

CONCEPT DEVELOPMENT REPORT

RT 29 ROCKFALL MITIGATION,
KINGWOOD TWP
MP 27.31 TO MP 30.43

TOWNSHIP OF KINGWOOD
HUNTERDON COUNTY

April 2015 (Draft)



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CONCEPT DEVELOPMENT REPORT
Rt 29 Rockfall Mitigation, Kingwood Twp
MP 27.31 to 30.43
Kingwood Township, Hunterdon County

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MP 27.31 to 30.43
Kingwood Township, Hunterdon County

I. INTRODUCTION

Rt 29 Rockfall Mitigation, Kingwood Twp

Project UPC No. 158020

NJDOT Division of Project Management, Project Manager - Scott Deeck

NJDOT Division of Project Management, Program Manager - Atul Shah

A. Rock and Roadway Characteristics

The site is located in Hunterdon County, to the east of Route 29 and the Delaware River, in the Piedmont Physiographic Province. The rock slopes are composed of Newark Super Group, Brunswick Group. Rock types are characterized as siltstone, claystone, and mudstone, with the southern end consisting of an igneous intrusion of diabase. Meta-sedimentary rock such as argillite and hornfels surround the diabase.

Route 29, within the project limits, is an undivided roadway classified as a Rural Minor Arterial with a posted speed limit of 50 mph.

There are no interchanges or signalized intersections within the limits of the project.

B. Purpose and Need Statement

Project Purpose:

The purpose of this project is to reduce the frequency and severity of rockfall events such that this location can be removed from the NJDOT Rockfall Hazard Management System's (RHMS) listing of High Priority locations.

Project Need:

The Geotechnical Engineering Unit has identified this section of Route 29 as being in need of rockfall hazard mitigation measures based on recent and historic rockfall events within the project limits. Of the 444 cut slopes within the RHMS, one of the four included in this project (Area C, defined in Table 1) is ranked #4 and a second (Area D) is ranked #16. Table 2 documents several rockfall events within the project limits.

Goals and Objectives:

Goals and objectives for this project include:

- Implement cost effective rockfall hazard mitigation measures that will address the stated purpose.
- Avoid, minimize, or mitigate impacts to environmentally sensitive areas, including Federal and State parklands, wetlands, water resources, etc.
- Minimize impacts to traffic during construction.

C. Project Location and Project Limits

The project is located in Kingwood Township, Hunterdon County. The proposed limits of the project are from Route 29 Milepost 27.31 to Milepost 30.43.

D. List of Other Projects in the Vicinity

A review of all applicable databases has indicated that there are no projects within the vicinity of the proposed rockfall hazard mitigation project.

II. EXISTING CONDITIONS ANALYSIS

John Szturo (Sr. Engineering Geologist, HNTB), Brian Felber (Geotechnical Engineer, HNTB), and John Jamerson (Engineering Geologist, NJDOT) conducted field reconnaissance October 20-24, 2014 to assess the existing conditions of the rock slopes and to ascertain other features that could potentially have an impact on the delivery of the project. Based on discoveries made on this field trip and subsequent follow-ups with Subject Matter Experts, several issues were identified that will be addressed as part of this project.

A. Rock Slope Condition

The project site has been subdivided from the southern to northern limits into four areas based on variation of rock slope condition:

Table 1 - Project Limits and Slope Summary

Area	MP Limits	Measured Slope Length (ft)	Approximate Slope Height at Tallest Location (ft)	Golder Data MP Limits	2003 Rockfall Hazard Rating
A	27.31 to 27.40	500	75	27.40 to 27.50	310
B	27.48 to 27.59	580	75	27.50 to 27.65	316
C	27.84 to 28.50	3450	50	27.78 to 28.48	628
D	29.86 to 30.43	3000	260	29.85 to 30.45	470

Four slope failure mechanisms were observed or inferred for the existing slopes:

- **Differential weathering** - The ongoing differential weathering process leads to potential for rockfalls of tens to hundreds of cubic yards that could originate from the natural back slope.
- **Block toppling** - Multiple locations with incipient block toppling were observed during the reconnaissance. Block sizes were generally less than 10 CY. This mechanism is most prevalent in Areas B and C and could originate from either the cut slope or the back slope.
- **Root wedging** - The rock slopes have extensive tree coverage with roots that exploit fractures in the rock mass in search of water. During high winds, more mature trees act as lever arms to pry blocks from the face.
- **Ice Jacking** - Significant groundwater discharge is observed from joints and bedding planes just above highway grade at specific times of the year. Combined with freeze-thaw cycles that persist during the winter months, this

groundwater discharge leads to ice jacking from both the cut slope and the back slope.

Several rockfall events within the project limits are documented in Table 2 below.

Table 2 - Rockfall History

Area	Location	Date	Weather Related	Description
A	604' south of MP 27.43 Post	Dec. 2013	During Harsh Winter	1 CY reached NB lane
B	Throughout Area	-	-	Rock Blocks close to toe
C	100' north of MP 28.00 Post	April 2014	Spring Thaw after Harsh Winter	5'x4'x4' Rock Block reached SB lane, Several 2'x2'x2' Blocks in NB lane, Source 25' above highway grade
D	MP 30.2	3/16/96	Extremely Harsh Winter	Covered entire roadway
D	MP 27.9	3/21/96	Extremely Harsh Winter	Softball to Basketball-sized Rock Blocks
D	Throughout Area	-	-	Piles of rockfall debris, generally particles smaller than 6", placed west of the SB shoulder during cleanup

B. Pavement

Central Region Operations resurfaced Route 29 from MP 27.5 to MP 31.5 during the Fall of 2013 due to the poor condition of the pavement and concerns that winter conditions could cause additional damage to the roadway.

C. Structures within the Project Limits

As shown on the 2014 Straight Line Diagrams, seven structures were identified within the project limits, tabulated below. None of these structures are ranked on the Bridge Management System. There are no overhead sign structures located within the project limits.

Table 3 - Existing Structures

Structure No.	MP	Crossing (Route 29 over/under)
1008-153	27.46	over drainage ditch
1008-154	27.91	over stream
1008-155	28.45	over stream
1008-156	28.79	over stream
1008-157	28.98	over stream
1008-158	29.42	over stream at Tumble Falls Road
1008-159	29.87	over Cains Run Creek

D. Drainage

In a memorandum dated April 17, 2013, the Drainage Management Unit indicated that there are no areas within the project limits that rank on the Drainage Management System.

E. Traffic Control within the Project Limits

There are no interchanges or traffic signals within the project limits.

F. Utility Facilities

Utility Letter No. 1 was prepared and distributed to request verification of existing and/or proposed facilities within the project limits, and to obtain the name, address, and telephone number of the appropriate contact of those utility owners who have facilities within the project limits. Of the responses received, the following utility owners indicated that their facilities exist within the limits of this project:

- CenturyLink
- Jersey Central Power & Light

G. Access

Based on the New Jersey State Highway Access Management Code, Route 29 from MP 27.40 to MP 30.45 is classified as an Access Level 5 roadway allowing driveways with provision for left-turn access (limited by spacing requirements and safety considerations).

No driveways are located along Route 29 within the project limits.

H. ITS Facilities

The NJDOT Intelligent Transportation Systems inventory and field reconnaissance indicated that no ITS facilities exist within the project limits.

I. Geometrics

The cross section of Route 29 within the project limits generally consists of two 12' travel lanes (one in each direction), with 10' outside shoulders south of MP 29.90 and 6' outside shoulders north of MP 29.90.

According to the 2012 Design Exception Manual, improvement projects, including rockfall mitigation, are exempt from the design exception procedure. Therefore, no design exceptions have been identified for this project.

J. Community Concerns

Residential and recreational points of access exist along the project corridor; however, this rockfall hazard mitigation project will have no impact on these properties. The anticipated concerns of the community should be limited to work hours (noise) and lane closures during construction (inconvenience).

K. Environmental Concerns

The D&R Canal State Park runs the length of the proposed project. This State-owned (Parks and Forestry) Open Space should be avoided if at all possible. Coordination with Parks and Forestry and NJDEP Green Acres will be required if impacts occur to this Park.

For the sections between MP 27.40-27.65, there is a Natural Heritage Priority Site (Byram) in the area. There is one special concern plant species plus historically documented plant species in this area. Coordination will be necessary if impacts to this area are proposed.

For the section between MP 29.85-30.45, there is another Natural Heritage Priority Site (Devils Tea Table). There are known occurrences of endangered and special concern plant species on this site. Coordination will be necessary if impacts to this area are proposed.

The whole project area is in a Wild and Scenic River Corridor. Coordination will be required with the National Park Service and/or the Local Government.

State Endangered Bald Eagle, State Threatened Wood Turtle, State Threatened Yellow Lampmussel, Federally Threatened Bog Turtle, Federally Proposed Endangered Northern Long-Eared Bat, Federally Endangered Indiana Bat, and Federally Endangered Shortnose Sturgeon all exist on or near the proposed project. Coordination will be required.

Due to the presence of threatened or endangered species that are critically dependent on the Delaware River for survival, there is a 150' Riparian Zone. Impacts to the riparian zone, such as vegetation removal, will trigger the need for a Flood Hazard Area permit.

L. Management Systems Input

Management System data collected for this project is summarized in Table 4 below.

Table 4 - Management Systems Data

Unit Management System	Data
Structural Engineering <i>Bridge Management System (BMS)</i>	No structures within the project limits are ranked on the BMS.
Systems Development and Analysis <i>Congestion Management System (CMS)</i>	CMS indicates that part of this section of NJ 29 is "Not Congested." The highest link within the project limits scores 1.41, which is a Low priority rating in the CMS.
Drainage Management & Technology <i>Drainage Management System (DMS)</i>	No areas within the project limits are ranked on the DMS.
Geotechnical Engineering <i>Rockfall Hazard Management System (RHMS)</i>	Of the 444 cut slopes within the RHMS, Area C is ranked #4 and Area D is ranked #16.

M. Pedestrian and Bicycle Facilities

Route 29 is considered a bicycle-compatible roadway with shoulders at least six feet wide throughout the project limits. Although no sidewalks exist along Route 29 within the project limits, a biking/walking trail is located to the west of the roadway.

III. ALTERNATIVES ANALYSIS

This section of Route 29 was identified by the Rockfall Hazard Rating System as being in need of rockfall hazard mitigation. Remedial measures to mitigate rockfall instability must meet two broad geotechnical objectives:

- Maintain or improve overall (global) slope stability
- Provide face stability and/or control rockfall

For all sites, mitigation strategies involving rock removal, rock reinforcement, and rockfall control were considered. Rock removal consists of scaling, blasting, and re-sloping; rock reinforcement includes rock bolts, dowels, or shotcrete; and rockfall control encompasses fences, drapes, and nets.

Different alternatives were considered for the four designated areas and are listed below.

A. Area A

- I. **No Action** - Accept the current risk.
- II. **Removal** - Re-grade with catchment ditch. This option requires that the slope be re-graded at a stable inclination to create an effective catchment ditch.
- III. **Removal** - Remove vegetation and scale. This option incorporates removal of vegetation and intense scaling.
- IV. **Removal/Protection** - Remove vegetation, scale, and install draped mesh. This option adds a draped mesh to the Option III elements.
- V. **Removal/Protection** - Re-slope and construct catchment ditch, install draped mesh on upper portion of lower cut slope. This option includes a sub-vertical cut at the toe of the slope to create a ditch in combination with draped mesh for the slope above (after removal of vegetation). Excavation would be via a combination of mechanical and drill and blast methods.
- VI. **Reinforcement** - Install grouted dowels and shotcrete facing. This option removes all vegetation with mitigation provided by a combination of grouted dowels or rock bolts and shotcrete facing ("rock nailing").
- VII. **Reinforcement** - Install anchored mesh, spot dowels/rock bolts. This option requires removal of vegetation and installation of a secured mesh to provide an active face pressure.

B. Areas B and C

Areas B and C have been grouped due to the commonality of topographic and geologic conditions as well as the mitigation alternatives. Many of the slopes throughout these areas are composite back slopes with a moderately inclined lower slope and a steep upper slope.

- I. **No Action** - Accept the current risk.
- II. **Protection** - Re-slope, construct catchment ditch, and fence at crest of lower slope. This option includes a sub-vertical cut at the toe of the slope to create a catchment ditch and supplements the ditch with a draped mesh and an intermediate rockfall control fence located at the crest of the lower slope.
- III. **Protection** - Hybrid System - Barrier at crest of lower slope and draped mesh on lower face. This option does not improve the ditch catchment, but utilizes slope drape for the lower slope combined with a mid-slope barrier to intercept rockfall from the upper slope.
- IV. **Protection** - Improved catchment with Hybrid System (Combination of Options II and III). This option includes a sub-vertical cut at the toe of the slope to create a catchment ditch and supplements the ditch with a hybrid drape system elevated at the upper limit of the mesh.

C. Area D

Of the four areas, Area D is the most complex in terms of potential rockfall hazards.

- I. **No Action** - Accept the current risk.
- II. **Warning** - Install Rockfall Warning Fence. This option would not reduce the rockfall hazard, but would reduce the risk through the installation of warning fences to protect the safety of the traveling public.
- III. **Monitoring** - Inclinator, tiltmeters, and/or routinely scheduled LiDAR survey. This option would not reduce the rockfall hazard, but would reduce the risk through the installation of monitoring instruments to protect the safety of the traveling public.
- IV. **Removal** - Trim blasting and rock removal using airbags and scaling. This option removes potentially unstable columns and blocks through a combination of trim blasting and intensive scaling. This option would require extensive tree removal from the existing slopes.
- V. **Reinforcement** - Install tensioned rock bolts, dental concrete, and anchored mesh. This option seeks to minimize rock removal while reinforcing unstable rock masses with tensioned rock bolts (or untensioned dowels), dental shotcrete (e.g. buttresses beneath overhangs), and secured mesh. This option would require extensive tree removal from the existing slopes.
- VI. **Protection** - Install Hybrid System - Barrier at crest of lower slope and draped mesh below, or draped mesh with sacrificial fences. This option would control rockfall from the lower slope with draped mesh and rockfall originating from the steep upper slopes using either an elevated mesh (hybrid) or interceptor fences. This option would require extensive tree removal from the existing slopes.
- VII. **Protection** - Raise roadway elevation or shift roadway west. This option would protect the highway by creating a catchment area.
- VIII. **Protection** - Rock Shed over road. This option would protect the highway by constructing a rock shed over the highway.
- IX. **Combination** - Localized trim blasting, reinforcement of Devils Tea Table, and shotcrete or dental concrete. This option combines several of the above options to include stabilizing Devils Tea Table with a roughly four-inch-thick fiber-reinforced color-matched sculpted shotcrete to slow the differential weathering with minimal aesthetic impact. In addition, this option would stabilize Devils Tea Table with rock bolts or rock dowels. Trim blasting would remove unstable columns, evident by dilated joints, to create a new, localized,

upper cut slope. A hybrid barrier system on the mid-slope bench, in conjunction with improved catchment by pre-split blasting of the lower slope, will require extensive tree removal.

IV. PRELIMINARY PREFERRED ALTERNATIVE

The work as described below will result in a reduction of the frequency and severity of rockfall events such that this location can be removed from the NJDOT Rockfall Hazard Management System's listing of High Priority locations.

A. Scope of Work

i. Rockfall Hazard Mitigation

Areas A, B, and C are similar in terms of recommended mitigation approach and relative straightforwardness of final design. Area D is much more complex and will require a more comprehensive investigation and design effort, which will require more lead time prior to construction. It is also highly probable that the stakeholder consultation process will be longer for Area D than for Areas A, B, and C.

a) Area A

Option V is recommended as the Preliminary Preferred Alternative for Area A for the following reasons:

- High degree of risk reduction
- Applicable to variable-slope geometry
- Improves sight distance
- Collateral benefit for snow removal/storage
- Nearby rock disposal site
- Provides opportunity for minimization of aesthetic impact through color-coating of mesh and introduction of vegetative cover

b) Areas B and C

Option II is recommended as the Preliminary Preferred Alternative for Areas B and C for the following reasons:

- High degree of risk reduction
- Applicable to variable-slope geometry
- Improves sight distance
- Collateral benefit for snow removal/storage
- Nearby rock disposal site
- Provides opportunity for minimization of aesthetic impact through color-coating of mesh and introduction of vegetative cover

c) **Area D**

Option IX is recommended as the Preliminary Preferred Alternative for Area D. This multi-faceted approach is required to best reduce the risks associated with the following complexities:

- Significant rockfall impact energy due to size of rock blocks and height of source
- Variable availability of natural benches
- Limited catchment
- Difficult access limiting the viability of individual mitigation strategies at some locations
- Overall goal to minimize cost and aesthetic impact

Given the height of the slope for Area D, the top of the slope may need to be accessed from above in order to implement rockfall hazard mitigation measures. Access from above would likely require the contractor to obtain access through private property, which could result in temporary right-of-way impacts. In addition, detailed mapping obtained in Final Design will be required to determine if the Devils Tea Table is located within NJDOT right-of-way. If it is determined that this feature is located on private property, right-of-way involvement will be necessary.

ii. Pavement

In the event that rockfall hazard mitigation measures damage the existing pavement, pavement repair work will be included in this project. Pavement repairs will consist of milling 2" and paving 2" surface course.

iii. Structural

Since the Project Need is rockfall hazard mitigation and the bridge management system did not identify any issues, no structural scope of work is included in this project.

iv. Pedestrian and Bicycle Facilities

There are no existing pedestrian facilities along this section of Route 29 and none are proposed under this project. The existing walkway/bikeway parallel to Route 29 will be maintained with the recommended rockfall hazard mitigation alternatives.

v. Traffic Signal

There are no signalized intersections within the project limits.

vi. Incidental Roadway Work

In areas of pavement repair work, Raised Pavement Markers (RPMs) and rumble strips will be replaced and/or installed in accordance with the NJDOT Roadway Design Manual.

vii. Drainage

Cleaning of all drainage structures and pipes within the limits of Areas A, B, C, and D is recommended.

B. Anticipated Impacts to Existing Facilities

i. Utility

There are no anticipated utility impacts.

ii. Access

There are no anticipated access impacts.

iii. ITS

There are no anticipated ITS impacts.

C. Maintenance of Traffic during Construction

Mobility & Systems Engineering provided lane closure hours in a memorandum dated March 28, 2014. Any Route 29 lane closures must be performed in accordance with the lane closure schedule provided herein.

The rockfall hazard mitigation along Route 29 will be completed using the 2007 NJDOT Standard Traffic Control Details for single lane/shoulder closures or lane shifts. During periods of blasting for Area D, a local detour will be required (off-peak hours only). The proposed conceptual detour route is CR 651 (Byram-Kingwood Road) to CR 519 (Kingwood-Stockton Road) to NJ 12 (for northbound traffic, southbound traffic would use the same roadways in reverse). An alternate detour route could begin further south on Route 29 at CR 519 and direct traffic to use CR 519 to NJ 12. Use of the walkway/bikeway parallel to Route 29 and the Delaware River will also need to be suspended during blasting periods.

Any modification involving detours, staging, and lane closures should be approved by Construction Management and Traffic Operations during Final Design.

D. Community Concerns

The community, local officials, and property owners will continue to be informed of the proposed work during Final Design. Stakeholders will include, but may not be limited to, Kingwood Township, Frenchtown Borough, Delaware Township, Hunterdon County, NJDEP, and the National Park Service.

E. Environmental Document Summary

This project is classified as a Categorical Exclusion (CE) and no significant environmental impacts are anticipated.

Appendix A

Project Fact Sheet

**New Jersey Department of Transportation
Division of Project Management**

**Rt 29 Rockfall Mitigation, Kingwood Twp
UPC #158020
Milepost 27.31 to 30.43
Kingwood Township, Hunterdon County
Concept Development**

PROJECT FACT SHEET

Project Description

The New Jersey Department of Transportation (NJDOT) Geotechnical Engineering Unit identified Route 29 from Milepost 27.31 to 30.43 to be in need of rockfall hazard mitigation based on recent and historic rockfall events within the project limits. Golder Associates submitted a Remedial Design Alternatives Report, dated June 2004, where they updated rockfall hazard slope ratings for rock cut slopes along the Route 29 corridor. The four rock cuts included in this project were rated "A" or "High Risk."

The purpose of this project is to reduce the frequency and severity of rockfall events such that this location can be removed from the NJDOT Rockfall Hazard Management System's (RHMS) listing of High Priority locations. Of the 444 cut slopes within the RHMS, one of the four included in this project (Area C) is ranked #4 and a second (Area D) is ranked #16. It is considered prudent to remediate all four together as they are located close geographically and the anticipated mitigation methods will be similar. Anticipated rockfall hazard mitigation measures will include, but may not be limited to, clearing of vegetation, slope scaling, large block removal, and installation of wire mesh netting and rockfall catch fences.

General Information

The Route 29 Concept Development project encompasses four rock cuts along Route 29, located in Kingwood Township, Hunterdon County, NJ. Route 29 is a north/south Rural Minor Arterial with a posted speed limit of 50 mph throughout the project limits. Within the limits of the project, Route 29 consists of one lane in each direction with variable-width outside shoulders. There are no signalized intersections within this section of Route 29.

The site is located in the Piedmont Physiographic Province. The rock slopes are composed of Newark Super Group, Brunswick Group. Rock types are characterized as siltstone, claystone, and mudstone, with the southern end consisting of an igneous intrusion of diabase. Meta-sedimentary rock such as argillite and hornfels surround the diabase.

The project site has been subdivided from the southern to northern limits into four areas based on variation of rock condition:

Area	MP Limits	Golder Data MP Limits	2003 Rockfall Hazard Rating
A	27.31 to 27.40	27.40 to 27.50	310
B	27.48 to 27.59	27.50 to 27.65	316
C	27.84 to 28.50	27.78 to 28.48	628
D	29.86 to 30.43	29.85 to 30.45	470

Four slope failure mechanisms were observed or inferred for the existing slopes:

- Differential weathering - The ongoing differential weathering process leads to potential for rockfalls of tens to hundreds of cubic yards that could originate from the natural back slope.

- Block toppling - Multiple locations with incipient block toppling were observed during the reconnaissance. Block sizes were generally less than 10 CY. This mechanism is most prevalent in Areas "B" and "C" and could originate from either the cut slope or the back slope.
- Root wedging - The rock slopes have extensive tree coverage with roots that exploit fractures in the rock mass in search of water. During high winds, more mature trees act as lever arms to pry blocks from the face.
- Ice Jacking - Significant groundwater discharge is observed from joints and bedding planes just above highway grade at specific times of the year. Combined with freeze-thaw cycles that persist during the winter months, this groundwater discharge leads to ice jacking from both the cut slope and the back slope.

There are no overpass structures or grade-separated interchanges within the project limits. However, the 2010 Straight Line Diagrams indicate that there are seven structures where Route 29 crosses over waterways, listed below.

Structure No.	MP	Crossing (Route 29 over/under)
1008-153	27.46	over drainage ditch
1008-154	27.91	over stream
1008-155	28.45	over stream
1008-156	28.79	over stream
1008-157	28.98	over stream
1008-158	29.42	over stream at Tumble Falls Road
1008-159	29.87	over Cains Run Creek

Data Collection

Aside from the collection of as-built drawings and previous reports, the following data collection efforts have been completed under this project to date.

Management Systems Data

Unit <i>Management System</i>	Data
Structural Engineering <i>Bridge Management System (BMS)</i>	There are no structures within the project limits that are ranked on the BMS.
Systems Development and Analysis <i>Congestion Management System (CMS)</i>	CMS indicates that part of this section of NJ 29 is "Not Congested." The highest link within the project limits (MP 23.30 to MP 34.33) scores 1.41, which is a Low priority rating in the CMS.
Drainage Management & Technology <i>Drainage Management System (DMS)</i>	No areas within the project limits are ranked on the DMS.
Major Access	The Major Access Bureau does not currently have any active Major Access permit application work within the project limits.
Bureau of Traffic Engineering	The Bureau of Traffic Engineering has no pending investigations within the project limits.
Utility Engineering	There are no hit locations on the 2003-2005 list of frequently hit utility poles within the project limits.

Environmental Screening

NJDOT Bureau of Landscape Architecture and Environmental Solutions prepared an Environmental and Landscape Screening dated July 25, 2014, which noted the following environmental concerns:

- The D&R Canal State Park runs the length of the proposed project. This State-owned (Parks and Forestry) Open Space should be avoided if at all possible. Coordination with Parks and Forestry and NJDEP Green Acres will be required if impacts occur to this Park.
- For the sections between MP 27.4-27.65, there is a Natural Heritage Priority Site (Byram) in the area. There is one special concern plant species plus historically documented plant species in this area. Coordination will be necessary if impacts to this area are proposed.
- For the section between MP 29.85-30.45, there is another Natural Heritage Priority Site (Devils Tea Table). There are known occurrences of endangered and special concern plant species on this site. Coordination will be necessary if impacts to this area are proposed.
- The whole project area is in a Wild and Scenic River Corridor. Coordination will be required with the National Park Service and/or the Local Government.
- State Endangered Bald Eagle, State Threatened Wood Turtle, State Threatened Yellow Lampmussel, Federally Threatened Bog Turtle, Federally Proposed Endangered Northern Long-Eared Bat, Federally Endangered Indiana Bat, and Federally Endangered Shortnose Sturgeon all exist on or near the proposed project. Coordination will be required.
- Due to the presence of threatened or endangered species that are critically dependent on the Delaware River for survival, there is a 150' Riparian Zone. Impacts to the riparian zone, such as vegetation removal, will trigger the need for a Flood Hazard Area permit.

