more cost effective option to stabilize a slope rather than, for example, closing a road to construct a retaining wall which may negatively affect traffic flow and neighboring properties.	1	0			
	S-2 Context Sensitive Solutions	S-2a	Adjust or incorporate highway features to respond to the unique character or sense of place (both natural and built) of the area ("Unique character" means whatever identifiable elements make a place distinctive, memorable, important to the community, etc. - landmarks, views, historic bridges & buildings, parkways, characteristic use of materials, a notable stand of trees, etc.).	2	0		
	S-2b	Incorporate local or natural materials for substantial visual elements (e.g., bridge fascia, retaining walls).	2	2		Will use Texas Aesthetic Bridge Fascia	
	S-2c	Visual enhancements (screening objectionable views, strategic placement of vegetation, enhancing scenic views, burying utilities, etc.).	2	0			
	S-2d	Period street furniture/lighting/appurtenances.	1	0			
	S-2e	Inclusion of visually-contrasting (colored and/or textured) pedestrian crosswalk treatments.	1	0			
	S-2g	Incorporates guidance from Section 23 - Aesthetics of the NYS Bridge Manual.	1	1			
	S-2h	Site materials selection & detailing to reduce overall urban "heat island" effect.	1	1			
	S-2i	Permanently protect viewsheds via environmental or conservation easements.	1	0			
	S-2j	Color anodizing of aluminum elements (ITS cabinets, non-decorative light poles, etc.)	1	0			
S-2k	Decorative bridge fencing (in lieu of standard chain link).	1	1		Will place decorative protective fence on top of Texas Aesthetic Bridge Barrier.		
S-2l	Use of concrete form liners (for bridge approach barriers, parapet walls, retaining walls, noise walls, bridge piers & abutments, etc.)	1	1		Formliner to be used on abutment wingwalls.		
S-2m	Imprinted concrete/asphalt mow strips, gores and/or snow storage areas.	1	0				
S-3 Land Use/Community Planning	S-3a	Use of more engaging public participation techniques (e.g. charette, task force).	2	0			
S-3b	Enhanced outreach efforts (e.g. newsletters, project-specific Web page, communications issued in multiple languages).	2	0				

CATEGORY	ID	DESCRIPTION	POINTS		INSTRUCTIONS	EXPLANATION OR COMMENTS (optional)	
			Available	Scored			
Sustainable Sites (S)	S-3c	Projects better enabling use of public transit (e.g. bus shelters, 'Park & Ride').	2	0			
	S-3d	Projects applying "Walkable Communities" and/or "Complete Streets" concepts.	2	2			
	S-3e	Projects that increase transportation efficiencies for moving freight through features such as dedicated rail or intermodal facilities or the use of unit trains to remove trucks from highways and conserve fuel.	2	0			
	S-3f	Project-specific formal agreement with public or private entities enabling environmental betterment, technological advancement, or financial assistance or relief to the Department.	2	0			
	S-3g	Project is consistent with local and regional plans beyond those generated by the MPO; (e.g., waterfront revitalization plans, greenway plans, the Scenic Byway program, and other statewide non-transportation plans with regional components) and/or local Smart Growth-based master/comprehensive plans.	2	0			
	S-3h	Project reports and community outreach materials available online other than the standard project specific web page.	1	0			
	S-3j	Establishment of a new recreational access facility (trailhead parking, car top boat launch, info/map kiosk).	2	0			
	S-3k	Establishment of a new recreational facility (pocket park, roadside overlook, roadside picnic rest area, etc.).	2	0			
	S-3l	Enhancement of an existing recreational facility or enhancement of an existing recreational facility access.	1	0			
	S-4 Protect, Enhance or Restore Wildlife Habitat	S-4a	Mitigation of habitat fragmentation through use of significant techniques such as consolidated stream, wetland or ecological mitigation areas, or creation of dedicated "eco viaducts." (Raised roadways that serve to avoid impacts to ecologically important areas such as rare plant communities, diminishing habitats and wildlife migration corridors.).	3	0		
		S-4b	Providing for enhancements to existing wildlife habitat (e.g. bird & bat houses, nesting boxes, osprey poles, turtle nesting areas, avoiding piping plover habitat).	2	0		
		S-4c	Partial mitigation of habitat fragmentation through techniques (United States Army Corp of Engineers (USACE) regional conditions) such as over-sizing culverts to accommodate aquatic and non-aquatic species passage.	2	0		
		S-4d	Use of natural-bottomed culverts.	2	0		
		S-4e	Wildlife crossings that are structures that allow for the safe passage of wildlife across highways without their crossing directly on the roadway. Examples include wildlife overpass/underpass and amphibian tunnels.	2	0		
		S-4f	Wetland restoration, enhancement, or establishment that is above and beyond what is required to obtain a wetland-related permit.	2	0		
		S-4g	Minimize use of lands that are part of a significant contiguous wildlife habitat.	1	0		
		S-4h	Use of wildlife mortality reduction measures such as right-of-way fence, moose signs, etc.	1	0		
		S-4k	Stream restoration/enhancement.	1	0		
		S-4l	Installation of mowing markers to protect natural areas and wetlands.	1	0		
S-4m		Inclusion of scheduling and logistic requirements to avoid disrupting wildlife nesting or breeding activities.	1	0			
S-4n	Permanently protects the new or expanded habitat through an environmental or conservation easement.	1	0				
S-5 Protect, Plant	S-5a	Avoidance/protection of significant contiguous stands of established, desirable trees/veg communities, especially those showing signs of self-regeneration.	2	2			

CATEGORY	ID	DESCRIPTION	POINTS		INSTRUCTIONS	EXPLANATION OR COMMENTS (optional)
			Available	Scored		
Sustainable Sites (S)	or Mitigate for Removal of Trees & Plant Communities	S-5b	Designs which demonstrate, through a combination of preservation and new planting, an anticipated ultimate (new trees at projected maturity) net increase in tree canopy cover within the project limits.	2	2	
		S-5c	Re-establishment or expansion of native vegetation into reclaimed work areas or abandoned roadway alignments. (e.g. native seed mixes, "re-forestation" approach w/ multiple seedlings rather than traditional large nursery stock, etc.).	2	0	
		S-5d	Use of trees, large shrubs or other suitable vegetation (beach rose, honeysuckle & shrub willows) as living snow fences.	2	0	
		S-5e	Use of native species for seed mixes and other plantings.	1	1	
		S-5f	Avoidance/protection of individual significant trees and localized areas of established desirable vegetation.	1	0	
		S-5g	Designs which demonstrate, through a combination of preservation and new planting, no ultimate (new trees at projected maturity) net loss of tree canopy within the project limits (minimum one-to-one replacement of trees lost) or, if overall available planting area has been reduced, mitigation with trees to the extent possible (either on or off-site) for trees lost.	1	0	
		S-5h	Planting trees, shrubs and/or plant material in lieu of traditional turf grass.	1	0	
		S-5i	Removal of undesirable plant species, in particular removal/burial of invasive species, to preserve desirable overall species diversity.	1	1	
		S-5j	Preserving, replacing, or enhancing vegetation associated with historic properties or districts, or which maintain the character of unique areas.	1	0	
		Water Quality (W)	W-1 Stormwater Management (Volume & Quality)	W-1a	Improve water quality and/or nearby habitat through the use of stormwater retrofitting, stormwater crediting strategies, stream restoration, additional wetland protection, and inclusion of permanent stormwater mgt practices.	2
W-1b	Detecting and eliminating any non-stormwater discharges from unpermitted sanitary or other residential, commercial or industrial sources that enter the Right-Of-Way or flows that ultimately discharge to the ROW.			2	0	
W-1c	Demonstrate, through the use of models, a reduction of pollutant loadings to adjacent water resources by the use of Best Management Practices (BMPs).			2	0	
W-1d	Reduction in overall impervious area (post-project impervious surface area to be less than existing).			2	0	
W-1f	Requirements for staged construction so that less than five acres of bare soil are exposed at any given time and site runoff is controlled.			1	1	Less than 5 acres of disturbances.
W-1g	Detecting and documenting non-stormwater discharges from unpermitted sanitary or other residential, commercial or industrial sources that enter the right-of-way or flows that ultimately discharge to the right-of-way but which cannot be eliminated for reasons beyond our control.			1	0	
Water Quality (W)	W-2 Best Management Practices (BMPs)			W-2a	Design features that make use of highly permeable soils to remove surface pollutants from runoff through infiltration trenches or basins, bioretention cells or rain gardens, grass buffers and stormwater wetlands that treat water quality and water quantity requirements in accordance with NYSDOT Highway Design Manual Chapter 8, Appendix B, subsections 2.3.2 and 2.3.3.	2
		W-2b	Use of other structural BMPs including wet or dry swales, sand filters, filter bags, stormwater treatment sys (e.g., oil/grit separators and hydrodynamic devices), underground detention systems or catch basin inserts.	2	2	Temporary Sediment Filter Bags will be used in WZTC
		W-2c	Inclusion of "permeable pavement" such as grid pavers where practical.	2	0	
		W-2d	Minimize the project's overall impervious surface area increase.	1	1	No significant increase in Bridge Approach Roadway width.
		W-2e	Include grass channels, where appropriate.	1	0	
		W-2f	Designate qualified environmental construction monitor to provide construction oversight in sensitive environmental areas.	2	0	

CATEGORY	ID	DESCRIPTION	POINTS		INSTRUCTIONS	EXPLANATION OR COMMENTS (optional)
			Available	Scored		
Materials & Resources (M)	M-1 Reuse of Materials	M-1a	Specify that 75% or more of topsoil removed for grading is reused on site.	2	0	
	M-1b	Design the project so that "cut-and-fills" are balanced to within 10 percent.	2	0		
	M-1c	Reuse of excess fill ("spoil") within the project corridor to minimize project site material in and material out.	2	0		
	M-1d	Specify rubblizing or crack and seating of Portland Cement Concrete pavement.	2	0		
	M-1e	Reuse of previous pavement as subbase during full-depth reconstruction projects.	2	0		
	M-1f	Arranging for the reuse of excess excavated material, asphalt pavement millings, or demolished concrete by another municipality or state agency.	2	0		
	M-1g	Specify the processing of demolished concrete to reclaim scrap metals and to create a usable aggregate material.	2	0		
	M-1h	Salvaging removed trees for lumber or similar uses other than standard wood-chipping (e.g. - milling valuable heartwood from ash trees whose outer wood was infected by ash borers, necessitating removal).	2	0		
	M-1i	Use surplus excavated material on nearby state highways for slope flattening to eliminate guide rail or as fill in areas designated by Park officials as acceptable for spoil disposal.	2	0		
	M-1j	Use surplus excavated material, demolished concrete, or millings at nearby abandoned quarries to help fulfill an approved DEC reclamation plan.	2	0		
	M-1k	Specify that 50% or more of topsoil removed for grading is reused on site.	1	0		
	M-1l	Design the project so that cut and fills are balanced to within 25 percent.	1	0		
	M-1m	Reuse (i.e., remove and reset versus remove and replace) of granite curbing.	1	0		
	M-1n	Reuse of elements of the previous structure (stone veneer, decorative railing, etc.).	1	0		
	M-1o	Designing an on-site location for chipped wood waste disposal from clearing and grubbing operations.	1	0		
	M-1p	Specifying the recycling of chipped untreated wood waste for use as mulch and/or ground cover. (Pressure/preservative-treated or painted/coated wood cannot be used as mulch and must be disposed properly).	1	0		
	M-1q	Project documents make scrap metals available for reuse or recycling.	1	1		
	M-1r	Identify approved, environmentally acceptable and permitted sites in the contract documents for the disposal of surplus excavated material.	1	0		
	M-1s	Obtain and implement a project specific DEC Beneficial Use Determination for the innovative re-use of otherwise waste material from a location within NYS.	1	0		
	M-1t	Specify the salvage/moving of houses rather than demo for disposal in landfills.	1	0		
M-1u	Reuse of major structural elements such as bridge piers, bridge structure, etc. if warranted and appropriate and does not compromise the feature life cycle.	2	0			
M-2 Recycled Content	M-2a	Use tire shreds in embankments.	2	0		
	M-2b	Use recycled plastic extruded lumber or recycled tire rubber (e.g. for noise barriers).	2	0		
	M-2c	Specify hot-in-place or cold-in-place recycling of hot mix asphalt pavements.	2	0		
	M-2d	Specify use of recycled glass in pavements and embankments, as drainage material or filter media where adequate local sources can be obtained.	2	0		
	M-2e	Specify asphalt pavement mixes containing Recycled Asphalt Pavement (RAP).	2	0		

CATEGORY	ID	DESCRIPTION	POINTS		INSTRUCTIONS	EXPLANATION OR COMMENTS (optional)	
			Available	Scored			
Materials & Resources (M)	M-2f	Specify PCC pavement mixes containing Recycled Concrete Aggregate (RCA).	2	0			
	M-2g	Use crumb rubber or recycled plastic for noise barrier material.	2	0			
	M-2h	Use of porous pavement systems in light duty situations (e.g. sidewalks, truck turnarounds, rest stops, parking lots, police turnarounds).	2	0			
	M-3 Local Materials	M-3a	Specify locally available natural light weight fill. Contact Geotechnical staff to help in locating these materials.	2	0		
		M-3b	Specify local seed stock and plants.	2	0		
	M-4 Bio- engineering Techniques	M-4a	Project designs that utilize soil bioengineering treatments (the reliance on plant material for slope protection, rebuilding, stabilization, and erosion control) along water bodies/wetlands.	2	0		
		M-4b	Project designs utilizing soil biotechnical engineering treatments (combination of plant materials and structural elements to achieve slope protection, rebuilding, stabilization, and erosion control) along water bodies/wetlands. Examples are: vegetated crib wall, vegetated gabion, and vegetated mats.	2	0		
		M-4c	Projects using targeted biological control methods to reduce invasive species, such as the release of specific types of beetles to control purple loosestrife.	2	0		
		M-4d	Project designs utilizing soil biotechnical engineering treatments (combination of plant materials and structural elements to achieve slope protection, rebuilding, stabilization, and erosion control) NOT along water bodies or wetlands. Examples include vegetated: crib walls, gabions, Geosynthetic Reinforced Earth Systems (GRES), geocells, and mats.	1	1		
		M-4e	Project designs that utilize soil bioengineering treatments or soil biotechnical engineering treatments in upland areas.	1	0		
Materials & Resources (M)	M-5 Hazardous Material Minimization	M-5a	Project design substantially minimizes the need to use hazardous materials (e.g. steel or conc RR ties instead of treated wood), or increases the interval before reconstruction must be performed using hazardous or toxic materials, or improves durability of components containing hazardous substances.	2	0		
		M-5b	Project design specifies less hazardous materials or avoids generating contaminated wastes by reducing the volatile organic compounds (VOCs) or hazardous air pollutants (HAPs) emitted during project construction (e.g., use of non-solvent traffic or bridge paints, lower VOC/nonhazardous air pollutant bridge deck sealers) and by eliminating or reducing toxic metals/components.	2	0		
		M-5c	Removing and disposing of contaminated soils beyond what is necessary for project construction.	2	0		
osphere (E)	E-1 Improved Traffic Flow	E-1a	Special use lane (HOV/Reversible/Bus Express).	3	0		
		E-1b	Innovative interchange design and/or elimination of freeway bottlenecks (diverging diamond, single point urban).	3	0		
		E-1c	Specify new roundabout(s).	3	0		
		E-1d	Implementation of a robust Traffic Management Center / Traveler Information System operation (e.g., TMC, CCTV, VMS freeway detection, ramp metering, road weather info system and/or weigh in motion devices, travel time signs).	3	0		
		E-1e	Installation of a closed-loop coordinated signal system.	2	0		
		E-1f	Installation of a transit express system (queue jumper, pre-emptive signals, etc)	2	0		
		E-1g	Expansion of a Traffic Management Center / Traveler Information System operation; for example increasing system coverage significantly (installation of new CCTV, VMS, freeway detection, ramp metering, road weather information system and/or weigh in motion devices, travel time signs, etc.).	2	0		
		E-1h	Implementation of a corridor-wide access management plan.	2	0		

CATEGORY	ID	DESCRIPTION	POINTS		INSTRUCTIONS	EXPLANATION OR COMMENTS (optional)	
			Available	Scored			
Energy & Atm	E-1i	Limiting/consolidating access points along highway.	1	0			
	E-1j	Improving a coordinated signal system and other signal timing and detection systems.	1	0			
	E-1k	Adding bus turnouts.	1	0			
	E-1l	Installing higher capacity controllers (model 2070s) with features to improve flow and reduce delay at intersections.	1	0			
	E-1m	Infill and/or preparation for Traffic Management/Traveler Information System operation (installation of VMS, CCTV, etc.) with existing system coverage to increase or improve density of devices, installation of conduit in anticipation of future Traffic Management/Traveler Information System need, etc.	1	0			
	E-1n	Inclusion of an integrated traffic/incident management/traveler information systems or strategies to manage traffic during construction (queue or speed warning, VMS with real time construction information, tow/HELP vehicles on site/standby, CCTV monitoring of construction zone, etc.).	1	1			
	E-1o	Installation of isolated systems to provide for spot warning (queue warning, truck rollover, low bridge, no trucks allowed, etc.).	1	0			
	E-1p	Road Diet (reduction of travel lanes to incorporate a single bidirectional center turn lane and wider right-hand lanes to accommodate bicycles).	2	0			
	E-2 Reduce Electrical Consumption	E-2a	Solar/battery powered street lighting or warning signs.	2	0		
		E-2b	Replace overhead sign lighting with higher type retro-reflective sign panels.	2	0		
		E-2c	Use of LED street lighting.	2	0		
		E-2d	Solar bus stops.	2	0		
		E-2e	Use of LED warning signs/flashing beacons	1	1		
		E-2e	Retrofit existing street/sign lighting with high efficiency types.	1	0		
Energy & Atmosphere (E)	E-3 Reduce Petroleum Consumption	E-3a	Provide new Park & Ride lots.	3	0		
		E-3b	Provide new intermodal connections.	3	0		
	E-3c	Increase bicycle amenities at Park & Rides and transit stations (bike lockers/shelters, Web-based reservations system for lockers, providing showers or partnering with health clubs for these services).	2	0			
	E-3e	Operational improvements of an existing Park & Ride lot.	1	0			
	E-3f	Improve an existing intermodal connection (e.g. add BRT station, kiosks, etc.).	1	0			
	E-3g	Reduce mowing areas outside of the clear zone, reestablishing natural ground cover and/or seeding with low maintenance seed species. Example: Incorporation of Conservation Alternative Mowing Practices (CAMPS) techniques/guidance into design plans.	1	1			
	E-3h	Use of warm mix asphalt.	1	0			
	E-3i	Documented analysis proving the project design reduces either the Department's or the local community's carbon footprint (Send analysis to the GreenLITES Program Manager for determination of eligibility).	1	0			
	E-3j	Documented analysis proving the Work Zone Traffic Control scheme chosen is the alternative that overall requires the least amount of petroleum (Send analysis to the GreenLITES Program Manager for determination of eligibility).	1	0			

CATEGORY	ID	DESCRIPTION	POINTS		INSTRUCTIONS	EXPLANATION OR COMMENTS (optional)	
			Available	Scored			
Energy & Atmosphere (E)	E-3k	Improved shading through vegetation at Park & Ride lots to cut down on heat island effect and the use of automotive air conditioning by waiting motorists.	1	0			
	E-4	Improve Bicycle & Pedestrian Facilities					
	E-4a		New grade-separated (bridge or underpass) bike/pedestrian crossing structure (this item is not for replacements or rehabs).	3	0		
	E-4b		Separate bike lane at intersection.	2	0		
	E-4c		New separated bike path or shoulder widening to provide for on-road bike lane.	2	2		Provide 5' Wide Shoulder on bridge for Bicycles
	E-4d		Create new or extend existing sidewalks.	2	0		
	E-4e		New pedestrian signals.	2	0		
	E-4f		Align roadway and other highway features/structures within ROW as to enable future development of separated multi-use paths or other bike/ped facilities.	2	0		
	E-4g		Work with local communities to create parallel bike routes where state roads are not suitable for less experienced cyclists.	2	0		
	E-4h		Sidewalk or bikeway rehabilitation, widening, realignment or repair.	1	1		Repair / Replace Sidewalks within Project Limits
	E-4i		Upgrading pedestrian signals - inclusion of pedestrian buttons and/or addition of audible signal, countdown timers.	1	0		
	E-4j		Installation of bikeway signs, "Share the Road" signs, and/or <i>Sharrow</i> (shared lane) pavement markings.	1	0		
	E-4k		Shoulder restoration for bicycling.	1	1		
	E-4l		Inclusion of five-rail bridge rail system for bicyclists.	1	1		
	E-4m		Installation of permanent bicycle racks.	1	0		
	E-4n		New crosswalks.	1	1		
	E-4o		New curb bulb-outs.	1	1		
	E-4p		New raised medians/pedestrian refuge islands.	1	0		
	E-4q		New speed hump/speed table/raised intersection.	1	0		
	E-4r		New curbing (where none previously existed), to better define the edge of a roadway and to provide vertical separation of pedestrian facilities; does not include flush, mountable or bridge curbing.	1	0		
	E-4s		New or relocated highway barrier or repeating vertical elements (trees, lampposts, bollards, rural mailboxes, etc) between roadway & walk/bikeway to better separate/delineate motorized and non-motorized travel ways.	1	1		
	E-4t		Installation of bicycle detectors (quadrupoles) at signalized intersections.	1	0		
	E-4u		"All Stop" phase programmed into a traffic signal and/or button actuated "No Turn on Red" LED sign.	1	0		
	E-4v		Permanent digital "Your Speed is XX" radar speed reader signs.	1	0		
	E-4w		Overhead flashing beacon, lighted "Crosswalk" sign, half signal, or pedestrian hybrid ('hawk') signal at pedestrian crossing.	1	0		
	E-4x		Advanced warning of crosswalk with signs and yield pavement markings (white triangles).	1	0		
E-4y	In street plastic pylon "State law - Yield to Pedestrians within Crosswalk" signs and/or pedestrian self service crosswalk flags.		1	0			
E-4z	Use of durable cast iron detectible warning units embedded in concrete (rather than surface applied polyurethane, stamped concrete, concrete brick, etc.).	1	0				

CATEGORY	ID	DESCRIPTION	POINTS		INSTRUCTIONS	EXPLANATION OR COMMENTS (optional)	
			Available	Scored			
Energy & Atmosphere (E)	E-4aa	Add/replace crosswalks with high visibility, reduced wear, staggered ladder bar crosswalks (a modified Type L which avoids wheel paths, and is sometimes referred to as a 'piano key' type crosswalk).	1	1			
	E-5 Noise Abatement	E-5a	Construction of a new noise barrier.	2	0		
		E-5b	Incorporate traffic system management techniques to reduce prior noise levels (e.g. use of truck routes, progressive traffic signals, lowering speeds).	2	0		
		E-5c	Provide a buffer zone for adjacent receptors.	2	0		
		E-5d	Provide sound insulation to public schools.	2	0		
		E-5e	Diamond grinding of existing Portland Cement Concrete (PCC) pavement.	1	0		
		E-5f	Rehabilitation of an existing noise wall.	1	0		
		E-5g	Berms designed to reduce noise.	1	0		
	E-5h	Provide planting to improve perceived noise impacts.	1	0			
	E-6 Stray Light Reduction	E-6a	Retrofit existing light heads with full cut-offs.	2	0		
E-6c		Use cut-offs on new light heads.	1	0			
Incorporation of <i>new or improved</i> ways to provide a more environmentally, economically and/or socially sustainable transportation system (subject to review by GreenLITES Review Team). <i>Up to 4 pts total.</i>							
Innovation/Unlisted (I)	I-1 Innovation	I-1a	4	0			
Incorporation of items/methods into the project which might contribute to sustainability <i>but are not specifically listed above</i> (subject to review by GreenLITES Review Team). <i>Up to 2 pts each, no total limit.</i>							
Innovation/Unlisted (I)	I-2 Unlisted	I-2a	2	0			
Incorporation of items from the <u>NYCDOT Street Design Manual</u> which are not specifically covered under items listed above (list Page & Section #'s in the description). <i>Up to 3 pts total.</i>							
I-3 NYCDOT Street Design Manual	I-3a		1	0			
Total points scored:			37	Rating: 'Silver'			



U.S. Department
of Transportation
**Federal Highway
Administration**



**NEW YORK STATE
DEPARTMENT OF TRANSPORTATION**
ANDREW M. CUOMO, Governor
JOAN MCDONALD, Commissioner

PIN 0112.57

BIN 1019119

**Bridge Rehabilitation / Replacement
Broadway (NY110) over Sunrise Hwy (NY27)**
Town of Babylon, Suffolk County

APPENDIX C

Traffic Analysis Technical Memo

To: Gerard Bartucci, PE
New York (West 23rd St) NY Office
File: 192310356

From: Christopher Mojica, PE
New York (West 23rd St) NY Office
Date: February 13, 2014

Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses

As part of NYSDOT PIN 0112.57, Stantec is tasked with preparing the Preliminary Design (Phases I-IV) for a bridge rehabilitation or replacement project. The bridge in question, BIN 1019119 – NY 110 (Broadway) over NY 27 (Sunrise Highway), is located in Town of Babylon / Village of Amityville in Suffolk County, New York. The study area for this project, illustrated in Figure 1 below, includes the entire NY 110 / NY 27 interchange including both mainlines and all ramps. This technical memorandum summarizes capacity analyses that Stantec performed in order to determine the impacts associated with either reconstructing the existing NY 110 bridge over NY 27 or building a temporary bridge along NY 110 over NY 27. Assumptions made by Stantec in developing the capacity analyses are also contained herein.

