STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

M E M O R A N D U M

Subject: Proj. No.: 0102-0296
Route 15 Safety Improvements, Resurfacing, Enhancements, And Bridge Improvements
New Canaan, Norwalk, Westport

Date: May 6, 2020

to: Matthew R. Vail
Trans. Principal Engineer
Bureau of Engineering and Construction

from: Michael F. McDonnell
Trans. Supervising Engineer
Bureau of Engineering and Construction

Michael McDonnell
Digitally signed by Michael McDonnell
DN: C=US, E=michael.mcdonnell@ct.gov, O=Connecticut Department of Transportation, OU=Soils and Foundations, CN=Michael McDonnell
Date: 2020.05.07 09:49:54-04'00'

1. Transmitted are the following:
   - ☒ Roadway Geotechnical Report
   - ☐ Structure Geotechnical Report
   - ☐ Plans:
   - ☐ Correspondence:

2. This transmittal is being made:
   - ☒ In response to your request
   - ☐ Initiated by this office

3. Please take the following action:
   - ☐ Please review and forward to
   - ☒ Please review for incorporation into the design of the project
   - ☐ For your use and information

If there are any questions regarding this material, please contact Laura McKiernan at ext. 3198.

Attachment

Laura McKiernan/LCM

cc: Bartholomew P. Sweeney
Andrew J. Cardinali – Kevin V. Blasi – Ken-Taro Plude – Ashley Heredia
Michael S. Cherpak – Nicholas A. Ivanoff – Wyatt J. P. Gibeault
Mary Baier – Janet Mazeau
Steve Norton

Project Description:

This project has been initiated by the Department as part of a corridor improvement effort to provide safety improvements and enhancements to the Merritt Parkway, while maintaining its unique character and aesthetics. This is the 8th and final project in a series of 8 corridor improvement projects on the Merritt Parkway. With completion of this project 100% of the Parkway will be upgraded.

Roadway improvements include the following: widening the existing shoulders to 8-feet; replacing the existing variety of guiderail with Merritt Parkway Guide Rail; correcting existing cross slopes of the roadway to meet standards; removing rock ledges and other fixed objects within the recommended clear zone or protecting it with Merritt Parkway Guide Rail or Merritt Parkway Concrete Barrier; installing a slip lined concrete curb and gutter system along the median for drainage and delineation purposes; limited full-depth pavement replacement under bridges and patching of other deteriorated areas; resurfacing of the roadway; installing new drainage; installing Merritt Parkway Median Barrier in areas where the width of the roadway is limited.

The portion of the project requiring geotechnical explorations was limited to Exit 40B to Main Avenue from Route 15 (Merritt Parkway) southbound. The Department plans to widen the Parkway beginning at approximately STA 1105+50, just west of West Rocks Road, extending to Exit 40B, to provide a longer deceleration lane in advance of the exit. The proposed widening of the Route 15 embankment will require both cutting and filling along the Route 15 shoulder to maintain grade, as well as adjustments to drainage structures at the base of the roadway embankment. A 155-foot long steepened slope (1.5H:1V) is proposed from STA 1092+30 to STA 1093+85, where an open drainage channel runs in parallel with the Route 15 embankment. As part of these improvements, a culvert extension and new headwall will also be constructed for an existing 4-foot by 4-foot box culvert.

A 450-foot long steepened slope (1.5H:1V) is also proposed from STA 1204+55 to 1209+05 to widen the Route 15 southbound shoulder while minimizing disturbance to the wooded Knowalot Lane Open Space.

Geotechnical Information and Site Conditions:

Surficial Geology:

Published USGS mapping indicates that the surficial soils along this portion of the Merritt Parkway are predominantly Sand and Gravel, Till, or Thick Till overlying bedrock. Sand and Gravel is generally limited to wetland areas and water crossings.

Bedrock Geology:

Published USGS mapping indicates that Ordovician Granitic Gneiss and the Trap Falls Formation (Schist and Granulite Member) underlie the area.

Historic Data:
Information used in preparation of this Report include the 1937 Plans for Project No. 180-65, Construction of Bridge No. 00053, Route 15 Over Main Ave, located approximately 1500-feet east of the proposed deceleration lane for Exit 40B and the 1937 Plans for Project No. 180-66, Construction of Bridge No. 00722, West Rocks Road over Route 15, located approximately 1000-feet west of the proposed deceleration lane for Exit 40B. Historical borings for these bridges and others within the project limits, where available, are included in the Appendix.

The 1937 Plans for Project No. 180-65, Construction of Bridge No. 00053, Route 15 over Main Ave include boring logs for eight (8) borings advanced at the site for the original bridge construction. Borings were advanced to depths of 10.5 to 51 feet below grade. Depth to bedrock, confirmed with a 5-foot rock core, was highly variable, ranging from 0.25 to 37 feet below grade (El. 33.4 to 91.55 feet).

The 1937 Plans for Project No. 180-66, Construction of Bridge No. 00722, West Rocks Road over Route 15 include boring logs for four (4) borings advanced at the site for the original bridge construction. Borings were advanced to depths of 32 to 35 feet below grade. Depth to bedrock, confirmed with a 5-foot rock core, was relatively consistent, ranging from 26 to 28.5 feet below grade (El. 195.1 to 198.3 feet).

Subsurface Exploration and Testing Data:

Observations:
Subsurface investigations were performed in December of 2019 and January of 2020 by Atlantic Testing Laboratories, Ltd (ATL). The proposed subsurface exploration program consisted of ten (10) roadway borings, advanced to depths of 30 to 40 feet below grade. Borings were generally spaced at 150-feet, alternating between locations on Route 15 and the adjacent Creeping Hemlock Drive. One of the Route 15 borings (R-02) was dropped from the scope due to concerns about the safety of the traffic closure pattern. Due to the limited daytime hours available for drilling on Route 15, a temporary closure of Exit 40B during drilling operations was impractical.

For each borehole, split spoon samples were collected at intervals of five (5) feet and rock cores were collected where rock and/or boulders were encountered. Most borings were backfilled with cuttings and borings located in the roadway were brought to grade with cold-patch asphalt. Upon completion, a monitoring well with a flush-mount well box was installed in R-03.

The following geologic stratums were encountered:

Thickness (feet)	Stratum Description
3-4	MISCELLANEOUS FILL, highly variable, brown, light brown, and red brown, F-C SAND, some to little f-c gravel, some to trace silt, trace organics, loose to medium-dense. Includes topsoil, as well as occasional cobbles and boulders.
0-10	SILTY SAND; gray and tan, f-m SAND, and to little SILT, little to trace f-m gravel, loose to medium-dense.
4-12	STRATIFIED SAND AND GRAVEL; gray, brown, and tan f-c SAND, and to some f-c GRAVEL, little to trace silt, dense to very dense.
0-15.5	WEATHERED ROCK; gray, brown, and tan f-c GRAVEL, and to some f-m SAND, little to trace silt, very dense. Occasional cobbles and boulders.
	BEDROCK; gray and white SCHIST fine- to medium-grained, thickly to massively bedded, moderately to intensely fractured, slight to moderate weathering, strong, RQDs 13-93%. OR gray, silver, white, and tan GRANITIC GNEISS fine- to coarse-grained, thickly to massively bedded, highly to intensely fractured, fresh to moderate weathering, strong to very strong, RQDs 0-87%.

- Bedrock, where encountered, was confirmed with the advancement of two 5-foot rock cores. Bedrock elevations followed topographic trends within the area, rising in elevation from west to east, reflecting the trends shown by the historic data from projects 180-65 and 180-66. Bedrock was encountered in all borings with the exception of R-04 and R-07, which were terminated within the weathered rock stratum. Granitic Gneiss and Schist bedrock cores were collected on the site. There was no general trend in the geographic distribution of the rock types across the site.
- Due to overgrowth and limited accessibility within the drainage channel, bar probes (P-01 to P-06) were advanced in front of the existing culvert, at approximately STA 1092+50, in an effort to determine depth to bedrock for design of the proposed culvert extension and new headwall. Advanced with a sledgehammer, the bar was able to penetrate up to 40 inches below the surface of the water in the channel and did not encounter refusal at the east or west wingwalls. Probe locations were taped off from the existing inlet wingwalls and depth of penetration was measured relative to the water surface. Approximate probe locations are shown on the attached Boring Location Plans. Based on findings in the nearby R-03, it is anticipated that bedrock is relativity shallow. Bedrock may be encountered during structure excavation and will impact the selection of excavation support options.
- Groundwater was encountered at elevations ranging from El. 112.8 feet at R-03 to El. 193.9 feet at R-09A. This places the groundwater approximately 3 to 16

feet below the ground surface, within the Silty Sand or Stratified Sand and Gravel stratums.

- Refer to the Boring Logs and Subsurface Diagram included in the Appendix for additional information regarding ground surface elevations, measured groundwater levels, and geologic stratum thicknesses.

Recommendations:

General Earth Cut and Fill Slopes:

- Maximum cut and fill slope rates: 2(H) to 1(V)
- Removal of topsoil: At fill slopes, topsoil should be removed in accordance with the Standard Specification Form 817 – Section 2.02.03
- Treatments for slope surface: Use Standard Form 817 treatment on all slope surfaces.
- Earth excavation shrink value: 10%
- Surficial cobbles and boulders up to 3-feet in diameter were observed in the wooded areas of the site adjacent to Exit 40B. Include a nominal amount of payment-sized boulders in earth cut estimates.

General Rock Cut Slopes:

- Maximum cut slope rates: 1(H) to 6(V)
- Rock excavation swell value: 75%
- Install 6 inch underdrain at the toe of all rock cuts.
- Rock removal to be paid under item Section 2.02.05 – Rock Excavation.
- Depth to rock is highly variable along the Route 15 corridor with rock exposures in some locations. Based on a search of historical borehole data in the vicinity, shallow bedrock (<5 feet below grade at the time of exploration) may be expected in the project area along Route 15 near Bridge No. 00712, Bridge No. 06069, Bridge No. 00530 A/B, Bridge No. 00723, Bridge No. 00724, and Bridge No. 00726.
- Plans should call for a typical rock cut cross section. When rock is encountered during construction of an earth cut slope, refer to the Highway Design Manual Figure 4J – Details of Rock Cut Sections included in the Appendix for guidance, based on the height of the rock exposure.

RSS Fill Slope - STA 1092+30 to STA 1093+85:

- A 155 feet long Reinforced Soil Slope (RSS) is proposed from STA 1092+30 to 1093+85 with a slope of 1.5(H):1(V) and a maximum height of 22 feet. Geosynthetic reinforcement (geogrid or geotextile) will be keyed into the existing slope and used to stabilize the new, widened embankment slope. The design relies on longer 8-foot layers of reinforcement spaced at every 1 foot. Refer to the typical section in the Appendix for the proposed design.
- A guide rail is expected to be installed above the RSS. Where embedment of guiderail posts will interfere with the geosynthetic reinforcement, plans should call for the Contractor to punch through the geosynthetic with a metal driving cap prior to installation of the posts.

- Settlement of the widened Route 15 embankment, due to the addition of approximately 7 feet of fill, will be approximately 1.2 inches. This settlement is expected to occur as the RSS layers are built up and will be built out during construction. Post-construction settlement should be negligible.
- A global stability analysis confirmed that the 1.5(H):1(V) reinforced soil slope meets the required factor of safety of 1.3.
- In order to prevent erosion on the face of the RSS, the slope surface should be protected. Protection can be accomplished using standard turf establishment with Type D Erosion Control Matting. A detail has also been provided for an alternative slope protection using special riprap in the Appendix. Use of riprap may be preferred for erosion protection adjacent to the drainage channel on the lower portion of the RSS.
- Include the following borings on the plan sheets: R-01 through R-10.
- Utilize the special provision in the Appendix for Reinforced Soil Slope. The special provision is a lump sum item.

<u>Culvert Extension and New Headwall - STA 1092+50:</u>

- The bottom of footing for the proposed cutoff wall and wingwalls is located at EL. 102.6 feet.
- Boring R-03, which was advanced 65-feet from the existing headwall, encountered bedrock at El. 107.0 feet, which is just above the culvert invert at approximately El. 106.6 feet. Although bar probes advanced in front of the invert did not encounter refusal after penetrating approximately 40 inches, bedrock may still be encountered at a relatively shallow depth in this area.
- Found the cutoff walls and wingwalls on 12-inches of granular fill overlying in situ soils if bedrock is not encountered. If bedrock is encountered, over-excavate the bedrock and replace with at least 12 inches of granular fill to ensure uniform bearing.
- The factored bearing resistance for the headwall and wingwalls at the strength limit state is 3.0 tsf.
- The factored bearing resistance for the headwall and wingwalls at the service limit state is 1.7 tsf.
- The estimated total settlement at the service limit state is 1.0 inch of immediate settlement. This settlement is expected to occur during construction. Post construction settlement will be negligible. Differential settlement is not anticipated.
- Earth pressure loads (equivalent fluid pressure) to be used in the structural design of the wingwalls and headwalls are as follows:
    - 35 lbs/ft²/linear foot of wall (active).
- Include Borings R-03 and R-04 on the structure sheets.

<u>Steepened Earth Cut Slope - STA 1204+55 to 1209+05:</u>

- A 450 feet long steepened slope is proposed from STA 1204+55 to 1209+05 with a slope of 1.5(H):1(V) and a maximum height of 12 feet. The steepened slope would be cut at the base of an existing wooded slope with an approximately 2(H):1(V) slope and a maximum height of 30 feet.

- Earth excavation shrink value: 10%
- In order to prevent erosion on the face of the slopes steeper than 2(H) to 1(V) the surface should be protected. Protection can be accomplished using standard turf establishment with Type D Erosion Control Matting.

Exit 40B General Construction Considerations:

- Reuse (or non-reuse) of excavated material requirements: The Stratified Sand and Gravel excavated from the site should be suitable for re-use as subgrade or embankment fill. The Silty Sand, which has high percentages of fines, is undesirable for re-use on-site as subgrade.
- Subgrade Stabilization Requirements: No yielding or over-excavation of subgrade soil is anticipated. Stratified Sand and Gravel subgrades should provide a stable base when prepared in accordance with the Standard Specification Form 817 – Section 2.09.

RSS Fill Slope Construction Considerations:

- Construction of the proposed CIP drainage headwall at approximately STA 1092+50 will require use of Temporary Earth Retaining System (TERS). Maximum cut slope rates for establishing temporary sheeting limits shall be: 1(V) to 1.5(H).
- Groundwater was encountered around El. 109 feet in R-03. This groundwater measurement places the water table at the base of the proposed RSS at the eastern end. Preliminary plans show most of the excavation will be above this elevation.
- See Special Provision in Appendix for additional details.

Culvert Extension and New Headwall Construction Considerations:

- Feasible support of excavation options for construction of the proposed CIP drainage headwall at approximately STA 1092+50 may include braced sheetpiles or a trench box, depending on the local depth to bedrock.
    - The structure plans should call for fully enclosed cofferdam for the CIP drainage headwall due to the elevation difference between the measured groundwater (El. 109.3 to 112.8 feet in R-03) and the proposed bottom of excavation (El. 102.6 feet). Surficial water from the drainage channel will also need to be controlled.
    - Dewatering and a fully enclosed cofferdam will be required for construction of the headwall and wingwalls due to the elevation difference between the groundwater (measured at El. 109.3 to El. 112.8 feet in R-03) and the proposed bottom of excavation (El. 102.6 feet).
    - Care should be taken to minimize vibration near the existing 12-ft stacked block headwall across the drainage channel from the proposed headwall. Include pay item Cofferdam Material to be Left in Place to minimize disturbance to the drainage channel area.
    - Note that TERS will not be included within the lump sum for the reinforced soil slope and should have its own pay item.
    - Include pay items: Removal of Existing Masonry, Structure Excavation (Excluding Cofferdam and Dewatering), Structure Excavation-Rock

(Excluding Cofferdam and Dewatering), Cofferdam and Dewatering, Cofferdam Material to be Left in Place, and Temporary Earth Retaining System.

- Rock excavation estimate for payment size boulders: Based upon the boulders and cobbles encountered, both surficial and subsurface in the Exit 40B vicinity, it is possible that payment sized boulders could be encountered during excavation for the CIP drainage headwall. Assume 5% of structure excavation will be payment sized boulder.

<u>Appendix Information:</u>

A. Design
   a. Geotechnical Inlet Design Parameters

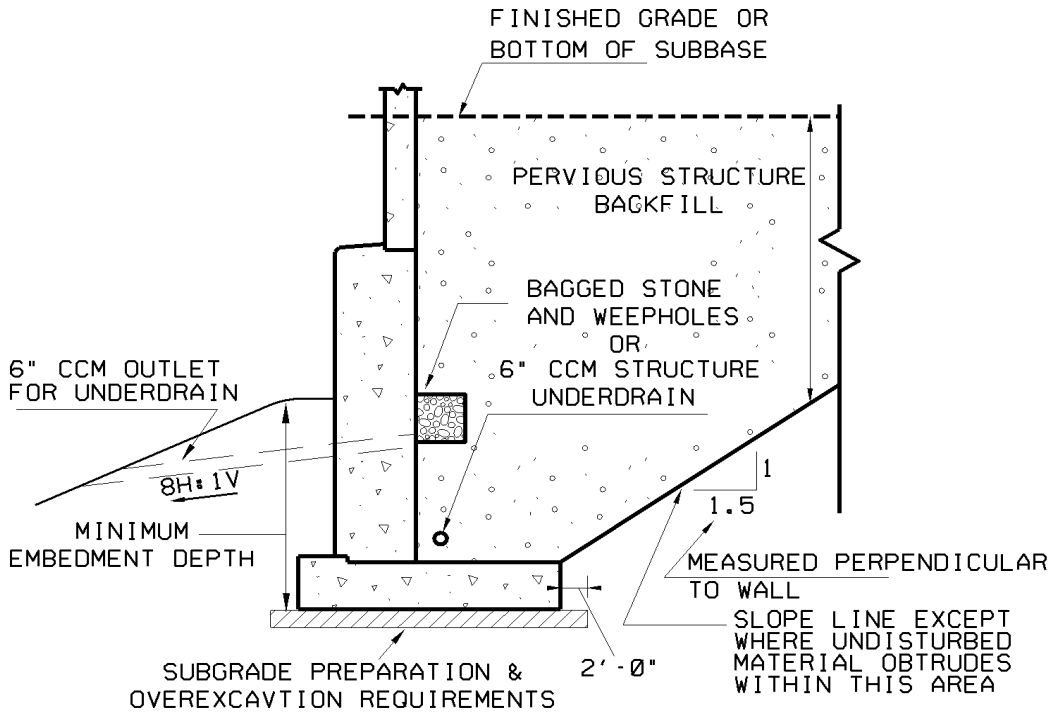
B. Drawings
   a. Highway Design Manual – Figure 4J – Details of Cut Sections
   b. Reinforced Soil Slope (RSS) Typical Section
   c. Steepened Slope Protection

C. Special Provisions
   a. Reinforced Soil Slope (RSS)

D. Figures
   a. Project Location Plans
   b. USGS Surficial Soils Maps
   c. USGS Bedrock Geology Maps
   d. Boring Location Plans
   e. Subsurface Diagram

E. Subsurface Data
   a. Current Boring Logs
   b. Rock Core Data Sheets
   c. Historical Boring Logs

Geotechnical Wall Design Parameters
Project No. 0102-0296
Inlet Wingwalls
~Sta. 1092+50



Factored Resistances

	Strength Limit	Service Limit
Bearing	3.0 tsf	1.7 tsf
Sliding	0.56V	0.56V

V=total vertical force

Lateral Earth Loads

Soil Unit Weight, γ :	125 pcf
Lateral Earth Pressure (static)*:	867 psf
Live Load Surcharge-Uniform Earth Pressure*:	0.67 γ h_{eq}

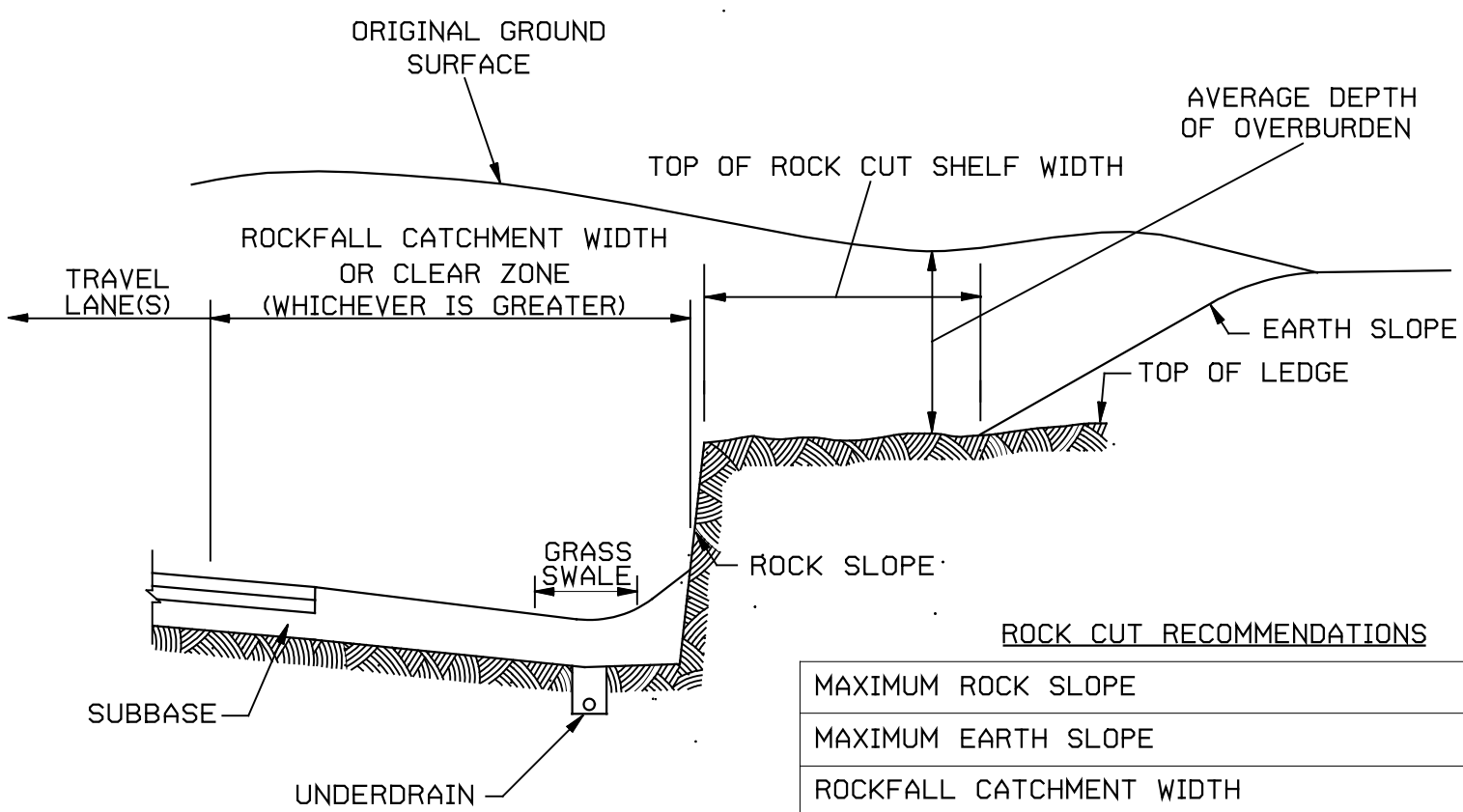
*Assumes 1.5 (H): 1 (V) slope behind wingwall with height of 10.3 ft.
**h_{eq} based on AASHTO-LRFD Table 3.11.6.4-2

Foundation Design Details

Minimum Embedment Depth:	4.0 ft. or T.O. Rock
Headwall Drainage:	Bagged Stone and Weepholes
Subgrade Preparation:	1ft of Granular Fill
Maximum Temporary Cut Slope:	1(V):1.5(H)

Additional Comments

- Design recommendations based on 2016 *AASHTO LRFD* and *ConnDOT Bridge Design Manual*.
- Preliminary plans/cross sections provided show the bottom of footing to be at elevation El. 102.6 feet. This may change based on local depth to bedrock, which is presumed to be shallow.
- Include the following logs on the plan sheets: R-01 through R-10 (R-02 was cancelled during the drilling program).



ROCK CUT RECOMMENDATIONS

MAXIMUM ROCK SLOPE	1 (H)	6 (V)
MAXIMUM EARTH SLOPE	2 (H)	1 (V)
ROCKFALL CATCHMENT WIDTH	VARIES FT	
TOP OF ROCK CUT SHELF WIDTH	5 FT	
ESTIMATED AVERAGE DEPTH OF OVERBURDEN	VARIES FT	
UNDERDRAIN DIAMETER	6 IN	

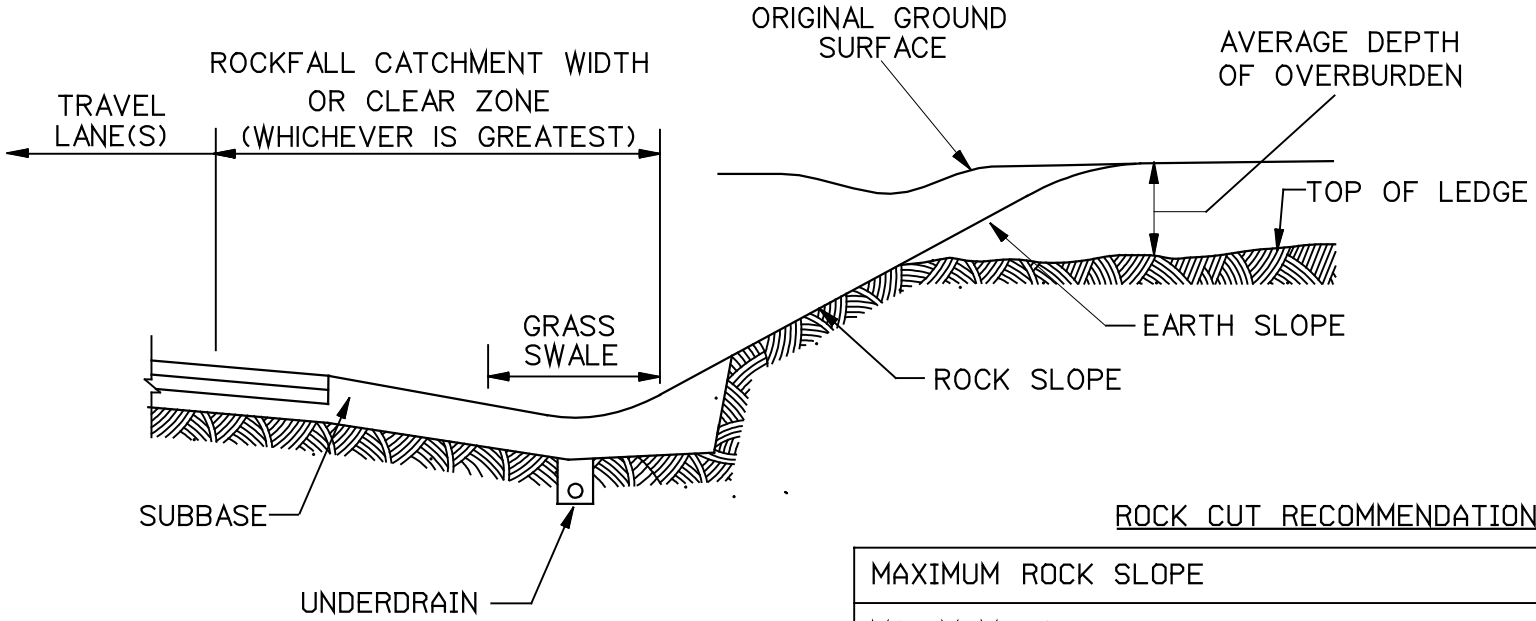
TYPICAL CROSS SECTION

ROCK CUTS GREATER THAN 8FT IN HEIGHT

PROJECT NUMBER: 102-296

PROJECT NAME:
Merritt Parkway (Route 15) Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements

TOWN: New Canaan, Norwalk, and Westport



ROCK CUT RECOMMENDATIONS

MAXIMUM ROCK SLOPE	1(H)	6(V)
MAXIMUM EARTH SLOPE	2(H)	1(V)
ROCKFALL CATCHMENT WIDTH	VARIES FT	
ESTIMATED AVERAGE DEPTH OF OVERBURDEN	VARIES FT	
UNDERDRAIN DIAMETER	6 IN	

TYPICAL CROSS SECTION

ROCK CUTS LESS THAN 8FT IN HEIGHT

PROJECT NUMBER: 102-296

PROJECT NAME:

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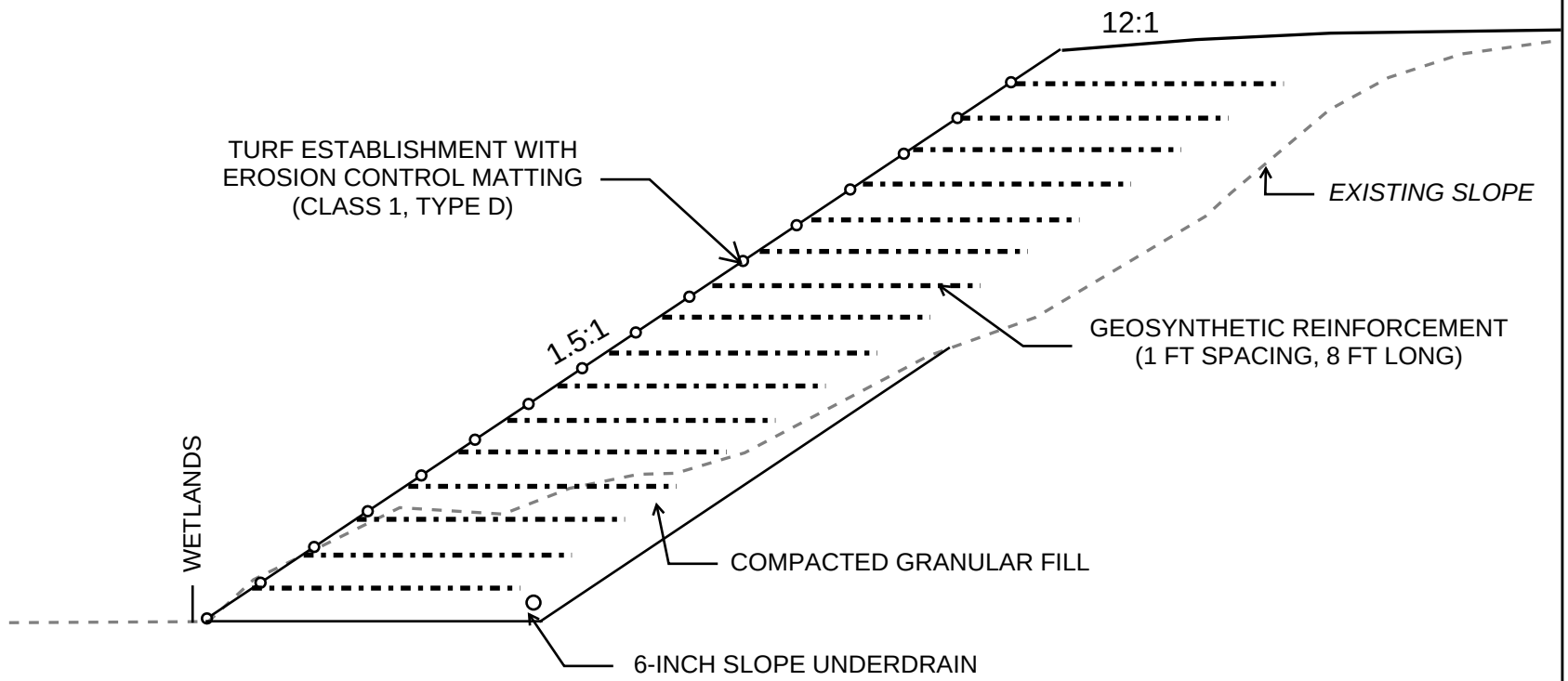

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REINFORCED SOIL SLOPE (RSS) TYPICAL SECTION

STA 1092+30 TO STA 1093+85

PROJECT NUMBER:	102-296
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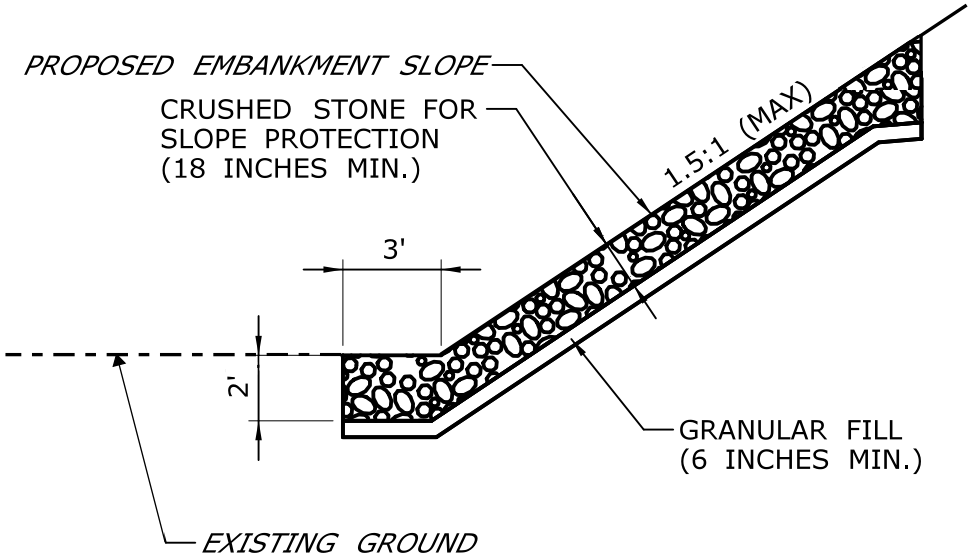

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STEEPENED SLOPE PROTECTION

OPTIONAL FOR STA 1092+30 TO STA 1093+85

PROJECT NUMBER:	102-296
PROJECT NAME:	Merritt Parkway (Route 15) Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements
TOWN:	New Canaan, Norwalk, and Westport

ITEM #0712010 REINFORCED SOIL SLOPE

Description: This work shall consist of furnishing material for and constructing a reinforced soil slope, reinforced with geosynthetic soil reinforcement, in accordance with these specifications and in reasonable close conformity to the lines, grades, and dimensions shown on the plans or as directed by the Engineer.

Materials: Materials shall conform to the following requirements

1 - Geosynthetic Reinforcement Material - The geosynthetic reinforcement shall consist of a geogrid or geotextile that can develop sufficient mechanical interaction with the surrounding soil or rock. The geosynthetic reinforcement structure shall be dimensionally stable, able to retain its geometry under construction stresses, and shall have high resistance to damage during construction, to ultraviolet degradation, and to all forms of chemical and biological degradation encountered in the soil being reinforced. The permeability of the geosynthetic reinforcement shall be greater than the permeability of the reinforced fill soil.

Geogrid used as geosynthetic reinforcement shall be a regular network of integrally connected polymer tensile elements consisting of either a polypropylene (PP), a polyethylene (HDPE), or a polyester (PET). The geogrid shall have certified properties as shown in Table 1.

Geotextile used as geosynthetic reinforcement may be woven or nonwoven but no "slit-film" woven fabrics will be permitted. The geotextile shall have certified properties as shown in Table 2. All property values represent Minimum Average Roll Value (MARV) in the weakest principal direction and shall meet or exceed the values stated below.

The Contractor shall submit a manufacturer's certification that the geosynthetic supplied meets the requirements as shown in the respective table, measured in full accordance with all test methods and standards specified, as set forth in these specifications, and in conformance with Article 1.06.07.

The geosynthetic reinforcement shall be manufactured with a high degree of quality control. The Manufacturer is responsible for establishing and maintaining a quality control (QC) program to ensure compliance with the requirements of the specification. The purpose of the QC testing program is to verify that the geosynthetic reinforcement being supplied to the project is representative of the material used for performance testing and approval by the department.

Conformance testing shall be performed as part of the manufacturing process and may vary for each type of product. As a minimum, the following index tests shall be considered as applicable for an acceptable QA/QC program: Wide Width Tensile (ASTM D-4595 for geotextiles and ASTM D-6637 for geogrids); Specific Gravity (HDPE only, ASTM D-1505); Melt Flow Index (HDPE and PP only, ASTM D-1238); Intrinsic Viscosity (PET only, ASTM D-4603); Carboxyl End Group (PET only, ASTM D-2455); and Single Rib Tensile (Geogrid only, ASTMD-6637). Sampling and conformance testing shall be in accordance with ASTM D-4354. Conformance testing procedures shall be established as noted in the specification. Geosynthetic product acceptance shall be based on ASTM D-4759.

The quality control certificate shall include roll number and identification, sampling procedures, and results of control test (including a description of test methods used).

Table 1

Geogrid Type	Property	Test Method	Criteria
All Polymers	Long Term Allowable Tensile Strength (T_{all})	GRI:GG4, where $T_{all} = T_{ult} / (RF_{CR} * RF_{ID} * RF_D)$	Min. 1000 lbs./ft. (Machine Direction) Min. 220lbs./ft. (Cross-machine Direction)
Polyester	Geogrid Rib Tensile Strength (T_{ult})	ASTM D6637	Min. 2420 lbs./ft.
Polypropylene	Geogrid Rib Tensile Strength (T_{ult})	ASTM D6637	Min. 4840 lbs./ft.
Polyethylene	Geogrid Rib Tensile Strength (T_{ult})	ASTM D6637	Min. 3025 lbs./ft.
Polyester	Creep Reduction Factor (RF_{CR})	ASTM D 5262	Min. 2.0
Polypropylene	Creep Reduction Factor (RF_{CR})	ASTM D 5262	Min. 4.0
Polyethylene	Creep Reduction Factor (RF_{CR})	ASTM D 5262	Min. 2.5
All Polymers	Installation Damage Reduction Factor (RF_{ID})	ASTM D 5818	Min. 1.1
Polyester	Durability Reduction Factor (RF_D)	Hydrolysis Degradation Testing (extrapolated to 100yrs)	Min. 1.1
Polypropylene and Polyethylene	Durability Reduction Factor (RF_D)	Oxidation Degradation Testing (extrapolated to 100yrs)	Min. 1.1

Table 2

Property	Test Method	Elongation	
		<50%[A]	**≥50%[A]**
Grab Strength -lbs	ASTM D4632	315	202
Sewn Seam Stength[B] -lbs	ASTM D4632	283	182
Tear Strength -lbs	ASTM D4533	112	79
Puncture Strength - lbs	ASTM D6241	618	433
Ultimate Strength (Tult) –lbs/ft	ASTM D4595	Min. 2420	
Long Term Allowable Tensile Strength (T_{all}) – lbs/ft	FHWA[C]	Min. 1000	

[A] As determined in accordance with ASTM D4632. The strengths specified in the columns labeled "<50%" and "≥50%" refer to the elongation at which the geotextile material was tested. For example; if a fabric is tested at 15% elongation, then it must meet or exceed the minimum strength shown in the "<50%" column. Submittals must include the percent elongation at which the material was tested.
[B] When sewn seams are required.
[C] Long Term Allowable Tensile Strength shall be determined by applying appropriate reduction factors to the Ultimate Tensile Strength of the geotextile to account for installation damage, survivability, creep, durability and degradation. A 100-year design life shall be used in determining the long term allowable tensile strength. The FHWA methodology (FHWA NHI-10-024 (Berg et al., 2009)) shall be used for this computation. Proposed strength and reduction factors are subject to approval. Minimum durability reduction factor is 1.10. Minimum installation damage factor is 1.10. The creep reduction factor should be developed from creep tests performed in accordance with ASTM D5262 and is subject to the minimums presented in Table 1 for the respective material.

2 - Compacted Granular Fill - Compacted Granular Fill shall conform to the requirements of Article M.02.01.

3 - Slope Underdrain and Outlet for Underdrain - The pipe for Underdrain and Outlet for Underdrain shall conform to the requirements of Article M.08.01. The material for sealing and coupling of joints shall conform to the requirements of Article M.08.01. The aggregates placed around the pipes shall conform to the gradation requirements for Size No. 8 under Article M.01.01.

4 - Turf Establishment with Erosion Control Matting - The materials for this work shall conform to the requirements of Article M.13. The Erosion Control Matting shall be Class 1, Type D. Anchors for the Erosion Control Matting shall be a 9 gage-U Shaped Staple, with a minimum dimension of 12”x1”x12”.

Construction Methods: The Contractor shall insure that during all periods of shipment and storage, the geosynthetic material is protected from mud, dirt, all deleterious materials that might become affixed to it, and temperatures greater than 140ºF. Follow manufacturer’s recommendations with regards to protection from direct sunlight. At the time of installation, the geosynthetic shall be free of any defects, including, but not limited to tears, punctures, flaws, deterioration, or any damage due to manufacture, transportation, and storage.

All areas beneath the installation area for the geosynthetic reinforcement shall be properly prepared as detailed on the plans, specified within this specification, or as directed by the Engineer. All excavation required for construction of the slope shall conform to Article 2.02. Subgrade surfaces shall be level. The subgrade surface shall also be free from deleterious materials, loose soil, topsoil, organic soils, frozen soil, or any other unsuitable material. Prior to placement of geosynthetic reinforcement, subgrade shall be proof-rolled to provide a uniform and firm surface. Any soft areas, as determined by the Engineer, shall be excavated and replaced with suitable compacted soils. The foundation surface shall be inspected and approved by the Engineer prior to placement of geosynthetic and Compacted Granular Fill. Benching the backcut into competent soil shall be performed as shown on the plans or as directed by the Engineer and in conformance with Subarticle 2.02-5, paragraph 3, so as to ensure stability.

The geosynthetic shall be installed in accordance with the plans, specifications, and manufacturer’s recommendation. The geosynthetic reinforcement shall be placed within the layers of the Compacted Granular Fill as shown on the plans, or as directed by the Engineer.

The primary geosynthetic reinforcement shall be placed in continuous, longitudinal strips in the direction of main reinforcement. If the Contractor is unable to complete a required length with a single continuous length of geogrid, a joint may be made with the Engineer’s approval. Only one joint per length of geogrid shall be allowed. This joint shall be made for the full width of the strip by using a similar material with similar strength. Joints in geogrid reinforcement shall be pulled and held taut during placement of Compacted Granular Fill. The minimum length of geogrid placed shall be 6 feet. For primary geogrids, joints shall not be placed within 6 feet of the slope face. Adjacent, overlying, and underlying rolls of geogrid shall not have a joint within 6 feet of each other. Joints shall not be permitted with geotextiles.

Horizontal coverage of less than 100% shall not be allowed. Adjacent strips of geosynthetic need not be overlapped as long as 100% coverage is maintained.

Place only that amount of geosynthetic reinforcement required for immediately pending work to prevent undue damage. After a layer of geosynthetic reinforcement has been placed, the next succeeding layer of soil shall be placed and compacted as appropriate. After the specified soil layer has been placed, the next geosynthetic reinforcing layer shall be installed. The process shall be repeated for each subsequent layer of geosynthetic reinforcement and soil.

Geosynthetic reinforcement shall be placed to lay flat and pulled tight prior to backfilling. After a layer of geosynthetic reinforcement has been placed, suitable means, such as pins or small piles of soil, shall be used to hold the geosynthetic reinforcement in position until the subsequent soil layer can be placed.

During construction, the surface of the fill should be kept approximately horizontal. Geosynthetic reinforcement shall be placed directly on the Compacted Granular Fill surface. Geosynthetic reinforcements are to be placed within 3 inches of the design elevation view unless otherwise directed by the Engineer. The Contractor shall verify correct orientation of the geosynthetic reinforcement.

Compacted Granular Fill shall be placed and compacted as specified in Article 2.14, with the following amendments. The Contractor shall be allowed a maximum lift of 12 inches. In addition, the Compacted Granular Fill shall be placed, spread, and compacted in such a manner to minimize the development of wrinkles and/or displacement of the geosynthetic reinforcement. The Compacted Granular Fill shall be graded away from the slope crest and rolled at the end of each work day to prevent ponding of water or erosion on the surface of the reinforced soil mass.

Tracked construction equipment shall not be operated directly upon the geosynthetic reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geosynthetic reinforcement. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and the geosynthetic reinforcement.

The Engineer may allow rubber tired equipment to pass over the geosynthetic reinforcement at speeds less than 10mph. Sudden braking and sharp turning shall be avoided.

The Slope Underdrain and Outlet for Underdrain shall be installed as shown on the plans and as specified in Article 7.51.

Turf Establishment with Erosion Control Matting shall be placed as specified in Article 9.50. Seeding and/or mulch shall be placed prior to placement of Erosion Control Matting. The Turf Establishment with Erosion Control Matting shall be performed immediately upon completion of each 5 foot vertical section of geosynthetic reinforcement and Compacted Granular Fill. Anchors shall be placed and spaced such that there is 1 anchor per 2 square feet of matting. The Erosion Control Matting shall be placed horizontal along the face of the slope with the upper matting overlapping the lower matting by 12”. Anchors shall be placed in the center of the overlap with 1 foot spacing.