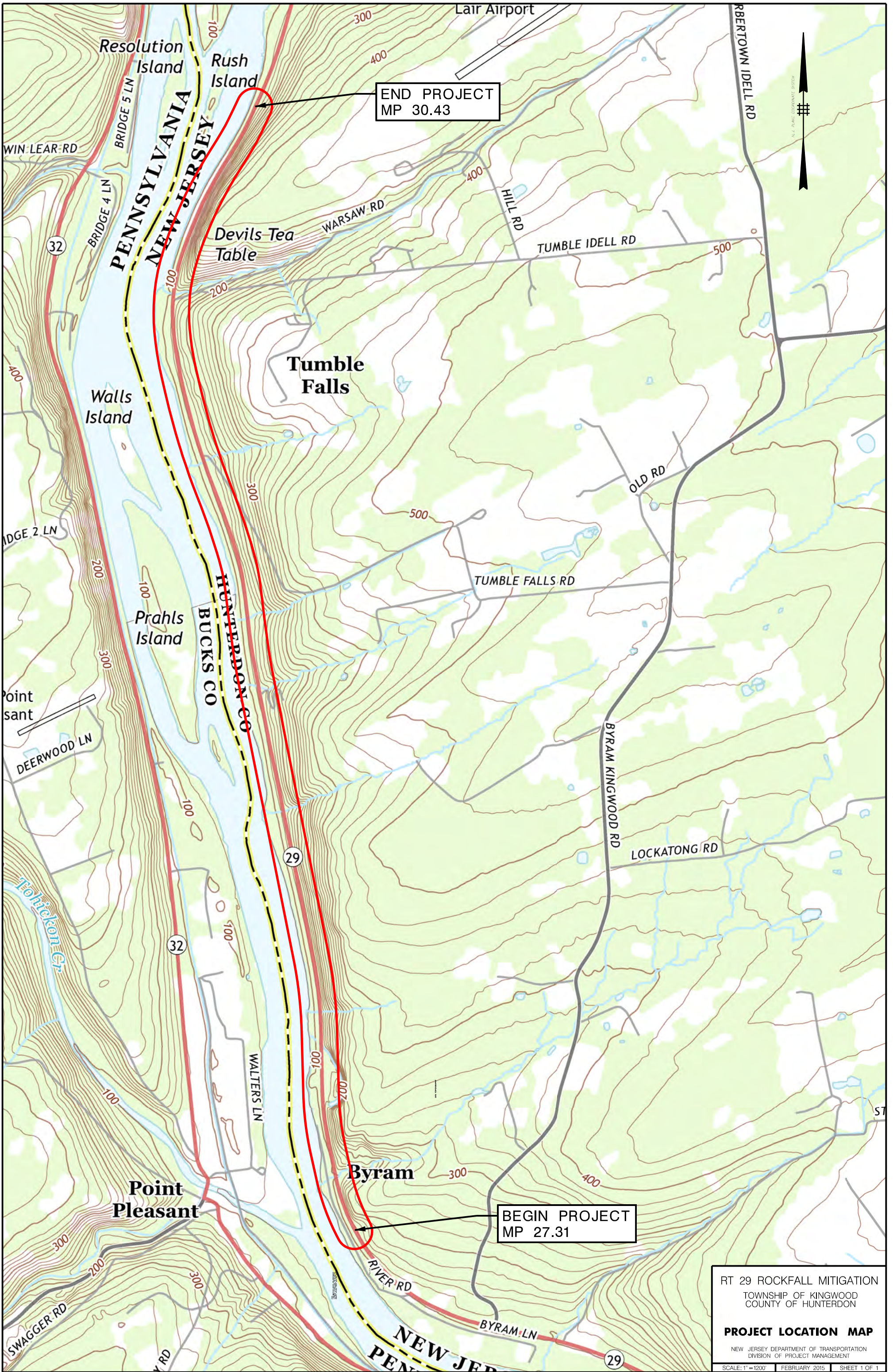
Utility Letter No. 1

Utility Letter No. 1 was prepared and distributed to request verification of existing and/or proposed facilities within the project limits, and to obtain the name, address, and telephone number of the appropriate contact of those utility owners who have facilities within the project limits. The following utility owners have responded indicating that their facilities exist within the limits of this pavement project:

- CenturyLink
- Jersey Central Power & Light

Appendix B

Project Location Map &
Straight Line Diagram



END PROJECT
MP 30.43

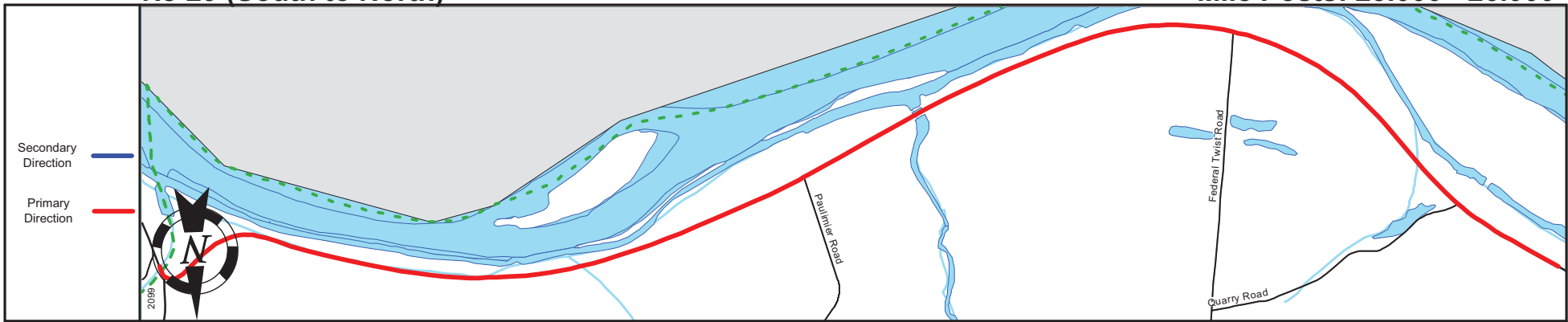
BEGIN PROJECT
MP 27.31

RT 29 ROCKFALL MITIGATION
TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

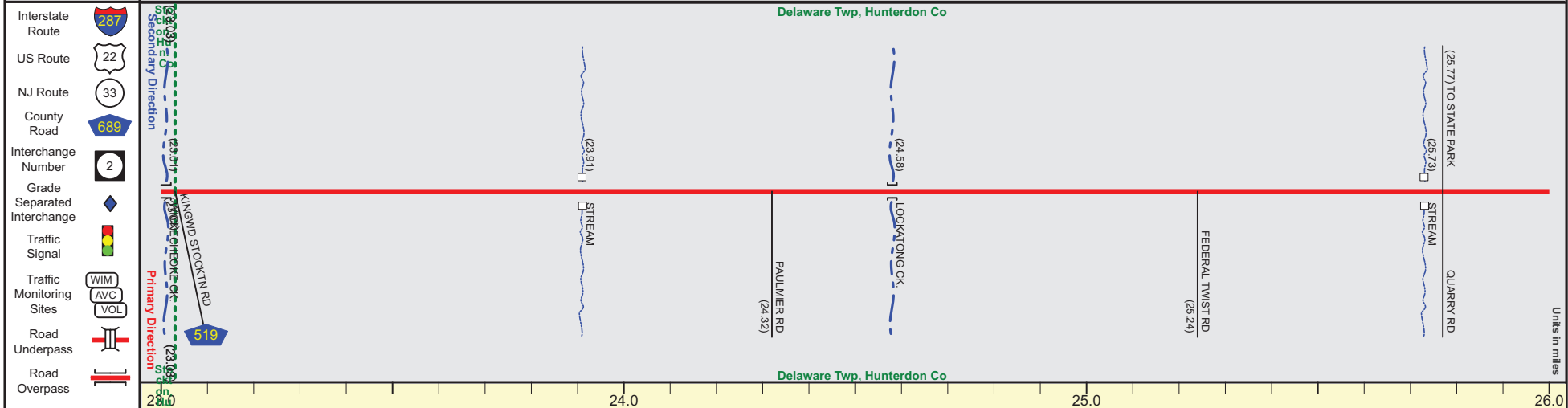
PROJECT LOCATION MAP

NEW JERSEY DEPARTMENT OF TRANSPORTATION
DIVISION OF PROJECT MANAGEMENT

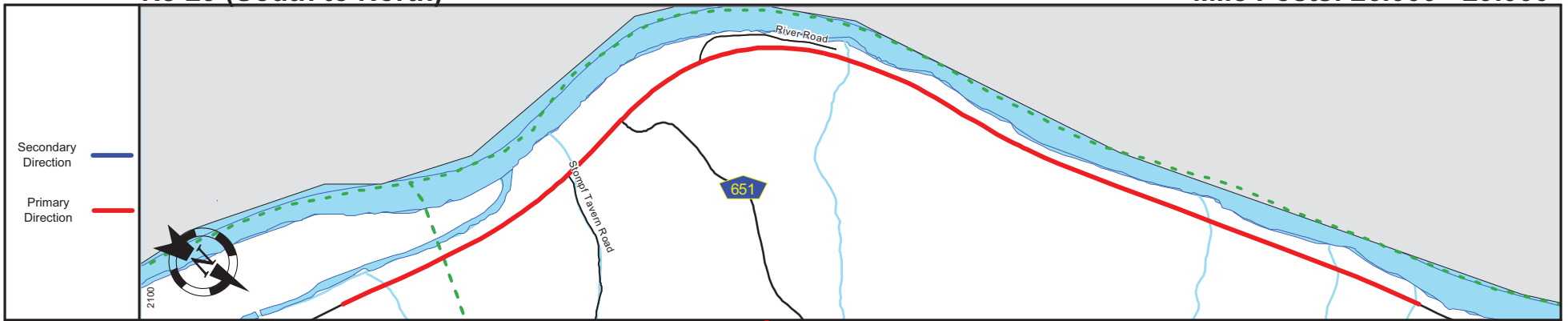
SCALE: 1" = 1200' FEBRUARY 2015 SHEET 1 OF 1



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	

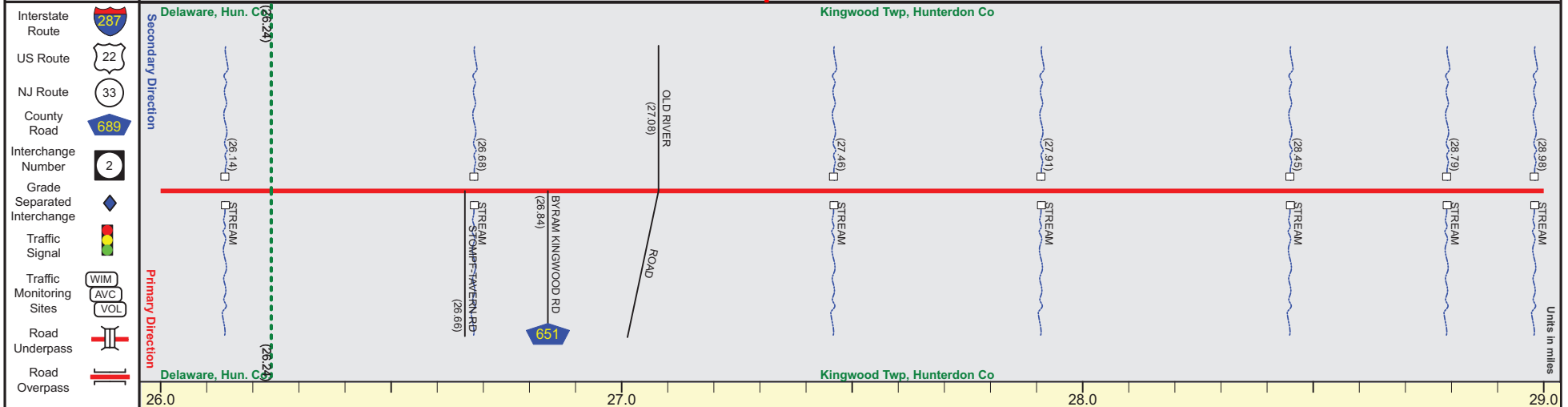


Street Name	Co.		Main Street	
Jurisdiction	N.J.D.O.T.			
Functional Class	Urban Minor Arterial	Rural Minor Arterial		
Federal Aid - NHS Sy	STP			
Control Section	1008			
Speed Limit	30	35	50	
Number of Lanes	2			
Med. Type	None			
Med. Width	0			
Pavement	22	24		
Shoulder	1	10		
Traffic Volume	2,430 (2007)			
Traffic Sta. ID	5-4-308			
Structure No.	1007159	1008165	1008150	1008151
Enlarged Views				

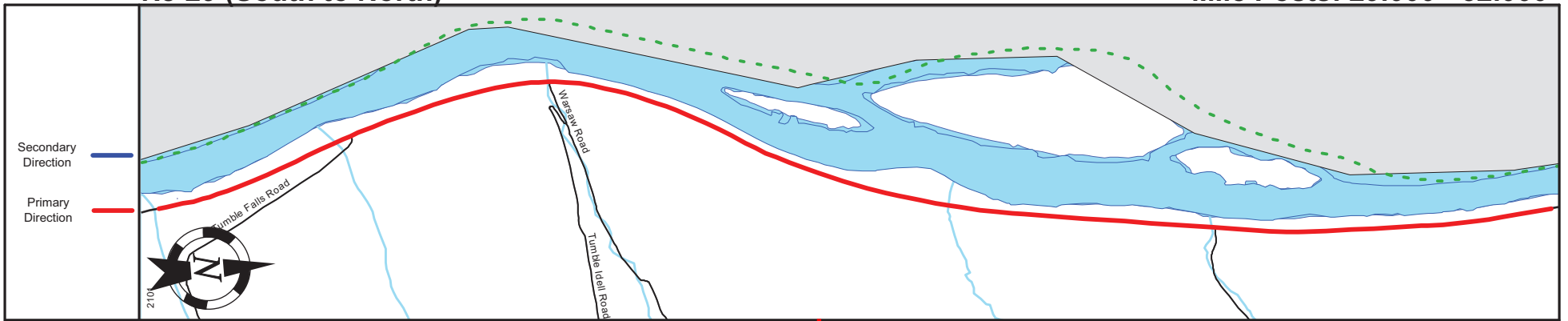


Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	

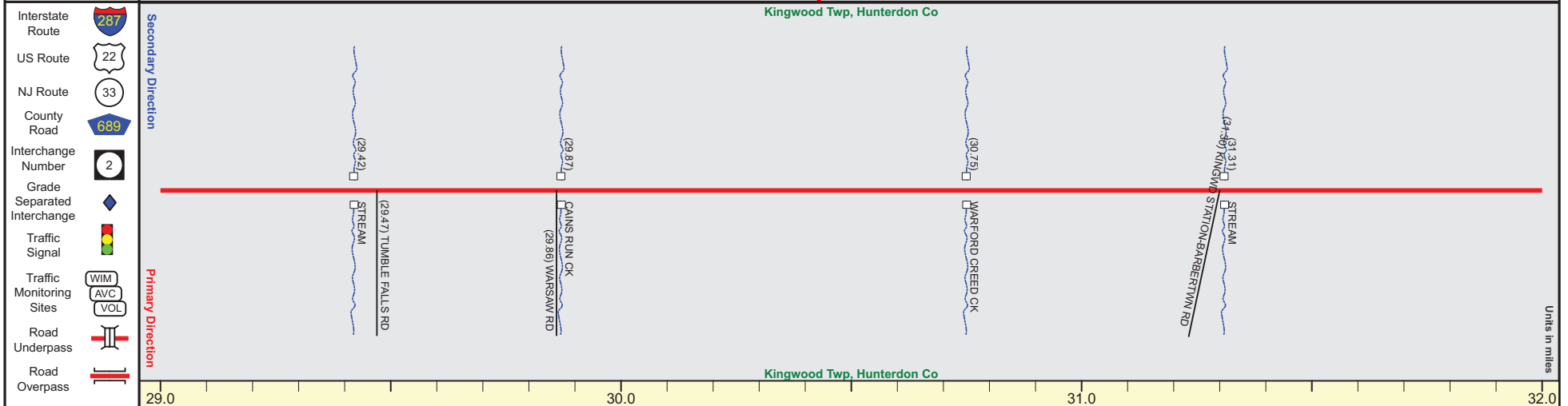
BEGIN PROJECT
MP 27.31



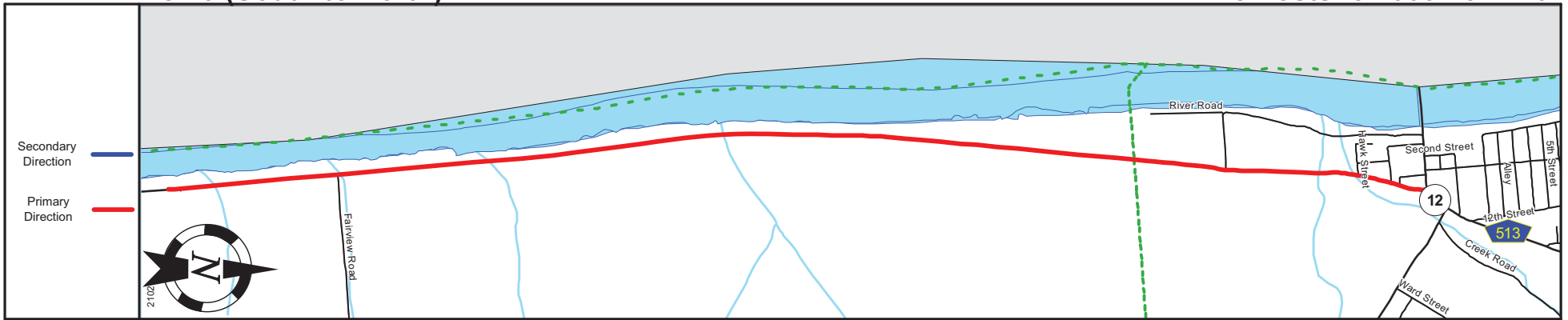
Street Name	Main Street	Daniel Bray Highway					
Jurisdiction	N.J.D.O.T.						
Functional Class	Rural Minor Arterial						
Federal Aid - NHS Sy	STP						
Control Section	1008						
Speed Limit	50						
Number of Lanes	2						
Med. Type	None						
Med. Width	0						
Pavement	24						
Shoulder	10						
Traffic Volume	2,430 (2007)	1,864 (2008)					
Traffic Sta. ID	5-4-309	5-4-305					
Structure No.	1008166	1008152	1008153	1008154	1008155	1008156	1008157
Enlarged Views							



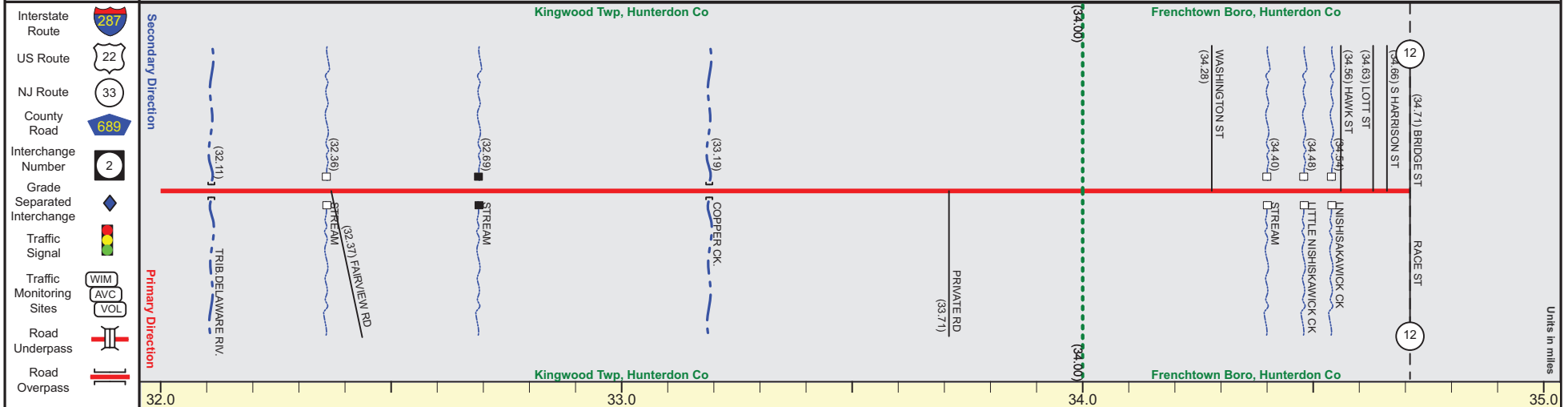
Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



Street Name	Daniel Bray Highway			
Jurisdiction	N.J.D.O.T.			
Functional Class	Rural Minor Arterial			
Federal Aid - NHS Sy	STP			
Control Section	1008			1009
Speed Limit	50			
Number of Lanes	2			
Med. Type	None			
Med. Width	0			
Pavement		24		22
Shoulder	10	6	10	
Traffic Volume				
Traffic Sta. ID				
Structure No.	1008158	1008159	1008160	1009151
Enlarged Views				



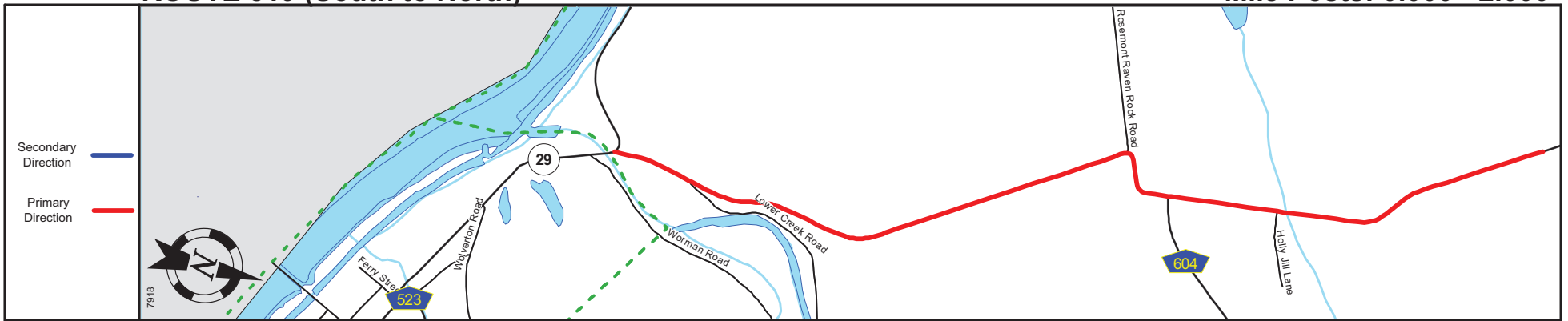
Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



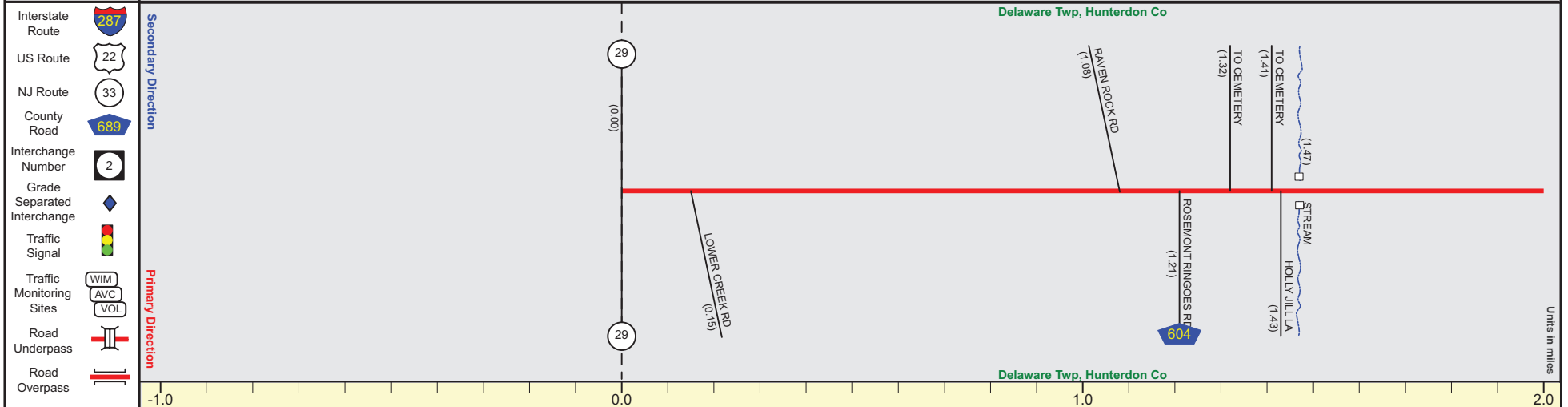
Street Name	Daniel Bray Highway	Trenton Road
Jurisdiction	N.J.D.O.T.	County
Functional Class	Rural Minor Arterial	Urban Minor Arterial
Federal Aid - NHS Sy		STP
Control Section		1009
Speed Limit	50	25
Number of Lanes		2
Med. Type		None
Med. Width		0
Pavement		22
Shoulder	10	3
Traffic Volume	2,207 (2009)	
Traffic Sta. ID	5-5-312	
Structure No.	1009152 N/A 1009154 1009150	N/A N/A N/A
Enlarged Views		

ROUTE 519 (South to North)

Mile Posts: 0.000 - 2.000



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



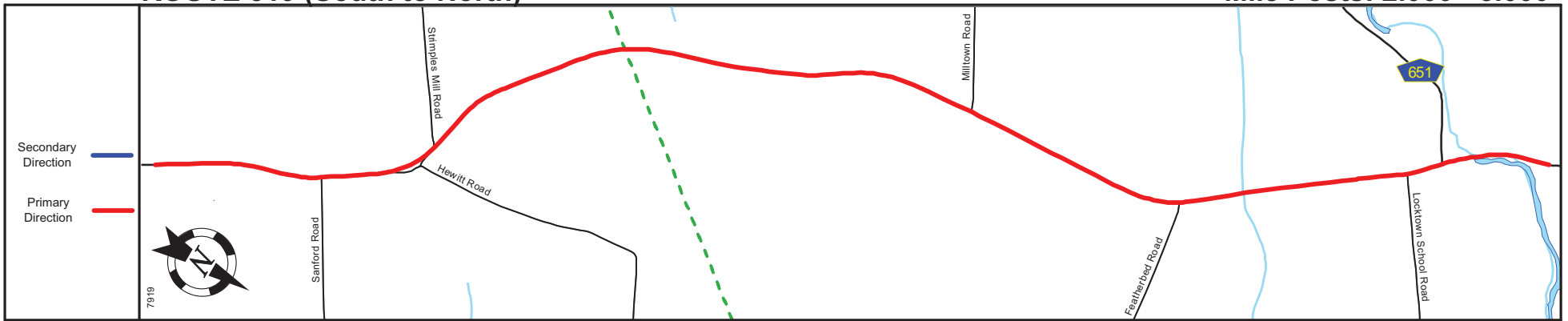
Street Name	Kingwood-Stockton Road	
Jurisdiction	County	
Functional Class	Urban Major Collector	Rural Major Collector
Federal Aid - NHS Sy	STP	
Control Section	Begin Rt. 519 MPH=0.00	
Speed Limit	45	35 25 35 40 45
Number of Lanes	2	
Med. Type	None	
Med. Width	0	
Pavement	24	
Shoulder	1	
Traffic Volume	1,316 (2009)	
Traffic Sta. ID	091012	
Structure No.	N/A	
Enlarged Views		