**Figure 1
Study Area**



Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses

TRAFFIC VOLUMES

Data Collection

Automatic Traffic Recorders (ATRs) were placed along both directions of NY 110 at the bridge over NY 27 in November 2013. The ATRs were installed on Saturday, November 16, 2013 and were removed on Saturday, November 23, 2013. Additionally, Stantec obtained the latest available ATR data along mainlines and ramps at the NY 110 / NY 27 interchange from the NYSDOT Region 10's Regional Planning Group.

Additionally, pedestrian counts were performed at the NY 110 Bridge over NY 27 on Tuesday, November 19, 2013 during off-peak periods (9AM-11AM and 1PM-3PM) as part of a spot speed study.

Existing Traffic Volumes

The development of 2013 existing conditions peak hour traffic volumes assumed the use of hourly traffic data adjusted for both vehicle axles and seasonality. It was conservatively assumed to apply growth factors to previous year traffic counts to estimate 2013 peak hour traffic at the NY 110 / NY 27 interchange. Analyses of all of the available count data determined that the peak hour of travel at both interchanges are between 8AM-9AM and 5PM-6PM. Therefore, 8AM-9AM and 5PM-6PM were utilized for the morning and evening peak hours of travel for analysis purposes, respectively.

November 2013 AADT data¹ were compared against the 2011 estimated AADT data provided by NYSDOT's Traffic Data Viewer interface in order to determine an average annual growth rate along the NY 110 corridor. An average annual growth rate of 0.6 percent was applied to 2010 axle and seasonally adjusted ramp traffic to reflect projected growth to 2013. Since the latest available traffic data along NY 27 is from 2009, it was assumed to first grow the 2009 traffic data to 2011 utilizing the estimated 2011 AADT data available from the NYSDOT Traffic Data Viewer interface (average annual growth rate of 0.3 percent). Then, an average annual growth rate of 0.6 percent was applied in order to reflect projected growth to 2013.

Generally, the peak directions of travel, respectively, along NY 110 and NY 27 are northbound and westbound in the morning and southbound and eastbound in the evening. Existing roadway lane configurations within the NY 110 / NY 27 interchange and existing 2013 peak hour traffic volumes follow this technical memo.

¹ November 2013 AADT data was developed using the ATR counts at the NY 110 bridge over NY 27 and 2012 seasonal and axle adjustment factors contained within the NYSDOT's 2011 Traffic Data Report. The 2012 Traffic Data Report has not been published as the date of this technical memorandum.

Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses

Future Traffic Volumes

The existing and future year capacity analyses contained herein assumes an estimated time of completion (ETC) of 2020 for this bridge rehabilitation / replacement project. As per Appendix 5 of NYSDOT’s Project Development Manual, the estimated Time of Completion (ETC) + 30 year (2050) was selected as the design year. As per the Regional Planning Group, an annual linear growth rate of 1.1 percent was applied to 2013 existing traffic volumes in order to develop future ETC and design (ETC+30) analysis year traffic volumes. Therefore, a 8.0 percent and 49.9 percent traffic increase will be applied to 2013 existing conditions traffic to reflect normal background growth to the 2020 ETC and 2050 design years, respectively.

It should be noted that 2020 ETC traffic volumes were also utilized for construction analyses.

There are no approved developments planned within the study area that are projected to impact future year traffic operations. Additionally, there are no plans to modify roadways within the study area between the existing and future design analysis years. Peak hour traffic volumes for both 2020 and 2050 analysis years follow this technical memo.

Existing and Future AADT, DHV, and DDHV

Using the ATR data collected in 2013 as well as the data provided by NYSDOT Region 10, AADT, design hourly volumes (DHV) and directional design hourly volumes (DDHV) were developed for both mainlines. The results are presented in Table 1 below.

**Table 1
 Existing and Future Traffic Volumes**

Year	ROUTE 110			ROUTE 27		
	ADT	AADT	DHV	ADT	AADT	DHV
Existing (2013)	38,020	36,660	3,360	47,480	44,130	4,520
ETC (2020)	41,040	39,580	3,630	51,260	47,650	4,880
ETC+30 (2050)	56,980	54,950	5,040	71,170	66,160	6,780

Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses

CAPACITY (LEVEL OF SERVICE) ANALYSES

Assumptions

For the capacity analyses, the following assumptions were used to determine the level of service at the NY 110 / NY 27 interchange:

- NY 110 lane widths – 12 foot lanes were assumed under existing and future year conditions and either 10 foot or 10.5 foot lanes were assumed under construction conditions;
- NY 27 lane widths – 12 foot lanes were assumed under existing, future and construction conditions;
- NY 110 Free Flow Speed – 50 mph;
- NY 27 Free Flow Speed – 60 mph;
- Ramp Free Flow Speed – 25 mph;
- Ramp, Acceleration, Deceleration, and other Lengths – Distances were estimated using satellite imagery;
- Grades – Assumed to be flat within all analysis areas;
- Driver Population Factor – 1.0, reflecting driver familiarity with the interchange;
- Conflicting pedestrians – 50 pedestrians / hour. This is a conservative estimate based upon observations made during the November 2013 survey.
- Peak Hour Factor – A factor of 0.80 was conservatively assumed; and
- Heavy Vehicles – 5 percent trucks and 0 percent recreational vehicles along both NY 110 and NY 27.

Methodology

The analysis of traffic conditions within the study area was performed following the standard methodology set forth in the 2010 Highway Capacity Manual (HCM) using Highway Capacity Software (HCS), Version 6.1. The traffic analysis considers a variety of prevailing conditions, including inputs such as traffic volumes, corridor free-flow speed, and a variety of geometric conditions (e.g., lane widths, lengths of weaving sections). During the peak travel periods, the highest hourly volumes are utilized to perform the traffic analyses as set forth in the HCM. These volumes together with all of the above analysis inputs are used to determine an appropriate level-of-service (LOS), a letter rating that ranges from A (Excellent) to F (Failure). Roadways are generally assumed to have acceptable operations if it operates at LOS D or better.

Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses

Merge / Diverge Roadway Sections

Capacity analyses were performed at all ramp merge and diverge sections within the NY 110 / NY 27 interchange². The analyses were performed using HCS Ramp Junctions module within the HCS program. The influence, or analysis area, is respectively comprised of a distance of 1,500 feet downstream / upstream of the merge / diverge point and includes the acceleration / deceleration lane and the right two lanes of the mainline. The LOS of the influence area is determined by the density (measured in passenger cars per mile per lane, or pc/mi/ln) for all cases of stable operation (LOS A-E). LOS F exists when corridor demand exceeds the capacity of the corridor segment or where the off-ramp demand exceeds the off-ramp capacity. Table 2 presents the LOS criteria for merge and diverge sections.

**Table 2
 LOS Criteria for Merge and Diverge Sections**

LOS	Density (pc/mi/ln)
A	≤ 10
B	> 10–20
C	> 20–28
D	> 28–35
E	> 35
F	Demand exceeds capacity

Source: 2010 Highway Capacity Manual.

Weaving Segments

Capacity analyses were performed at all weaving segments within the NY 110 / NY 27 interchange. The analyses were performed using HCS Weaving module within the HCS program. The analysis area is comprised of the distance between barrier markings and includes all continuous lanes through the weaving segment. One-sided weaving segments between multi-lane roadways are present within the NY 110 / NY 27 interchange. The LOS of the weaving segment is determined by the density (pc/mi/ln) for all cases of stable operation (LOS A-E). LOS F exists when demand exceeds the capacity of the weaving segment. Table 3 presents the LOS criteria for weaving segments.

**Table 3
 LOS Criteria for Weaving Segments**

LOS	Density (pc/mi/ln)
A	≤ 12
B	> 12–24
C	> 24–32
D	> 32–36
E	> 36
F	Demand exceeds capacity

Source: 2010 Highway Capacity Manual.

² It should be noted that, as per the HCM, merge and diverge analyses can only be performed on mainlines with free flow speeds greater than 55 mph. Since the posted and operating (free flow) speeds are below 55 mph (40 mph and 50 mph, respectively), no merge or diverge analyses will be performed for the NY 110 corridor.

Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses

Signalized and Unsignalized Intersections (Construction Conditions)

Although there are no intersections within the interchange, some of the proposed Maintenance of Traffic / Work Zone Traffic Control options involve the installation of temporary signalized or unsignalized intersections. The construction condition intersection analyses were performed using the HCS Signals module from the HCS software³. Both the signalized and unsignalized intersection analysis considers a variety of prevailing conditions, including inputs such as the amount and distribution of traffic count movements, geometric conditions (e.g., lane widths, conflicting pedestrians), and intersection control devices (e.g., signal timings, phasing, channelization, etc.). Peak hour volumes together with the above analysis inputs are used to calculate the control delay per vehicle (measured in seconds per vehicle, or sec/veh). The LOS of the signalized intersection is determined by both the control delay per vehicle and the volume to capacity (v/c) ratio. LOS F exists when the control delay exceeds 80 sec/veh for signalized intersections, 50 sec/veh for unsignalized intersections or when the v/c ratio is greater than 1.0. Table 4 illustrates the LOS criteria for signalized and unsignalized intersections.

**Table 4
LOS Criteria for Signalized and Unsignalized Intersections**

LOS*	Signalized Intersections Control Delay per Vehicle (s/veh)	Unsignalized Intersections Control Delay per Vehicle (s/veh)
A	≤ 10	≤ 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

Source: 2010 Highway Capacity Manual.
* Note: LOS F also occurs when the v/c ratio > 1.0.

Existing and Future Year Capacity Analyses

Analyses were performed to determine existing delays and LOS within the NY 110 / NY 27 interchange. Additionally, analyses were performed to project future year delay and LOS for the 2020 (ETC), 2020 (Construction) and 2050 (Design, ETC+30) analysis years.

The results of the existing 2013, 2020 ETC, and 2050 design year analyses are presented in Table 5 on the following page. None of the analyzed locations are projected to operate at or above capacity in 2020 or 2050. All locations currently operate or are projected to operate at acceptable LOS (that is, LOS D or better) during both morning and evening peak hours.

³ Version 5.5 and 5.6 was utilized for the signalized and unsignalized intersections, respectively, and conforms to the 2000 version of the HCM. The rationale for using the older version of the HCS software for the signalized intersection analysis is that Stantec encountered issues while utilizing the Signals module of the new HCS software. Additionally, the unsignalized intersection module has not been updated to conform to the latest version of the HCM. The analysis results will be compared to the new HCS criteria to ensure compliance with the latest version of the HCM.

Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses

**Table 5
Existing 2013, 2020 ETC and 2050 Design Year LOS Analyses**

MERGE / DIVERGE ANALYSIS	2013 Existing Conditions						2020 ETC Conditions						2050 ETC+30 (Design) Conditions					
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS
Diverge of EB NY 27 with Ramp BC	10.7	49.9	B	15.4	49.9	B	11.4	49.9	B	16.4	49.9	B	14.8	49.9	B	21.4	49.8	C
Merge of Ramp BA with EB NY 27	9.5	54.5	A	14.0	54.3	B	10.0+	54.4	B	14.9	54.3	B	12.9	54.4	B	19.6	54.0	B
Diverge of WB NY 27 with Ramp BG	15.9	49.5	B	14.7	49.5	B	17.0	49.5	B	15.8	49.4	B	22.6	49.3	C	21.0	49.2	C
Merge of Ramp BE with WB NY 27	11.1	54.7	B	12.0	54.7	B	12.0	54.7	B	13.0	54.6	B	16.7	54.4	B	18.0	54.3	B

Note: Speed represents the speed within the merge / diverge segment.

WEAVING ANALYSIS	2013 Existing Conditions						2020 ETC Conditions						2050 ETC+30 (Design) Conditions					
	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS
NB NY 110 between Ramps BB and BH	12.7	44.0	B	11.5	44.0	A	13.8	43.6	B	12.5	43.6	B	20.2	41.5	B	18.3	41.5	B
SB NY 110 between Ramps BF and BD	11.0	43.5	A	14.8	42.5	B	12.0	43.1	A	16.2	42.0	B	17.5	41.0	B	24.0	39.4	B
EB NY 27 between Ramps BD and BE	8.7	45.9	A	13.9	45.1	B	9.5	45.4	A	15.2	44.5	B	14.0	42.9	B	22.6	41.4	B
WB NY 27 between Ramps BH and BF	11.7	49.7	A	10.4	49.8	A	12.8	49.3	B	11.3	49.5	A	18.5	47.3	B	16.3	47.5	B

Note: Speed represents the speed within the weaving segment.

Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses

2020 ETC Construction Analyses

As part of the reconstruction or rehabilitation project, maintenance of traffic / work zone traffic control will be paramount to maintain the continuity of traffic flow and provide adequate safety for motorists and pedestrians. It is anticipated that the rehabilitation of the NY 110 bridge over NY 27 will be done in halves or in 2 Stages by either; diverting the traffic onto half of the existing bridge while working on the other half, or by utilizing a temporary structure located on the west side of the existing bridge. The following presents all of the options analyzed by Stantec.

Option #1A - Maintain Traffic on the Existing Bridge (Maintain All Loop Ramps)

Option 1A maintains traffic on half the existing bridge while the other half of the bridge is rebuilt. A second stage would then shift traffic onto the temporary bridge (located on the west side of the existing bridge) while the second half of the bridge is rebuilt. Only 2 10.5 foot lanes can be maintained in each direction on half of the bridge, which is 48 feet wide. Temporary barriers would be provided at the existing median, between NB/SB traffic, and adjacent to the existing bridge railing. Due to width constraints, the existing sidewalk would be eliminated during construction. Therefore, two separate configurations were developed to evaluate this option.

Since travel lanes on the bridge would be reduced from 3 to 2 travel lanes in each direction, one configuration would be to maintain one 10.5' acceleration / deceleration lane and one 10.5' through lane. This would require reducing the two lane approach into one 10.5' lane while maintaining the ramp acceleration / deceleration lane. Table 6 presents the LOS analysis under this configuration. The reduction of traffic on NY 110 to one through lane and retaining the existing acceleration / deceleration lane would result in overall LOS C or better in the peak travel directions during the peak periods.

**Table 6
 2020 ETC Construction LOS Analysis – Option 1A (Configuration 1)**

WEAVING ANALYSIS	2020 ETC (Construction) Conditions					
	AM Peak Hour			PM Peak Hour		
	Density (pc/mi/ln)	Speed (mph)	LOS	Density (pc/mi/ln)	Speed (mph)	LOS
NB NY 110 between Ramps BB and BH	21.4	42.4	B	19.2	42.6	B
SB NY 110 between Ramps BF and BD	18.3	42.3	B	25.1	40.6	C

Note: Speed represents the speed within the weaving segment.

The other possible configuration involves maintaining both through lanes along the NY 110 bridge over NY 27. However, in order to maintain two through lanes on the bridge, the acceleration / deceleration lane would be converted to a through lane. This would require both the northwest (WB NY 27 to SB NY 110) & southeast (EB NB 27 to NB NY 110) quadrant entrance loop ramps to be STOP controlled. LOS results are presented in Table 7. The ramps, if STOP controlled, are projected to operate at LOS E and LOS D in the morning and evening peak hours, respectively.

Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses

Table 7
2020 ETC Construction LOS Analysis – Option 1A (Configuration 2)

UNSIGNALIZED INTERSECTION ANALYSIS		2020 ETC (Construction) Conditions							
		AM Peak Hour				PM Peak Hour			
Location / Description	Approach	Volume	v/c Ratio	Delay (sec/veh)	LOS	Volume	v/c Ratio	Delay (sec/veh)	LOS
NB NY 110 at EB NY 27 - NB NY 110 On-Ramp	WBR	300	0.86	45.8	E	295	0.76	32.0	D
	NBT	1,114				984			
	Intersection	1,414		45.8	E	1,279		32.0	D
SB NY 110 at WB NY 27 - SB NY 110 On-Ramp	EBR	203	0.53	20.8	C	185	0.67	34.6	D
	SBT	1,007				1,405			
	Intersection	1,210		20.8	C	1,590		34.6	D

Option #1B - Maintain Traffic on the Existing Bridge (Close Loop Ramps BB & BF)

Option 1B improves upon Option 1A by eliminating the weaving loop ramp traffic movements at the NY 110 / NY 27 interchange. Under this scenario, EB & WB NY 27 traffic headed onto NY 110 would be forced to use ramps BG & BC since far side loop ramps BB & BF would be closed. This partial cloverleaf configuration would eliminate all weaving traffic movements on NY 110 and would allow the NB & SB two-lane detour roadways to operate more efficiently. Two temporary traffic signals would be introduced on NY 110 for the required left turn movements at the terminus of the outer ramps. Vehicles waiting to make the left turn onto NY110 would be stored on half of the 20' wide outer ramp, while maintaining the free right turn movement (to be conservative, right turn movements were considered in the analysis). As shown in Table 8, the signalized intersections are projected to operate at LOS C or better during both peak hours. Further analyses would be required to coordinate with the existing traffic signals along the NY 110 corridor.

Table 8
2020 ETC Construction LOS Analysis – Option 1B

SIGNALIZED INTERSECTION ANALYSIS		2020 ETC (Construction) Conditions							
		AM Peak Hour				PM Peak Hour			
Location / Description	Approach	Volume	v/c Ratio	Delay (sec/veh)	LOS	Volume	v/c Ratio	Delay (sec/veh)	LOS
NY 110 at EB NY 27 Off-Ramp	EBL	300	0.74	33.4	C	295	0.73	32.8	C
	EBR	29	0.08	22.0	C	45	0.12	22.3	C
	NBT	1,114	0.77	17.5	B	984	0.68	15.3	B
	SBT	1,028	0.71	15.9	B	1,319	0.91	25.0	C
	Intersection	2,471		18.8	B	2,643		22.2	C
NY 110 at WB NY 27 Off-Ramp	WBL	203	0.50	26.1	C	185	0.45	25.5	C
	WBR	215	0.59	28.2	C	255	0.70	32.1	C
	NBT	1,383	0.95	30.5	C	1,228	0.84	20.6	C
	SBT	1,007	0.69	15.6	B	1,405	0.97	33.1	C
	Intersection	2,808		24.6	C	3,073		27.6	C

Option #2 - Maintain Traffic Utilizing a Temporary Bridge

Option 2 would construct a temporary structure to maintain three 11 foot lanes of southbound traffic, while the northbound traffic is maintained on half of the existing bridge. The existing bridges would be reconstructed in multiple stages. This alternative provides conditions similar to what was analyzed under existing conditions and is projected to operate at LOS B or better (see the 2020 ETC LOS weaving analyses for NB and SB NY 110 previously presented in Table 5).

Reference: PIN 0112.57 – NY 110 Bridge over NY 27 – Existing and Future Year Capacity Analyses*Option #3 - Loop Ramp “Roundabout” Detours with Signalized NY27 Intersections:*

Option 3 explores the possibility of opening up the work zone so that the Broadway Replacement Bridge over the Sunrise Highway could be constructed in one Stage, significantly reducing the duration of construction. This option utilizes the existing loop ramps as a bypass detour while maintaining the outer ramps. Two new temporary traffic signals would be introduced on Sunrise Highway (NY27) to allow for the required Broadway thru & left turn movements. Vehicles waiting to make the left turn from EB & WB NY27 onto NB & SB Broadway, respectively, would be stored within two new left turn bays provided using the existing Sunrise Highway median (on either side of the Broadway Bridge). Preliminary analyses of this option determined that, due to the heavy peak hour volumes along both Broadway and the Sunrise Highway, both signalized intersections would operate at LOS F.

Sunrise Highway (NY 27):

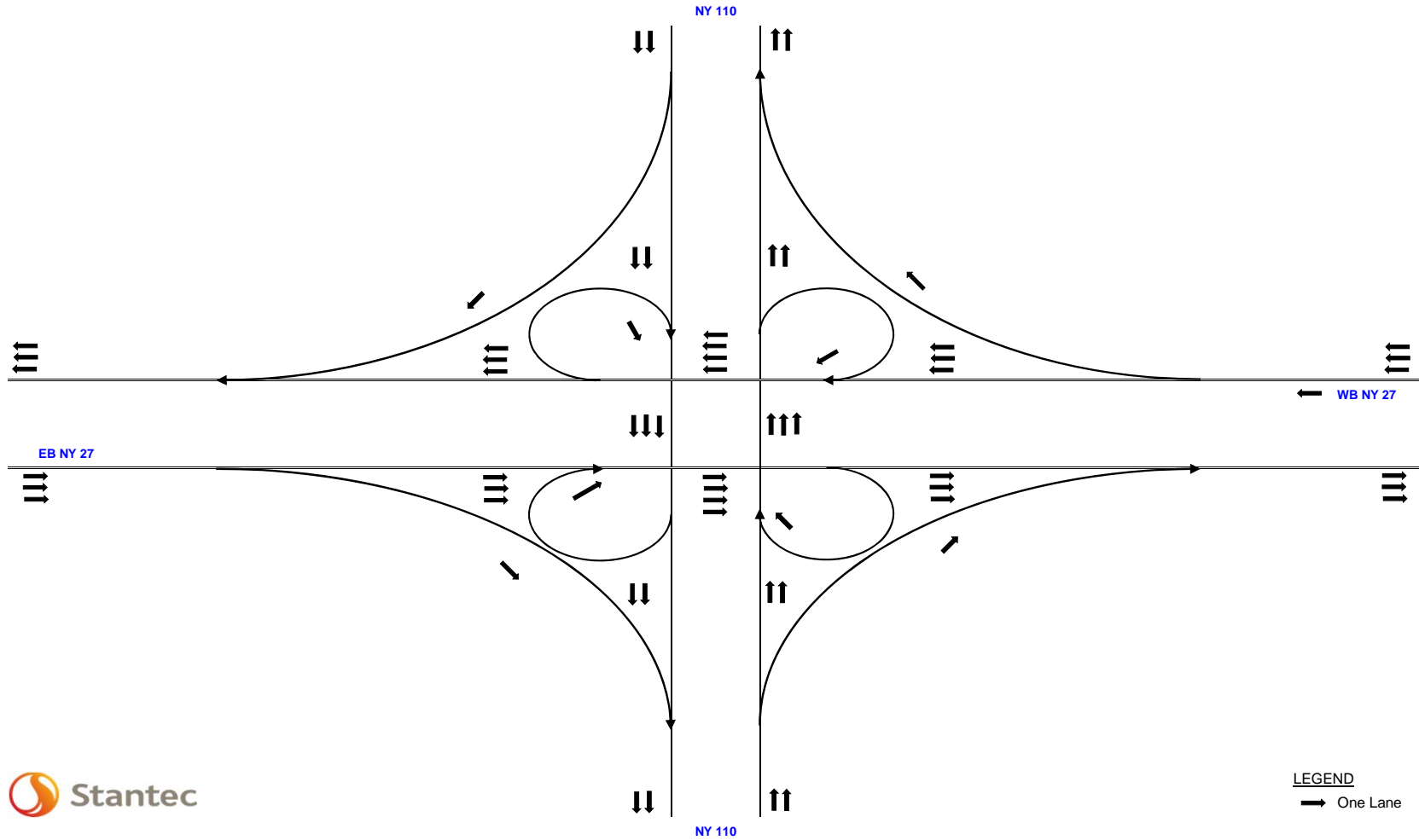
It is anticipated that long term shoulder closures along NY 27 (adjacent to the piers and abutments for the NY 110 bridges) are necessary in order to complete this reconstruction or rehabilitation project. Temporary concrete barriers will be installed to protect the work area. Daily short term single lane closures during off-peak hours (10AM-3PM) would also be needed to accommodate construction activities. Additionally, the existing sidewalk on the north side of NY 27 will require temporary closures and/or diversions.