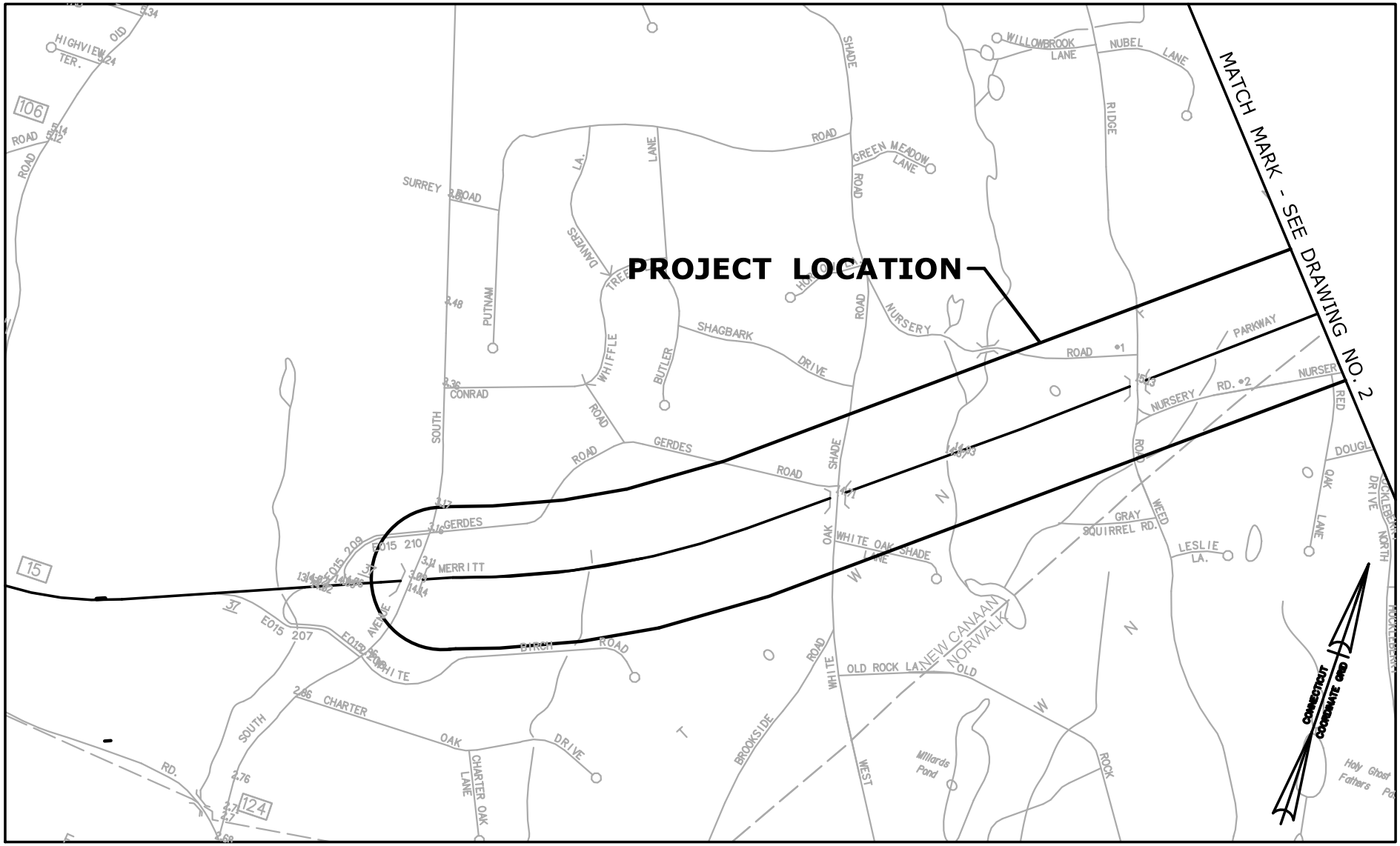
The Contractor shall begin construction of the reinforced soil slope no earlier than March 15th, and have the reinforced slope constructed, seeded, and Erosion Control Matting installed by October 15th of the same calendar year. Out of season seeding will not be permitted.

Method of Measurement: This work will be paid for on a lump sum basis and will not be measured for payment.

Basis of Payment: This work will be paid for at the contract lump sum price for “Reinforced Soil Slope”, complete in place, which price shall include all work shown within the pay limits

shown on the contract drawings for the reinforced soil slope including but not limited to the following: supply and installation of Geosynthetic reinforcement; Compacted Granular Fill; Slope Underdrain; Outlet for Underdrain; Turf Establishment with Erosion Control Matting; temporary soil berm and outlet; and earth excavation. The price shall also include all tools, labor, equipment, and material incidental thereto. If boulders in excess of 1 cubic yard are encountered in the excavation, the boulder(s) shall be removed and paid for in accordance with Article 2.02, "Rock Excavation".

Pay Item	Pay Unit
Reinforced Soil Slope	L. S.



SCALE IN FEET

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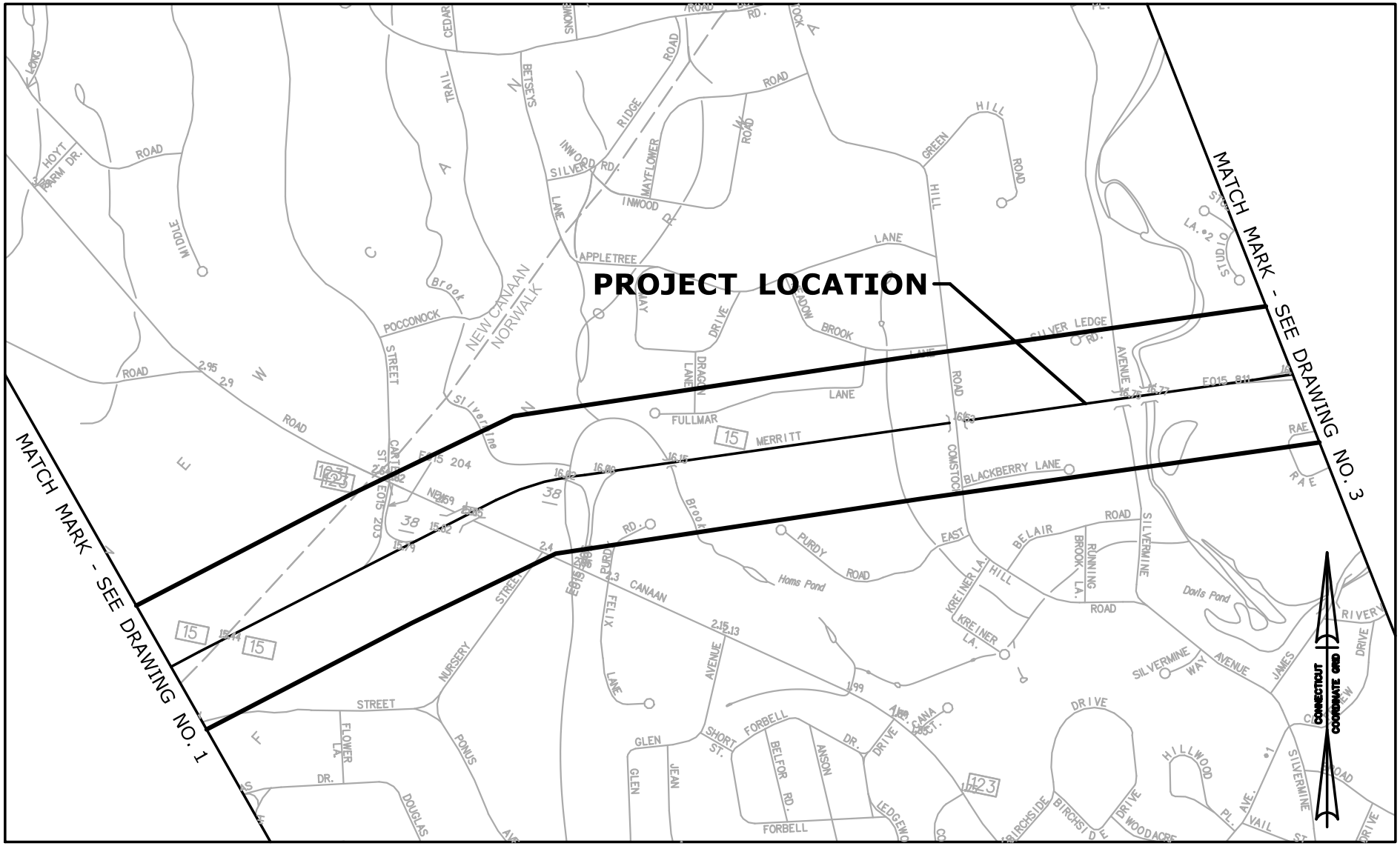
STATE PROJECT NO.: 102-296	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION MERRITT PARKWAY (ROUTE 15) SAFETY IMPROVEMENTS RESURFACING, ENHANCEMENTS AND BRIDGE IMPROVEMENTS	OFFICE OF ENGINEERING	DATE: 02/02/17
CITY/TOWN: NEW CANAAN, NORWALK & WESTPORT			DRAWING NO. 1 OF 4



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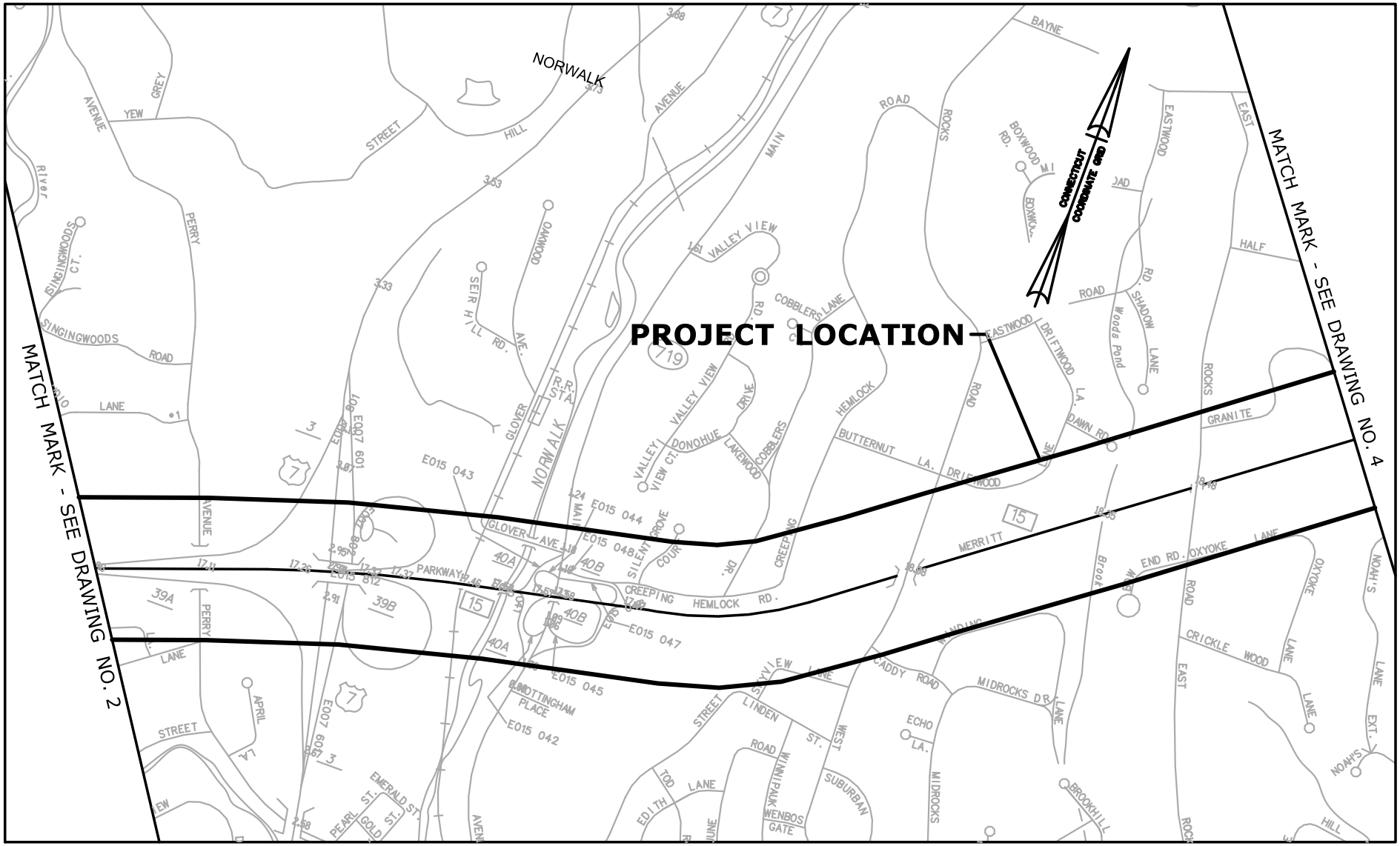
CITY/TOWN: NEW CANAAN, NORWALK & WESTPORT			DRAWING NO. 2 OF 4



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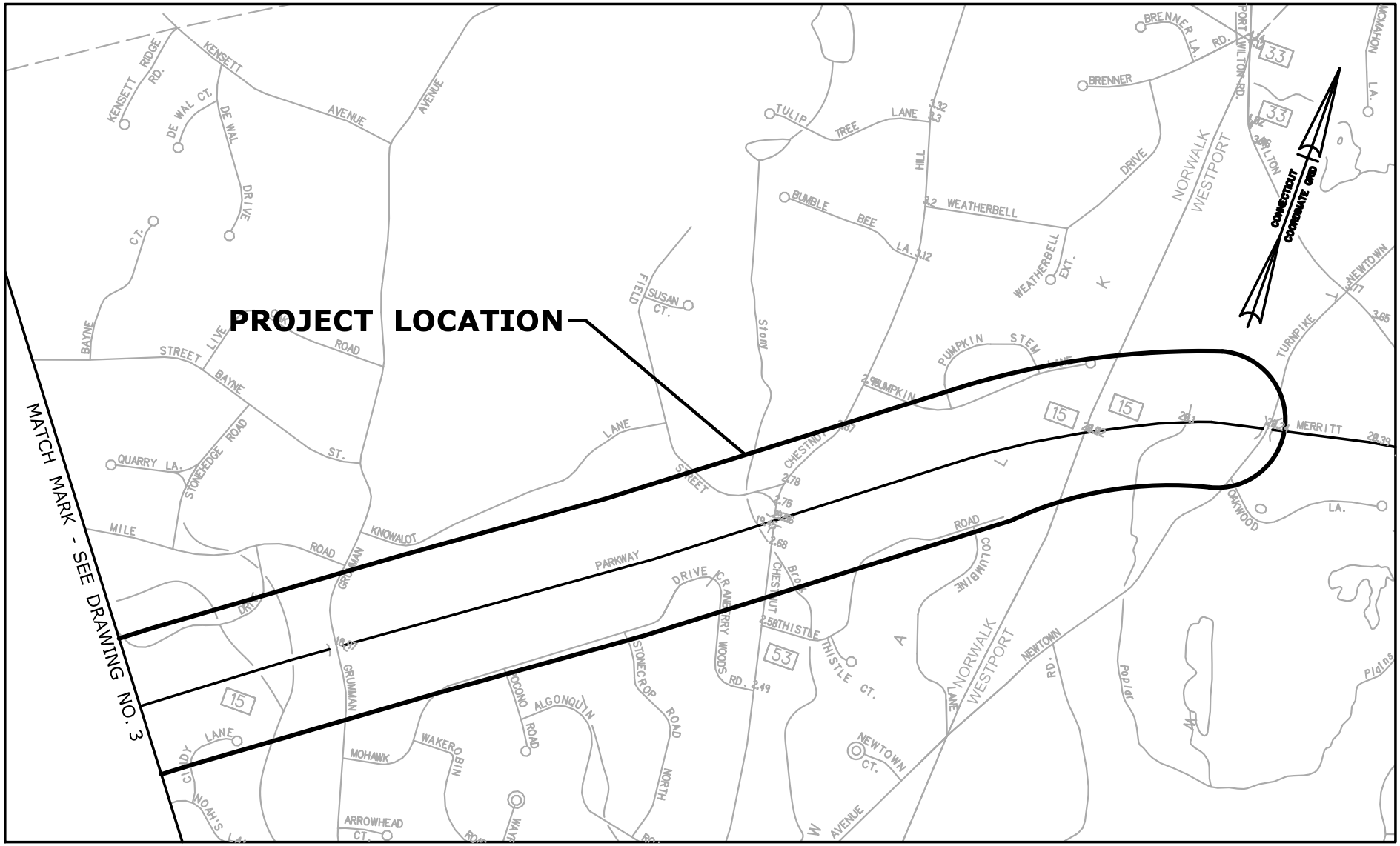
CITY/TOWN: NEW CANAAN, NORWALK & WESTPORT			DRAWING NO. 3 OF 4



SCALE IN FEET

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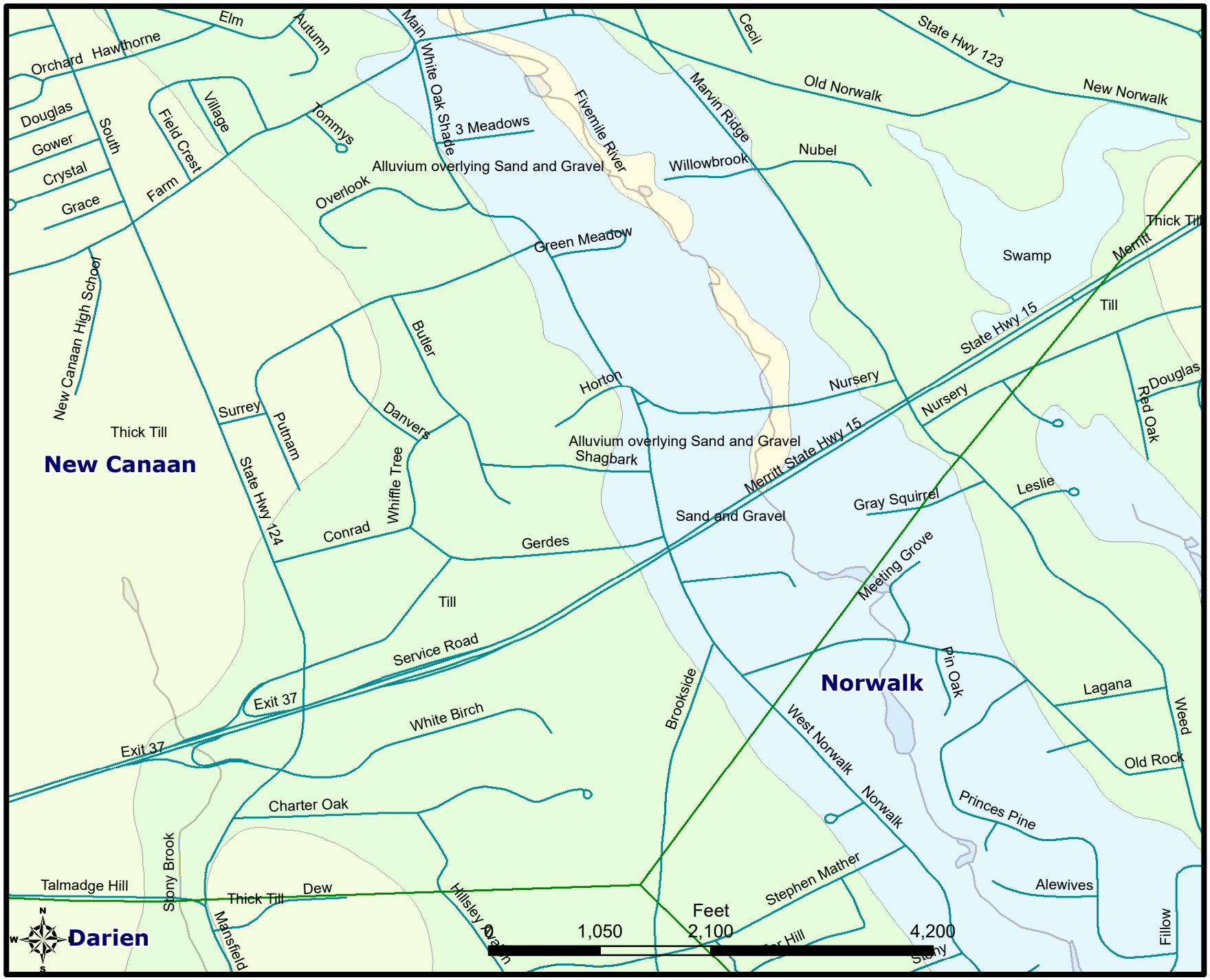
STATE PROJECT NO.: 102-296	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION MERRITT PARKWAY (ROUTE 15) SAFETY IMPROVEMENTS RESURFACING, ENHANCEMENTS AND BRIDGE IMPROVEMENTS	OFFICE OF ENGINEERING	DATE: 02/02/17
CITY/TOWN: NEW CANAAN, NORWALK & WESTPORT			DRAWING NO. 4 OF 4

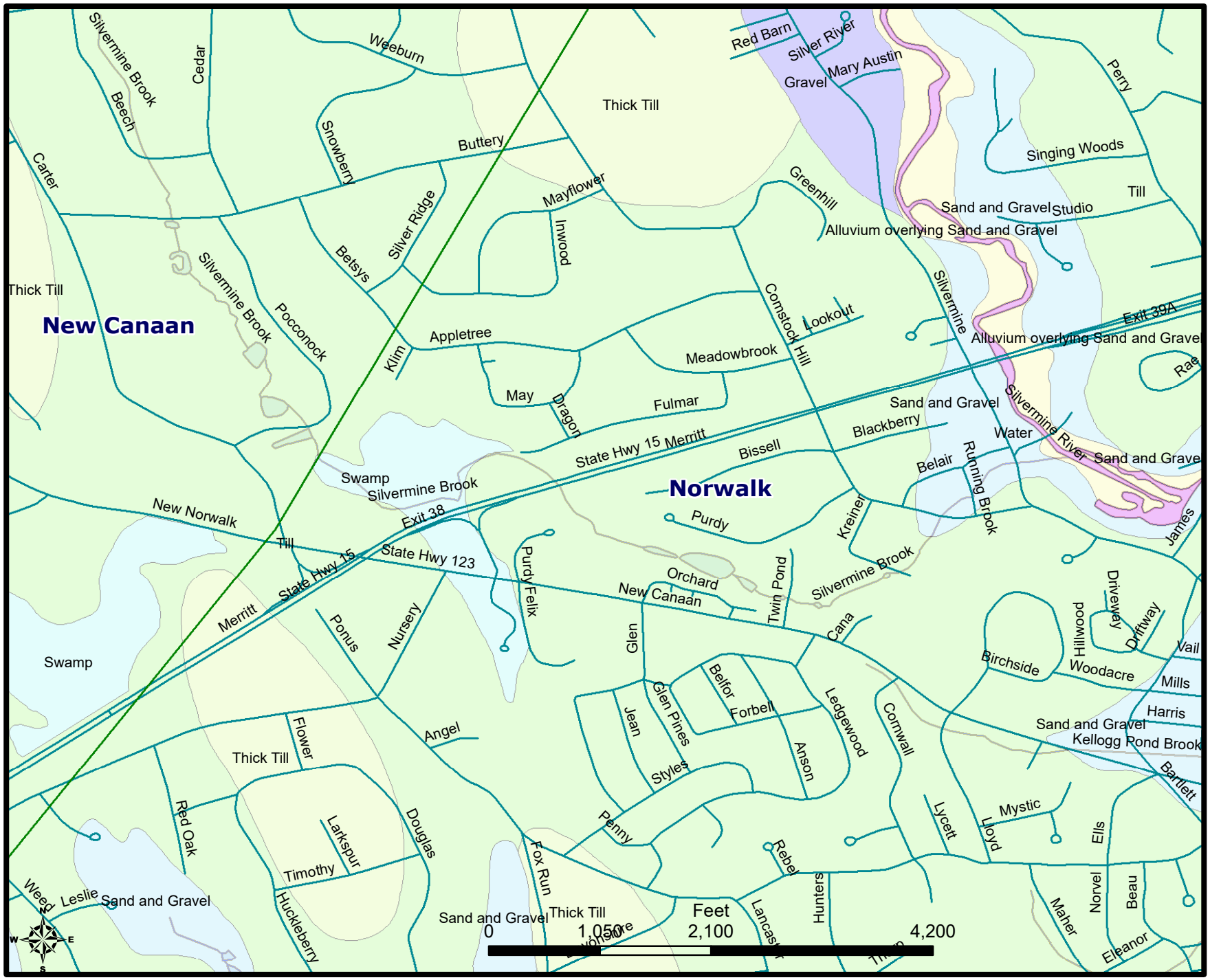
Surficial Geology 1 of 4



Project Number 102-296

Route 15 Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements

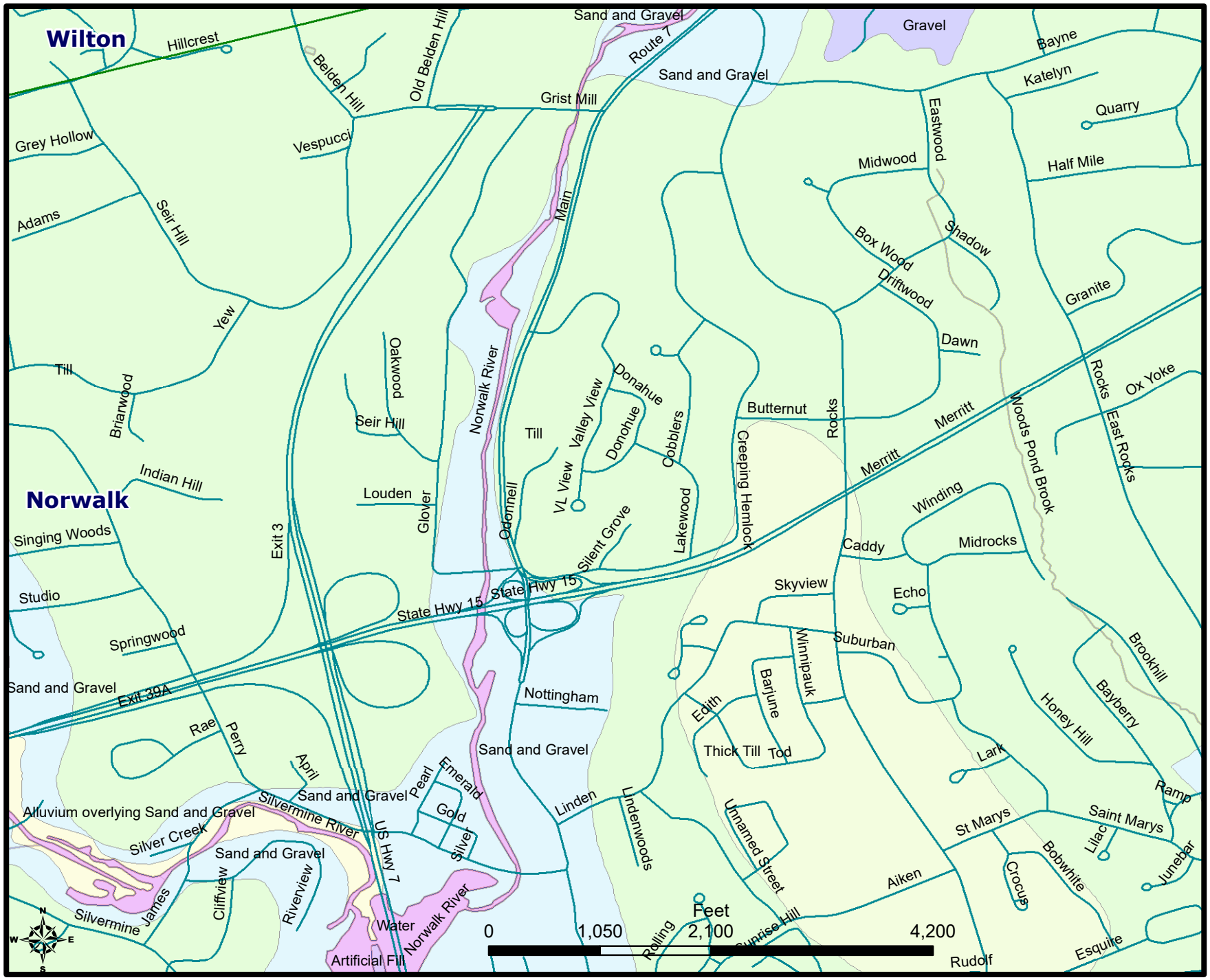
Surficial Geology 2 of 4



Project Number 102-296

Route 15 Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements

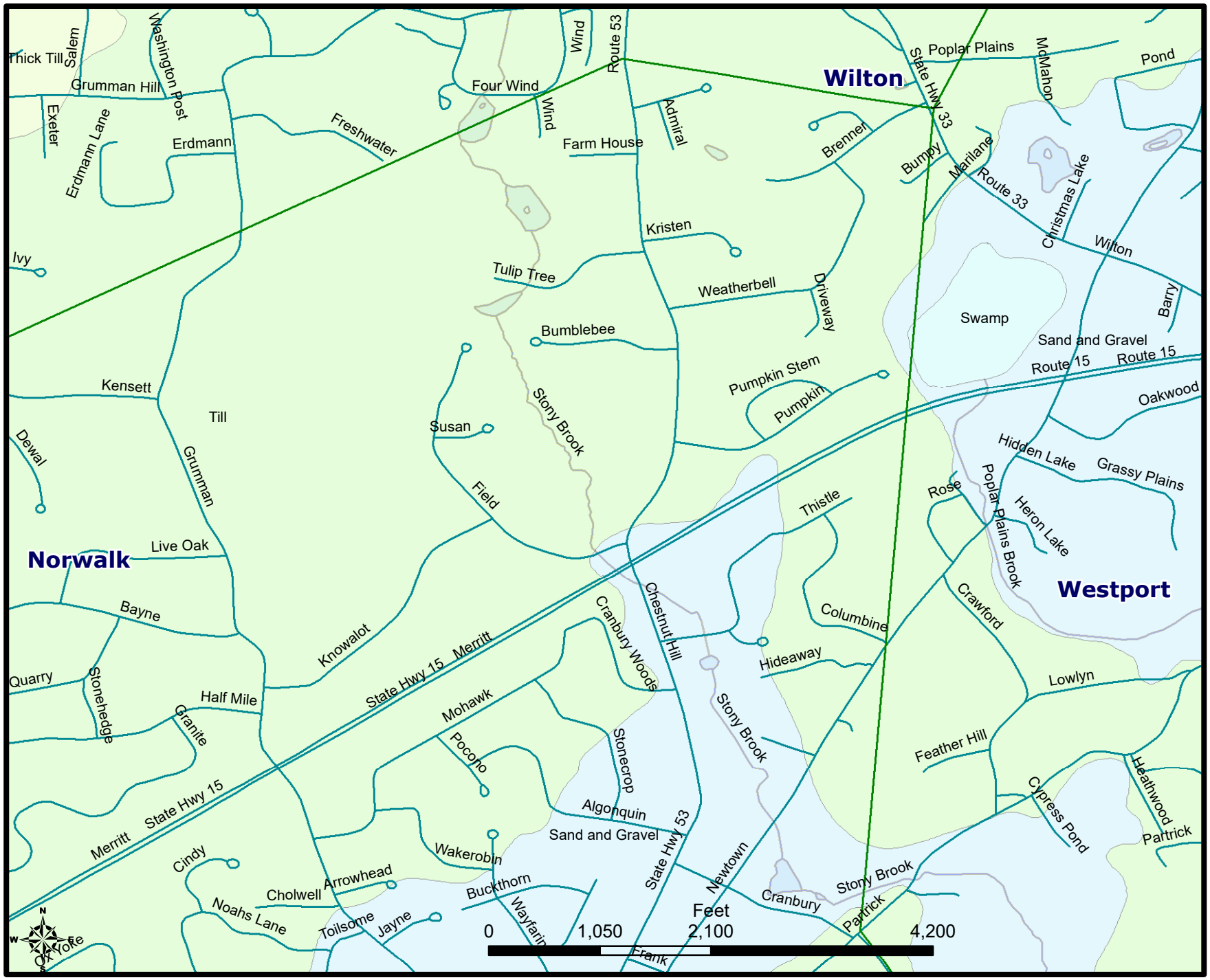
Surficial Geology 3 of 4



Project Number 102-296

Route 15 Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements

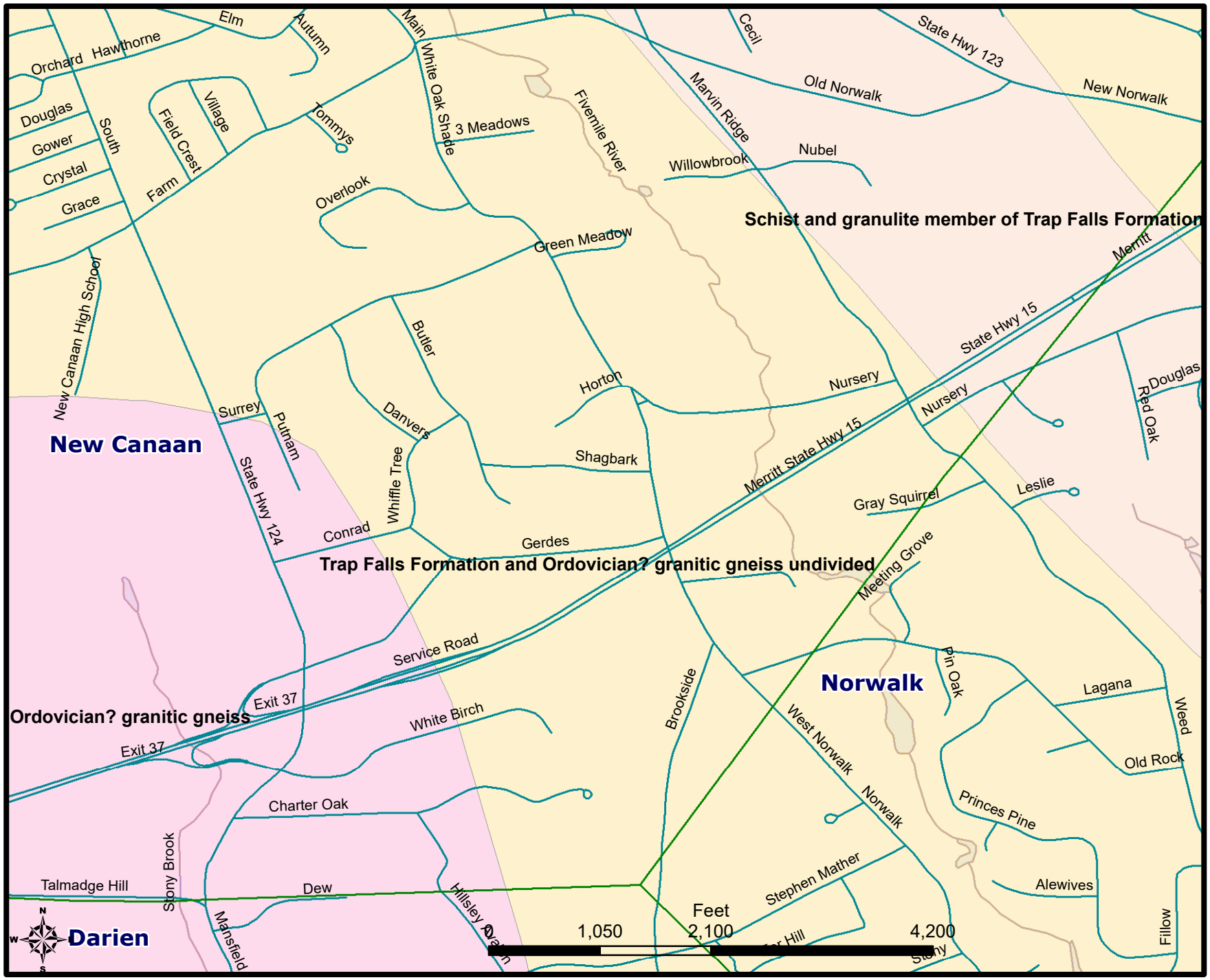
Surficial Geology 4 of 4



Project Number 102-296

Route 15 Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements

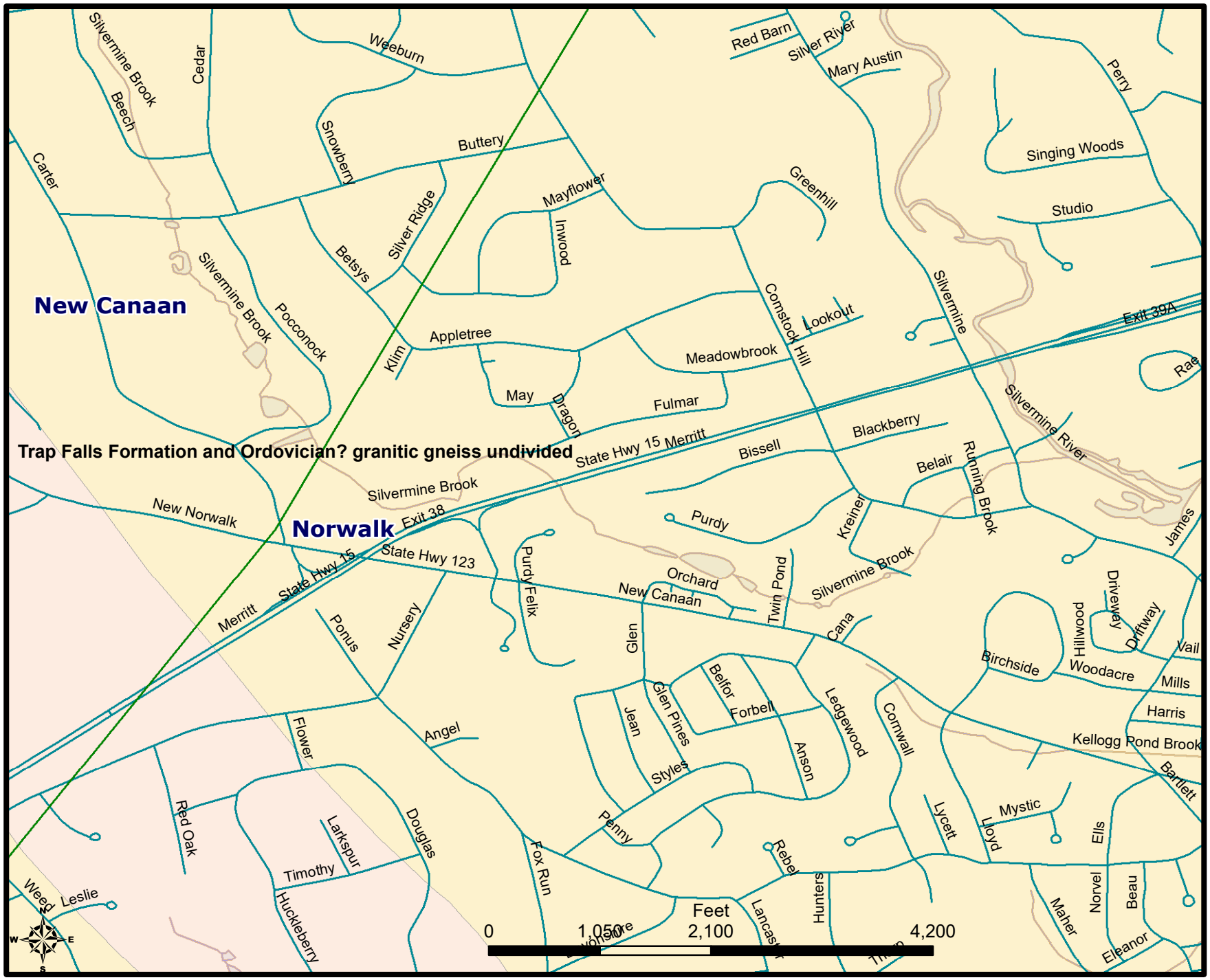
Bedrock Geology 1 of 4



Project Number 102-296

Route 15 Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements

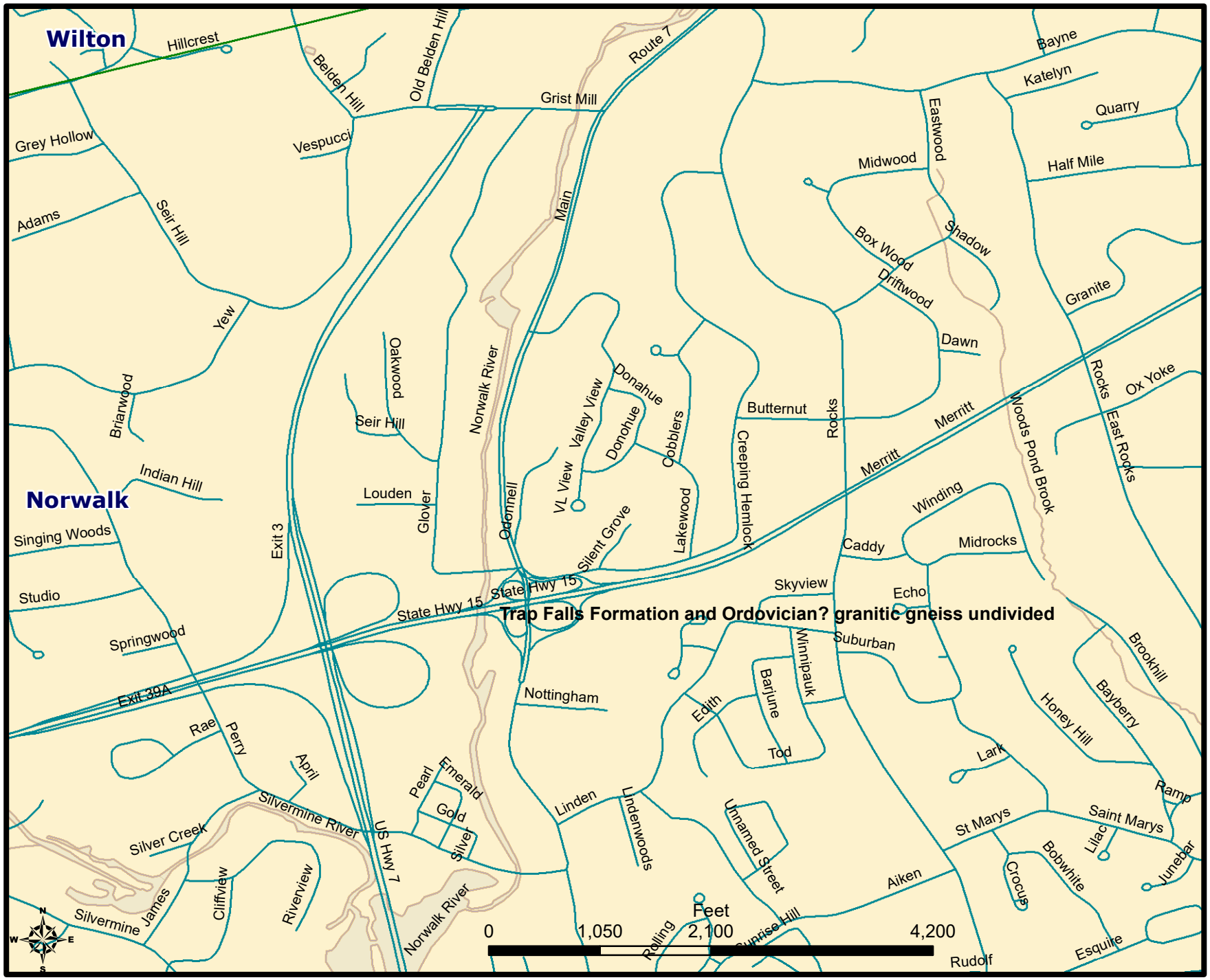
Bedrock Geology 2 of 4



Project Number 102-296

Route 15 Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements

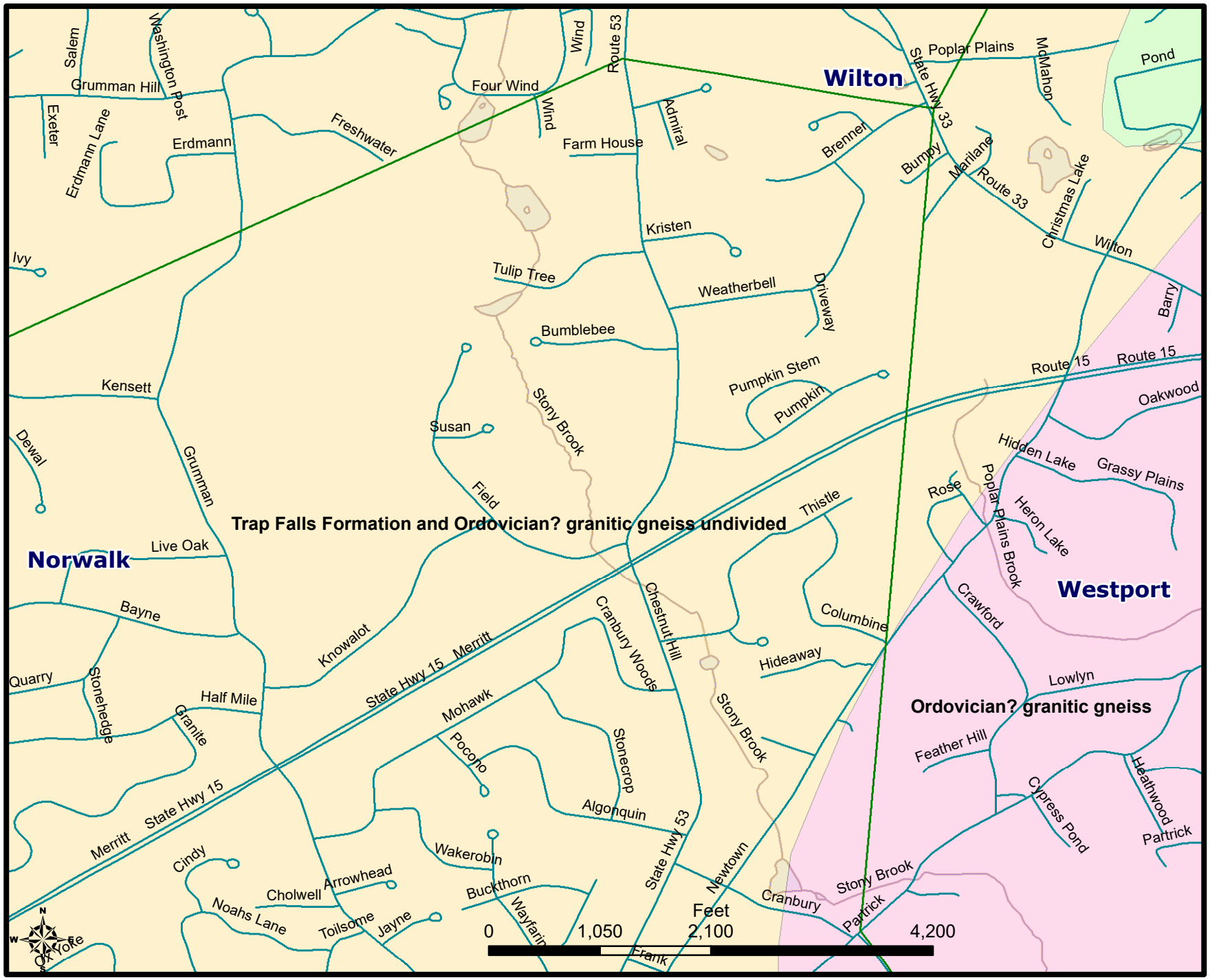
Bedrock Geology 3 of 4



Project Number 102-296

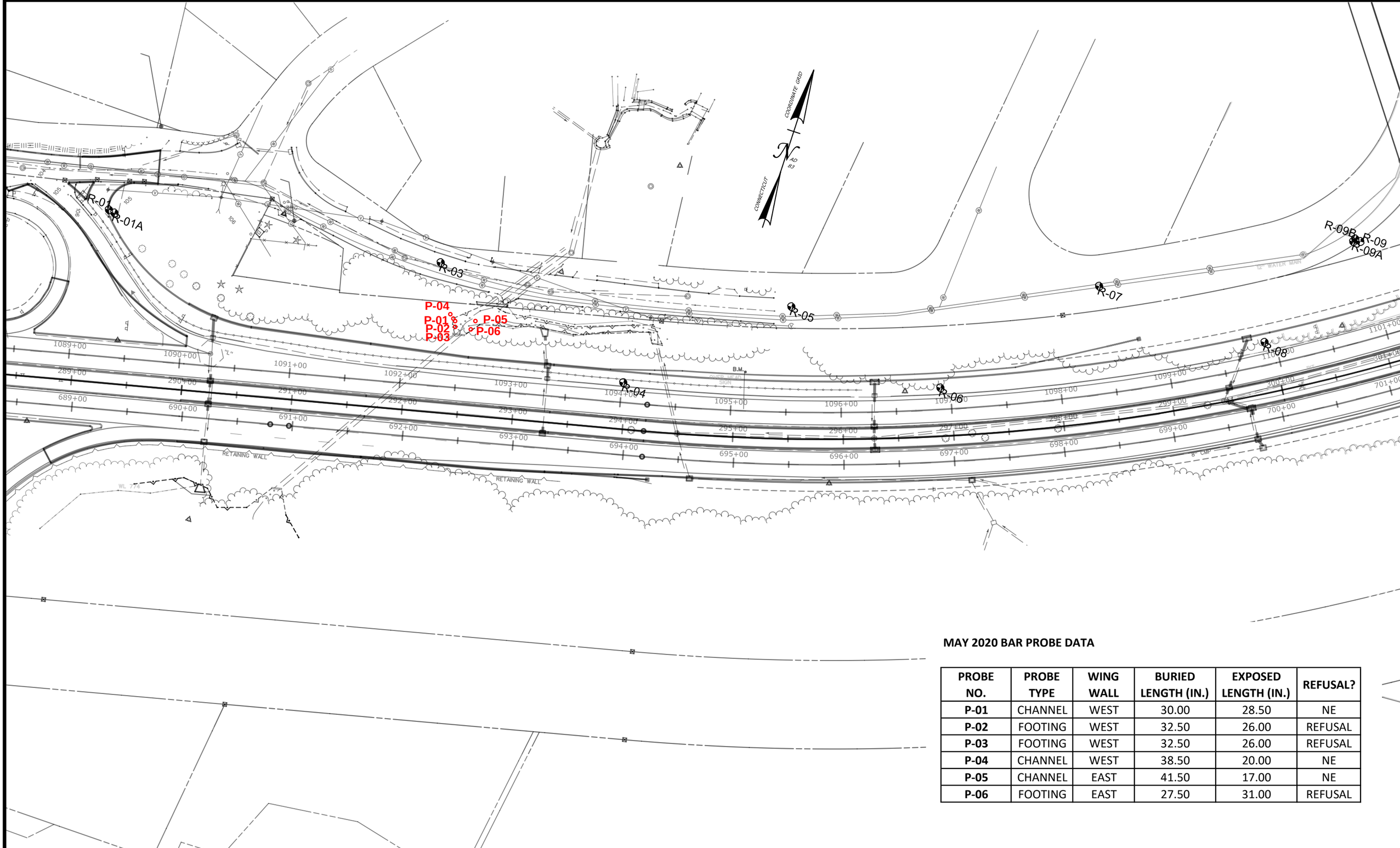
Route 15 Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements

Bedrock Geology 4 of 4



Project Number 102-296

Route 15 Safety Improvements, Resurfacing, Enhancements, and Bridge Improvements



MAY 2020 BAR PROBE DATA

PROBE NO.	PROBE TYPE	WING WALL	BURIED LENGTH (IN.)	EXPOSED LENGTH (IN.)	REFUSAL?
P-01	CHANNEL	WEST	30.00	28.50	NE
P-02	FOOTING	WEST	32.50	26.00	REFUSAL
P-03	FOOTING	WEST	32.50	26.00	REFUSAL
P-04	CHANNEL	WEST	38.50	20.00	NE
P-05	CHANNEL	EAST	41.50	17.00	NE
P-06	FOOTING	EAST	27.50	31.00	REFUSAL

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 2/19/2020

DESIGNER/DRAFTER: LCM

CHECKED BY: MFM

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\Boring Location Plan.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
ROUTE 15 SAFETY IMPROVEMENTS, RESURFACING, ENHANCEMENTS, AND BRIDGE IMPROVEMENTS

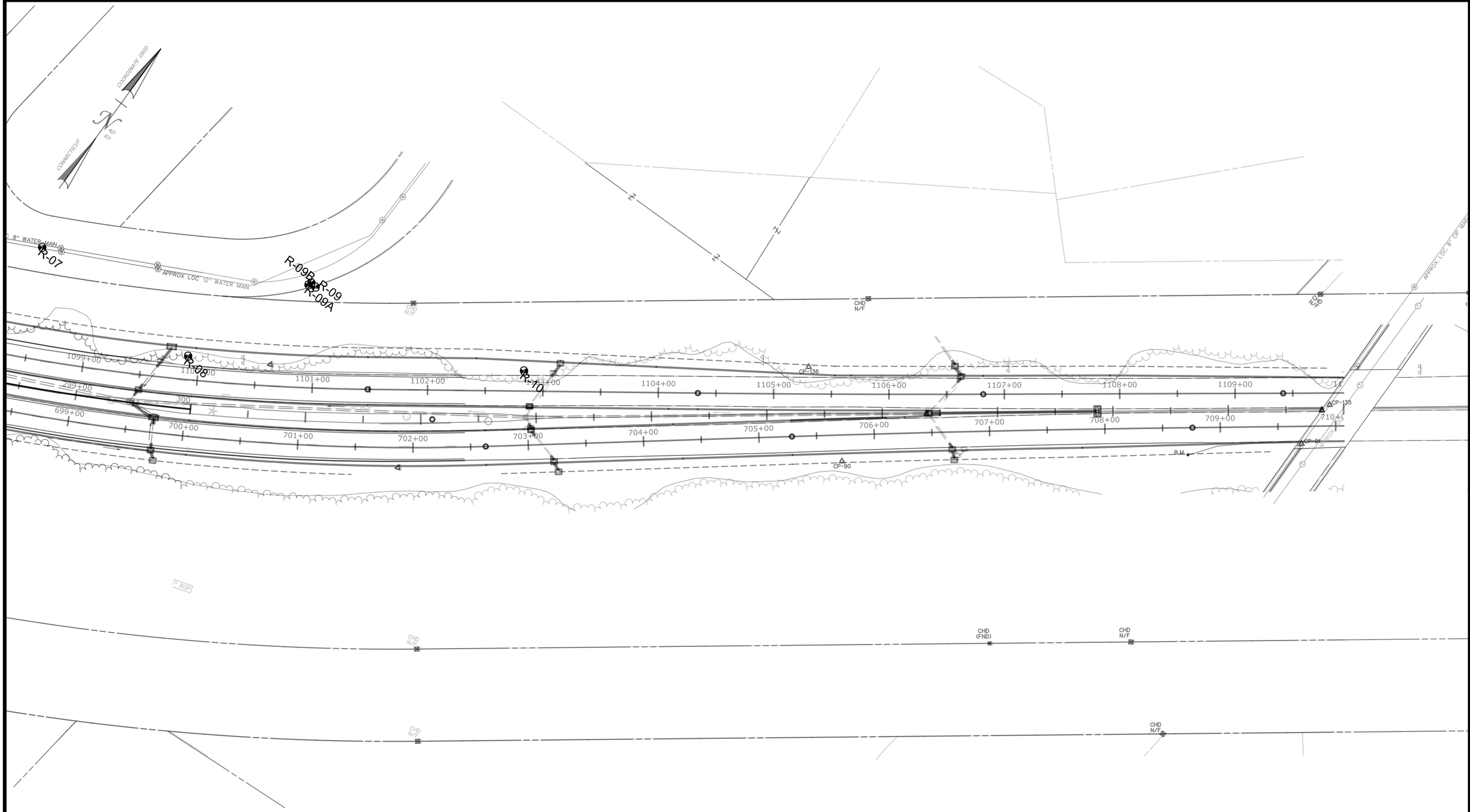
TOWN: **NORWALK WESTPORT**

DRAWING TITLE: **BOREHOLE LOCATION PLAN**

PROJECT NO. **0102-0296**

DRAWING NO. **PLN-01**

SHEET NO.



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 2/19/2020

DESIGNER/DRAFTER: LCM

CHECKED BY: MFM

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\Boring Location Plan.dgn

SIGNATURE/ BLOCK:

PROJECT TITLE:
ROUTE 15 SAFETY IMPROVEMENTS, RESURFACING, ENHANCEMENTS, AND BRIDGE IMPROVEMENTS

TOWN: **NORWALK WESTPORT**

DRAWING TITLE: **BOREHOLE LOCATION PLAN**

PROJECT NO. **0102-0296**

DRAWING NO. **PLN-02**

SHEET NO.

SUBSURFACE DIAGRAM

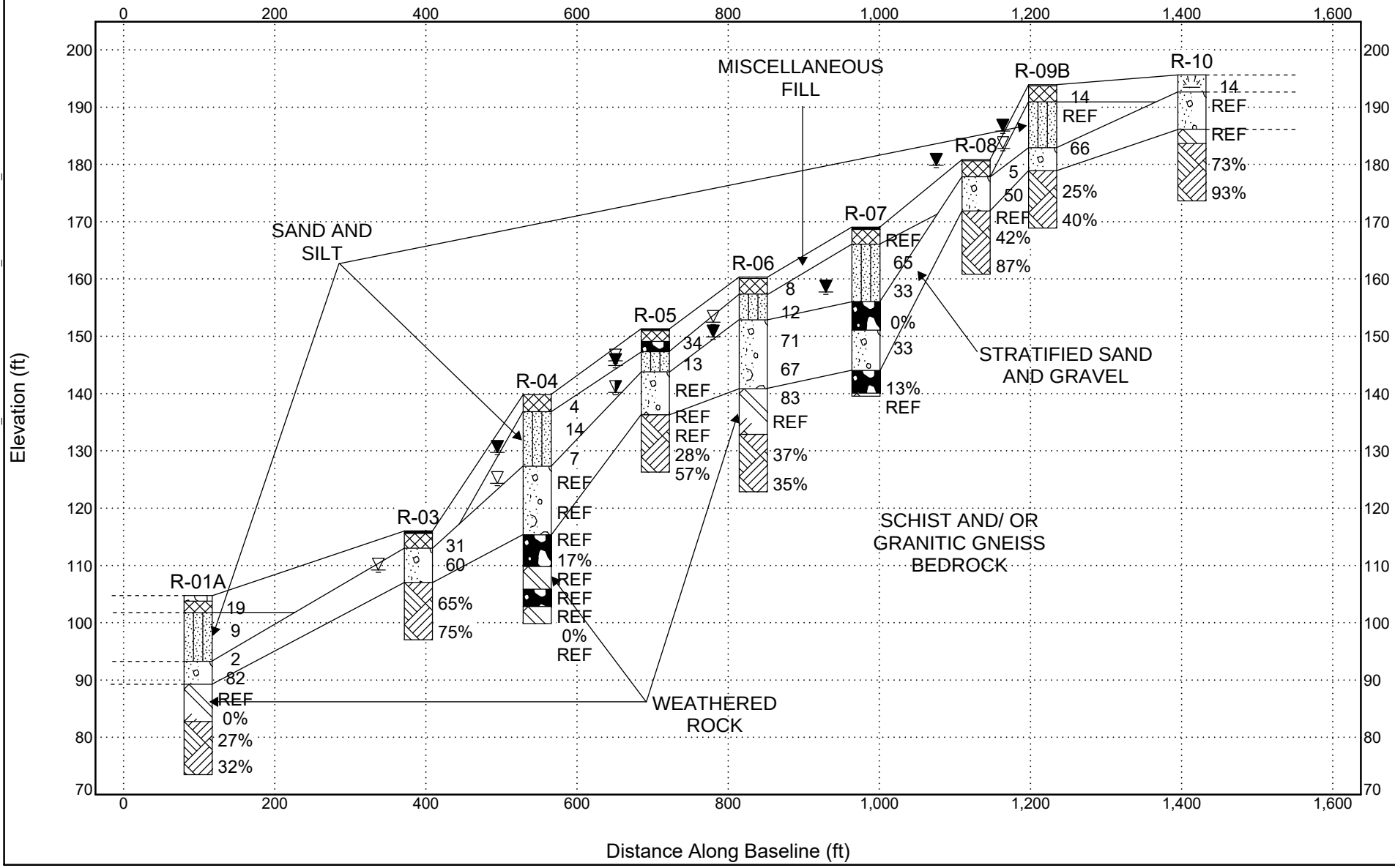
Connecticut DOT
2800 Berlin Turnpike
Newington, CT 06131

PRIME DESIGNER CT DOT - Soils & Foundations

PROJECT NUMBER 0102-0296

PROJECT NAME Route 15 Safety Improvements

PROJECT LOCATION Norwalk, Connecticut



STRATIGRAPHY & GW - A SIZE - GINT STD US.GDT - 2/19/20 13:59 - X:\P-DRIVE_MIGRATION\ENGINEERING_SERVICES\PM_WD\PROJECTS\0102-0296\WORKING FOLDER - LCM\APPENDICES\PROFI

Driller:	S. McGregor (ATL)	**Connecticut DOT Boring Report**		Hole No.:	R-01
Inspector:	G. Arzt	Town:	Norwalk, Connecticut	Stat./Offset:	~1089+50/~115' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	613684.428
Start Date:	12-17-19	Route No.:	15 Southbound	Easting:	814293.355
Finish Date:	12-17-19	Bridge No.:	NA	Surface Elevation:	105.027
Project Description:	Route 15 Safety Improvements				
Casing Size/Type:	3.75"	Sampler Type/Size:	2"SS	Core Barrel Type:	NA
Hammer Wt.: NA	Fall: NAin.	Hammer Wt.: 140	Fall: 30in.		
Groundwater Observations:	@NM				

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	3 7 12 8	24	8		MISC. FILL	Gray c-m angular GRAVEL, little c-f-sand, trace silt.	105
						SILTY SAND		
5	S-2	3 4 5 13	24	10			Brown f-c SAND, some f-c gravel, some silt.	100
10	S-3	4 1 1 5	24	3			Red/brown f-c SAND, little silt, little f-c gravel.	95
	S-4	58 42 40 48	24	15		STRATIFIED SAND AND GRAVEL	Brown f-c SAND, some f-m gravel, trace silt.	
15							END OF BORING 14ft	90
20								85
25								80
30								75
35								70
40								65
45								60
50								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 14ft Rock: 0ft	NOTES: Spoon shoe broke off in hole following advance of S4 and had to abandon hole. Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Upon completion, R-01 backfilled with cuttings.	Sheet 1 of 1
No. of Soil Samples: 4 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: S. McGregor (ATL)	**Connecticut DOT Boring Report**	Hole No.: R-01A
Inspector: G. Arzt / L. McKiernan	Town: Norwalk, Connecticut	Stat./Offset: ~1089+50/~115' L
Engineer: L. McKiernan	Project No.: 0102-0296	Northing: 613683.268
Start Date: 12-17-19	Route No.: 15 Southbound	Easting: 814298.918
Finish Date: 1-8-20	Bridge No.: NA	Surface Elevation: 104.763

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"/4.0"	Sampler Type/Size: 2"SS	Core Barrel Type: NQ2
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @NM

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						MISC. FILL		
						SILTY SAND		
5								100
10								95
						STRATIFIED SAND AND GRAVEL		
15								90
	S-5	50/0"	0	0		WEATHERED ROCK		
20	C-1		60	6	0		Gray, silver, and tan GRANITIC GNEISS, medium- to coarse-grained, med. to thickly bedded, intensely fractured, moderate weathering, strong. Core run times: 6:41, 8:35, 8:07, 4:32, 3:32.	85
						BEDROCK	Gray, white, and tan GRANITIC GNEISS, medium- to coarse-grained, massively bedded, highly to intensely fractured, moderate weathering, strong. Core run times: 2:42, 4:32, 5:41, 7:45/4".	
25	C-2		52	52	27			80
	C-3		60	60	32		Gray, white, and tan GRANITIC GNEISS, medium- to coarse-grained, massively bedded, highly to intensely fractured, moderate weathering, very strong. Core run times: 3:34, 5:01, 6:10, 3:41, 4:21.	
30								75
35							END OF BORING 31.3ft	70
40								65
45								60
50								55

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: R-01A is a continuation of R-01 which was abandoned at 14 ft below grade due to a lost spoon shoe. Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Upon completion, R-01A backfilled with cuttings.	Sheet 1 of 1
Earth: 15.5ft Rock: 15.8ft		
No. of Soil Samples: 1 No. of Core Runs: 3		SM-001-M REV. 1/02

Connecticut DOT Boring Report

Driller:	S. McGregor (ATL)			Hole No.:	R-03
Inspector:	G. Arzt	Town:	Norwalk, Connecticut	Stat./Offset:	~1092+50/~115' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	613732.028
Start Date:	1-31-20	Route No.:	15 Southbound	Easting:	814593.23
Finish Date:	1-31-20	Bridge No.:	NA	Surface Elevation:	116.019

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"	Sampler Type/Size: 2"SS	Core Barrel Type: NQ2
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @6.8 after 12:10 PM, 1/31/2020 hours

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0								
	S-1	15 16 15 15	24	15		ASPHALT	0-5": ASPHALT PAVEMENT.	115
						MISC. FILL	Brown f-c SAND and f-m GRAVEL, trace silt, trace asphalt fragments.	
						STRATIFIED SAND AND GRAVEL		
5	S-2	26 27 33 50/0"	18	8			Light brown c-f GRAVEL and c-f SAND, little silt.	110
10						BEDROCK		
	C-1		60	60	65		Gray and white SCHIST, fine- to coarse-grained, massively bedded, highly fractured, slight weathering, very strong. Core run times: 2:42, 3:33, 3:04, 6:08, 6:09.	105
15	C-2		60	60	75		Gray and white SCHIST, fine- to coarse-grained, massively bedded, highly fractured, slight weathering, very strong. Core run times: 7:02, 6:32, 8:43, 7:01, 6:05.	100
20							END OF BORING 19ft	95
25								90
30								85
35								80
40								75
45								70
50								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 9ft Rock: 10ft	NOTES: Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Following completion of borehole, monitoring well installed with continuous screen to 9 ft below grade.	Sheet 1 of 1
No. of Soil Samples: 2 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller:	S. McGregor (ATL)	**Connecticut DOT Boring Report**		Hole No.:	R-04
Inspector:	G. Arzt	Town:	Norwalk, Connecticut	Stat./Offset:	~1094+00/~14' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	613680.02
Start Date:	1-29-20	Route No.:	15 Southbound	Easting:	814783.75
Finish Date:	1-30-20	Bridge No.:	NA	Surface Elevation:	139.832

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"	Sampler Type/Size: 2"SS	Core Barrel Type: NQ2
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @15.5 after 10:32 AM, 1/30/2020 hours, @10.1 after 1:25 PM, 1/30/2020 hours

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	2 2 2 8	24	19		MISC. FILL	Brown f-c SAND, some silt, trace f-c gravel, trace organic fibers.	
						SILTY SAND		
5	S-2	10 6 8 23	24	11			Light brown m-c GRAVEL and f-c SAND, little silt.	135
10	S-3	2 3 4 4	24	13			Light brown f-c GRAVEL and f-c SAND, little silt, trace organic fibers.	130
						STRATIFIED SAND AND GRAVEL		
15	S-4	23 66/1"	7	0				125
20	S-5	38 80	12	6			Light brown/ gray f-c GRAVEL and m-c SAND, trace silt.	120
25	S-6	26 50/0"	6	3			Light brown/ gray f-c GRAVEL and c SAND, trace silt.	115
						BOULDER	Gray and tan BOULDER, medium- to coarse-grained, thickly bedded, highly to intensely fractured, slight to moderate weathering, very strong. Core run times: 1:27, 2:18, 4:25, 3:12.	
	C-1		54	32	17			
30	S-7	50/0"	0	0		WEATHERED ROCK	Gray/ brown/ red f-m SAND and SILT, very dense, likely weathered rock.	110
	S-8	50/6" 50/0"	6	4				
	S-9	50/0"	0	0		BOULDER		
35	C-2		36	0	0		BOULDER, NO RECOVERY. Core run times: 0:58, 0:10, 0:32.	105
	S-10	50/0"	0	0		WEATHERED ROCK	NO RECOVERY.	
40							END OF BORING 40ft	100
45								95
50								90

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 24.5ft Rock: 15.5ft	NOTES: 54-inch boulder encountered at 25.5 ft BGS. 36-inch boulder encountered at 34 ft BGS. Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Upon completion, R-04 backfilled with cuttings.	Sheet 1 of 1
No. of Soil Samples: 10 No. of Core Runs: 2		SM-001-M REV. 1/02

Connecticut DOT Boring Report

Driller:	S. McGregor (ATL)			Hole No.:	R-05
Inspector:	G. Arzt	Town:	Norwalk, Connecticut	Stat./Offset:	~1095+50/~115' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	613792.416
Start Date:	1-24-20	Route No.:	15 Southbound	Easting:	814906.897
Finish Date:	1-28-20	Bridge No.:	NA	Surface Elevation:	151.297

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"	Sampler Type/Size: 2"SS	Core Barrel Type: NQ2
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @5.6 after 8:15 AM, 1/28/20 hours, @6.4 after 10:33 AM, 1/28/20 hours

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	17 18 16 60/2"	20	13		ASPHALT MISC. FILL BOULDER	0-4": ASPHALT PAVEMENT. Brown f-c GRAVEL and f-c SAND, little silt.	150
5	S-2	3 5 8 15	24	17		SILTY SAND	Light brown f-c SAND, some NP-LP fines, little m-f gravel.	145
10	S-3	23 20 100/3"	15	8		STRATIFIED SAND AND GRAVEL	Brown f-c GRAVEL, some f-c sand, little silt.	140
15	S-4 S-5	23 50/0" 50/0"	6 0	2.5 0		WEATHERED ROCK	Brown/ gray f-c SAND, little silt, trace f-m gravel, likely weathered rock.	135
	C-1		60	53	28	BEDROCK	White, gray, and tan GRANITIC GNEISS, medium- to coarse-grained, thickly bedded, highly to intensely fractured, moderate to slight weathering, strong. Core run times: 3:55, 7:34, 6:12, 3:49, 5:42.	
20	C-2		60	60	57		White, gray, and tan GRANITIC GNEISS, fine- to coarse-grained, thickly bedded, highly fractured, moderate to slight weathering, strong. Core run times: 3:16, 2:45, 3:15, 5:45, 5:22.	130
25							END OF BORING 25ft	125
30								120
35								115
40								110
45								105
50								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in

Earth: 14.5ft Rock: 10.5ft

No. of Soil Samples: 5 No. of Core Runs: 2

NOTES: 22-inch boulder encountered at 2.2 ft BGS. 10-inch cobble encountered at 10.25 ft BGS. Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer.
Upon completion, R-05 backfilled with cuttings and brought to grade with cold-patch asphalt.

SM-001-M REV. 1/02

Connecticut DOT Boring Report

Driller:	S. McGregor (ATL)			Hole No.:	R-06
Inspector:	G. Arzt	Town:	Norwalk, Connecticut	Stat./Offset:	~1097+00/~14' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	613764.419
Start Date:	1-22-20	Route No.:	15 Southbound	Easting:	815057.704
Finish Date:	1-23-20	Bridge No.:	NA	Surface Elevation:	160.364

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"	Sampler Type/Size: 2"SS	Core Barrel Type: NQ2
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @7.9 after 1/22/20 hours, @10.5 after 10:45 AM, 1/23/2020 hours

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	2 2 6 5	24	20		TOPSOIL / MISC. FILL	Brown f-c SAND, some silt, little m-f gravel, trace organics.	160
5	S-2	6 5 7 10	24	17		SILTY SAND	Light brown/ gray f-m SAND and NP-LP FINES, trace f-m gravel.	155
10	S-3	21 41 30 25	24	14		STRATIFIED SAND AND GRAVEL	Brown c-f GRAVEL and c-f SAND, trace silt.	150
15	S-4	23 34 33 42	24	19			Brown c-f GRAVEL and c-f SAND, little silt.	145
20	S-5	14 46 37 25	24	22		WEATHERED ROCK	Light gray m-c GRAVEL and c-f SAND, little silt.	140
25	S-6	90/4"	4	2			Gray/brown f-c GRAVEL, some f-sand, trace silt, dense.	135
30	C-1		60	53	37	BEDROCK	Gray SCHIST, fine- to medium- grained, massively bedded, highly to intensely fractured, moderate weathering, strong. Core run times: 0:56, 2:15, 2:30, 2:26, 3:37.	130
35	C-2		60	60	35		Gray and white SCHIST, fine- to coarse-grained, massively bedded, highly fractured, slight to moderate weathering, strong. Core run times: 4:30, 7:57, 4:33, 4:21, 7:09.	125
40							END OF BORING 37.5ft	120
45								115
50								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 19.5ft Rock: 18ft	NOTES: Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Upon completion, R-06 backfilled with cuttings.	Sheet 1 of 1
No. of Soil Samples: 6 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller:	S. McGregor (ATL)	**Connecticut DOT Boring Report**		Hole No.:	R-07
Inspector:	G. Arzt	Town:	Norwalk, Connecticut	Stat./Offset:	~1098+50/~75' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	613896.31
Start Date:	1-21-20	Route No.:	15 Southbound	Easting:	815165.547
Finish Date:	1-21-20	Bridge No.:	NA	Surface Elevation:	169.049

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"	Sampler Type/Size: 2"SS	Core Barrel Type: NQ2
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @11.3 after 2:34 PM, 1/21/2020 hours

Depth (ft)	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	80/3"	3	1		ASPHALT MISC. FILL	0-5": ASPHALT PAVEMENT. Gray c-m GRAVEL, trace f-m sand.	
5	S-2	28 36 29 25	24	12		SILTY SAND	Light brown f-c SAND, some c gravel, little silt.	165
10	S-3	13 11 22 20	24	16			Light brown f-c SAND, some f-c gravel, little silt.	160
15	C-1		60	15	0	BOULDER	Gray and tan BOULDER, coarse-grained, thickly bedded, intensely fractured, moderate weathering, very strong. Core run times: 2:35, 3:42, 2:19, 2:53, 5:53.	155
20	S-4	27 18 15 21	24	17		STRATIFIED SAND AND GRAVEL	Gray/ brown m-c GRAVEL, some c-f sand, little silt.	150
25	C-2		48	24	13	BOULDER	Gray BOULDER, fine- to coarse-grained, thickly bedded, intensely fractured, moderate weathering, strong. Core run times: 1:19, 3:10, 5:33, 3:31.	145
30	S-5	35 50/0"	6	4		WEATHERED ROCK	Gray f SAND and SILT, little f-c angular gravel, likely weathered rock, dense.	140
35							END OF BORING 29.5ft	135
40								130
45								125
50								120

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 25ft Rock: 4.5ft No. of Soil Samples: 5 No. of Core Runs: 2	NOTES: 4-inch cobble encountered at 7 ft BGS. 60-inch boulder encountered at 14 ft BGS. 48-inch boulder encountered at 25 ft BGS. Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Upon completion, R-07 backfilled with cuttings and brought to grade with cold-patch asphalt	Sheet 1 of 1 SM-001-M REV. 1/02

Driller:	S. McGregor (ATL)	**Connecticut DOT Boring Report**		Hole No.:	R-08
Inspector:	G. Arzt	Town:	Norwalk, Connecticut	Stat./Offset:	~1100+00/~14' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	613894.436
Start Date:	1-17-20	Route No.:	15 Southbound	Easting:	815323.462
Finish Date:	1-17-20	Bridge No.:	NA	Surface Elevation:	180.856

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"	Sampler Type/Size: 2"SS	Core Barrel Type: NQ2
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @1 after 2:15 PM, 1/17/2020 hours

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	1 2 3 9	24	19		TOPSOIL / MISC. FILL	Light brown f-c SAND, some f-m gravel, little silt, trace organics.	180
5	S-2	19 24 26 32	24	14		STRATIFIED SAND AND GRAVEL	Brown f-c SAND, some f-c gravel, little silt.	175
10	S-3	50/0"	0	0		BEDROCK	1-inch rock chip, likely wash.	170
	C-1		60	48	42		Gray, silver, and tan GRANITIC GNEISS, medium- to coarse-grained, massively bedded, highly to intensely fractured, slight to moderate weathering, very strong. Core run times: 2:31, 7:54, 8:50, 9:51, 4:21.	
15	C-2		60	59	87		Gray, silver, and tan GRANITIC GNEISS, medium- to coarse-grained, massively bedded, highly fractured, slight to moderate weathering, very strong. Core run times: 6:48, 4:39, 4:19, 6:33, 8:47.	165
20							END OF BORING 20ft	160
25								155
30								150
35								145
40								140
45								135
50								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 9ft Rock: 11ft	NOTES: Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Upon completion, R-08 backfilled with cuttings.	Sheet 1 of 1
No. of Soil Samples: 3 No. of Core Runs: 2		SM-001-M REV. 1/02

Connecticut DOT Boring Report

Driller:	S. McGregor (ATL)			Hole No.:	R-09
Inspector:	G. Arzt	Town:	Norwalk, Connecticut	Stat./Offset:	~1101+50/~110' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	614007.947
Start Date:	12-19-19	Route No.:	15 Southbound	Easting:	815377.416
Finish Date:	12-19-19	Bridge No.:	NA	Surface Elevation:	194.483

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"	Sampler Type/Size: 2"SS	Core Barrel Type: NA
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @NM

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	2 4 10 50/5"	23	6		TOPSOIL MISC. FILL BOULDER SILTY SAND	Brown m-f SAND, some silt, little f-m gravel, trace organics.	
	S-2	50/0"	0	0				190
5								
10	S-3	29 30 36 29	24	10			Light brown f-c SAND, some SILT, little f-m gravel, likely weathered rock.	185
							END OF BORING 11ft	180
15								
20								175
25								170
30								165
35								160
40								155
45								150
50								145

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 11ft Rock: 0ft	NOTES: 12-inch boulder encountered at 2 ft BGS, followed by nested cobbles, and another 18-inch boulder encountered at 4 ft BGS. Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Spoon shoe broke off in hole following advance of S3 and had to abandon hole. Upon completion, R-09 backfilled with cuttings.	Sheet 1 of 1
No. of Soil Samples: 3 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller:	S. McGregor (ATL)	**Connecticut DOT Boring Report**		Hole No.:	R-09A
Inspector:	G. Arzt / L. McKiernan	Town:	Norwalk, Connecticut	Stat./Offset:	~1101+50/~110' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	614005.808
Start Date:	12-19-19	Route No.:	15 Southbound	Easting:	815371.4
Finish Date:	1-7-20	Bridge No.:	NA	Surface Elevation:	200.506
Project Description:	Route 15 Safety Improvements				
Casing Size/Type:	3.75"	Sampler Type/Size:	2"SS	Core Barrel Type:	NA
Hammer Wt.: NA	Fall: NAin.	Hammer Wt.: 140	Fall: 30in.		
Groundwater Observations:	@14.5' after 8:00 AM 1/7/2020 hours				

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						TOPSOIL		200
						MISC. FILL		
						SILTY SAND		
5								195
10						STRATIFIED SAND AND GRAVEL		190
15	S-4	16 65 46 40	24	12			Brown c-f GRAVEL, little c-f sand, little silt.	185
							END OF BORING 17ft	
20								180
25								175
30								170
35								165
40								160
45								155
50								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 17ft Rock: 0ft	NOTES: R-09A is a continuation of R-09 which was abandoned at 11 ft below grade due to a lost spoon shoe. Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Upon completion, R-09A backfilled with cuttings.	Sheet 1 of 1
No. of Soil Samples: 1 No. of Core Runs: 0		SM-001-M REV. 1/02

Driller: S. McGregor (ATL)	**Connecticut DOT Boring Report**	Hole No.: R-09B
Inspector: G. Arzt	Town: Norwalk, Connecticut	Stat./Offset: ~1101+50/~110' L
Engineer: L. McKiernan	Project No.: 0102-0296	Northing: 614008.785
Start Date: 1-28-20	Route No.: 15 Southbound	Easting: 815372.358
Finish Date: 1-28-20	Bridge No.: NA	Surface Elevation: 193.905

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"	Sampler Type/Size: 2"SS	Core Barrel Type: NQ2
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @11.1 after 2:15 PM, 1/28/2020 hours, @8.1 after 2:30 PM, 1/28/2020 hours

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0						TOPSOIL		
						MISC. FILL		
						SILTY SAND		190
5								
								185
10								
						STRATIFIED SAND AND GRAVEL		180
15						BEDROCK	Gray and white GRANITIC GNEISS, medium- to coarse-grained, massively bedded, highly fractured, slight weathering, strong. Core run times: 1:04, 1:53, 3:13, 4:17, 5:54.	
	C-1		60	41	25			175
20							Gray, white, and tan GRANITIC GNEISS, medium- to coarse-grained, massively bedded, highly to intensely fractured, slight to fresh weathering, very strong. Core run times: 4:30, 3:20, 2:04, 4:22, 4:32.	
	C-2		60	53	40			170
25							END OF BORING 25ft	
								165
30								
								160
35								
								155
40								
								150
45								
								145
50								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in	NOTES: R-09B is a continuation of R-09A which was abandoned at 17 ft below grade without having obtained depth to bedrock. Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Upon completion, R-09B backfilled with cuttings.	Sheet 1 of 1
Earth: 15ft Rock: 10ft		
No. of Soil Samples: 0 No. of Core Runs: 2		SM-001-M REV. 1/02

Driller:	S. McGregor (ATL)	**Connecticut DOT Boring Report**		Hole No.:	R-10
Inspector:	G. Arzt	Town:	Norwalk, Connecticut	Stat./Offset:	~1103+00/~14' L
Engineer:	L. McKiernan	Project No.:	0102-0296	Northing:	614055.544
Start Date:	1-16-20	Route No.:	15 Southbound	Easting:	815566.3
Finish Date:	1-16-20	Bridge No.:	NA	Surface Elevation:	195.634

Project Description: Route 15 Safety Improvements

Casing Size/Type: 3.75"	Sampler Type/Size: 2"SS	Core Barrel Type: NQ2
Hammer Wt.: NA Fall: NAin.	Hammer Wt.: 140 Fall: 30in.	

Groundwater Observations: @DRY after 2:50 PM, 1/16/2020 hours

Depth (ft)	SAMPLES: Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RQD %	Generalized Strata Description	Material Description and Notes	Elevation (ft)
0	S-1	4 3 11 8	24	14		TOPSOIL	Brown m-f SAND, some silt, some f-m gravel, trace organics and wood chips.	195
5	S-2	90/5"	5	1.5		STRATIFIED SAND AND GRAVEL	Gray f-c SAND and f-m GRAVEL, trace silt.	190
10	S-3	20 50/0"	6	5		WEATHERED ROCK	Gray and orange m-f SAND and SILT, trace f-m gravel, likely weathered rock, dense.	185
15	C-1		60	55	73	BEDROCK	Gray and white SCHIST, fine- to medium- grained, massively bedded, highly fractured, slight weathering, strong. Core run times: 3:29, 7:29, 4:37, 5:21, 5:40.	180
20	C-2		60	60	93		Gray and white SCHIST, fine- to medium- grained, massively bedded, highly to moderately fractured, slight to fresh weathering, strong. Core run times: 5:41, 4:31, 4:29, 5:23, 6:30.	175
25							END OF BORING 22ft	170
30								165
35								160
40								155
45								150
50								

Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 9.5ft Rock: 12.5ft	NOTES: Borehole advanced using track-mounted GeoProbe rig, drive and wash with spun casing. SPT samples advanced with automatic hammer. Upon completion, R-10 backfilled with cuttings.	Sheet 1 of 1
No. of Soil Samples: 3 No. of Core Runs: 2		SM-001-M REV. 1/02

Rock Core Data Sheet 1 of 5

Project No.	Route	Description	Town	Driller	Inspector	Engineer	Dates Cored
0102-0296	15	Schist and/or Granitic Gneiss	Norwalk	ATL	G. Arzt	L. McKiernan	12/19-1/20

Boring No.	Sample No.	Sample Depth (ft)	Rock Type	Color	Grain Size	Bedding	Fracturing	Weathering	Strength	Drill Rates (min/ft)	Rec. (%)	RQD (%)
R-06	C2	32.5-37.5’	Schist	Gray & White	Fine - Coarse	Massively Bedded	Highly	Slight – Moderate	Strong	0:56, 2:15, 2:30, 2:26, 3:37	88%	35%
R-05	C1	15-20’	Granitic Gneiss	White, Gray, & Tan	Med.- Coarse	Thickly Bedded	Highly – Intensely	Moderate – Slight	Strong	3:55, 7:34, 6:12, 3:49, 5:42	88%	28%
R-05	C2	20-25’	Granitic Gneiss	White, Gray, & Tan	Fine - Coarse	Thickly Bedded	Highly	Moderate – Slight	Strong	3:16, 2:45, 3:15, 5:45, 5:22	100%	57%
R-09B	C1	15-20’	Granitic Gneiss	Gray & White	Med.- Coarse	Massively Bedded	Highly	Slight	Strong	5:41, 4:31, 4:29, 5:23, 6:30	92%	25%

Rock Core Data Sheet 2 of 5

Project No.	Route	Description	Town	Driller	Inspector	Engineer	Dates Cored
0102-0296	15	Schist and/or Granitic Gneiss	Norwalk	ATL	G. Arzt	L. McKiernan	12/19-1/20

Boring No.	Sample No.	Sample Depth (ft)	Rock Type	Color	Grain Size	Bedding	Fracturing	Weathering	Strength	Drill Rates (min/ft)	Rec. (%)	RQD (%)
R-08	C1	10-15’	Granitic Gneiss	Tan, Gray, & Silver	Med. - Coarse	Massively Bedded	Highly - Intensely	Slight – Moderate	Very Strong	2:31, 7:54, 8:50, 9:51, 4:21	80%	42%
R-08	C2	15-20’	Granitic Gneiss	Tan, Gray, & Silver	Med. - Coarse	Massively Bedded	Highly	Slight – Moderate	Very Strong	6:48, 4:39, 4:19, 6:33, 8:47	98%	87%
R-07	C2	25-29’	Schist	Gray	Fine – Coarse	Thickly Bedded	Intensely	Moderate	Strong	1:19, 3:10, 5:33, 3:31,	50%	13%
R-06	C1	27.5-32.5’	Schist	Gray	Fine – Medium	Massively Bedded	Highly to Intensely	Moderate	Strong	0:56, 2:15, 2:30, 2:26, 3:37	88%	37%

Rock Core Data Sheet 3 of 5

Project No.	Route	Description	Town	Driller	Inspector	Engineer	Dates Cored
0102-0296	15	Schist and/or Granitic Gneiss	Norwalk	ATL	G. Arzt	L. McKiernan	12/19-1/20

Boring No.	Sample No.	Sample Depth (ft)	Rock Type	Color	Grain Size	Bedding	Fracturing	Weathering	Strength	Drill Rates (min/ft)	Rec. (%)	RQD (%)
R-09B	C2	20-25’	Granitic Gneiss	Tan, Gray, & White	Med. - Coarse	Massively Bedded	Highly - Intensely	Fresh – Slight	Very Strong	4:30, 3:20, 2:04, 4:22, 4:32	88%	40%
R-04	C1	25.5-30’	Boulder	Gray & Tan	Med. - Coarse	Thickly Bedded	Highly - Intensely	Slight – Moderate	Very Strong	1:27, 2:18, 4:25, 3:12	59%	17%
R-03	C1	9-14’	Schist	Gray & White	Fine – Coarse	Massively Bedded	Highly	Slight	Very Strong	2:42, 3:33, 3:04, 6:08, 6:09	100%	65%
R-03	C2	14-19’	Schist	Gray & White	Fine – Coarse	Massively Bedded	Highly	Slight	Very Strong	7:02, 6:32, 8:43, 7:01, 6:05	100%	75%

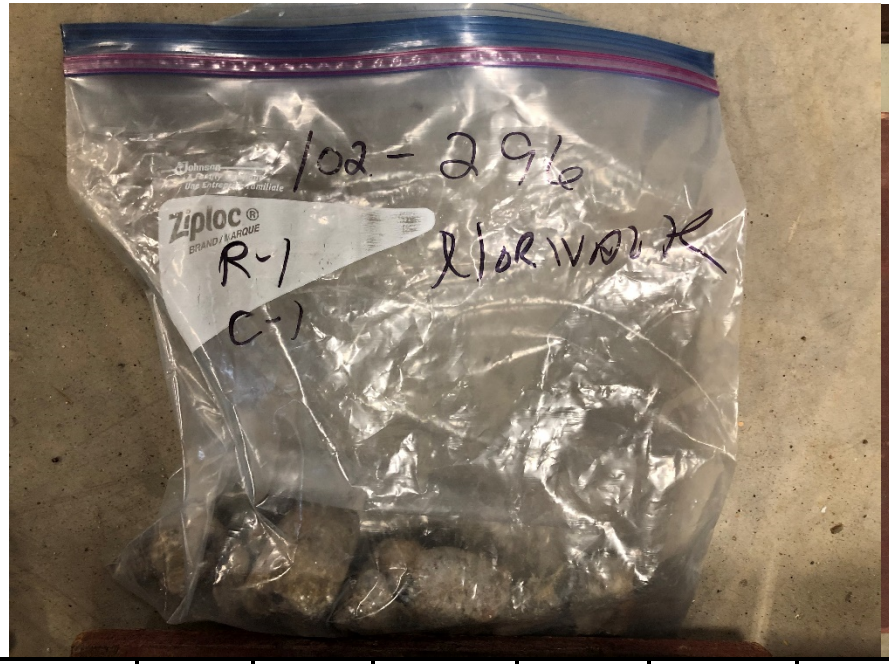
Rock Core Data Sheet 4 of 5

Project No.	Route	Description	Town	Driller	Inspector	Engineer	Dates Cored
0102-0296	15	Schist and/or Granitic Gneiss	Norwalk	ATL	G. Arzt	L. McKiernan	12/19-1/20

Boring No.	Sample No.	Sample Depth (ft)	Rock Type	Color	Grain Size	Bedding	Fracturing	Weathering	Strength	Drill Rates (min/ft)	Rec. (%)	RQD (%)
R-01A	C2	22-27’	Granitic Gneiss	Tan, Lt. Gray, & White	Med. - Coarse	Massively Bedded	Highly - Intensely	Moderate	Strong	2:42, 4:32, 5:41, 7:45/4”	100%	27%
R-01A	C3	26.3-31.3’	Granitic Gneiss	Tan, Lt. Gray, & White	Med. - Coarse	Massively Bedded	Highly - Intensely	Moderate	Very Strong	3:34, 5:01, 6:10, 3:41, 4:21	100%	32%
R-10	C1	12-17’	Schist	Gray & White	Fine – Medium	Massively Bedded	Highly	Slight	Strong	3:29, 7:29, 4:37, 5:21, 5:40	92%	73%
R-10	C2	17-22’	Schist	Gray & White	Fine – Medium	Massively Bedded	Highly to Moderately	Slight to Fresh	Strong	5:41, 4:31, 4:29, 5:23, 6:30	100%	93%

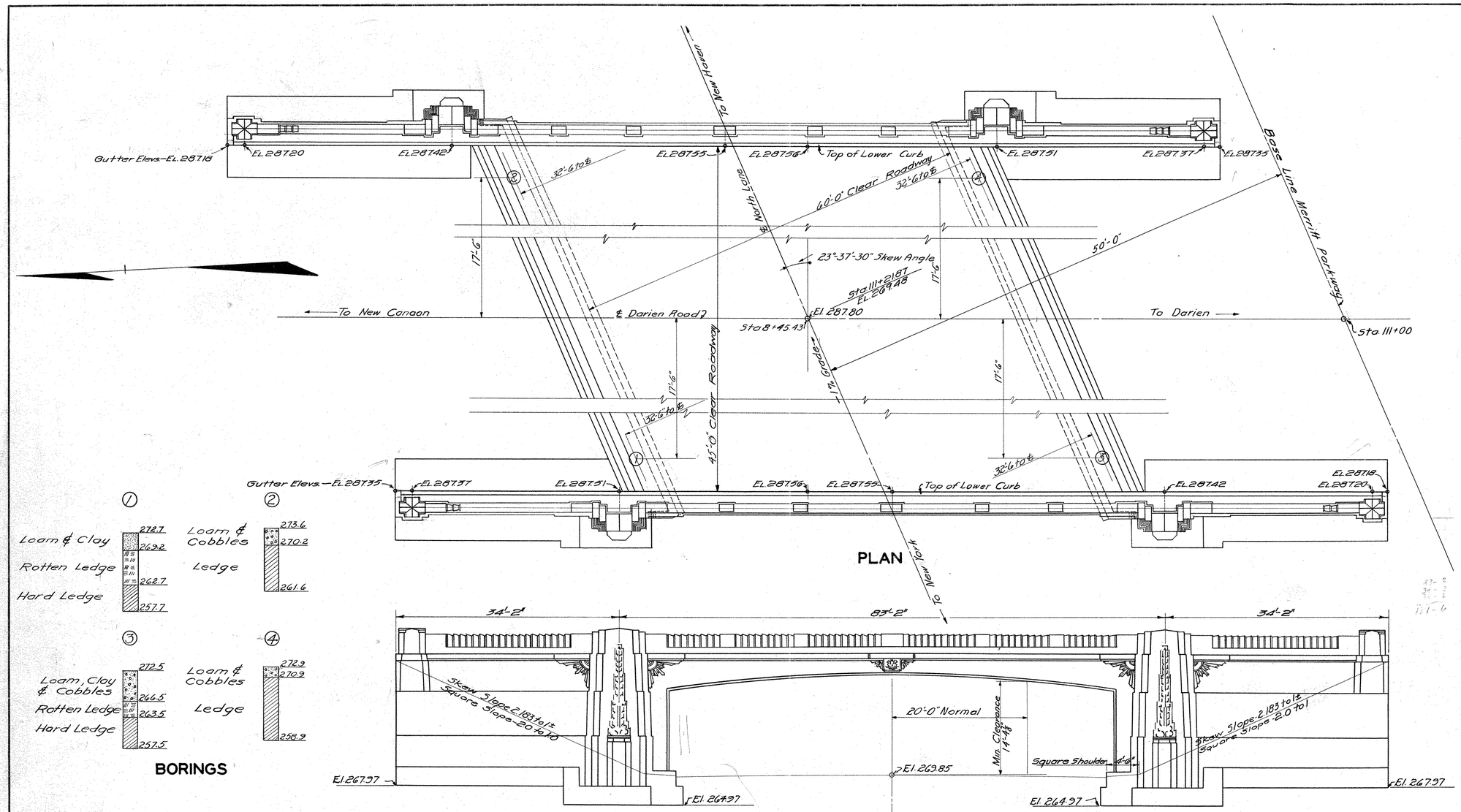
Rock Core Data Sheet 5 of 5

Project No.	Route	Description	Town	Driller	Inspector	Engineer	Dates Cored
0102-0296	15	Schist and/or Granitic Gneiss	Norwalk	ATL	G. Arzt	L. McKiernan	12/19-1/20



Boring No.	Sample No.	Sample Depth (ft)	Rock Type	Color	Grain Size	Bedding	Fracturing	Weathering	Strength	Drill Rates (min/ft)	Rec. (%)	RQD (%)
R-01A	C1	17-22’	Granitic Gneiss	Gray, Silver, & Tan	Med. – Coarse	Med. – Thickly Bedded	Intense	Moderate	Very Strong	6:41, 8:35, 8:07, 4:32, 3:32	10%	0%
R-07	C1	13-18’	Boulder	Gray & Tan	Fine – Coarse	Thickly Bedded	Intense	Moderate	Strong	2:35, 3:42, 2:19, 2:53, 5:53	25%	0%

FED. ROAD DIST. NO.	STATE	TOWN	FED. AID PROJ. NO.	FISCAL YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
9	CONN.						