SRI = 0000519__

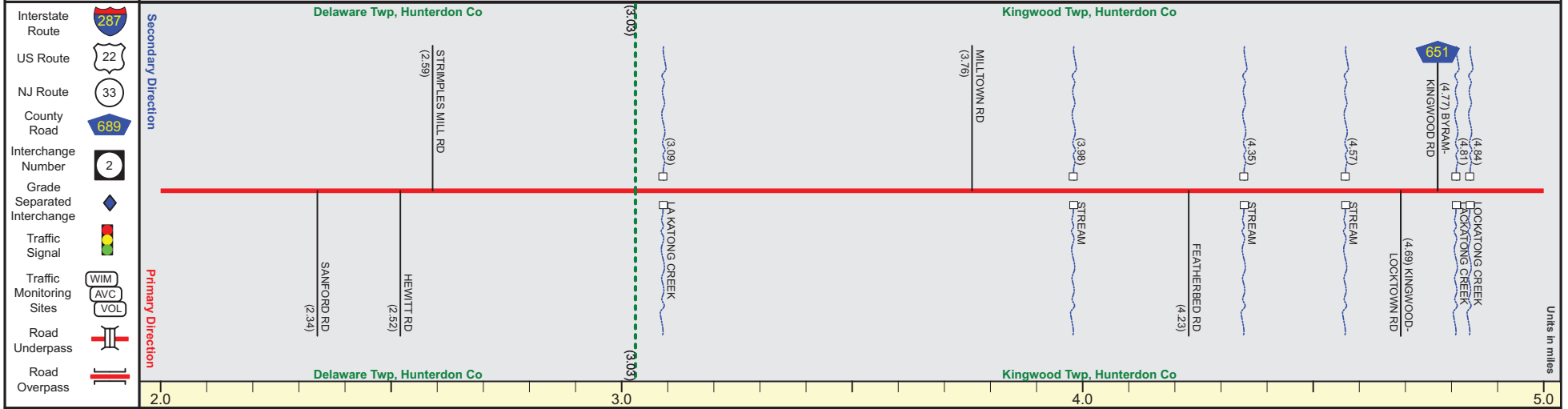
Date last inventoried: November 2012

ROUTE 519 (South to North)

Mile Posts: 2.000 - 5.000



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



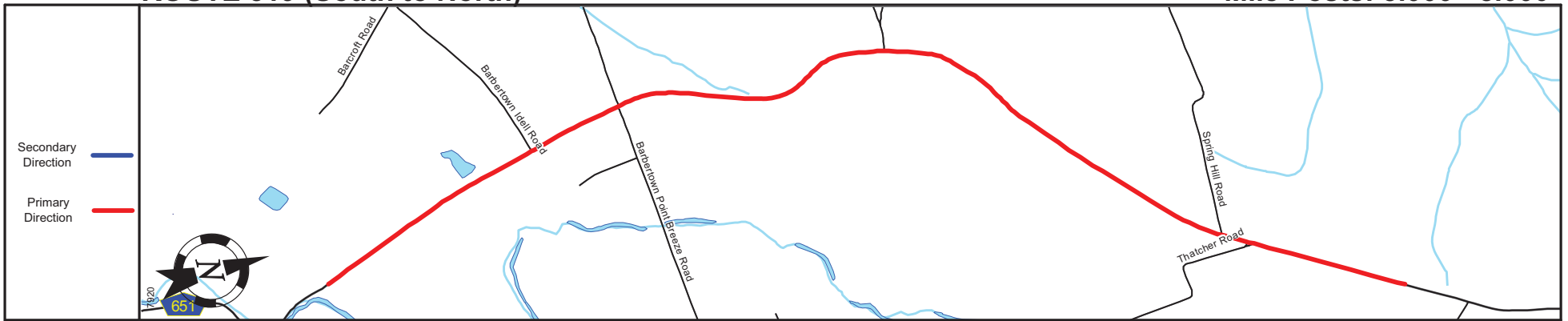
Street Name	Kingwood-Stockton Road	
Jurisdiction	County	
Functional Class	Rural Major Collector	
Federal Aid - NHS Sy	STP	
Control Section		
Speed Limit	45	
Number of Lanes	2	
Med. Type	None	
Med. Width	0	
Pavement	24	
Shoulder	1	4
Traffic Volume		
Traffic Sta. ID		
Structure No.	N/A	N/A
Enlarged Views		

SRI = 0000519__

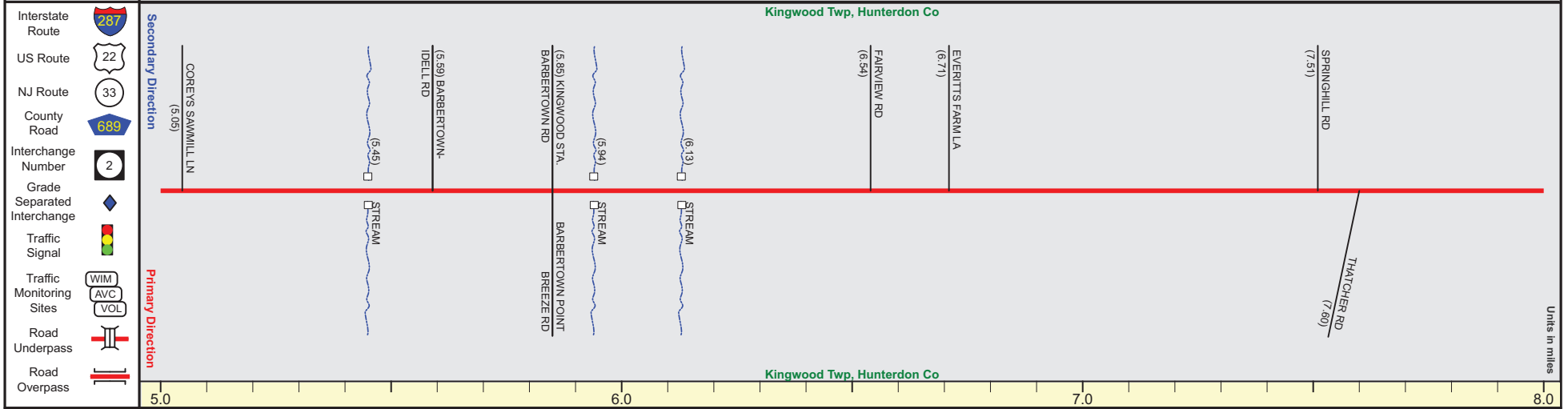
Date last inventoried: November 2012

ROUTE 519 (South to North)

Mile Posts: 5.000 - 8.000



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



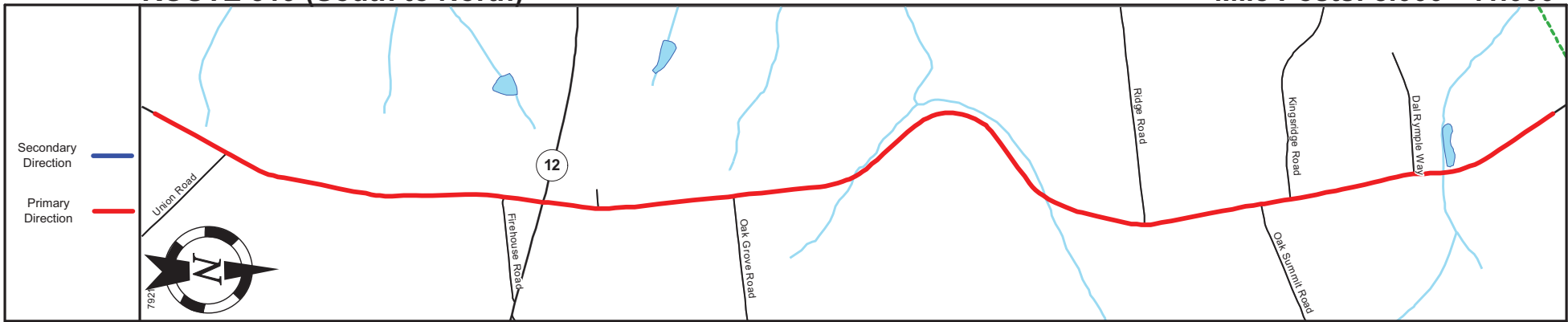
Street Name	Kingwood-Stockton Road		
Jurisdiction	County		
Functional Class	Rural Major Collector		
Federal Aid - NHS Sy	STP		
Control Section			
Speed Limit	45	+	50
Number of Lanes	2		
Med. Type	None		
Med. Width	0		
Pavement	24		
Shoulder	1		
Traffic Volume	2,274 (2008)		
Traffic Sta. ID	5-4,424		
Structure No.	N/A	N/A	N/A
Enlarged Views			

SRI = 0000519__

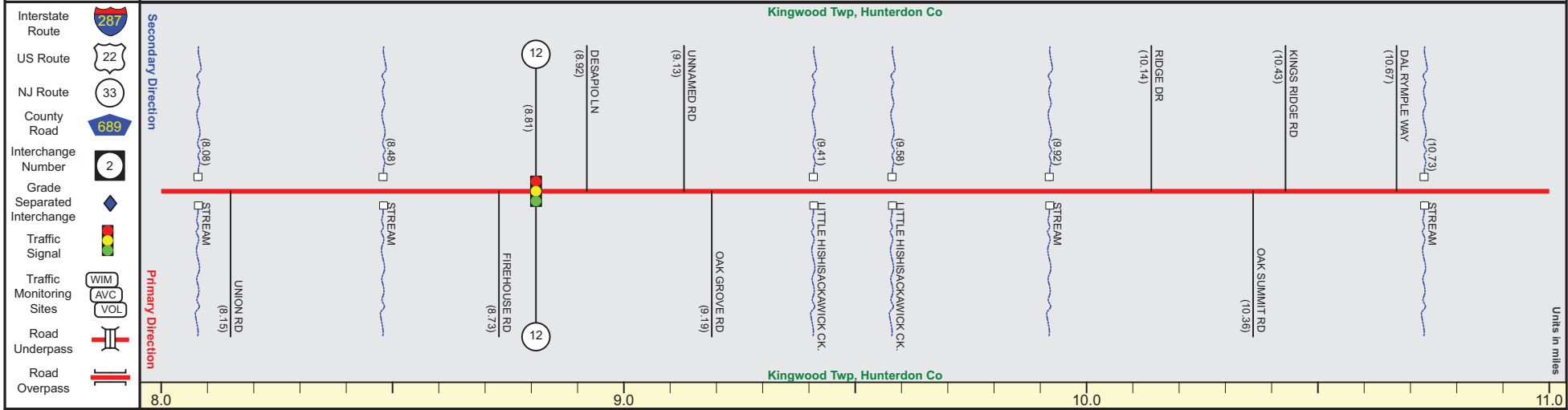
Date last inventoried: November 2012

ROUTE 519 (South to North)

Mile Posts: 8.000 - 11.000



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



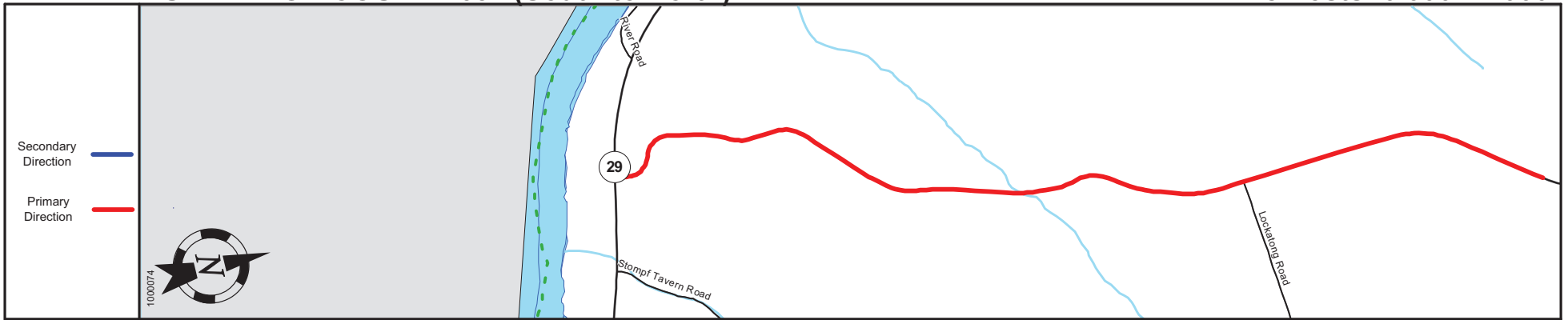
Street Name	Kingwood-Stockton Road		Kingwood Road	
Jurisdiction	County			
Functional Class	Rural Major Collector			
Federal Aid - NHS Sy	STP			
Control Section				
Speed Limit	50	25	40	45
Number of Lanes	2			
Med. Type	None			
Med. Width	0			
Pavement	24			
Shoulder	1		2	4
Traffic Volume	2,757 (2009)			
Traffic Sta. ID	091018			
Structure No.	N/A	N/A	N/A	N/A
Enlarged Views				

SRI = 0000519__

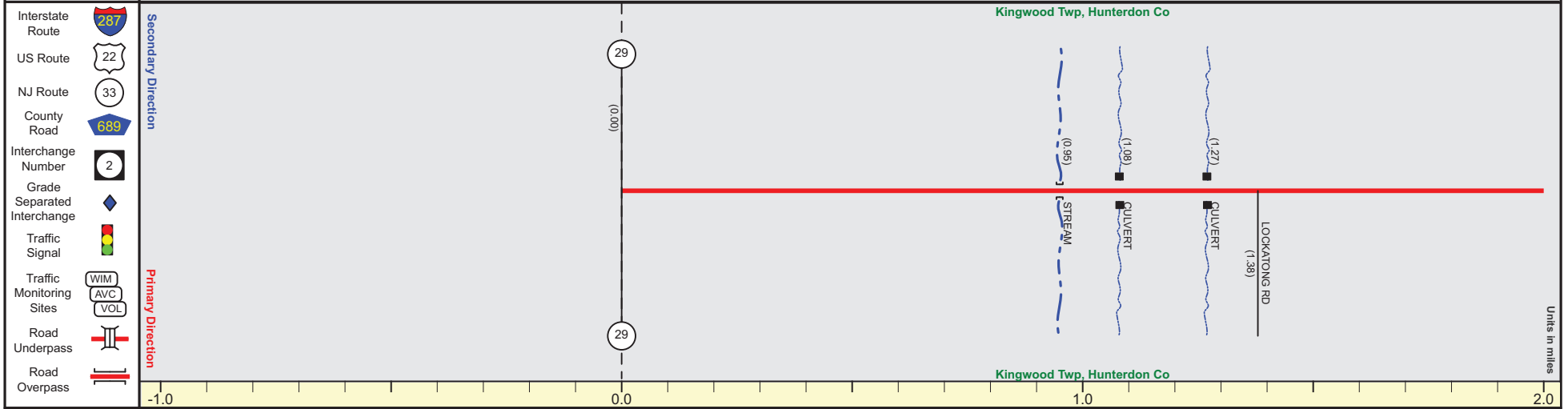
Date last inventoried: November 2012

HUNTERDON COUNTY 651 (South to North)

Mile Posts: 0.000 - 2.000



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



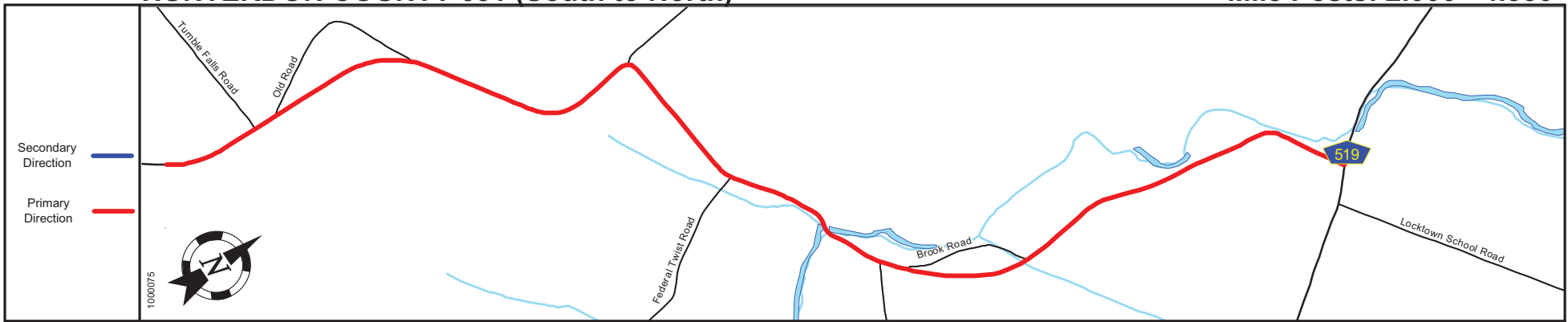
Street Name	Byram-Kingwood Road
Jurisdiction	County
Functional Class	Rural Local
Federal Aid - NHS Sy	Non-Federal Aid
Control Section	
Speed Limit	NOT POSTED + 40
Number of Lanes	2
Med. Type	None
Med. Width	0
Pavement	22
Shoulder	0
Traffic Volume	
Traffic Sta. ID	
Structure No.	
Enlarged Views	

SRI = 1000651__

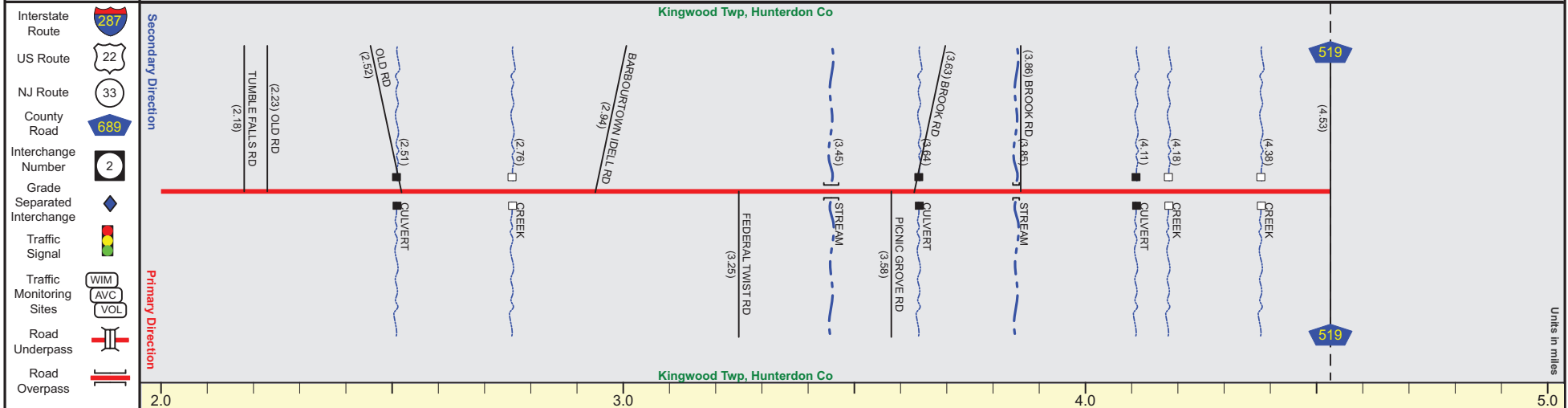
Date last inventoried: June 2011

HUNTERDON COUNTY 651 (South to North)

Mile Posts: 2.000 - 4.530



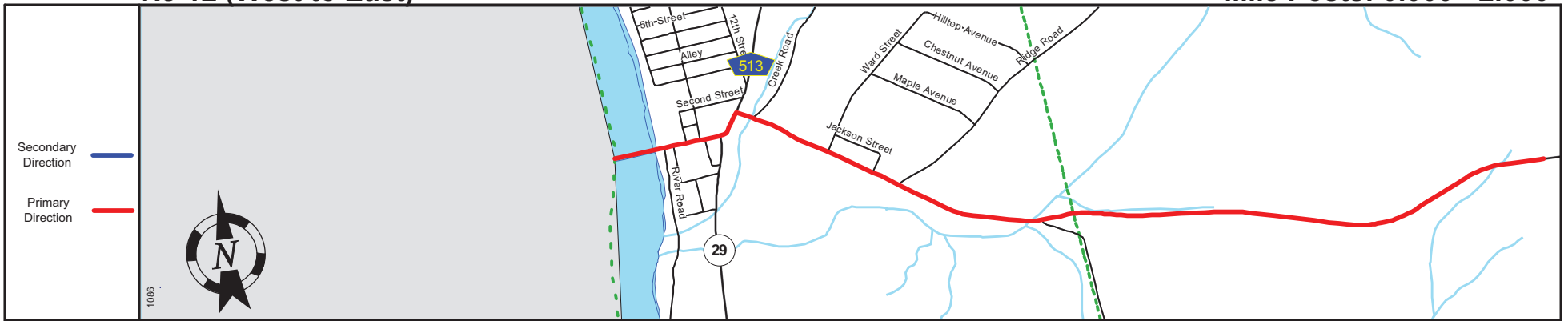
Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



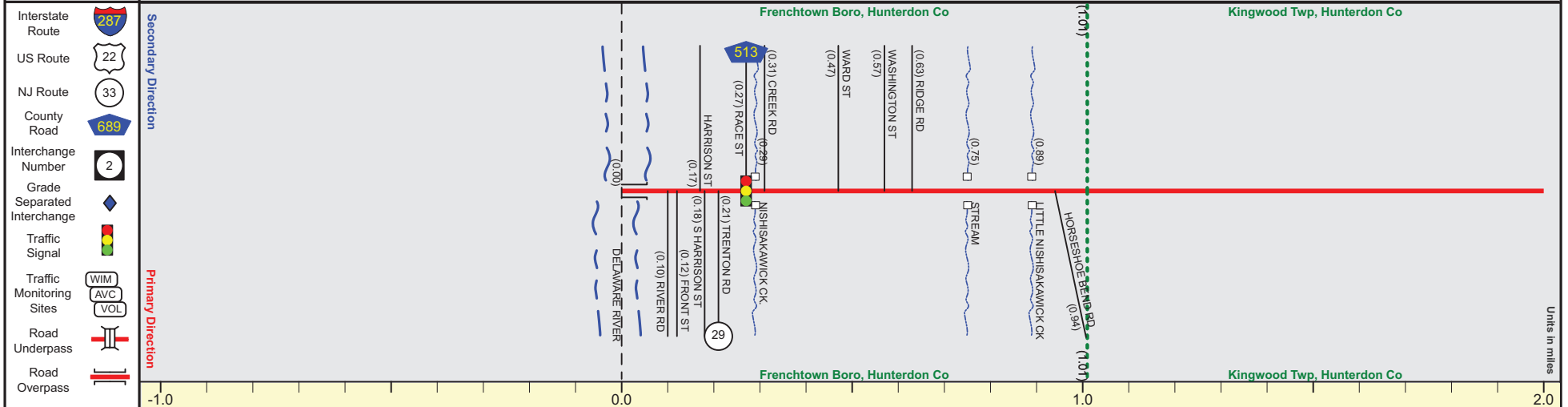
Street Name	Byram-Kingwood Road	
Jurisdiction	County	
Functional Class	Rural Local	
Federal Aid - NHS Sy	Non-Federal Aid	
Control Section		
Speed Limit	40	
Number of Lanes	2	
Med. Type	None	
Med. Width	0	
Pavement	22	
Shoulder	0	
Traffic Volume		End Hunterdon County 651 MP=4.53
Traffic Sta. ID		
Structure No.		
Enlarged Views		

SRI = 1000651__

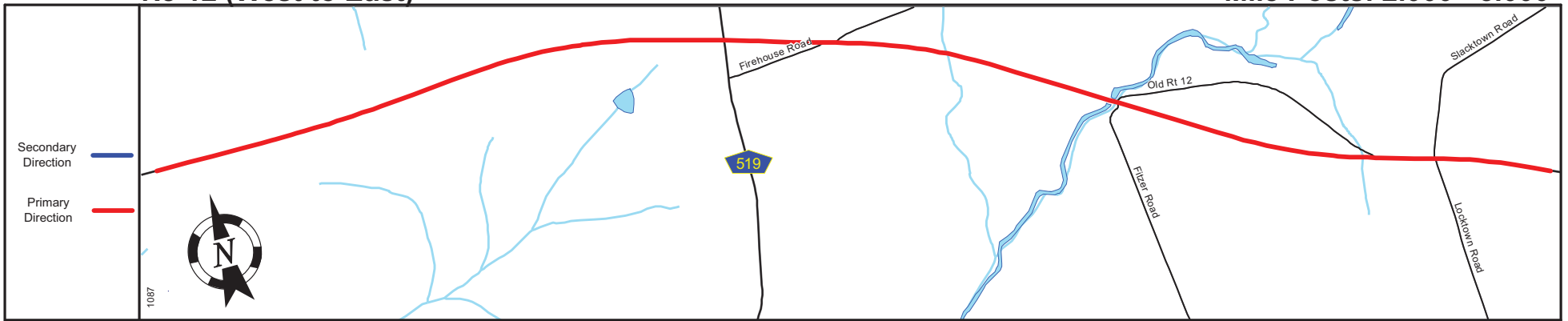
Date last inventoried: June 2011



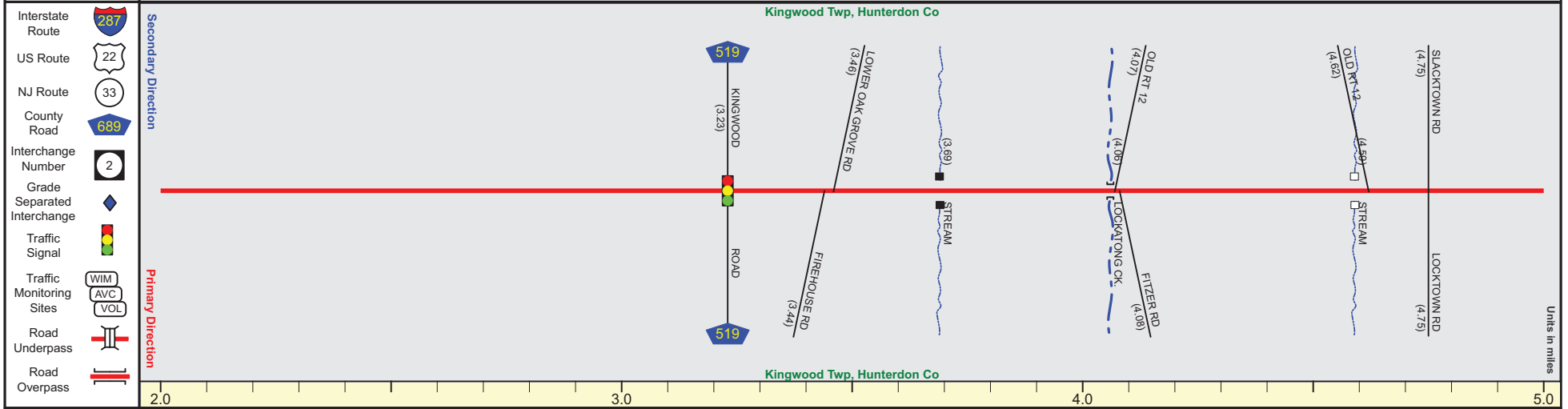
Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