STANTEC CONSULTING SERVICES INC.Christopher Mojica, PE
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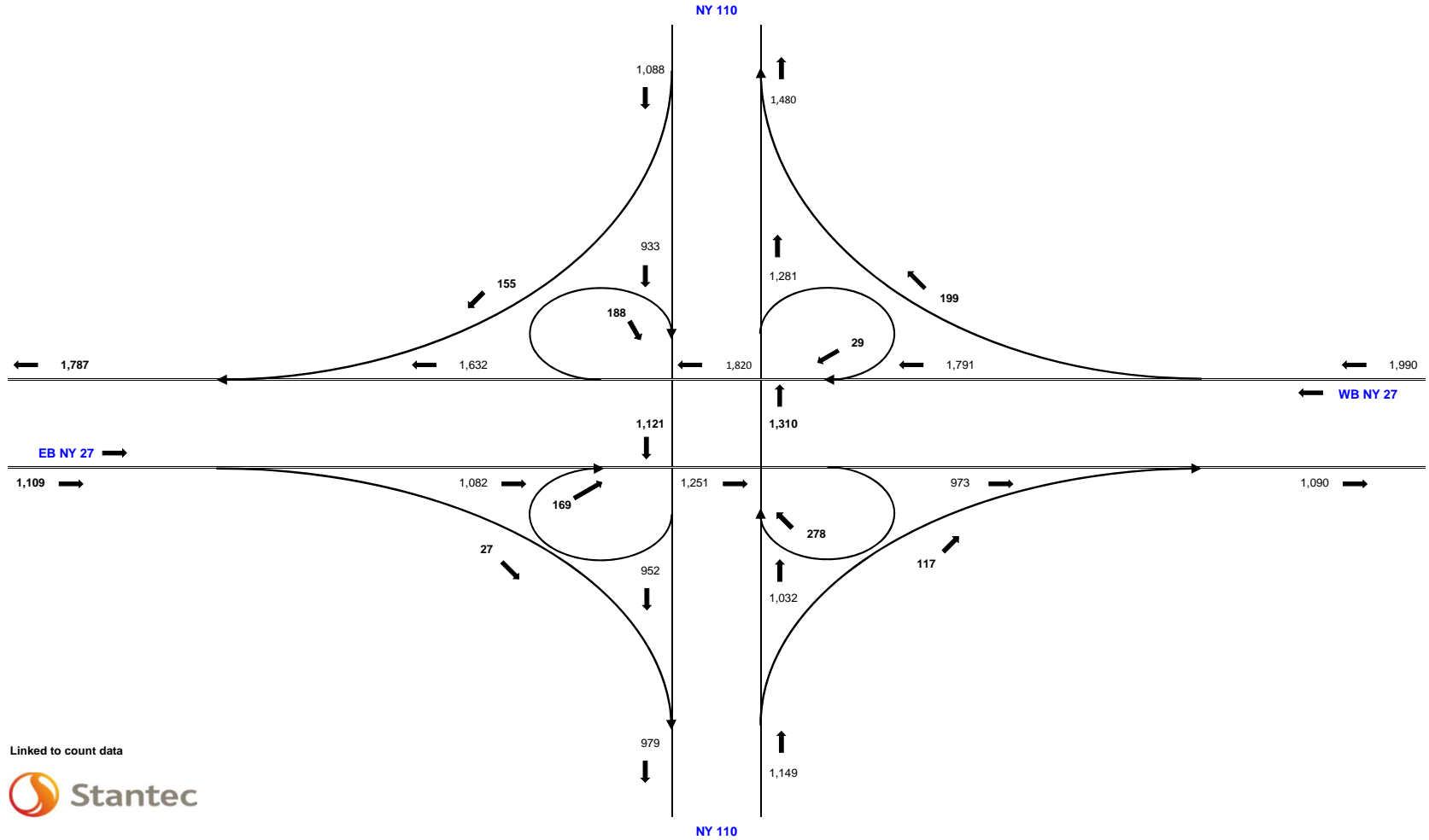
Attachment: Existing NY 110 / NY 27 Interchange Configuration and Existing / Future Year Peak Hour Traffic Networks

c. James Kielian; Christopher Coogan; Steve Abendschein

NY 110 (N/S BROADWAY) AT NY 27 (E/W SUNRISE HIGHWAY)
EXISTING AND FUTURE YEAR LANE CONFIGURATION



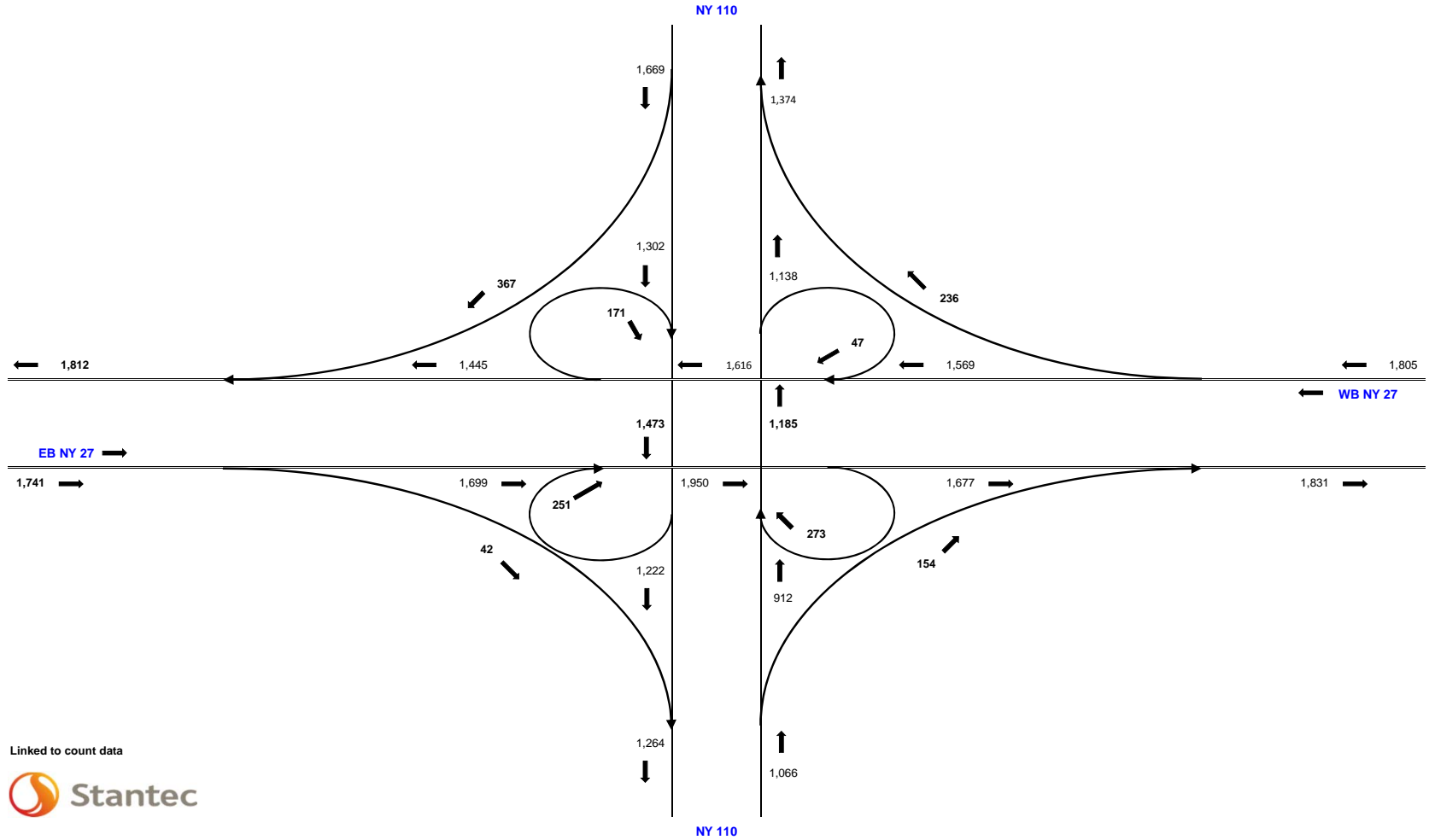
**NY 110 (N/S BROADWAY) AT NY 27 (E/W SUNRISE HIGHWAY)
2013 (Existing) AM Peak Hour Traffic Volumes**



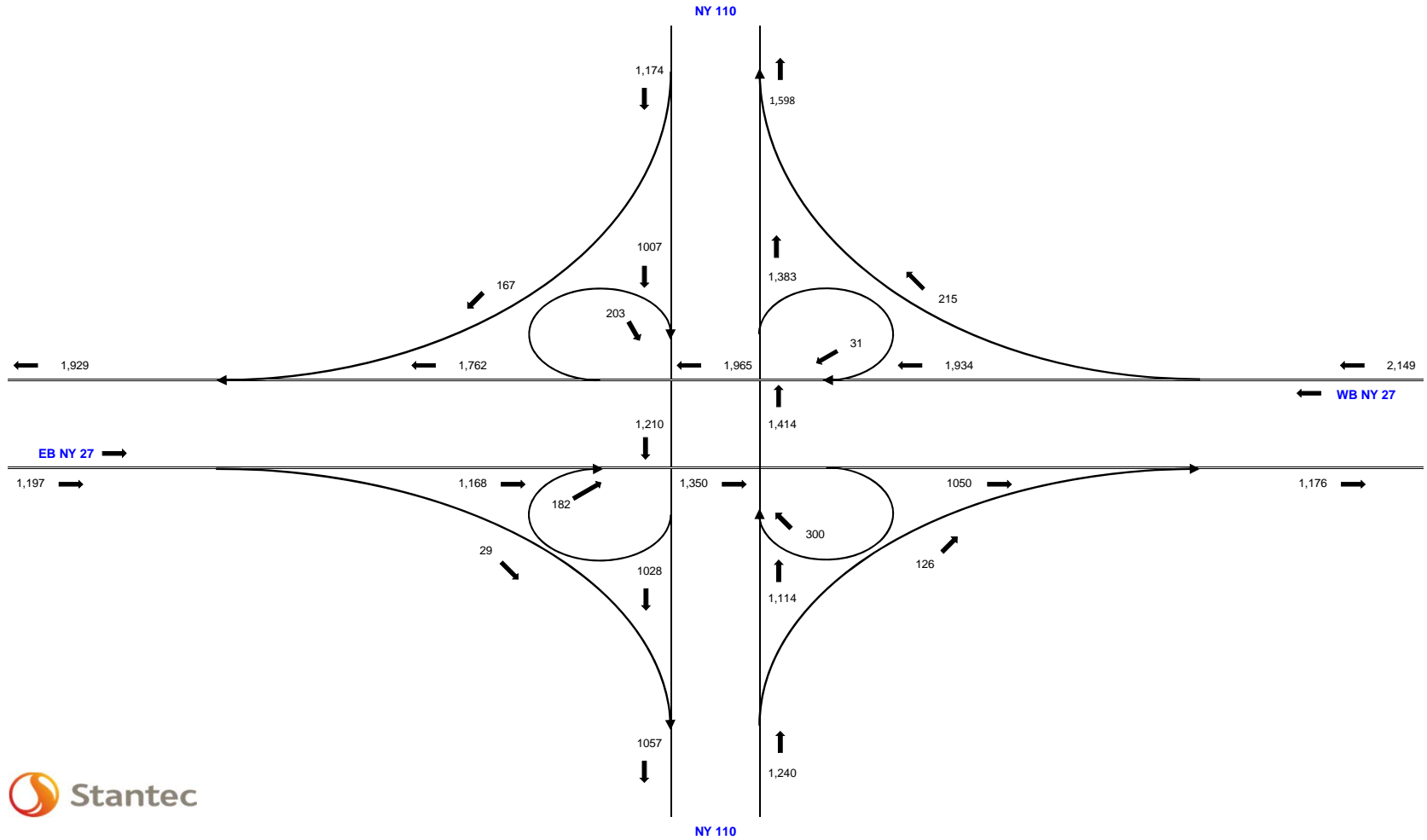
Linked to count data



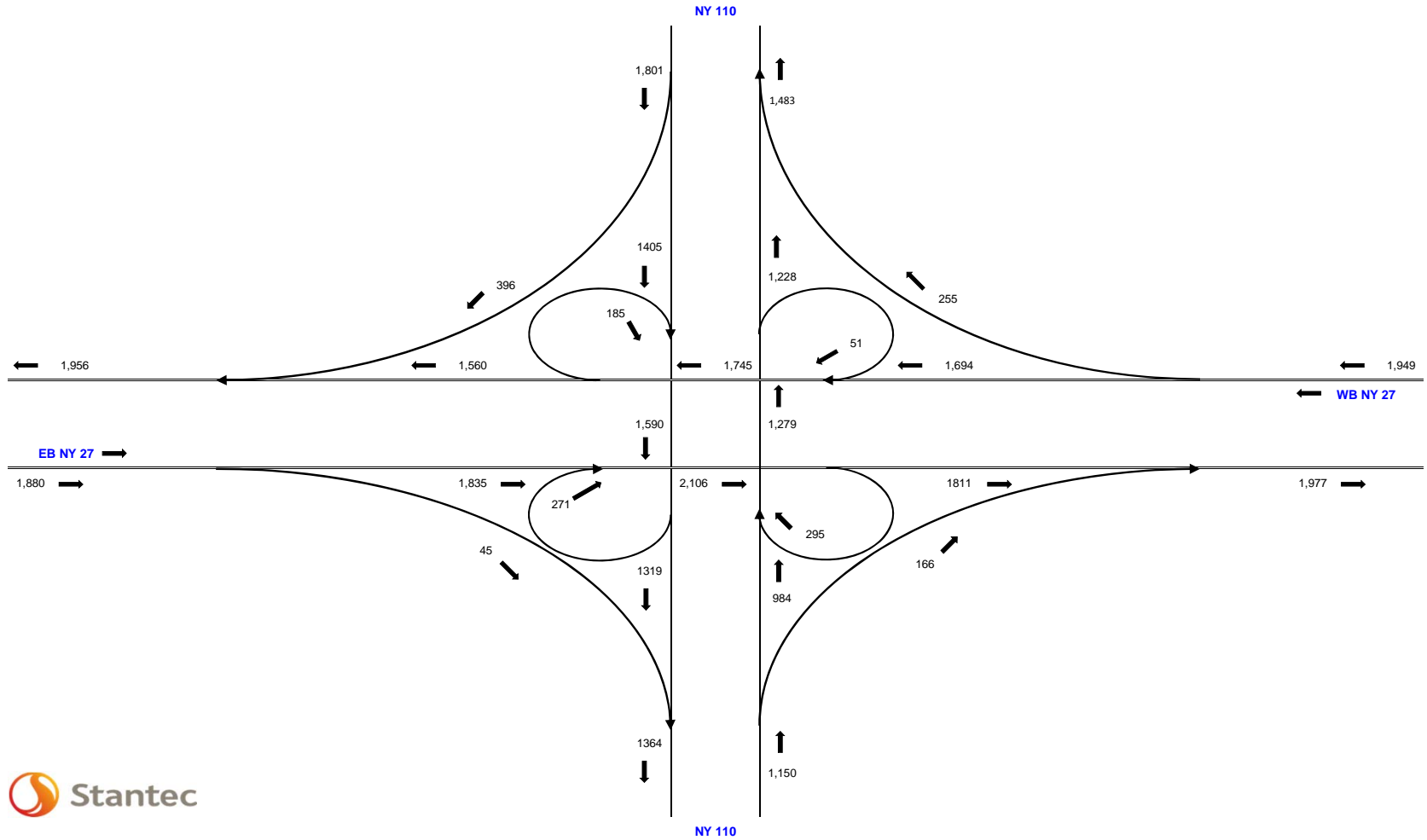
**NY 110 (N/S BROADWAY) AT NY 27 (E/W SUNRISE HIGHWAY)
2013 (Existing) PM Peak Hour Traffic Volumes**



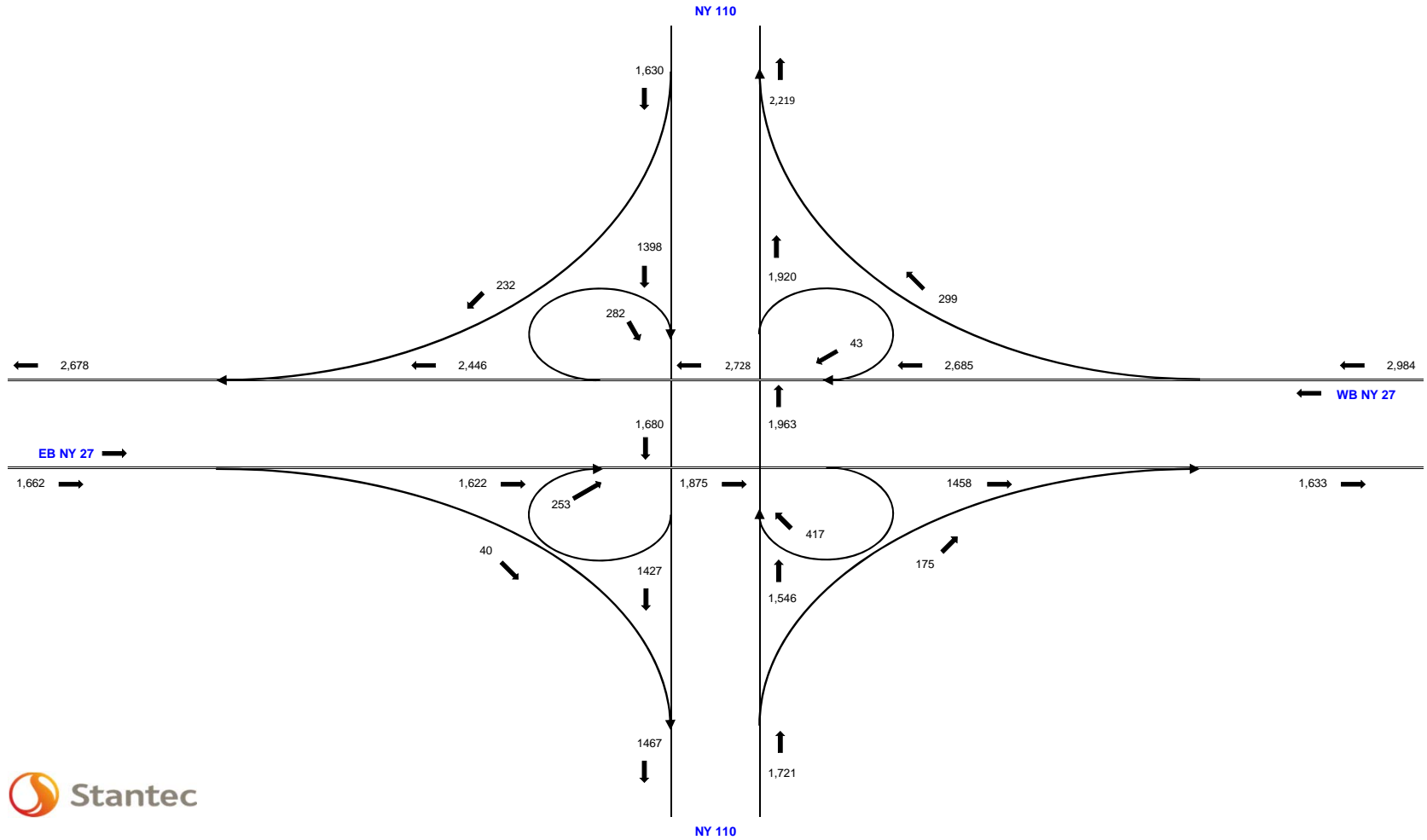
**NY 110 (N/S BROADWAY) AT NY 27 (E/W SUNRISE HIGHWAY)
2020 ETC AM Peak Hour Traffic Volumes**



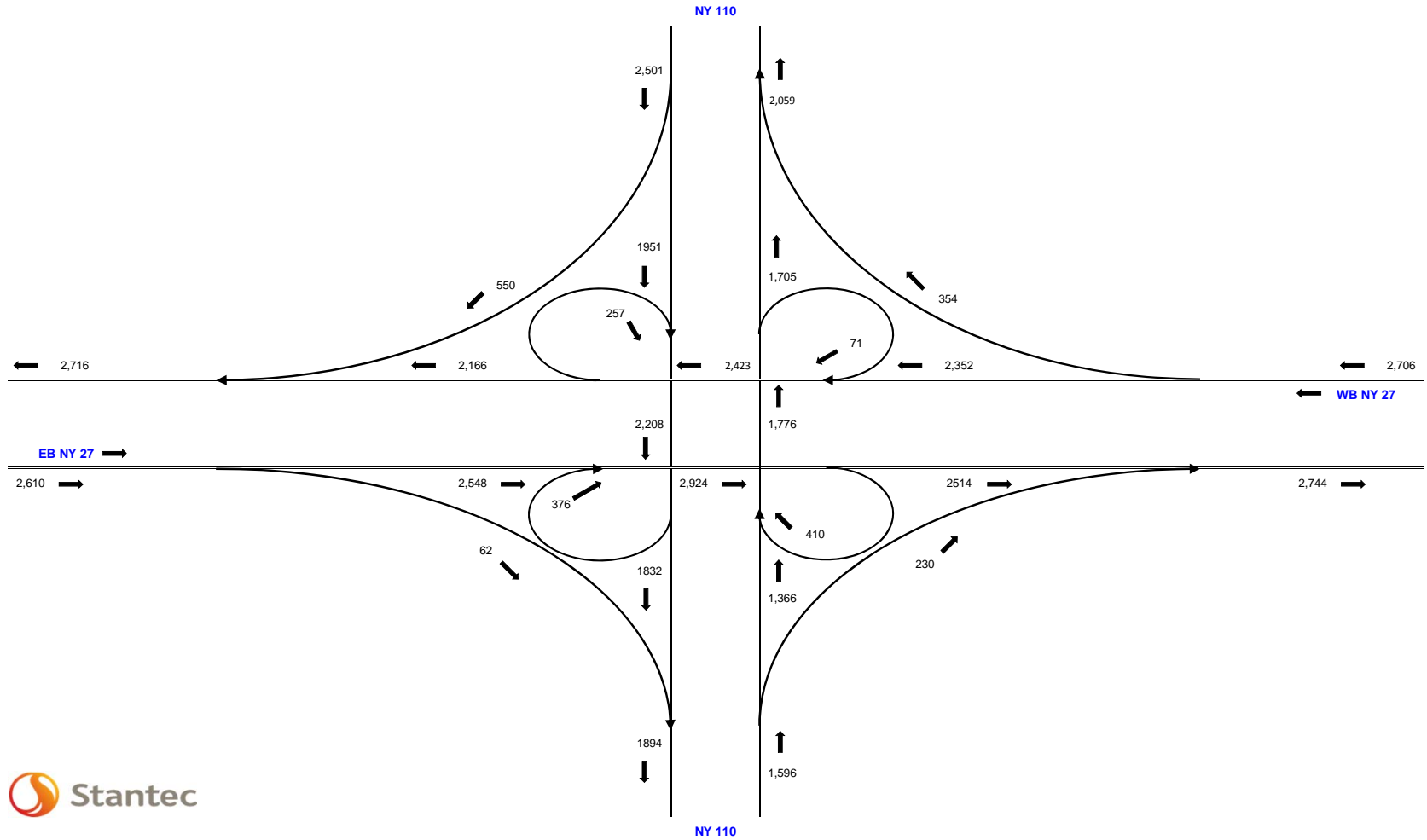
**NY 110 (N/S BROADWAY) AT NY 27 (E/W SUNRISE HIGHWAY)
2020 ETC PM Peak Hour Traffic Volumes**



**NY 110 (N/S BROADWAY) AT NY 27 (E/W SUNRISE HIGHWAY)
2050 Design Year AM Peak Hour Traffic Volumes**



**NY 110 (N/S BROADWAY) AT NY 27 (E/W SUNRISE HIGHWAY)
2050 Design Year PM Peak Hour Traffic Volumes**





U.S. Department
of Transportation
**Federal Highway
Administration**



**NEW YORK STATE
DEPARTMENT OF TRANSPORTATION**
ANDREW M. CUOMO, Governor
JOAN MCDONALD, Commissioner

PIN 0112.57

BIN 1019119

**Bridge Rehabilitation / Replacement
Broadway (NY110) over Sunrise Hwy (NY27)**
Town of Babylon, Suffolk County

APPENDIX D
Design Speed Justification Memo

To: Gerard Bartucci, PE
New York (West 23rd St) NY Office

From: Christopher Mojica, PE
New York (West 23rd St) NY Office

File: 192310356

Date: December 9, 2013

Reference: PIN 0112.57 – NY 110 Speed Study

The purpose of this technical memorandum is to summarize Stantec's spot speed survey along NY 110 (Broadway) in the vicinity of the NY 27 (Sunrise Highway) interchange in Amityville, New York. The survey was conducted on Tuesday, November 19, 2013 during the 9-11AM and 1-3PM off-peak periods. The objective of the speed study was to take a sample of location-specific vehicle speeds that would be statistically acceptable at a confidence level of 95% to determine the 85th percentile speed of vehicles traveling along NY 110.