BORINGS

QUANTITIES

Unclassified Excavation	Cu. Yd.	700
Class "A" (1-2-4) Concrete	Cu. Yd.	1466
Deformed Steel Bars	Lb.	138517
Concrete Bridge Rail	Lin. ft.	268.5
Concrete Pavement	Cu. Yd.	70
Bar Mat Reinf. for Conc. Pav't	Sq. Yd.	364
Cast Stone Ornaments	Each	4
Membrane Waterproofing (without protection course)	Sq. Yd.	425
½" Cork Joint Filler	Sq. ft.	620
¼" Prem. Expansion Joint	Lin. ft.	510
Waterproof Painting	Sq. Yd.	350
State Coat of Arms (Furnished by State)	Each	1
Setting State Coat of Arms	Each	1
Portland Cement	Bbls.	2450
Ornament Moulds	Each	8

APPROVED October 13 1936
J. H. Willis
ENGINEER OF BRIDGE DESIGN

APPROVED Oct. 14 1936
P. L. Dunnar
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED 1936
DEPUTY HIGHWAY COMMISSIONER

BR. No. 00712

GENERAL NOTES:-

Designed for H20 Loadings - Specifications - Conn. State Highway Dept 1936
Class "A" (1-2-4) concrete to be used thruout except for Concrete Bridge Railing which shall be Class "C" (1-2-3) concrete.
Reinforcing steel is to consist of deformed bars of an approved type.
Backfilling of Arch to be placed in such a manner as to keep the material at an approximate equal height on both sides simultaneously, and shall be thoroughly tamped in layers. Falsework and forms on inside of the Arch shall not be removed untill backfilling is complete to sub grade.
If conditions warrant, backs of Wing Walls and Rigid Frame are to be drained. Drains to be laid as directed by Engineer.
The Quantities are approximate only and do not relieve the Contractor of the responsibility of checking them in preparing his bid.
Waterproof Painting shall be used on backs of Frame legs above footings and on backs of Wing Walls from gutter line to two feet below slope line.
Membrane Waterproofing shall be placed not more than 24 hours before the Concrete Pavement is placed.
Unclassified Excavation consists of all excavation required after roadway excavation (including side slopes) is assumed completed.

CONNECTICUT
STATE HIGHWAY DEPARTMENT
TOWN OF NEW CANAAN
MERRITT PARKWAY
UNDER
DARIEN ROAD
REINF. CONCRETE RIGID FRAME
GENERAL PLAN

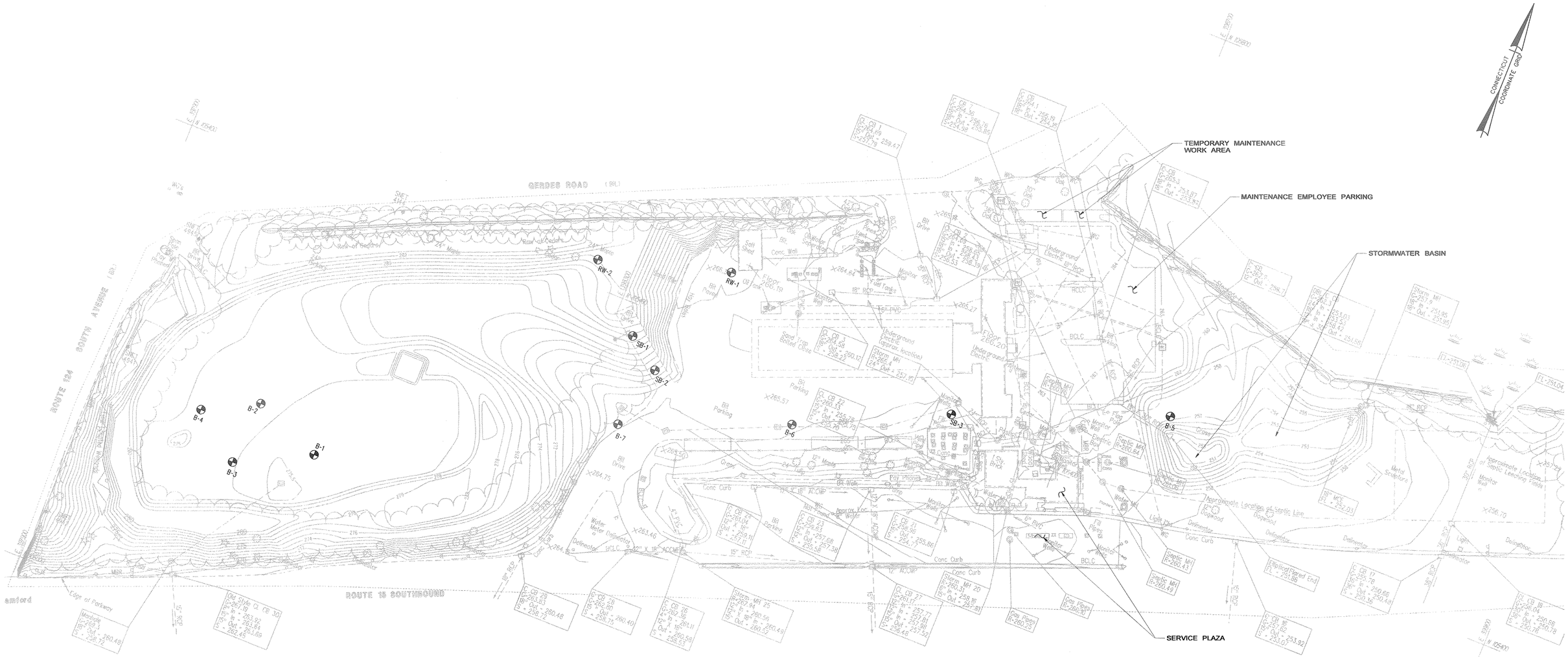
SCALES 1/8" = 1'-0"
MADE BY F.J.T. Traced E.C.S. DATE 8/11/36
CHECKED BY J.W.C. DATE 9-28-36
APPROVED DATE

PROJECT NUMBER 180-06
SHEET NO. 11 OF 39

STANDARD No. 12

Printed in U.S.A. on Arkwright Tracing Cloth
Gustave Fischer Co., Hartford, Conn.

180 50

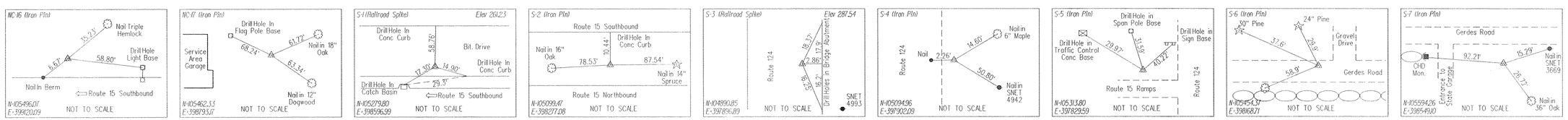


NOTES:

THE SUBSURFACE INFORMATION FURNISHED IS BASED ON THE INTERPRETATION BY THE DEPARTMENT, OF INVESTIGATIONS MADE ONLY AT THE SPECIFIC LOCATIONS INDICATED. NO ASSURANCE IS GIVEN THAT THESE CONDITIONS ARE NECESSARILY TYPICAL OF OTHER LOCATIONS OR THAT THEY HAVE REMAINED UNCHANGED SINCE THE FIELD DATA WAS OBTAINED.

NO ASSURANCE IS GIVEN THAT THE PRESENCE OR ABSENCE OF WATER IN SUBSURFACE EXPLORATION AT THE TIME OF THESE EXPLORATIONS WILL BE REPRESENTATIVE OF ACTUAL CONDITIONS AT THE TIME OF CONSTRUCTION.

THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR ALL ASSUMPTIONS, DEDUCTIONS, OR CONCLUSIONS IT MAY MAKE OR DERIVE FROM ITS EXAMINATION.



REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Filename: FD_MSH_BOR_00890116_B001.dgn Border Version: 6/1/05

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER:

CHECKED BY:

SCALE IN FEET 0 40 80

SCALE 1"=40'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: OFFICE OF ENGINEERING

APPROVED BY: SCOTT A. HILL, P.E. DATE: 01/07/09

OFFICE OF ENGINEERING

PROJECT TITLE:
REHABILITATION OF NEW CANAAN MAINTENANCE FACILITY

TOWN: NEW CANAAN

DRAWING TITLE: EXISTING CONDITIONS & BORING LOCATIONS

PROJECT NO. 89-116

DRAWING NO. B-001

SHEET NO. 2

970-01

Connecticut DOT Boring Report — Hole No.: SB-1

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: SB-1
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-116	Northing: 185373.17
Start Date: 2/5/03	Route No.: Gerdes Road	Easting: 398319.94
Finish Date: 2/5/03	Bridge No.: N/A	Surface Elevation: 275.72
Project Description: New Canaan Maintenance Facility		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ Dry after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
					Asphalt	Asphalt
					Sand	Brown f-c SAND, some c-f Gravel, trace Silt w/ cobbles and boulders
S-1	10 21 16 15	24	0			
					Weathered Bedrock	Completely Weathered Bedrock
S-2	67	6	6			
						Completely Weathered Bedrock
						Completely Weathered Bedrock
						Completely Weathered Bedrock
						End of Boring 25'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 8' Rock: 17' | No. of Samples: 2 | NOTES: Lost flight in hole @ 25 feet | Sheet 1 of 1

Connecticut DOT Boring Report — Hole No.: SB-3

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: SB-3
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-116	Northing: 185413.05
Start Date: 2/26/03	Route No.: Gerdes Road	Easting: 398599.93
Finish Date: 2/26/03	Bridge No.: N/A	Surface Elevation: 264.76
Project Description: New Canaan Maintenance Facility		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ 10 after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
					Asphalt	Asphalt
					Sand	Brown f-c SAND, little c-f Gravel, trace Silt w/ Cobbles
S-1	1 1 17 31	24	17			
S-2	11 36 36 42	24	12		Weathered Bedrock	Moderately Weathered Bedrock
					Bedrock	Weak Gneiss
C-1		60	60			
						End of Boring 22'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 10.5' Rock: 11.5' | No. of Samples: 2 | NOTES: | Sheet 1 of 1

Connecticut DOT Boring Report — Hole No.: RW-2

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: RW-2
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-116	Northing: 185423.08
Start Date: 1/30/03	Route No.: Gerdes Road	Easting: 398267.76
Finish Date: 1/30/03	Bridge No.: N/A	Surface Elevation: 283.64
Project Description: New Canaan Maintenance Facility		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ Dry after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
					Sand	Brown c-f Sand, some f-c Gravel, trace Silt
S-1	4 12 24 30	24	18			
S-2	35 63 38 34	24	14		Weathered Bedrock	Completely Weathered Bedrock
S-3	22 85 50	12	10			Completely Weathered Bedrock
S-4	120	6	6			Completely Weathered Bedrock
S-5	50	0	0			Completely Weathered Bedrock
S-6	140	6	6			
						End of Boring 30.5'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 10' Rock: 20.5' | No. of Samples: 6 | NOTES: | Sheet 1 of 1

* DOTTED LINE REPRESENTS APPROXIMATE NEW SURFACE ELEVATION. CHANGE IN ELEVATION IS DUE TO EXCAVATION PERFORMED DURING REMEDIATION ACTIVITIES.

Connecticut DOT Boring Report — Hole No.: B-2

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: B-2
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-117	Northing: 185200
Start Date: 7/18/02	Route No.: Gerdes Road	Easting: 398550
Finish Date: 7/18/02	Bridge No.: N/A	Surface Elevation: 284.97
Project Description: New Canaan Salt Shed		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ Dry after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
S-1	15 15 22 25	24	18		Misc.Fill	Dark/Brown c-f SAND, some f-c Gravel, trace Silt W/ Woods.
S-2	2 3 23 30	12	19			
					Gravely Silty Sand	Tan f-c SAND, some Silt, little c-f Gravel
S-3	10 20 32 18	24	20			
					Decomposed Rock	Decomposed Rock
C-1		60	22		Gneiss	Gneiss
						End of Boring 17'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 12' Rock: 5' | No. of Samples: 3 | NOTES: | Sheet 1 of 1

* DOTTED LINE REPRESENTS APPROXIMATE NEW SURFACE ELEVATION. CHANGE IN ELEVATION IS DUE TO EXCAVATION PERFORMED DURING REMEDIATION ACTIVITIES.

Connecticut DOT Boring Report — Hole No.: B-4

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: B-4
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-117	Northing: 185150
Start Date: 7/17/02	Route No.: Gerdes Road	Easting: 398560
Finish Date: 7/17/02	Bridge No.: N/A	Surface Elevation: 287.88
Project Description: New Canaan Salt Shed		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ Dry after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
S-1	20 20 70	18	18		Reclaimed Pavement	Reclaimed Pavement
					Misc. Fill	Dark\Brown c-f Sand, some f-c Gravel, Little Silt w/woods, concret,e plastic and Chain link fence
S-2	1 1 3 1	24	6			
					Gravely Silty Sand	Brown f-c SAND, some c-f Gravel, little Silt.
S-3	8 9 8 10	24	8			
S-4	17 53 50	12	10			
C		60	16		Decomp. Rock	Decomposed Rock cored to 21'.
						End of Boring 21'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 16' Rock: 5' | No. of Samples: 5 | NOTES: | Sheet 1 of 1

* DOTTED LINE REPRESENTS APPROXIMATE NEW SURFACE ELEVATION. CHANGE IN ELEVATION IS DUE TO EXCAVATION PERFORMED DURING REMEDIATION ACTIVITIES.

Connecticut DOT Boring Report — Hole No.: B-6

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: B-6
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-116	Northing: 185353.56
Start Date: 2/3/03	Route No.: Gerdes Road	Easting: 398475.65
Finish Date: 2/3/03	Bridge No.: N/A	Surface Elevation: 264.97
Project Description: New Canaan Maintenance Facility		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ 14' after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
					Asphalt	Asphalt
					Sand	Brown f-c SAND, some c-f Gravel, trace Silt w/Cobbles
S-1	6 12 11 35	24	20			
S-2	65	3	3		Weathered Bedrock	Completely Weathered Bedrock
						End of Boring 15'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 10' Rock: 5' | No. of Samples: 2 | NOTES: | Sheet 1 of 1

Connecticut DOT Boring Report — Hole No.: SB-2

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: SB-2
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-116	Northing: 185353
Start Date: 2/6/03	Route No.: Gerdes Road	Easting: 398348.63
Finish Date: 2/6/03	Bridge No.: N/A	Surface Elevation: 269.14
Project Description: New Canaan Maintenance Facility		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ 23' after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
					Asphalt	Asphalt
					Sand	Brown f-c SAND, little c-f Gravel, trace Silt w/ Cobbles
					Weathered Bedrock	Completely Weathered Bedrock
S-1	34 66	8	6			
S-2	50	0	0			Completely Weathered Bedrock
						Completely Weathered Bedrock
						Completely Weathered Bedrock
						Completely Weathered Bedrock
						End of Boring 30'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 3' Rock: 27' | No. of Samples: 1 | NOTES: | Sheet 1 of 1

Connecticut DOT Boring Report — Hole No.: RW-1

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: RW-1
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-116	Northing: 185455.55
Start Date: 1/31/03	Route No.: Gerdes Road	Easting: 398378.71
Finish Date: 1/31/03	Bridge No.: N/A	Surface Elevation: 266.18
Project Description: New Canaan Maintenance Facility		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ 17' after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
					Asphalt	Asphalt
					Sand	Brown c-f Sand, some f-c Gravel, trace Silt
					Weathered Bedrock	
S-1	50 50	6	6			Completely Weathered Bedrock
S-2	50	0	0			Completely Weathered Bedrock
S-3	50	0	0			Moderately Weathered Bedrock
					Bedrock	Weak Gneiss
C		60	30			
						End of Boring 27'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 3' Rock: 25' | No. of Samples: 1 | NOTES: | Sheet 1 of 1

Connecticut DOT Boring Report — Hole No.: B-1

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: B-1
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-117	Northing: 185177
Start Date: 7/23/02	Route No.: Gerdes Road	Easting: 398500
Finish Date: 7/23/02	Bridge No.: N/A	Surface Elevation: 283.39
Project Description: New Canaan Salt Shed		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ Dry after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
					Asphalt	Asphalt
					Recl. Pavement	Black Reclaimed Asphalt
					Silty Sand	Brown c-f SAND, little Silt, little f-c Gravel
S-1	1 3 46 20	24	12		Gravely Silty Sand w/ Decomp. Rock	Brown c-f SAND, little Silt, little f-c Gravel w/ trace Decomposed Rock
S-2	18 31 24 22	24	17			
					Gneiss	Soft Gneiss
C-1		60	12			
						End of Boring 19'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 14' Rock: 5' | No. of Samples: 2 | NOTES: | Sheet 1 of 1

* DOTTED LINE REPRESENTS APPROXIMATE NEW SURFACE ELEVATION. CHANGE IN ELEVATION IS DUE TO EXCAVATION PERFORMED DURING REMEDIATION ACTIVITIES.

Connecticut DOT Boring Report — Hole No.: B-3

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: B-3
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-117	Northing: 185177
Start Date: 7/17/02	Route No.: Gerdes Road	Easting: 398603
Finish Date: 7/17/02	Bridge No.: N/A	Surface Elevation: 288.41
Project Description: New Canaan Salt Shed		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ DRY after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
S-1	28 13 14 16	24	18		Misc. Fill	Dark/Brown c-f SAND, some f-c Gravel, trace Silt w/Reclaimed Pavement and Woods
S-2	1 103	12	4		Wood	12" Logs
					Misc. Fill	Brown C-F SAND, some c-f Gravel, little Silt w/woods
					Gravely Silty Sand	Brown/Gray f-c SAND, little Silt, little c-f Gravel
S-3	17 20 12 10	24	16			
S-4	9 24 19 18	24	17			
					Decomp. Rock	Decomposed Rock
S-5						
C-1					Gneiss	Gneiss
						End of Boring 27'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 22' Rock: 5' | No. of Samples: 5 | NOTES: | Sheet 1 of 1

* DOTTED LINE REPRESENTS APPROXIMATE NEW SURFACE ELEVATION. CHANGE IN ELEVATION IS DUE TO EXCAVATION PERFORMED DURING REMEDIATION ACTIVITIES.

Connecticut DOT Boring Report — Hole No.: B-5

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: B-5
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-116	Northing: 185484.81
Start Date: 2/25/03	Route No.: Gerdes Road	Easting: 398775.96
Finish Date: 2/25/03	Bridge No.: N/A	Surface Elevation: 260.98**
Project Description: New Canaan Maintenance Facility		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ 10' after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
					Topsoil	Topsoil
					Sand	Brown f-c SAND, little Silt, little c-f Gravel w/ Cobbles
S-1	6 23 43 54	24	18			
S-2	12 26 33 40	24	17			Brown f-c SAND, little Silt, little c-f Gravel w/ Cobbles
					Weathered Bedrock	Moderately Weathered Bedrock
					Bedrock	Weak Gneiss
C-1		60	24			
						End of Boring 18.5'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 12' Rock: 6.5' | No. of Samples: 2 | NOTES: | Sheet 1 of 1

* DOTTED LINE REPRESENTS APPROXIMATE NEW SURFACE ELEVATION. CHANGE IN ELEVATION IS DUE TO EXCAVATION PERFORMED DURING REMEDIATION ACTIVITIES.

Connecticut DOT Boring Report — Hole No.: B-7

Driller: C.Purdell/T.Bud	Connecticut DOT Boring Report	Hole No.: B-7
Inspector: EEM	Town: New Canaan	Stat./Offset:
Engineer: Eric E. Magor	Project No.: 89-116	Northing: 185298.05
Start Date: 2/4/03	Route No.: Gerdes Road	Easting: 398336.27
Finish Date: 2/4/03	Bridge No.: N/A	Surface Elevation: 265.86
Project Description: New Canaan Maintenance Facility		
Casing Size/Type: 3.25"/Hol.	Sampler Type/ Size: SS	Core Barrel Type: Bit.
Hammer Wt.: N/A Fall: N/A	Hammer Wt. 140 lbs. Fall: 30"	
Groundwater Observations @ DRY after 0 hours, @ after hours, @ after hours		

Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in)	Rec. (in)	RQD %	Generalized Strata Description	Material Description and Notes
					Asphalt	Asphalt
					Sand	Brown f-c SAND, some c-f Gravel, trace Silt
					Weathered Bedrock	Completely Weathered Bedrock
S-1	16 55	12	12			
						End of Boring 15'

SAMPLE TYPE: S=Split Spoon C=Core UP = Undisturbed Piston V = Vane Shear Test
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in Earth: 3' Rock: 12' | No. of Samples: 1 | NOTES: | Sheet 1 of 1

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Filename: FD_MSH_BOR_00890116_B002.dgn   Border Version: 6/1/05

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER:
CHECKED BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

ENGINEER: OFFICE OF ENGINEERING
APPROVED BY: SCOTT A. HILL, P.E.   DATE: 01/07/09

OFFICE OF ENGINEERING

PROJECT TITLE: REHABILITATION OF NEW CANAAN MAINTENANCE FACILITY

TOWN: NEW CANAAN

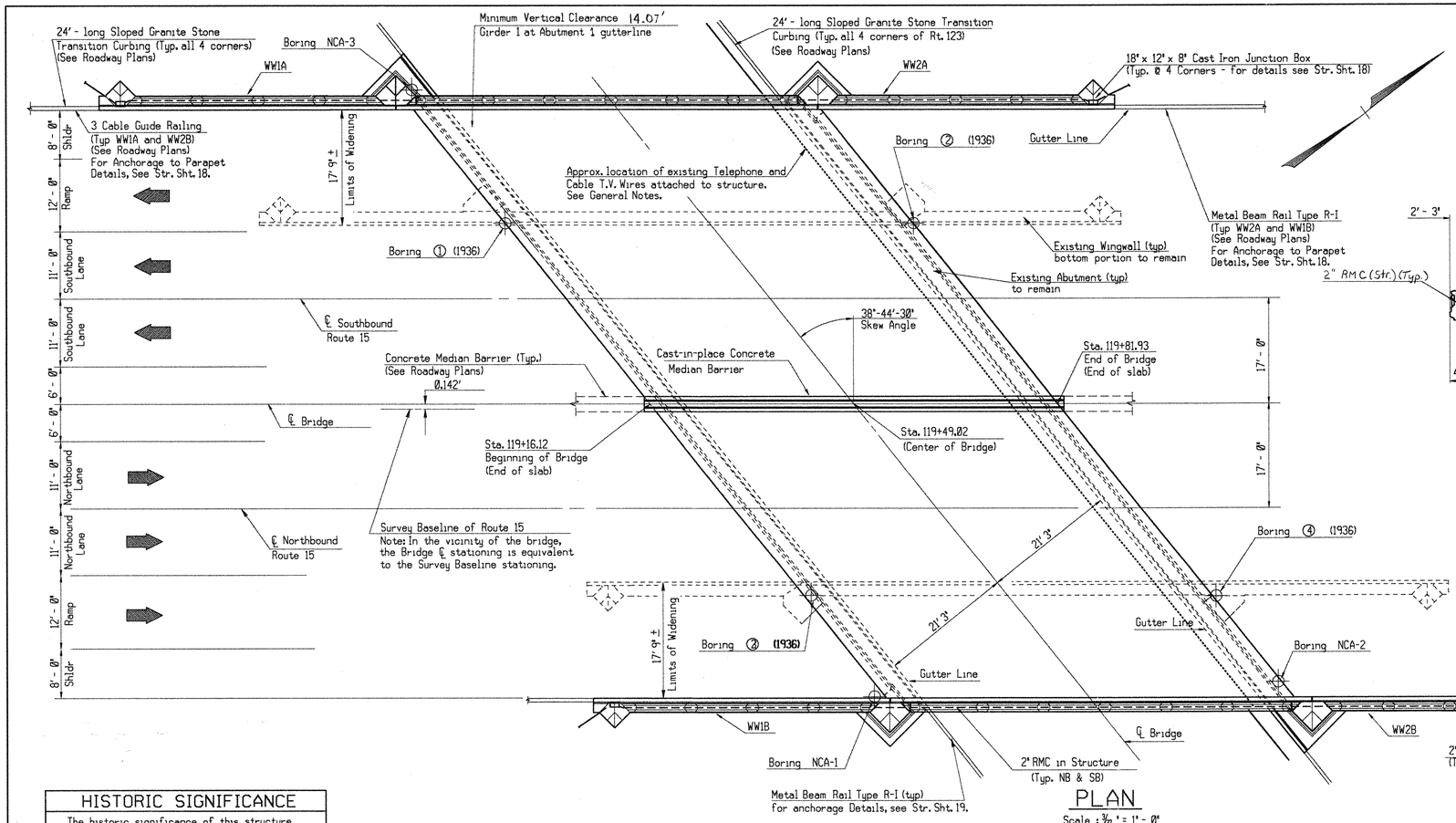
DRAWING TITLE: BORING LOGS

PROJECT NO. 89-116
DRAWING NO. B-002
SHEET NO. 3

970-01

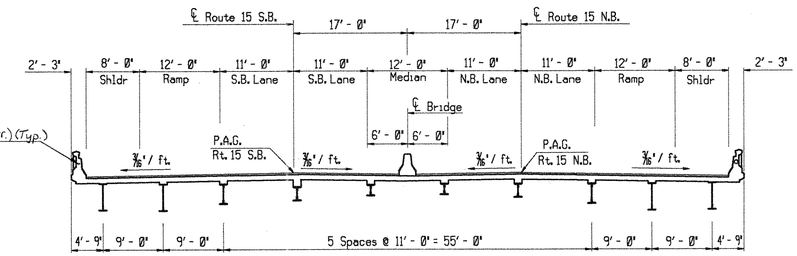
F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN	NORWALK		102-239	1991	15	71	145

RECONSTRUCTION OF INTERCHANGE 38
ROUTE 15 (MERRITT PARKWAY)



PLAN

Scale : 3/32" = 1' - 0"



TYPICAL SECTION

Scale : 3/32" = 1' - 0"

STRUCTURE SHEET INDEX

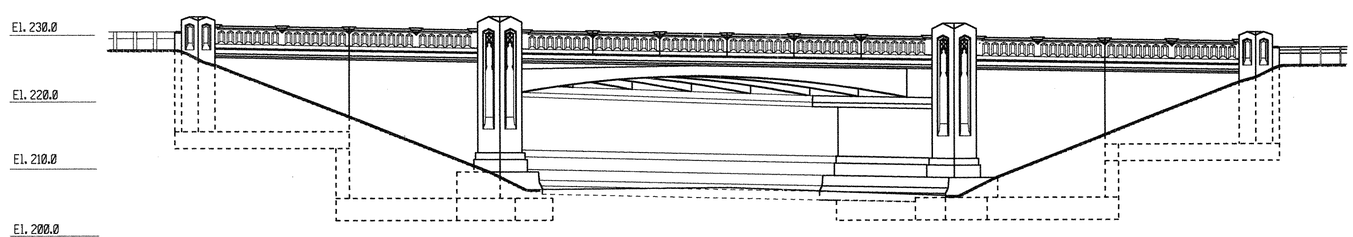
SHEET NO.	TITLE
1	GENERAL PLAN I
2	GENERAL PLAN II
3	BORINGS
4	STAGE CONSTRUCTION I
5	STAGE CONSTRUCTION II
6	FOOTING PLAN I
7	FOOTING PLAN II
8	WINGWALL 1A
9	WINGWALL 1B
10	WINGWALL 2A
11	WINGWALL 2B
12	FOUNDATION DETAILS I
13	FOUNDATION DETAILS II
14	STEEL FRAMING PLAN
15	STRUCTURAL STEEL DETAILS
16	SLAB PLAN
17	SLAB DETAILS I
18	BEAM RAIL / GUIDE RAIL DETAILS I
19	BEAM RAIL / GUIDE RAIL DETAILS II

HISTORIC SIGNIFICANCE

The historic significance of this structure dictates that all ornamental concrete be replaced in kind. This must be done with the meticulous attention to detail that is evident in the original construction. Any deviation from the original construction or the quality of the ornamental concrete will be cause for rejection by the State. See Str. Sht. 13 for details.

GENERAL SCOPE OF WORK

1. Extend Abutments, See Str. Sht. 6 thru 13.
2. Construct New Wingwalls, See Str. Sht. 6 thru 13.
3. Construct 4 New Steel Frames, See Str. Sht. 14&15.
4. Construct New Slab, See Str. Sht. 16 thru 17. (Includes replacement of existing slab)
5. Paint Existing Structural Steel, See Special Provisions.



ELEVATION

Scale : 3/32" = 1' - 0"

NOTICE TO BRIDGE INSPECTORS

The Department's Bridge Safety procedures require this bridge to be inspected for, but not limited to, all appropriate components indicated in the governing manuals for bridge inspection. Attention must be given to inspecting the following special components and details. (The listing of components for specific attention shall not be construed to reduce the importance of inspection of any other component of the structure). The frequency of inspection of this structure shall be in accordance with the governing manuals for bridge inspection, unless otherwise directed by the Manager of Bridge Safety and Evaluation.

COMPONENT OR DETAIL	BRIDGE SHEET REFERENCE
Follow normal inspection procedures.	———

THIS SHEET NOT CORRECTED

NO.	DATE	DESCRIPTION

REVISIONS

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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

NORWALK

ROUTE 15 - MERRITT PARKWAY
OVER
ROUTE 123
STRUCTURE WIDENING / DECK REPLACEMENT

GENERAL PLAN I

ENGINEER BRIDGE DESIGN UNIT		
DESIGNER MPC	DRAFTER MPC	CHECKER WSP
APPROVED William Crandell		DATE 10/23/91
STRUCTURE NO.	BRIDGE LOG NO.	STRUCTURE SHEET NO. 1 of 20

NDC1343622B1B1B1C3

102-239

427-01

F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN	NORWALK		102-239	1991	15	72	145

RECONSTRUCTION OF INTERCHANGE 38
ROUTE 15 (MERRITT PARKWAY)

GENERAL NOTES

SPECIFICATIONS: Connecticut Department of Transportation Form 814 (1988), Supplemental specifications up to and including July 1, 1991, and Special Provisions.

DESIGN SPECIFICATIONS: Standard Specifications for Highway Bridges (AASHTO-1989), with the Interim Specifications up to and including 1991, as supplemented by the Connecticut Department of Transportation Bridge Design Manual (1985).

ALLOWABLE DESIGN STRESSES:
Class 'A' Concrete — Based on f'c = 3000 psi
Class 'F' Concrete — Based on f'c = 4000 psi
Reinforcement
(ASTM A615 Grade 60) Based on fs = 24,000 psi
Structural Steel - AASHTO M270 Grade 50W (ASTM A588)
for thicknesses up to and incl. 4" Fu = 70,000 psi
Fy = 50,000 psi

LIVE LOAD: HS 20-44

FUTURE PAVING ALLOWANCE: None

REMAIN-IN-PLACE FORMS: The use of remain-in-place forms on this structure is not allowed.

SLAB CONSTRUCTION: No temporary intermediate supports shall be used during the placing and setting of the concrete deck slab. Temporary supports may be used for the structural steel erection only. Live and superimposed dead loads will be permitted when directed by the Engineer but not less than 10 days after the final portion of the deck slab has been placed.

CLASS 'A' CONCRETE: Class 'A' Concrete shall be used for the abutment extensions, and the wingwalls.

CLASS 'F' CONCRETE: Class 'F' Concrete shall be used for the deck slab and parapets, and the modifications to the existing abutment face.

CONSTRUCTION JOINTS: Construction joints, other than those shown on the plans, will not be permitted without prior approval of the Engineer. The surfaces between the new and existing concrete shall be free of loose material, unsound concrete and foreign material. The surfaces shall be cleaned to the satisfaction of the Engineer and shall be saturated with water just prior to placing the new concrete.

EXPOSED EDGES: Exposed edges of concrete shall be beveled 1" X 1" unless dimensioned otherwise.

CONCRETE COVER: All reinforcement shall have 2" cover unless dimensioned otherwise.

JOINT SEAL: See special provision modifying Section 6.01 'Concrete for Structures'.

PARAFFIN: ~~The cost of furnishing and applying paraffin is included in the item for Class 'F' Concrete.~~

FELT: The cost of furnishing and placing 15# roofing felt is included in the item for Class 'A' Concrete.

REINFORCEMENT: All reinforcement shall be ASTM A615, Grade 60.
All reinforcement in the superstructure including the concrete deck slab and the parapets shall be epoxy coated unless otherwise noted. The cost of furnishing and placing these bars shall be included in the item for 'Deformed Steel Bars - Epoxy Coated'.
All reinforcement used for the modifications to the abutment, abutment extensions and wingwalls shall be uncoated. The cost of furnishing and placing these bars shall be included in the item for 'Deformed Steel Bars'.

STRUCTURAL STEEL: See Structure Sheet Number 14 for AASHTO designations and additional requirements.

PAINT: All structural steel shall be painted. The paint shall conform to the specifications 'Structural Steel' and 'Abrasive Blast Cleaning and Field Painting of Structure'. The color of the topcoat material on the structural steel shall conform to the Federal Standard Color Number 24108 (dark green). New steel frames shall be painted according to the specification 'Structural Steel', existing steel frames shall be painted according to the specification 'Abrasive Blast Cleaning and Field Painting of Structure'.

BITUMINOUS CONCRETE OVERLAY: This shall consist of two lifts. The first shall be Bituminous Concrete - Class 12 (1" thick) and the second shall be Bituminous Concrete - Class 114 (1 1/2" thick).

DECIMAL DIMENSIONS: When dimensions are given to less than three decimal places, the omitted digits shall be assumed to equal zeros.

EXISTING DIMENSIONS: Dimensions of the existing structure shown on these plans are for general reference only. They have been taken from the original design drawings and are not guaranteed. The Contractor shall take all field measurements necessary to assure proper fit of the finished work and shall assume full responsibility for their accuracy. When shop drawings based on field measurements are submitted for approval, the field measurements shall also be submitted for reference by the reviewer.

GENERAL NOTES (CONTINUED)

SALVAGE: none

UTILITIES: The following existing utilities are present in the vicinity of the structure:
Electrical wires (above structure)
Telephone wires (attached to steel frames near abutment 2)
Cable TV (attached to steel frames near abutment 2)

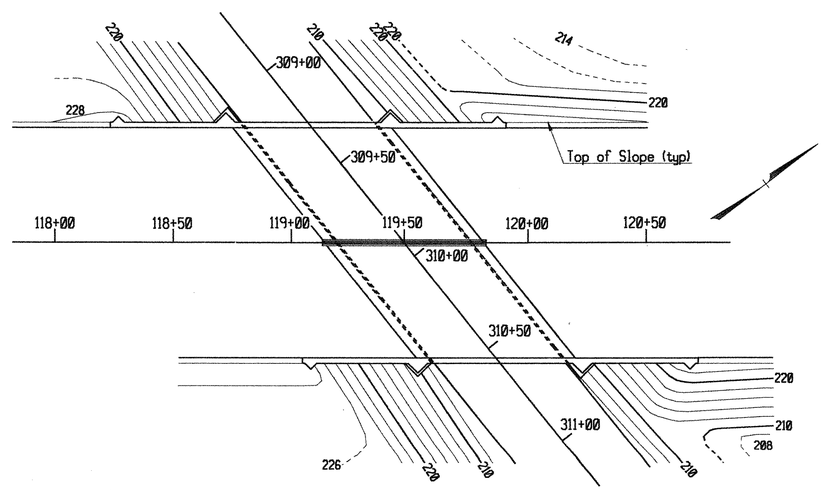
Approximate location of existing underground utilities are shown on Str. Sht. 1. The Contractor shall coordinate all operations with all utilities including aerial wires. See notice to Contractor in the Special Provisions. Also, see utility relocation sheets for information regarding future locations of these utilities.

STAGE CONSTRUCTION: All work shall be done in accordance with the construction stages shown on structure sheet numbers 4 and 5, and the special provisions 'Maintenance and Protection of Traffic' and 'Prosecution and Progress'.

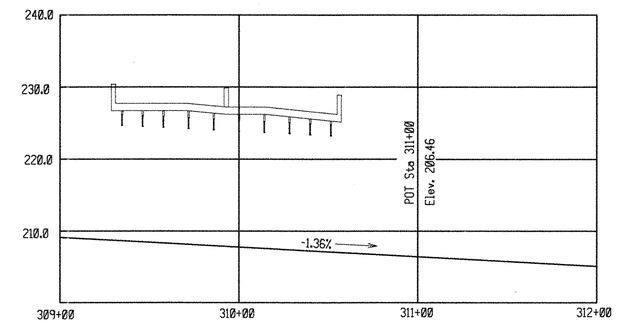
INSPECTION OF FIELD WELDS		
METHOD	UNIT	AMOUNT
Ultrasonic	in.	0
Magnetic Particle	L.F.	0

CONCRETE DISTRIBUTION		
ITEM	UNIT	AMOUNT
Superstructure	C.Y.	230
Substructure	C.Y.	563
Footings	C.Y.	320
Total	C.Y.	1113

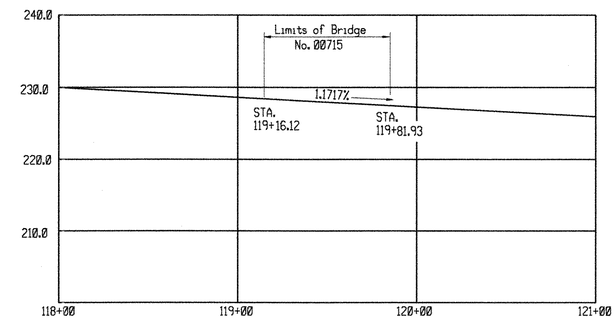
QUANTITIES		
ITEM	UNIT	QUANTITY
Structure Excavation - Earth (Complete)	C.Y.	1550
Pervious Structure Backfill	C.Y.	1400
Granular Fill	C.Y.	145
Bituminous Concrete - Class 12	TON	37
Bituminous Concrete - Class 114	TON	57
Sawing and Sealing Joints in Bituminous Concrete Overlay	L.F.	246
Removal of Bridge Deck Concrete	C.Y.	150
Shear Connectors	L.S.	L.S.
Class 'A' Concrete	C.Y.	850
Class 'F' Concrete	C.Y.	263
1/2" Preformed Expansion Joint Filler For Bridges	S.F.	650
Deformed Steel Bars - Epoxy Coated	LB.	52,000
Deformed Steel Bars	LB.	53,000
Drilling Holes and Grouting Dowels	EA.	685
Containment and Collection of Surface Preparation Debris	L.S.	L.S.
Disposal of Debris (Hazardous)	BBL.	2
Disposal of Debris (Contaminated)	C.Y.	1
Abrasive Blast Cleaning and Field Painting of Structure	L.S.	L.S.
Structural Steel	L.S.	L.S.
Membrane Waterproofing (Sheet)	S.Y.	760
Dampproofing	S.Y.	400
Temporary Sheet Piling	S.Y.	400
Sheet Piling Material Left in Place	S.Y.	400
Temporary Precast Concrete Barrier Curb (Structure)	L.F.	198
Relocated Temporary Precast Concrete Barrier Curb (Structure)	L.F.	198
Removal of Existing Bridge Masonry	C.Y.	100
Remove and Replace Rivets	EA.	100
Temporary Sheet Piling	S.F.	3400
Sheet Piling Material Left in Place	S.F.	3400
Removal of Bituminous Wearing Surface	S.Y.	440
Concrete Cylinder Curing Box	EA.	1
Bagged Stone	C.F.	144
Copolymer Cementitious Mortar Patch	GAL.	10
Welded Studs	EA.	416
Protective Compound for Bridges	S.Y.	390
18"x 12"x 8" Cast Iron Junction Box	EA.	4
2" Rigid Metal Conduit (Structure)	L.F.	360



CONTOUR PLAN
SCALE 1" = 30'



PROFILE ROUTE 123
Scale 1" = 40' (horizontal)
1" = 10' (vertical)



PROFILE ROUTE 15
Scale 1" = 40' (horizontal)
1" = 10' (vertical)

THIS SHEET CORRECTED

NO.	DATE	DESCRIPTION
1	5/27/94	Deleted Paraffin Coated Joints.

REVISIONS

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STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

NORWALK

ROUTE 15 - MERRITT PARKWAY
OVER
ROUTE 123
STRUCTURE WIDENING / DECK REPLACEMENT

GENERAL PLAN II

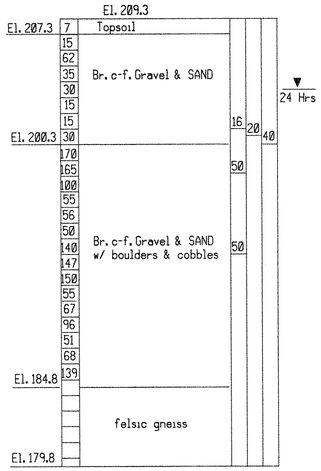
ENGINEER BRIDGE DESIGN UNIT
DESIGNER MPC | DRAFTER MPC | CHECKER WSP
APPROVED Williams Randall | DATE 10/23/91
STRUCTURE NO. | BRIDGE LOG NO. | STRUCTURE SHEET NO. 2 of 20

15N.TB102C22PH.DGN

F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN	NORWALK		102-239	1991	15	73	145

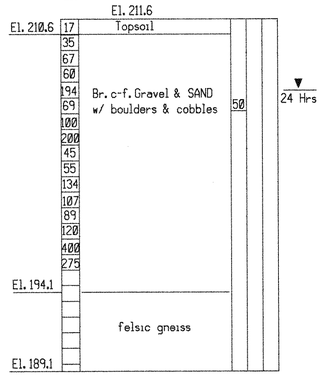
RECONSTRUCTION OF INTERCHANGE 38
ROUTE 15 (MERRITT PARKWAY)

HOLE NO. NCA-1
LINE & STA. 119+52±
OFFSET 48' R±



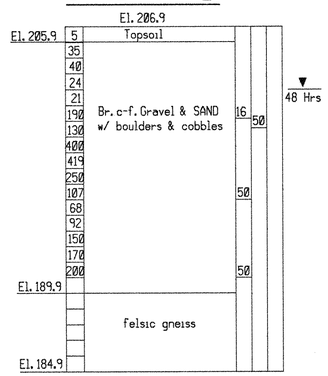
Bottom of Boring
From ground surface to 23 feet used 2½ inch casing .