Street Name	Bridge Street	Race Street	Kingwood Avenue	NJ 12
Jurisdiction	F.R.J.T.B.C.	County		N.J.D.O.T.
Functional Class		Urban Minor Arterial		Rural Minor Arterial
Federal Aid - NHS Sy			STP	
Control Section	1045		1001	
Speed Limit	15	25	30	40
Number of Lanes			2	3
Med. Type				None
Med. Width				0
Pavement	40	24	22	36
Shoulder	0		4	0
Traffic Volume				5,244 (2009)
Traffic Sta. ID				5-4-311
Structure No.	020004A	N/A	N/A	N/A
Enlarged Views				



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	

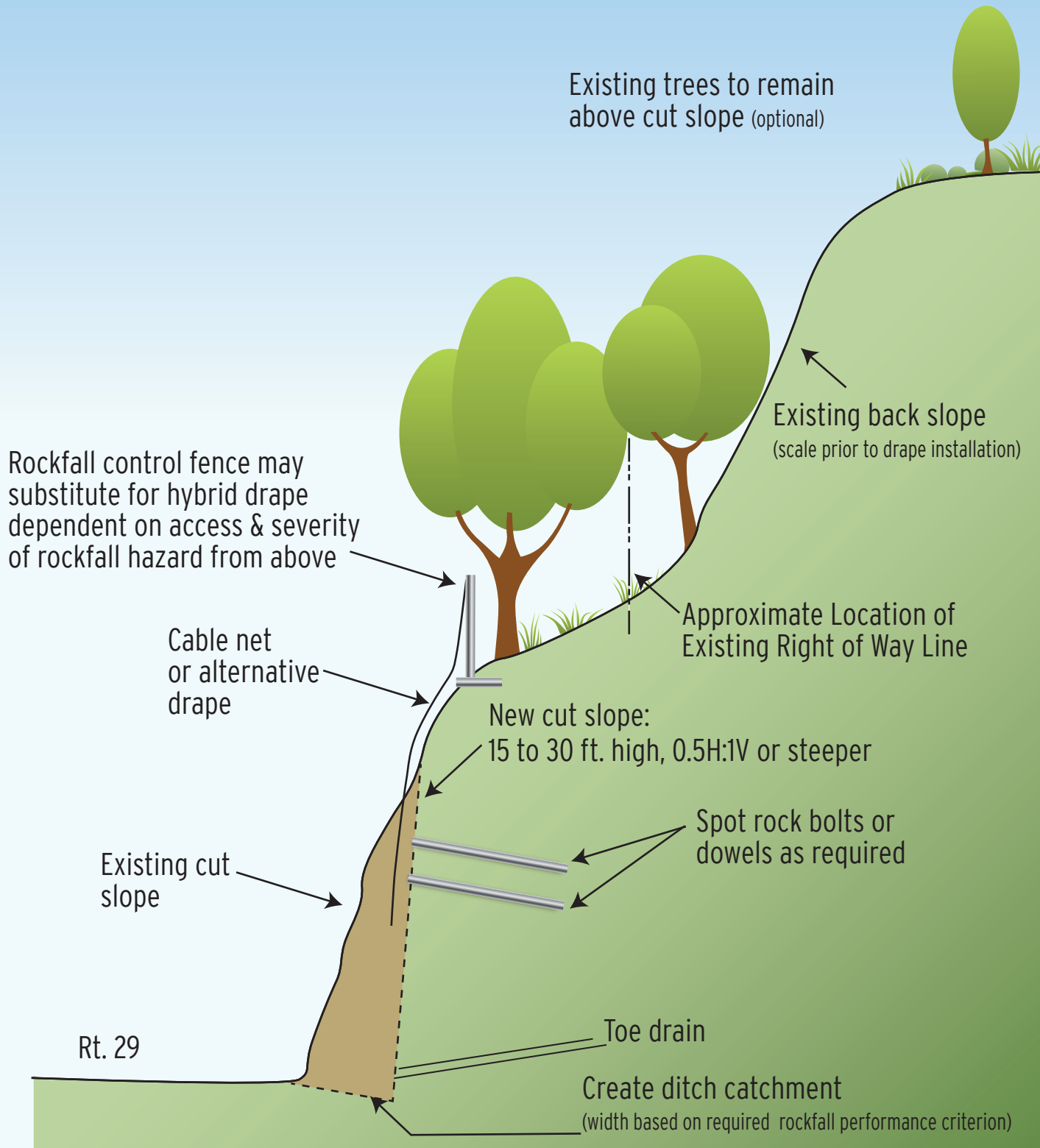


Street Name	NJ 12	
Jurisdiction	N.J.D.O.T.	
Functional Class	Rural Minor Arterial	
Federal Aid - NHS Sy	STP	
Control Section	1001	
Speed Limit	50	
Number of Lanes	3	2
Med. Type	None	
Med. Width	0	
Pavement	36	22
Shoulder	0	10
Traffic Volume	5,244 (2009)	7,196 (2009)
Traffic Sta. ID	5-4-311	5-4-312
Structure No.	1001150	1001152
Enlarged Views	1011153	

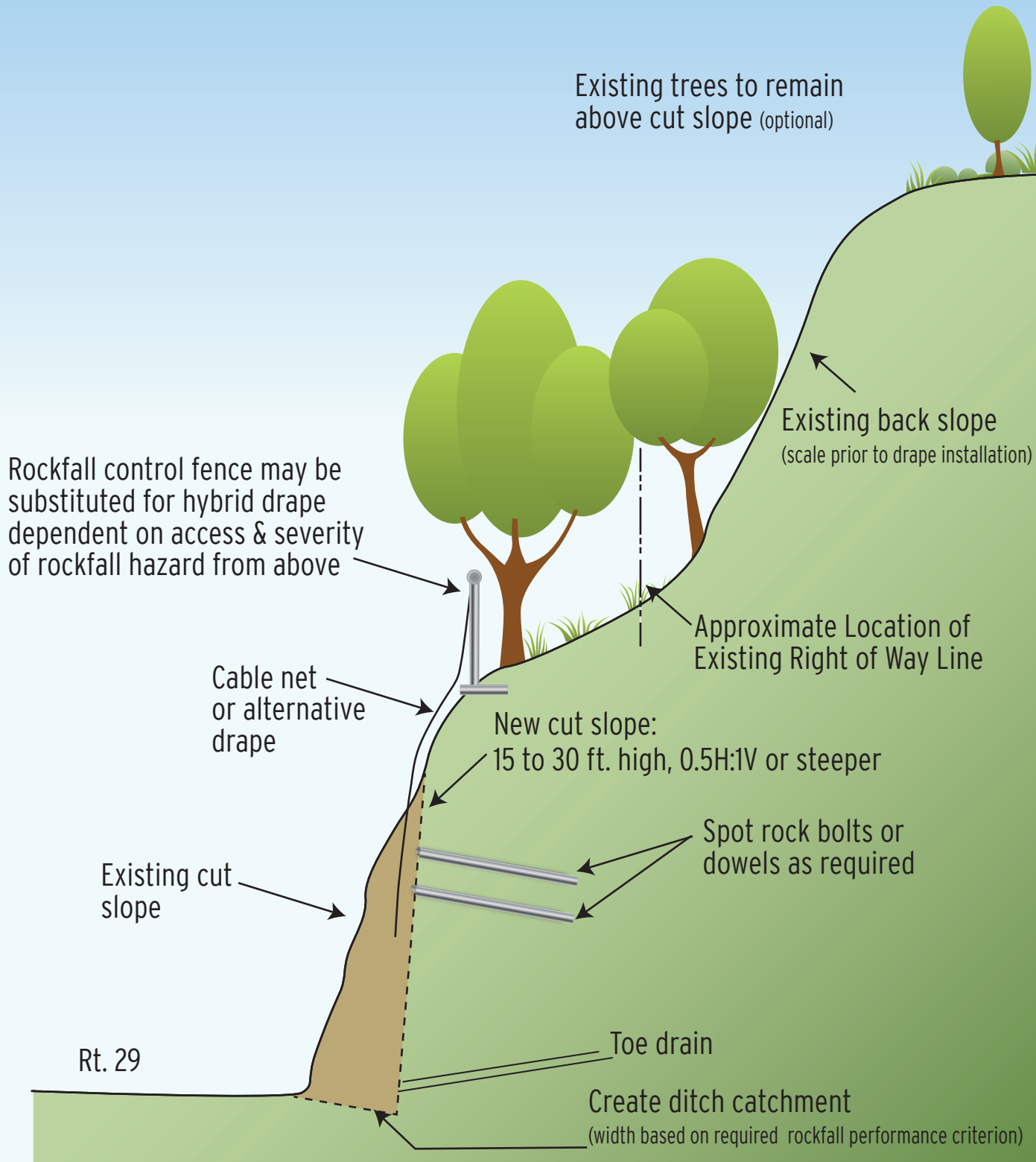
Appendix C

Preliminary Preferred Alternative

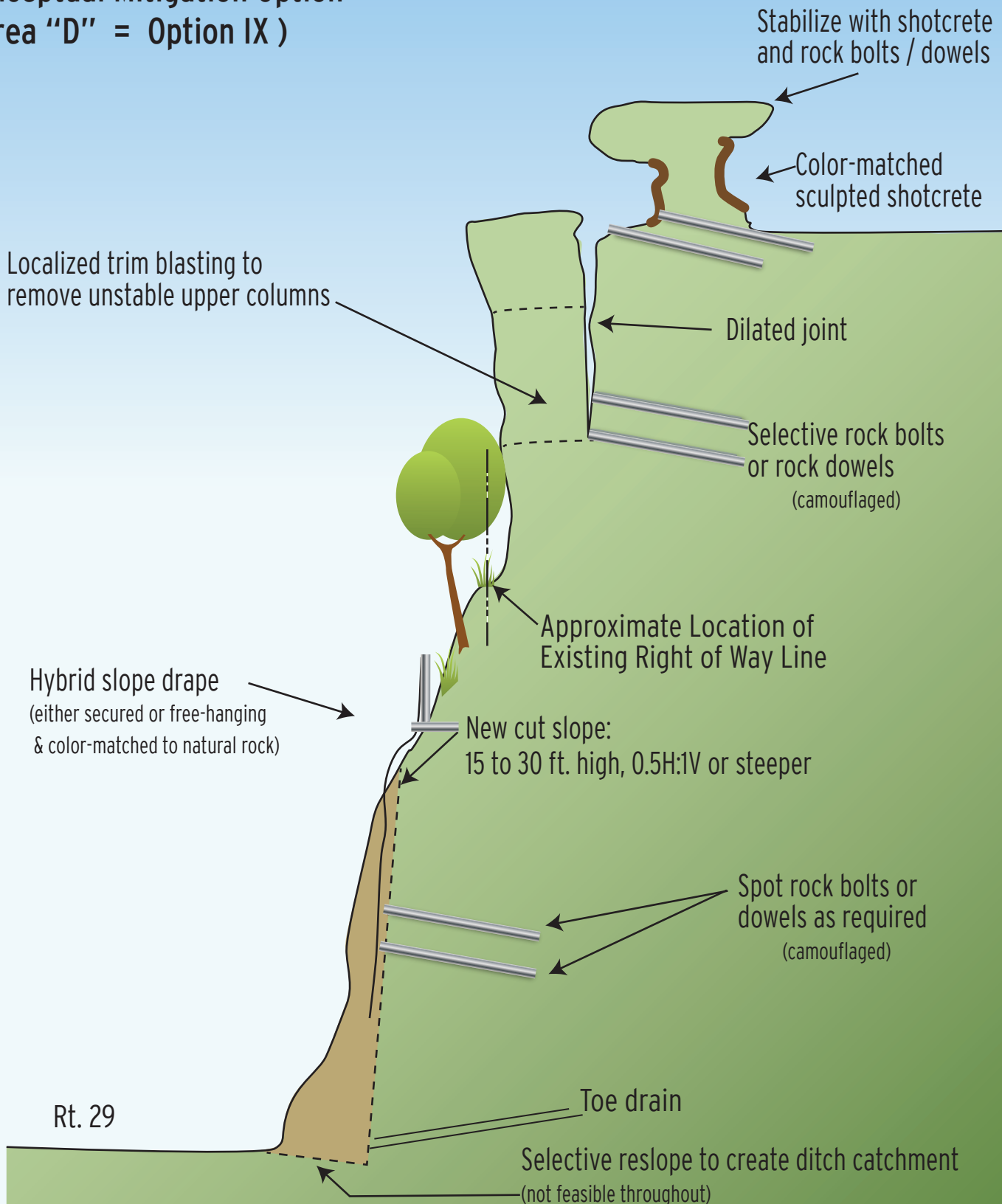
Preliminary Preferred Conceptual Mitigation Option (Area "A" = Option V)



Preliminary Preferred Conceptual Mitigation Option (Areas "B"+"C" = Option II)



Preliminary Preferred Conceptual Mitigation Option (Area "D" = Option IX)





STATE OF PENNSYLVANIA
STATE OF NEW JERSEY

DELAWARE RIVER

NOTE:
1. ALL MILEPOSTS SHOWN ARE APPROXIMATE.
2. EXISTING EASTERN ROW LINE IS SHOWN
100' FROM B.L. OF ROADWAY AS SHOWN ON
GENERAL PROPERTY PARCEL MAPS, MAY 1953.

NJ ROUTE 29



RT 29 ROCKFALL MITIGATION
TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

DESIGN INFLUENCE PLAN

NEW JERSEY DEPARTMENT OF TRANSPORTATION
DIVISION OF PROJECT MANAGEMENT

NOTE:
1. ALL MILEPOSTS SHOWN ARE APPROXIMATE.
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DELAWARE RIVER

STATE OF PENNSYLVANIA
STATE OF NEW JERSEY

M.P. 27.75 M.P. 27.80 M.P. 27.85 M.P. 27.90 M.P. 27.85 M.P. 28.00 M.P. 28.05 M.P. 28.10 M.P. 28.15 M.P. 28.20 M.P. 28.25 M.P. 28.30

NJ ROUTE 29

AREA C
MP 27.84 TO MP 28.50

TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

RT 29 ROCKFALL MITIGATION
TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

DESIGN INFLUENCE PLAN

NEW JERSEY DEPARTMENT OF TRANSPORTATION
DIVISION OF PROJECT MANAGEMENT

SCALE: 1"=200' FEBRUARY 2015 SHEET 2 OF 6

NOTE:
1. ALL MILEPOSTS SHOWN ARE APPROXIMATE.
2. EXISTING EASTERN ROW LINE IS SHOWN
100' FROM B.L. OF ROADWAY AS SHOWN ON
GENERAL PROPERTY PARCEL MAPS, MAY 1953.

DELAWARE RIVER

STATE OF PENNSYLVANIA
STATE OF NEW JERSEY

M.P. 28.30

M.P. 28.35

M.P. 28.40

M.P. 28.45

M.P. 28.50

M.P. 28.55

M.P. 28.60

M.P. 28.65

M.P. 28.70

M.P. 28.75

M.P. 28.80

M.P. 28.85

NJ ROUTE 29

AREA C

MP 27.84 TO MP 28.50

TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

RT 29 ROCKFALL MITIGATION
TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

DESIGN INFLUENCE PLAN

NEW JERSEY DEPARTMENT OF TRANSPORTATION
DIVISION OF PROJECT MANAGEMENT

SCALE: 1"=200' FEBRUARY 2015 SHEET 3 OF 6

NOTE:
1. ALL MILEPOSTS SHOWN ARE APPROXIMATE.
2. EXISTING EASTERN ROW LINE IS SHOWN
100' FROM B.L. OF ROADWAY AS SHOWN ON
GENERAL PROPERTY PARCEL MAPS, MAY 1953.



STATE OF PENNSYLVANIA
STATE OF NEW JERSEY

DELAWARE RIVER

M.P. 28.85 M.P. 28.90 M.P. 28.95 M.P. 29.00 M.P. 29.05 M.P. 29.10 M.P. 29.15 M.P. 29.20 M.P. 29.25 M.P. 29.30 M.P. 29.35 M.P. 29.40

NJ ROUTE 29

TUMBLE FALLS ROAD

TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

RT 29 ROCKFALL MITIGATION
TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

DESIGN INFLUENCE PLAN

NEW JERSEY DEPARTMENT OF TRANSPORTATION
DIVISION OF PROJECT MANAGEMENT

SCALE: 1"=200' FEBRUARY 2015 SHEET 4 OF 6

NOTE:
1. ALL MILEPOSTS SHOWN ARE APPROXIMATE.
2. EXISTING EASTERN ROW LINE IS SHOWN
100' FROM B.L. OF ROADWAY AS SHOWN ON
GENERAL PROPERTY PARCEL MAPS, MAY 1953.



RT 29 ROCKFALL MITIGATION
TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

DESIGN INFLUENCE PLAN

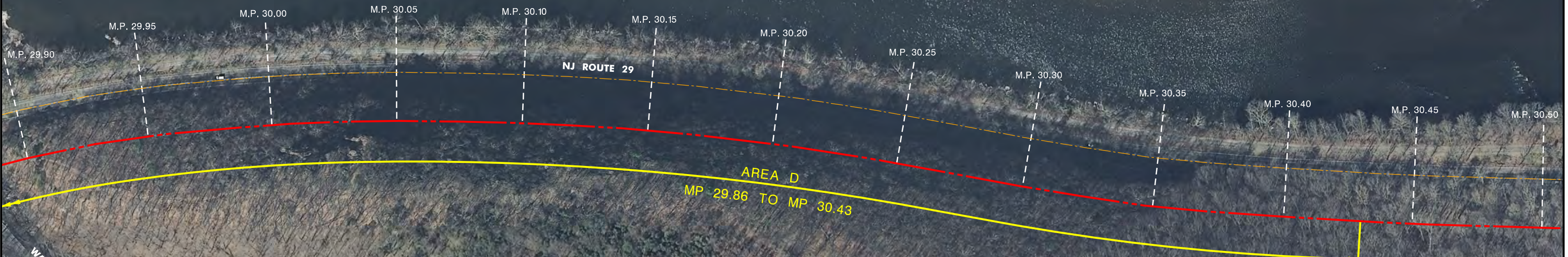
NEW JERSEY DEPARTMENT OF TRANSPORTATION
DIVISION OF PROJECT MANAGEMENT

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GENERAL PROPERTY PARCEL MAPS, MAY 1953.

N.J. PLANE POSITIONING SYSTEM

STATE OF PENNSYLVANIA
STATE OF NEW JERSEY

DELAWARE RIVER



TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

RT 29 ROCKFALL MITIGATION
TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

DESIGN INFLUENCE PLAN

NEW JERSEY DEPARTMENT OF TRANSPORTATION
DIVISION OF PROJECT MANAGEMENT

SCALE: 1"=200' FEBRUARY 2015 SHEET 6 OF 6

Appendix D

Structural Inventory & Appraisal Sheets

StructNum: 1008153

NJDOT SI and A Sheet

Name: ROUTE NJ 29 OVER DRAINAGE DITCH

S.R.: 84.8 **SD/FO-** N

IDENTIFICATION

1 State: 34 New Jersey 8 Struc Num: 1008153
 7 Facility Carried: ROUTE NJ 29 9 Location: 0.8 MILE N. OF 651
 5A Rte.(On/Under): 1-Route On Structure 5B Rte. Signing Prefix: 3 -State Hwy
 5C Level of Service: 1 -Mainline 5D Rte. Number: 00029
 5E Directional Suffix: 0- Not Applicable % Responsibility : NA
 2 SHD District: 02- Central 3 County Code: Hunterdon
 4 Place Code: Kingwood (Township of), 11 Mile Post: 27.460 mi
 6 Feature Intersected : DRAINAGE DIT
 16 Latitude: 40d 25' 24.03" 17 Longitude: 075d 03' 34.89"
 98 Border Bridge Code:
 99 Border Bridge Number:

INSPECTION

91 Frequency: 48 months 90 Inspection Date: 8/6/2013 Next Inspection: 08/06/2013
 92A FC Frequency: NA 93A FC Inspection Date: NA Next FC Inspection: NA
 92B UW Frequency: NA 93B UW Inspection Date: NA Next UW Inspection: NA
 92C SI Frequency: NA 93C SI Date: NA Next SI: NA
 Element Frequency: 48 months Element Inspection Date: 08/06/2013 Next Elem. Insp. Due: 08/06/2013

CLASSIFICATION

100 STRAHNET Highway: 0 -Not a STRAHNET hwy 101 Parallel Structure: N -No || bridge exists
 102 Direction of Traffic: 2 -2-way traffic 103 Temporary Structure: _ Blank
 104 Highway System: 0 -Not on NHS 112 NBIS Length: N - Too Short
 20 Toll Facility: 3 -On free road 26 Functional Class: 06-Rural Minor Arterial
 37 Historical Significance: 5 -Not eligible for NRHP
 22 Owner: 01 NJDOT
 21 Custodian: 01 NJDOT

STRUCTURE TYPE AND MATERIALS

46 Number of Approach Spans : 0 45 Number of Spans Main Unit: 1
 43A/B Main Span Material/Design:
 3 -Steel 19 Culvert(inc frm culv)
 107 Deck Type: N-N/A (NBI)
 108A Wearing Surface: N- N/A (no deck (NBI))
 108B Membrane: N -N/A (no deck (NBI))
 108C Deck Protection: N- N/A (no deck (NBI))

CONDITION

58 Deck: N -Not Applicable 59 Super: N -Not Applicable 60 Sub: N -Not Applicable
 62 Culvert: 5 -Moderate Damage 61 Channel/Channel Protection: 5 -Bank Prot Eroded

LOAD RATING AND POSTING

65 Inventory Rating Method: 0-Field eval & doc enr 63 Operating Rating Method: 0-Field eval.& doc.eng
 66 Inventory Rating: HS99.9 64 Operating Rating: HS99.9
 31 Design Load: 0 - Unknown 70 Posting: 5 At/Above Legal Loads
 41 Posting status: A -Open, no restriction

AGE AND SERVICE

27 Year Built: 1959 106 Year Reconstructed:
 42A Type of Service On: 1 -Highway
 42B Type of Service Under: 5 -Waterway
 28A Lanes on: 2 28B Lanes Under: 0 19 Detour Length: 7.0 mi
 29 ADT: 1,960 109 Truck ADT: 4 % 30 Year of ADT: 2013

APPRAISAL

36A Bridge Rail: 0 -Substandard 36C Approach Rail: 0 -Substandard
 36B Transition: 0 -Substandard 36D Approach Rail Ends: 0 -Substandard
 67 Str. Evaluation: 5 68 Deck Geometry: N Not applicable
 69 Underclearance, Vertical and Horizontal: N -Not applicable
 71 Waterway Adequacy: 6 -Equal Minimum 72 Approach Alignment: 8 -Equal Desirable Crit
 113 Scour Critical: 4 -Stable, needs action

GEOMETRIC DATA

48 Length Max Span: 0.0 ft 49 Structure Length: 9.0 ft
 50A Curb/Sdwk Wdh L: 0.0 ft 50B Curb/Sidewalk Width R: 0.0 ft
 Width Curb to Curb 51: 0.0 ft 52 Width Out to Out: 0.0 ft
 32 Approach Roadway Width: 43 ft 33 Median: 0 No median (w/ shoulders)
 Deck Area:
 34 Skew: 20.00 ° 35 Structure Flared: 0 -No flare
 53 Minimum Vertical Clearance Over Bridge: 9999
 54A Minimum Vertical Underclearance Reference: N -Feature not hwy or RR
 54B Minimum Vertical Underclearance: 0.00 ft
 55A Minimum Lateral Underclearance Reference R: N -Feature not hwy or RR
 55B Minimum Lateral Underclearance R: 0.00 ft
 56 Minimum Lateral Underclearance L: 0.00 ft

PROPOSED IMPROVEMENTS

94 Bridge Cost: 75 Type of Work: -1
 95 Roadway Cost: 76 Length of Improvement: -3 ft
 96 Total Cost: 114 Future ADT: 2,340
 97 Year of Cost Estimate: 115 Year of Future ADT: 2033

NAVIGATION DATA

38 Navigation Control: N N -N/A-No waterway
 39 Vertical Clearance: 0.0 ft 40 Horizontal Clearance: 0.0 ft
 111 Pier Protection: 116 Lift Bridge Vertical Clearance:

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
0	240/3	Steel Culvert	(LF)	77	0 %	0	0 %	0	91 %	70	9 %	7	0 %	0
0	334/3	Metal Rail Coated	(LF)	18	100 %	18	0 %	0	0 %	0	0 %	0	0 %	0
0	361/3	Scour Smart Flag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
0	363/3	Section Loss SmFlag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
0	508/3	Wingwalls - Culvert	(LF)	24	0 %	0	58 %	14	42 %	10	0 %	0	0 %	0
0	509/3	Headwalls - Culvert	(LF)	11	0 %	0	55 %	6	45 %	5	0 %	0	0 %	0

StructNum: 1008153

NJDOT SI and A Sheet

NJDOT BRIDGE FIELDS

(V1.2)

Brkey: 1008153 Inspkey

GENERAL

(A) Town: Kingwood Twp.
 (AA) Route: 29
 (AD) Admin: -1
 (AE) Alt Agency: -1 _

COUNTER MEASURES

(FI) Recommended:
 (FJ) Cost:
 (FK) Installed: 1 _ 2 _ 3 _
 (FL) Monitoring Reqcd: _

TEMPORARY STRUCTURES

(GV) Bridge: N
 (GW) Shoring: N
 (GX) Reports: N
 (GY) Measures: N
 (GZ) Cond Desc: -1

STRUCTURE AND APPURTENANCES

(AC) Non-Inv Feature: WW Rdwy and/or RR /wtrwy
 (AF) Alt Struct #:
 (AG) Rail Type: 19 Appr rdwy guide rail
 (AH) Rail Height:: 3.28
 (AJ) Slope Protection: _ None
 (AK) Abutment: _ None
 (AL) Pier: _ None (1 Span E
 (AM) Depth of Fill: 9.84
 (AP) Fender System: _ None
 (AT) Special Material 1: _
 (AT) Special Material 2: _
 (AU) Add Struct: 1 _
 2 _
 (AV) Widen Stru: Material Design
 1st Widen _ _
 2nd Widen _ _