RESULTS

The results of the speed study are summarized in the table below:

Table 1
Summary of Speed Study

Direction	85 th Percentile Speed (MPH)		Average Speed (MPH)	
	AM Off-Peak (9-11AM)	PM Off-Peak (1-3PM)	AM Off-Peak (9-11AM)	PM Off-Peak (1-3PM)
Northbound	47	47	39	40
Southbound	50	50	43	43

As presented in Table 1, the recommended design speed for the NY 110 corridor, when rounded to the nearest 5 MPH, is 50 MPH. Speeds are consistent between each of the surveyed off-peak periods. The posted speed limit at the survey location is 40 MPH in both directions.

DATA COLLECTION METHODOLOGY

The objective of the spot speed survey was to take a sample of location-specific vehicle speeds that would be statistically acceptable at a confidence level of 95% to determine the 85th percentile speed along the NY 110 corridor. In accordance with the *Manual of Traffic Engineering Studies*, it was determined that a minimum of 95 samples would be necessary to meet this goal¹. To ensure an acceptable measurement of 85th percentile speeds, more than 200 samples were collected along each direction of the NY 110 corridor.

A radar gun was used to record spot speed measurements on every 2nd or 3rd through vehicle passing a given survey location with a four-second or greater headway (i.e., traveling at free-flow travel speed). Consideration was given to avoid sampling a disproportionate amount of heavy trucks and high speed vehicles. In order to

¹ Institute of Transportation Engineers. *Manual of Transportation Engineering Studies*, 2nd Ed. Washington, D.C. 2010. The sample minimum was determined using guidance set forth in the *Manual of Transportation Engineering Studies* using a standard deviation of 5.0 MPH and a tolerance of 1.0 MPH.

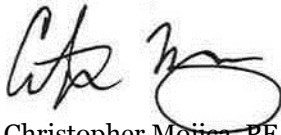
Reference: PIN 0112.57 – NY 110 Speed Study

approximate (as close as possible) free-flow travel speeds along NY 110, speed measurements were taken during two off-peak periods - specifically from 9AM to 11AM and from 1PM to 3PM on Tuesday, November 19, 2013.

The survey was designed to address potential error that could occur from driver observed radar activity and/or from the angle of observation. Potential error induced by driver observed radar activity was also mitigated by taking measurements from the most discreet positions available. With regards to the angle of observation, the survey crew minimized radar gun inaccuracy by keeping the angle of incidence between the radar beam and the direction of travel as small as possible. However, to factor out any potential errors from the angle of observation, an estimate of the angle between the radar gun beam and that of the direction of the vehicles was made at each location. A factor was calculated from this estimated angle to remove the error from the sample speed measurements.

A summary of the data collected is attached. It should be noted that both extreme and outlier observations that would result in impractical design considerations were excluded from the calculation of 85th percentile speeds as per the guidance set forth in the *Manual of Transportation Engineering Studies*.

STANTEC CONSULTING SERVICES INC.



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Attachment: November 19, 2013 Spot Speed Survey Data

c. James Kielian; Steve Abendschein

Stantec Consulting Services, Inc.

NB NY 110 SPOT SPEED STUDY

SURVEYOR: Traffic Counts Collecting, Inc.
 PROJECT NAME: NY 110 over NY 27 Bridge Replacement
 PROJECT NUMBER: 192310356
 DATE: Tuesday, November 19, 2013
 LOCATION: SR 110 over SR 27 (between exit and loop on ramps)
 WEATHER: Clear/Sunny

Morning Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	8.75	0.153
Lane 2 (Left Lane)	11.36	0.198
85th Percentile Speed (mph)	47	-
Median Speed (mph)	39	-
Average Speed (mph)	39	-

Afternoon Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	8.75	0.153
Lane 2 (Left Lane)	11.36	0.198
85th Percentile Speed (mph)	47	-
Median Speed (mph)	40	-
Average Speed (mph)	40	-

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
9:10 AM	NB	1	22	22
9:10 AM	NB	1	23	23
9:10 AM	NB	1	26	26
9:10 AM	NB	1	28	28
9:10 AM	NB	1	28	28
9:10 AM	NB	1	29	29
9:10 AM	NB	1	29	29
9:10 AM	NB	1	29	29
9:10 AM	NB	1	29	29
9:10 AM	NB	1	30	30
9:10 AM	NB	1	31	31
9:10 AM	NB	1	31	31
9:10 AM	NB	1	31	31
9:10 AM	NB	1	32	32
9:10 AM	NB	1	32	32
9:10 AM	NB	1	33	33
9:10 AM	NB	1	33	33
9:10 AM	NB	1	34	34
9:10 AM	NB	1	34	34
9:10 AM	NB	1	35	35
9:10 AM	NB	1	35	35
9:10 AM	NB	1	36	36
9:10 AM	NB	1	36	36
9:10 AM	NB	1	36	36
9:10 AM	NB	1	37	37
9:10 AM	NB	1	38	38
9:10 AM	NB	1	38	38
9:10 AM	NB	1	38	38
9:10 AM	NB	1	39	39
9:10 AM	NB	1	39	39
9:10 AM	NB	1	39	39
9:10 AM	NB	1	40	40
9:10 AM	NB	1	40	40
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9:10 AM	NB	2	34	35
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9:10 AM	NB	2	36	37
9:10 AM	NB	2	39	40
9:10 AM	NB	2	39	40
9:10 AM	NB	2	40	41
9:10 AM	NB	2	40	41
9:10 AM	NB	2	41	42
9:10 AM	NB	2	41	42
9:10 AM	NB	2	42	43
9:10 AM	NB	2	43	44
9:10 AM	NB	2	43	44
9:10 AM	NB	2	44	45
9:10 AM	NB	2	44	45
9:10 AM	NB	2	45	46
9:10 AM	NB	2	46	47
9:10 AM	NB	2	47	48
9:10 AM	NB	2	48	49
9:10 AM	NB	2	49	50
9:10 AM	NB	2	49	50
9:10 AM	NB	2	51	52
9:25 AM	NB	1	30	30
9:25 AM	NB	1	30	30
9:25 AM	NB	1	35	35
9:25 AM	NB	1	35	35
9:25 AM	NB	1	38	38
9:25 AM	NB	1	41	41
9:25 AM	NB	2	30	31
9:25 AM	NB	2	34	35
9:25 AM	NB	2	36	37
9:25 AM	NB	2	39	40
9:25 AM	NB	2	41	42
9:27 AM	NB	1	31	31
9:27 AM	NB	1	34	34
9:27 AM	NB	1	37	37
9:27 AM	NB	1	40	40
9:27 AM	NB	1	44	45

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
1:00 PM	NB	1	31	31
1:00 PM	NB	1	34	34
1:00 PM	NB	1	36	36
1:00 PM	NB	1	39	39
1:00 PM	NB	1	40	40
1:00 PM	NB	1	40	40
1:00 PM	NB	1	43	44
1:00 PM	NB	1	44	45
1:00 PM	NB	1	44	45
1:00 PM	NB	2	40	41
1:00 PM	NB	2	40	41
1:00 PM	NB	2	41	42
1:00 PM	NB	2	42	43
1:00 PM	NB	2	44	45
1:00 PM	NB	2	45	46
1:00 PM	NB	2	47	48
1:00 PM	NB	2	48	49
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1:04 PM	NB	1	33	33
1:04 PM	NB	1	33	33
1:04 PM	NB	1	33	33
1:04 PM	NB	1	34	34
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1:04 PM	NB	1	39	39
1:04 PM	NB	1	41	41
1:04 PM	NB	1	54	55
1:04 PM	NB	1	54	55
1:04 PM	NB	2	40	41
1:04 PM	NB	2	47	48
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1:04 PM	NB	2	49	50
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1:07 PM	NB	1	32	32
1:07 PM	NB	1	35	35
1:07 PM	NB	1	35	35
1:07 PM	NB	1	36	36
1:07 PM	NB	1	38	38
1:07 PM	NB	1	42	42
1:07 PM	NB	2	32	33
1:07 PM	NB	2	39	40
1:07 PM	NB	2	40	41
1:07 PM	NB	2	42	43
1:07 PM	NB	2	43	44
1:07 PM	NB	2	47	48
1:07 PM	NB	2	47	48
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1:10 PM	NB	1	33	33
1:10 PM	NB	1	34	34
1:10 PM	NB	1	35	35
1:10 PM	NB	1	35	35
1:10 PM	NB	1	40	40
1:10 PM	NB	1	40	40
1:10 PM	NB	1	42	42
1:10 PM	NB	1	44	45
1:10 PM	NB	2	38	39
1:10 PM	NB	2	40	41
1:10 PM	NB	2	41	42
1:10 PM	NB	2	42	43
1:10 PM	NB	2	46	47
1:14 PM	NB	1	25	25
1:14 PM	NB	1	27	27
1:14 PM	NB	1	31	31
1:14 PM	NB	1	31	31
1:14 PM	NB	1	32	32
1:14 PM	NB	1	32	32
1:14 PM	NB	1	32	32
1:14 PM	NB	1	35	35
1:14 PM	NB	1	37	37

Stantec Consulting Services, Inc.

NB NY 110 SPOT SPEED STUDY

SURVEYOR: Traffic Counts Collecting, Inc.
 PROJECT NAME: NY 110 over NY 27 Bridge Replacement
 PROJECT NUMBER: 192310356
 DATE: Tuesday, November 19, 2013
 LOCATION: SR 110 over SR 27 (between exit and loop on ramps)
 WEATHER: Clear/Sunny

Morning Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	8.75	0.153
Lane 2 (Left Lane)	11.36	0.198
85th Percentile Speed (mph)	47	-
Median Speed (mph)	39	-
Average Speed (mph)	39	-

Afternoon Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	8.75	0.153
Lane 2 (Left Lane)	11.36	0.198
85th Percentile Speed (mph)	47	-
Median Speed (mph)	40	-
Average Speed (mph)	40	-

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
9:27 AM	NB	1	48	49
9:27 AM	NB	2	38	39
9:27 AM	NB	2	39	40
9:27 AM	NB	2	45	46
9:27 AM	NB	2	45	46
9:27 AM	NB	2	45	46
9:27 AM	NB	2	46	47
9:29 AM	NB	1	27	27
9:29 AM	NB	1	29	29
9:29 AM	NB	1	30	30
9:29 AM	NB	1	35	35
9:29 AM	NB	1	35	35
9:29 AM	NB	1	45	46
9:29 AM	NB	2	33	34
9:29 AM	NB	2	34	35
9:29 AM	NB	2	49	50
10:30 AM	NB	1	29	29
10:30 AM	NB	1	32	32
10:30 AM	NB	1	33	33
10:30 AM	NB	1	34	34
10:30 AM	NB	1	39	39
10:30 AM	NB	1	39	39
10:30 AM	NB	1	39	39
10:30 AM	NB	1	40	40
10:30 AM	NB	1	42	42
10:30 AM	NB	1	45	46
10:30 AM	NB	2	40	41
10:30 AM	NB	2	40	41
10:30 AM	NB	2	41	42
10:30 AM	NB	2	45	46
10:30 AM	NB	2	47	48
10:30 AM	NB	2	49	50
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10:33 AM	NB	1	40	40
10:33 AM	NB	1	42	42
10:33 AM	NB	1	46	47
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10:33 AM	NB	2	39	40
10:33 AM	NB	2	39	40
10:33 AM	NB	2	40	41
10:33 AM	NB	2	41	42
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10:33 AM	NB	2	46	47
10:33 AM	NB	2	46	47
10:33 AM	NB	2	46	47
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10:38 AM	NB	1	33	33
10:38 AM	NB	1	33	33
10:38 AM	NB	1	35	35
10:38 AM	NB	1	35	35
10:38 AM	NB	1	35	35
10:38 AM	NB	1	39	39
10:38 AM	NB	1	39	39
10:38 AM	NB	1	41	41
10:38 AM	NB	1	42	42
10:38 AM	NB	1	47	48

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
1:14 PM	NB	1	41	41
1:14 PM	NB	1	41	41
1:14 PM	NB	1	42	42
1:14 PM	NB	1	45	46
1:14 PM	NB	2	33	34
1:14 PM	NB	2	34	35
1:14 PM	NB	2	35	36
1:14 PM	NB	2	41	42
1:14 PM	NB	2	41	42
1:14 PM	NB	2	43	44
1:14 PM	NB	2	43	44
1:14 PM	NB	2	44	45
1:14 PM	NB	2	44	45
1:14 PM	NB	2	45	46
1:18 PM	NB	1	29	29
1:18 PM	NB	1	29	29
1:18 PM	NB	1	30	30
1:18 PM	NB	1	30	30
1:18 PM	NB	1	33	33
1:18 PM	NB	1	33	33
1:18 PM	NB	1	34	34
1:18 PM	NB	1	36	36
1:18 PM	NB	1	36	36
1:18 PM	NB	1	37	37
1:18 PM	NB	1	40	40
1:18 PM	NB	1	42	42
1:18 PM	NB	1	44	45
1:18 PM	NB	1	44	45
1:18 PM	NB	2	38	39
1:18 PM	NB	2	39	40
1:18 PM	NB	2	41	42
1:18 PM	NB	2	43	44
1:18 PM	NB	2	44	45
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1:21 PM	NB	1	30	30
1:21 PM	NB	1	32	32
1:21 PM	NB	1	33	33
1:21 PM	NB	1	34	34
1:21 PM	NB	1	34	34
1:21 PM	NB	1	37	37
1:21 PM	NB	1	38	38
1:21 PM	NB	1	42	42
1:21 PM	NB	1	42	42
1:21 PM	NB	1	43	44
1:21 PM	NB	2	31	32
1:21 PM	NB	2	38	39
1:21 PM	NB	2	42	43
1:21 PM	NB	2	44	45
1:21 PM	NB	2	47	48
1:21 PM	NB	2	49	50
2:35 PM	NB	1	19	19
2:35 PM	NB	1	21	21
2:35 PM	NB	1	27	27
2:35 PM	NB	1	28	28
2:35 PM	NB	1	38	38
2:35 PM	NB	1	39	39
2:35 PM	NB	1	40	40
2:35 PM	NB	1	42	42
2:35 PM	NB	1	44	45
2:35 PM	NB	1	49	50
2:35 PM	NB	2	30	31
2:35 PM	NB	2	38	39
2:35 PM	NB	2	40	41
2:35 PM	NB	2	42	43
2:35 PM	NB	2	47	48
2:35 PM	NB	2	54	55
2:39 PM	NB	1	30	30
2:39 PM	NB	1	31	31
2:39 PM	NB	1	34	34
2:39 PM	NB	1	35	35
2:39 PM	NB	1	35	35

Stantec Consulting Services, Inc.

NB NY 110 SPOT SPEED STUDY

SURVEYOR: Traffic Counts Collecting, Inc.
 PROJECT NAME: NY 110 over NY 27 Bridge Replacement
 PROJECT NUMBER: 192310356
 DATE: Tuesday, November 19, 2013
 LOCATION: SR 110 over SR 27 (between exit and loop on ramps)
 WEATHER: Clear/Sunny

Morning Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	8.75	0.153
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85th Percentile Speed (mph)	47	-
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Average Speed (mph)	39	-

Afternoon Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	8.75	0.153
Lane 2 (Left Lane)	11.36	0.198
85th Percentile Speed (mph)	47	-
Median Speed (mph)	40	-
Average Speed (mph)	40	-

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
10:38 AM	NB	2	33	34
10:38 AM	NB	2	34	35
10:38 AM	NB	2	39	40
10:38 AM	NB	2	40	41
10:38 AM	NB	2	40	41
10:38 AM	NB	2	41	42
10:38 AM	NB	2	46	47
10:38 AM	NB	2	48	49
10:38 AM	NB	2	48	49
10:38 AM	NB	2	50	51
10:38 AM	NB	2	51	52
10:38 AM	NB	2	52	53
10:44 AM	NB	1	27	27
10:44 AM	NB	1	28	28
10:44 AM	NB	1	34	34
10:44 AM	NB	1	37	37
10:44 AM	NB	1	38	38
10:44 AM	NB	1	38	38
10:44 AM	NB	1	39	39
10:44 AM	NB	1	41	41
10:44 AM	NB	1	43	44
10:44 AM	NB	1	45	46
10:44 AM	NB	1	45	46
10:44 AM	NB	1	48	49
10:44 AM	NB	2	36	37
10:44 AM	NB	2	43	44
10:44 AM	NB	2	45	46
10:44 AM	NB	2	46	47
10:44 AM	NB	2	49	50
10:47 AM	NB	1	27	27
10:47 AM	NB	1	30	30
10:47 AM	NB	1	32	32
10:47 AM	NB	1	32	32
10:47 AM	NB	1	34	34
10:47 AM	NB	1	35	35
10:47 AM	NB	1	35	35
10:47 AM	NB	1	36	36
10:47 AM	NB	1	38	38
10:47 AM	NB	1	41	41
10:47 AM	NB	1	41	41
10:47 AM	NB	1	42	42
10:47 AM	NB	1	42	42
10:47 AM	NB	1	54	55
10:47 AM	NB	2	35	36
10:47 AM	NB	2	36	37
10:47 AM	NB	2	37	38
10:47 AM	NB	2	41	42
10:47 AM	NB	2	42	43
10:47 AM	NB	2	43	44
10:47 AM	NB	2	43	44
10:47 AM	NB	2	45	46
10:47 AM	NB	2	48	49
10:47 AM	NB	2	57	58
10:52 AM	NB	1	27	27
10:52 AM	NB	1	30	30
10:52 AM	NB	1	31	31
10:52 AM	NB	1	32	32
10:52 AM	NB	1	40	40
10:52 AM	NB	1	45	46
10:52 AM	NB	1	47	48
10:52 AM	NB	2	38	39
10:52 AM	NB	2	39	40
10:52 AM	NB	2	40	41
10:52 AM	NB	2	40	41
10:52 AM	NB	2	44	45
10:52 AM	NB	2	44	45
10:52 AM	NB	2	45	46
10:52 AM	NB	2	49	50
10:56 AM	NB	1	29	29
10:56 AM	NB	1	33	33
10:56 AM	NB	1	34	34

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
2:39 PM	NB	1	35	35
2:39 PM	NB	1	37	37
2:39 PM	NB	1	37	37
2:39 PM	NB	1	38	38
2:39 PM	NB	1	40	40
2:39 PM	NB	1	40	40
2:39 PM	NB	2	41	42
2:39 PM	NB	2	41	42
2:39 PM	NB	2	43	44
2:39 PM	NB	2	45	46
2:39 PM	NB	2	51	52
2:42 PM	NB	1	24	24
2:42 PM	NB	1	28	28
2:42 PM	NB	1	31	31
2:42 PM	NB	1	35	35
2:42 PM	NB	1	37	37
2:42 PM	NB	1	37	37
2:42 PM	NB	1	38	38
2:42 PM	NB	1	39	39
2:42 PM	NB	1	41	41
2:42 PM	NB	1	44	45
2:42 PM	NB	1	45	46
2:42 PM	NB	2	39	40
2:42 PM	NB	2	43	44
2:42 PM	NB	2	44	45
2:42 PM	NB	2	47	48
2:42 PM	NB	2	52	53
2:42 PM	NB	2	58	59
2:45 PM	NB	1	26	26
2:45 PM	NB	1	36	36
2:45 PM	NB	1	36	36
2:45 PM	NB	1	41	41
2:45 PM	NB	1	47	48
2:45 PM	NB	2	33	34
2:45 PM	NB	2	34	35
2:45 PM	NB	2	35	36
2:45 PM	NB	2	40	41
2:45 PM	NB	2	41	42
2:45 PM	NB	2	43	44
2:45 PM	NB	2	43	44
2:45 PM	NB	2	44	45
2:45 PM	NB	2	45	46
2:45 PM	NB	2	46	47
2:45 PM	NB	2	47	48
2:50 PM	NB	1	26	26
2:50 PM	NB	1	26	26
2:50 PM	NB	1	27	27
2:50 PM	NB	1	30	30
2:50 PM	NB	1	31	31
2:50 PM	NB	1	33	33
2:50 PM	NB	1	36	36
2:50 PM	NB	1	38	38
2:50 PM	NB	1	39	39
2:50 PM	NB	1	39	39
2:50 PM	NB	1	40	40
2:50 PM	NB	1	42	42
2:50 PM	NB	1	42	42
2:50 PM	NB	2	36	37
2:50 PM	NB	2	38	39
2:50 PM	NB	2	43	44
2:50 PM	NB	2	46	47
2:50 PM	NB	2	46	47
2:50 PM	NB	2	47	48
2:50 PM	NB	2	48	49
2:50 PM	NB	2	49	50
2:50 PM	NB	2	50	51
2:50 PM	NB	2	51	52
2:53 PM	NB	1	24	24
2:53 PM	NB	1	26	26
2:53 PM	NB	1	27	27
2:53 PM	NB	1	27	27

Stantec Consulting Services, Inc.