HOLE NO. NCA-2
LINE & STA. 120+18±
OFFSET 45' R±



Bottom of Boring
From ground surface to 16 feet used 2½ inch casing .

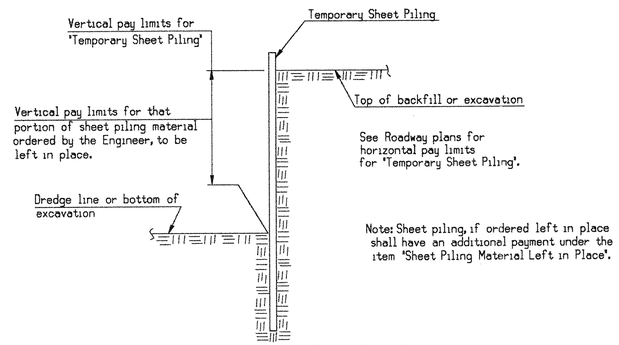
HOLE NO. NCA-3
LINE & STA. 118+76±
OFFSET 50' L±



Bottom of Boring
From ground surface to 16 feet used 2½ inch casing .

BRIDGE COORDINATES		
Working Points	North	East
WP1	110217.78	405116.89
WP2	110186.91	405257.56
WP3	110259.60	405168.76
WP4	110228.73	405309.43

NOTE: For locations of working points See Structure Sheets 8 thru 11.

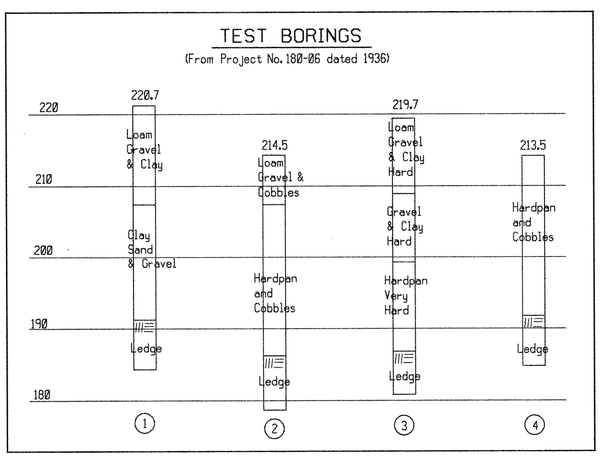


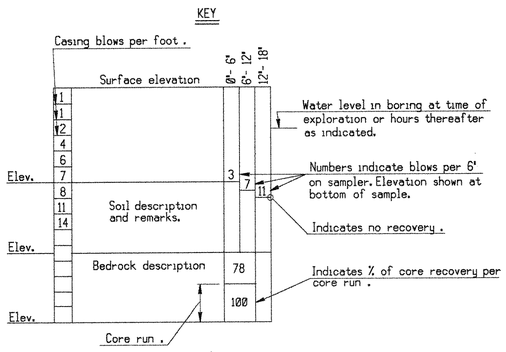
TEMPORARY SHEET PILING
VERTICAL PAY LIMITS
N.T.S.

BORINGS NO. NCA-1 TO NCA-3			
	Casing	Sampler	Core Bar
Type	Steel	S.S.	2'
Size I.D.	2½"	1⅜"	1⅜"
Hammer Wt.	300 lbs.	140 lbs.	Bit
Hammer Fall	24"	30"	Diamond

LEGEND :

m. medium	comp. compact	S. sand
Boul. Boulders	G. gravel	f. fine
lit. little	tr. trace	Cobb. Cobbles
c. course	org. organic	
Br. brown	misc. miscellaneous	





THIS SHEET NOT CORRECTED

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NO.	DATE	DESCRIPTION

REVISIONS

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

NORWALK

ROUTE 15 - MERRITT PARKWAY
OVER
ROUTE 123

STRUCTURE WIDENING / DECK REPLACEMENT

BORINGS

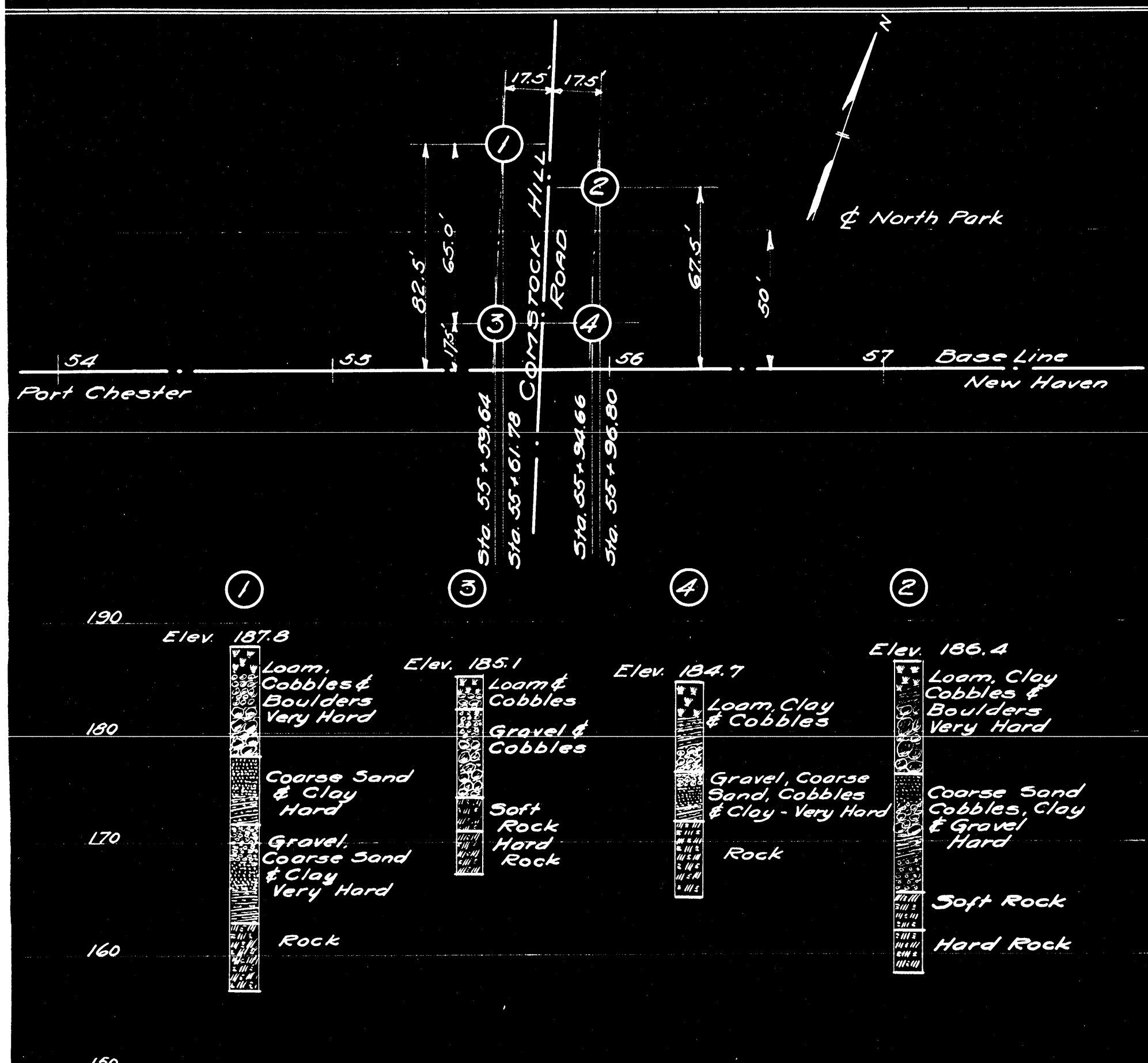
ENGINEER BRIDGE DESIGN UNIT
DESIGNER DAC | DRAFTER BWC | CHECKER MPC
APPROVED William J. Crandall | DATE 10/23/91
STRUCTURE NO. | BRIDGE LOG NO. | STRUCTURE SHEET NO. 3 of 20

150_2B102X239P.DGN

STATE OF CONNECTICUT

HIGHWAY DEPARTMENT

SKETCH SHEET



TEST BORINGS
W.O. Nº 1806202

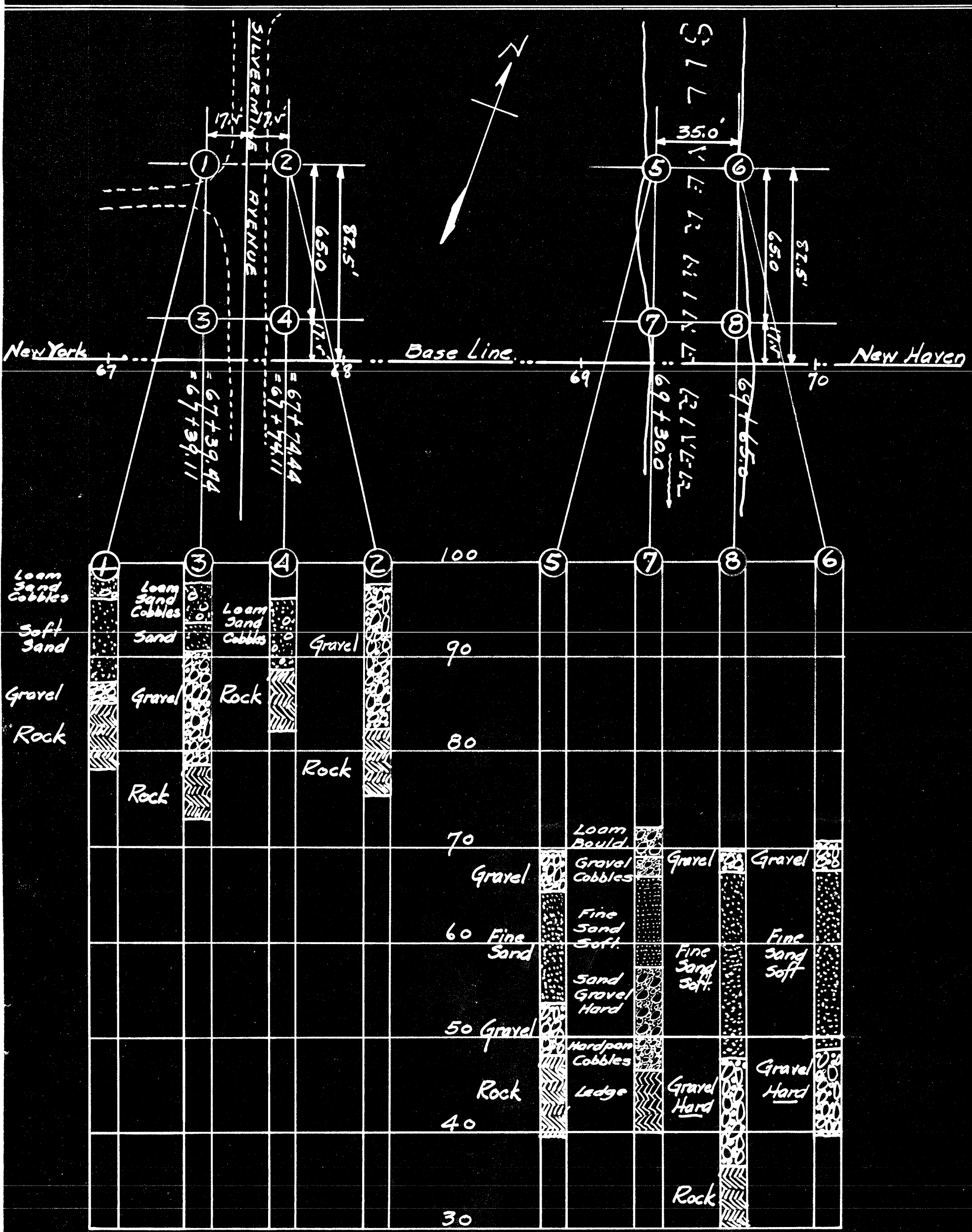
MADE BY George A. Nagel	DATE April 5th 1937	TOWN OF NORWALK	
CHECKED BY A. R. COLLIER	DATE April 5th 1937	STRUCTURE Pro. Br. Comstock Hill Rd. & MERRITT PARKWAY	
APPROVED A R Collier	DATE " "	SCALES Hor. 1" = 40' Vert. 1" = 10'	SHEET NO. 1 OF 1

PRINTED ON "IMPERIAL" TRACING CLOTH K & E CO., N. Y.

STATE OF CONNECTICUT

HIGHWAY DEPARTMENT

SKETCH SHEET



W.O. 1800502J

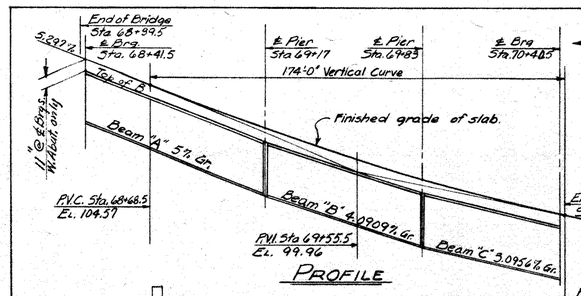
W.O. 1800502K

3/

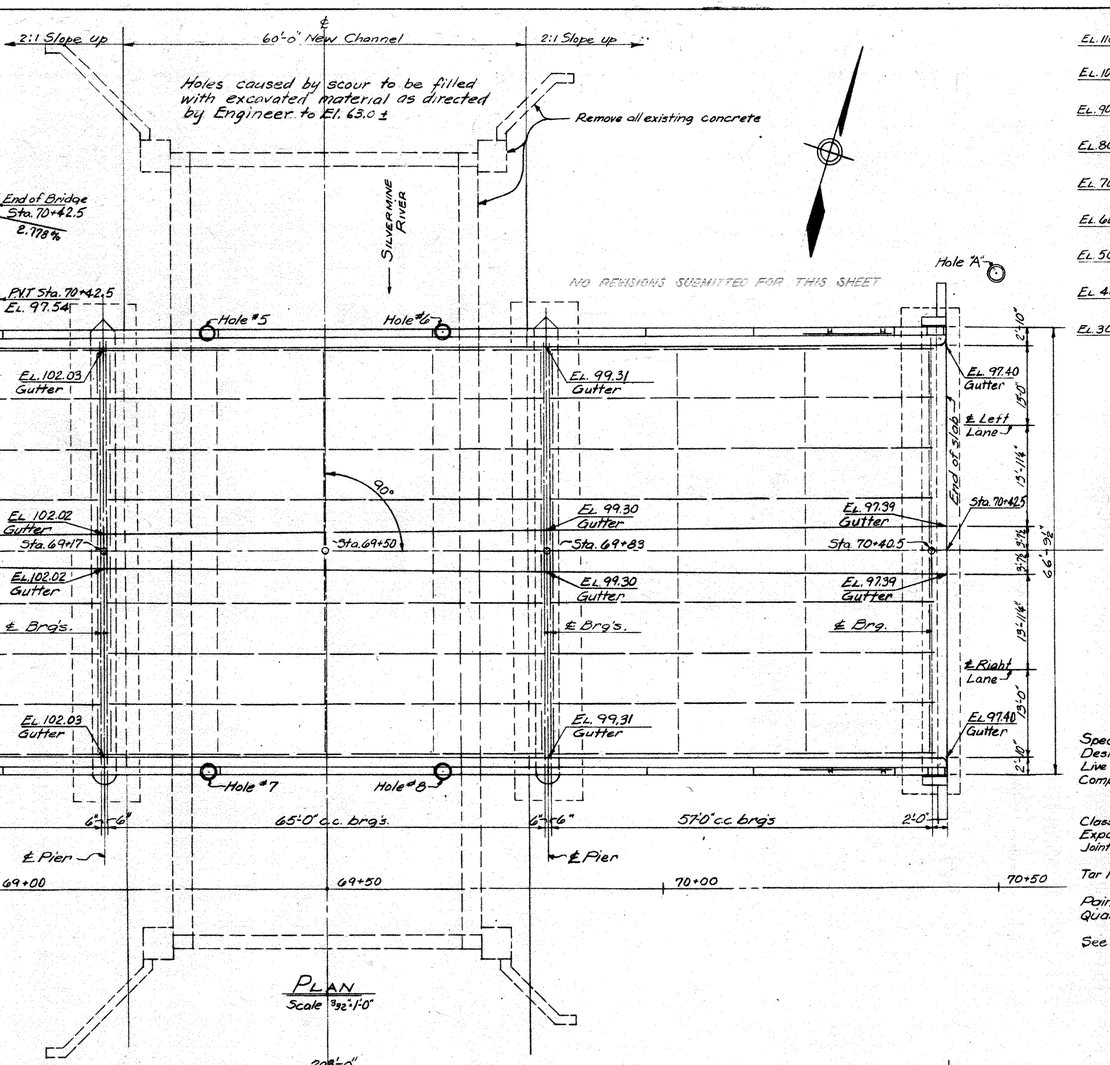
MADE BY A.R.C.	DATE Nov. 21.1936	TOWN OF Norwalk-Merritt Parkway	
CHECKED BY "	DATE	STRUCTURE Silvermine Ave and River	
APPROVED	DATE Nov. 21-36	SCALES H = 1" = 40' V = 1" = 10'	SHEET NO. 1 OF 1

PRINTED ON "IMPERIAL" TRACING CLOTH K & E CO., N.Y.

PUB. ROAD DIV. No.	STATE	TOWN	FED AID PROJ. No.	PROJ. No.	YEAR	ROUTE No.	SHEET No.	TOTAL SHEETS
1	CONN.	NORWALK		102-77	1956	15	9	16

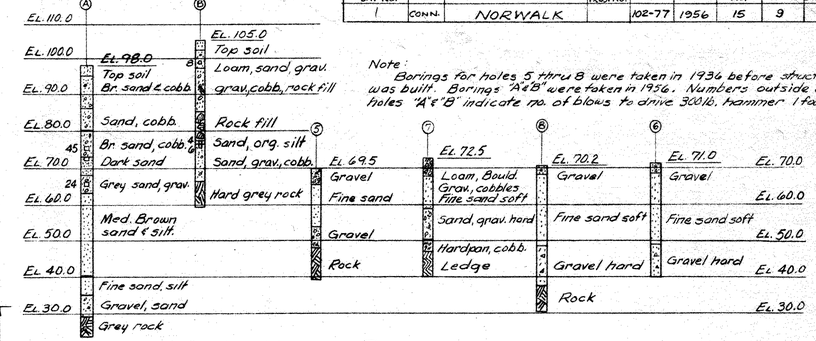


PROFILE



PLAN

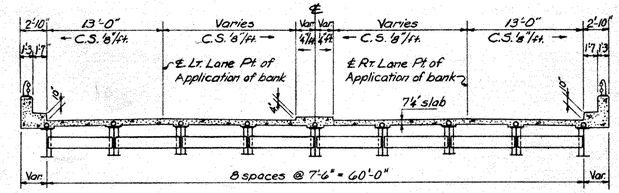
Scale 3/32" = 1'-0"



Note: Borings for holes 5 thru 8 were taken in 1934 before structure was built. Borings "A" & "B" were taken in 1956. Numbers outside of holes "A" & "B" indicate no. of blows to drive 300 lb. hammer 1 foot.

BORINGS

Scale 1" = 20'-0"



TYPICAL CROSS SECTION

Scale ⅛" = 1'-0"

GENERAL NOTES

Specifications: Connecticut State Highway Department Form 808 January 1955 and special provisions.
Design Specifications: A.A.S.H.O.-1953 with modifications by Connecticut State Highway Department.
Live Load: H20-S16-44
Composite Construction: No temporary intermediate supports shall be used during construction. Superimposed loads on slab shall be placed when directed by the Engineer, but not less than 7 days after slab has been poured.
Class "A" Concrete: Class "A" Concrete shall be used throughout. See Special provisions.
Exposed edges: Exposed edges shall be beveled 1"x1" unless otherwise dimensioned.
Joint Seal: Joint seal shall be included in items for Class "A" Concrete. See special provisions for Class "A" Concrete.
Tar Paper: The cost of furnishing and placing 2 layers of 3 ply tar paper at backwalls shall be included in item for Class "A" Concrete.
Painting: For shop and field painting of Structural Steel and Metal Bridge Rail, see special provisions.
Quantities: Quantities are approximate only and do not relieve the Contractor of the responsibility of checking them in preparing his bid.
See special provisions.

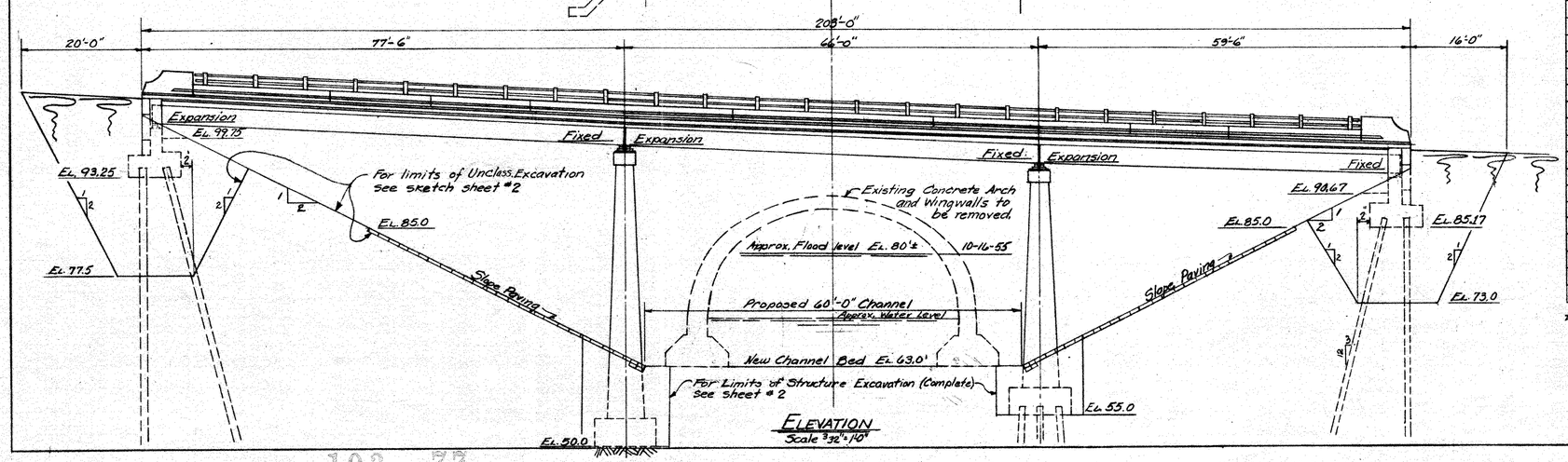
QUANTITIES

Unclassified Excavation	20043	c.y.
Structure Excavation (Complete)	1064	c.y.
Removal of Existing Masonry	1650	c.y.
Test Pile 12" H53# (47 ft. long)	one	ea.
Test Pile 12" H53# (80 ft. long)	one	ea.
Furnishing Steel Piles	243450	lb.
Driving Steel Piles	4482	l.f.
Class "A" Concrete	1802	c.y.
½" Prem. Bit. Jt. Filler for Bridges	190	s.f.
Spiral Shear Conn. Bars	6700	lb.
Deformed Steel Bars	149500	lb.
Structural Steel	425,000	lb.
Dampproofing	138	s.y.
* Removal of Temporary Bridges		l.s.
Removal of Superstructure		l.s.
Metal Bridge Rail	374	l.f.
Pervious Structure Backfill	460	c.y.
Slope Paving	3200	s.y.
¼" Prem. Bit. Jt. Filler for Bridges	60	s.f.
Removal of Conc. Pavement	281	c.y.

* on Temporary Detour

CONCRETE DISTRIBUTION

Superstructure	421	c.y.
Substructure	968	c.y.
Footings	413	c.y.
Total	1802	c.y.



ELEVATION

Scale 3/32" = 1'-0"

CONNECTICUT
STATE HIGHWAY DEPARTMENT
TOWN OF NORWALK

MERRITT PARKWAY
OVER
SILVERMINE RIVER

RECONSTRUCTION – 1956
NEW BRIDGE – GENERAL PLAN

DESIGNED BY H.B. OLMSTEAD
SCALES AS NOTED
MADE BY H.B.O. & D.R.K. DATE 3/29/56
CHECKED BY H.B.O. DATE 5/15/56
APPROVED J.D. Dewey DATE 5-15-56

PROJECT No. 102-77-03A
BRIDGE SHEET 1 OF 4

0718

102 77

192 06

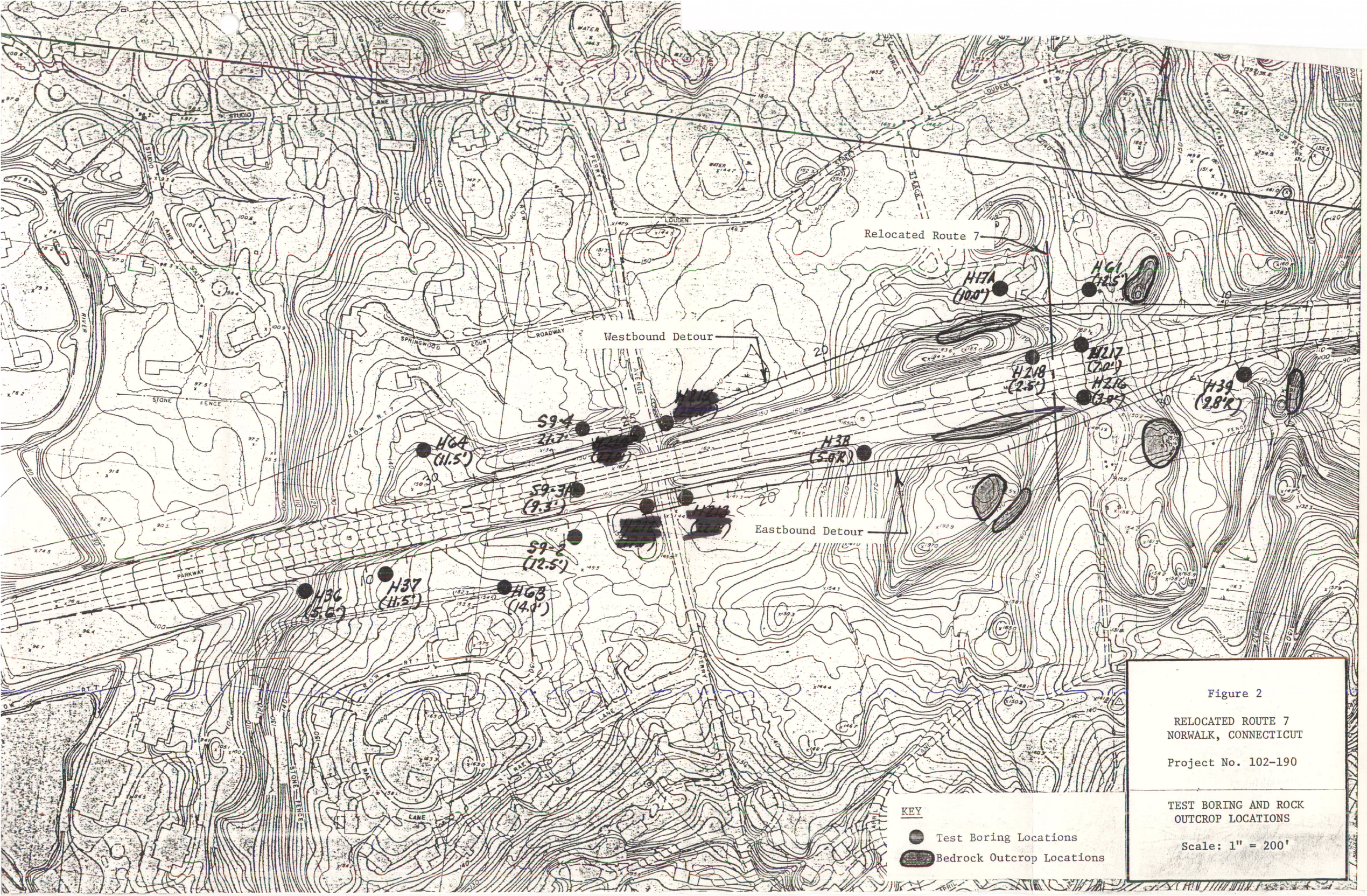


Figure 2

RELOCATED ROUTE 7
NORWALK, CONNECTICUT

Project No. 102-190

TEST BORING AND ROCK OUTCROP LOCATIONS

Scale: 1" = 200'

Subsurface Data: _____

_____

Route: US 7 DETOUR ROADS

Town: NORWALK

Project No. 102-218

The attached copies of subsurface data pertaining to explorations made at the site of the proposed work have been examined by the undersigned at the Department of Transportation - Bureau of Highways, 24 Wolcott Hill Road, Wethersfield, Connecticut. All elevations are based on CGS Datum.

It is expressly understood by the undersigned that the subsurface data shown on the following log sheets is not intended as a warranty of the subsurface conditions to be encountered but is furnished for information only.

Name of Firm or Organization	Name of Representative	Date
LG DeFelice Inc	Copy	12-6-85
DELLA-CONT. CO	Mike Della	12-6-85
WHITE OAK CORP	Copy	12-6-85
BAIER Construction, inc	Sherell Dudley	12-6-85

BORING CONTRACTOR: Giles Drilling Corp.

CHARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn.
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION
HOLE NO. H-36
LINE & STA. ~~58+00~~
OFFSET 65' R
Sta 78+00, Rt 15 ℄

GROUND WATER OBSERVATIONS
AT ____ FT. AFTER ____ HOURS
Dry
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE		SS	
SIZE I.D.	2½"	1 3/8"	
HAMMER WT.	300#	140#	BIT.
HAMMER FALL	24"	30"	

SURFACE ELEV. 116.0
DATE FINISH 4-22-68
BORING FOREMAN T. Beck with
INSPECTOR L. Gadoury
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
0	8						Loose		Brown Silt and fine			
	8	1' to	SS	4	5	5	Dry		Sand, Trace of medium	1	18	12
	11	2'6"							Gravel, roots			
	16							4'				
	129	5' to	SS	150/7"			Very Dense	112.0	Gray C-F GRAVEL and	2	7	7
		5'7"					Dry	5'7"	C-F SAND, cobbles			
		5'7" to	OE	120	100	150	Very	110.4	Decomposed Rock	3	18	—
		7'1"	**				Dense Dry	108.9	Bottom of Boring			
									@ 7'1" refusal			
10												
20												
30												
40												

GROUND SURFACE TO 5 FT. USED 2½" CASING: THEN ____" CASING TO ____ FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

TOTAL FOOTAGE:
EARTH BORING 7 FT. lin
ROCK CORING ____ FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

HOLE NO. H-36

BORING CONTRACTOR: Giles Drilling Corp.

CHARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn.
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION
HOLE NO. H-37
LINE & STA. 80+00
OFFSET 65' R
Rt 15 R

GROUND WATER OBSERVATIONS
AT 4'10" FT. AFTER 1 HOUR
No Coting
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE	"	SS	S. Tube
SIZE I.D.	3½	2½"	2½"
HAMMER WT.	300#	300#	BIT.
HAMMER FALL	24	18"	Core

SURFACE ELEV. 146.1
DATE FINISH 4-19-68
BORING FOREMAN T. Beckwith
INSPECTOR J. Gadeury
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
0	5						Medium Damp		1' of Topsoil then Brown C-F SAND and Silt Little Medium Gravel			
	8	1' to	SS	10	9	9				1	18	12
	12	2'6"										
	31							4				
	144						Very Dense Damp	142.1	Gray C-F SAND and F-C Gravel			
	125	5' to	OE	64	71					2	12	—
	491	6'	**					7				
	364	7' to								①	24	15
	186	9'	Cored Boulder					9	Boulder			
	171											
10	202	10' to	OE	89	110	130	Very Dense Damp	137.1	Gray C-F SAND and F-C Gravel	3	18	—
	286	11'6"	**									
	325							13'6"				
	193	6"										
								132.6	Top of Rock Granite-Gneiss			
		15'6"		Min.	Per	ft.				②	60	25
		to	Core	12	13	13						
		18'6"		12	14							
20								127.6	Bottom of Boring @ 18'6"			
30												
40												

GROUND SURFACE TO 13 FT. 6 in. USED 3½" CASING: THEN ____" CASING TO ____ FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

TOTAL FOOTAGE:
EARTH BORING 13 FT. 6 in
ROCK CORING 7 FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

HOLE NO. H-37

FORM 62-10

BORING CONTRACTOR: Gile Drilling Corp.

CHARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION
HOLE NO. H-38
LINE & STA. 92+00
OFFSET 65' R
Rt 15

GROUND WATER OBSERVATIONS
AT ____ FT. AFTER ____ HOURS
Dry
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE		SS	S.
SIZE I.D.	2½"	1⅜"	
HAMMER WT.	300#	140#	BIT.
HAMMER FALL	24"	30"	

SURFACE ELEV. 164±
DATE FINISH 12-27-67
BORING FOREMAN J. Kauffman
INSPECTOR G. Sauter
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
0	8						Med. Dense Moist		Brown fine Sand F-C Gravel, Little Silt			
	14	1' to	SS	7	14	20				1	18	11
	36	2'6"										
	40											
	120	5' to 5'0"	OE **	65/0"				5'		–	0	–
								159±	Bottom of Boring @ 5' Refusal			
10									OE: Open end "A" Rod driven with 300# Hammer			
20												
30												
40												

GROUND SURFACE TO 5 FT. USED 2½" CASING: THEN No" CASING TO ____ FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

TOTAL FOOTAGE:
EARTH BORING 5 FT.
ROCK CORING ____ FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

HOLE NO. H-38

BORING CONTRACTOR: Gile Drilling Corp.

IARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION Rt. 15 E.B
HOLE NO. H-39
LINE & STA. 101+50
OFFSET 65' R Rt 15 ℄

GROUND WATER OBSERVATIONS
AT 0' FT. AFTER 1/2 HOURS
~~Dry~~ No Casing
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE		SS	
SIZE I.D.	2 1/2"	1 3/8"	
HAMMER WT.	300#	140#	BIT.
HAMMER FALL	24"	30"	

SURFACE ELEV. 126±
DATE FINISH 12-27-67
BORING FOREMAN T. Shivock
INSPECTOR G. Sauter
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
0	4							6"	6" Topsoil & Surface Boulders			
	5	1' To	SS	4	4	3		125.5±	Then Brown Fine Sand and Silt, Trace Coarse Gravel	1	18	18
	7	2'6"										
	71							4'				
	197							122±	Brown F-M Sand Trace of Silt; Rock Fragments			
	71	5' To	~~DS~~	62	79					2	12	12
	98	6' ~~D~~	**									
	137											
	362											
	305/9"							9'9"				
10								116.1±	Bottom of Boring at 9'9" Refusal			
20												
30												
40												

GROUND SURFACE TO 9 FT. 9" USED 2 1/2" CASING: THEN ____" CASING TO ____ FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

TOTAL FOOTAGE:
EARTH BORING 9'9" FT.
ROCK CORING ____ FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

HOLE NO. H-39

BORING CONTRACTOR: Giles Drilling Corp.

CHARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION
HOLE NO. H-61
LINE & STA. 38+00
OFFSET ℄ W.N Rdway

GROUND WATER OBSERVATIONS
AT ____ FT. AFTER 1 HOURS
Surface w/o Casing
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE		SS	D.Tube
SIZE I.D.	2½"	1⅜"	1⅜"
HAMMER WT.	300#	140#	BIT.
HAMMER FALL	24"	30"	Core

SURFACE ELEV. 140.4
DATE FINISH 3-14-68
BORING FOREMAN T. LoRusso
INSPECTOR G. Sauter
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
0	3						Medium Wet		Brown F-C SAND, Silt, Trace of Clay			
	5	1' to	SS	2	4	12				1	18	16
	18	2'6"										
	17											
	12							5'				
	2	5' to	SS	1	2	2	Loose Wet	135.4	Gray Fine Sand, Silt, Little Clay Trace of F-M Gravel	2	18	16
	4	6'6"										
	19											
	41											
	34											
10		10' to	SS	7	11	11	Med. Wet	11'		3	18	18
		11'6"						12'6"	Brown & Gray F-C SAND Some Silt Tr. F-C Gravel			
		12'6"						127.9	Top of Rock	①	60	51
			C	10	9	10			Granite-Gneiss Seamy			
		17'6"		11	9							
								122.9	Bottom of Boring @ 17'6"			
20												
30												
40												

GROUND SURFACE TO 10 FT. USED 2½" CASING: THEN ____" CASING TO ____ FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

TOTAL FOOTAGE:
EARTH BORING 12 FT. 6"
ROCK CORING 5 FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

HOLE NO. H-61

FORM 62-10

BORING CONTRACTOR: Giles Drilling Corp.

CHARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn.
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION
HOLE NO. H-63
LINE & STA. 20+00
OFFSET 5' R
W-N Rdway

GROUND WATER OBSERVATIONS
AT 10' 2" FT. AFTER 1 HOURS
casing @ 14'
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE		SS	S. Tube
SIZE I.D.	2½"	1⅜"	1⅜"
HAMMER WT.	300#	140#	BIT.
HAMMER FALL	24"	30"	Core

SURFACE ELEV. 149.7
DATE FINISH 4-8-68
BORING FOREMAN T. Shivock
INSPECTOR J. Gadoury
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
0	7							1'	1' of Topsoil Then Brown			
	9	1' to	SS	7	8	7	Medium	148.7	C-F SAND, Some Silt,	1	18	12
	8	2'6"					Damp	3'	Little C-F Gravel			
	24							146.7	Gray C-F SAND &			
	86											
	59	5' to	OE	41	36	34	Very		C-F Gravel, Trace	2	18	—
	138	6'6"	**				Dense		of Silt; boulders			
	171						Damp					
	159											
	186											
10	154											
	137	11' to	OE	39	51	44	Very			3	18	—
	148	12'6"	**				Dense					
	209						Damp	14'				
								135.7	Top of Rock			
		14'		Min.	Per	ft				①	60	36
		to	C	11	10	12			Granite-Gneiss			
		19'		12	11							
									Very Seamy			
20		19'		Min	Per	ft				②	60	46
		to	C	10	11	9						
		24'		11	10							
								125.7				
									Bottom of Boring			
									@ 24'			
30												
40												

GROUND SURFACE TO 14 FT. USED 2½" CASING: THEN ____" CASING TO ____ FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

TOTAL FOOTAGE:
EARTH BORING 14 FT.
ROCK CORING 10 FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

HOLE NO. H-63

FORM 62-10

BORING CONTRACTOR: Giles Drilling Corp.

ARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn.
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION
HOLE NO. H-64
LINE & STA. ~~60+00~~ 60+20
OFFSET ~~℄~~ 10' L
S-W Rdway

GROUND WATER OBSERVATIONS
AT 21' FT. AFTER 3 HOURS
No Casing
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE		SS	D. Tube
SIZE I.D.	3½"	1⅜"	2½"
HAMMER WT.	300#	140#	BIT.
HAMMER FALL	24"	30"	Core

SURFACE ELEV. 195.0
DATE FINISH 4-25-68
BORING FOREMAN J. Beckwith
INSPECTOR G. Sauter
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
0	13											
	17	1' to	SS	6	10	13	Med. Moist		Brown F-C SAND, Some Silt, Little F-C Gravel	1	18	10
	27	2'6"										
	184											
	416											
	603	5' to	OE SS	163	184		Very Dense Moist	6'		2	18	[illegible]
	701	6"	**					139.0	Pulverized cobbles and Boulders	①	24	22
	936	6' to						8'				
	534	8'	Cored Boulders					137.0	Gray-Brown F-C GRAVEL, Some F-C SAND, Some Silt.			
	943											
10	692	10' to	OE	123	251	199	Very Dense Moist	11'6"		3	18	—
	411/6"	11'6"	**					133.5	Top of Rock	②	60	33
		11'6" to 16'6"	Core						Gneiss - Seamy Vertical Seams			
		16'6" to 21'6"	Core							③	60	31
20												
		21'6" to 26'6"	Core							④	60	36
								118.5				
									Bottom of Boring @ 26'6"			
30												
40												

GROUND SURFACE TO 11 FT. 6in USED 3½" CASING: THEN ____" CASING TO ____ FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

TOTAL FOOTAGE:
EARTH BORING 11 FT. 6in
ROCK CORING 17 FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

HOLE NO. H-64

FORM SM-1 REV. 7/80
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
BORING REPORT

BORING CREW LEADER: J. VALLEY	TOWN: NORWALK	SHEET 1 OF 1
INSPECTOR	PROJECT NAME: RTE. 7 Relocation	LOCATION: RTE 15 WB
SOILS ENGINEER	PROJECT NO.: 102-190-03	BORING CONTRACTOR
		DESIGN ENGINEER

LOCATION

			AUGER	CASING	SAMPLER	CORE BAR	
SURFACE ELEV. 150.2		TYPE		STEEL	S/S	2"	HOLE NO. H217
DATE FINISHED 1-16-85		SIZE I.D.		2 1/2"	1 3/8	1 3/8	LINE & STATION 185+30
GROUND WATER OBSERVATIONS		HAMMER WT.		300 LBS	140 LBS.	BIT	OFFSET 110' RT
AT 6 FT. AFTER 0 HRS.		HAMMER FALL		24"	30"	DIAMOND	N. COORDINATE 113,088
AT FT. AFTER HRS.							E. COORDINATE 412,385

DEPTH	CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	5									1'	TOP SOIL w/ GRAVEL & COBBLES
	12										BROWN-GRAY F-SAND, LITTLE C-SAND, LITTLE SILT, LITTLE F-M GRAVEL, TR. C-GRAVEL w/ PIECES OF SCHIST
	25										
	20										
5	13	4'-5 1/2	1	18	8	D	8	6	5		
	40										
	100	7'-12'		60	56	C				7'	
											SEAMY, HARD-VERY HARD GRANITE
10											
											VERY FRACTURED FROM 14'-17'
		12'-17'		60	34	C					
											NOTE: LOST WASH WATER @ 9'
										17'	
20											BOTTOM of BORING
25											
30											
35											

FROM GROUND SURFACE TO 7 FEET USED 2 1/2 INCH CASING THEN NO ~~INCH~~ CASING FOR 10 FEET

FOOTAGE IN EARTH 7 FOOTAGE IN ROCK 10 NO. OF SAMPLES 1 HOLE NO. H217

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

FORM SM-1 REV. 7/80
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAYS
BORING REPORT

BORING CREW LEADER: J. VALLEY	TOWN: NORWALK	SHEET 1 OF 1
INSPECTOR	PROJECT NAME: Route 7 Relocation	LOCATION RTE 15 W.B
SOILS ENGINEER	PROJECT NO. 102-190-03	BORING CONTRACTOR
		DESIGN ENGINEER

LOCATION

		AUGER	CASING	SAMPLER	CORE BAR	
SURFACE ELEV. 157.8						HOLE NO. H218
DATE FINISHED 1-23-85	TYPE		STEEL	—	2"	LINE & STATION 185+0
GROUND WATER OBSERVATIONS	SIZE I.D.		2½"		1 3/8"	OFFSET 75' LT
AT 4 FT. AFTER 0 HRS.	HAMMER WT.		300 LBS		BIT	N. COORDINATE 113,016
AT FT. AFTER HRS.	HAMMER FALL		24"		DIAMOND	E. COORDINATE 412,210

DEPTH	CASING BLOWS PER FOOT	SAMPLE DEPTHS IN FEET FROM - TO	NO.	PEN. INCH	REC. INCH	TYPE	BLOWS PER 6 INCHES ON SAMPLER 0-6	6-12	12-18	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS (INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.)
	12									1'	BROWN F-SAND SOME SILT & COBBLES
	150									2½'	BROWN-TAN F-SAND, SOME SILT, SOME C-SAND, LITTLE F-C GRAVEL w/COBBLES
	80	2½'-7½		60	38	C					
5											SEAMY, MEDIUM HARD GNEISS & VERY HARD GRANITE
		7½'-12½'		60	58	C					VERY FRACTURED TO 6'
10										12½'	
											BOTTOM OF BORING
20											
25											
30											
35											

FROM GROUND SURFACE TO 2½ FEET USED 2½ INCH CASING THEN NO ~~INCH~~ CASING FOR 10 FEET

FOOTAGE IN EARTH 2½ FOOTAGE IN ROCK 10 NO. OF SAMPLES — HOLE NO. H218

SAMPLE TYPE CODING: D=DRIVE C=CORE A=AUGER UP=UNDISTURBED, PISTON V=VANE TEST

PROPORTIONS USED: TRACE=1-10% LITTLE=10-20% SOME=20-35% AND=35-50%

BORING CONTRACTOR: Giles Drilling Corp.

CHARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION Perry Ave over I-95
HOLE NO. 59-2
LINE & STA. ~~[illegible]~~
OFFSET ~~[illegible]~~
32+68, ~~[illegible]~~ 144.3

GROUND WATER OBSERVATIONS
AT 3'8" FT. AFTER 1 HOUR
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE		SS	P. Tube
SIZE I.D.	3½"	2½"	2½"
HAMMER WT.	300#	300#	BIT.
HAMMER FALL	24"	18"	Core

SURFACE ELEV. ~~144.5~~ 145.0
DATE FINISH 4-1-68
BORING FOREMAN T. Shivock
INSPECTOR G. Gadbury
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
0	8						Loose	1'	1' Topsoil ~~then~~ Brown			
	12	1' to	SS	5	4	5	Wet	142.3	F-C SAND and Silt	1	18	13
	14	2'6"						3'				
	535							~~140.0~~	Gray C-F GRAVEL			
	492							141.3	Little Silt; boulders,			
	71	5' to	SS	41	59		Very Dense		little F-C Sand	2	12	8
	386	6'										
	409						Wet					
	550											
	487							10'				
10	144	10' to	SS	32	41	39	Very Dense	~~135.0~~	Brown C-F Gravel, Some	3	18	13
	187	11'6"						12'6"	C-F SAND and Silt.			
	255/6"						Wet					
		12'6"		Min.	Per	ft.		~~133.5~~	Top of Rock	①	60	33
		To	C	10	8	9		131.8	Granite & Gneiss			
		17'6"		10	12							
									Seamy			
		17'6"		Min.	Per	ft.						
		To	C	11	13	13				②	60	40
20		22'6"		14	15							
							~~G~~.121.8	~~122.5~~				
									Bottom of Boring @ 22'6"			
30												
40												

GROUND SURFACE TO 12 FT. 6 in. USED 3½" CASING: THEN ____" CASING TO ____ FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

TOTAL FOOTAGE:
EARTH BORING 12 FT. 6 in.
ROCK CORING 10 FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

HOLE NO. 59-2

BORING CONTRACTOR: Giles Drilling Corp.

CHARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn.
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION
HOLE NO. 59-3A
LINE & STA. [illegible]
OFFSET B
33+60

GROUND WATER OBSERVATIONS
AT 1'8" FT. AFTER 1 HOURS
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE		SS	S. Tube
SIZE I.D.	2½"	1⅜"	1⅜"
HAMMER WT.	300#	140#	BIT.
HAMMER FALL	24"	30"	Core

SURFACE ELEV. 144.02
DATE FINISH 3-27-62
BORING FOREMAN T. Shivers
INSPECTOR J. Galvery
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" SAMPLER		DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
				6-12	12-18						
0	6					Medium Wet	1'	1' Topsoil then Brown Fine SAND and Silt			
	51	1' to	SS	8	7	9			1	18	12
	225	2'6"					3'				
	27	3'					141.2	Cored Boulder			
	22	to	Cored	Boulder					①	36	35
		6'					6'				
							138.2	Drove open End rod from 6' to 9'3" no recovery			
							9'3"				
10		9'3"		Min.	Per	ft.	134.0	Top of Rock	②	60	52
		to	C	14	15	15	135.0	Granite - Gneiss Very Seamy			
		14'3"		16	15						
							130.0				
								Bottom of Boring @ 14'3"			
20											
30											
40											

GROUND SURFACE TO 3 FT. USED 2½" CASING: THEN ____" CASING TO ____ FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

TOTAL FOOTAGE:
EARTH BORING 9 FT. 3 in.
ROCK CORING 5 FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

HOLE NO. 59-3A

BORING CONTRACTOR: Giles Drilling Corp.

CHARLES A. MAGUIRE & ASSOCIATES
ENGINEERS

SUBSURFACE INFORMATION

TOWN Norwalk, Conn.
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION
HOLE NO. 59-4
LINE & STA. 24+50
OFFSET ℄
35+23

GROUND WATER OBSERVATIONS
AT 1'6" FT. AFTER 1 HOURS
AT ____ FT. AFTER ____ HOURS

	CASING	SAMPLER	CORE BAR.
TYPE		SS	1⅝ S. Tube
SIZE I.D.	2½"	1⅜"	1⅜
HAMMER WT.	300#	140#	BIT.
HAMMER FALL	24"	30"	Crco

SURFACE ELEV. 139.0 136.2
DATE FINISH 3-22-68
BORING FOREMAN J. Shivock
INSPECTOR J. Galvin
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC
0	8						Medium		Brown M-F Gravel and			
	10	1' to	SS	8	7	7	Wet		M-F SAND, some	1	18	12
	14	2'6"						4'	silt			
	24											
	39						Very	135.0	Brown C-F Gravel and			
	24	5' to	SS	31	32	29	Dense	132.8	C-F SAND, some Silt			
	131	6'6"					Wet			2	18	14
	144											
	139							9'				
	124											
10	36	10 to	SS	22	29	31	Very	129.0	Gray C-F Gravel	3	18	15
	121	11'6"					Dense	127.8	& C-F SAND, Some			
	136						Wet		Silt; boulders			
	128											
	134											
	38	15' to	SS	24	26	29	Very			4	18	12
	92	16'6"					Dense					
	101						Wet					
	89											
	105											
20	36	20 to	SS	28	25	24	Very			5	18	12
	195/8"	21'6"					Dense	21'8"				
							Wet	118.0	Top of Rock	D	60	48
		21'8"		Min.	Per	Ft.		115.1	Granite-Gneiss			
		to	C	9	9	10			Seamy			
		26'8"		9	10							
							El.	110.1				
								112.2	Bottom of Boring			
									@ 26'8"			
30												
40												

GROUND SURFACE TO 21 FT. 8 in USED 2½" CASING: THEN ____" CASING TO ____ FT.

SAMPLE TYPE

D = DRY C = CORED P = PIT A = AUGER

UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

TOTAL FOOTAGE:
EARTH BORING 21 FT. 8 in.
ROCK CORING 5 FT.

HOLE NO. 59-4

BORING CONTRACTOR: Giles Drilling Corp

CHARLES A. MAGUIRE & ASSOCIATES
ENGINEERS
SUBSURFACE INFORMATION

TOWN Norwalk, Conn
PROJECT NAME Relocated Route 7
PROJECT NO. 102-129

SHEET 1 OF 1
LOCATION
HOLE NO. H-17A
LINE & STA. 186+70 SB
OFFSET ℄

GROUND WATER OBSERVATIONS
AT 5'5" FT. AFTER 1 HOURS
Casing @ 10'
AT 2'10" FT. AFTER 1 HOURS
No Casing

	CASING	SAMPLER	CORE BAR.
TYPE		SS	S. Tube
SIZE I.D.	2½"	1⅜"	1⅜
HAMMER WT.	300#	140#	BIT.
HAMMER FALL	24"	30"	Core

SURFACE ELEV. 152.1
DATE FINISH 12-27-67
BORING FOREMAN T. LaRusso
INSPECTOR G. Sauter
SOILS ENGR. S. Stevens

LOCATION OF BORING:

DEPTH BELOW SURFACE	CASING BLOWS PER FOOT	SAMPLE DEPTHS FROM-TO	TYPE OF SAMPLE	BLOWS PER 6" ON SAMPLER FROM 0-6	6-12	TO 12-18	DENSITY OR CONSIST. MOIST.	STRATA CHANGE DEPTH ELEV.	FIELD IDENTIFICATION OF SOIL. REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.	SAMPLE NO.	PEN	REC.
0	4						Medium Dense Moist	2'0"	Tan F-C Sand, Silt Some F-C Gravel, Boulders			
	8	1' to	SS	5	9	11		150.1		1	18	16
	29	2'6"										
	84											
	96											
	45	5' to	SS	16	27	39	Very Dense Moist		Brown F-C Sand, Some F-C Gravel, little Silt	2	18	18
	72	6'6"										
	107											
	84											
	112							10'				
10		10'		Min.	Per	ft.		142.1	Top of Rock	X	24	19
		To	C	10	16	11						
		15'		10	11				Granitic Gneiss			
									Seamy	X	60	58
		15'		Min.	Per	ft.			Pegmatite Seams			
		To	C	7	9	9						
		20'		9	8					X	36	34
20								132.1	Bottom of Boring @ 20'			
30												
40												

GROUND SURFACE TO 10 FT. USED 2½" CASING: THEN No" CASING TO 20 FT.

SAMPLE TYPE:
D = DRY C = CORED P = PIT A = AUGER
UT = UNDISTURBED, THINWALL UP = UNDISTURBED, PISTON

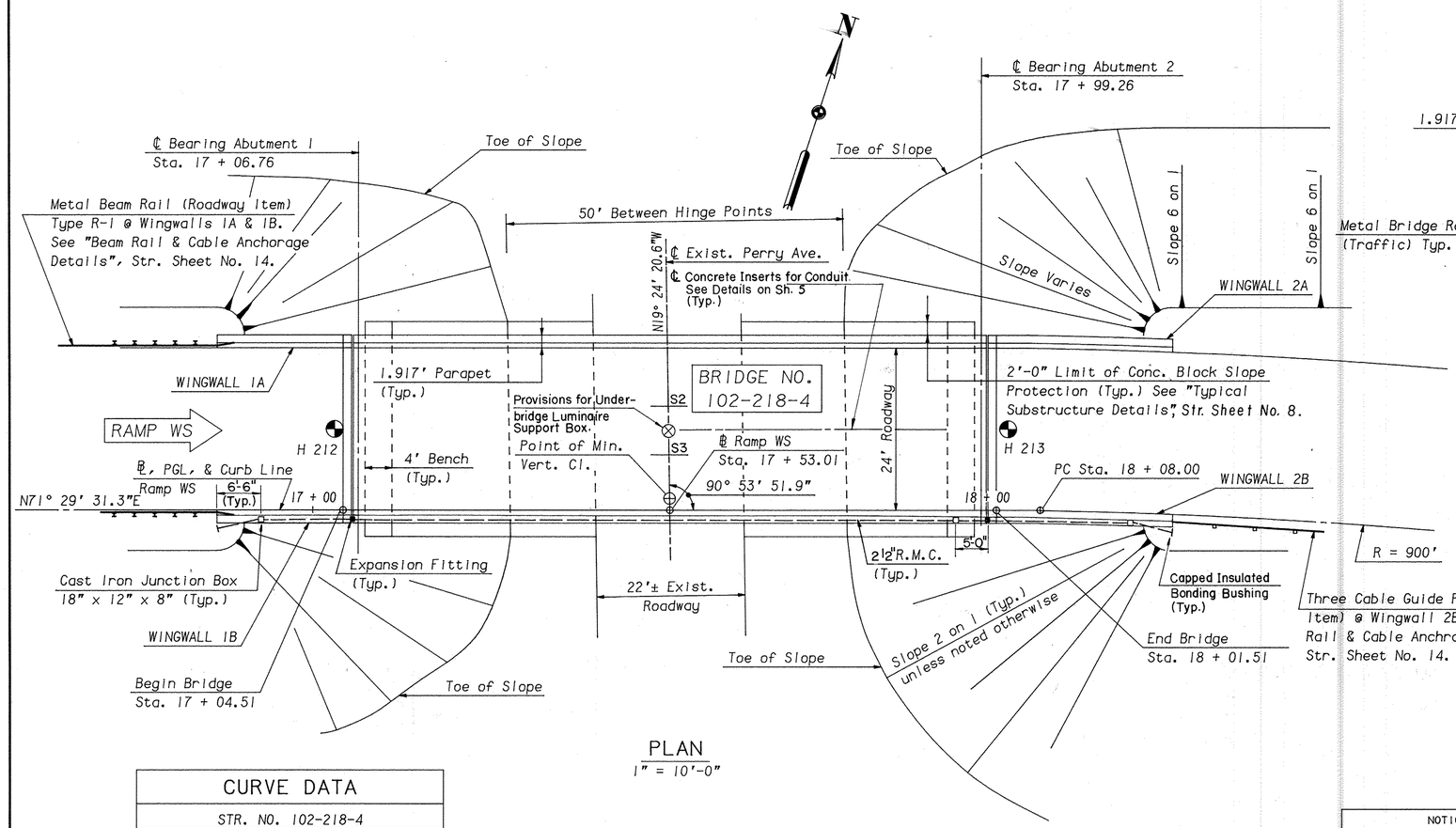
TOTAL FOOTAGE:
EARTH BORING 10 FT.
ROCK CORING 10 FT.

PROPORTIONS USED: TRACE = 0-10%, LITTLE = 10-20%, SOME = 20-35%, AND = 35-50%

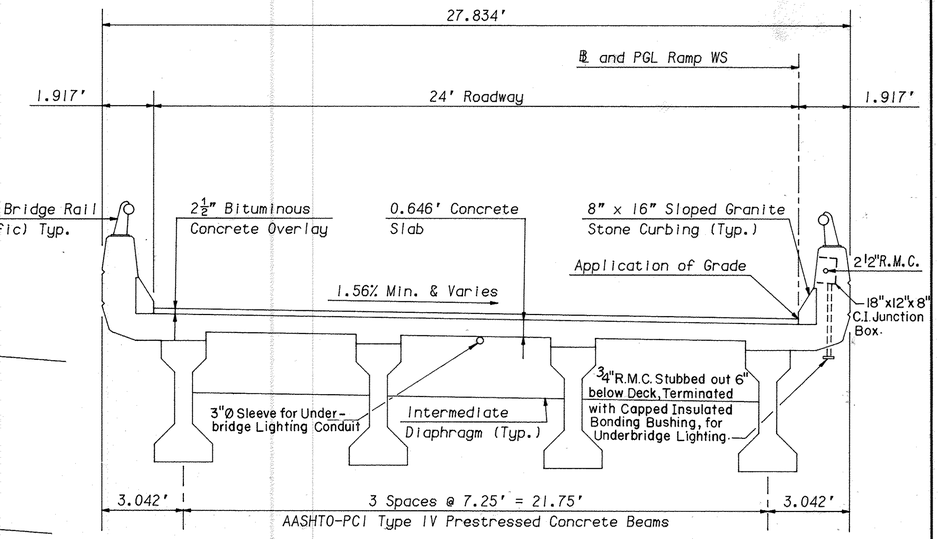
HOLE NO. H-17A

FORM NO ENG 154 ED 4-80

FHWA REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	NORWALK		102-218	1985	7	57	78



PLAN
1" = 10'-0"



TYPICAL BRIDGE SECTION - FINAL
(Looking Upstation)
3/8" = 1'-0"

NOTE:
For typical bridge section and details necessary to modify the structure for use as a temporary detour route for Merritt Parkway Traffic, see "Temporary Detour - Structural Details", Str. Sheet No. 15.

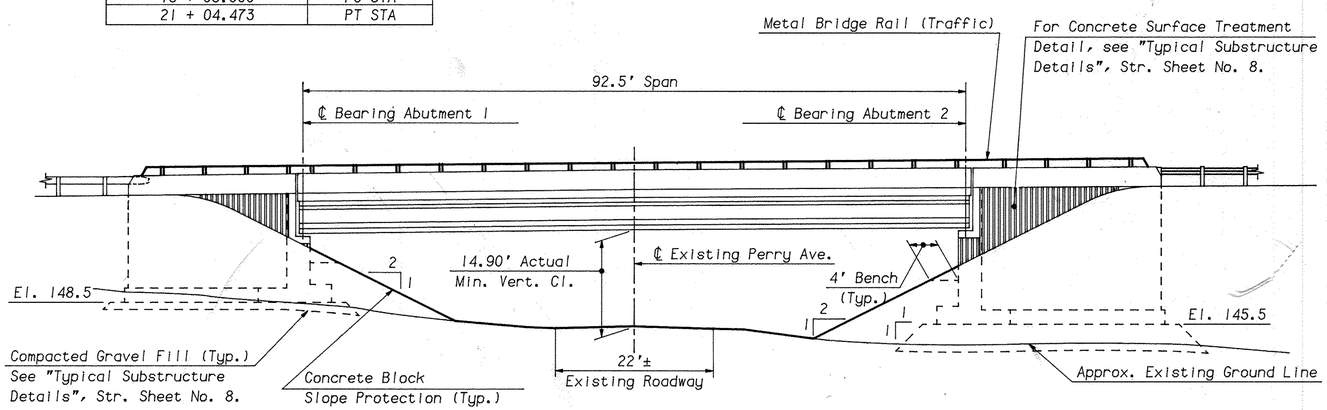
CURVE DATA	
STR. NO. 102-218-4	
18° 52' 26.6"	△
6° 21' 58.31"	D_C
149.592'	T
296.473'	L
900.0'	R
18 + 08.000	PC STA
21 + 04.473	PT STA

CONNECTICUT GRID COORDINATES			
LOCATION		NORTH	EAST
STR NO 102-218-4	PT STA 10+60.555	112,340.645	410,769.067
	PC STA 18+08.000	112,577.911	411,477.854
	PI	112,625.397	411,619.709
	PT STA 21+04.473	112,624.442	411,769.297
	CENTER OF CURVE	112,724.460	411,763.547

NOTES:

For various electrical installation and conduit termination details, see Standard Drawing (1), Str. Sheet No. 18, Electrical Details.

R.M.C. denotes Rigid Metal Conduit in Structure.



ELEVATION
1" = 10'-0"

NOTICE TO BRIDGE INSPECTORS	
THE DEPARTMENT'S BRIDGE SAFETY PROCEDURES REQUIRE THIS BRIDGE TO BE INSPECTED FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUALS FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS. (THE LISTING OF COMPONENTS FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE.) THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OF BRIDGES AND STRUCTURES, OR NOTED BELOW.	
COMPONENT OR DETAIL	BR. SH. REF.
NONE	

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION

REVISIONS

6068

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

NORWALK

U.S. ROUTE 7, RAMP WS
OVER
PERRY AVENUE

GENERAL PLAN AND ELEVATION

ENGINEER HOWARD NEEDLES TAMMEN & BERGENDOFF
DESIGNER T.F. POTTS | DRAFTER C.IMPERIALE | CHECKER T.F. POTTS
APPROVED [signature] DATE 10.11.85
STRUCTURE NO. 102-218-4 | BRIDGE LOG NO. | STRUCTURE SHEET NO. 1 OF 18

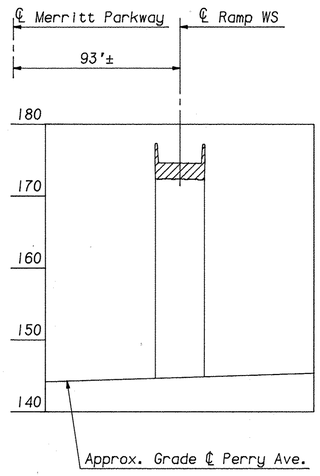
102 218

334-02

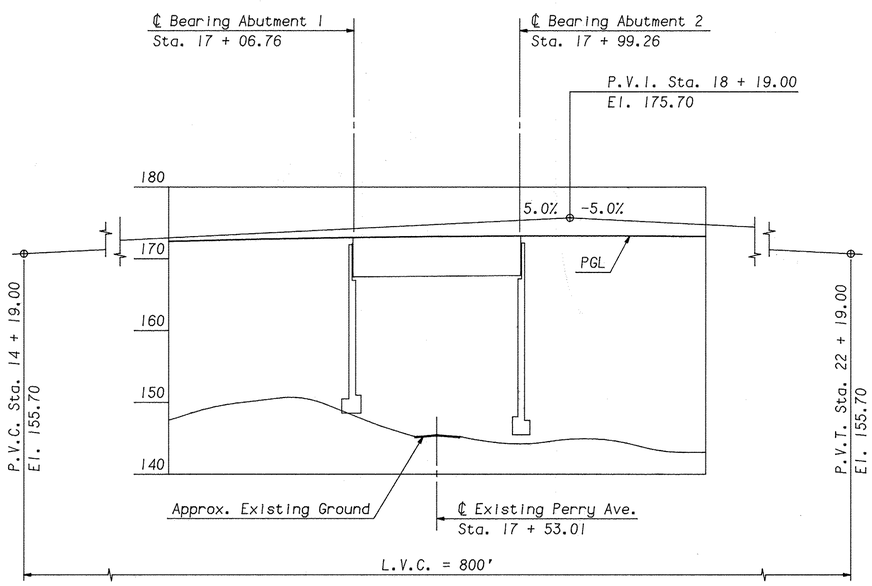
57

FORM NO. ENG. 15A ED 4-80

F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	NORWALK		102-218	1985	7	58	78



PERRY AVE. PROFILE
(Looking Upstation)
1" = 40'-0" Horiz.
1" = 10'-0" Vert.



RAMP WS PROFILE
1" = 40'-0" Horiz.
1" = 10'-0" Vert.

GENERAL NOTES

Specifications: Connecticut Department of Transportation Form 813 (1985) and Special Provisions.

Design Specifications: Standard Specifications for Highway Bridges (AASHTO-1983), with the Interim Specifications up to and including 1984, as supplemented by the Connecticut Department of Transportation Bridge Manual (1964).

Allowable Design Stresses:
Class "A" and Class "F" Concrete based on f'c = 3,000 psi
Reinforcement (ASTM A615 Grade 60) fs (tensile) = 24,000 psi
AASHTO-PCI Type IV Prestressed Concrete Beams f'c = 5,500 psi
Prestressed Strands f's(ultimate strength) = 270,000 psi

Live Load: HS20 - 44

Future Paving Allowance: None

Composite Construction: No temporary intermediate supports shall be used prior to and during the placing and setting of the concrete deck slab. Live and superimposed dead loads will be permitted when directed by the Engineer but not less than 10 days after the final portion of deck slab has been placed.

Class "A" Concrete: Class "A" Concrete shall be used for the entire substructure and parapets of the U-Type Wings.

Class "F" Concrete: Class "F" Concrete shall be used for the bridge deck including the parapets.

Joint Seal: See Special Provisions.

Paraffin: The cost of furnishing and applying paraffin is included in the item for Class "F" Concrete.

Exposed Edges: Exposed edges shall be beveled 1" x 1" unless dimensioned otherwise.

Foundation Pressures: The AASHTO Group I maximum design foundation pressure is 3.5 TSF for both abutments founded on compacted gravel fill. The Group Loads are as given in the AASHTO Standard Specifications for Highway Bridges, 1983.

Construction Joints: Construction Joints, other than those shown on the plans, will not be permitted without prior approval of the Engineer.

Decimal Dimensions: When dimensions are given to less than three decimal places, the omitted digits shall be assumed to be zeros.

Utilities: None

ESTIMATED QUANTITIES

ITEM	UNIT	BRIDGE 102-218-4
STRUCTURE EXCAVATION - EARTH (COMPLETE)	C.Y.	108
GRAVEL FILL	C.Y.	44
COMPACTED GRAVEL FILL	C.Y.	258
PERVIOUS STRUCTURE BACKFILL	C.Y.	524
BITUMINOUS CONCRETE - CLASS (12)	TON	15
BITUMINOUS CONCRETE - CLASS (1)	TON	33
PRESTRESSED BEAMS - PRETENSIONED, TYPE IV	L.F.	376
ELASTOMERIC BEARING PADS	C.I.	3,983
2" ELASTOMERIC COMPRESSION SEAL	L.F.	58
CLASS "A" CONCRETE	C.Y.	366
CLASS "F" CONCRETE	C.Y.	99
0.5" PREF. EXP. JOINT FILLER FOR BRIDGES	S.F.	50
SAW CUTTING BRIDGE JOINTS	L.F.	49
DEFORMED STEEL BARS	LB.	43,200
DEFORMED STEEL BARS - (EPOXY COATED)	LB.	8,750
MEMBRANE WATERPROOFING (SHEET)	S.Y.	250
DAMPPROOFING	S.Y.	260
BAGGED STONE	C.F.	32
CONCRETE BLOCK SLOPE PROTECTION	S.Y.	262
8" x 16" SLOPED GRANITE STONE CURBING FOR BRIDGES	L.F.	274
PROTECTIVE COMPOUND FOR BRIDGES	S.Y.	77
METAL BRIDGE RAIL (TRAFFIC)	L.F.	281
2½" RIGID METAL CONDUIT IN STRUCTURE	L.F.	147
18" x 12" x 8" CAST IRON JUNCTION BOX	EA.	3
¾" RIGID METAL CONDUIT IN STRUCTURE	L.F.	5

CONCRETE DISTRIBUTION

DESCRIPTION	UNIT	102-218-4
SUPERSTRUCTURE	C.Y.	99
SUBSTRUCTURE	C.Y.	239
FOOTING	C.Y.	127
TOTAL	C.Y.	465

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NO.	DATE	DESCRIPTION

REVISIONS

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

NORWALK

U.S. ROUTE 7, RAMP WS
OVER
PERRY AVENUE

GENERAL NOTES, QUANTITIES AND PROFILES

ENGINEER HOWARD NEEDLES TAMMEN & BERGENDOFF
DESIGNER T.F. POTTS | DRAFTER C. IMPERIALE | CHECKER T.F. POTTS
APPROVED [signature] DATE 10.11.85
STRUCTURE NO. 102-218-4 | BRIDGE LOG NO. | STRUCTURE SHEET NO. 2 OF 18

102 218

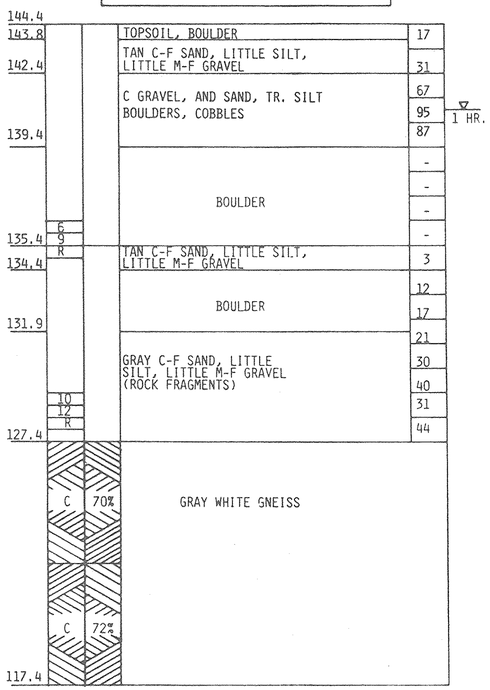
334-02

58

FORM NO. ENG. 53 EG 4-80

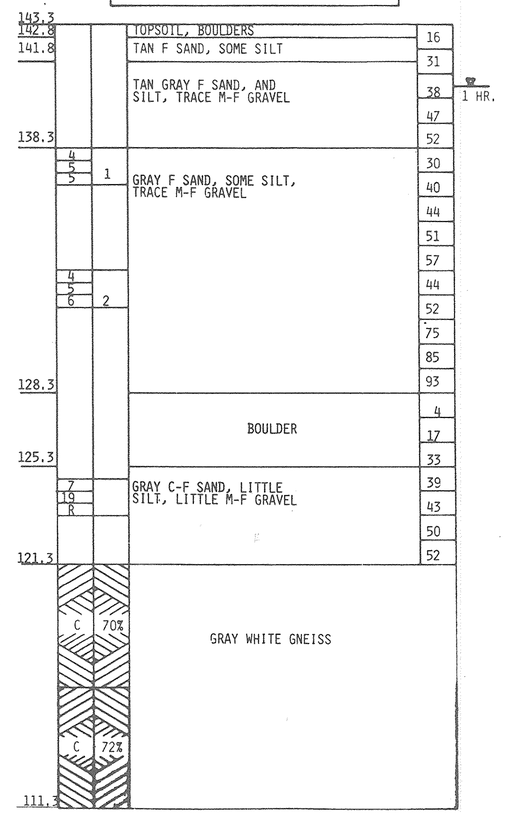
FINAL FIELD	STATE	TOWN	FED AID PROJ. NO	PROJ. NO	YEAR	ROUTE NO	SHEET NO	TOTAL SHEETS
1	CONN	NORWALK		102-218	1985	7	59	78

H212
RAMP WS, 17+03.193, 10.924' LT.
N112,555 E411,375
3-26-85



BOTTOM OF BORING

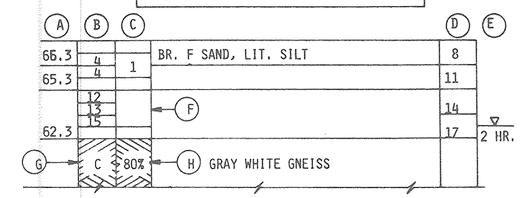
H213
RAMP WS, 18+02.803, 9.216' LT.
N112,585 E411,470
3-20-85



BOTTOM OF BORING

LEGEND

BORING NUMBER
LINE, STATION AND OFFSET
COORDINATES
DATE OF BORING



- (A) STRATA CHANGE ELEVATIONS.
- (B) NUMBER OF BLOWS/6" ON SAMPLER.
- (C) SAMPLE LOCATION AND NUMBER.
- (D) NUMBER OF BLOWS/FT. ON CASING.
- (E) GROUND WATER LEVEL IN BORING AT TIME OF EXPLORATION, OR TIME INTERVAL THEREAFTER.
- (F) DRIVE SAMPLE NOT RECOVERED.
- (G) CORED SAMPLE IN BEDROCK.
- (H) PERCENT CORE RECOVERY PER RUN.

ABBREVIATIONS

C	COARSE
M	MEDIUM
F	FINE
BOUL.	BOULDERS
COBB.	COBBLES
TR.	TRACE
LIT.	LITTLE
SO.	SOME
A	AND
GR.	GRAY
BR.	BROWN
BLK	BLACK
R	REFUSAL

BORING NOTES

VERTICAL SCALE: 1" = 3'
CASING SIZE: 2-1/2" I.D.
HAMMER WT.: 300 LB.
HAMMER DROP: 24"
SPOON SAMPLER: 1-3/8" I.D., 2" O.D.
HAMMER WT.: 140 LB.
HAMMER DROP: 30"

CONNECTICUT
DEPARTMENT OF TRANSPORTATION

NORWALK

U.S. ROUTE 7, RAMP WS
OVER
PERRY AVENUE

BORING LOGS

NO.	DATE	DESCRIPTION
		REVISIONS

ENGINEER HOWARD NEEDLES TAMMEN & BERGENDOFF
DESIGNER T.F. POTTS | DRAFTER C.IMPERIALE | CHECKER T.F. POTTS
APPROVED R.W. Sandin DATE 10.11.85
STRUCTURE NO. 102-218-4
BRIDGE LOG NO
STRUCTURE SHEET NO 3 OF 18

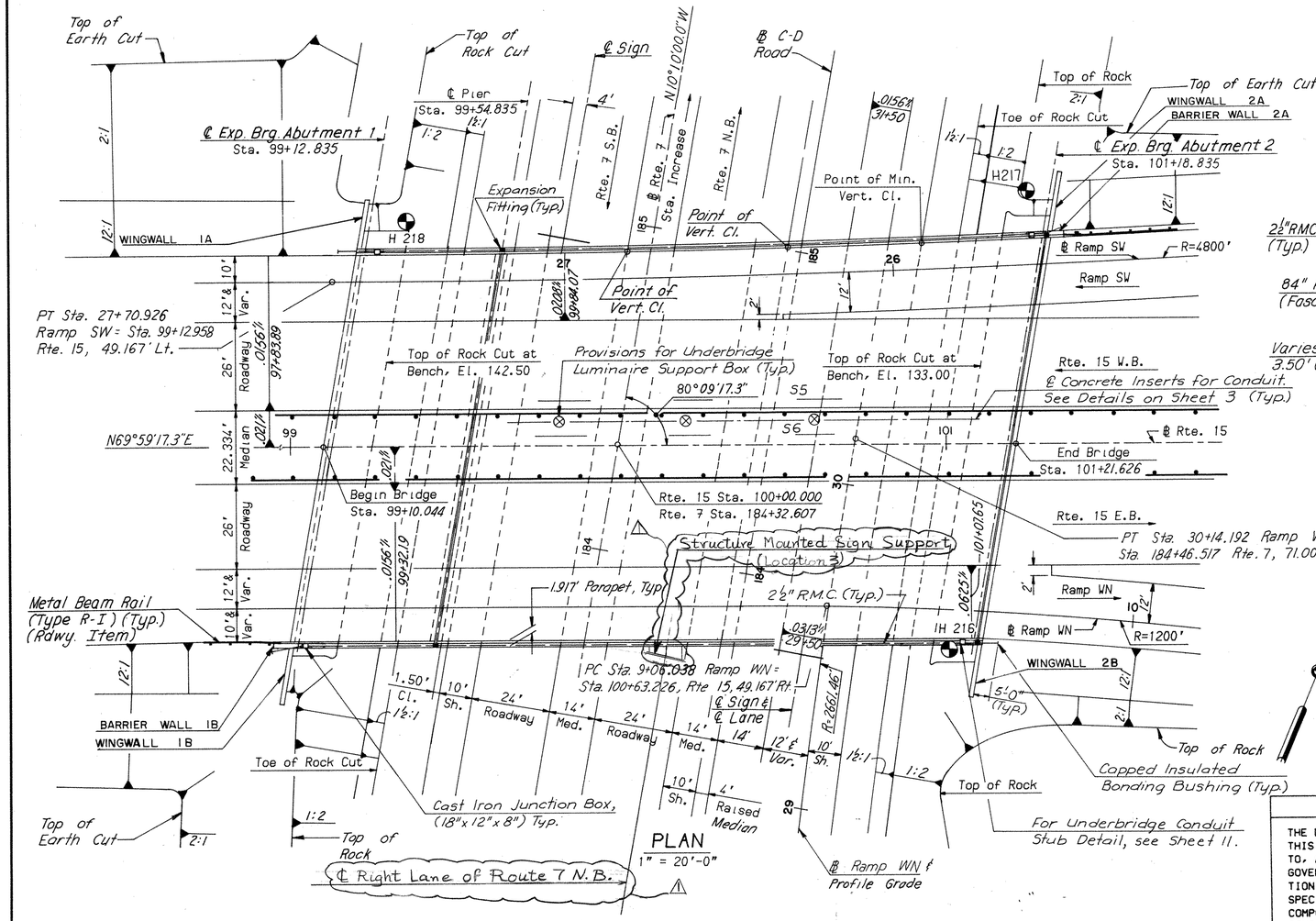
102 218

334-02

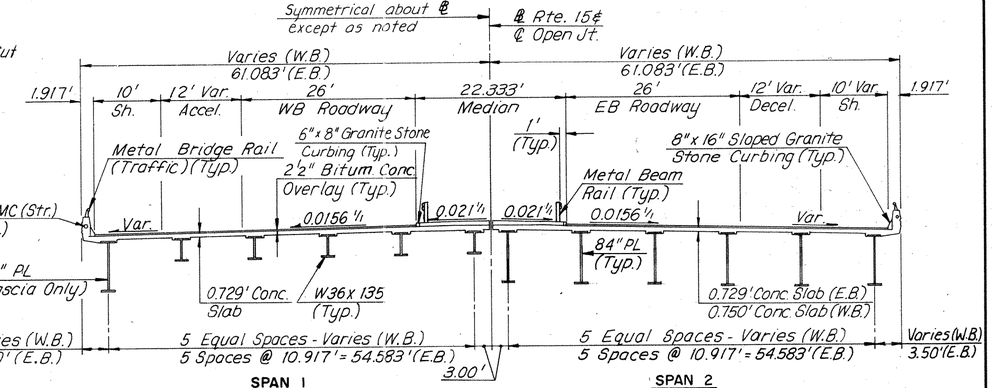
59

FORM NO. ENG. 156 ED 4-80

FHWA REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	NORWALK	F-7(105)	102-190	1985	US 7	371	740



PLAN
1" = 20'-0"



(W.B shown, E.B. similar except as noted) (E.B. shown, W.B. similar except as noted)

TYPICAL BRIDGE SECTION
Looking Upstation
3/32" = 1'-0"

CONNECTICUT GRID COORDINATES			
LOCATION		NORTH	EAST
Route 15	Sta. 97+15.725	112886.375	412023.745
	Sta. 100+00.000	112983.658	412290.856
	Sta. 103+89.688	113117.015	412657.015
Route 7	Sta. 180+00.000	112557.844	412367.216
	Sta. 190+00.000	113542.143	412190.704
Ramp SW	Center of Curve	117510.254	410549.613
	P.C. Sta. 23+57.092	113158.266	412574.508
	P.T. Sta. 27+70.926	113000.069	412192.244
	P.I. Sta. 25+64.137	113070.923	412386.788
Ramp WN	Center of Curve	111831.550	412777.148
	P.C. Sta. 9+06.038	112959.096	412367.090
	P.T. Sta. 11+89.913	113023.936	412642.781
	P.I. Sta. 10+48.641	113007.897	412501.083
	Center of Curve	113479.662	414977.955
	P.C. Sta. 27+51.830	112754.340	412417.240
	P.T. Sta. 30+14.192	113009.883	412358.287
	P.I. Sta. 28+83.117	112880.657	412381.460

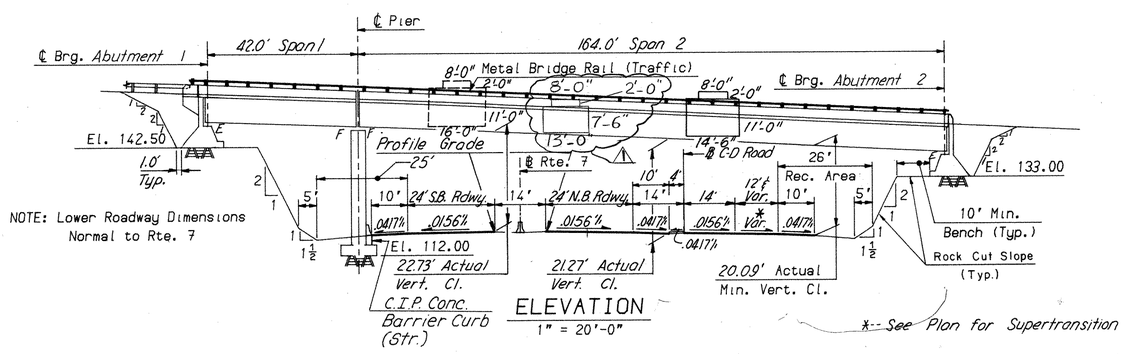
NOTICE TO BRIDGE INSPECTORS

THE DEPARTMENT'S BRIDGE SAFETY PROCEDURES REQUIRE THIS BRIDGE TO BE INSPECTED FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUALS FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS. (THE LISTING OF COMPONENTS FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE.) THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE ENGINEER OF BRIDGES AND STRUCTURES, OR NOTED BELOW.

COMPONENT OR DETAIL	BR. SH. REF.
NONE	

CURVE DATA			
	RAMP SW	RAMP WN	RAMP WN
Δ	4°56'23.2"	13°33'14.5"	5°38'53.2"
D	1°11'37.2"	4°46'28.7"	2°09'10.1"
T	207.045'	142.603'	131.287'
L	413.834'	283.875'	262.361'
R	4800.000'	1200.000'	2661.457'
P.C. Sta.	23+57.092	9+06.038	27+51.830
P.T. Sta.	27+70.926	11+89.913	30+14.192

Notes:
For General Notes, see Sheet 2.
For Inspection of Field Welds, see Sheet 2.
For Deck Slab Elevations, see Sheet 3.
For Actual Location of 18"x12"x8" C.I. Junction Boxes see sheets 10 & 11.



ELEVATION
1" = 20'-0"

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE TRUE CONDITIONS OR ACTUAL QUANTITIES OR DISTRIBUTION OF QUANTITIES OF WORK WHICH WILL BE REQUIRED.

NO.	DATE	DESCRIPTION
1	10/89	Added Structure Mounted Sign Support (location 3)

REVISIONS

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

NORWALK

RELOCATION OF U.S. ROUTE 7 UNDER ROUTE 15

GENERAL PLAN AND ELEVATION

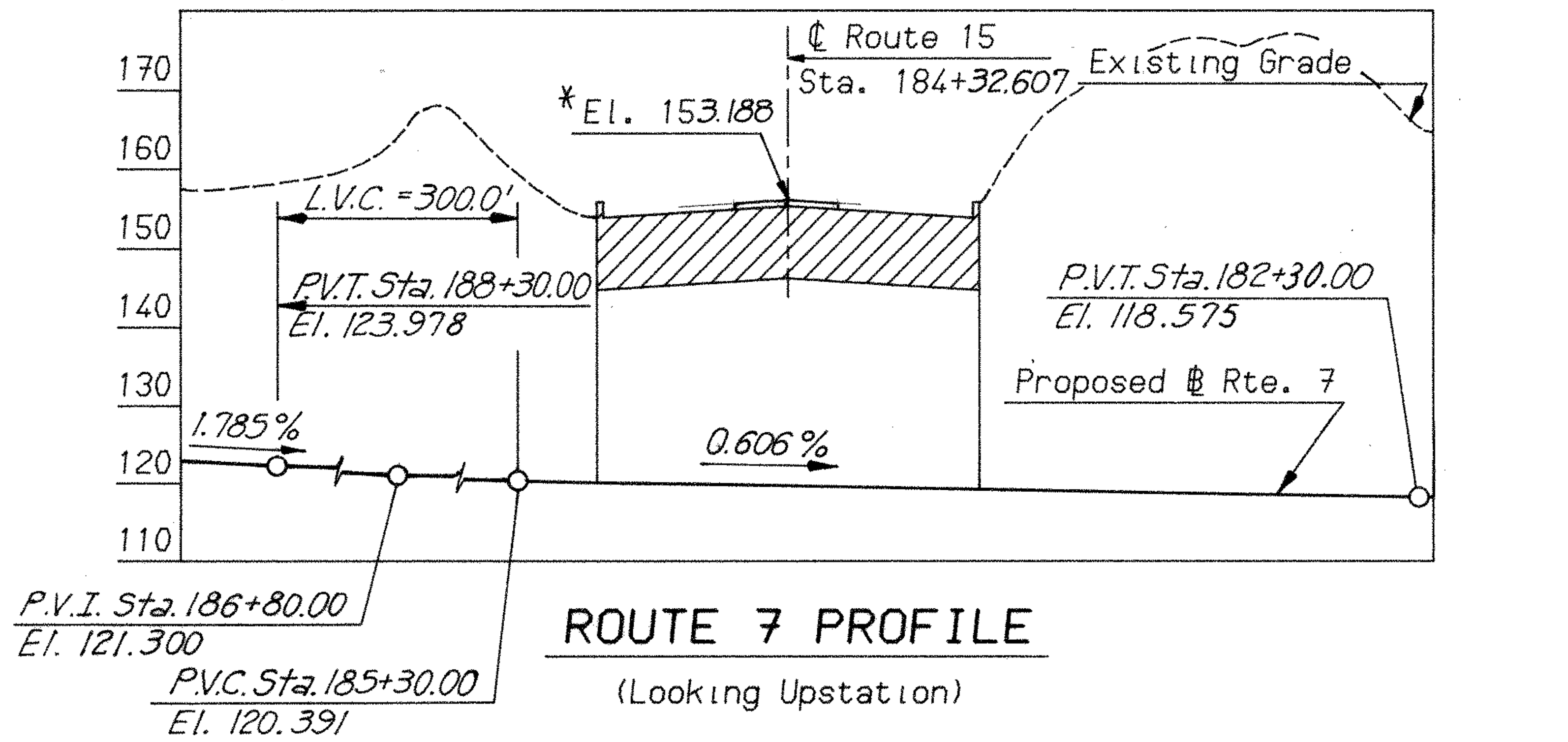
ENGINEER HOWARD, NEEDLES, TAMMEN & BERGENDOFF
DESIGNER B. Foree | DRAFTER W. Gregory | CHECKER B. Zeiger
APPROVED Rev Jan 26 89 | DATE Jan 26 89
STRUCTURE NO. 102-190-6 | BRIDGE LOG NO. | STRUCTURE SHEET NO. 1 of 26

8606-22-06

102-190

371

FHWA REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	NORWALK	F-7(105)	102-190	1985	US 7	372	740

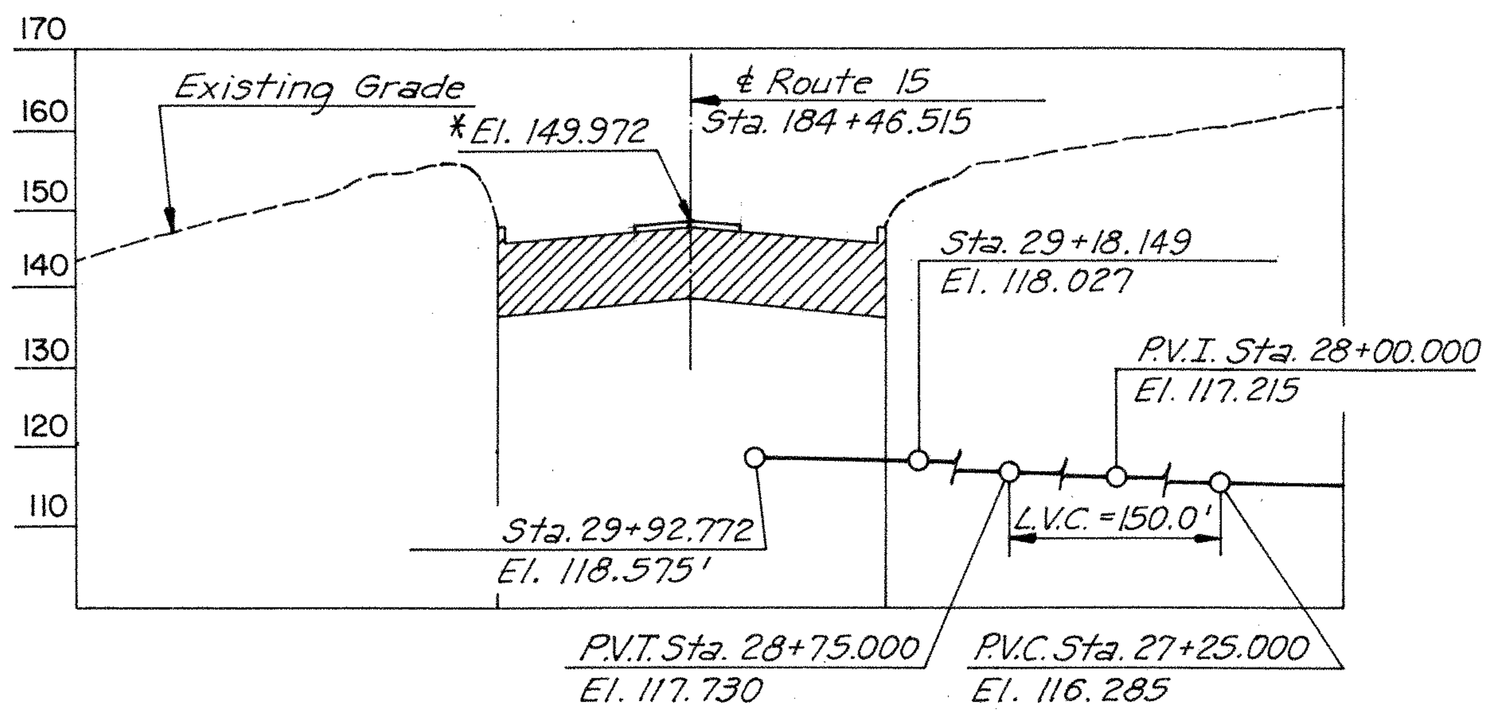


ROUTE 7 PROFILE

(Looking Upstation)

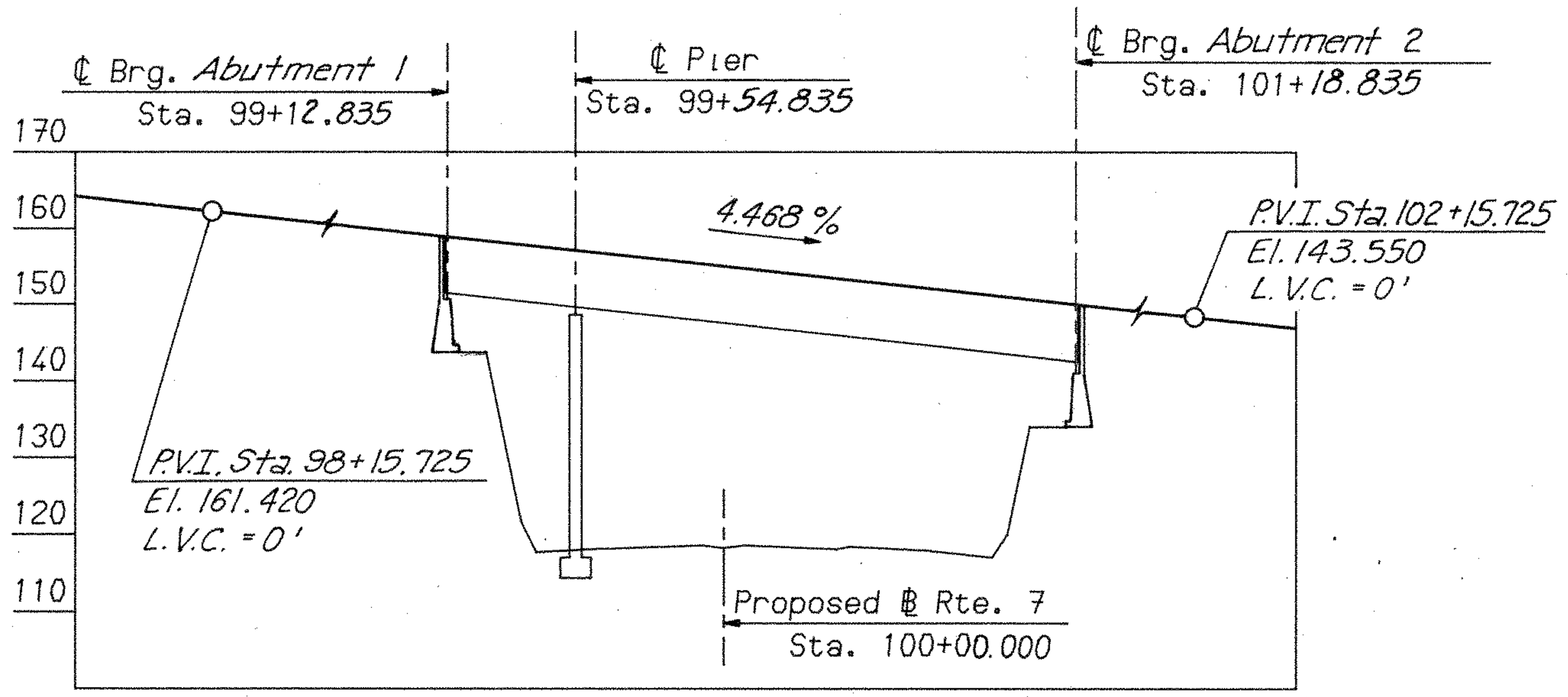
1" = 50' Horiz.
1" = 20' Vert.