PROJECT PROGRAMMING

(HB) Bridge List ID: XL3B_
 (HC) Consultant B01
 (HD) 2-Cy Insp Contr: N
 (HE) Proceed Date: I 1/1/1901
 II 1/1/1901
 (HF) State Proj Mgr: MKP

LOAD RATINGS

Type	Inv	Opr
H (BQ)		(CA)
HS (BR)	99	(CB) 99
3 (BS)	99	(CC) 99
3S2 (BT)	99	(CD) 99
3-3 (BU)	99	(CE) 99
M (BV)	--	(CF)
Misc (CH1)	E	
(CH2)		

BRIDGE NOISE BARRIER (HA)

Material 1: _
 2: _
 Height 1: _
 2: _

FUNDING AND COST

(BL) Discretionary: -
 (BM) Fed Job #:
 (BN) State Job #: 2205189
 (BO) St Maint Cost: 0
 (BP) Brdg Demo N

PAINTING

(GB) Environment:
 (GR) Last Painting: 01/1901
 (GA) Painting Req: N

MISCELLANEOUS

(CQ) Bridge List: X
 (BK) Overstress %:
 (FV) Route Milepost: 027.46
 (FM) Incident Reprtd:
 (AO) Utilities: 1:
 2: _
 3: _
 4: _
 (CR) Off-Route Bridge: N
 (BB) Orphan Bridge: N
 (AN) Plan Available: Y
 (FX) Fed Error Uncorr N
 (FW) Estimated ADT N

SCOUR EVALUATION

(FA) FHWA Category: 03
 (FB) Stage 1 Date: 1/1/1901
 (FC) Stage 1 Consultant:
 (FD) Prioritization: -
 (FE) Sufficiency: 0
 (FF) Date Stage II 1/1/1901
 (FG) Stage II Consultant: -1
 (FH) Crit. Element: -1

FENCING

(AQ) Chain Link:
 (FN) Warranted: N

SIGN STRUCTURES

(GS) Overhead:
 (GT) Cantilever:
 (GU) Fascia Mounted:

POSTINGS

(CG) Load Type: -
 (CG) Tons
 (AI) Speed:

RAILROAD

(BC) USRA Code:
 (BD 1) Rail On/Under:
 (BD2) RRs intersected:
 (BE) Rail Milepost:

StructNum: 1008153

NJDOT SI and A Sheet

NJDOT INSPECTION FIELDS

(V1.2)

<p>GENERAL</p> <p>(CI) Cycle Number: 4 (CJ) Insp Type: S (CK) Inspection Crew: J (CM) Consultant: B01 (CO) Prev Consultant: I12 (CP) Federal Report: L</p>	<p>MISCELLANEOUS</p> <p>(B) Deletion Code: N (BA) Apr Rdwy Cond: 6</p>	<p>REMARKS</p> <p>(BF) Deck: 1: _ 2: _ 3: _ 4: _ 5: _</p> <p>(BG) Super: 1: _ 2: _ 3: _</p> <p>(BH) Sub: 1: _ 2: _ 3: _</p> <p>(BI) Channel C (BJ) Culvert Z</p>	<p>PAINTING</p> <p>(GD) Fascia Beam: (GE) Fascia B. Flange: (GF) Interior Beam: (GH) Interior B. Flange: (GI) Beam Ends: (GJ) Connections: (GK) Bracings: (GL) Bearings: (GM) Substructure: (GN) Above Deck Super: (GO) Railings/Fence: (GP) Remarks 1: (GQ) Remarks 2:</p>
<p>INSPECTION DATES</p> <p>(AW) Mech/Electrical: 1/1/1901 (AX) Deck: 1/1/1901 (AY) Special Testing: 1/1/1901 (GC) Paint: 1/1/1901</p> <p>(AR) Equipment: 1: _ 2: _ 3: _</p> <p>(AS) Testing: 1: _ 2: _ 3: _</p>	<p>FATIGUE DETAIL (AZ)</p> <p>Location 1: _ Location 2: _ Location 3: _</p>	<p>FENCING</p> <p>(FO) Pedestrian Traffic: N (FP) Improvement Cost: \$ 0 Thousands</p>	
	<p>IN-DEPTH PIN-HANGER</p> <p>(FR) Consultant: _ (FS)</p> <p>(FT) Combo: N (FQ) FCM/Pin-Hngr Insp Date: 1/1/1901</p>		

ROADWAY DATA

Bridge Id: 1008153
SRI 00000029__

(V1.2)

<p>ROADWAY IDENTIFICATION</p> <p>NBI Roadway?: 1 Roadway Name: ROUTE NJ 29 Item 5A: 1 Item 5B: 3 Item 5C: 1 Item 5D: 00029 Item 5E: 0</p>	<p>TRAFFIC AND ACCIDENTS</p> <p>28 Lanes : 2 Num Median: 0 Road Speed: 50 mph ADTclass: 03 29 ADTtotal: 1960 30 Year of ADT: 2013 114 Future ADT: 2340 115 Year of Future ADT: 2033 109 Truck ADTT % : 4 19 Bypass Length: 7.00 mi Detour Speed: 30 mph</p>
<p>HWY NETWORKS AND SERVICE CLASSIFICATION</p> <p>11 Milepost: 27.460 mi 12 Base Hwy Network: 1 20 Toll Facility: 3 13A LRS Inventory Route 00000029__ Subroute No.: 00 26 Functional Class: 06 102 TraffDirection: 2</p>	<p>CLEARANCES</p> <p>10 Vertical Clearance: 99.99 ft 47 Invent Route Horiz Clear: 47.00 ft (DJ) Min Vert Undcrlr:</p>
<p>ALTERNATE CLASSIFICATION</p> <p>100 Strahnet Hwy: 0 Transit Rt: 0 104 NHS System: 0 Emergency 0 105 Fed. Lands Hwy: 0 110 Truck Hwy Net: 0 School Bus: 0</p>	<p>WIDTHS</p> <p>32 Appr Rdwy Width: 43 ft 51 Brdg Rdwy With Curb-Curb: 0.0 ft</p>

StructNum: 1008154

NJDOT SI and A Sheet

Name: ROUTE NJ 29 OVER STREAM

S.R.: 96.7 **SD/FO-** N

IDENTIFICATION

1 State: 34 New Jersey 8 Struc Num: 1008154
 7 Facility Carried: ROUTE NJ 29 9 Location: 1.48 M. N.OF RT 519(SPUR)
 5A Rte.(On/Under): 1-Route On Structure 5B Rte. Signing Prefix: 3 -State Hwy
 5C Level of Service: 1 -Mainline 5D Rte. Number: 00029
 5E Directional Suffix: 0- Not Applicable % Responsibility : NA
 2 SHD District: 02- Central 3 County Code: Hunterdon
 4 Place Code: Kingwood, Hunterdon 11 Mile Post: 27.910 mi
 6 Feature Intersected : STREAM
 16 Latitude: 40d 25' 48.00" 17 Longitude: 075d 03' 37.80"
 98 Border Bridge Code:
 99 Border Bridge Number:

INSPECTION

91 Frequency: 48 months 90 Inspection Date: 8/5/2013 Next Inspection: 08/05/2017
 92A FC Frequency: NA 93A FC Inspection Date: NA Next FC Inspection: NA
 92B UW Frequency: NA 93B UW Inspection Date: NA Next UW Inspection: NA
 92C SI Frequency: NA 93C SI Date: NA Next SI: NA
 Element Frequency: 48 months Element Inspection Date: 08/05/2013 Next Elem. Insp. Due: 08/05/2017

CLASSIFICATION

100 STRAHNET Highway: 0 -Not a STRAHNET hwy 101 Parallel Structure: N -No || bridge exists
 102 Direction of Traffic: 2 -2-way traffic 103 Temporary Structure: _ Blank
 104 Highway System: 0 -Not on NHS 112 NBIS Length: N - Too Short
 20 Toll Facility: 3 -On free road 26 Functional Class: 06-Rural Minor Arterial
 37 Historical Significance: 5 -Not eligible for NRHP
 22 Owner: 01 NJDOT
 21 Custodian: 01 NJDOT

STRUCTURE TYPE AND MATERIALS

46 Number of Approach Spans : 0 45 Number of Spans Main Unit: 1
 43A/B Main Span Material/Design:
 3 -Steel 19 Culvert(inc frm culv)
 107 Deck Type: N-N/A (NBI)
 108A Wearing Surface: N- N/A (no deck (NBI))
 108B Membrane: N -N/A (no deck (NBI))
 108C Deck Protection: N- N/A (no deck (NBI))

CONDITION

58 Deck: N -Not Applicable 59 Super: N -Not Applicable 60 Sub: N -Not Applicable
 62 Culvert: 6 -Deterioration 61 Channel/Channel Protection: 7 -Minor Damage

LOAD RATING AND POSTING

65 Inventory Rating Method: 0-Field eval & doc enr 63 Operating Rating Method: 0-Field eval.& doc.eng
 66 Inventory Rating: HS45.0 64 Operating Rating: HS60.0
 31 Design Load: 0 - Unknown 70 Posting: 5 At/Above Legal Loads
 41 Posting status: A -Open, no restriction

AGE AND SERVICE

27 Year Built: 1959 106 Year Reconstructed:
 42A Type of Service On: 1 -Highway
 42B Type of Service Under: 5 -Waterway
 28A Lanes on: 2 28B Lanes Under: 0 19 Detour Length: 2.0 mi
 29 ADT: 1,960 109 Truck ADT: 4 % 30 Year of ADT: 2013

APPRAISAL

36A Bridge Rail: 0 -Substandard 36C Approach Rail: 0 -Substandard
 36B Transition: 0 -Substandard 36D Approach Rail Ends: 0 -Substandard
 67 Str. Evaluation: 6 68 Deck Geometry: N Not applicable
 69 Underclearance, Vertical and Horizontal: N -Not applicable
 71 Waterway Adequacy: 8 -Equal Desirable 72 Approach Alignment: 8 -Equal Desirable Crit
 113 Scour Critical: 8 -Stable Above Footing

GEOMETRIC DATA

48 Length Max Span: 6.0 ft 49 Structure Length: 6.0 ft
 50A Curb/Sdwk Wdth L: 0.0 ft 50B Curb/Sidewalk Width R: 0.0 ft
 Width Curb to Curb 51: 0.0 ft 52 Width Out to Out: 0.0 ft
 32 Approach Roadway Width: 40 ft 33 Median: 0 No median (w/ shoulders)
 Deck Area:
 34 Skew: 0.00 ° 35 Structure Flared: 0 -No flare
 53 Minimum Vertical Clearance Over Bridge: 9999
 54A Minimum Vertical Underclearance Reference: N -Feature not hwy or RR
 54B Minimum Vertical Underclearance: 0.00 ft
 55A Minimum Lateral Underclearance Reference R: N -Feature not hwy or RR
 55B Minimum Lateral Underclearance R: 0.00 ft
 56 Minimum Lateral Underclearance L: 0.00 ft

PROPOSED IMPROVEMENTS

94 Bridge Cost: 75 Type of Work: -1
 95 Roadway Cost: 76 Length of Improvement: -3 ft
 96 Total Cost: 114 Future ADT: 2,290
 97 Year of Cost Estimate: 115 Year of Future ADT: 2033

NAVIGATION DATA

38 Navigation Control: N N -N/A-No waterway
 39 Vertical Clearance: 0.0 ft 40 Horizontal Clearance: 0.0 ft
 111 Pier Protection: 116 Lift Bridge Vertical Clearance:

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
0	240/3	Steel Culvert	(LF)	74	0 %	0	100 %	74	0 %	0	0 %	0	0 %	0
0	334/3	Metal Rail Coated	(LF)	12	100 %	12	0 %	0	0 %	0	0 %	0	0 %	0
0	508/3	Wingwalls - Culvert	(LF)	56	93 %	52	0 %	0	7 %	4	0 %	0	0 %	0
0	509/3	Headwalls - Culvert	(LF)	14	100 %	14	0 %	0	0 %	0	0 %	0	0 %	0

StructNum: 1008154

NJDOT SI and A Sheet

NJDOT BRIDGE FIELDS

(V1.2)

Brkey: 1008154 Inspkey

GENERAL

(A) Town: Kingwood Twp.
 (AA) Route: 29
 (AD) Admin: -1
 (AE) Alt Agency: -1 _

COUNTER MEASURES

(FI) Recommended:
 (FJ) Cost:
 (FK) Installed: 1 _ 2 _ 3 _
 (FL) Monitoring Reqcd: _

TEMPORARY STRUCTURES

(GV) Bridge: N
 (GW) Shoring: N
 (GX) Reports: N
 (GY) Measures: N
 (GZ) Cond Desc: -1

STRUCTURE AND APPURTENANCES

(AC) Non-Inv Feature: WW Rdwy and/or RR /wtrwy
 (AF) Alt Struct #:
 (AG) Rail Type: 19 Appr rdwy guide rail
 (AH) Rail Height:
 (AJ) Slope Protection: _ None
 (AK) Abutment: _ None
 (AL) Pier: _ None (1 Span E)
 (AM) Depth of Fill: 3.28
 (AP) Fender System: _ None
 (AT) Special Material 1: _
 (AT) Special Material 2: _
 (AU) Add Struct: 1 _
 2 _
 (AV) Widen Stru: Material Design
 1st Widen _ _
 2nd Widen _ _

PROJECT PROGRAMMING

(HB) Bridge List ID: XL3B_
 (HC) Consultant B01
 (HD) 2-Cy Insp Contr: N
 (HE) Proceed Date: I 1/1/1901
 II 1/1/1901
 (HF) State Proj Mgr: MKP

LOAD RATINGS

Type	Inv	Opr
H (BQ)		(CA)
HS (BR)	45	(CB) 60
3 (BS)	31	(CC) 41
3S2 (BT)	50	(CD) 67
3-3 (BU)	50	(CE) 67
M (BV)	--	(CF)
Misc (CH1)	E	
(CH2)		

BRIDGE NOISE BARRIER (HA)

Material 1: _
 2: _
 Height 1: _
 2: _

MISCELLANEOUS

(CQ) Bridge List: X
 (BK) Overstress %:
 (FV) Route Milepost: 027.91
 (FM) Incident Reprtd:
 (AO) Utilities: 1:
 2: _
 3: _
 4: _
 (CR) Off-Route Bridge: N
 (BB) Orphan Bridge: N
 (AN) Plan Available: N
 (FX) Fed Error Uncorr N
 (FW) Estimated ADT N

FUNDING AND COST

(BL) Discretionary: _
 (BM) Fed Job #:
 (BN) State Job #: 2205189
 (BO) St Maint Cost: 0
 (BP) Brdg Demo N

PAINTING

(GB) Environment:
 (GR) Last Painting: 01/1901
 (GA) Painting Req: N

FENCING

(AQ) Chain Link:
 (FN) Warranted: N

SCOUR EVALUATION

(FA) FHWA Category: 03
 (FB) Stage 1 Date: 1/1/1901
 (FC) Stage 1 Consultant:
 (FD) Prioritization: _
 (FE) Sufficiency: 0
 (FF) Date Stage II 1/1/1901
 (FG) Stage II Consultant: -1
 (FH) Crit. Element: -1

SIGN STRUCTURES

(GS) Overhead:
 (GT) Cantilever:
 (GU) Fascia Mounted:

POSTINGS

(CG) Load Type: _
 (CG) Tons
 (AI) Speed:

RAILROAD

(BC) USRA Code:
 (BD 1) Rail On/Under:
 (BD2) RRs intersected:
 (BE) Rail Milepost:

StructNum: 1008154

NJDOT SI and A Sheet

NJDOT INSPECTION FIELDS

(V1.2)

GENERAL (CI) Cycle Number: 4 (CJ) Insp Type: S (CK) Inspection Crew: J (CM) Consultant: B01 (CO) Prev Consultant: I12 (CP) Federal Report: L	MISCELLANEOUS (B) Deletion Code: N (BA) Apr Rdwy Cond: 7	REMARKS (BF) Deck: 1: _ 2: _ 3: _ 4: _ 5: _ (BG) Super: 1: _ 2: _ 3: _ (BH) Sub: 1: _ 2: _ 3: _ (BI) Channel: _ (BJ) Culvert: Z	PAINTING (GD) Fascia Beam: (GE) Fascia B. Flange: (GF) Interior Beam: (GH) Interior B. Flange: (GI) Beam Ends: (GJ) Connections: (GK) Bracings: (GL) Bearings: (GM) Substructure: (GN) Above Deck Super: (GO) Railings/Fence: (GP) Remarks 1: (GQ) Remarks 2:
INSPECTION DATES (AW) Mech/Electrical: 1/1/1901 (AX) Deck: 1/1/1901 (AY) Special Testing: 1/1/1901 (GC) Paint: 1/1/1901 (AR) Equipment: 1: _ 2: _ 3: _ (AS) Testing: 1: _ 2: _ 3: _	FATIGUE DETAIL (AZ) Location 1: _ Location 2: _ Location 3: _	FENCING (FO) Pedestrian Traffic: N (FP) Improvement Cost: \$ 0 Thousands	
	IN-DEPTH PIN-HANGER (FR) Consultant: _ (FS) (FT) Combo: N (FQ) FCM/Pin-Hngr Insp Date: 1/1/1901		

ROADWAY DATA

Bridge Id: 1008154
SRI 00000029__

(V1.2)

ROADWAY IDENTIFICATION NBI Roadway?: 1 Roadway Name: ROUTE NJ 29 Item 5A: 1 Item 5B: 3 Item 5C: 1 Item 5D: 00029 Item 5E: 0	TRAFFIC AND ACCIDENTS 28 Lanes : 2 Num Median: 0 Road Speed: 50 mph ADTclass: 03 29 ADTtotal: 1960 30 Year of ADT: 2013 114 Future ADT: 2290 115 Year of Future ADT: 2033 109 Truck ADTT % : 4 19 Bypass Length: 2.00 mi Detour Speed: 35 mph
HWY NETWORKS AND SERVICE CLASSIFICATION 11 Milepost: 27.910 mi 12 Base Hwy Network: 1 20 Toll Facility: 3 13A LRS Inventory Route 00000029__ Subroute No.: 00 26 Functional Class: 06 102 TraffDirection: 2	CLEARANCES 10 Vertical Clearance: 99.99 ft 47 Invent Route Horiz Clear: 40.00 ft (DJ) Min Vert Undcrlr:
ALTERNATE CLASSIFICATION 100 Strahnet Hwy: 0 Transit Rt: 0 104 NHS System: 0 Emergency 0 105 Fed. Lands Hwy: 0 110 Truck Hwy Net: 0 School Bus: 0	WIDTHS 32 Appr Rdwy Width: 40 ft 51 Brdg Rdwy With Curb-Curb: 0.0 ft

StructNum: 1008155

NJDOT SI and A Sheet

Name: ROUTE NJ 29 OVER STREAM

S.R.: 85.7 **SD/FO-** N

IDENTIFICATION

1 State: 34 New Jersey 8 Struc Num: 1008155
 7 Facility Carried: ROUTE NJ 29 9 Location: 1.6 MI. N.OF RT 651
 5A Rte.(On/Under): 1-Route On Structure 5B Rte. Signing Prefix: 3 -State Hwy
 5C Level of Service: 1 -Mainline 5D Rte. Number: 00029
 5E Directional Suffix: 0- Not Applicable % Responsibility : NA
 2 SHD District: 02- Central 3 County Code: Hunterdon
 4 Place Code: Kingwood, Hunterdon 11 Mile Post: 28.450 mi
 6 Feature Intersected : STREAM
 16 Latitude: 40d 26' 18.31" 17 Longitude: 075d 03' 45.67"
 98 Border Bridge Code:
 99 Border Bridge Number:

INSPECTION

91 Frequency: 48 months 90 Inspection Date: 8/4/2013 Next Inspection: 08/04/2017
 92A FC Frequency: NA 93A FC Inspection Date: NA Next FC Inspection: NA
 92B UW Frequency: NA 93B UW Inspection Date: NA Next UW Inspection: NA
 92C SI Frequency: NA 93C SI Date: NA Next SI: NA
 Element Frequency: 48 months Element Inspection Date: 08/04/2013 Next Elem. Insp. Due: 08/04/2017

CLASSIFICATION

100 STRAHNET Highway: 0 -Not a STRAHNET hwy 101 Parallel Structure: N -No || bridge exists
 102 Direction of Traffic: 2 -2-way traffic 103 Temporary Structure: _ Blank
 104 Highway System: 0 -Not on NHS 112 NBIS Length: N - Too Short
 20 Toll Facility: 3 -On free road 26 Functional Class: 06-Rural Minor Arterial
 37 Historical Significance: 5 -Not eligible for NRHP
 22 Owner: 01 NJDOT
 21 Custodian: 01 NJDOT

STRUCTURE TYPE AND MATERIALS

46 Number of Approach Spans : 0 45 Number of Spans Main Unit: 1
 43A/B Main Span Material/Design:
 3 -Steel 19 Culvert(inc frm culv)
 107 Deck Type: N-N/A (NBI)
 108A Wearing Surface: N- N/A (no deck (NBI))
 108B Membrane: N -N/A (no deck (NBI))
 108C Deck Protection: N- N/A (no deck (NBI))

CONDITION

58 Deck: N -Not Applicable 59 Super: N -Not Applicable 60 Sub: N -Not Applicable
 62 Culvert: 5 -Moderate Damage 61 Channel/Channel Protection: 8 -Protected

LOAD RATING AND POSTING

65 Inventory Rating Method: 0-Field eval & doc enr 63 Operating Rating Method: 0-Field eval.& doc.eng
 66 Inventory Rating: HS99.9 64 Operating Rating: HS99.9
 31 Design Load: 0 - Unknown 70 Posting: 5 At/Above Legal Loads
 41 Posting status: A -Open, no restriction

AGE AND SERVICE

27 Year Built: 1959 106 Year Reconstructed:
 42A Type of Service On: 1 -Highway
 42B Type of Service Under: 5 -Waterway
 28A Lanes on: 2 28B Lanes Under: 0 19 Detour Length: 2.0 mi
 29 ADT: 1,960 109 Truck ADT: 4 % 30 Year of ADT: 2013

APPRAISAL

36A Bridge Rail: 0 -Substandard 36C Approach Rail: 0 -Substandard
 36B Transition: 0 -Substandard 36D Approach Rail Ends: 0 -Substandard
 67 Str. Evaluation: 5 68 Deck Geometry: N Not applicable
 69 Underclearance, Vertical and Horizontal: N -Not applicable
 71 Waterway Adequacy: 8 -Equal Desirable 72 Approach Alignment: 8 -Equal Desirable Crit
 113 Scour Critical: 4 -Stable, needs action

GEOMETRIC DATA

48 Length Max Span: 7.0 ft 49 Structure Length: 7.0 ft
 50A Curb/Sdwk Wdh L: 0.0 ft 50B Curb/Sidewalk Width R: 0.0 ft
 Width Curb to Curb 51: 0.0 ft 52 Width Out to Out: 0.0 ft
 32 Approach Roadway Width: 44 ft 33 Median: 0 No median (w/ shoulders)
 Deck Area:
 34 Skew: 0.00 ° 35 Structure Flared: 0 -No flare
 53 Minimum Vertical Clearance Over Bridge: 9999
 54A Minimum Vertical Underclearance Reference: N -Feature not hwy or RR
 54B Minimum Vertical Underclearance: 0.00 ft
 55A Minimum Lateral Underclearance Reference R: N -Feature not hwy or RR
 55B Minimum Lateral Underclearance R: 0.00 ft
 56 Minimum Lateral Underclearance L: 0.00 ft

PROPOSED IMPROVEMENTS

94 Bridge Cost: 75 Type of Work: -1
 95 Roadway Cost: 76 Length of Improvement: -3 ft
 96 Total Cost: 114 Future ADT: 2,340
 97 Year of Cost Estimate: 115 Year of Future ADT: 2033

NAVIGATION DATA

38 Navigation Control: N N -N/A-No waterway
 39 Vertical Clearance: 0.0 ft 40 Horizontal Clearance: 0.0 ft
 111 Pier Protection: 116 Lift Bridge Vertical Clearance:

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
0	240/3	Steel Culvert	(LF)	106	0 %	0	0 %	0	100 %	106	0 %	0	0 %	0
0	334/3	Metal Rail Coated	(LF)	14	100 %	14	0 %	0	0 %	0	0 %	0	0 %	0
0	361/3	Scour Smart Flag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
0	508/3	Wingwalls - Culvert	(LF)	24	67 %	16	33 %	8	0 %	0	0 %	0	0 %	0
0	509/3	Headwalls - Culvert	(LF)	14	80 %	11	20 %	3	0 %	0	0 %	0	0 %	0

StructNum: 1008155

NJDOT SI and A Sheet

NJDOT BRIDGE FIELDS

(V1.2)

Brkey: 1008155 Inspkey

GENERAL

(A) Town: Kingwood Twp.
 (AA) Route: 29
 (AD) Admin: -1
 (AE) Alt Agency: -1 _

COUNTER MEASURES

(FI) Recommended:
 (FJ) Cost:
 (FK) Installed: 1 _ 2 _ 3 _
 (FL) Monitoring Req'd: _

TEMPORARY STRUCTURES

(GV) Bridge: N
 (GW) Shoring: N
 (GX) Reports: N
 (GY) Measures: N
 (GZ) Cond Desc: -1

STRUCTURE AND APPURTENANCES

(AC) Non-Inv Feature: WW Rdwy and/or RR /wtrwy
 (AF) Alt Struct #:
 (AG) Rail Type: 19 Appr rdwy guide rail
 (AH) Rail Height:: 3.28
 (AJ) Slope Protection: _ None
 (AK) Abutment: _ None
 (AL) Pier: _ None (1 Span E)
 (AM) Depth of Fill: 13.12
 (AP) Fender System: _ None
 (AT) Special Material 1: _
 (AT) Special Material 2: _
 (AU) Add Struct: 1 _
 2 _
 (AV) Widen Stru: Material Design
 1st Widen _ _
 2nd Widen _ _

PROJECT PROGRAMMING

(HB) Bridge List ID: XL3B_
 (HC) Consultant B01
 (HD) 2-Cy Insp Contr: N
 (HE) Proceed Date: I 1/1/1901
 II 1/1/1901
 (HF) State Proj Mgr: MKP

LOAD RATINGS

Type	Inv	Opr
H (BQ)	99	(CA) 99
HS (BR)	99	(CB) 99
3 (BS)	99	(CC) 99
3S2 (BT)	99	(CD) 99
3-3 (BU)	99	(CE) 99
M (BV)	--	(CF)
Misc (CH1)	E	
(CH2)		