NB NY 110 SPOT SPEED STUDY

SURVEYOR: Traffic Counts Collecting, Inc.
 PROJECT NAME: NY 110 over NY 27 Bridge Replacement
 PROJECT NUMBER: 192310356
 DATE: Tuesday, November 19, 2013
 LOCATION: SR 110 over SR 27 (between exit and loop on ramps)
 WEATHER: Clear/Sunny

Morning Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	8.75	0.153
Lane 2 (Left Lane)	11.36	0.198
85th Percentile Speed (mph)	47	-
Median Speed (mph)	39	-
Average Speed (mph)	39	-

Afternoon Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	8.75	0.153
Lane 2 (Left Lane)	11.36	0.198
85th Percentile Speed (mph)	47	-
Median Speed (mph)	40	-
Average Speed (mph)	40	-

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
10:56 AM	NB	1	34	34
10:56 AM	NB	1	35	35
10:56 AM	NB	1	35	35
10:56 AM	NB	1	42	42
10:56 AM	NB	1	43	44
10:56 AM	NB	1	46	47
10:56 AM	NB	1	49	50
10:56 AM	NB	2	36	37
10:56 AM	NB	2	44	45
10:56 AM	NB	2	45	46
10:56 AM	NB	2	45	46
10:56 AM	NB	2	50	51

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
2:53 PM	NB	1	30	30
2:53 PM	NB	1	34	34
2:53 PM	NB	1	36	36
2:53 PM	NB	1	36	36
2:53 PM	NB	1	37	37
2:53 PM	NB	1	38	38
2:53 PM	NB	1	38	38
2:53 PM	NB	1	38	38
2:53 PM	NB	1	39	39
2:53 PM	NB	1	40	40
2:53 PM	NB	1	43	44
2:53 PM	NB	1	44	45
2:53 PM	NB	1	49	50
2:53 PM	NB	2	27	28
2:53 PM	NB	2	32	33
2:53 PM	NB	2	35	36
2:53 PM	NB	2	35	36
2:53 PM	NB	2	37	38
2:53 PM	NB	2	43	44
2:53 PM	NB	2	43	44
2:53 PM	NB	2	44	45
2:53 PM	NB	2	45	46
2:53 PM	NB	2	47	48
2:53 PM	NB	2	48	49
2:53 PM	NB	2	51	52
2:53 PM	NB	2	52	53
2:57 PM	NB	1	34	34
2:57 PM	NB	1	35	35
2:57 PM	NB	1	38	38
2:57 PM	NB	1	40	40
2:57 PM	NB	1	41	41
2:57 PM	NB	1	42	42
2:57 PM	NB	1	42	42
2:57 PM	NB	1	43	44
2:57 PM	NB	1	46	47
2:57 PM	NB	2	43	44
2:57 PM	NB	2	44	45
2:57 PM	NB	2	45	46
2:57 PM	NB	2	47	48
2:57 PM	NB	2	47	48
2:57 PM	NB	2	57	58

Stantec Consulting Services, Inc.

SB NY 110 SPOT SPEED STUDY

SURVEYOR: Traffic Counts Collecting, Inc.
 PROJECT NAME: NY 110 over NY 27 Bridge Replacement
 PROJECT NUMBER: 192310356
 DATE: Tuesday, November 19, 2013
 LOCATION: SR 110 over SR 27 (between exit and loop on ramps)
 WEATHER: Clear/Sunny

Morning Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	10.09	0.176
Lane 2 (Left Lane)	9.81	0.171
85th Percentile Speed (mph)	50	-
Median Speed (mph)	43	-
Average Speed (mph)	43	-

Afternoon Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	10.09	0.176
Lane 2 (Left Lane)	9.81	0.171
85th Percentile Speed (mph)	50	-
Median Speed (mph)	44	-
Average Speed (mph)	43	-

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
9:40 AM	SB	1	25	25
9:40 AM	SB	1	29	29
9:40 AM	SB	1	34	35
9:40 AM	SB	1	34	35
9:40 AM	SB	1	35	36
9:40 AM	SB	1	38	39
9:40 AM	SB	1	49	50
9:40 AM	SB	1	51	52
9:40 AM	SB	2	29	29
9:40 AM	SB	2	30	30
9:40 AM	SB	2	36	37
9:40 AM	SB	2	39	40
9:40 AM	SB	2	45	46
9:40 AM	SB	2	46	47
9:40 AM	SB	2	52	53
9:40 AM	SB	2	52	53
9:40 AM	SB	2	56	57
9:44 AM	SB	1	30	30
9:44 AM	SB	1	31	31
9:44 AM	SB	1	34	35
9:44 AM	SB	1	34	35
9:44 AM	SB	1	41	42
9:44 AM	SB	1	41	42
9:44 AM	SB	1	42	43
9:44 AM	SB	1	42	43
9:44 AM	SB	1	46	47
9:44 AM	SB	1	48	49
9:44 AM	SB	1	48	49
9:44 AM	SB	1	49	50
9:44 AM	SB	1	49	50
9:44 AM	SB	1	51	52
9:44 AM	SB	2	28	28
9:44 AM	SB	2	31	31
9:44 AM	SB	2	37	38
9:44 AM	SB	2	40	41
9:44 AM	SB	2	41	42
9:44 AM	SB	2	42	43
9:44 AM	SB	2	43	44
9:44 AM	SB	2	45	46
9:44 AM	SB	2	45	46
9:44 AM	SB	2	46	47
9:44 AM	SB	2	46	47
9:44 AM	SB	2	47	48
9:44 AM	SB	2	49	50
9:44 AM	SB	2	49	50
9:48 AM	SB	1	33	34
9:48 AM	SB	1	35	36
9:48 AM	SB	1	36	37
9:48 AM	SB	1	37	38
9:48 AM	SB	1	38	39
9:48 AM	SB	1	38	39
9:48 AM	SB	1	40	41
9:48 AM	SB	1	40	41
9:48 AM	SB	1	40	41
9:48 AM	SB	1	41	42
9:48 AM	SB	1	42	43
9:48 AM	SB	2	36	37
9:48 AM	SB	2	41	42
9:48 AM	SB	2	43	44
9:48 AM	SB	2	45	46
9:48 AM	SB	2	46	47
9:48 AM	SB	2	47	48
9:48 AM	SB	2	48	49
9:48 AM	SB	2	52	53
9:50 AM	SB	1	35	36
9:50 AM	SB	1	37	38
9:50 AM	SB	1	39	40
9:50 AM	SB	1	40	41
9:50 AM	SB	1	40	41
9:50 AM	SB	1	40	41
9:50 AM	SB	1	41	42

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
1:30 PM	SB	1	33	34
1:30 PM	SB	1	38	39
1:30 PM	SB	1	38	39
1:30 PM	SB	1	39	40
1:30 PM	SB	1	39	40
1:30 PM	SB	1	42	43
1:30 PM	SB	1	46	47
1:30 PM	SB	2	29	29
1:30 PM	SB	2	33	33
1:30 PM	SB	2	40	41
1:30 PM	SB	2	44	45
1:30 PM	SB	2	45	46
1:30 PM	SB	2	46	47
1:30 PM	SB	2	50	51
1:30 PM	SB	2	52	53
1:34 PM	SB	1	30	30
1:34 PM	SB	1	35	36
1:34 PM	SB	1	37	38
1:34 PM	SB	1	39	40
1:34 PM	SB	1	41	42
1:34 PM	SB	1	43	44
1:34 PM	SB	1	46	47
1:34 PM	SB	1	52	53
1:34 PM	SB	2	42	43
1:34 PM	SB	2	43	44
1:34 PM	SB	2	46	47
1:34 PM	SB	2	48	49
1:34 PM	SB	2	48	49
1:34 PM	SB	2	49	50
1:34 PM	SB	2	50	51
1:34 PM	SB	2	52	53
1:34 PM	SB	2	53	54
1:39 PM	SB	1	32	33
1:39 PM	SB	1	33	34
1:39 PM	SB	1	34	35
1:39 PM	SB	1	37	38
1:39 PM	SB	1	42	43
1:39 PM	SB	1	44	45
1:39 PM	SB	1	44	45
1:39 PM	SB	1	44	45
1:39 PM	SB	1	46	47
1:39 PM	SB	1	47	48
1:39 PM	SB	1	48	49
1:39 PM	SB	2	44	45
1:39 PM	SB	2	44	45
1:39 PM	SB	2	45	46
1:39 PM	SB	2	46	47
1:39 PM	SB	2	48	49
1:39 PM	SB	2	50	51
1:39 PM	SB	2	52	53
1:39 PM	SB	2	61	62
1:43 PM	SB	1	35	36
1:43 PM	SB	1	37	38
1:43 PM	SB	1	38	39
1:43 PM	SB	1	39	40
1:43 PM	SB	1	40	41
1:43 PM	SB	1	42	43
1:43 PM	SB	1	43	44
1:43 PM	SB	1	48	49
1:43 PM	SB	1	51	52
1:43 PM	SB	1	51	52
1:43 PM	SB	2	39	40
1:43 PM	SB	2	40	41
1:43 PM	SB	2	42	43
1:43 PM	SB	2	47	48
1:43 PM	SB	2	50	51
1:43 PM	SB	2	64	65
1:47 PM	SB	1	37	38
1:47 PM	SB	1	38	39
1:47 PM	SB	1	39	40
1:47 PM	SB	1	40	41
1:47 PM	SB	1	44	45

Stantec Consulting Services, Inc.

SB NY 110 SPOT SPEED STUDY

SURVEYOR: Traffic Counts Collecting, Inc.
 PROJECT NAME: NY 110 over NY 27 Bridge Replacement
 PROJECT NUMBER: 192310356
 DATE: Tuesday, November 19, 2013
 LOCATION: SR 110 over SR 27 (between exit and loop on ramps)
 WEATHER: Clear/Sunny

Morning Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	10.09	0.176
Lane 2 (Left Lane)	9.81	0.171
85th Percentile Speed (mph)	50	-
Median Speed (mph)	43	-
Average Speed (mph)	43	-

Afternoon Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	10.09	0.176
Lane 2 (Left Lane)	9.81	0.171
85th Percentile Speed (mph)	50	-
Median Speed (mph)	44	-
Average Speed (mph)	43	-

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
9:50 AM	SB	1	42	43
9:50 AM	SB	1	43	44
9:50 AM	SB	1	45	46
9:50 AM	SB	2	31	31
9:50 AM	SB	2	32	32
9:50 AM	SB	2	42	43
9:50 AM	SB	2	42	43
9:50 AM	SB	2	45	46
9:50 AM	SB	2	47	48
9:50 AM	SB	2	48	49
9:50 AM	SB	2	50	51
9:52 AM	SB	1	31	31
9:52 AM	SB	1	41	42
9:52 AM	SB	1	42	43
9:52 AM	SB	1	45	46
9:52 AM	SB	2	30	30
9:52 AM	SB	2	39	40
9:52 AM	SB	2	45	46
9:52 AM	SB	2	47	48
9:52 AM	SB	2	50	51
9:55 AM	SB	1	30	30
9:55 AM	SB	1	33	34
9:55 AM	SB	1	35	36
9:55 AM	SB	1	37	38
9:55 AM	SB	1	38	39
9:55 AM	SB	1	39	40
9:55 AM	SB	1	46	47
9:55 AM	SB	2	39	40
9:55 AM	SB	2	40	41
9:55 AM	SB	2	40	41
9:55 AM	SB	2	42	43
9:55 AM	SB	2	43	44
9:55 AM	SB	2	49	50
9:55 AM	SB	2	50	51
9:55 AM	SB	2	51	52
9:55 AM	SB	2	52	53
10:02 AM	SB	1	29	29
10:02 AM	SB	1	30	30
10:02 AM	SB	1	33	34
10:02 AM	SB	1	34	35
10:02 AM	SB	1	37	38
10:02 AM	SB	1	37	38
10:02 AM	SB	1	37	38
10:02 AM	SB	1	38	39
10:02 AM	SB	1	40	41
10:02 AM	SB	1	40	41
10:02 AM	SB	1	40	41
10:02 AM	SB	1	40	41
10:02 AM	SB	1	44	45
10:02 AM	SB	1	48	49
10:02 AM	SB	2	36	37
10:02 AM	SB	2	47	48
10:02 AM	SB	2	50	51
10:02 AM	SB	2	50	51
10:02 AM	SB	2	57	58
10:02 AM	SB	2	59	60
10:04 AM	SB	1	32	33
10:04 AM	SB	1	37	38
10:04 AM	SB	1	38	39
10:04 AM	SB	1	39	40
10:04 AM	SB	1	47	48
10:04 AM	SB	1	49	50
10:04 AM	SB	1	52	53
10:04 AM	SB	2	41	42
10:04 AM	SB	2	42	43
10:04 AM	SB	2	42	43
10:04 AM	SB	2	42	43
10:04 AM	SB	2	44	45
10:04 AM	SB	2	45	46
10:04 AM	SB	2	46	47
10:04 AM	SB	2	49	50

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
1:47 PM	SB	1	44	45
1:47 PM	SB	1	48	49
1:47 PM	SB	2	39	40
1:47 PM	SB	2	45	46
1:47 PM	SB	2	46	47
1:47 PM	SB	2	46	47
1:47 PM	SB	2	47	48
1:47 PM	SB	2	49	50
1:51 PM	SB	1	35	36
1:51 PM	SB	1	38	39
1:51 PM	SB	1	39	40
1:51 PM	SB	1	43	44
1:51 PM	SB	2	40	41
1:51 PM	SB	2	45	46
1:51 PM	SB	2	50	51
1:51 PM	SB	2	52	53
1:51 PM	SB	2	57	58
1:55 PM	SB	1	24	24
1:55 PM	SB	1	31	31
1:55 PM	SB	1	33	34
1:55 PM	SB	1	34	35
1:55 PM	SB	1	37	38
1:55 PM	SB	1	44	45
1:55 PM	SB	1	56	57
1:55 PM	SB	2	34	35
1:55 PM	SB	2	43	44
1:55 PM	SB	2	44	45
1:55 PM	SB	2	44	45
1:55 PM	SB	2	47	48
1:55 PM	SB	2	51	52
1:55 PM	SB	2	54	55
1:55 PM	SB	2	58	59
1:59 PM	SB	1	31	31
1:59 PM	SB	1	33	34
1:59 PM	SB	1	37	38
1:59 PM	SB	1	42	43
1:59 PM	SB	1	51	52
1:59 PM	SB	1	51	52
1:59 PM	SB	2	44	45
1:59 PM	SB	2	46	47
1:59 PM	SB	2	48	49
1:59 PM	SB	2	52	53
2:03 PM	SB	1	29	29
2:03 PM	SB	1	29	29
2:03 PM	SB	1	35	36
2:03 PM	SB	1	37	38
2:03 PM	SB	1	40	41
2:03 PM	SB	1	41	42
2:03 PM	SB	1	43	44
2:03 PM	SB	1	46	47
2:03 PM	SB	1	46	47
2:03 PM	SB	2	41	42
2:03 PM	SB	2	48	49
2:03 PM	SB	2	51	52
2:03 PM	SB	2	51	52
2:06 PM	SB	1	27	27
2:06 PM	SB	1	30	30
2:06 PM	SB	1	31	31
2:06 PM	SB	1	32	33
2:06 PM	SB	1	36	37
2:06 PM	SB	1	37	38
2:06 PM	SB	1	37	38
2:06 PM	SB	1	37	38
2:06 PM	SB	1	40	41
2:06 PM	SB	1	40	41
2:06 PM	SB	1	41	42
2:06 PM	SB	1	41	42
2:06 PM	SB	1	44	45
2:06 PM	SB	1	44	45

Stantec Consulting Services, Inc.

SB NY 110 SPOT SPEED STUDY

SURVEYOR: Traffic Counts Collecting, Inc.
 PROJECT NAME: NY 110 over NY 27 Bridge Replacement
 PROJECT NUMBER: 192310356
 DATE: Tuesday, November 19, 2013
 LOCATION: SR 110 over SR 27 (between exit and loop on ramps)
 WEATHER: Clear/Sunny

Morning Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	10.09	0.176
Lane 2 (Left Lane)	9.81	0.171
85th Percentile Speed (mph)	50	-
Median Speed (mph)	43	-
Average Speed (mph)	43	-

Afternoon Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	10.09	0.176
Lane 2 (Left Lane)	9.81	0.171
85th Percentile Speed (mph)	50	-
Median Speed (mph)	44	-
Average Speed (mph)	43	-

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
10:04 AM	SB	2	51	52
10:04 AM	SB	2	51	52
10:04 AM	SB	2	51	52
10:06 AM	SB	1	28	28
10:06 AM	SB	1	32	33
10:06 AM	SB	1	33	34
10:06 AM	SB	1	37	38
10:06 AM	SB	1	39	40
10:06 AM	SB	1	40	41
10:06 AM	SB	1	40	41
10:06 AM	SB	1	41	42
10:06 AM	SB	1	41	42
10:06 AM	SB	1	41	42
10:06 AM	SB	1	42	43
10:06 AM	SB	1	43	44
10:06 AM	SB	1	45	46
10:06 AM	SB	2	42	43
10:06 AM	SB	2	49	50
10:06 AM	SB	2	50	51
10:06 AM	SB	2	52	53
10:06 AM	SB	2	52	53
10:06 AM	SB	2	54	55
10:06 AM	SB	2	55	56
10:06 AM	SB	2	55	56
10:06 AM	SB	2	56	57
10:09 AM	SB	1	35	36
10:09 AM	SB	1	39	40
10:09 AM	SB	1	41	42
10:09 AM	SB	1	43	44
10:09 AM	SB	1	45	46
10:09 AM	SB	1	46	47
10:09 AM	SB	1	52	53
10:09 AM	SB	2	41	42
10:09 AM	SB	2	41	42
10:09 AM	SB	2	41	42
10:09 AM	SB	2	43	44
10:09 AM	SB	2	43	44
10:09 AM	SB	2	43	44
10:09 AM	SB	2	43	44
10:09 AM	SB	2	44	45
10:09 AM	SB	2	44	45
10:11 AM	SB	1	32	33
10:11 AM	SB	1	32	33
10:11 AM	SB	1	37	38
10:11 AM	SB	1	39	40
10:11 AM	SB	1	39	40
10:11 AM	SB	1	43	44
10:11 AM	SB	1	47	48
10:11 AM	SB	1	57	58
10:11 AM	SB	2	41	42
10:11 AM	SB	2	41	42
10:11 AM	SB	2	42	43
10:11 AM	SB	2	43	44
10:11 AM	SB	2	44	45
10:11 AM	SB	2	45	46
10:13 AM	SB	1	33	34
10:13 AM	SB	1	34	35
10:13 AM	SB	1	36	37
10:13 AM	SB	1	38	39
10:13 AM	SB	1	39	40
10:13 AM	SB	1	40	41
10:13 AM	SB	1	43	44
10:13 AM	SB	1	43	44
10:13 AM	SB	1	45	46
10:13 AM	SB	1	46	47
10:13 AM	SB	1	46	47
10:13 AM	SB	1	55	56
10:13 AM	SB	2	41	42
10:13 AM	SB	2	44	45
10:13 AM	SB	2	49	50
10:16 AM	SB	1	34	35
10:16 AM	SB	1	37	38
10:16 AM	SB	1	39	40
10:16 AM	SB	1	41	42

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
2:06 PM	SB	1	49	50
2:06 PM	SB	1	49	50
2:06 PM	SB	2	42	43
2:06 PM	SB	2	44	45
2:06 PM	SB	2	44	45
2:06 PM	SB	2	45	46
2:06 PM	SB	2	46	47
2:06 PM	SB	2	47	48
2:06 PM	SB	2	53	54
2:09 PM	SB	1	30	30
2:09 PM	SB	1	34	35
2:09 PM	SB	1	35	36
2:09 PM	SB	1	36	37
2:09 PM	SB	1	37	38
2:09 PM	SB	1	38	39
2:09 PM	SB	1	39	40
2:09 PM	SB	1	39	40
2:09 PM	SB	1	41	42
2:09 PM	SB	1	41	42
2:09 PM	SB	1	41	42
2:09 PM	SB	1	56	57
2:09 PM	SB	2	41	42
2:09 PM	SB	2	45	46
2:09 PM	SB	2	46	47
2:09 PM	SB	2	47	48
2:09 PM	SB	2	50	51
2:09 PM	SB	2	50	51
2:13 PM	SB	1	28	28
2:13 PM	SB	1	34	35
2:13 PM	SB	1	37	38
2:13 PM	SB	1	38	39
2:13 PM	SB	1	40	41
2:13 PM	SB	1	41	42
2:13 PM	SB	1	43	44
2:13 PM	SB	1	47	48
2:13 PM	SB	1	48	49
2:13 PM	SB	2	35	36
2:13 PM	SB	2	40	41
2:13 PM	SB	2	41	42
2:13 PM	SB	2	44	45
2:13 PM	SB	2	45	46
2:13 PM	SB	2	50	51
2:16 PM	SB	1	31	31
2:16 PM	SB	1	35	36
2:16 PM	SB	1	38	39
2:16 PM	SB	1	44	45
2:16 PM	SB	1	45	46
2:16 PM	SB	1	46	47
2:16 PM	SB	1	47	48
2:16 PM	SB	1	50	51
2:16 PM	SB	1	55	56
2:16 PM	SB	2	42	43
2:16 PM	SB	2	43	44
2:16 PM	SB	2	44	45
2:16 PM	SB	2	46	47
2:16 PM	SB	2	52	53
2:20 PM	SB	1	27	27
2:20 PM	SB	1	34	35
2:20 PM	SB	1	38	39
2:20 PM	SB	1	39	40
2:20 PM	SB	1	40	41
2:20 PM	SB	1	40	41
2:20 PM	SB	1	43	44
2:20 PM	SB	1	44	45
2:20 PM	SB	1	47	48
2:20 PM	SB	1	48	49
2:20 PM	SB	2	31	31
2:20 PM	SB	2	43	44
2:20 PM	SB	2	44	45
2:20 PM	SB	2	47	48
2:24 PM	SB	1	24	24
2:24 PM	SB	1	26	26

Stantec Consulting Services, Inc.