*-- Elevation shown is 2" below top of Median.



RAMP WN PROFILE

1" = 50' Horiz.
1" = 20' Vert.



PGL at ℄ Route 15 is 2" below top of Median

ROUTE 15 PROFILE

1" = 50' Horiz.
1" = 20' Vert.

GENERAL NOTES

Specifications: Connecticut Department of Transportation Form 813 (1985) and Special Provisions.

Design Specifications: Standard Specifications for Highway Bridges (AASHTO-1983), with the Interim Specifications up to and including 1984, as supplemented by the Connecticut Department of Transportation Bridge Manual (1985).

Allowable Design Stresses:

Class "A" and Class "F" Concrete based on f'c = 3,000 psi
Reinforcement (ASTM A615 Grade 60) fs (tensile) = 24,000 psi
Structural Steel ASTM A588 fs = 27,000 psi up to 4" thick inclusive.

Live Load: HS20 - 44 or Dual 24 Kip Axles at 4'-0" o.c.

Future Paving Allowance: None.

Remain-In-Place Forms: The use of remain-in-place forms on this structure is not allowed.

Composite Construction: No temporary intermediate supports shall be used during the placing and setting of the concrete deck slab. Temporary supports maybe used for structural steel erection only. Live and superimposed dead loads will be permitted when directed by the Engineer but not less than 10 days after the final portion of the deck slab has been placed.

Class "A" Concrete: Class "A" Concrete shall be used for the entire substructure and parapets of the barrier walls.

Class "F" Concrete: Class "F" Concrete shall be used for the bridge deck including the median and parapets.

Joint Seal: See Special Provisions.

Paraffin: The cost of furnishing and applying paraffin is included in the item for Class "F" Concrete.

Exposed Edges: **Exposed eges** of concrete shall be beveled 1" x 1" unless dimensioned otherwise.

Structural Steel: See Structure Sheet Numbers 12, 13, 14, 15, 17, 18, 19 and 23 for ASTM designations.

Reinforcement: All reinforcement shall be ASTM A615 Grade 60.

Epoxy Coated Reinforcing Bars: All reinforcement in the top mat of the concrete deck slab and the top of the median including any additional bars placed within the top 3 ½" of the slab shall be epoxy coated and included in the pay item for "Deformed Steel Bars (Epoxy Coated)" unless otherwise noted. All pier reinforcing, including the dowels, shall be epoxy coated.

Paint: Paint shall conform to the requirements of Article 6.03.03-30c, "Colored Finish Vinyl System". The color of the final field coat of paint on the structural steel shall match the Department's Standard Bridge Color No. 606 (Blue).

Bituminous Concrete Overlay: This shall consist of two lifts. The first shall be Bituminous Concrete - Class (12) (1" thick) and the second shall be Bituminous Concrete - Class (1) (1½" thick).

Foundation Pressures: The AASHTO Group I allowable design foundation pressure is 10 TSF for both abutments, and 40 TSF for the single pier. The Group Loads are as given in the AASHTO Standard Specifications for Highway Bridges, 1983. All foundation units are founded on bedrock.

Construction Joints: Construction joints, other than those shown on the plans, will not be permitted without the prior approval of the Engineer.

Decimal Dimensions: When dimensions are given to less than three decimal places, the omitted digits shall be assumed to be zeros.

Utilities: None

ESTIMATED QUANTITIES

ITEM	UNIT	BRIDGE 102-190-6
STRUCTURE EXCAVATION - ROCK (COMPLETE)	C.Y.	3009
PERVIOUS STRUCTURE BACKFILL	C.Y.	709
BITUMINOUS CONCRETE - CLASS 12	TON	121
BITUMINOUS CONCRETE - CLASS 1	TON	182
SHEAR CONNECTORS	L.S.	LUMP SUM
PREFABRICATED EXPANSION JOINT STRIP SEAL (MODEL S300)	L.F.	200
ELASTOMERIC BEARING PADS	C.I.	38657
CONCRETE CLASS A	C.Y.	958
CONCRETE CLASS F	C.Y.	961
½" ~~0.5"~~ PREF. EXP. JOINT FILLER FOR BRIDGES	S.F.	277
1" CLOSED CELL ELASTOMER	C.I.	26784
DEFORMED STEEL BARS	LB.	150245
DEFORMED STEEL BARS-EPOXY COATED	LB.	150970
STRUCTURAL STEEL BRIDGE	L.S.	LUMP SUM
PAINTING STRUCTURAL STEEL	L.S.	LUMP SUM
CONCRETE CYLINDER CURING BOX	EA.	1
MEMBRANE WATERPROOF. (SHEET)	S.Y.	2274
DAMPPROOFING	S.Y.	403
BAGGED STONE	C.F.	152
8"x16" SLOPED GRANITE STONE CURBING FOR BRIDGES	L.F.	429
PROTECTIVE COATING FOR CONCRETE	S.F.	7164
METAL BRIDGE RAIL (TRAFFIC)	L.F.	420
METAL BEAM RAIL (TYPE R-I)	L.F.	419
2½" RIGID METAL CONDUIT IN STRUCTURE	L.F.	424
18"x12"x8" CAST IRON JUNCTION BOX	EA.	4
6" x 8" GRANITE STONE CURBING FOR BRIDGES	L.F.	418
STRUCTURE MOUNTED SIGN SUPPORT	EA.	2
¾" RIGID METAL CONDUIT IN STRUCTURE	L.F.	5
SPLICING STEEL PLATE GIRDERS	EA.	24

CONCRETE DISTRIBUTION

DESCRIPTION	UNIT	102-190-6
SUPERSTRUCTURE	C.Y.	961
SUBSTRUCTURE	C.Y.	628
FOOTING	C.Y.	330
TOTAL	C.Y.	1919

INSPECTION OF FIELD WELDS

METHOD	UNIT	QUANTITY
RADIOGRAPHIC OR ULTRASONIC	IN.	0
ULTRASONIC	IN.	0
MAGNETIC PARTICLE	L.F.	0

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NO.	DATE	DESCRIPTION

REVISIONS

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

NORWALK

RELOCATION OF U.S. ROUTE 7
UNDER
ROUTE 15

GENERAL NOTES, QUANTITIES, & PROFILES

ENGINEER HOWARD, NEEDLES, TAMMEN & BERGENDOFF

DESIGNER B. Foree | DRAFTER R. Corlson | CHECKER B. Zeiger

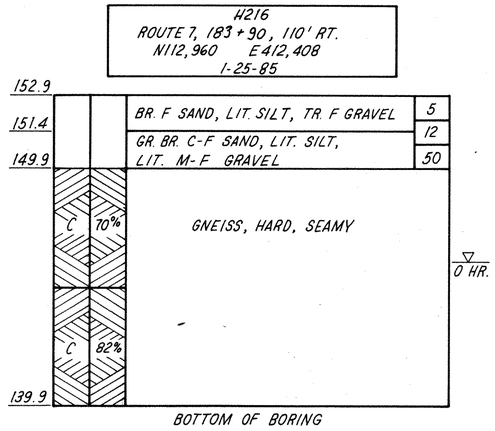
APPROVED [signature] DATE Jan 26 87

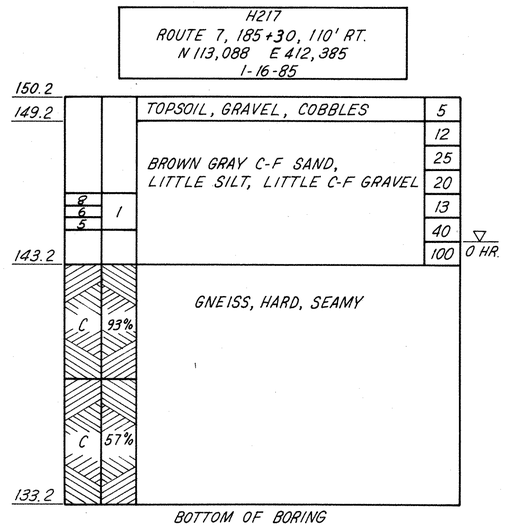
STRUCTURE NO. 102-190-6 | BRIDGE LOG NO. | STRUCTURE SHEET NO. 2 of 26

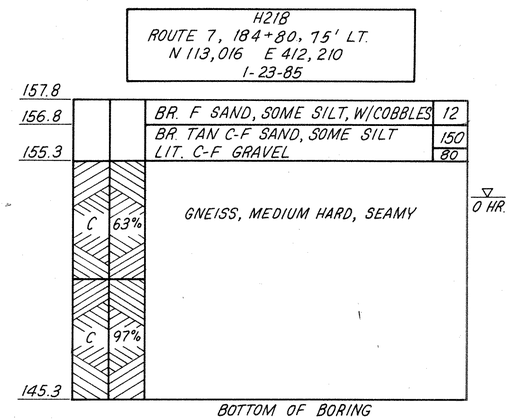
8606-22-06

FORM NO. ENG. 15A ED 4-90

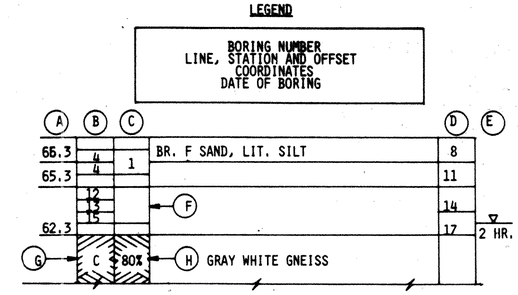
F.H.W.A. REGION	STATE	TOWN	FED. AID PROJ. NO.	PROJ. NO.	YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
1	CONN.	NORWALK	F-7(105)	102-190	1985	US 7	373	740







LEGEND



- (A) STRATA CHANGE ELEVATIONS.
- (B) NUMBER OF BLOWS/6" ON SAMPLER.
- (C) SAMPLE LOCATION AND NUMBER.
- (D) NUMBER OF BLOWS/FT. ON CASING.
- (E) GROUND WATER LEVEL IN BORING AT TIME OF EXPLORATION, OR TIME INTERVAL THEREAFTER.
- (F) DRIVE SAMPLE NOT RECOVERED.
- (G) CORED SAMPLE IN BEDROCK.
- (H) PERCENT CORE RECOVERY PER RUN.

ABBREVIATIONS

C	COARSE
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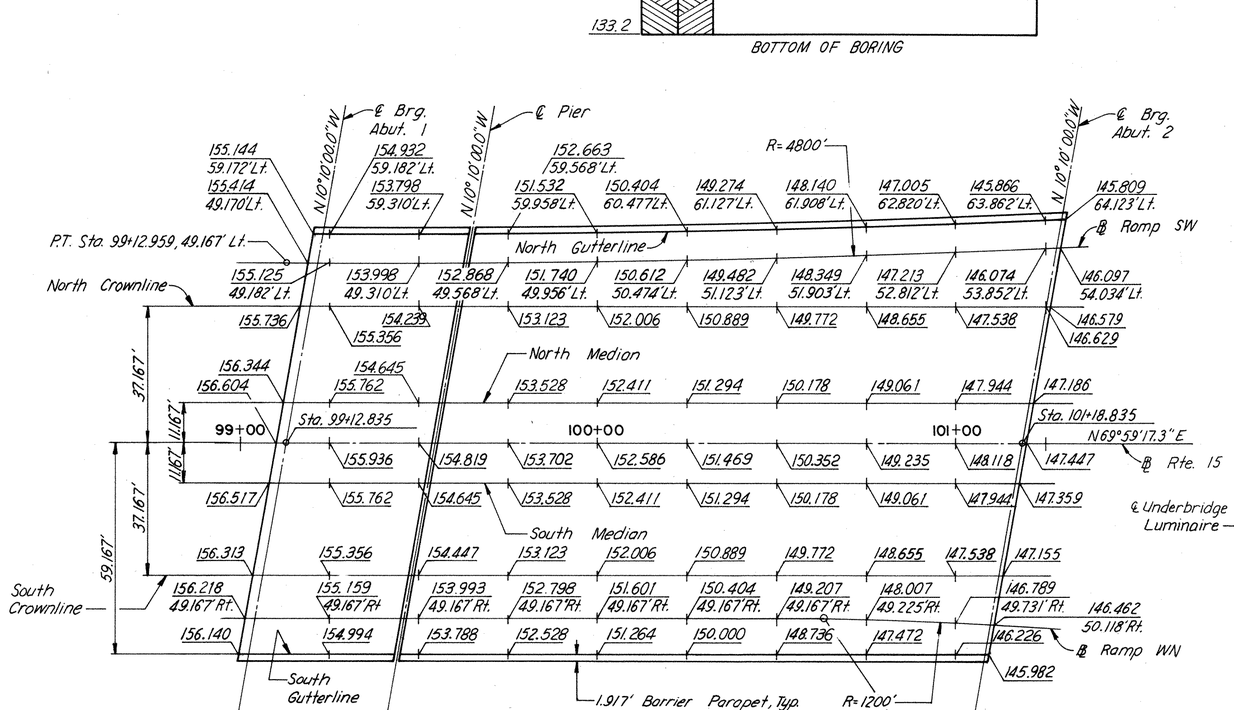
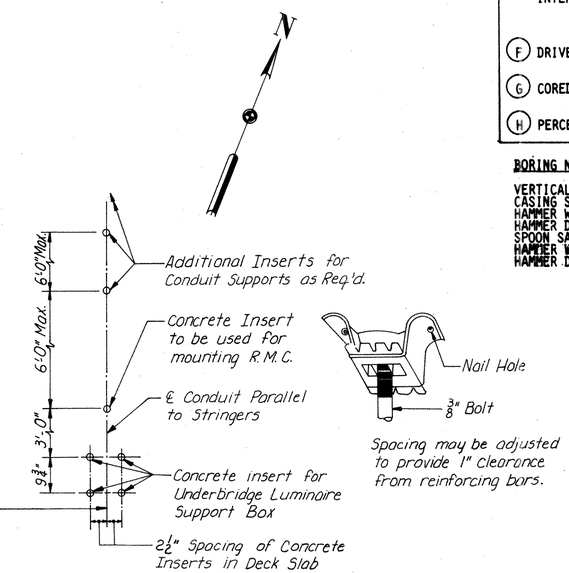
R	REFUSAL

BORING NOTES

VERTICAL SCALE: 1" = 3'
CASING SIZE: 2-1/2" I.D.
HAMMER WT.: 300 LB.
HAMMER DROP: 24"
SPOON SAMPLER: 1-3/8" I.D., 2" O.D.
HAMMER WT.: 140 LB.
HAMMER DROP: 30"



DECK SLAB ELEVATIONS
Scale: 1" = 20'-0"
Elevations at Top of Concrete Slab



CONCRETE INSERT DETAIL
NTS

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NO.	DATE	DESCRIPTION

REVISIONS

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

NORWALK

RELOCATION OF U.S. ROUTE 7
UNDER
ROUTE 15

BORING LOGS AND DECK SLAB ELEVATIONS

ENGINEER HOWARD, NEEDLES, TAMMEN & BERGENDOFF
DESIGNER B. Foree | DRAFTER CAK/WG | CHECKER B. Zeiger
APPROVED [signature] | DATE Jan 26 89
STRUCTURE NO. 102-190-6 | BRIDGE LOG NO. | STRUCTURE SHEET NO. 3 OF 26

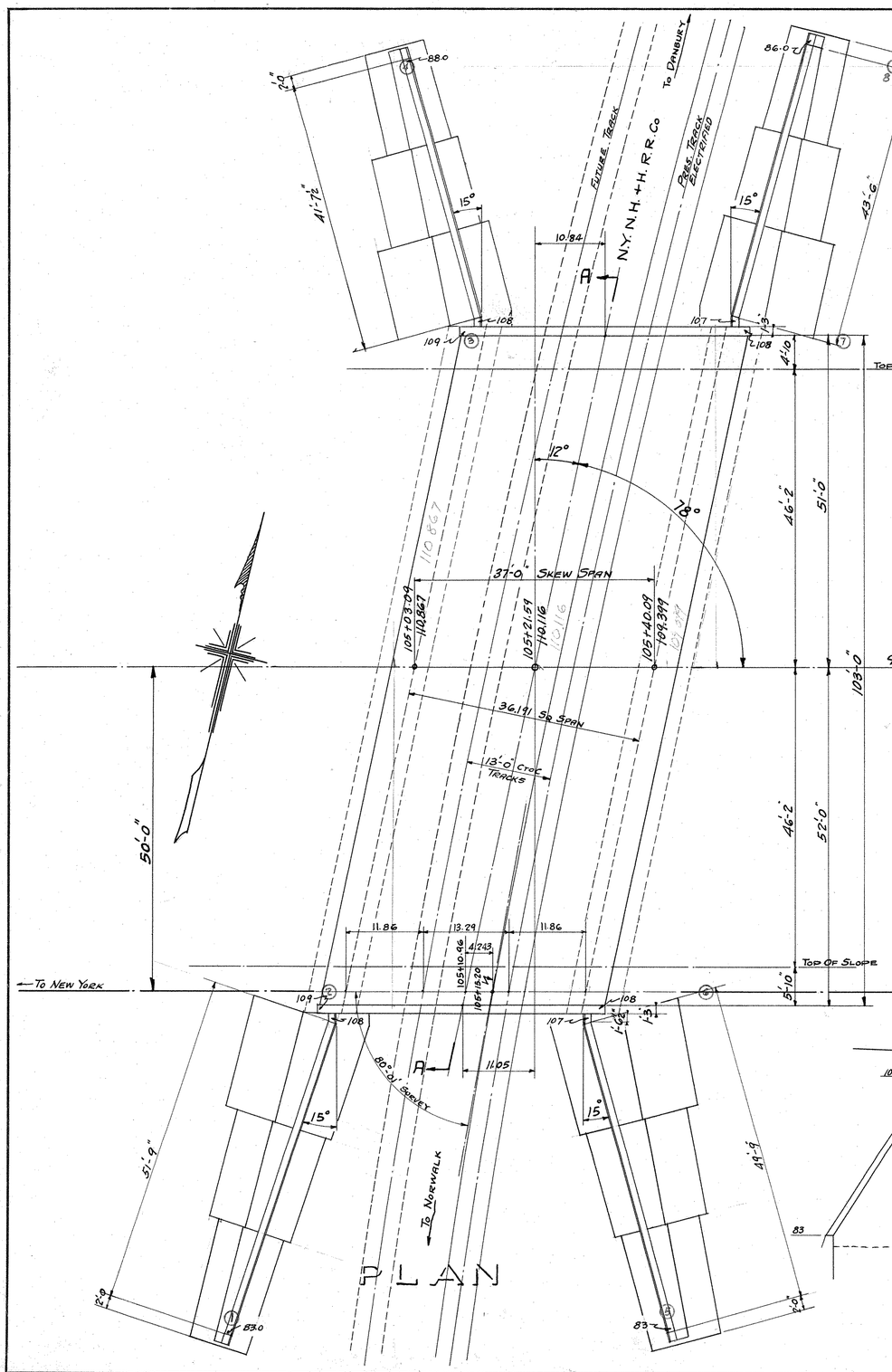
8606-22-06

102-190

330-01

Original 373

FED. ROAD DIST. NO.	STATE	TOWN	FED. AID PROJ. NO.	FISCAL YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
9	CONN.	NORWALK		1937		4	7

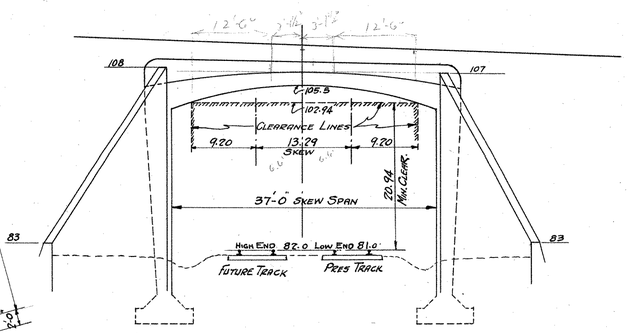


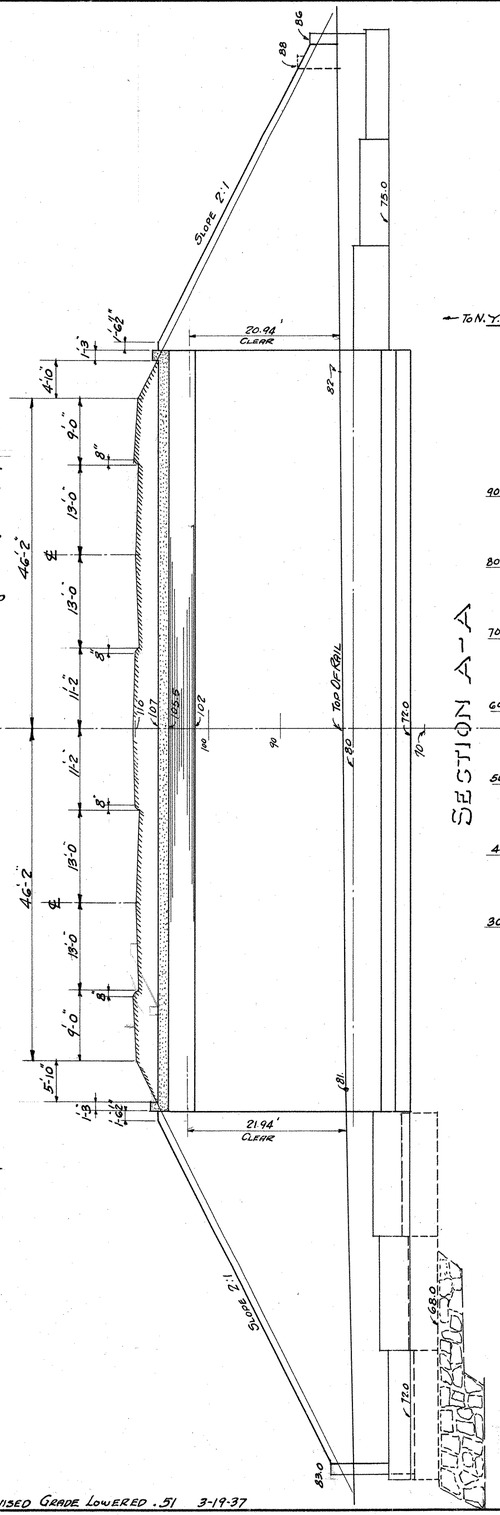
Notes

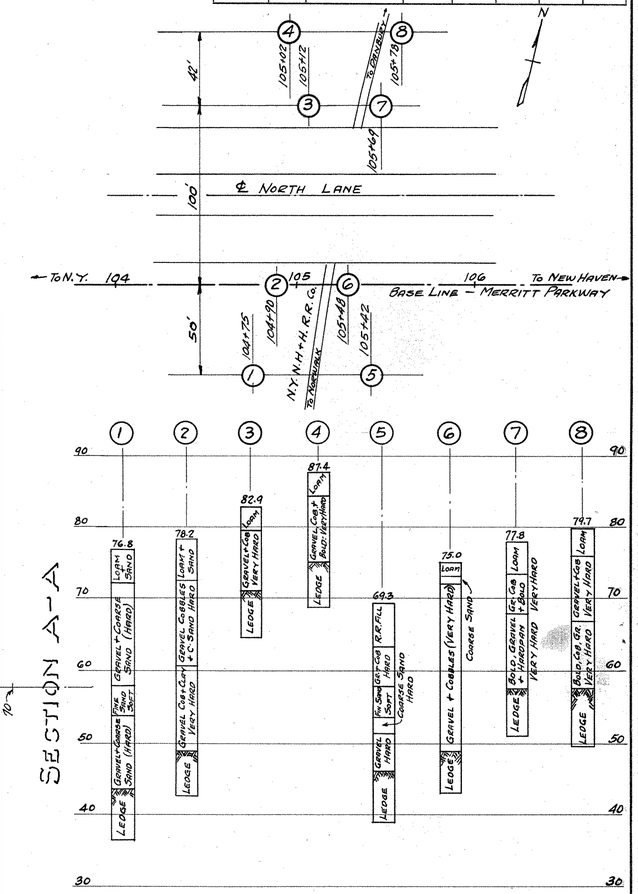
Specifications - Conn. Highway Dept. - H20 Loading
Class "A" Conc. 1:2:4 To Be Used Throughout, Except For Subfooting
Reinforcing Steel To Consist Of Deformed Bars On Approved Type.
Membrane Waterproofing To Be Applied Over Top Of Frame As Indicated. - Legs Of Frame + Backs Of Wing Walls To Be Painted With Waterproofing Paint
Excavation To Be Paid For 2'-0" Outside Neat Lines Of Structure.
Fill Over Frame + Approaches Not Included In This Contract.
Rail Road Traffic Is To Be Maintained During Construction - Proper Clearances And Safety Measures To Be Provided In Building Forms. (See Special Provisions)
Backfilling Of Rigid Frame + Wing Walls To Be Placed In Such A Manner As To Keep Material At An Approximate Equal Height On Both Sides Simultaneously And Shall Be Thoroughly Tamped In Layers. False Work And Forms On Inside Of Arch Shall Not Be Removed Until Backfilling Is Complete To Subgrade.
All Exposed Corners Not Otherwise Shown To Be Beveled 1"x1"
The Quantities Given Are Approximate Only And Should Be Checked By The Contractor In Preparing Bids.

Summary Of Bridge Quantities

Unclassified Excav	2,250 C.Y.
Class "A" Conc	2060 C.Y.
Deformed Bars	175,275 Lbs
½" Cork Expan. Jt Filler	200 S.F.
Membrane Waterproofing	625 S.Y.
Waterproof Painting	1005 S.Y.
Cyclopean Conc	140 C.Y.
Portland Cement	3255 Bbls







APPROVED April 12 1937
J. F. Willis
Engineer Of Bridge Design

APPROVED April 17 1937
Engineer Of Bridges And Structures

APPROVED April 15 1937
Deputy Highway Comm.

1.

CONNECTICUT
STATE HIGHWAY DEPARTMENT
TOWN OF NORWALK
MERRITT PARKWAY
OVERPASS
THE N.Y.N.H.& H.R.R.COMPANY
WINNIPAUK
GENERAL PLAN

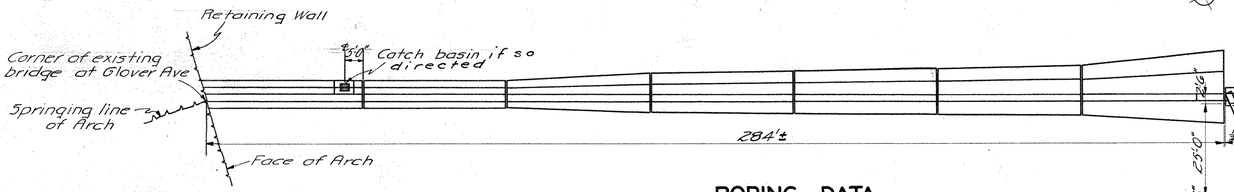
SCALES 1"=10'			PROJECT NUMBER 180-63
MADE BY R.S.T.	DATE 12-30-36		
CHECKED BY	DATE 4-2-37		SHEET NO. 1 OF
APPROVED	DATE		

Revised Grade Lowered .51 3-19-37

STANDARD No. 4

SPAULDING-MOSS CO., BOSTON ARKWRIGHT TRACING CLOTH
180 63

FED. ROAD DIST. NO.	STATE	TOWN	FED. AID PROJ. NO.	FISCAL YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
9	CONN.						



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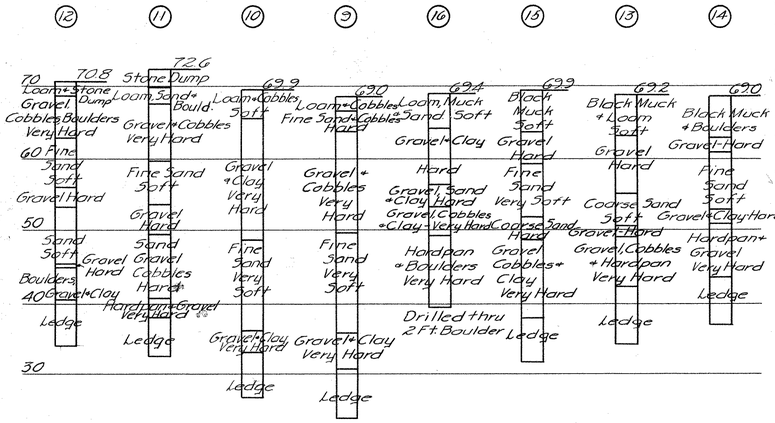


GENERAL NOTES:-

Specifications- Conn State Highway Department.

Class "A" Concrete (1:2:4) shall be used throughout this structure.

Reinforcing steel shall consist of deformed bars of an approved type.

The lengths of piles given are for the purpose of estimating only, the actual lengths to be used shall be determined by the length necessary to develop 45 tons per pile.

Waterproof painting shall be applied in two coats to all back surfaces of arch barrel, spandrel walls and wing walls from the top of footings to a line 1'-0" below the top of walls.

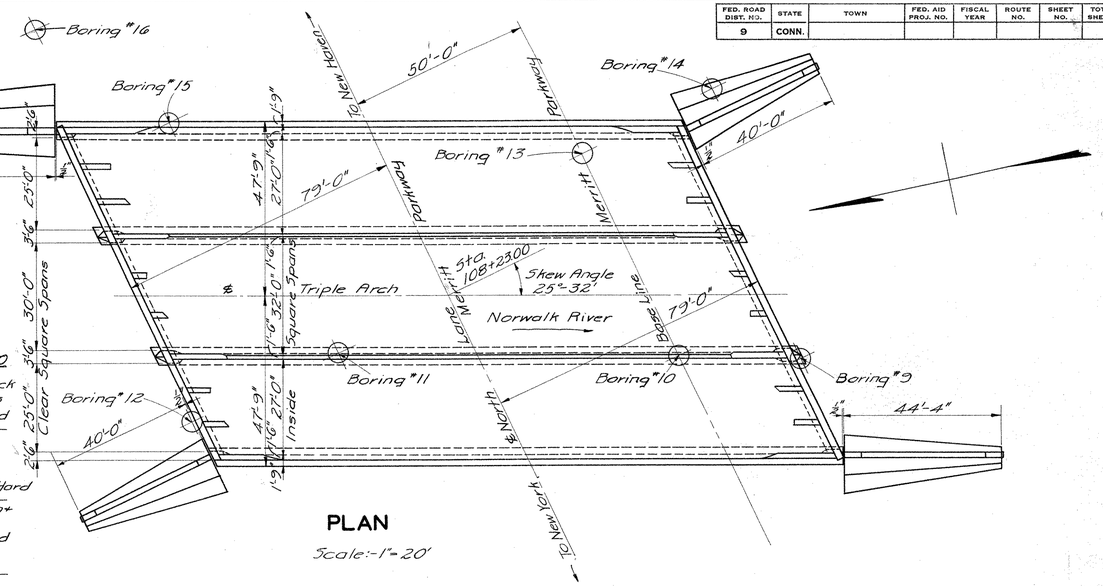
$\frac{1}{2}$" Cork Joint Filler and 16 oz. Copper Flashing shall be used for all joints between arch and wing walls, and between sections of North East wing wall.

Drains shall be placed in arch barrel and in North East wing walls as shown on plans.

Backfilling shall be placed so as to maintain approximately equal heights on both sides of the arch, and shall be thoroughly tamped in layers. Boulders or rock shall not be permitted in the fill around the structure.

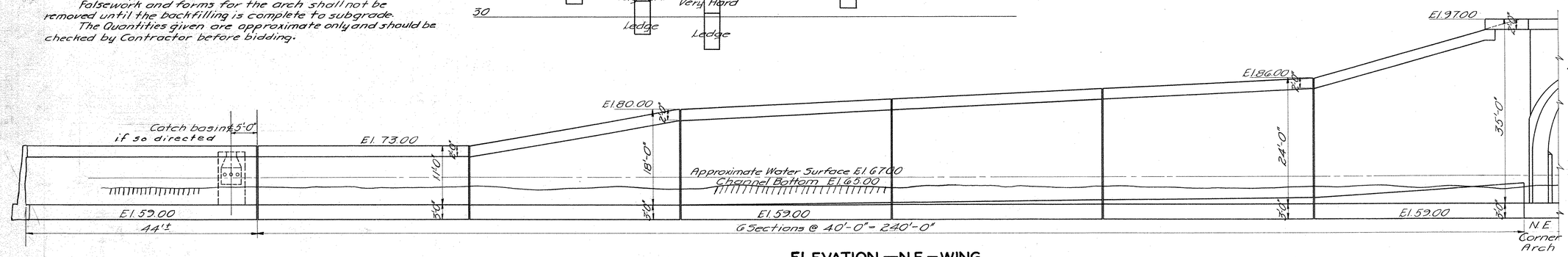
Falsework and forms for the arch shall not be removed until the backfilling is complete to subgrade.

The Quantities given are approximate only and should be checked by Contractor before bidding.



PLAN

Scale:-1"=20'



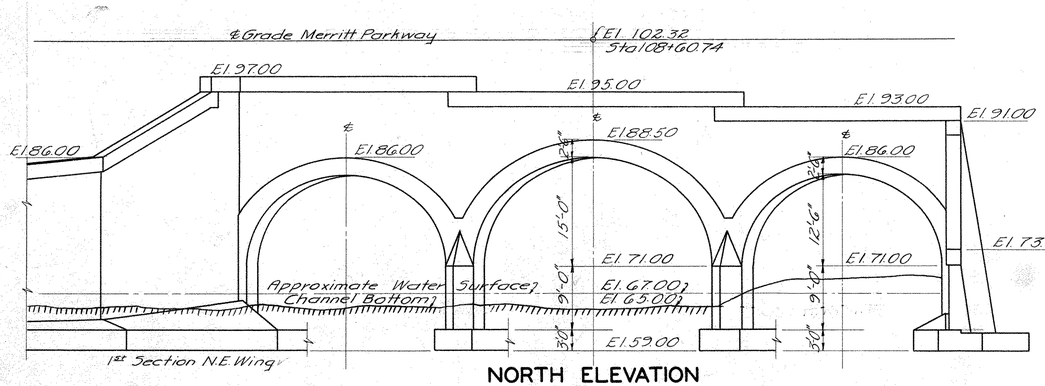
ELEVATION —N.E.— WING

Scale:-1"=10'

QUANTITIES

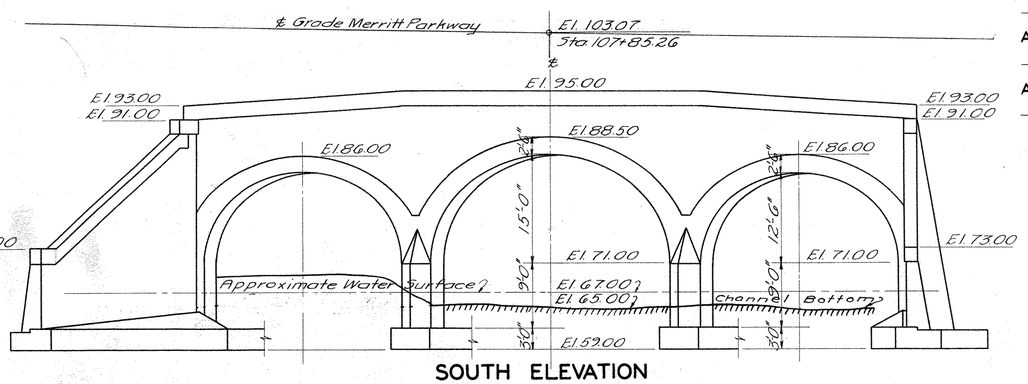
Unclassified Excavation	5000 C.Y.
Class "A" Concrete	3743 C.Y.
$\frac{1}{2}$" Cork Exp. Joint Filler	880 S.F.
Deformed Steel Bars	378,200 Lbs.
Structural Steel Shapes	59,800 Lbs.
FOR PIER NOSING & PILE CAPS	
Furnishing Steel Piles	667,900 Lbs.
Driving Steel Piles	16,140 L.F.
Waterproof Painting	4030 S.Y.
Portland Cement	5730 Bbls.
Standard Frame & Strainer	1 Ea.
FOR CATCH BASIN	

Note: The pier footings were widened and A.H.T. bars added as per pencil details shown on these drawings. WJC. 9/7/37.



NORTH ELEVATION

Scale:-1"=10'



SOUTH ELEVATION

Scale:-1"=10'

APPROVED May 4 1937
J. F. Hillis
ENGINEER OF BRIDGE DESIGN

APPROVED May 10 1937
R. G. Dunne
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED 1937
DEPUTY HIGHWAY COMMISSIONER

Bridge Sheet 1 of 4

CONNECTICUT
STATE HIGHWAY DEPARTMENT
TOWN OF NORWALK

MERRITT PARKWAY
OVER
NORWALK RIVER
REINF. CONC. TRIPLE ARCH BRIDGE
GENERAL PLAN

SCALES 1"=20' & 1"=10'
MADE BY A.A.N. Tr. E.C.S. - L.W.W. DATE 4-24-37
CHECKED BY J.W.C. DATE 5-3-37
APPROVED DATE

PROJECT NUMBER 180-64
SHEET NO. 4 OF 7

N

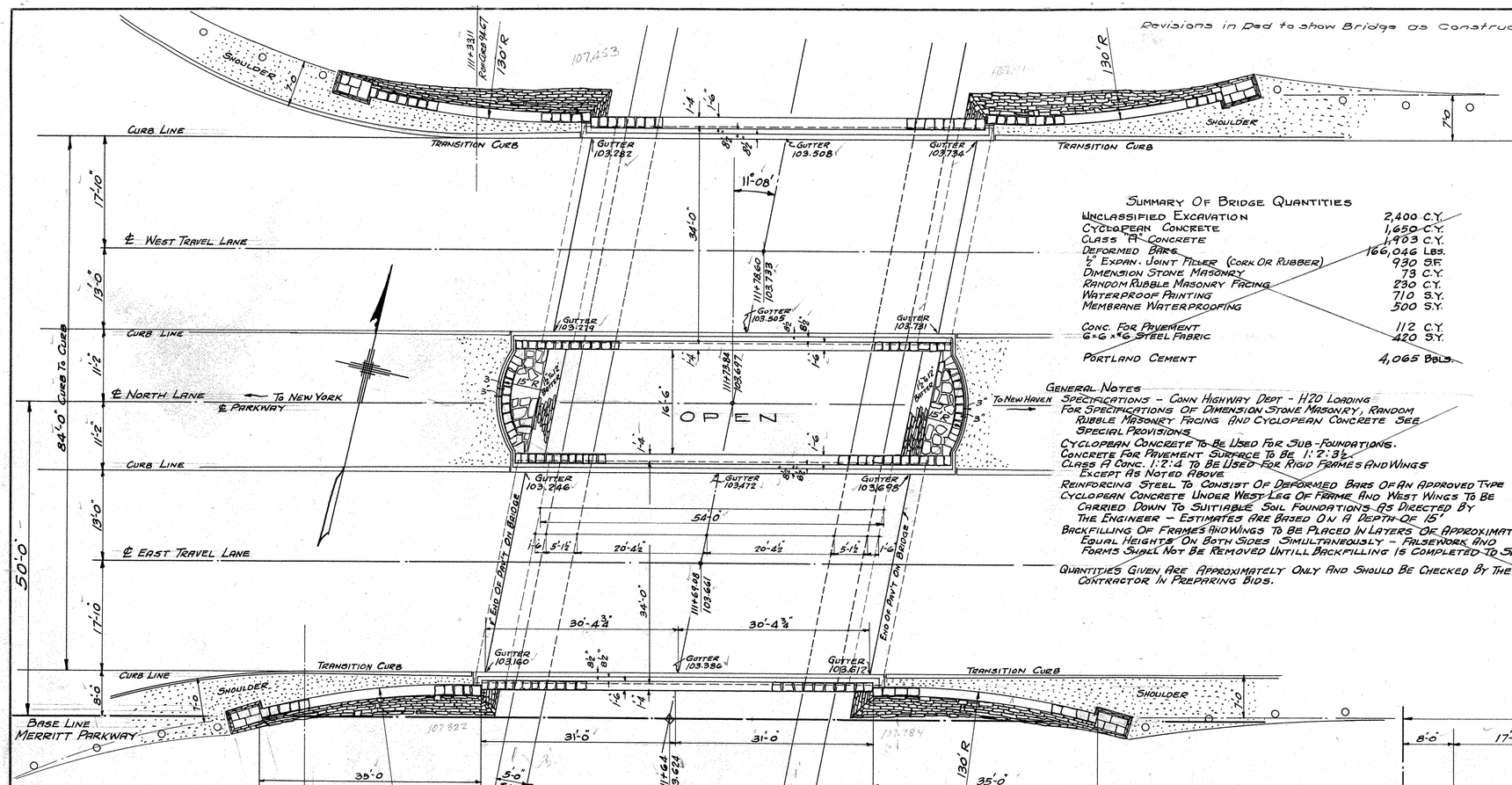
1013-10 STANDARD No. 4

Printed in U.S.A. on Artwright Tracing Cloth Gustave Fischer Co., Hartford, Conn.

180 64

Revisions in red to show Bridge as Constructed

FED. ROAD DIST. NO.	STATE	TOWN	FED. AID PROJ. NO.	FISCAL YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
9	CONN.						