BRIDGE NOISE BARRIER (HA)

Material 1: _
 2: _
 Height 1: _
 2: _

FUNDING AND COST

(BL) Discretionary: _
 (BM) Fed Job #: _
 (BN) State Job #: 2205189
 (BO) St Maint Cost: 0
 (BP) Brdg Demo N

PAINTING

(GB) Environment:
 (GR) Last Painting: 01/1901
 (GA) Painting Req: N

MISCELLANEOUS

(CQ) Bridge List: X
 (BK) Overstress %:
 (FV) Route Milepost: 028.45
 (FM) Incident Reprtd:
 (AO) Utilities: 1:
 2: _
 3: _
 4: _
 (CR) Off-Route Bridge: N
 (BB) Orphan Bridge: N
 (AN) Plan Available: N
 (FX) Fed Error Uncorr N
 (FW) Estimated ADT N

SCOUR EVALUATION

(FA) FHWA Category: 03
 (FB) Stage 1 Date: 1/1/1901
 (FC) Stage 1 Consultant:
 (FD) Prioritization: _
 (FE) Sufficiency: 0
 (FF) Date Stage II 1/1/1901
 (FG) Stage II Consultant: -1
 (FH) Crit. Element: -1

FENCING

(AQ) Chain Link:
 (FN) Warranted: N

SIGN STRUCTURES

(GS) Overhead:
 (GT) Cantilever:
 (GU) Fascia Mounted:

POSTINGS

(CG) Load Type: _
 (CG) Tons
 (AI) Speed:

RAILROAD

(BC) USRA Code:
 (BD 1) Rail On/Under:
 (BD2) RRs intersected:
 (BE) Rail Milepost:

StructNum: 1008155

NJDOT SI and A Sheet

NJDOT INSPECTION FIELDS

(V1.2)

GENERAL (CI) Cycle Number: 4 (CJ) Insp Type: S (CK) Inspection Crew: J (CM) Consultant: B01 (CO) Prev Consultant: I12 (CP) Federal Report: L	MISCELLANEOUS (B) Deletion Code: N (BA) Apr Rdwy Cond: 6	REMARKS (BF) Deck: 1: _ 2: _ 3: _ 4: _ 5: _ (BG) Super: 1: _ 2: _ 3: _ (BH) Sub: 1: _ 2: _ 3: _ (BI) Channel: _ (BJ) Culvert: J	PAINTING (GD) Fascia Beam: (GE) Fascia B. Flange: (GF) Interior Beam: (GH) Interior B. Flange: (GI) Beam Ends: (GJ) Connections: (GK) Bracings: (GL) Bearings: (GM) Substructure: (GN) Above Deck Super: (GO) Railings/Fence: (GP) Remarks 1: (GQ) Remarks 2:
INSPECTION DATES (AW) Mech/Electrical: 1/1/1901 (AX) Deck: 1/1/1901 (AY) Special Testing: 1/1/1901 (GC) Paint: 1/1/1901 (AR) Equipment: 1: _ 2: _ 3: _ (AS) Testing: 1: _ 2: _ 3: _	FATIGUE DETAIL (AZ) Location 1: _ Location 2: _ Location 3: _	FENCING (FO) Pedestrian Traffic: N (FP) Improvement Cost: \$ 0 Thousands	
	IN-DEPTH PIN-HANGER (FR) Consultant: _ (FS) (FT) Combo: N (FQ) FCM/Pin-Hngr Insp Date: 1/1/1901		

ROADWAY DATA

Bridge Id: 1008155
SRI 00000029__

(V1.2)

ROADWAY IDENTIFICATION NBI Roadway?: 1 Roadway Name: ROUTE NJ 29 Item 5A: 1 Item 5B: 3 Item 5C: 1 Item 5D: 00029 Item 5E: 0	TRAFFIC AND ACCIDENTS 28 Lanes : 2 Num Median: 0 Road Speed: 50 mph ADTclass: 03 29 ADTtotal: 1960 30 Year of ADT: 2013 114 Future ADT: 2340 115 Year of Future ADT: 2033 109 Truck ADTT % : 4 19 Bypass Length: 2.00 mi Detour Speed: 30 mph
HWY NETWORKS AND SERVICE CLASSIFICATION 11 Milepost: 28.450 mi 12 Base Hwy Network: 1 20 Toll Facility: 3 13A LRS Inventory Route 00000029__ Subroute No.: 00 26 Functional Class: 06 102 TraffDirection: 2	CLEARANCES 10 Vertical Clearance: 99.99 ft 47 Invent Route Horiz Clear: 44.00 ft (DJ) Min Vert Undclr:
ALTERNATE CLASSIFICATION 100 Strahnet Hwy: 0 Transit Rt: 0 104 NHS System: 0 Emergency 0 105 Fed. Lands Hwy: 0 110 Truck Hwy Net: 0 School Bus: 0	WIDTHS 32 Appr Rdwy Width: 44 ft 51 Brdg Rdwy With Curb-Curb: 0.0 ft

StructNum: 1008156

NJDOT SI and A Sheet

Name: ROUTE NJ 29 OVER STREAM

S.R.: 85.7 SD/FO- N

IDENTIFICATION

1 State: 34 New Jersey 8 Struc Num: 1008156
7 Facility Carried: ROUTE NJ 29 9 Location: 1.96 M.N.OF RTE 519(SPUR)
5A Rte.(On/Under): 1-Route On Structure 5B Rte. Signing Prefix: 3 -State Hwy
5C Level of Service: 1 -Mainline 5D Rte. Number: 00029
5E Directional Suffix: 0- Not Applicable % Responsibility : NA
2 SHD District: 02- Central 3 County Code: Hunterdon
4 Place Code: Kingwood, Hunterdon 11 Mile Post: 28.790 mi
6 Feature Intersected : STREAM
16 Latitude: 40d 26' 33.25" 17 Longitude: 075d 03' 50.02"
98 Border Bridge Code:
99 Border Bridge Number:

INSPECTION

91 Frequency: 48 months 90 Inspection Date: 8/4/2013 Next Inspection: 08/04/2017
92A FC Frequency: NA 93A FC Inspection Date: NA Next FC Inspection: NA
92B UW Frequency: NA 93B UW Inspection Date: NA Next UW Inspection: NA
92C SI Frequency: NA 93C SI Date: NA Next SI: NA
Element Frequency: 48 months Element Inspection Date: 08/04/2013 Next Elem. Insp. Due: 08/04/2017

CLASSIFICATION

100 STRAHNET Highway: 0 -Not a STRAHNET hwy 101 Parallel Structure: N -No || bridge exists
102 Direction of Traffic: 2 -2-way traffic 103 Temporary Structure: _ Blank
104 Highway System: 0 -Not on NHS 112 NBIS Length: N - Too Short
20 Toll Facility: 3 -On free road 26 Functional Class: 06-Rural Minor Arterial
37 Historical Significance: 5 -Not eligible for NRHP
22 Owner: 01 NJDOT
21 Custodian: 01 NJDOT

STRUCTURE TYPE AND MATERIALS

46 Number of Approach Spans : 0 45 Number of Spans Main Unit: 1
43A/B Main Span Material/Design:
3 -Steel 19 Culvert(inc frm culv)
107 Deck Type: N-N/A (NBI)
108A Wearing Surface: N- N/A (no deck (NBI))
108B Membrane: N -N/A (no deck (NBI))
108C Deck Protection: N- N/A (no deck (NBI))

CONDITION

58 Deck: N -Not Applicable 59 Super: N -Not Applicable 60 Sub: N -Not Applicable
62 Culvert: 5 -Moderate Damage 61 Channel/Channel Protection: 6 -Bank Slumping

LOAD RATING AND POSTING

65 Inventory Rating Method: 0-Field eval & doc enr 63 Operating Rating Method: 0-Field eval.& doc.eng
66 Inventory Rating: HS99.9 64 Operating Rating: HS99.9
31 Design Load: 0 - Unknown 70 Posting: 5 At/Above Legal Loads
41 Posting status: A -Open, no restriction

AGE AND SERVICE

27 Year Built: 1959 106 Year Reconstructed:
42A Type of Service On: 1 -Highway
42B Type of Service Under: 5 -Waterway
28A Lanes on: 2 28B Lanes Under: 0 19 Detour Length: 2.0 mi
29 ADT: 1,960 109 Truck ADT: 4 % 30 Year of ADT: 2013

APPRAISAL

36A Bridge Rail: 0 -Substandard 36C Approach Rail: 0 -Substandard
36B Transition: 0 -Substandard 36D Approach Rail Ends: 0 -Substandard
67 Str. Evaluation: 5 68 Deck Geometry: N Not applicable
69 Underclearance, Vertical and Horizontal: N -Not applicable
71 Waterway Adequacy: 8 -Equal Desirable 72 Approach Alignment: 8 -Equal Desirable Crit
113 Scour Critical: 5 -Stable w/in footing

GEOMETRIC DATA

48 Length Max Span: 7.0 ft 49 Structure Length: 7.0 ft
50A Curb/Sdwk Wdh L: 0.0 ft 50B Curb/Sidewalk Width R: 0.0 ft
Width Curb to Curb 51: 0.0 ft 52 Width Out to Out: 0.0 ft
32 Approach Roadway Width: 44 ft 33 Median: 0 No median (w/ shoulders)
Deck Area:
34 Skew: 20.00 ° 35 Structure Flared: 0 -No flare
53 Minimum Vertical Clearance Over Bridge: 9999
54A Minimum Vertical Underclearance Reference: N -Feature not hwy or RR
54B Minimum Vertical Underclearance: 0.00 ft
55A Minimum Lateral Underclearance Reference R: N -Feature not hwy or RR
55B Minimum Lateral Underclearance R: 0.00 ft
56 Minimum Lateral Underclearance L: 0.00 ft

PROPOSED IMPROVEMENTS

94 Bridge Cost: 75 Type of Work: -1
95 Roadway Cost: 76 Length of Improvement: -3 ft
96 Total Cost: 114 Future ADT: 2,340
97 Year of Cost Estimate: 115 Year of Future ADT: 2033

NAVIGATION DATA

38 Navigation Control: N N -N/A-No waterway
39 Vertical Clearance: 0.0 ft 40 Horizontal Clearance: 0.0 ft
111 Pier Protection: 116 Lift Bridge Vertical Clearance:

ELEMENT CONDITION STATE DATA

Table with 15 columns: Str Unit, Elm/Env, Description, Units, Total Qty, % in 1, Qty. St. 1, % in 2, Qty. St. 2, % in 3, Qty. St. 3, % in 4, Qty. St. 4, % in 5, Qty. St. 5. Rows include Steel Culvert, Metal Rail Coated, Scour Smart Flag, Section Loss SmFlag, Wingwalls - Culvert, and Headwalls - Culvert.

StructNum: 1008156

NJDOT SI and A Sheet

NJDOT BRIDGE FIELDS

(V1.2)

Brkey: 1008156 Inspkey

GENERAL

(A) Town: Kingwood Twp.
 (AA) Route: 29
 (AD) Admin: -1
 (AE) Alt Agency: -1 _

COUNTER MEASURES

(FI) Recommended:
 (FJ) Cost:
 (FK) Installed: 1 _ 2 _ 3 _
 (FL) Monitoring Reqcd: _

TEMPORARY STRUCTURES

(GV) Bridge: N
 (GW) Shoring: N
 (GX) Reports: N
 (GY) Measures: N
 (GZ) Cond Desc: -1

STRUCTURE AND APPURTENANCES

(AC) Non-Inv Feature: WW Rdwy and/or RR /wtrwy
 (AF) Alt Struct #:
 (AG) Rail Type: 19 Appr rdwy guide rail
 (AH) Rail Height::
 (AJ) Slope Protection: _ None
 (AK) Abutment: _ None
 (AL) Pier: _ None (1 Span E
 (AM) Depth of Fill: 16.40
 (AP) Fender System: _ None
 (AT) Special Material 1: _
 (AT) Special Material 2: _
 (AU) Add Struct: 1 _
 2 _
 (AV) Widen Stru: Material Design
 1st Widen _ _
 2nd Widen _ _

PROJECT PROGRAMMING

(HB) Bridge List ID: XL3B_
 (HC) Consultant B01
 (HD) 2-Cy Insp Contr: N
 (HE) Proceed Date: I 1/1/1901
 II 1/1/1901
 (HF) State Proj Mgr: MKP

LOAD RATINGS

Type	Inv	Opr
H (BQ)		(CA)
HS (BR)	99	(CB) 99
3 (BS)	99	(CC) 99
3S2 (BT)	99	(CD) 99
3-3 (BU)	99	(CE) 99
M (BV)	--	(CF)
Misc (CH1)	E	
(CH2)		

BRIDGE NOISE BARRIER (HA)

Material 1: _
 2: _
 Height 1: _
 2: _

FUNDING AND COST

(BL) Discretionary: _
 (BM) Fed Job #:
 (BN) State Job #: 2205189
 (BO) St Maint Cost: 0
 (BP) Brdg Demo N

PAINTING

(GB) Environment:
 (GR) Last Painting: 01/1901
 (GA) Painting Req: N

MISCELLANEOUS

(CQ) Bridge List: X
 (BK) Overstress %:
 (FV) Route Milepost: 028.79
 (FM) Incident Reprtd:
 (AO) Utilities: 1:
 2: _
 3: _
 4: _
 (CR) Off-Route Bridge: N
 (BB) Orphan Bridge: N
 (AN) Plan Available: N
 (FX) Fed Error Uncorr N
 (FW) Estimated ADT N

SCOUR EVALUATION

(FA) FHWA Category: 03
 (FB) Stage 1 Date: 1/1/1901
 (FC) Stage 1 Consultant:
 (FD) Prioritization: _
 (FE) Sufficiency: 0
 (FF) Date Stage II 1/1/1901
 (FG) Stage II Consultant: -1
 (FH) Crit. Element: -1

FENCING

(AQ) Chain Link:
 (FN) Warranted: N

SIGN STRUCTURES

(GS) Overhead:
 (GT) Cantilever:
 (GU) Fascia Mounted:

POSTINGS

(CG) Load Type: _
 (CG) Tons
 (AI) Speed:

RAILROAD

(BC) USRA Code:
 (BD 1) Rail On/Under:
 (BD2) RRs intersected:
 (BE) Rail Milepost:

StructNum: 1008156

NJDOT SI and A Sheet

NJDOT INSPECTION FIELDS

(V1.2)

GENERAL (CI) Cycle Number: 4 (CJ) Insp Type: S (CK) Inspection Crew: J (CM) Consultant: B01 (CO) Prev Consultant: I12 (CP) Federal Report: L	MISCELLANEOUS (B) Deletion Code: N (BA) Apr Rdwy Cond: 6	REMARKS (BF) Deck: 1: _ 2: _ 3: _ 4: _ 5: _ (BG) Super: 1: _ 2: _ 3: _ (BH) Sub: 1: _ 2: _ 3: _ (BI) Channel: _ (BJ) Culvert: J	PAINTING (GD) Fascia Beam: (GE) Fascia B. Flange: (GF) Interior Beam: (GH) Interior B. Flange: (GI) Beam Ends: (GJ) Connections: (GK) Bracings: (GL) Bearings: (GM) Substructure: (GN) Above Deck Super: (GO) Railings/Fence: (GP) Remarks 1: (GQ) Remarks 2:
INSPECTION DATES (AW) Mech/Electrical: 1/1/1901 (AX) Deck: 1/1/1901 (AY) Special Testing: 1/1/1901 (GC) Paint: 1/1/1901 (AR) Equipment: 1: _ 2: _ 3: _ (AS) Testing: 1: _ 2: _ 3: _	FATIGUE DETAIL (AZ) Location 1: _ Location 2: _ Location 3: _	FENCING (FO) Pedestrian Traffic: N (FP) Improvement Cost: \$ 0 Thousands	
	IN-DEPTH PIN-HANGER (FR) Consultant: _ (FS) (FT) Combo: N (FQ) FCM/Pin-Hngr Insp Date: 1/1/1901		

ROADWAY DATA

Bridge Id: 1008156
SRI 00000029__

(V1.2)

ROADWAY IDENTIFICATION NBI Roadway?: 1 Roadway Name: ROUTE NJ 29 Item 5A: 1 Item 5B: 3 Item 5C: 1 Item 5D: 00029 Item 5E: 0	TRAFFIC AND ACCIDENTS 28 Lanes : 2 Num Median: 0 Road Speed: 50 mph ADTclass: 03 29 ADTtotal: 1960 30 Year of ADT: 2013 114 Future ADT: 2340 115 Year of Future ADT: 2033 109 Truck ADTT % : 4 19 Bypass Length: 2.00 mi Detour Speed: 35 mph
HWY NETWORKS AND SERVICE CLASSIFICATION 11 Milepost: 28.790 mi 12 Base Hwy Network: 1 20 Toll Facility: 3 13A LRS Inventory Route 00000029__ Subroute No.: 00 26 Functional Class: 06 102 TraffDirection: 2	CLEARANCES 10 Vertical Clearance: 99.99 ft 47 Invent Route Horiz Clear: 44.00 ft (DJ) Min Vert Undclr:
ALTERNATE CLASSIFICATION 100 Strahnet Hwy: 0 Transit Rt: 0 104 NHS System: 0 Emergency: 0 105 Fed. Lands Hwy: 0 110 Truck Hwy Net: 0 School Bus: 0	WIDTHS 32 Appr Rdwy Width: 44 ft 51 Brdg Rdwy With Curb-Curb: 0.0 ft

StructNum: 1008157

NJDOT SI and A Sheet

Name: ROUTE NJ 29 OVER STREAM

S.R.: 85.7 **SD/FO-** N

IDENTIFICATION

1 State: 34 New Jersey 8 Struc Num: 1008157
 7 Facility Carried: ROUTE NJ 29 9 Location: 2.17 M.N.OF RT 519(SPUR)
 5A Rte.(On/Under): 1-Route On Structure 5B Rte. Signing Prefix: 3 -State Hwy
 5C Level of Service: 1 -Mainline 5D Rte. Number: 00029
 5E Directional Suffix: 0- Not Applicable % Responsibility : NA
 2 SHD District: 02- Central 3 County Code: Hunterdon
 4 Place Code: Kingwood, Hunterdon 11 Mile Post: 28.980 mi
 6 Feature Intersected : STREAM
 16 Latitude: 40d 26' 43.48" 17 Longitude: 075d 03' 51.81"
 98 Border Bridge Code:
 99 Border Bridge Number:

INSPECTION

91 Frequency: 48 months 90 Inspection Date: 8/4/2013 Next Inspection: 08/04/2017
 92A FC Frequency: NA 93A FC Inspection Date: NA Next FC Inspection: NA
 92B UW Frequency: NA 93B UW Inspection Date: NA Next UW Inspection: NA
 92C SI Frequency: NA 93C SI Date: NA Next SI: NA
 Element Frequency: 48 months Element Inspection Date: 08/04/2013 Next Elem. Insp. Due: 08/04/2017

CLASSIFICATION

100 STRAHNET Highway: 0 -Not a STRAHNET hwy 101 Parallel Structure: N -No || bridge exists
 102 Direction of Traffic: 2 -2-way traffic 103 Temporary Structure: _ Blank
 104 Highway System: 0 -Not on NHS 112 NBIS Length: N - Too Short
 20 Toll Facility: 3 -On free road 26 Functional Class: 06-Rural Minor Arterial
 37 Historical Significance: 5 -Not eligible for NRHP
 22 Owner: 01 NJDOT
 21 Custodian: 01 NJDOT

STRUCTURE TYPE AND MATERIALS

46 Number of Approach Spans : 0 45 Number of Spans Main Unit: 1
 43A/B Main Span Material/Design:
 3 -Steel 19 Culvert(inc frm culv)
 107 Deck Type: N-N/A (NBI)
 108A Wearing Surface: N- N/A (no deck (NBI))
 108B Membrane: N -N/A (no deck (NBI))
 108C Deck Protection: N- N/A (no deck (NBI))

CONDITION

58 Deck: N -Not Applicable 59 Super: N -Not Applicable 60 Sub: N -Not Applicable
 62 Culvert: 5 -Moderate Damage 61 Channel/Channel Protection: 5 -Bank Prot Eroded

LOAD RATING AND POSTING

65 Inventory Rating Method: 0-Field eval & doc enr 63 Operating Rating Method: 0-Field eval.& doc.eng
 66 Inventory Rating: HS99.9 64 Operating Rating: HS99.9
 31 Design Load: 0 - Unknown 70 Posting: 5 At/Above Legal Loads
 41 Posting status: A -Open, no restriction

AGE AND SERVICE

27 Year Built: 1959 106 Year Reconstructed:
 42A Type of Service On: 1 -Highway
 42B Type of Service Under: 5 -Waterway
 28A Lanes on: 2 28B Lanes Under: 0 19 Detour Length: 2.0 mi
 29 ADT: 1,960 109 Truck ADT: 4 % 30 Year of ADT: 2013

APPRAISAL

36A Bridge Rail: 0 -Substandard 36C Approach Rail: 0 -Substandard
 36B Transition: 0 -Substandard 36D Approach Rail Ends: 0 -Substandard
 67 Str. Evaluation: 5 68 Deck Geometry: N Not applicable
 69 Underclearance, Vertical and Horizontal: N -Not applicable
 71 Waterway Adequacy: 8 -Equal Desirable 72 Approach Alignment: 8 -Equal Desirable Crit
 113 Scour Critical: 5 -Stable w/in footing

GEOMETRIC DATA

48 Length Max Span: 6.0 ft 49 Structure Length: 6.0 ft
 50A Curb/Sdwk Wdth L: 0.0 ft 50B Curb/Sidewalk Width R: 0.0 ft
 Width Curb to Curb 51: 0.0 ft 52 Width Out to Out: 0.0 ft
 32 Approach Roadway Width: 42 ft 33 Median: 0 No median (w/ shoulders)
 Deck Area:
 34 Skew: 0.00 ° 35 Structure Flared: 0 -No flare
 53 Minimum Vertical Clearance Over Bridge: 9999
 54A Minimum Vertical Underclearance Reference: N -Feature not hwy or RR
 54B Minimum Vertical Underclearance: 0.00 ft
 55A Minimum Lateral Underclearance Reference R: N -Feature not hwy or RR
 55B Minimum Lateral Underclearance R: 0.00 ft
 56 Minimum Lateral Underclearance L: 0.00 ft

PROPOSED IMPROVEMENTS

94 Bridge Cost: 75 Type of Work: -1
 95 Roadway Cost: 76 Length of Improvement: -3 ft
 96 Total Cost: 114 Future ADT: 2,340
 97 Year of Cost Estimate: 115 Year of Future ADT: 2033

NAVIGATION DATA

38 Navigation Control: N N -N/A-No waterway
 39 Vertical Clearance: 0.0 ft 40 Horizontal Clearance: 0.0 ft
 111 Pier Protection: 116 Lift Bridge Vertical Clearance:

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
0	240/3	Steel Culvert	(LF)	115	0 %	0	0 %	0	100 %	115	0 %	0	0 %	0
0	334/3	Metal Rail Coated	(LF)	12	100 %	12	0 %	0	0 %	0	0 %	0	0 %	0
0	361/3	Scour Smart Flag	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
0	363/3	Section Loss SmFlag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
0	508/3	Wingwalls - Culvert	(LF)	20	100 %	20	0 %	0	0 %	0	0 %	0	0 %	0
0	509/3	Headwalls - Culvert	(LF)	6	100 %	6	0 %	0	0 %	0	0 %	0	0 %	0

NJDOT BRIDGE FIELDS

(V1.2)

Brkey: 1008157 Inspkey

GENERAL

(A) Town: Kingwood Twp.
 (AA) Route: 29
 (AD) Admin: -1
 (AE) Alt Agency: -1 _

COUNTER MEASURES

(FI) Recommended:
 (FJ) Cost:
 (FK) Installed: 1 _ 2 _ 3 _
 (FL) Monitoring Reqcd: _

TEMPORARY STRUCTURES

(GV) Bridge: N
 (GW) Shoring: N
 (GX) Reports: N
 (GY) Measures: N
 (GZ) Cond Desc: -1

STRUCTURE AND APPURTENANCES

(AC) Non-Inv Feature: WW Rdwy and/or RR /wtrwy
 (AF) Alt Struct #:
 (AG) Rail Type: 19 Appr rdwy guide rail
 (AH) Rail Height::
 (AJ) Slope Protection: _ None
 (AK) Abutment: _ None
 (AL) Pier: _ None (1 Span E
 (AM) Depth of Fill: 16.40
 (AP) Fender System: _ None
 (AT) Special Material 1: _
 (AT) Special Material 2: _
 (AU) Add Struct: 1 _
 2 _
 (AV) Widen Stru: Material Design
 1st Widen _ _
 2nd Widen _ _

PROJECT PROGRAMMING

(HB) Bridge List ID: XL3B_
 (HC) Consultant B01
 (HD) 2-Cy Insp Contr: N
 (HE) Proceed Date: I 1/1/1901
 II 1/1/1901
 (HF) State Proj Mgr: MKP

LOAD RATINGS

Type	Inv	Opr
H (BQ)		(CA)
HS (BR)	99	(CB) 99
3 (BS)	99	(CC) 99
3S2 (BT)	99	(CD) 99
3-3 (BU)	99	(CE) 99
M (BV)	--	(CF)
Misc (CH1)	E	
(CH2)		

BRIDGE NOISE BARRIER (HA)

Material 1: _
 2: _
 Height 1: _
 2: _

FUNDING AND COST

(BL) Discretionary: -
 (BM) Fed Job #:
 (BN) State Job #: 2205189
 (BO) St Maint Cost: 0
 (BP) Brdg Demo N

PAINTING

(GB) Environment:
 (GR) Last Painting: 01/1901
 (GA) Painting Req: N

MISCELLANEOUS

(CQ) Bridge List: X
 (BK) Overstress %:
 (FV) Route Milepost: 029.98
 (FM) Incident Reprtd:
 (AO) Utilities: 1:
 2: _
 3: _
 4: _
 (CR) Off-Route Bridge: N
 (BB) Orphan Bridge: N
 (AN) Plan Available: N
 (FX) Fed Error Uncorr N
 (FW) Estimated ADT N

SCOUR EVALUATION

(FA) FHWA Category: 03
 (FB) Stage 1 Date: 1/1/1901
 (FC) Stage 1 Consultant:
 (FD) Prioritization: -
 (FE) Sufficiency: 0
 (FF) Date Stage II 1/1/1901
 (FG) Stage II Consultant: -1
 (FH) Crit. Element: -1