SB NY 110 SPOT SPEED STUDY

SURVEYOR: Traffic Counts Collecting, Inc.
 PROJECT NAME: NY 110 over NY 27 Bridge Replacement
 PROJECT NUMBER: 192310356
 DATE: Tuesday, November 19, 2013
 LOCATION: SR 110 over SR 27 (between exit and loop on ramps)
 WEATHER: Clear/Sunny

Morning Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	10.09	0.176
Lane 2 (Left Lane)	9.81	0.171
85th Percentile Speed (mph)	50	-
Median Speed (mph)	43	-
Average Speed (mph)	43	-

Afternoon Off-Peak	Angle (deg)	Factor
Lane 1 (Right Lane)	10.09	0.176
Lane 2 (Left Lane)	9.81	0.171
85th Percentile Speed (mph)	50	-
Median Speed (mph)	44	-
Average Speed (mph)	43	-

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
10:16 AM	SB	1	43	44
10:16 AM	SB	1	44	45
10:16 AM	SB	1	49	50
10:16 AM	SB	1	57	58
10:16 AM	SB	2	44	45
10:16 AM	SB	2	45	46
10:16 AM	SB	2	49	50
10:16 AM	SB	2	50	51
10:16 AM	SB	2	50	51
10:16 AM	SB	2	51	52
10:16 AM	SB	2	53	54
10:16 AM	SB	2	53	54
10:19 AM	SB	1	28	28
10:19 AM	SB	1	34	35
10:19 AM	SB	1	34	35
10:19 AM	SB	1	36	37
10:19 AM	SB	1	38	39
10:19 AM	SB	1	39	40
10:19 AM	SB	1	41	42
10:19 AM	SB	1	41	42
10:19 AM	SB	1	44	45
10:19 AM	SB	1	45	46
10:19 AM	SB	1	45	46
10:19 AM	SB	1	48	49
10:19 AM	SB	1	48	49
10:19 AM	SB	1	51	52
10:19 AM	SB	2	41	42
10:19 AM	SB	2	42	43
10:19 AM	SB	2	46	47
10:19 AM	SB	2	46	47
10:19 AM	SB	2	46	47
10:19 AM	SB	2	46	47
10:19 AM	SB	2	46	47
10:19 AM	SB	2	46	47
10:19 AM	SB	2	47	48
10:19 AM	SB	2	50	51
10:19 AM	SB	2	50	51
10:22 AM	SB	1	26	26
10:22 AM	SB	1	30	30
10:22 AM	SB	1	40	41
10:22 AM	SB	1	42	43
10:22 AM	SB	1	43	44
10:22 AM	SB	1	46	47
10:22 AM	SB	1	50	51
10:22 AM	SB	1	50	51
10:22 AM	SB	1	58	59
10:22 AM	SB	2	39	40
10:22 AM	SB	2	40	41
10:22 AM	SB	2	42	43
10:22 AM	SB	2	42	43
10:22 AM	SB	2	45	46
10:22 AM	SB	2	45	46
10:22 AM	SB	2	45	46
10:22 AM	SB	2	48	49
10:22 AM	SB	2	49	50

START TIME	DIR	LANE	MEASURED SPEED (MPH)	ADJUSTED SPEED (MPH)
2:24 PM	SB	1	30	30
2:24 PM	SB	1	34	35
2:24 PM	SB	1	35	36
2:24 PM	SB	1	35	36
2:24 PM	SB	1	36	37
2:24 PM	SB	1	36	37
2:24 PM	SB	1	37	38
2:24 PM	SB	1	37	38
2:24 PM	SB	1	41	42
2:24 PM	SB	1	45	46
2:24 PM	SB	1	46	47
2:24 PM	SB	2	35	36
2:24 PM	SB	2	37	38
2:24 PM	SB	2	43	44
2:24 PM	SB	2	44	45
2:24 PM	SB	2	45	46
2:24 PM	SB	2	51	52
2:24 PM	SB	2	51	52
2:24 PM	SB	2	51	52
2:28 PM	SB	1	33	34
2:28 PM	SB	1	38	39
2:28 PM	SB	1	43	44
2:28 PM	SB	1	51	52
2:28 PM	SB	2	26	26
2:28 PM	SB	2	40	41
2:28 PM	SB	2	44	45
2:28 PM	SB	2	46	47



U.S. Department
of Transportation
**Federal Highway
Administration**



**NEW YORK STATE
DEPARTMENT OF TRANSPORTATION**
ANDREW M. CUOMO, Governor
JOAN MCDONALD, Commissioner

PIN 0112.57

BIN 1019119

**Bridge Rehabilitation / Replacement
Broadway (NY110) over Sunrise Hwy (NY27)**
Town of Babylon, Suffolk County

APPENDIX E

Accident Analysis Technical Memo

To: Gerard Bartucci, PE
New York (West 23rd St) NY Office

From: Christopher Mojica, PE
New York (West 23rd St) NY Office

File: 192310356

Date: February 3, 2014

Reference: PIN 0112.57 – NY 110 (Broadway) at NY 27 (Sunrise Highway) – Accident Analysis

The purpose of this technical memorandum is to summarize Stantec’s analysis of accident data related to the NY 110 (Broadway) corridor within the vicinity of the NY 27 (Sunrise Highway) interchange in Amityville, New York (Suffolk County) to support the rehabilitation or replacement of the NY 110 Bridge over the Sunrise Highway. The analysis utilizes data provided to Stantec by NYSDOT Region 10. The analysis determined that the NY 110 corridor has an accident rate higher than the statewide average while the NY 27 corridor has an accident rate lower than the statewide average. Possible safety improvement recommendations for the NY 110 are provided within this technical memorandum.

METHODOLOGY

An accident analysis was performed for the NY 110-NY 27 interchange. Additionally, an analysis of both NY 110 and NY 27 corridors was performed (approximately 0.3 miles north and south and 0.3 miles east and west of the NY 110-NY 27 interchange, respectively). The analytical methodology for the accident analysis was based on the systematic evaluation procedures prescribed in the NYSDOT “Safety Investigation Procedures Manual”, dated June 2000 Draft and the “Highway Safety Improvement Program Procedures & Techniques”, dated November 1989. For purposes of this technical memo, solely accidents by type will be analyzed.

The three-year accident database from May 1, 2009 to April 30, 2012 for the Suffolk County section was obtained from NYSDOT Region 10. The database was comprised of accident severity summaries, accident category summary reports, and segment and/or intersection summary reports. Police accident reports were not analyzed as part of this accident study. NYSDOT Region 10 has not identified any Regional Priority Investigation Locations within this Project’s study area.

The existing accident rate per million vehicle miles (accidents/MVM, or acc/MVM) for all locations within the study area was calculated using the formula below.

$$\text{Accident Rate per MVM} = \frac{\text{Number of Accidents at Intersection} \times 1,000,000}{\text{AADT of Entering Vehicles} \times n \text{ years} \times 365 \text{ days/year} \times \text{length of analysis segment}}$$

Calculated accident rates were compared to statewide accident rates in order to determine whether a location has a safety record poorer than average, when compared to similar locations statewide. Estimated and actual Annual Average Daily Traffic (AADT) volumes were taken from NYSDOT’s Traffic Data Viewer interface.

ACCIDENT ANALYSIS

NY 110 (Broadway)

NY 110 is a four-lane north-south urban principal arterial which traverses along the western border of Suffolk County. North of Sprague Avenue, both northbound and southbound NY 110 is separated by a raised concrete median barrier; south of Sprague Avenue, both directions of NY 110 are separated by a striped median. There are separate left turn bays along the NY 110 corridor and there are intermittent gaps in the median to allow for both signalized and unsignalized turn movements into and out of NY 110. The NY 110 interchange with

Reference: PIN 0112.57 – NY 110 (Broadway) at NY 27 (Sunrise Highway) – Accident Analysis

NY 27, a full cloverleaf interchange, is the only interchange within the study area. There are several driveway entrances located along NY 110 that provide access to both residential and commercial land uses. As per the NYSDOT's Traffic Data Viewer, NY 110 has an AADT of approximately 39,227 vehicles¹.

A total of 80 accidents were reported along the 0.7 mile portion of NY 110 during the three-year study period from May 1, 2009 through April 30, 2012. Of the 80 accidents, two accidents involved fatalities, 58 involved injuries, 13 involved property damage only and seven accidents were deemed non-reportable (that is, an accident that does not result in fatalities, injuries, or damage over \$1,000 to the property of any one person). Nearly 80 percent of all accidents occurred under clear or cloudy weather conditions. Approximately 68 percent and 72 percent of accidents occurred under daylight and dry road surface conditions, respectively. Rear-end collisions were the most common type of known accidents along the corridor, accounting for nearly 40 percent of all accidents. Driver inattention, failure to yield the right of way, and following too closely were the most common contributing factors to accidents over the observed three-year study period. The calculated accident rate along the NY 110 corridor is 2.66 acc/MVM, which is 1.55 times greater than the statewide average of 1.71 acc/MVM².

Although the accident rate for the entire corridor is greater than the statewide average, it should be noted that only 14 accidents occurred within the immediate vicinity of the NY 110-NY 27 interchange (that is, 500 feet from the interchange – between Washington Avenue and Sprague Avenue). Of these 14 accidents, zero accidents involved fatalities, 11 accidents involved injuries, one accident involved property damage only and two accidents were deemed non-reportable. If the accident rate were to be calculated along this 0.2 mile segment of NY 110 only, the calculated accident rate would be 1.63 acc/MVM, below the statewide average of 1.71 acc/MVM.

Nonetheless, potential safety improvements were explored in order to correct notable accident patterns along the NY 110 corridor. As previously stated, rear-end collisions were the most common type of accidents observed within the three-year analysis period and, although further detailed accident data such as collision types by location are not available, two cluster sites were determined from the data provided by NYSDOT Region 10 – Loudon Avenue / Dixon Avenue (33 accidents) and Locust Drive / North Drive (12 accidents). It should be noted that these locations are along a portion of the corridor where there is a 10 mph change in the posted speed limit (NY 110 posted speed limits north and south of the NY 27 interchange are 40 mph and 30 mph, respectively). However, there is inadequate signage within the vicinity of the NY 110-NY27 interchange.

Therefore, it is recommended to install additional speed limit signage immediately north and south of the NY110-NY27 interchange to better inform motorists of the corridor speed limits. This is further necessitated since the speed limits along NY 27 are 55mph, 15mph greater than the highest posted speed limit along NY 110. If this improvement recommendation is implemented, it is possible that observed speeding along the corridor could be reduced. Additionally, the potential reduction in speeding could lead to a reduction in rear-end accidents.

NY 27 (Sunrise Highway)

NY 27 is a four-lane east-west urban principal arterial which provides access along Southern Long Island. Within the study area, eastbound and westbound NY 27 is separated by a grass median (a guardrail is

¹ This value represents the average of 42,241 vehicles (north of the NY 27 interchange) and 36,213 vehicles (south of the NY 27 interchange). Both values represent 2011 AADT values.

² NYSDOT Statewide Average Accident Rates for State Highways by Facility Type (Based on Accident Data June 1, 2010 to May 31, 2012). Page 2 of 5. Mainline & Juncture Accidents (All Types); Partial Control of Access Facility Type; Urban Functional Class; Divided; 4 lanes. Updated April 2013. To be conservative, partial access control was assumed for NY 110 since there is a median barrier at and north of the NY 27 interchange (within study area limits).

Reference: PIN 0112.57 – NY 110 (Broadway) at NY 27 (Sunrise Highway) – Accident Analysis

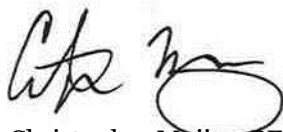
installed along the center of the median). There are separate left turn bays along the NY 27 corridor to facilitate left turn movements at signalized intersections immediately outside of the study area. The NY 27 interchange with NY 110, a full cloverleaf interchange, is the only interchange within the study area. There are several driveway entrances located along NY 27 that provide access to both residential and commercial land uses. As per the NYSDOT's Traffic Data Viewer, NY 27 has an AADT of approximately 47,632 vehicles³.

A total of 54 accidents were reported along the 0.7 mile portion of NY 27 during the three-year study period from May 1, 2009 through April 30, 2012. Of the 54 accidents, three accidents involved fatalities, 21 accidents involved injuries, 17 accidents involved property damage only and 13 accidents were non-reportable. Approximately 81 percent of all accidents occurred under clear or cloudy weather conditions and 70 percent of accidents occurred under daylight conditions. Nearly 80 percent of accidents occurred under dry road surface conditions. Both rear-end and overtaking collisions were the most common type of known accidents along the corridor, accounting for 50 percent of all accidents. Driver inattention, following too closely and failure to yield the right of way were the most common contributing factors to accidents over the observed three-year study period. The calculated accident rate along the NY 27 corridor is 1.48 acc/MVM, which is below the statewide average of 1.76 acc/MVM⁴.

It should be noted that only 18 accidents occurred within the immediate vicinity of the NY 27-NY 110 interchange (that is, 500 feet from the interchange). Of these 18 accidents, zero accidents involved fatalities, six accidents involved injuries, nine accident involved property damage only and three accidents were deemed non-reportable. If calculated for the 0.2 mile segment of NY 27, the accident rate for the Sunrise Highway within the immediate vicinity of the NY 110 interchange would be 1.73 acc/MVM, which is below the statewide average of 1.76 acc/MVM. There are no safety improvement recommendations suggested for the NY 27 corridor since the calculated accident rates are below the statewide average.

The reconstruction or rehabilitation of the NY 110 Bridge over NY 27 is not expected to cause an increase in the amount of accidents within the study area. Similarly, construction related efforts (e.g. maintenance and protection of traffic) are not expected to cause in increase in study area accident rates.

A table summarizing the accident rate calculations is presented on the following page.

STANTEC CONSULTING SERVICES INC.

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c. Abendschein, Steve; Kielian, Jim; Coogan, Christopher; Bartucci, Gerald

³ This value represents the average of 43,983 vehicles (west of the NY 110 interchange) and 51,280 vehicles (east of the NY 110 interchange). Both values represent 2011 AADT values.

⁴ NYSDOT Statewide Average Accident Rates for State Highways by Facility Type (Based on Accident Data June 1, 2010 to May 31, 2012). Page 2 of 5. Mainline & Juncture Accidents (All Types); Partial Control of Access Facility Type; Urban Functional Class; Divided; 6 lanes. Updated April 2013.

Reference: PIN 0112.57 – NY 110 (Broadway) at NY 27 (Sunrise Highway) – Accident Analysis

**Table 1
Calculation of Accident Rates**

$$\text{Accident Rate per MVM} = \frac{\text{Number of Accidents at Intersection} \times 1,000,000}{\text{AADT of Entering Vehicles} \times n \text{ years} \times 365 \text{ days/year} \times \text{length of analysis segment}}$$

Time frame of the analysis, years	3	
AADT (NB/SB NY 110)	39,227	
AADT (EB/WB NY 27)	47,632	
Length of section, miles (NY 110 Corridor)	0.70	
Length of section, miles (NY 110 Segment)	0.20	Between Washington & Sprague only.
Length of section, miles (NY 27 Corridor)	0.70	
Length of section, miles (NY 27 Segment)	0.20	500 feet east and west of the NY 110 interchange

Accident Location	Total Accidents (5/2009 - 4/2012)	Accidents with Injuries	Accidents with Fatalities	Calculated Accident Rate	NYS Accident Rate
NY 110 NB/SB (Entire Corridor)	80	58	2	2.66	1.71
NY 110 NB/SB (Washington Ave - Sprague Ave only)	14	11	0	1.63	1.71
NY 27 EB/WB (Entire Corridor)	54	21	3	1.48	1.76
NY 27 EB/WB (Within 500 feet of the NY 110 interchange)	18	6	0	1.73	1.76

NYS DOT ACCIDENT RATES:
<https://www.dot.ny.gov/divisions/operating/osss/highway-repository/2011-2012%20AvrAccRates.pdf>

Updated: April 2013

**TABLE II
AVERAGE ACCIDENT RATES FOR STATE HIGHWAYS BY FACILITY TYPE
(BASED ON ACCIDENT DATA JUNE 1, 2010 TO MAY 31, 2012)**

FACILITY TYPE PARTIAL CONTROL OF ACCESS	-- MAINLINE ACCIDENTS ONLY (SEE *) --			-- MAINLINE & JUNCTURE ACCIDENTS (SEE **) --		
	ALL TYPES ACC/MVM	WET ROAD ACC/MVM	FIXED OBJECT ACC/MVM	ALL TYPES ACC/MVM	WET ROAD ACC/MVM	FIXED OBJECT ACC/MVM
RURAL FUNCTION CLASS						
UNDIVIDED						
2 LANES	1.94	0.40	0.46	2.26	0.46	0.50
ALL LANES	1.96	0.40	0.48	2.27	0.46	0.50
DIVIDED						
4 LANES	1.49	0.29	0.62	1.57	0.30	0.62
ALL LANES	1.51	0.29	0.63	1.60	0.31	0.63
URBAN FUNCTION CLASS						
UNDIVIDED						
2 LANES	1.72	0.34	0.37	2.32	0.45	0.43
ALL LANES	2.03	0.41	0.33	2.88	0.60	0.39
DIVIDED						
4 LANES	1.45	0.31	0.34	1.71	0.36	0.36
6 LANES	1.58	0.31	0.29	1.76	0.35	0.31
ALL LANES	1.55	0.32	0.33	1.83	0.37	0.35

++ Average accident rates are based on both reportable and available non-reportable crashes.

* "Non-Intersection Accidents/MVM" is used for linear highway sections where there are no intersecting roads or ramp junctions within analysis limits. An example of the correct use of these rates would involve a linear section of highway which contains no intersections with other public highways, but may contain intersections with private roads or driveways.

** "Intersection & Non-Intersection Accidents/MVM" includes intersection and mainline accidents. They are used for analysis of linear highway sections where intersections are involved within the analysis limits and are the most commonly used rates for accident analysis purposes.



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PIN 0112.57

BIN 1019119

**Bridge Rehabilitation / Replacement
Broadway (NY110) over Sunrise Hwy (NY27)**
Town of Babylon, Suffolk County

APPENDIX F
Non-Standard Features
Justification (SSD & HSD)

Nonstandard Feature Justification Form
HDM §2.8.3

Broadway (NY110) Main Line Design (in accordance with HDM §2.7)			
PIN:	0112.57	NHS (Y/N):	Yes
Route No. & Name:	Broadway NY 110	Functional Class:	Urban Principal Arterial
Project Type:	Bridge Replacement	Design Classification: (AASHTO Class)	Other - Urban Arterial
% Trucks:	5%	Terrain:	Level
ADT:	38,000	Truck Access Route:	No
1. Description of Nonstandard Feature			
Type of Feature:	Stopping Sight Distance at Crest Curve		
Location:	Sta. BWY 18+78 to Sta. 24+18 (Existing LVC = 540 ft vs Standard = 740 ft)		
Standard Value:	425 ft.	Design Speed:	50 mph
Existing Value:	360 ft.	Advisory Speed:	45 mph
Proposed Value:	360 ft.	Advisory Speed:	45 mph
2. Accident Analysis			
Current Accident Rate:	1.63		
Statewide Rate (based on similar type highways):	1.71		
Is the nonstandard feature a contributing factor?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Anticipated Accident: Rate / Severity / Cost	NA – Most Accidents Related to Cloverleaf Interchange Ramp Exit & Entry (Rear End)		
3. Cost Estimates			
Cost to Fully Meet Standards:	Standard SSD for 50 mph could be achieved if the Broadway (NY110) roadway was reconstructed between Sprague & Washington Avenues, including the adjacent sag curves. This would require ROW taking, as it is not possible to achieve Standard SSD within the Existing Highway Boundary. Additionally, reconstruction would be required at the mouth of the interchange, where there is inadequate room for WZTC detours. Long term reduction of traffic lanes would be needed to reconstruct the pavement. Estimated Cost = \$ 6M (including the cost of the sag curves, but not including ROW cost). Due to the high cost, additional ROW needed, and complex WZTC, meeting the standard SSD is infeasible.		
Cost(s) For Incremental Improvements:	Due to the existing 14'-0" vertical clearance, the 6" difference between existing and proposed structure depths will be used to obtain a standard 14'-6" vertical clearance. Therefore there is no opportunity for incremental improvements.		
4. Mitigation: (e.g., increased superelevation and curve warning signs for a nonstandard horizontal curve):			
	Additional 40 mph Posted Speed Limit Signs before Cloverleaf Interchange		
5. Compatibility with Adjacent Segments & Future Plans: NA – Isolated Bridge Replacement			
	Yes – Broadway (NY110) Roadway outside of Project Limits originally designed for 45mph.		
6. Other Factors (e.g., Social, Economic & Environmental): NA			
	None		
7. Proposed Treatment (i.e. Recommendation):			
	Retain Non-Standard Stopping Sight Distance on Crest Curve.		

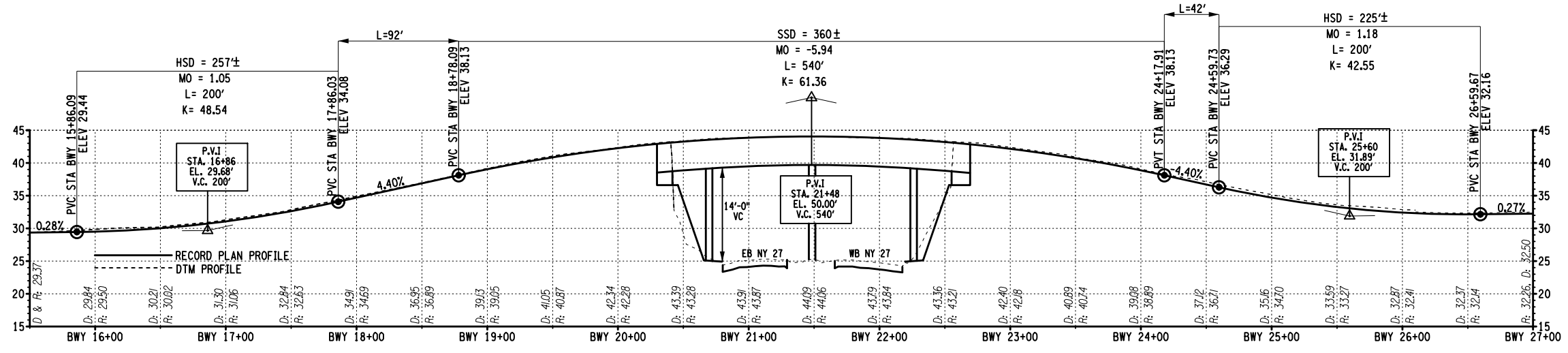
Nonstandard Feature Justification Form
HDM §2.8.3

Broadway (NY110) Main Line Design (in accordance with HDM §2.7)			
PIN:	0112.57	NHS (Y/N):	Yes
Route No. & Name:	Broadway NY 110	Functional Class:	Urban Principal Arterial
Project Type:	Bridge Replacement	Design Classification: (AASHTO Class)	Other - Urban Arterial
% Trucks:	5%	Terrain:	Level
ADT:	38,000	Truck Access Route:	No
1. Description of Nonstandard Feature			
Type of Feature:	Headlight Sight Distance at Sag Curves		
Location:	Sta. BWY 18+86 to Sta. 17+86 (Existing LVC = 200 ft vs Standard = 407 ft) Sta. BWY 24+60 to Sta. 26+60 (Existing LVC = 200 ft vs Standard = 453 ft)		
Standard Value:	425 ft.	Design Speed:	50 mph
Existing Value:	257 ft. 225 ft.	Advisory Speed:	35 mph 33 mph
Proposed Value:	257 ft. 225 ft.	Advisory Speed:	35 mph 33 mph
2. Accident Analysis			
Current Accident Rate:	1.63		
Statewide Rate (based on similar type highways):	1.71		
Is the nonstandard feature a contributing factor?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Anticipated Accident: Rate / Severity / Cost	NA – Most Accidents Related to Cloverleaf Interchange Ramp Exits & Entry (Rear End)		
3. Cost Estimates			
Cost to Fully Meet Standards:	Standard HSD for 50 mph could be achieved if the Broadway (NY110) roadway was reconstructed between Sprague & Washington Avenues, including the adjacent crest curve. This would require ROW taking, as it is not possible to achieve Standard HSD within the Existing Highway Boundary. Additionally, reconstruction would be required at the mouth of the interchange, where there is inadequate room for WZTC detours. Long term reduction of traffic lanes would be needed to reconstruct the pavement. Estimated Cost = \$ 6M (including the cost of the crest curve, but not including ROW cost) Due to the high cost, additional ROW needed, and complex WZTC, meeting the standard HSD is infeasible.		
Cost(s) For Incremental Improvements:	Add additional lighting within the interchange (Minor Cost). Other Incremental improvements are not recommended due to the tight ROW and WZTC Issues.		
4. Mitigation: (e.g., increased superelevation and curve warning signs for a nonstandard horizontal curve):			
	Provide Additional Lighting within Cloverleaf Interchange Area		
5. Compatibility with Adjacent Segments & Future Plans: NA – Isolated Bridge Replacement			
	Yes – Broadway (NY110) Roadway outside of Project Limits originally designed for 45mph.		
6. Other Factors (e.g., Social, Economic & Environmental): NA			
	None		
7. Proposed Treatment (i.e. Recommendation):			
	Retain Non-Standard Headlight Sight Distance on Sag Curves		