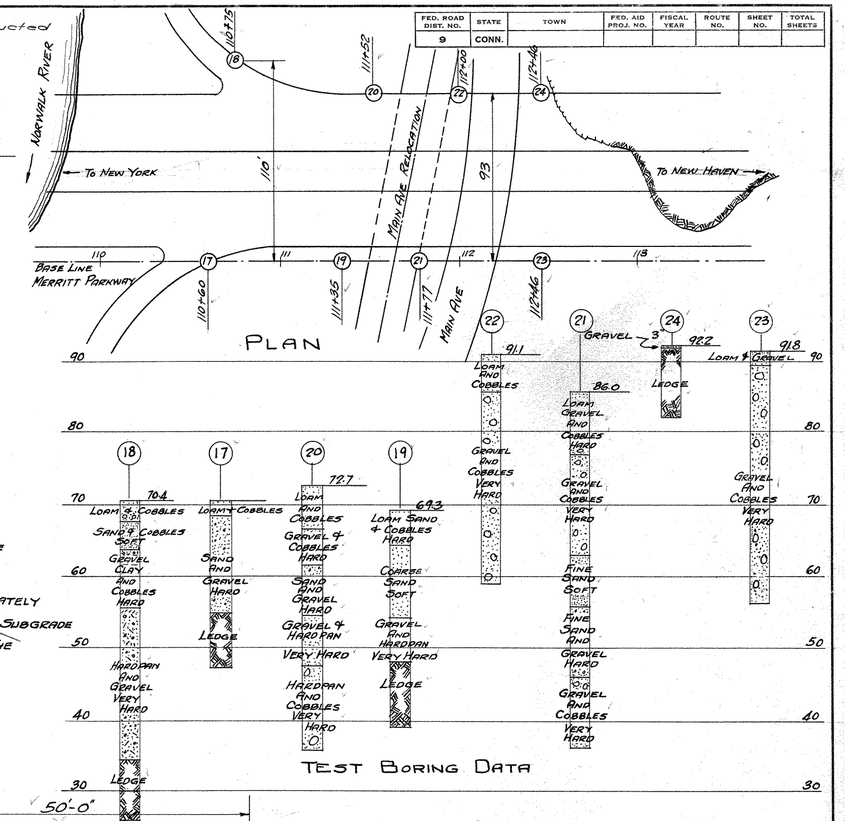
Summary Of Bridge Quantities

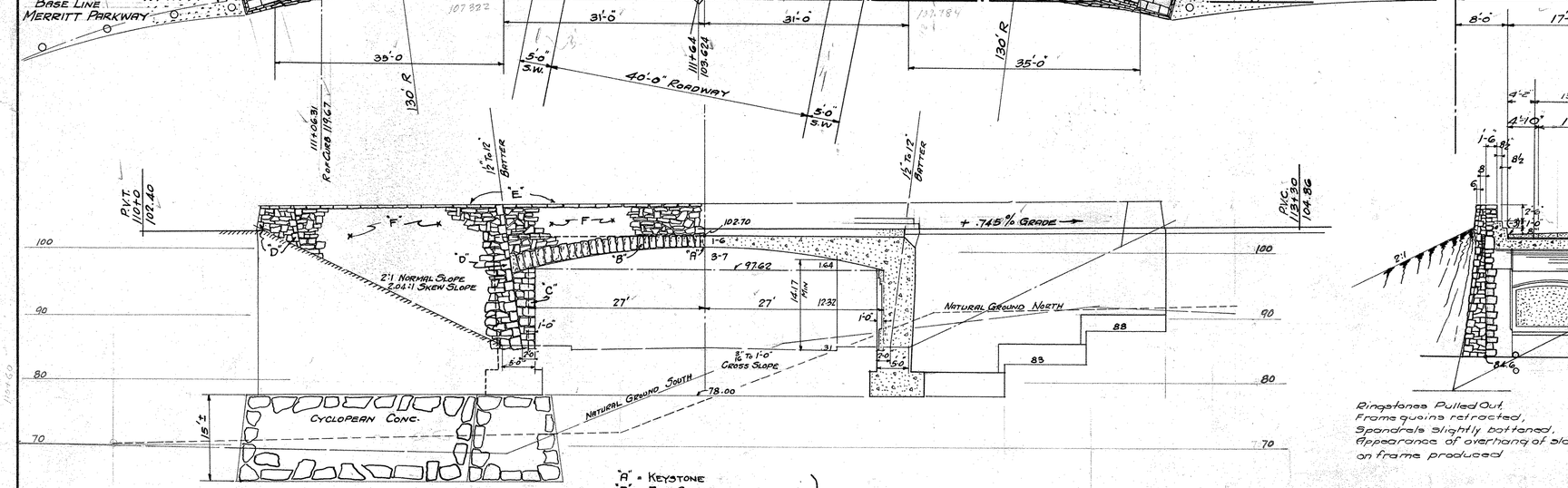
Unclassified Excavation	2,400 C.Y.
Cyclopean Concrete	1,650 C.Y.
Class "A" Concrete	1,993 C.Y.
Deformed Bars	166,046 Lbs.
½" Expan. Joint Filler (Cork Or Rubber)	930 S.F.
Dimension Stone Masonry	73 C.Y.
Random Rubble Masonry Facing	230 C.Y.
Waterproof Painting	710 S.Y.
Membrane Waterproofing	500 S.Y.
Conc. For Pavement	112 C.Y.
6"x6" Steel Fabric	420 S.Y.
Portland Cement	4,065 Bbls.

General Notes

Specifications - Conn Highway Dept - H20 Loading
For Specifications Of Dimension Stone Masonry, Random Rubble Masonry Facing And Cyclopean Concrete See Special Provisions
Cyclopean Concrete To Be Used For Sub-Foundations.
Concrete For Pavement Surface To Be 1:2:3½
Class A Conc. 1:2:4 To Be Used For Rigid Frames And Wings Except As Noted Above
Reinforcing Steel To Consist Of Deformed Bars Of An Approved Type
Cyclopean Concrete Under West Leg Of Frame And West Wings To Be Carried Down To Suitiable Soil Foundations As Directed By The Engineer - Estimates Are Based On A Depth Of 15'
Backfilling Of Frames And Wings To Be Placed In Layers Of Approximately Equal Heights On Both Sides Simultaneously - Falsework And Forms Shall Not Be Removed Untill Backfilling Is Completed To Subgrade

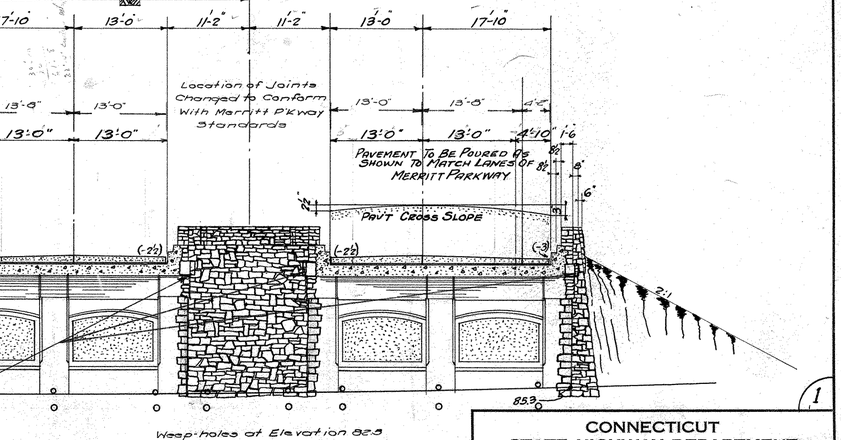
Quantities Given Are Approximately Only And Should Be Checked By The Contractor In Preparing Bids.





"A" = Keystone
"B" = Ring Stones
"C" = Corner Stones - Frame
"D" = Corner Stones - Walls
"E" = Rail Cap Stones
"F" = Random Rubble Masonry Facing

For Specifications, Sizes, Surfaces And Finish Of Stone Facing See Special Provisions



Ringstones Pulled Out, Frame quoins retracted, Spandrels slightly bottoned, Appearance of overhang of slab on frame produced

APPROVED May 4 1937
J. F. Willis
Engineer Of Bridge Design

APPROVED _____ 1937
Engineer Of Bridges And Structures

APPROVED _____ 1937
Deputy Highway Commissioner

CONNECTICUT
STATE HIGHWAY DEPARTMENT
TOWN OF NORWALK

MERRITT PARKWAY MAIN STREET OVERPASS

STA III+64

GENERAL PLAN

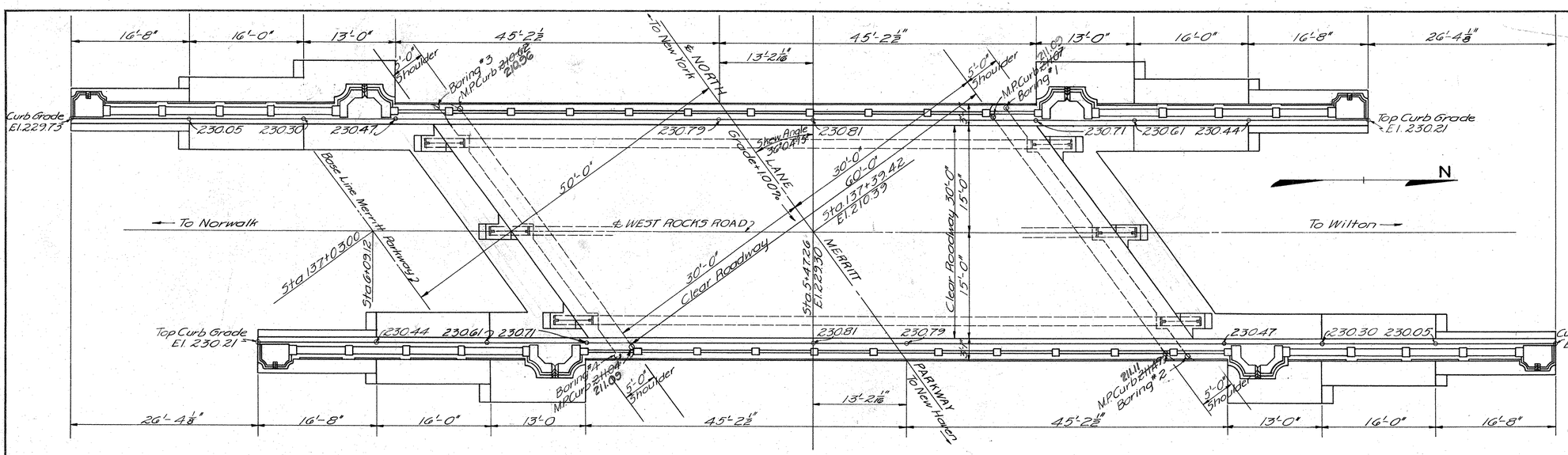
SCALES 1"=10'			NUMBER 180-65-03
MADE BY R.S.T.	DATE 4/14/37		SHEET NO. 4 OF 8
CHECKED BY H.W.W.	DATE 4/23/37		
APPROVED	DATE		

N 1013-08 STANDARD No. 4

Printed in U.S.A. on Arkwright Trading Cloth Gustave Fischer Co., Hartford, Conn.

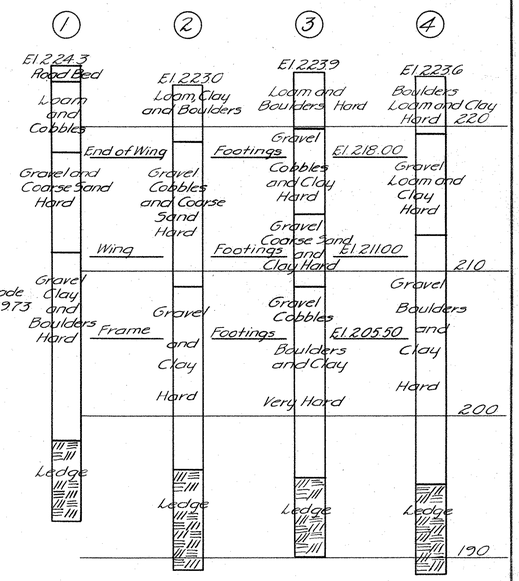
180 65

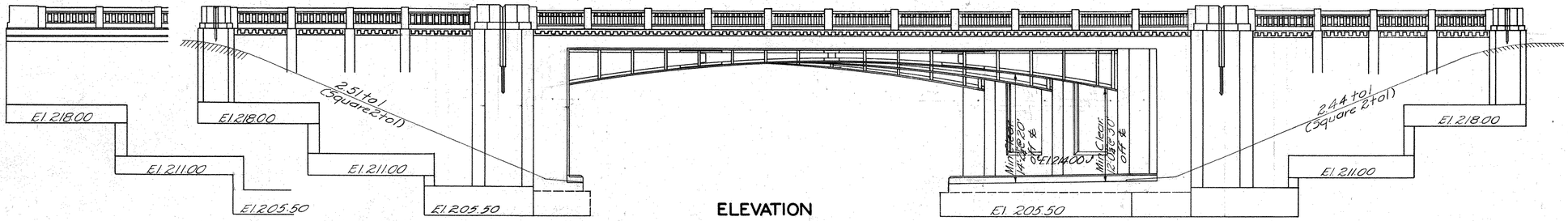
FED. ROAD DIST. NO.	STATE	TOWN	FED. AID PROJ. NO.	FISCAL YEAR	ROUTE NO.	SHEET NO.	TOTAL SHEETS
9	CONN.						



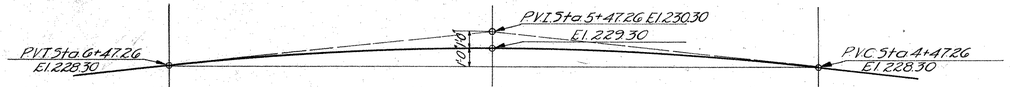
PLAN

Note: Figures in Red Ink are Field Changes





ELEVATION



CENTER LINE PROFILE - WEST ROCKS ROAD

QUANTITIES FOR STRUCTURE

Unclassified Excavation	1050	C.Y.
Class "A" Concrete	1023	C.Y.
½" Cork Exp. Joint Filler	390	S.F.
Deformed Steel Bars	56500	L.b.
Structural Steel	147000	L.b.
Waterproof Painting	450	S.Y.
Concrete Bridge Rail	113	L.F.
Steel Bridge Rail	160	L.F.
Portland Cement	1580	Bbls.

GENERAL NOTES:-

Designed for H-20 Loadings-C.S.H.D. Standard Specifications.

Unclassified Excavation consists of all excavation required after roadway excavation (including side slopes at 2 to 1) is assumed complete.

Class "A" (1:2:4) Concrete to be used thruout except for Concrete Bridge Rail.

Class "C" (1:2:3) Concrete is to be used for Concrete Bridge Rail.

Reinforcing steel is to consist of deformed bars of an approved type.

Backfilling shall be placed in such a manner as to maintain approximately equal heights at both ends of the frame and shall be thoroughly tamped in layers.

Waterproof Painting shall be placed on back of frame legs below deck to top of footing and on back of wingwalls from gutter line to 2'-0" below front slope line. Two coats shall be applied.

All Ornamentation to be cast in place by means of wood molds which shall be run out and dressed at the mill prior to delivery to job. Cost of these to be included in price bid for Class "A" Concrete.

All anchor bolts (not swedge bolts) shall be set before frame footing concrete is placed.

Structural Steel when not encased in concrete shall be painted in accordance with the specifications and as directed by the engineer.

Quantities given are approximate only and do not relieve the contractor of the responsibility of checking them in preparing his bid.

00722

Bridge Sheet 1 of 4

APPROVED Sept. 4 1937
F. L. Willis
ENGINEER OF BRIDGE DESIGN

APPROVED Sept. 4 1937
R. R. Jenner
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED Sept. 4 1937
F. T. Wilkins
DEPUTY HIGHWAY COMMISSIONER

CONNECTICUT
STATE HIGHWAY DEPARTMENT
TOWN OF NORWALK

MERRITT PARKWAY
UNDER
WEST ROCKS ROAD
STRUCTURAL STEEL RIGID FRAME
GENERAL PLAN

SCALES 1/8" = 1'-0"
MADE BY C.J.H. Tr. E.C.S. DATE 7-20-37
CHECKED BY L.P.N. - J.W.C. DATE 9-14-37
APPROVED F. T. Wilkins DATE 9-15-37

PROJECT NUMBER 180-66
SHEET NO. 10 OF 13

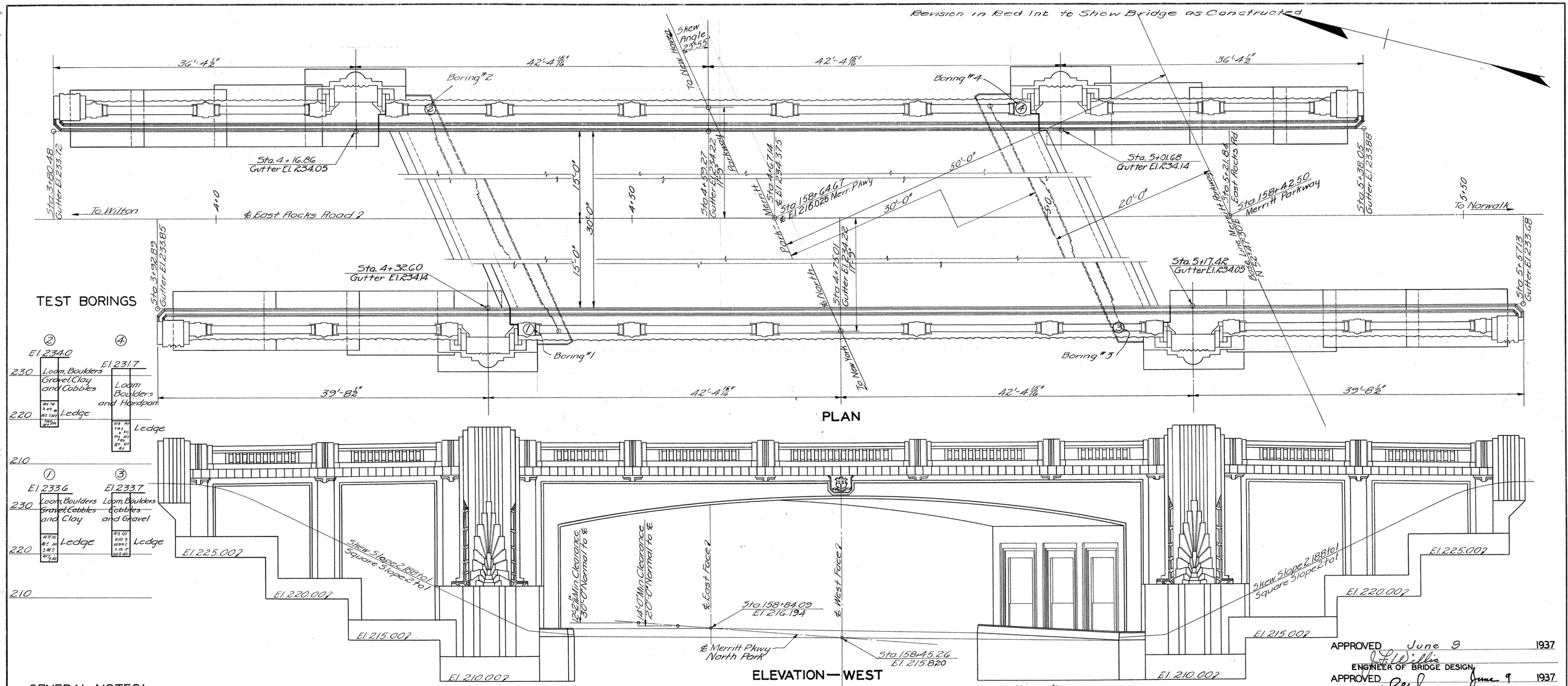
N

1013-04

STANDARD No. 10

SPAULDING-MOSS CO., BOSTON ARKWRIGHT TRACING CLOTH

180 66



GENERAL NOTES:—

Designed for H-20 Loading - 1935 Conn. State Highway Specifications.
Class "A" (1:2:4) Concrete to be used thruout except for Railing and Pavement.
Concrete Pavement (1:2:3½) to be used for Roadway Slab.
Pavement to be placed within 24 hours after Membrane Waterproofing is placed.
Class C (1:2:3) Concrete to be used for Concrete Bridge Rail.
Reinforcing Steel to consist of deformed bars of an approved type.
Membrane Waterproofing, with Copper Flashing at curbs, to be placed on frame as shown.
Waterproof Paint to be applied in two coats to back of Frame legs and to back of Wing Walls above footings.
All Ornamentation to be cast in place by means of waste moulds.
Backfilling to be kept at approximately the same height on each end of the frame while being placed and to be thoroughly tamped in layers.
Boulders and rocks to be kept out of all fill.
Backfilling to be completed before inside frame forms are removed.
Unclassified Excavation to include only that required after Roadway excavation (including side slopes) has been completed.
Quantities given are approximate only and do not relieve the contractor of the responsibility of checking them in preparing his bid.
Steel Conduit Pipe (3½") to be furnished by Telephone Co. and to be installed thru center of deck by Contractor at no additional cost.

QUANTITIES

Unclassified Excavation	780	C.Y.
Concrete Pavement	50	C.Y.
Bar Mat Reinf. for Conc. Pvmt.	258	S.Y.
¾" Premoulded Exp. Joint	386	L.F.
Class "A" Concrete	1120	C.Y.
½" Cork Exp. Joint Filler	586	S.F.
Deformed Steel Bars	89,060	Lbs.
Waterproof Painting	365	S.Y.
Membrane Waterproofing	302	S.Y.
Concrete Bridge Rail	278	L.F.
Portland Cement	1842	Bbls.
Pylon Ornament Molds	4	Ea.
Crown Ornament Molds	2	Ea.

APPROVED June 9 1937
J. F. Williams
ENGINEER OF BRIDGE DESIGN
APPROVED June 9 1937
Leif Summers
ENGINEER OF BRIDGES AND STRUCTURES
APPROVED June 9 1937
Geo. Hellman
DEPUTY HIGHWAY COMMISSIONER

00723 Bridge Sheet 1 of 4

CONNECTICUT
STATE HIGHWAY DEPARTMENT
TOWN OF NORWALK
MERRITT PARKWAY
UNDER
EAST ROCKS ROAD
REINF. CONCRETE RIGID FRAME
GENERAL PLAN

SCALES 3/16" = 1'-0"
MADE BY G.S.B. Tr. E.C.S. DATE 3-17-37
CHECKED BY J.W.C. DATE 4-17-37
APPROVED DATE
PROJECT NUMBER 180-67
SHEET NO. 8 OF 12

X N

STANDARD No. 8

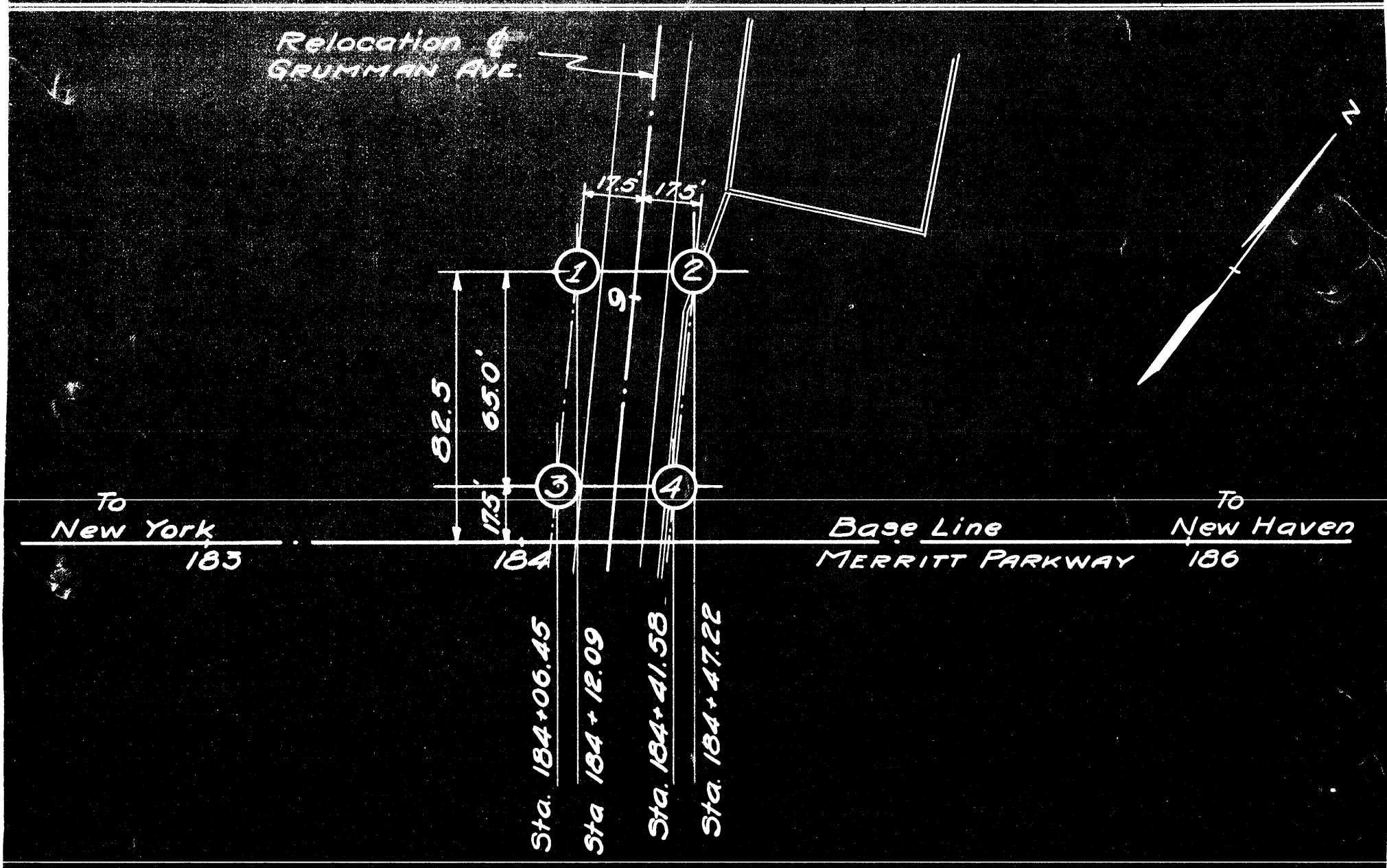
Printed in U.S.A. on Arkwright Tracing Cloth Gustave Fischer Co., Hartford, Conn.

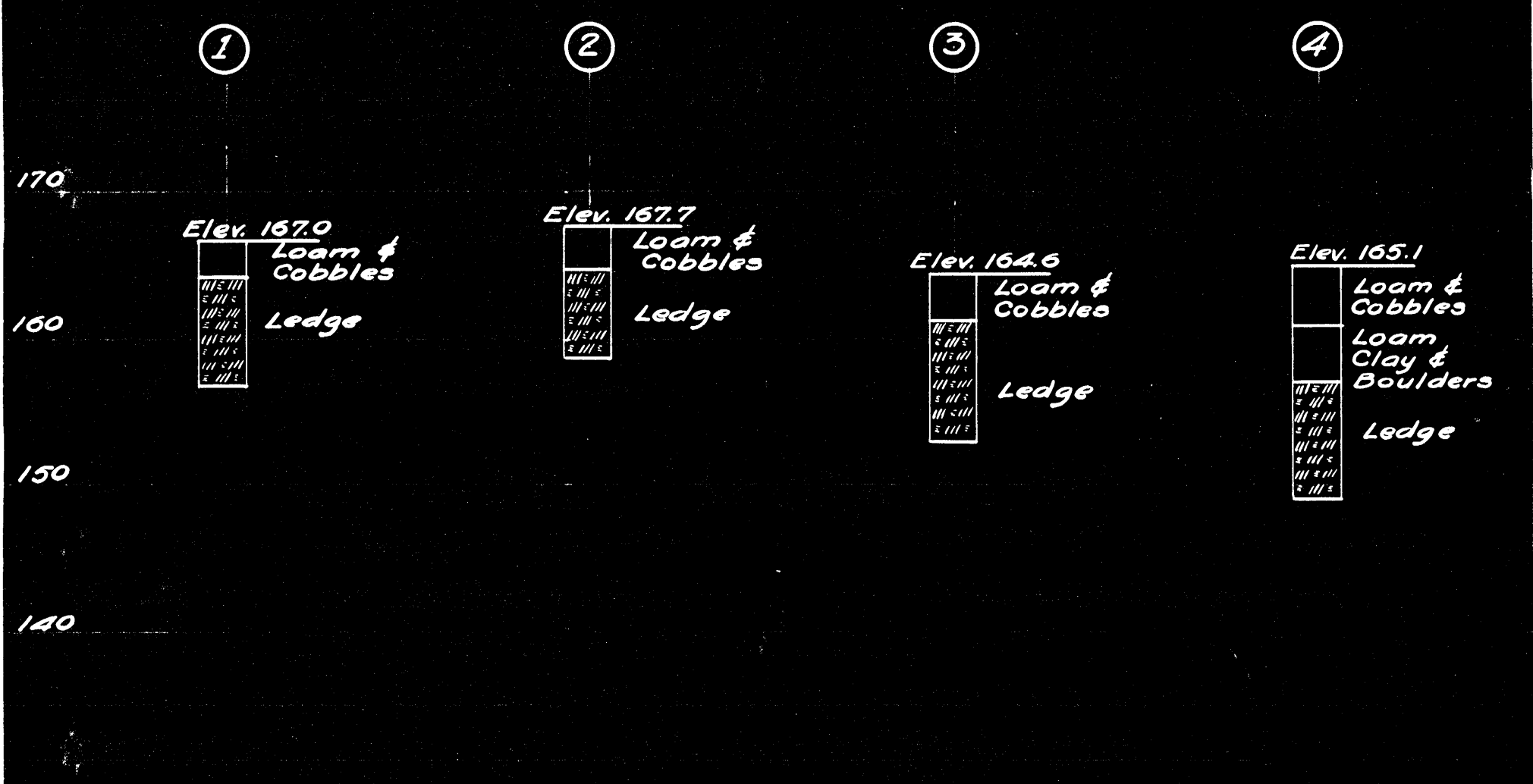
180 67

STATE OF CONNECTICUT

HIGHWAY DEPARTMENT

SKETCH SHEET

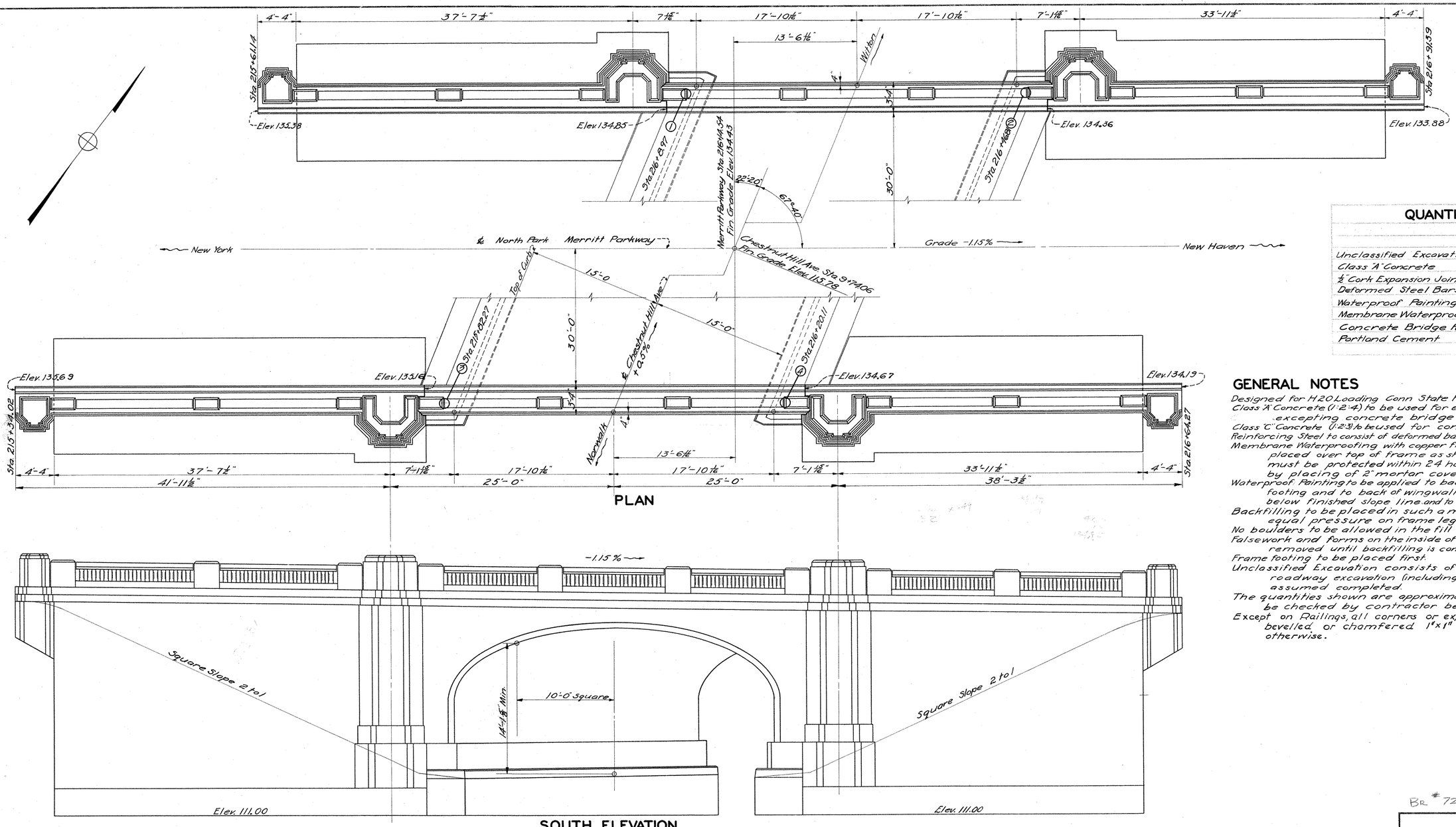




TEST BORINGS
W.O. Nº 1806802

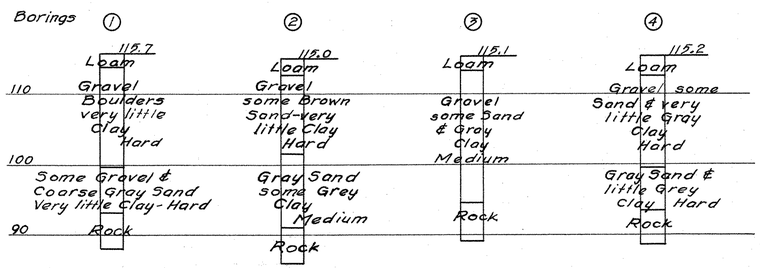
MADE BY G. A. Nagel	DATE April 26, 1937	TOWN OF NORWALK
CHECKED BY A. R. Collier	DATE April 26, 1937	STRUCTURE Pro. Br. Grumman Ave. & Merritt Parkway
APPROVED [signature]	DATE " " "	SCALES Hor 1" = 40 Ft. Vert. 1" = 10 Ft. SHEET NO. 1 OF 1

PRINTED ON



PLAN

SOUTH ELEVATION



QUANTITIES

Unclassified Excavation	C.Y. 620
Class "A" Concrete	C.Y. 1,166
½" Cork Expansion Joint Filler	S.F. 506
Deformed Steel Bars	Lb. 75,100
Waterproof Painting	S.Y. 380
Membrane Waterproofing	S.Y. 320
Concrete Bridge Rail	L.F. 220
Portland Cement	Bbl. 1874

GENERAL NOTES

Designed for H20 Loading Conn State Hwy Dept Specifications 1935.
Class "A" Concrete (1:2:4) to be used for entire structure excepting concrete bridge rail.
Class "C" Concrete (1:2:3) to be used for concrete bridge rail.
Reinforcing Steel to consist of deformed bars of an approved type.
Membrane Waterproofing with copper flashing at curbs to be placed over top of frame as shown on plans and must be protected within 24 hours after application by placing of 2" mortar cover.
Waterproof Painting to be applied to back of frame leg above footing and to back of wingwalls above a line 2'-0" below finished slope line and to back of spandrel walls.
Backfilling to be placed in such a manner as to maintain equal pressure on frame legs.
No boulders to be allowed in the fill around structure.
Falsework and forms on the inside of frame not to be removed until backfilling is completed.
Frame footing to be placed first.
Unclassified Excavation consists of that required after roadway excavation (including side slopes) is assumed completed.
The quantities shown are approximate only and should be checked by contractor before bidding.
Except on Railings, all corners or exposed edges shall be bevelled or chamfered 1"x1" unless dimensioned otherwise.

APPROVED March 8 1937
J. F. Willis
ENGINEER OF BRIDGE DESIGN

APPROVED March 9 1937
R. L. Dunham
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED March 9 1937
B. C. Feldwick
DEPUTY HIGHWAY COMMISSIONER

BR # 725

Bridge Sheet #1 of 3

CONNECTICUT
STATE HIGHWAY DEPARTMENT
TOWN OF NORWALK

MERRITT PARKWAY
OVER
CHESTNUT HILL AVE.
REINF. CONCRETE RIGID FRAME
GENERAL PLAN

SCALES 3/16" = 1'-0"
MADE BY H.H.M. Tr. L.W.W. DATE 2-17-37
CHECKED BY J.W.C. DATE 3-6-37
APPROVED DATE

NUMBER 180-88
SHEET NO. 62 OF 64

STANDARD No.

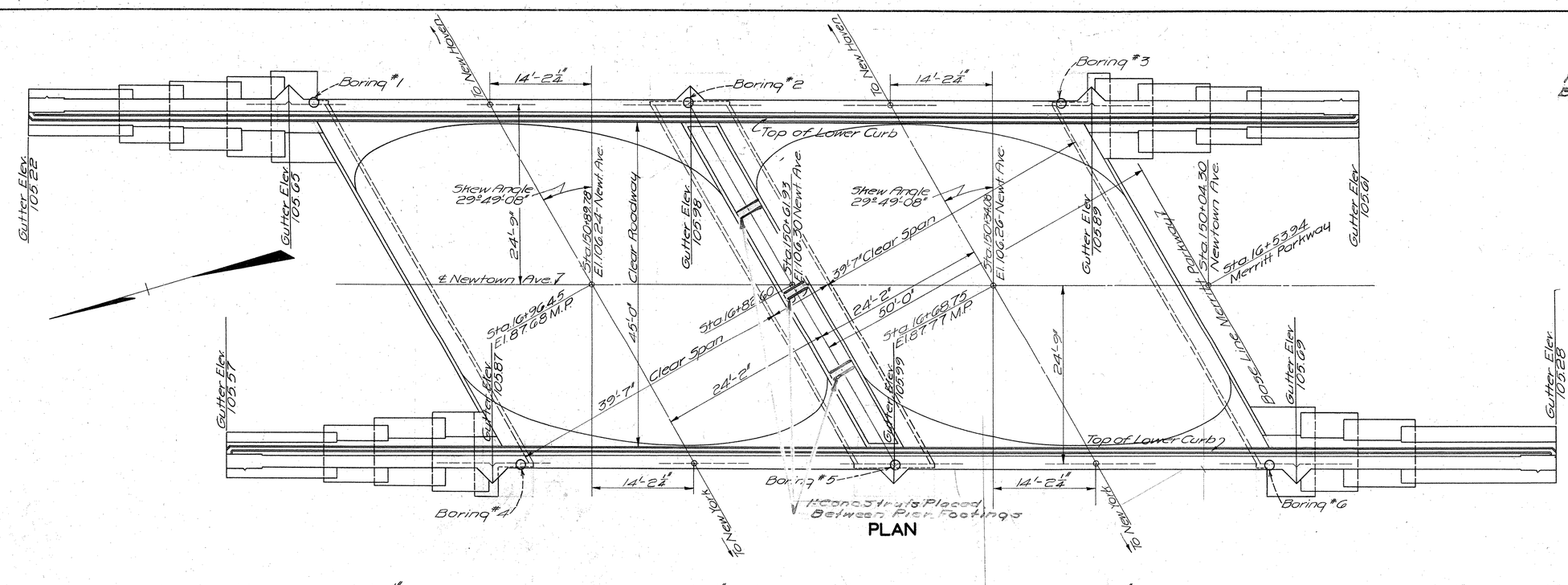
Printed in U.S.A. on Arkwright Tracing Cloth
Gustave Fischer Co., Hartford, Conn.

180 54

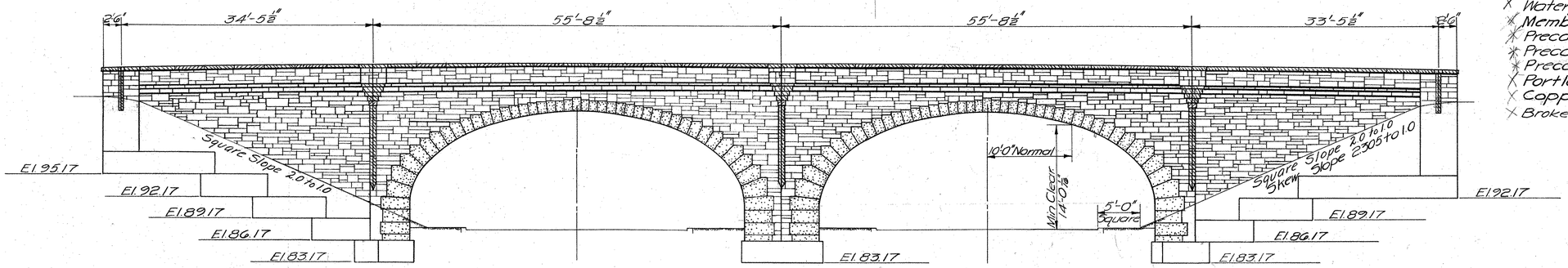
82 01

FED. ROAD DIST. No.	STATE	TOWN	FED. AID PROJ. NO.	FISCAL YEAR.	ROUTE NO.	SHEET NO.	TOTAL SHEETS
9	CONN.			1938		13	16

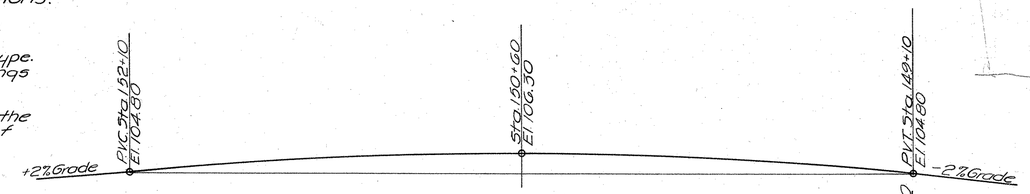
Revisions in Blue ink to show Bridge as Constructed



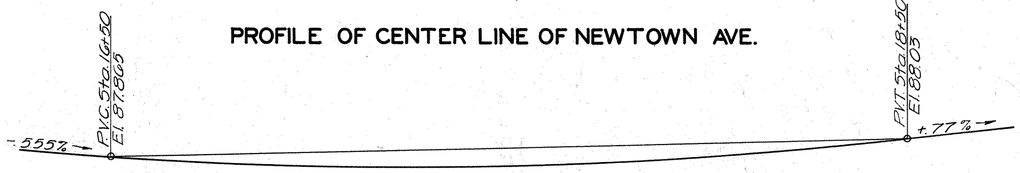
PLAN



WEST ELEVATION

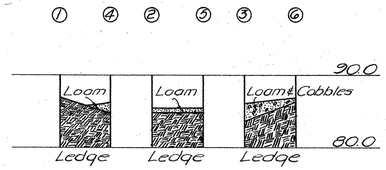


PROFILE OF CENTER LINE OF NEWTOWN AVE.



PROFILE OF CENTER LINE OF MERRITT PKWY

BORING DATA



QUANTITIES

Unclassified Excavation	880	C.Y.
Class "A" (1:2:4) Concrete	1070	C.Y.
½" Cork or Rubber Exp. Jt. Filler	345	S.F.
Deformed Steel Bars	129200	Lbs.
Waterproof Painting	430	S.Y.
Membrane Waterproofing	670	S.Y.
Precast Ashlar Units	4930	S.F.
Precast Ring Stones	430	C.F.
Precast Stone Trim	380	C.F.
Portland Cement	1620	Bbls.
Copper Flashing	460	Lbs.
Broken Stone (for drains)	65	Tons

LEGEND

Precast Ashlar Units

Precast Ring Stone

Precast Stone Trim

GENERAL NOTES:—

Designed for H-20 Loading - Conn. State Highway Dept. Specifications.
Unclassified Excavation to include only that required after roadway excavation (including side slopes) has been completed.
Class "A" concrete to be used throughout.
Reinforcing Steel to consist of deformed bars of an approved type.
Waterproof Paint to be used on back of frame legs above footings and on backs of wingwalls from gutter line to top of footings.
Membrane Waterproofing to be placed as shown on plans.
Backfilling of arch to be placed in such a manner as to keep the material at approximately equal heights on both sides of each arch, and shall be thoroughly tamped in layers.
Falsework and forms on inside of each arch not to be removed until backfilling is complete to sub grade.
Ashlar facing and ring stones shall be precast units. (See special provisions & General Specifications)
Quantities are approximate only and do not relieve the Contractor of the responsibility of checking them in preparing his bid.
Contractor for precast facing is to submit all necessary detail drawings and setting plan for approval.
All stones in projecting courses to have anchor loops of ¼" deformed steel bars, of intermediate grade, furnished by Cast Stone Manufacturer.
Steel conduit for telephone cables will be furnished by the S.N.E. Tel. Co. delivered at the bridge site.
Conduits to be installed by the Contractor as directed or as shown on the plans.
Cost to be included in the general cost of the contract; and there will be no direct payment therefor. 3-3½" Conduits.

APPROVED June 29 1938
J. F. Willis
ENGINEER OF BRIDGE DESIGN

APPROVED July 25 1938
R. A. Cummings
ENGINEER OF BRIDGES AND STRUCTURES

APPROVED 1938
DEPUTY HIGHWAY COMMISSIONER

Revised 7-19-38 G.L.D.

BRIDGE SHEET 1 OF 4

CONNECTICUT
STATE HIGHWAY DEPARTMENT
TOWN OF WESTPORT

MERRITT PARKWAY
UNDER
NEWTOWN AVE.

REINF. CONC. TWIN RIGID FRAME
GENERAL PLAN

SCALES ⅛"-1'-0"
MADE BY F.J.T. Tr. E.C.S. DATE 12-7-37
CHECKED BY J.W.C. DATE 3-12-38
APPROVED DATE

W.O. NO. 180-69
SHEET NO.
OF

STANDARD No. 13

SPAULDING-MOSS CO., BOSTON ARKWRIGHT TRACING CLOTH

180 69

88 09