FENCING

(AQ) Chain Link:
 (FN) Warranted: N

SIGN STRUCTURES

(GS) Overhead:
 (GT) Cantilever:
 (GU) Fascia Mounted:

POSTINGS

(CG) Load Type: -
 (CG) Tons
 (AI) Speed:

RAILROAD

(BC) USRA Code:
 (BD 1) Rail On/Under:
 (BD2) RRs intersected:
 (BE) Rail Milepost:

StructNum: 1008157

NJDOT SI and A Sheet

NJDOT INSPECTION FIELDS

(V1.2)

GENERAL (CI) Cycle Number: 4 (CJ) Insp Type: S (CK) Inspection Crew: J (CM) Consultant: B01 (CO) Prev Consultant: I12 (CP) Federal Report: L	MISCELLANEOUS (B) Deletion Code: N (BA) Apr Rdwy Cond: 6	REMARKS (BF) Deck: 1: _ 2: _ 3: _ 4: _ 5: _ (BG) Super: 1: _ 2: _ 3: _ (BH) Sub: 1: _ 2: _ 3: _ (BI) Channel: D (BJ) Culvert: J	PAINTING (GD) Fascia Beam: (GE) Fascia B. Flange: (GF) Interior Beam: (GH) Interior B. Flange: (GI) Beam Ends: (GJ) Connections: (GK) Bracings: (GL) Bearings: (GM) Substructure: (GN) Above Deck Super: (GO) Railings/Fence: (GP) Remarks 1: (GQ) Remarks 2:
INSPECTION DATES (AW) Mech/Electrical: 1/1/1901 (AX) Deck: 1/1/1901 (AY) Special Testing: 1/1/1901 (GC) Paint: 1/1/1901 (AR) Equipment: 1: _ 2: _ 3: _ (AS) Testing: 1: _ 2: _ 3: _	FATIGUE DETAIL (AZ) Location 1: _ Location 2: _ Location 3: _	FENCING (FO) Pedestrian Traffic: N (FP) Improvement Cost: \$ 0 Thousands	
	IN-DEPTH PIN-HANGER (FR) Consultant: _ (FS) (FT) Combo: N (FQ) FCM/Pin-Hngr Insp Date: 1/1/1901		

ROADWAY DATA

Bridge Id: 1008157
SRI 00000029__

(V1.2)

ROADWAY IDENTIFICATION NBI Roadway?: 1 Roadway Name: ROUTE NJ 29 Item 5A: 1 Item 5B: 3 Item 5C: 1 Item 5D: 00029 Item 5E: 0	TRAFFIC AND ACCIDENTS 28 Lanes : 2 Num Median: 0 Road Speed: 50 mph ADTclass: 03 29 ADTtotal: 1960 30 Year of ADT: 2013 114 Future ADT: 2340 115 Year of Future ADT: 2033 109 Truck ADTT % : 4 19 Bypass Length: 2.00 mi Detour Speed: 35 mph
HWY NETWORKS AND SERVICE CLASSIFICATION 11 Milepost: 28.980 mi 12 Base Hwy Network: 1 20 Toll Facility: 3 13A LRS Inventory Route 00000029__ Subroute No.: 00 26 Functional Class: 06 102 TraffDirection: 2	CLEARANCES 10 Vertical Clearance: 99.99 ft 47 Invent Route Horiz Clear: 42.00 ft (DJ) Min Vert Undcrlr:
ALTERNATE CLASSIFICATION 100 Strahnet Hwy: 0 Transit Rt: 0 104 NHS System: 0 Emergency 0 105 Fed. Lands Hwy: 0 110 Truck Hwy Net: 0 School Bus: 0	WIDTHS 32 Appr Rdwy Width: 42 ft 51 Brdg Rdwy With Curb-Curb: 0.0 ft

StructNum: 1008158

NJDOT SI and A Sheet

Name: ROUTE NJ 29 OVER STREAM AT TUMBLE FALLS ROAD **S.R.:** 84.8 **SD/FO-** N

IDENTIFICATION

1 State: 34 New Jersey 8 Struc Num: 1008158
 7 Facility Carried: ROUTE NJ 29 9 Location: 2.6 M.N OF RT 519 (SPUR)
 5A Rte.(On/Under): 1-Route On Structure 5B Rte. Signing Prefix: 3 -State Hwy
 5C Level of Service: 1 -Mainline 5D Rte. Number: 00029
 5E Directional Suffix: 0- Not Applicable % Responsibility : NA
 2 SHD District: 02- Central 3 County Code: Hunterdon
 4 Place Code: Kingwood, Hunterdon 11 Mile Post: 29.420 mi
 6 Feature Intersected : STREAM @TUMBLE FALLS RD
 16 Latitude: 40d 27' 06.00" 17 Longitude: 075d 04' 00.00"
 98 Border Bridge Code:
 99 Border Bridge Number:

INSPECTION

91 Frequency: 48 months 90 Inspection Date: 8/13/2013 Next Inspection: 08/13/2017
 92A FC Frequency: NA 93A FC Inspection Date: NA Next FC Inspection: NA
 92B UW Frequency: NA 93B UW Inspection Date: NA Next UW Inspection: NA
 92C SI Frequency: NA 93C SI Date: NA Next SI: NA
 Element Frequency: 48 months Element Inspection Date: 08/13/2013 Next Elem. Insp. Due: 08/13/2017

CLASSIFICATION

100 STRAHNET Highway: 0 -Not a STRAHNET hwy 101 Parallel Structure: N -No || bridge exists
 102 Direction of Traffic: 2 -2-way traffic 103 Temporary Structure: _ Blank
 104 Highway System: 0 -Not on NHS 112 NBIS Length: N - Too Short
 20 Toll Facility: 3 -On free road 26 Functional Class: 06-Rural Minor Arterial
 37 Historical Significance: 5 -Not eligible for NRHP
 22 Owner: 01 NJDOT
 21 Custodian: 01 NJDOT

STRUCTURE TYPE AND MATERIALS

46 Number of Approach Spans : 0 45 Number of Spans Main Unit: 1
 43A/B Main Span Material/Design:
 3 -Steel 19 Culvert(inc frm culv)
 107 Deck Type: N-N/A (NBI)
 108A Wearing Surface: N- N/A (no deck (NBI))
 108B Membrane: N -N/A (no deck (NBI))
 108C Deck Protection: N- N/A (no deck (NBI))

CONDITION

58 Deck: N -Not Applicable 59 Super: N -Not Applicable 60 Sub: N -Not Applicable
 62 Culvert: 5 -Moderate Damage 61 Channel/Channel Protection: 8 -Protected

LOAD RATING AND POSTING

65 Inventory Rating Method: 0-Field eval & doc enr 63 Operating Rating Method: 0-Field eval.& doc.eng
 66 Inventory Rating: HS99.9 64 Operating Rating: HS99.9
 31 Design Load: 0 - Unknown 70 Posting: 5 At/Above Legal Loads
 41 Posting status: A -Open, no restriction

AGE AND SERVICE

27 Year Built: 1959 106 Year Reconstructed:
 42A Type of Service On: 1 -Highway
 42B Type of Service Under: 5 -Waterway
 28A Lanes on: 2 28B Lanes Under: 0 19 Detour Length: 7.0 mi
 29 ADT: 1,960 109 Truck ADT: 4 % 30 Year of ADT: 2013

APPRAISAL

36A Bridge Rail: 0 -Substandard 36C Approach Rail: 0 -Substandard
 36B Transition: 0 -Substandard 36D Approach Rail Ends: 0 -Substandard
 67 Str. Evaluation: 5 68 Deck Geometry: N Not applicable
 69 Underclearance, Vertical and Horizontal: N -Not applicable
 71 Waterway Adequacy: 9 -Above Desirable 72 Approach Alignment: 8 -Equal Desirable Crit
 113 Scour Critical: 8 -Stable Above Footing

GEOMETRIC DATA

48 Length Max Span: 6.0 ft 49 Structure Length: 6.0 ft
 50A Curb/Sdwk Wdth L: 0.0 ft 50B Curb/Sidewalk Width R: 0.0 ft
 Width Curb to Curb 51: 0.0 ft 52 Width Out to Out: 0.0 ft
 32 Approach Roadway Width: 42 ft 33 Median: 0 No median (w/ shoulders)
 Deck Area:
 34 Skew: 20.00 ° 35 Structure Flared: 0 -No flare
 53 Minimum Vertical Clearance Over Bridge: 9999
 54A Minimum Vertical Underclearance Reference: N -Feature not hwy or RR
 54B Minimum Vertical Underclearance: 0.00 ft
 55A Minimum Lateral Underclearance Reference R: N -Feature not hwy or RR
 55B Minimum Lateral Underclearance R: 99.90 ft
 56 Minimum Lateral Underclearance L: 0.00 ft

PROPOSED IMPROVEMENTS

94 Bridge Cost: 75 Type of Work: -1
 95 Roadway Cost: 76 Length of Improvement: -3 ft
 96 Total Cost: 114 Future ADT: 2,340
 97 Year of Cost Estimate: 115 Year of Future ADT: 2033

NAVIGATION DATA

38 Navigation Control: N N -N/A-No waterway
 39 Vertical Clearance: 0.0 ft 40 Horizontal Clearance: 0.0 ft
 111 Pier Protection: 116 Lift Bridge Vertical Clearance:

ELEMENT CONDITION STATE DATA

Str Unit	Elm/Env	Description	Units	Total Qty	% in 1	Qty. St. 1	% in 2	Qty. St. 2	% in 3	Qty. St. 3	% in 4	Qty. St. 4	% in 5	Qty. St. 5
0	240/3	Steel Culvert	(LF)	97	0 %	0	0 %	0	100 %	97	0 %	0	0 %	0
0	334/3	Metal Rail Coated	(LF)	12	100 %	12	0 %	0	0 %	0	0 %	0	0 %	0
0	361/3	Scour Smart Flag	(EA)	1	100 %	1	0 %	0	0 %	0	0 %	0	0 %	0
0	363/3	Section Loss SmFlag	(EA)	1	0 %	0	100 %	1	0 %	0	0 %	0	0 %	0
0	508/3	Wingwalls - Culvert	(LF)	24	50 %	12	50 %	12	0 %	0	0 %	0	0 %	0
0	509/3	Headwalls - Culvert	(LF)	6	100 %	6	0 %	0	0 %	0	0 %	0	0 %	0

StructNum: 1008158

NJDOT SI and A Sheet

NJDOT BRIDGE FIELDS

(V1.2)

Brkey: 1008158 Inspkey

GENERAL

(A) Town: Kingwood Twp.
 (AA) Route: 29
 (AD) Admin: -1
 (AE) Alt Agency: -1 _

COUNTER MEASURES

(FI) Recommended:
 (FJ) Cost:
 (FK) Installed: 1 _ 2 _ 3 _
 (FL) Monitoring Reqcd: _

TEMPORARY STRUCTURES

(GV) Bridge: N
 (GW) Shoring: N
 (GX) Reports: N
 (GY) Measures: N
 (GZ) Cond Desc: -1

STRUCTURE AND APPURTENANCES

(AC) Non-Inv Feature: WW Rdwy and/or RR /wtrwy
 (AF) Alt Struct #:
 (AG) Rail Type: 19 Appr rdwy guide rail
 (AH) Rail Height:
 (AJ) Slope Protection: _ None
 (AK) Abutment: _ None
 (AL) Pier: _ None (1 Span E)
 (AM) Depth of Fill: 9.84
 (AP) Fender System: _ None
 (AT) Special Material 1: _
 (AT) Special Material 2: _
 (AU) Add Struct: 1 _
 2 _
 (AV) Widen Stru: Material Design
 1st Widen _ _
 2nd Widen _ _

PROJECT PROGRAMMING

(HB) Bridge List ID: XL3B_
 (HC) Consultant: B01
 (HD) 2-Cy Insp Contr: N
 (HE) Proceed Date: I 1/1/1901
 II 1/1/1901
 (HF) State Proj Mgr: MKP

LOAD RATINGS

Type	Inv	Opr
H (BQ)		(CA)
HS (BR)	99	(CB) 99
3 (BS)	99	(CC) 99
3S2 (BT)	99	(CD) 99
3-3 (BU)	99	(CE) 99
M (BV)	--	(CF)
Misc (CH1)	E	
(CH2)		

BRIDGE NOISE BARRIER (HA)

Material 1: _
 2: _
 Height 1: _
 2: _

MISCELLANEOUS

(CQ) Bridge List: X
 (BK) Overstress %:
 (FV) Route Milepost: 029.42
 (FM) Incident Reprtd:
 (AO) Utilities: 1:
 2: _
 3: _
 4: _
 (CR) Off-Route Bridge: N
 (BB) Orphan Bridge: N
 (AN) Plan Available: N
 (FX) Fed Error Uncorr: N
 (FW) Estimated ADT: N

FUNDING AND COST

(BL) Discretionary: _
 (BM) Fed Job #:
 (BN) State Job #: 2205189
 (BO) St Maint Cost: 0
 (BP) Brdg Demo: N

PAINTING

(GB) Environment:
 (GR) Last Painting: 01/1901
 (GA) Painting Req: N

FENCING

(AQ) Chain Link:
 (FN) Warranted: N

SCOUR EVALUATION

(FA) FHWA Category: 03
 (FB) Stage 1 Date: 1/1/1901
 (FC) Stage 1 Consultant:
 (FD) Prioritization: _
 (FE) Sufficiency: 0
 (FF) Date Stage II: 1/1/1901
 (FG) Stage II Consultant: -1
 (FH) Crit. Element: -1

SIGN STRUCTURES

(GS) Overhead:
 (GT) Cantilever:
 (GU) Fascia Mounted:

POSTINGS

(CG) Load Type: _
 (CG) Tons
 (AI) Speed:

RAILROAD

(BC) USRA Code:
 (BD 1) Rail On/Under:
 (BD2) RRs intersected:
 (BE) Rail Milepost:

StructNum: 1008158

NJDOT SI and A Sheet

NJDOT INSPECTION FIELDS

(V1.2)

<p>GENERAL</p> <p>(CI) Cycle Number: 4 (CJ) Insp Type: S (CK) Inspection Crew: J (CM) Consultant: B01 (CO) Prev Consultant: I12 (CP) Federal Report: L</p>	<p>MISCELLANEOUS</p> <p>(B) Deletion Code: N (BA) Apr Rdwy Cond: 6</p>	<p>REMARKS</p> <p>(BF) Deck: 1: _ 2: _ 3: _ 4: _ 5: _</p> <p>(BG) Super: 1: _ 2: _ 3: _</p> <p>(BH) Sub: 1: _ 2: _ 3: _</p> <p>(BI) Channel: A (BJ) Culvert: Z</p>	<p>PAINTING</p> <p>(GD) Fascia Beam: (GE) Fascia B. Flange: (GF) Interior Beam: (GH) Interior B. Flange: (GI) Beam Ends: (GJ) Connections: (GK) Bracings: (GL) Bearings: (GM) Substructure: (GN) Above Deck Super: (GO) Railings/Fence: (GP) Remarks 1: (GQ) Remarks 2:</p>
<p>INSPECTION DATES</p> <p>(AW) Mech/Electrical: 1/1/1901 (AX) Deck: 1/1/1901 (AY) Special Testing: 1/1/1901 (GC) Paint: 1/1/1901</p> <p>(AR) Equipment: 1: _ 2: _ 3: _</p> <p>(AS) Testing: 1: _ 2: _ 3: _</p>	<p>FATIGUE DETAIL (AZ)</p> <p>Location 1: _ Location 2: _ Location 3: _</p>	<p>FENCING</p> <p>(FO) Pedestrian Traffic: N (FP) Improvement Cost: \$ 0 Thousands</p>	
	<p>IN-DEPTH PIN-HANGER</p> <p>(FR) Consultant: _ (FS)</p> <p>(FT) Combo: N (FQ) FCM/Pin-Hngr Insp Date: 1/1/1901</p>		

ROADWAY DATA

Bridge Id: 1008158
SRI 00000029__

(V1.2)

<p>ROADWAY IDENTIFICATION</p> <p>NBI Roadway?: 1 Roadway Name: ROUTE NJ 29 Item 5A: 1 Item 5B: 3 Item 5C: 1 Item 5D: 00029 Item 5E: 0</p>	<p>TRAFFIC AND ACCIDENTS</p> <p>28 Lanes : 2 Num Median: 0 Road Speed: 50 mph ADTclass: 03 29 ADTtotal: 1960 30 Year of ADT: 2013 114 Future ADT: 2340 115 Year of Future ADT: 2033 109 Truck ADTT % : 4 19 Bypass Length: 7.00 mi Detour Speed: 35 mph</p>
<p>HWY NETWORKS AND SERVICE CLASSIFICATION</p> <p>11 Milepost: 29.420 mi 12 Base Hwy Network: 1 20 Toll Facility: 3 13A LRS Inventory Route 00000029__ Subroute No.: 00 26 Functional Class: 06 102 TraffDirection: 2</p>	<p>CLEARANCES</p> <p>10 Vertical Clearance: 99.99 ft 47 Invent Route Horiz Clear: 42.00 ft (DJ) Min Vert Undclr:</p>
<p>ALTERNATE CLASSIFICATION</p> <p>100 Strahnet Hwy: 0 Transit Rt: 0 104 NHS System: 0 Emergency 0 105 Fed. Lands Hwy: 0 110 Truck Hwy Net: 0 School Bus: 0</p>	<p>WIDTHS</p> <p>32 Appr Rdwy Width: 42 ft 51 Brdg Rdwy With Curb-Curb: 0.0 ft</p>

StructNum: 1008159

NJDOT SI and A Sheet

Name: ROUTE NJ 29 OVER CAINS RUN CREEK

S.R.: 84.8 SD/FO- N

IDENTIFICATION

1 State: 34 New Jersey 8 Struc Num: 1008159
7 Facility Carried: ROUTE NJ 29 9 Location: 3.0 M. N OF RT 519 (SPUR)
5A Rte.(On/Under): 1-Route On Structure 5B Rte. Signing Prefix: 3 -State Hwy
5C Level of Service: 1 -Mainline 5D Rte. Number: 00029
5E Directional Suffix: 0- Not Applicable % Responsibility : NA
2 SHD District: 02- Central 3 County Code: Hunterdon
4 Place Code: Kingwood, Hunterdon 11 Mile Post: 29.870 mi
6 Feature Intersected : CAINS RUN CREEK
16 Latitude: 40d 27' 28.05" 17 Longitude: 075d 04' 05.35"
98 Border Bridge Code:
99 Border Bridge Number:

INSPECTION

91 Frequency: 48 months 90 Inspection Date: 8/13/2013 Next Inspection: 08/13/2017
92A FC Frequency: NA 93A FC Inspection Date: NA Next FC Inspection: NA
92B UW Frequency: NA 93B UW Inspection Date: NA Next UW Inspection: NA
92C SI Frequency: NA 93C SI Date: NA Next SI: NA
Element Frequency: 48 months Element Inspection Date: 08/13/2013 Next Elem. Insp. Due: 08/13/2017

CLASSIFICATION

100 STRAHNET Highway: 0 -Not a STRAHNET hwy 101 Parallel Structure: N -No || bridge exists
102 Direction of Traffic: 2 -2-way traffic 103 Temporary Structure: _ Blank
104 Highway System: 0 -Not on NHS 112 NBIS Length: N - Too Short
20 Toll Facility: 3 -On free road 26 Functional Class: 06-Rural Minor Arterial
37 Historical Significance: 5 -Not eligible for NRHP
22 Owner: 01 NJDOT
21 Custodian: 01 NJDOT

STRUCTURE TYPE AND MATERIALS

46 Number of Approach Spans : 0 45 Number of Spans Main Unit: 1
43A/B Main Span Material/Design:
3 -Steel 19 Culvert(inc frm culv)
107 Deck Type: N-N/A (NBI)
108A Wearing Surface: N- N/A (no deck (NBI))
108B Membrane: N -N/A (no deck (NBI))
108C Deck Protection: N- N/A (no deck (NBI))

CONDITION

58 Deck: N -Not Applicable 59 Super: N -Not Applicable 60 Sub: N -Not Applicable
62 Culvert: 5 -Moderate Damage 61 Channel/Channel Protection: 6 -Bank Slumping

LOAD RATING AND POSTING

65 Inventory Rating Method: 0-Field eval & doc enr 63 Operating Rating Method: 0-Field eval.& doc.eng
66 Inventory Rating: HS99.9 64 Operating Rating: HS99.9
31 Design Load: 0 - Unknown 70 Posting: 5 At/Above Legal Loads
41 Posting status: A -Open, no restriction

AGE AND SERVICE

27 Year Built: 1959 106 Year Reconstructed:
42A Type of Service On: 1 -Highway
42B Type of Service Under: 5 -Waterway
28A Lanes on: 2 28B Lanes Under: 0 19 Detour Length: 7.0 mi
29 ADT: 1,960 109 Truck ADT: 4 % 30 Year of ADT: 2013

APPRAISAL

36A Bridge Rail: 0 -Substandard 36C Approach Rail: 0 -Substandard
36B Transition: 0 -Substandard 36D Approach Rail Ends: 0 -Substandard
67 Str. Evaluation: 5 68 Deck Geometry: N Not applicable
69 Underclearance, Vertical and Horizontal: N -Not applicable
71 Waterway Adequacy: 8 -Equal Desirable 72 Approach Alignment: 8 -Equal Desirable Crit
113 Scour Critical: 5 -Stable w/in footing

GEOMETRIC DATA

48 Length Max Span: 12.0 ft 49 Structure Length: 12.0 ft
50A Curb/Sdwk Wdh L: 0.0 ft 50B Curb/Sidewalk Width R: 0.0 ft
Width Curb to Curb 51: 0.0 ft 52 Width Out to Out: 0.0 ft
32 Approach Roadway Width: 40 ft 33 Median: 0 No median (w/ shoulders)
Deck Area:
34 Skew: 10.00 ° 35 Structure Flared: 0 -No flare
53 Minimum Vertical Clearance Over Bridge: 9999
54A Minimum Vertical Underclearance Reference: N -Feature not hwy or RR
54B Minimum Vertical Underclearance: 0.00 ft
55A Minimum Lateral Underclearance Reference R: N -Feature not hwy or RR
55B Minimum Lateral Underclearance R: 0.00 ft
56 Minimum Lateral Underclearance L: 0.00 ft

PROPOSED IMPROVEMENTS

94 Bridge Cost: 75 Type of Work: -1
95 Roadway Cost: 76 Length of Improvement: -3 ft
96 Total Cost: 114 Future ADT: 2,340
97 Year of Cost Estimate: 115 Year of Future ADT: 2033

NAVIGATION DATA

38 Navigation Control: N N -N/A-No waterway
39 Vertical Clearance: 0.0 ft 40 Horizontal Clearance: 0.0 ft
111 Pier Protection: 116 Lift Bridge Vertical Clearance:

ELEMENT CONDITION STATE DATA

Table with 15 columns: Str Unit, Elm/Env, Description, Units, Total Qty, % in 1, Qty. St. 1, % in 2, Qty. St. 2, % in 3, Qty. St. 3, % in 4, Qty. St. 4, % in 5, Qty. St. 5. Rows include Steel Culvert, Metal Rail Coated, Scour Smart Flag, Section Loss SmFlag, Wingwalls - Culvert, and Headwalls - Culvert.