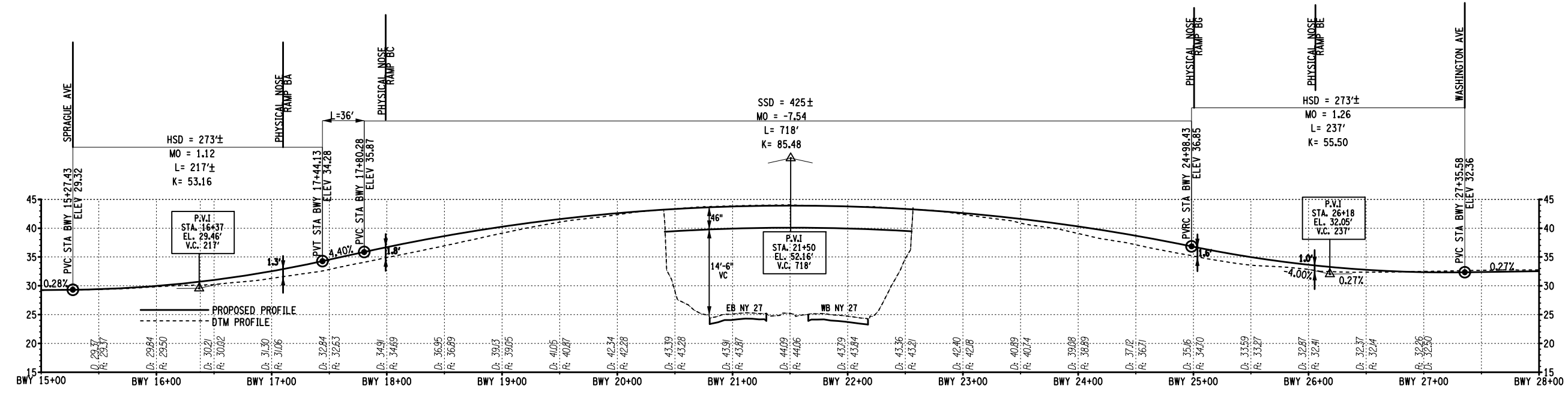
PIN 0112.57.121 - NY110 over NY27 Bridge Replacement

(Sag & Crest Curves) 50 mph

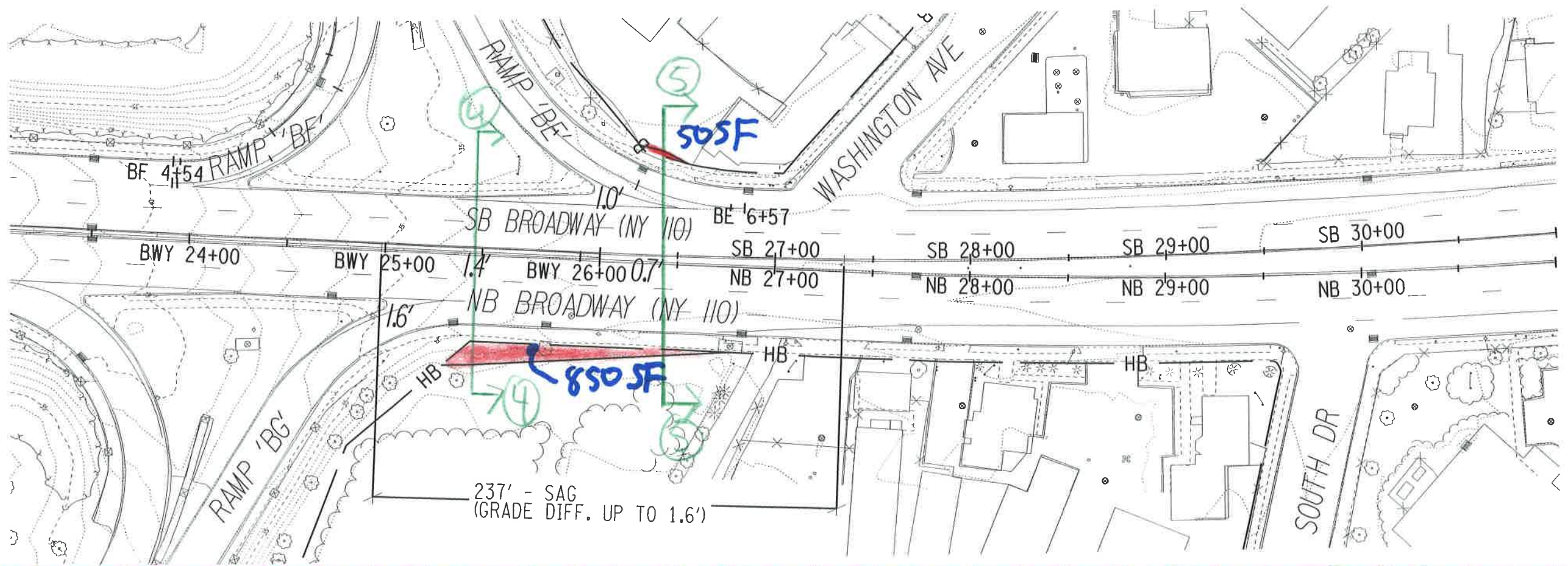
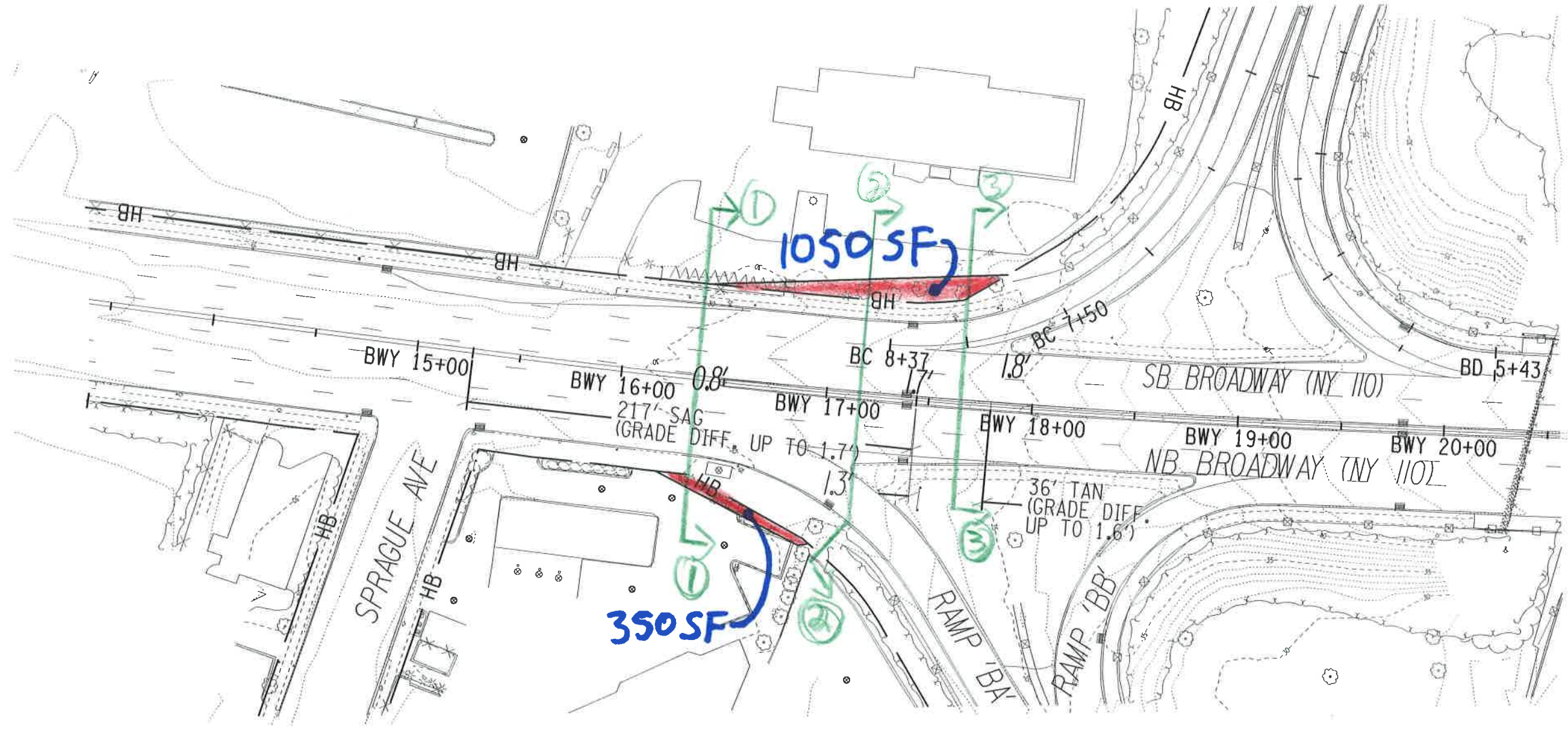
concrete pav't with asphalt overlay -50 mph	72000	SF	\$	53	\$ 3,816,000
curb	5100	LF	\$	125	\$ 637,500
catch basin- reset	16	ea	\$	1,000	\$ 16,000
sidewalk (additional)	50	CY	\$	800.00	\$ 40,000
SUBTOTAL					\$ 4,509,500
mpt (10%)					\$ 455,000.00
contingency (20%)					\$ 905,000.00
					\$ 5,900,000



EXISTING NY 110 PROFILE - 45 MPH

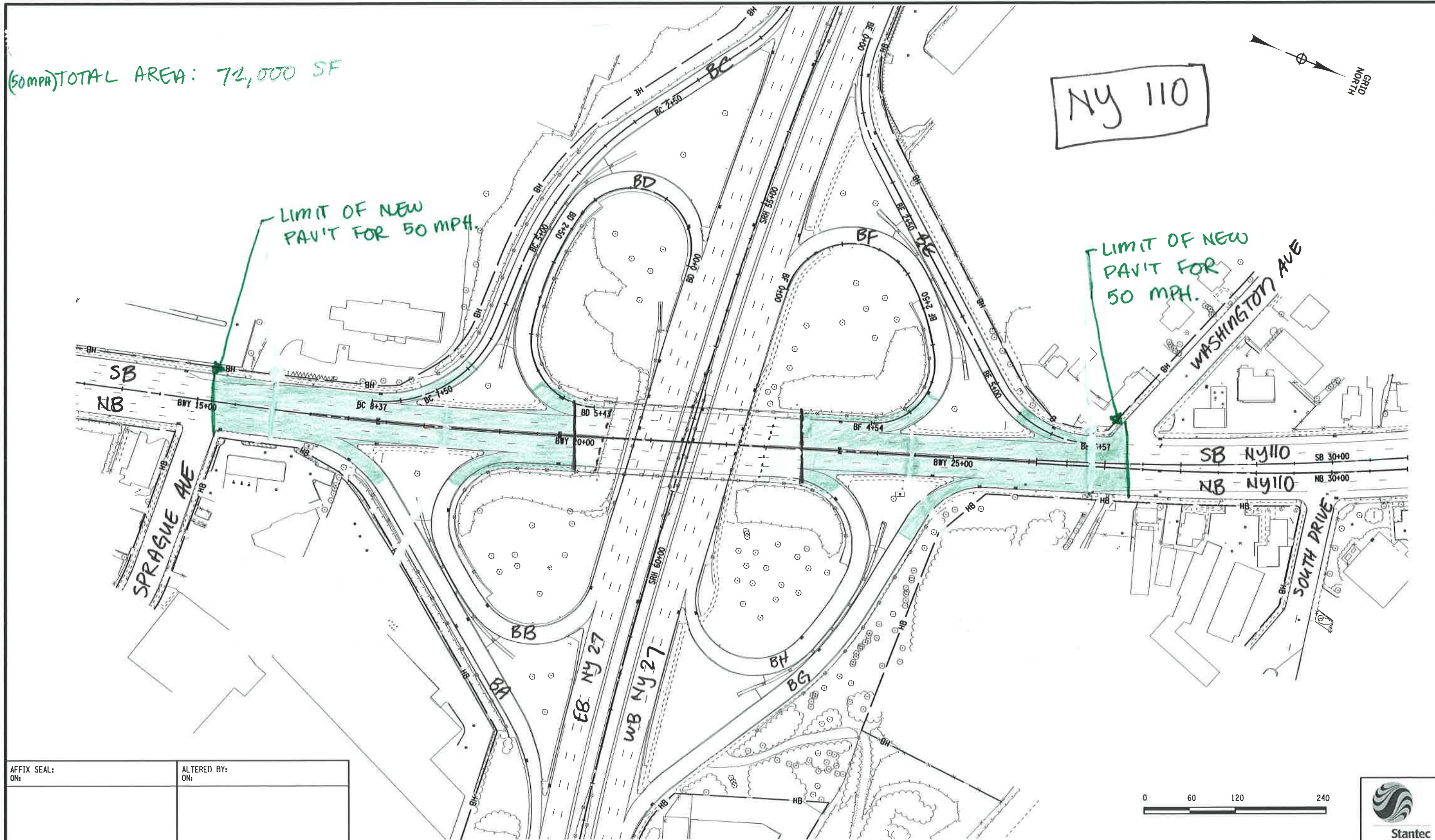


PROPOSED NY 110 PROFILE - (50 MPH)



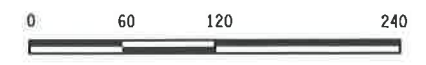
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CONSULTANT DESIGN SUPERVISOR
 CONSULTANT DESIGN
 CHECK
 DRAFTING
 REGION 10 PROJECT MANAGER
 REGION 10 JOB MANAGER



AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	NY 110 OVER NY 27 BRIDGE REPLACEMENT	PIN 0112.57 NY 110 OVER NY27 BRIDGE REPLACEMENT	BRIDGES 1019119	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER D030992
	REGION 10					DRAWING NO.
	TOWN OF BABYLON					SHEET NO.
	COUNTY: SUFFOLK					
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.						NEW YORK STATE DEPARTMENT OF TRANSPORTATION REGION DOCUMENT NAME:

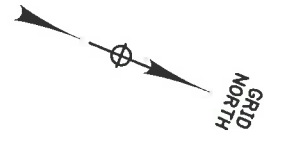


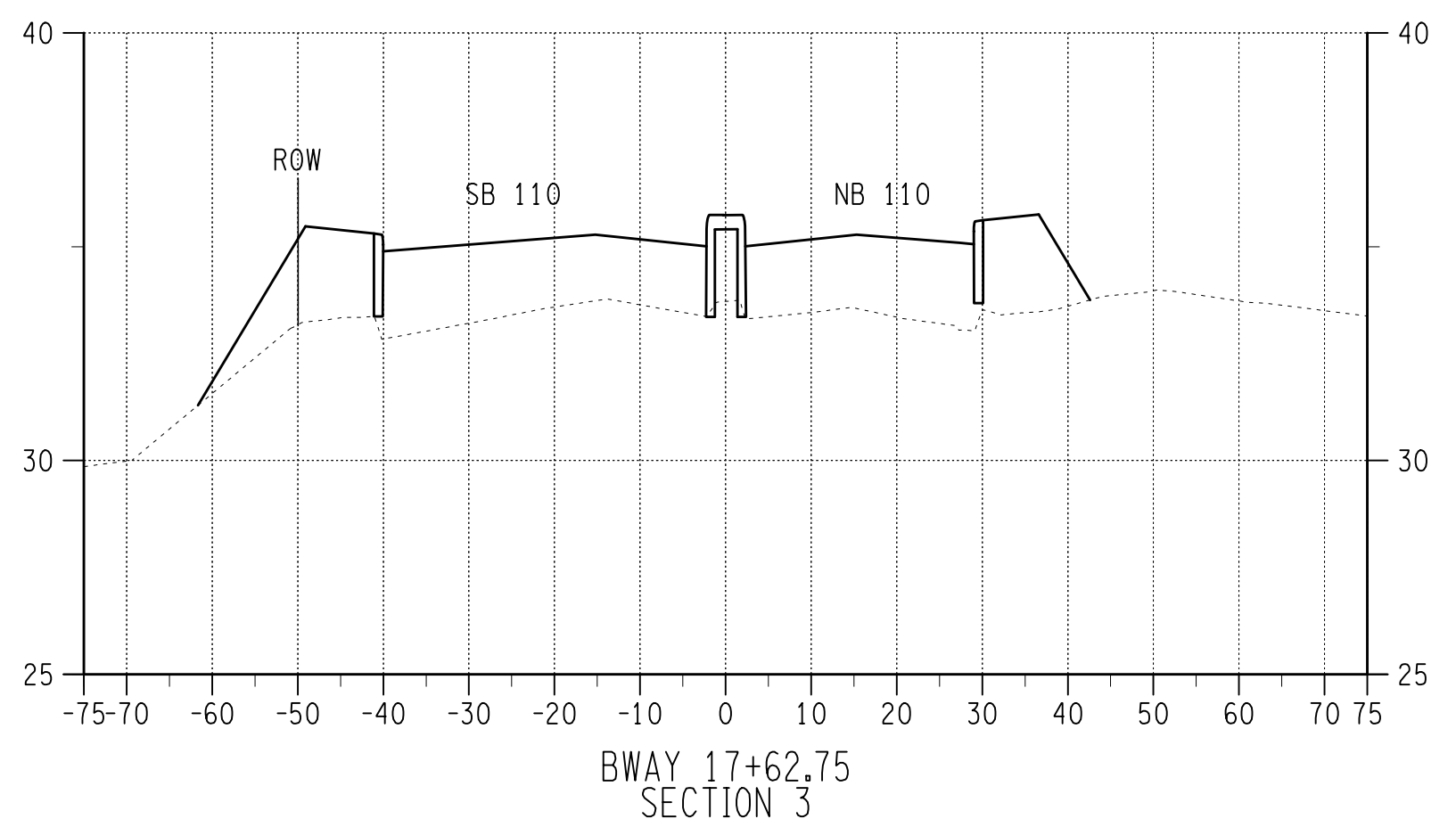
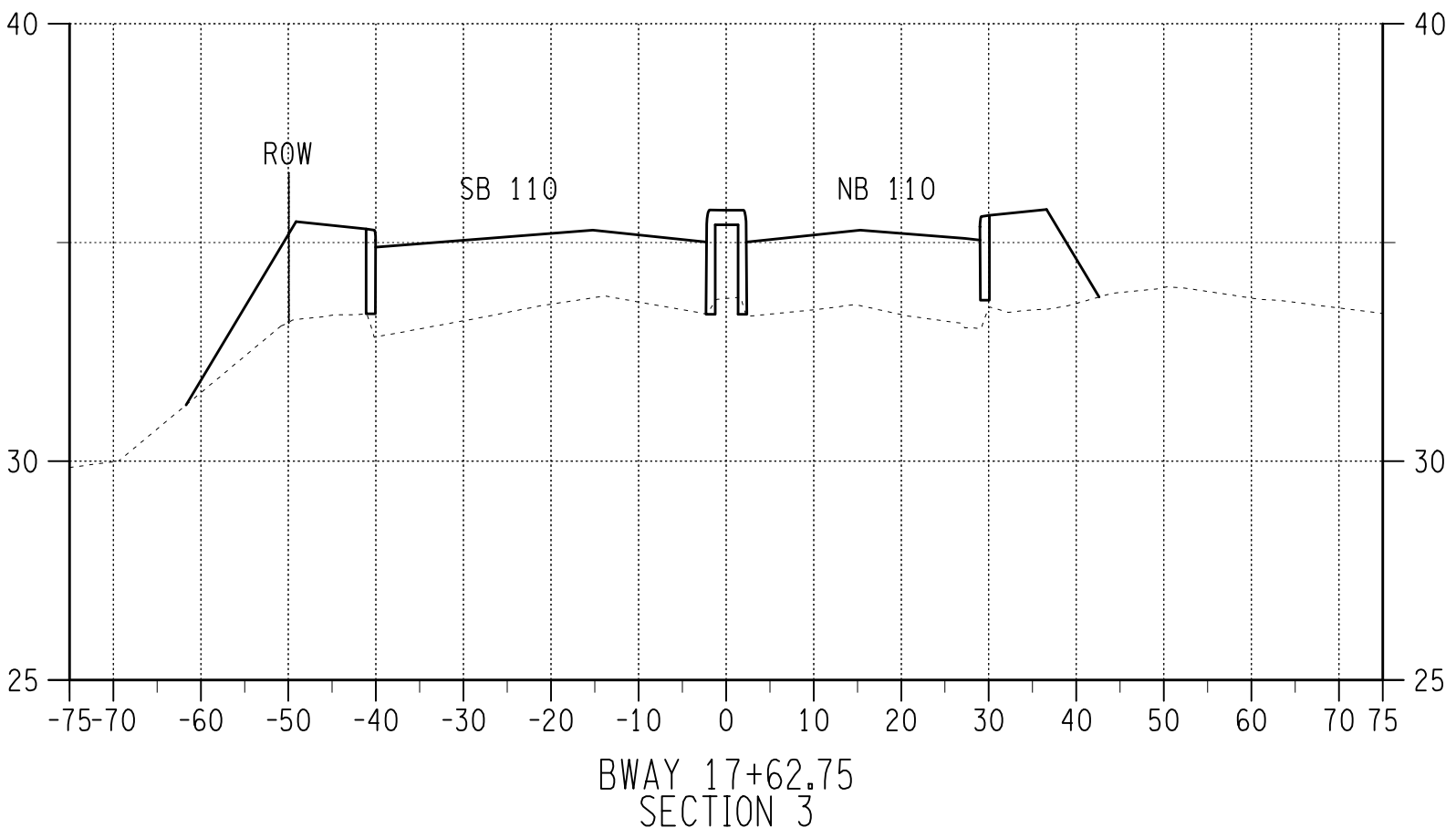
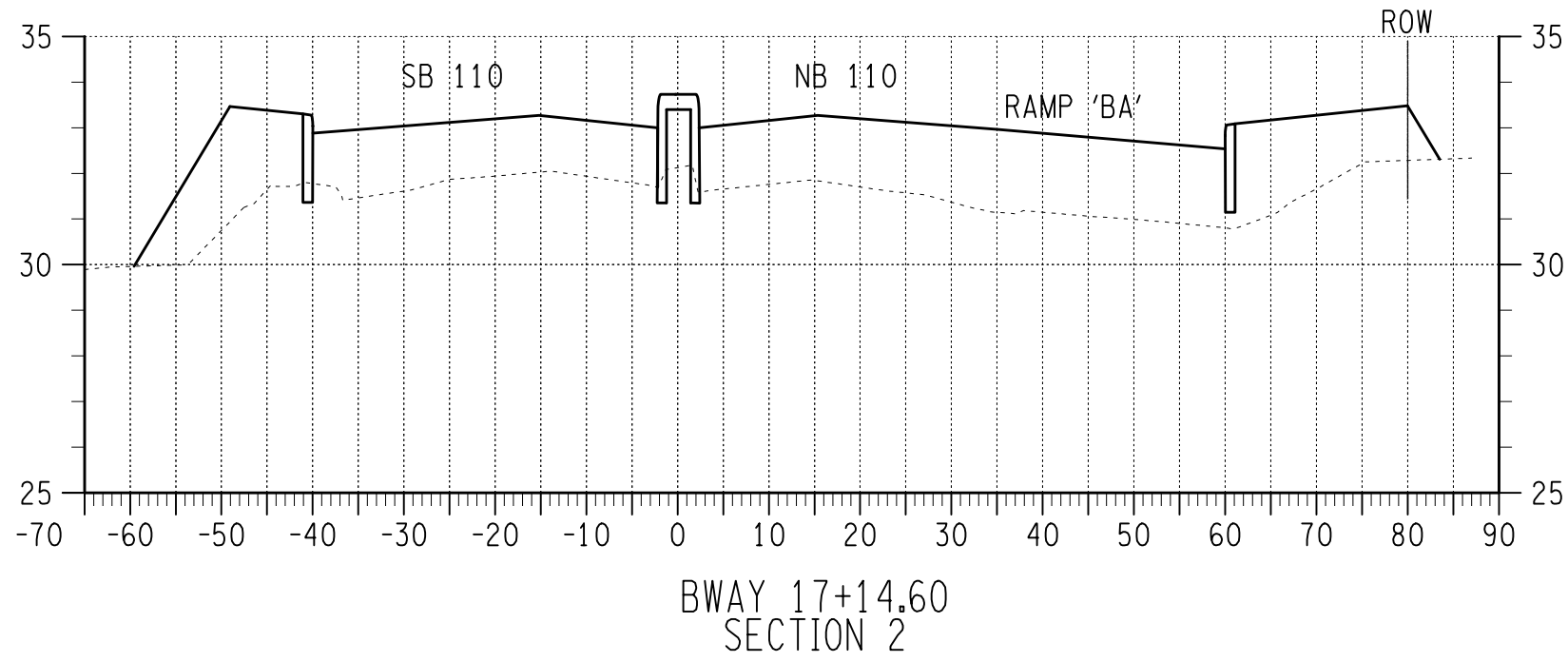
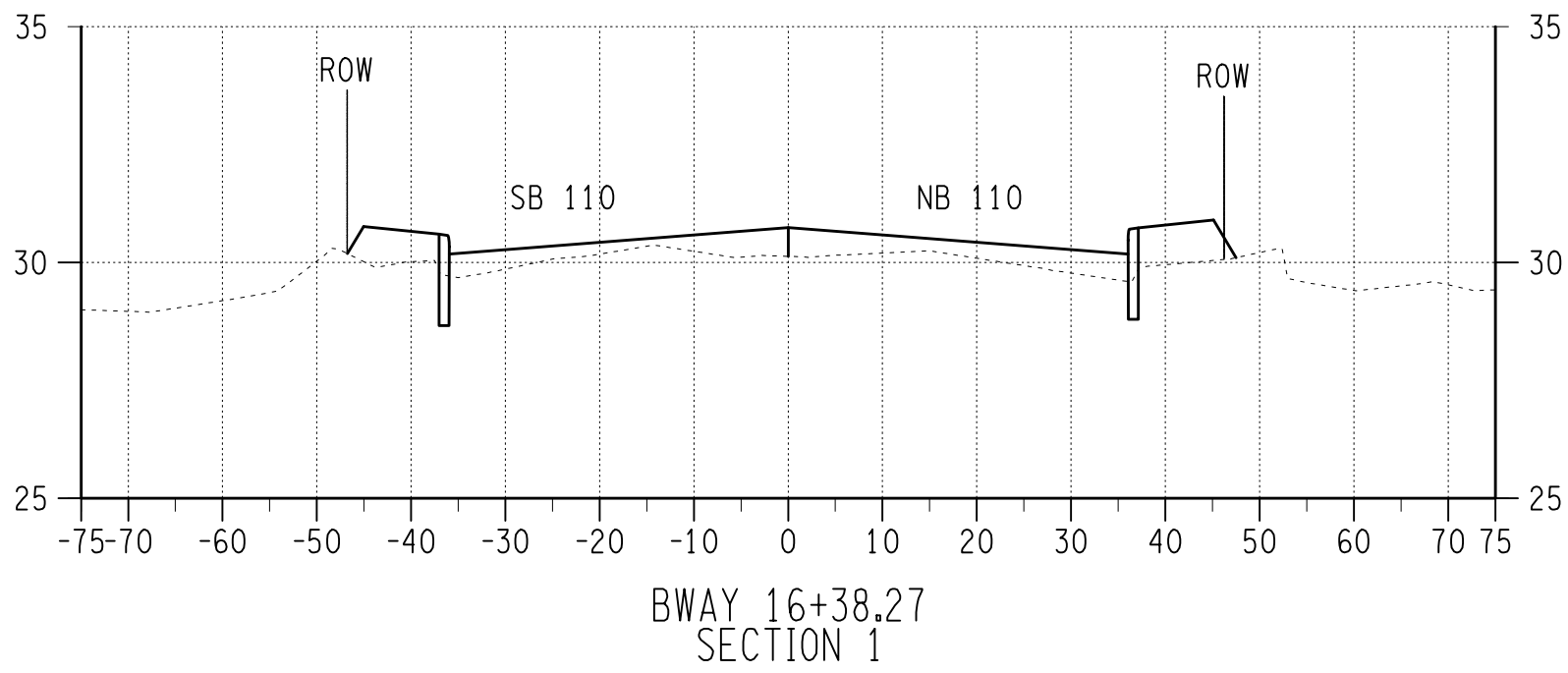
(50MPH) TOTAL AREA: 72,000 SF

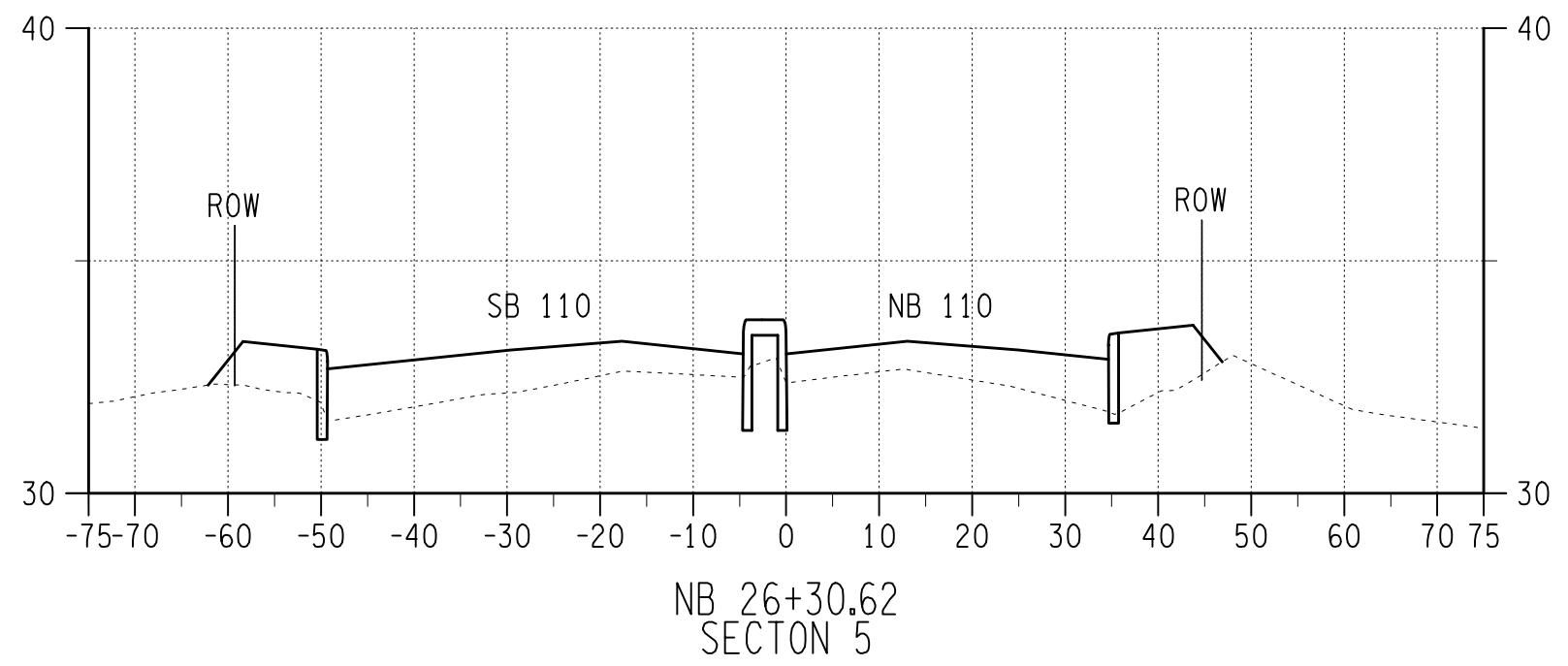
LIMIT OF NEW PAVT FOR 50 MPH.

LIMIT OF NEW PAVT FOR 50 MPH.

NY 110









U.S. Department
of Transportation
**Federal Highway
Administration**



**NEW YORK STATE
DEPARTMENT OF TRANSPORTATION**
ANDREW M. CUOMO, Governor
JOAN MCDONALD, Commissioner

PIN 0112.57

BIN 1019119

**Bridge Rehabilitation / Replacement
Broadway (NY110) over Sunrise Hwy (NY27)**
Town of Babylon, Suffolk County

APPENDIX G

Public Information Plan

Appendix G - Public Involvement:

Scope

The goal of the public involvement activities is inform the public and agency participants, and providing timely information throughout the design and construction process.

Standards

The Design-Builder shall perform the Public Involvement Plan support activities in accordance with the following Standard unless otherwise stipulated in the Project Requirement herein:

- a) NYSDOT Project Development Manual: Appendix 2, Public Involvement Manual.

Requirements

Public Outreach:

This contract is a product of the Departments goal to eliminate bridge structural deficiencies and improve the vertical clearance through the New York Works Program. The public outreach component is intended to foster a close working relationship with residents, land owners, community groups, local officials, educational institutions, businesses, etc.

Because the scope of this project is complex, the Design-Builder will have a subordinate role in public outreach to the Regional Public Involvement Coordinator (RPIC) and the Regional Public Information Officer (PIO) and will coordinate public information through the NYSDOT Construction QA Engineer. This will primarily have to do with notifying key stakeholders (road users, general public, area residences, educational institutions, emergency services, businesses, etc.) with road closure information, project milestones or construction related activities in proximity to adjacent homeowners.

This project has been identified as a New York Works Project through the Office of the Governor and is subject to various public information requirements. Coordination and advance notice, with the Regional Public Information Officer, is expected prior to opening the bridge to traffic.

Media Relations:

Media Inquiries: All media inquiries, requests for interviews from local print or broadcast news media, trade magazines or other must be referred to the Regional Public Information Officer in the Regional Director's Office. The NYSDOT Construction QA Engineer, under direction of PIO, or the PIO will handle all requests.

Travel Advisories: Since most of the public information will be relative to work zone public information, reasonable advance notice of start of work, any lane closures, full road closures, etc. is expected to be given to the Regional Public Information Officer/Regional Director's office via the NYSDOT Construction QA Engineer to allow for timely dissemination.

The Design-Builder shall support communications strategies by the Department that seek to inform affected road users, the general public, area residences and businesses, and appropriate public entities about the roadway closures, commuter alternatives, and any potential impacts on traffic.

The goal of these efforts is to keep the public informed, in advance whenever possible and in real-time, regarding Project actions that would affect road users, the general public, area residences and businesses, especially regarding roadway closures and possible travel alternatives. These activities, which would be consistent with the requirements of Project Requirements 17 - Work Zone Traffic Control and Access, will include Construction Bulletins on published by the Department, based on information provided by the Design-Builder, especially focused on traffic changes, higher-noise construction periods or locations, or other construction activities of potential concern to the public. The Design Builder will be responsible for the daily interaction with the affected homeowners and businesses with regards to but not limited to; security of their properties, utility services, night time operation, access to their properties, etc.

Written Materials:

Written materials will be created by DOT and disseminated electronically via e-mail distribution lists, the project web site and printed copies. Support by the Design-Builder to reproduce materials will be required. This will include providing background information for project specific on daily operations. This may include letters and/or flyer providing scheduled operations to the homeowners and businesses that may be impacted by the construction.

Public Information Meeting:

A public information meeting is not anticipated.



U.S. Department
of Transportation
**Federal Highway
Administration**



NEW YORK STATE
DEPARTMENT OF TRANSPORTATION
ANDREW M. CUOMO, Governor
JOAN MCDONALD, Commissioner

PIN 0112.57

BIN 1019119

Bridge Rehabilitation / Replacement
Broadway (NY110) over Sunrise Hwy (NY27)
Town of Babylon, Suffolk County

APPENDIX M
Bridge Data Sheet and
Rehab vs. Replacement Worksheet

APPENDIX 3A
BRIDGE DATA SHEET – FOR ALL STRUCTURES
 NEW YORK STATE DEPARTMENT OF TRANSPORTATION

Approved By: _____, Regional Structures Engineer, Region Select Date: _____
 (Approval should be via e-mail from the Regional Structures Engineer)

DESCRIPTION

1. PIN: 0112.57
2. BIN: 1019119
3. Project Description: NY 110 OVER NY 27 BRIDGE REPLACEMENT
4. County: SUFFOLK
5. Town: BABYLON
6. City/Village: AMITYVILLE

GENERAL

7. Over Roadway Description (Information can be found in WINBOLTS Report and/or Design Report)
 - a. State Highway Name and Number 1633
 - b. Route Number 110
 - c. Local Road Number/Name BROADWAY
 - d. Functional Classification Urban Arterial NHS System YES
 - e. Design Speed 50 mph Truck Traffic 5%
 - f. Projected Traffic Year 2050
 - g. Projected AADT 55,000
 - h. Seismic Performance Criteria Normal**

8. Under Roadway Description (Information can be found in WINBOLTS Report)
 - a. State Highway Name and Number 8440
 - b. Route Number 27
 - c. Local Road Number/Name SUNRISE HIGHWAY
 - d. Functional Classification Urban Arterial NHS System YES
 - e. Design Speed 60 mph
 - f. Minimum Vertical Clearance Required 14'-6" (See Bridge Manual Section 2)
 - g. Minimum Horizontal Clearance Required 30' Clear Zone (Offset 12' to abutment for sidewalk and guiderail)**

9. Maintenance of Existing Traffic (Information can be found in Design Report)
 - a. Is there vehicular traffic which must be maintained? YES
 - b. If yes, how will it be maintained? CONSTRUCTION STAGING
 - c. If a temporary detour structure is required, what live loading should be used? (See section 2.6.3 of Bridge Manual) HS 20
 - d. Does pedestrian traffic need to be maintained? YES
 - e. If yes, how will it be maintained? Temporary Pedestrian Bridge, Existing Sidewalk, or Taxi Service.
 - f. Is the bridge part of a designated bicycle route? NO

EXISTING STRUCTURE

10. Structure Description: FOUR-SPAN SIMPLE SPAN SUPERSTRUCTURE
11. Original Construction Contract No.(s) FARC 60-138

(Information can be found in WINBOLTS Report)

- | | | | |
|-----|---|---|---------------------|
| 12. | Type of structure, span, and skew
(Information can be found in WINBOLTS Report) | MULTI-BEAM BRIDGE, FOUR-SPAN, SKEW 13 DEG | |
| 13. | Are plans available? YES | Do they accompany submittal? | YES |
| 14. | Is there any asbestos on the existing bridge ? (See record plans and Section 3.9 of Bridge Manual) | | YES |
| 15. | Is the bridge within or adjacent to an area of contaminated sediment or soil such as a superfund site? (Information can be found By GIS Search)
If so, must contaminated soil be distributed or removed? | | NO
NO |
| 16. | Disposition of superstructure and estimated cost (Information can be found in WINBOLTS Report) | \$1 million - to be demolished | |
| 17. | Disposition of substructure and estimated cost (Information can be found in WINBOLTS Report) | \$210,000 - To be demolished | |
| 18. | Are there sidewalks on the bridge? | | YES - on both sides |
| 19. | Specify any utilities carried on structure
(See Bridge Inspection Report in WINBOLTS) | Telephone | |
| | a. Do any of these utilities need to be kept in service during construction? | | YES |
| | b. Can any of these utilities be interrupted for a given period of time? | | NO |

PROPOSED STRUCTURE

- | | | |
|-----|---|--|
| 20. | Recommended type and reason for preference
(See Section 3.0 of Bridge Manual) | Multi-stringer with composite deck slab. |
| 21. | Typical Bridge Section: | |
| | a. Number of lanes | 6 |
| | b. Lane width | 12 ft |
| | c. Shoulder width | 5 ft |
| | d. Are sidewalks needed? | YES |
| | e. Sidewalk location and width | 5 FT SIDEWALK ON BOTH SIDES |
| | f. Should railing be used instead of barrier?
Explain VERTICAL FACED CONCRETE PARAPET WILL BE USED | NO |
| | g. Are adjacent driveways or sight distance a problem?
Explain | NO |
| | h. Are there geometry issues involved?
Explain Crest curve nonstandard - see Non-Standard Feature Justification. | Crest Curve |
| | i. Is deck drainage a concern?
Explain | NO |
| | j. Is water flow over Roadway a concern?
Explain NO BODY OF WATER NEAR BRIDGE | NO |
| | k. Should protective fencing be used? | YES |
| | l. Should a permanent snow fence be installed on the structure? | NO |
| | m. Railing Design Service Level | PL-2 (TL-4) |
| 22. | Should provision be made for utilities? (Include letters of request by utility companies) | YES |
| | a. Size | 3.5" diameter |
| | b. Number | 6 Ducts |
| | c. Type | Telephone |

- d. Indicate location, span capability, weight per lineal foot and amount of insulation: East Sidewalk
23. Should provisions be made for lighting? If yes, provide light standard locations by stations and offsets, and indicate size of conduit in an excel table in the project's ProjectWise folder. NO
 Are any signs to be supported by the structure? NO
 If yes, Give sizes, weights
24. Are there any aesthetic requirements? YES DECORATIVE FENCE ON TOP OF VERTICAL FACED CONCRETE PARAPET
 Is the structure located within the Adirondack Park? NO
 Is the structure located within the Catskill Park? NO
 Should access for fishing, hiking or wildlife be provided under the bridge? NO
 If yes, explain
 Are any parking or boat launching facilities adjacent to bridge site? NO
 If yes, explain
 Is the existing structure a historic landmark or a contributing factor to a historic district? (Information can be found in WINBOLTS Report) NO
 Are there any other special environmental considerations for this Bridge? NO
 If yes, explain
25. Do you recommend that approach slabs be used? (Based on input from the Regional Structures, Geotechnical, and Materials Groups) YES
26. a. Should weathering steel be used? YES
 b. Should drip bars be used? YES
 c. Should all or a portion of the substructure concrete be cleaned? NONE
 d. Should the steel be painted? NO
 e. What color paint is desired? N/A
27. Datum used NAD 83 (96)
 Required correction to USGS Datum
 (See NYSDOT Survey Manual for Information on site specific correction factors, Map numbers available from WINBOLTS)
 Name of USGS quadrangle (7.5 min. Series) showing structure location AMITYVILLE QUADRANGLE - NEW YORK
28. Miscellaneous:

MATERIALS TO BE SUBMITTED:

29. All electronic files submitted shall meet the requirements as set forth in the Department's *CADD Standards and Procedure Manual* and Appendix 14 of the *Project Development Manual*. The designer should ensure that all electronic files submitted meet the requirements of the *CADD Standards and Procedure Manual and Appendix 14 of the Project Development Manual prior to making them available to the Office of Structures*. Any files not meeting these requirements will be rejected and will have to be resubmitted once the files are corrected to meet the appropriate standards. It shall be the responsibility of the Regional Project Design Engineer or the Regional Structures Engineer to notify the bridge designer of any changes in the alignments, profiles, superelevation, sections, or the proposed finished grade which will affect the final bridge design. A Digital Terrain Model (DTM) of the existing ground and the proposed finished grade shall be required which covers an area 200 feet from either side of the extremities of the proposed bridges. The required submittal of a Digital Terrain Model does not exclude the required submittal of waterway

cross sections as required in the Waterway Supplement, Appendix 3B.

30. Electronic files are available on ProjectWise under the appropriate Regional folder and PIN. Plans can be plotted at various scales from 1"=10'4:100 to 1"=250'4:2500. The following chart shall be filled in by the Designer. All information required by structures shall be coordinated between the structures designer and the group providing the information. As an example; 1"=50'4:250 scale plans with contour intervals should be displayed at 2 feet for steep terrains and 1 foot contour intervals for flat or rolling terrain.

31. One copy of boring logs.

(Boring logs are obtained from the Regional Geotechnical Engineer and can be scanned and posted in Project Wise in PDF format)

32. For projects that cross the New York State Barge Canal System, the "Residency Map" for the bridge site should be obtained from the Division Canal Maintenance Engineer, of the Canal Corporation, NYS Thruway Authority.

33. Any site restrictions pertaining to Wetlands, Parklands, and Historical or Archeological Areas, should be shown on the 1" = 50' scale plans (Available in the General Plan files on Project Wise)

34. Photographs of the existing bridge and approaches. (Information can be found in WINBOLTS Report)

35. Plans of the existing bridge - preferably "As Built" (Many As-Built drawings are now available on the P:Drive @ P:\Office of Engineering\Design\MO_RecordPlans\As-Built Contract Plans)

36. Please submit costs for the following items which are to be assigned to the bridge share.

- a. Utilities
- b. Maintenance and protection of traffic
- c. Removal and disposal of existing bridge
- d. Channel Work
- e. Detour Structure
- f. Special approach and transition work

BRIDGE REHABILITATION vs. REPLACEMENT WORKSHEET

Factor			Review	Prelim. RH/ RP* Direction (if any)
I.	Cost	A.	Is the rehabilitation cost \leq 0.65 of the replacement cost?	Yes RH <input checked="" type="checkbox"/> No Proceed to I.B.
		B.	Is the rehabilitation cost between 0.65 and 0.85 of the replacement cost?	Yes Consider other factors <input checked="" type="checkbox"/> No Proceed to I.C.
		C.	Is the rehabilitation cost \geq 0.85 of the replacement cost?	<input checked="" type="checkbox"/> Yes RP
II.	Safety	A.	Are there accidents attributable to the bridge geometry or highway approach geometry?	Yes Proceed to II.B. <input checked="" type="checkbox"/> No RP or RH
		B.	If there were accidents, were there any fatalities or is the number of accidents above the Statewide average?	Yes RP or RH with corrections to the safety problem <input checked="" type="checkbox"/> No RP or RH
		C.	Is there an accident potential? (Highway, waterway, or railroad)	Yes RP or RH with corrections to accident potential problems <input checked="" type="checkbox"/> No RP or RH
III.	Bridge Type	A.	Is the bridge nonredundant?	Yes RP or RH including adding redundancy <input checked="" type="checkbox"/> No RP or RH
		B.	Does the bridge have fatigue sensitive details?	Yes RP or RH removing or modifying critical details <input checked="" type="checkbox"/> No RP or RH
		C.	Is bridge concrete arch, concrete rigid frame, jack arch, etc.?	Yes Bridge usually not RH'd <input checked="" type="checkbox"/> No RP or RH
IV.	Standards	A.	Does existing bridge conform to all current standards?	Yes RP or RH <input checked="" type="checkbox"/> No Proceed to IV.B.
		B.	Can bridge be rehabilitated and brought up to standards?	Yes Bridge may be RH'd <input checked="" type="checkbox"/> No Bridge should be RP'd
		C.	Can the nonstandard feature be justified?	<input checked="" type="checkbox"/> Yes Bridge may be RH'd No Bridge should be RP'd

V.	Feature Crossed	A.	If existing bridge is over water, have there been hydraulic problems indicating an inadequate opening or poor stream alignment which would require a span adjustment?	Yes..... RP <input checked="" type="checkbox"/> No..... RP or RH
		B.	Does existing bridge span anything that requires special treatment or are special conditions associated with it, such as a railroad, historic feature, environmentally or politically sensitive feature?	Yes..... RP or RH* <input checked="" type="checkbox"/> No..... RP or RH *The sensitive feature must be thoroughly examined and considered in RH/RP analysis with special attention to the cost necessary to accommodate the sensitivity.
VI.	WZTC	A.	Can traffic be detoured off the project site?	Yes..... RP or RH <input checked="" type="checkbox"/> No..... Proceed to VI.B
		B.	Can traffic be maintained on the existing bridge with a new bridge built alongside?	Yes..... RP <input checked="" type="checkbox"/> No..... Proceed to VI.C
		C.	Can construction be staged?	<input checked="" type="checkbox"/> Yes..... RP or RH No..... Proceed to VI.D
		D.	Can a temporary structure be used on the project site?	<input checked="" type="checkbox"/> Yes..... RP or RH No. STOP . All traffic strategies have been rejected.

* RH = Rehabilitate
RP = Replace

Table 19-2
Bridge Rehabilitation vs Replacement Worksheet