StructNum: 1008159

NJDOT SI and A Sheet

NJDOT BRIDGE FIELDS

(V1.2)

Brkey: 1008159 Inspkey

GENERAL

(A) Town: Kingwood Twp.
 (AA) Route: 29
 (AD) Admin: -1
 (AE) Alt Agency: -1 _

COUNTER MEASURES

(FI) Recommended:
 (FJ) Cost:
 (FK) Installed: 1 _ 2 _ 3 _
 (FL) Monitoring Reqcd: _

TEMPORARY STRUCTURES

(GV) Bridge: N
 (GW) Shoring: N
 (GX) Reports: N
 (GY) Measures: N
 (GZ) Cond Desc: -1

STRUCTURE AND APPURTENANCES

(AC) Non-Inv Feature: WW Rdwy and/or RR /wtrwy
 (AF) Alt Struct #:
 (AG) Rail Type: 19 Appr rdwy guide rail
 (AH) Rail Height::
 (AJ) Slope Protection: _ None
 (AK) Abutment: _ None
 (AL) Pier: _ None (1 Span E
 (AM) Depth of Fill: 9.84
 (AP) Fender System: _ None
 (AT) Special Material 1: _
 (AT) Special Material 2: _
 (AU) Add Struct: 1 _
 2 _
 (AV) Widen Stru: Material Design
 1st Widen _ _
 2nd Widen _ _

PROJECT PROGRAMMING

(HB) Bridge List ID: XL3B_
 (HC) Consultant B01
 (HD) 2-Cy Insp Contr: N
 (HE) Proceed Date: I 1/1/1901
 II 1/1/1901
 (HF) State Proj Mgr: MKP

LOAD RATINGS

Type	Inv	Opr
H (BQ)		(CA)
HS (BR)	99	(CB) 99
3 (BS)	99	(CC) 99
3S2 (BT)	99	(CD) 99
3-3 (BU)	99	(CE) 99
M (BV)	--	(CF)
Misc (CH1)	E	
(CH2)		

BRIDGE NOISE BARRIER (HA)

Material 1: _
 2: _
 Height 1: _
 2: _

FUNDING AND COST

(BL) Discretionary: -
 (BM) Fed Job #:
 (BN) State Job #: 2205189
 (BO) St Maint Cost: 0
 (BP) Brdg Demo N

PAINTING

(GB) Environment:
 (GR) Last Painting: 01/1901
 (GA) Painting Req: N

MISCELLANEOUS

(CQ) Bridge List: X
 (BK) Overstress %:
 (FV) Route Milepost: 029.87
 (FM) Incident Reprtd:
 (AO) Utilities: 1:
 2: _
 3: _
 4: _
 (CR) Off-Route Bridge: N
 (BB) Orphan Bridge: N
 (AN) Plan Available: N
 (FX) Fed Error Uncorr N
 (FW) Estimated ADT N

SCOUR EVALUATION

(FA) FHWA Category: 03
 (FB) Stage 1 Date: 1/1/1901
 (FC) Stage 1 Consultant:
 (FD) Prioritization: -
 (FE) Sufficiency: 0
 (FF) Date Stage II 1/1/1901
 (FG) Stage II Consultant: -1
 (FH) Crit. Element: -1

FENCING

(AQ) Chain Link:
 (FN) Warranted: N

SIGN STRUCTURES

(GS) Overhead:
 (GT) Cantilever:
 (GU) Fascia Mounted:

POSTINGS

(CG) Load Type: -
 (CG) Tons
 (AI) Speed:

RAILROAD

(BC) USRA Code:
 (BD 1) Rail On/Under:
 (BD2) RRs intersected:
 (BE) Rail Milepost:

StructNum: 1008159

NJDOT SI and A Sheet

NJDOT INSPECTION FIELDS

(V1.2)

GENERAL (CI) Cycle Number: 4 (CJ) Insp Type: S (CK) Inspection Crew: J (CM) Consultant: B01 (CO) Prev Consultant: I12 (CP) Federal Report: L	MISCELLANEOUS (B) Deletion Code: N (BA) Apr Rdwy Cond: 5	REMARKS (BF) Deck: 1: _ 2: _ 3: _ 4: _ 5: _ (BG) Super: 1: _ 2: _ 3: _ (BH) Sub: 1: _ 2: _ 3: _ (BI) Channel D (BJ) Culvert J	PAINTING (GD) Fascia Beam: (GE) Fascia B. Flange: (GF) Interior Beam: (GH) Interior B. Flange: (GI) Beam Ends: (GJ) Connections: (GK) Bracings: (GL) Bearings: (GM) Substructure: (GN) Above Deck Super: (GO) Railings/Fence: (GP) Remarks 1: (GQ) Remarks 2:
INSPECTION DATES (AW) Mech/Electrical: 1/1/1901 (AX) Deck: 1/1/1901 (AY) Special Testing: 1/1/1901 (GC) Paint: 1/1/1901 (AR) Equipment: 1: _ 2: _ 3: _ (AS) Testing: 1: _ 2: _ 3: _	FATIGUE DETAIL (AZ) Location 1: _ Location 2: _ Location 3: _	FENCING (FO) Pedestrian Traffic: N (FP) Improvement Cost: \$ 0 Thousands	
	IN-DEPTH PIN-HANGER (FR) Consultant: _ (FS) (FT) Combo: N (FQ) FCM/Pin-Hngr Insp Date: 1/1/1901		

ROADWAY DATA

Bridge Id: 1008159
SRI 00000029__

(V1.2)

ROADWAY IDENTIFICATION NBI Roadway?: 1 Roadway Name: ROUTE NJ 29 Item 5A: 1 Item 5B: 3 Item 5C: 1 Item 5D: 00029 Item 5E: 0	TRAFFIC AND ACCIDENTS 28 Lanes : 2 Num Median: 0 Road Speed: 50 mph ADTclass: 03 29 ADTtotal: 1960 30 Year of ADT: 2013 114 Future ADT: 2340 115 Year of Future ADT: 2033 109 Truck ADTT % : 4 19 Bypass Length: 7.00 mi Detour Speed: 35 mph
HWY NETWORKS AND SERVICE CLASSIFICATION 11 Milepost: 29.870 mi 12 Base Hwy Network: 1 20 Toll Facility: 3 13A LRS Inventory Route 00000029__ Subroute No.: 00 26 Functional Class: 06 102 TraffDirection: 2	CLEARANCES 10 Vertical Clearance: 99.99 ft 47 Invent Route Horiz Clear: 40.00 ft (DJ) Min Vert Undclr:
ALTERNATE CLASSIFICATION 100 Strahnet Hwy: 0 Transit Rt: 0 104 NHS System: 0 Emergency 0 105 Fed. Lands Hwy: 0 110 Truck Hwy Net: 0 School Bus: 0	WIDTHS 32 Appr Rdwy Width: 40 ft 51 Brdg Rdwy With Curb-Curb: 0.0 ft

Appendix E

Photos

Concept Development Report
Rt 29 Rockfall Mitigation, Kingwood Twp
MP 27.31 to 30.43
Kingwood Township, Hunterdon County



Photo 1 - South End of Area A



Photo 2 - Mid-Length of Area A

Concept Development Report
Rt 29 Rockfall Mitigation, Kingwood Twp
MP 27.31 to 30.43
Kingwood Township, Hunterdon County



Photo 3 - 250' from South End of Area B



Photo 4 - North End of Area B

Concept Development Report
Rt 29 Rockfall Mitigation, Kingwood Twp
MP 27.31 to 30.43
Kingwood Township, Hunterdon County



Photo 5 - Mid-Length of Area C, MP 28.05

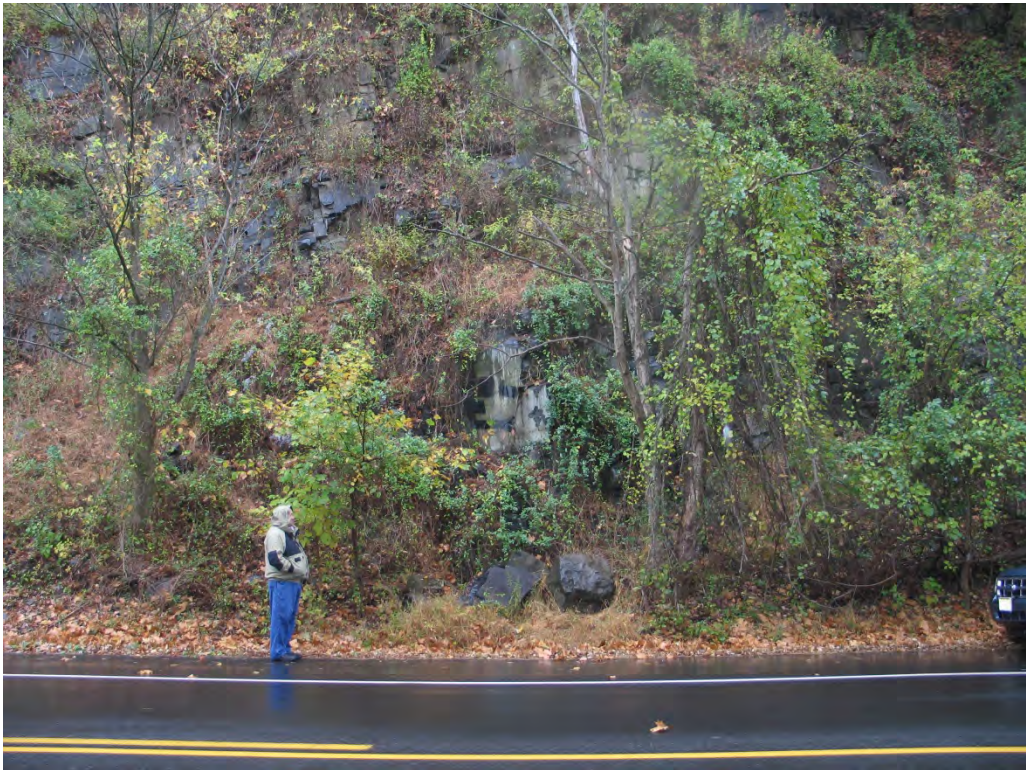


Photo 6 - Mid-Length of Area C, MP 28.02

Concept Development Report
Rt 29 Rockfall Mitigation, Kingwood Twp
MP 27.31 to 30.43
Kingwood Township, Hunterdon County



Photo 7 - South End of Area D, MP 29.90



Photo 8 - Mid-Length of Area D, MP 30.08

Concept Development Report
Rt 29 Rockfall Mitigation, Kingwood Twp
MP 27.31 to 30.43
Kingwood Township, Hunterdon County



Photo 9 - Mid-Length of Area D, MP 30.00



Photo 10 - Area D, Devils Tea Table, MP 30.05

Concept Development Report
Rt 29 Rockfall Mitigation, Kingwood Twp
MP 27.31 to 30.43
Kingwood Township, Hunterdon County



Photo 11 - Differential weathering above Devils Tea Table
(Top of Slope, Area D, Looking Northeast)



Photo 12 - Example of Root Wedging (Toe of Slope, Area D, Looking Northeast)

Concept Development Report
Rt 29 Rockfall Mitigation, Kingwood Twp
MP 27.31 to 30.43
Kingwood Township, Hunterdon County



Photo 13 - S-shaped crack in North Side of Block above Devils Tea Table (Area D)



Photo 14 - Devils Tea Table looking Southwest from Top of Slope (Area D)

Concept Development Report
Rt 29 Rockfall Mitigation, Kingwood Twp
MP 27.31 to 30.43
Kingwood Township, Hunterdon County



Photo 15 - Devils Tea Table looking Northeast from below (Area D)

Appendix F

Lane Closure Schedule & Conceptual Detour Plan



State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

JAMES S. SIMPSON
Commissioner

KIM GUADAGNO
Lt. Governor

March 28, 2014

Nisha Patel, E.I.T.
Advantage Engineering
Associates, P.C. (AEA)
101 Interchange Plaza
Suite 308
Cranbury, NJ 08512

pateln@aeapc.com

RE: **MP 24.5 to MP 27.4 -- Mill "X" / Pave "X+1"**
MP 31.5 to MP 33.7 -- Mill "X" / Pave "X"
Delaware & Kingwood Twps., Hunterdon County

Mobility & Systems Engineering personnel have completed a review of the above referenced project and offer the following comments and recommendations:

Below is the permitted lane closure schedule for this project:

Route 29 North and Southbound MP 24.5 – 33.7 (One lane section each)

All lanes maintained

Monday through Thursday	6:00 AM to 9:00 AM and 3:00 PM to 8:00 PM
Friday	6:00 AM to 9:00 AM and 3:00 PM to 8:30 PM
Saturday	8:00 AM to 8:30 PM
Sunday	9:00 AM to 9:00 PM

Alternating Traffic Pattern

Monday through Thursday	9:00 AM to 3:00 PM and 8:00 PM to 6:00 AM (Next day)
Friday	9:00 AM to 3:00 PM and 8:30 PM to 8:00 AM (Saturday)



State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

JAMES S. SIMPSON
Commissioner

KIM GUADAGNO
Lt. Governor
Saturday
Sunday

8:30 PM to 9:00 AM (Sunday)
9:00 PM to 6:00 AM (Monday)

No lane, shoulder or ramp closures will be permitted on the following holidays:

- Easter Sunday (including 6:00 AM Saturday until Noon Monday)
- Memorial Day (See Note Below)
- July 4th (See Note Below)
- Labor Day (See Note Below)
- Election Day (6:00 AM until 8:00 PM the day of)
- Thanksgiving Day (See Note Below)
- Christmas Day (See Note Below)
- New Years Day (See Note Below)

NOTE:

If Holiday Falls On	No Lane Closures Permitted
Sunday or Monday	6:00 AM Friday until Noon Tuesday
Tuesday	6:00 AM Friday until Noon Wednesday
Wednesday	6:00 AM Tuesday until Noon Thursday
Thursday	6:00 AM Wednesday until Noon Monday
Friday or Saturday	6:00 AM Thursday until Noon Monday

- No temporary shoulder closures shall be permitted between 7:00 AM and 9:00 AM and 4:00 PM and 6:00 PM.
- Lane closures must be coordinated with other projects that may be underway at the same time in the project area.
- Access to residences, businesses and emergency lanes must be maintained at all

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State of New Jersey

DEPARTMENT OF TRANSPORTATION
P.O. Box 600
Trenton, New Jersey 08625-0600

CHRIS CHRISTIE
Governor

JAMES S. SIMPSON
Commissioner

KIM GUADAGNO
Lt. Governor

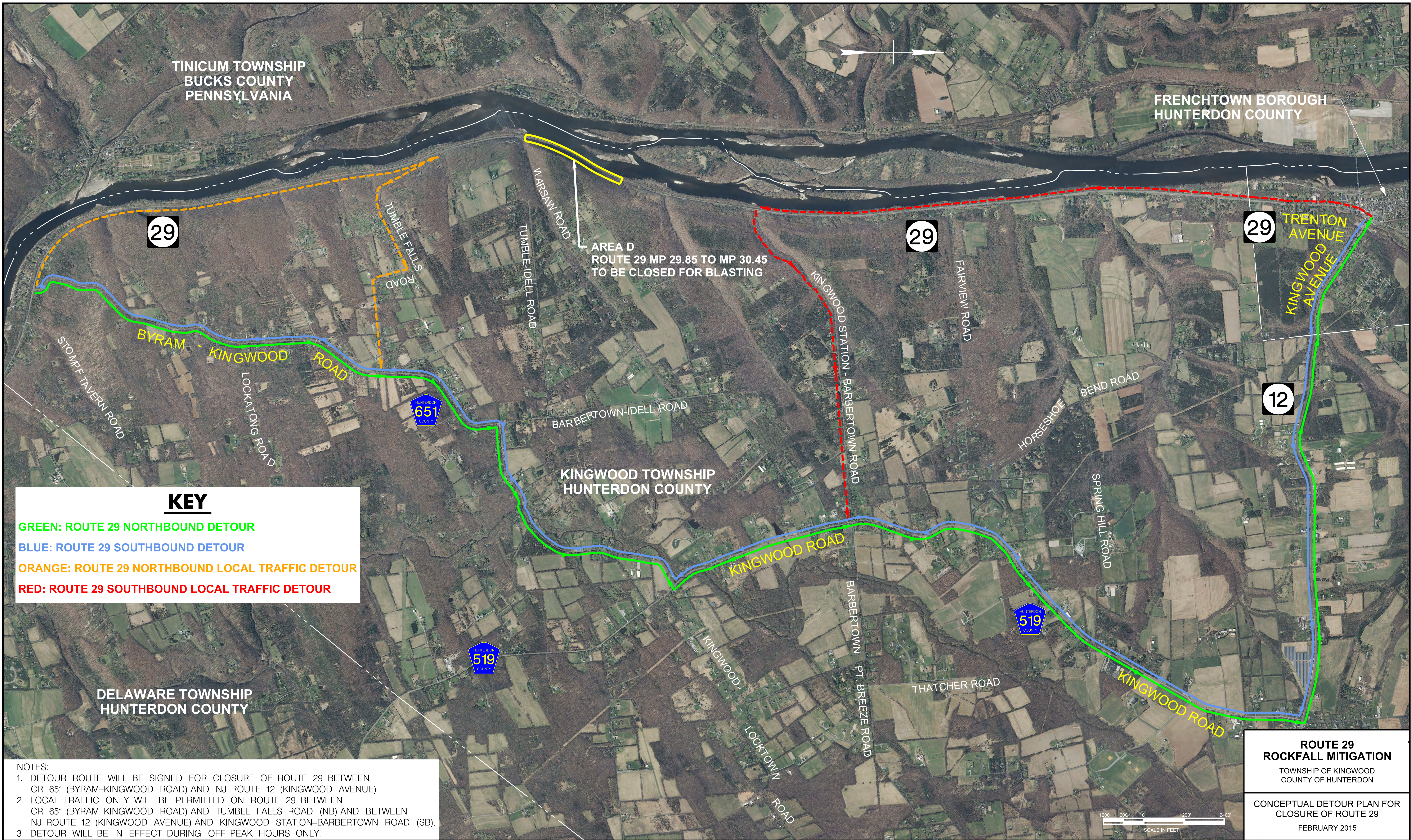
times.

- For traffic shifts during construction, signs will be needed to designate business driveways to minimize traffic confusion.
- Please include variable message sign item in the contract to aid in traffic mitigation. Also, please provide the location and the messages for these portable VMS.
- A traffic management plan will be required for this project in accordance with the NJDOT Traffic Mitigation Guidelines, BDC07T-07.

Should you have any questions or comments concerning this matter, please feel free to contact Eddy Exantus at (732) 496-9251

Sincerely,

Michael F. Pilsbury, PE
Supervising Engineer
Mobility & Systems Engineering



TINICUM TOWNSHIP
BUCKS COUNTY
PENNSYLVANIA

FRENCHTOWN BOROUGH
HUNTERDON COUNTY

29

29

29

12

651

519

519

AREA D
ROUTE 29 MP 29.85 TO MP 30.45
TO BE CLOSED FOR BLASTING

KEY

- GREEN: ROUTE 29 NORTHBOUND DETOUR
- BLUE: ROUTE 29 SOUTHBOUND DETOUR
- ORANGE: ROUTE 29 NORTHBOUND LOCAL TRAFFIC DETOUR
- RED: ROUTE 29 SOUTHBOUND LOCAL TRAFFIC DETOUR

DELAWARE TOWNSHIP
HUNTERDON COUNTY

- NOTES:
1. DETOUR ROUTE WILL BE SIGNED FOR CLOSURE OF ROUTE 29 BETWEEN CR 651 (BYRAM-KINGWOOD ROAD) AND NJ ROUTE 12 (KINGWOOD AVENUE).
 2. LOCAL TRAFFIC ONLY WILL BE PERMITTED ON ROUTE 29 BETWEEN CR 651 (BYRAM-KINGWOOD ROAD) AND TUMBLE FALLS ROAD (NB) AND BETWEEN NJ ROUTE 12 (KINGWOOD AVENUE) AND KINGWOOD STATION-BARBERTOWN ROAD (SB).
 3. DETOUR WILL BE IN EFFECT DURING OFF-PEAK HOURS ONLY.

**ROUTE 29
ROCKFALL MITIGATION**
TOWNSHIP OF KINGWOOD
COUNTY OF HUNTERDON

CONCEPTUAL DETOUR PLAN FOR
CLOSURE OF ROUTE 29
FEBRUARY 2015



Appendix G

Project Cost Estimate



Made by	LAH	Date	02/13/15	Job No.	59447-PL-080
Checked by	BTF	Date	02/23/15	Sheet No.	1 of 5
Backchecked by	LAH	Date	02/24/15		

For **Route 29 Rockfall**

COST ESTIMATE SUMMARY

QUANTIFIED CONSTRUCTION PAY ITEMS	COST
GEOTECHNICAL	\$ 23,588,400
PAVEMENT	\$ 425,875
QUANTIFIED ITEMS SUBTOTAL =	\$ 24,014,275

CONSTRUCTION ITEMS BY PERCENTAGE	
Landscaping (0.5%)	\$ 121,000
Maintenance & Protection of Traffic (5%)	\$ 1,201,000
Erosion Control (0.5%)	\$ 121,000
Miscellaneous (10%)	\$ 2,402,000
PERCENTAGE ITEMS SUBTOTAL =	\$ 3,845,000

LUMP SUM PAY ITEMS	
Performance and Payment Bond	\$ 152,000
Owner's & Contractor's Protective Liability Insurance	\$ 50,000
Progress Schedule	\$ 50,000
Mobilization (14%)	\$ 3,901,000
Construction Layout	\$ 450,000
Asphalt Price Adjustment	\$ 14,000
Fuel Price Adjustment	\$ 8,000
Final Cleanup	\$ 20,000
Clearing Site	\$ 300,000
LUMP SUM ITEMS SUBTOTAL =	\$ 4,945,000

CONSTRUCTION ITEMS TOTAL = \$ 32,804,275

Contingency (2%)	\$ 656,086
Escalation	\$ -

CONSTRUCTION TOTAL = \$ 33,460,361

Construction Engineering (9.5%)	\$ 3,178,734
Construction Change Order Contingencies (\$500000)	\$ 500,000

TOTAL CONSTRUCTION COST = \$ 37,139,095

UTILITY RELOCATION COST = No Utilities

RIGHT OF WAY COST =

TOTAL PROJECT COST = \$ 37,139,095

SAY \$ 37,140,000



Made by	LAH	Date	02/13/15	Job No.	59447-PL-080
Checked by	BTF	Date	02/23/15	Sheet No.	2 of 5
For	Route 29 Rockfall	Backchecked by	LAH	Date	02/24/15

PRELIMINARY CONSTRUCTION COST ESTIMATE

GEOTECHNICAL

Item	Unit	Quantity	Unit Cost	Total
Vegetation Removal	SY	66,250	\$ 3.00	\$ 198,750
Embankment	CY	1,350	\$ 40.00	\$ 54,000
Rock Excavation	CY	95,750	\$ 90.00	\$ 8,617,500
Rock Dowels	LF	1,900	\$ 100.00	\$ 190,000
Draped Mesh	SF	43,350	\$ 14.00	\$ 606,900
Shotcrete	SY	11,050	\$ 150.00	\$ 1,657,500
Rockfall Barrier (mid-slope barrier)	LF	7,050	\$ 1,700.00	\$ 11,985,000
Rock Bolt Testing	EA	50	\$ 1,800.00	\$ 90,000
Rock Drain Holes	LF	7,550	\$ 25.00	\$ 188,750

GEOTECHNICAL TOTAL COST = \$ 23,588,400

PAVEMENT

Item	Unit	Quantity	Unit Cost	Total
Asphalt	Tons	4,450	\$ 75.00	\$ 333,750
Milling, 3" or Less	SY	36,850	\$ 2.50	\$ 92,125

PAVEMENT TOTAL COST = \$ 425,875



Made by	LAH	Date	02/13/15	Job No.	59447-PL-080
Checked by	BTF	Date	02/23/15	Sheet No.	3 of 5
For	Route 29 Rockfall	Backchecked by	LAH	Date	02/24/15

LUMP SUM ITEMS

Cost Estimate Subtotal	\$27,859,275
------------------------	--------------

Project Classification	1	Location	North
------------------------	---	----------	-------

151006M PERFORMANCE BOND AND PAYMENT BOND

Project Cost (Mil.)	Class 1, 2, 6		Class 3, 4, 7		Class 5		Choice	Amount
	North	South	North	South	North	South	Class 1 North	
Less than 1.0	7,500	6,500	9,000	8,000	5,000	5,500		\$152,000
1.0 to 5.0	27,000	24,500	25,000	20,000	15,000	15,000		
5.0 to 10.0	50,000	48,000	42,500	35,000	20,000	25,000		
10.0 to 20.0	105,000	75,000	70,000	65,000	40,000	35,000		
20.0 to 30.0	152,000	120,000	200,000					
30.0 to 40.0	200,000	175,000	255,000					
40.0+	500,000	350,000	265,000					

152004P OWNER'S AND CONTRACTOR'S PROTECTIVE LIABILITY INSURANCE

Project Cost (Mil.)	Class 1, 2, 6		Class 3, 4, 7		Class 5		Choice	Amount
	North	South	North	South	North	South	Class 1 North	
Less than 1.0	5,000	5,000	5,000	3,500	5,000	5,000		\$50,000
1.0 to 5.0	10,000	9,000	6,000	6,000	10,000	10,000		
5.0 to 10.0	17,500	13,500	10,000	10,000	12,500	12,500		
10.0 to 20.0	30,000	20,000	15,000	20,000	15,000	15,000		
20.0 to 30.0	50,000	30,000	40,000					
30.0 to 40.0	55,000	35,000	50,000					
40.0+	100,000	70,000	60,000					

153003P PROGRESS SCHEDULE

Project Cost (Mil.)	Class 1, 2, 6		Class 3, 4, 7		Class 5		Choice	Amount
	North	South	North	South	North	South	Class 1 North	
Less than 1.0	5,000	5,000	5,000	5,000	5,000	5,000		\$50,000
1.0 to 5.0	10,000	10,000	7,500	7,500	6,000	6,000		
5.0 to 10.0	20,000	20,000	10,000	10,000	7,500	7,500		
10.0 to 20.0	30,000	30,000	15,000	15,000				
20.0 to 30.0	50,000	50,000	20,000	20,000				
30.0 to 40.0	55,000	55,000	30,000	30,000				
40.0+	60,000	60,000	35,000	35,000				

154003P MOBILIZATION

Project Cost (Mil.)	Class 1, 2, 6		Class 3, 4, 7		Class 5		Choice	Amount
	North	South	North	South	North	South	Class 1 North	
Less than 1.0	10%	10%	10%	10%	10%	10%		14%
1.0 to 5.0	10%	10%	10%	10%	10%	10%		
5.0 to 10.0	12%	12%	12%	12%	12%	12%		
10.0 to 20.0	12%	12%	12%	12%				
20.0 to 30.0	14%	14%	14%	14%				
30.0 to 40.0	14%	14%	14%	14%				
40.0+	15%	15%	15%	15%				



Made by	LAH	Date	02/13/15	Job No.	59447-PL-080
Checked by	BTF	Date	02/23/15	Sheet No.	4 of 5
For	Route 29 Rockfall	Backchecked by	LAH	Date	02/24/15

LUMP SUM ITEMS (cont'd.)

157004M CONSTRUCTION LAYOUT

Project Cost (Mil.)	Class 1, 2, 6		Class 3, 4, 7		Class 5		Choice	Amount
	North	South	North	South	North	South		
Less than 1.0	17,500	27,500	25,000	25,000	20,000	15,000	Class 1 North	\$450,000
1.0 to 5.0	45,000	50,000	40,000	35,000	25,000	20,000		
5.0 to 10.0	165,000	155,000	50,000	40,000	30,000	25,000		
10.0 to 20.0	300,000	250,000	100,000	50,000	35,000	30,000		
20.0 to 30.0	450,000	425,000	550,000					
30.0 to 40.0	500,000	450,000	650,000					
40.0+	750,000	750,000	750,000					

161003P FINAL CLEANUP

Project Cost (Mil.)	Class 1, 2, 6		Class 3, 4, 7		Class 5		Choice	Amount
	North	South	North	South	North	South		
Less than 1.0	5,000	5,000	4,000	4,000	5,000	5,000	Class 1 North	\$20,000
1.0 to 5.0	7,500	7,500	5,000	5,000	7,500	7,500		
5.0 to 10.0	15,000	15,000	10,000	10,000	8,000	8,000		
10.0 to 20.0	17,500	17,500	12,500	12,500	10,000	10,000		
20.0 to 30.0	20,000	20,000	15,000	15,000				
30.0 to 40.0	22,000	22,000	20,000	20,000				
40.0+	35,000	35,000	25,000	25,000				

201003P CLEARING SITE

Project Cost (Mil.)	Class 1, 2, 6		Class 3, 4, 7		Class 5		Choice	Amount
	North	South	North	South	North	South		
Less than 1.0	20,000	20,000	25,000	25,000	10,000	10,000	Class 1 North	\$300,000
1.0 to 5.0	40,000	40,000	30,000	30,000	15,000	15,000		
5.0 to 10.0	110,000	110,000	50,000	75,000	20,000	20,000		
10.0 to 20.0	275,000	275,000	60,000	80,000				
20.0 to 30.0	300,000	325,000	200,000	200,000				
30.0 to 40.0	325,000	350,000	300,000	300,000				
40.0+	500,000	500,000	500,000	500,000				



Made by	LAH	Date	02/13/15	Job No.	59447-PL-080
Checked by	BTF	Date	02/23/15	Sheet No.	5 of 5
For	Route 29 Rockfall	Backchecked by	LAH	Date	02/24/15

CONTINGENCIES & ESCALATION

Class 9 - Unique (Rockfall Mitigation) - used worksheet for Class 1 - New Construction

Y= Number of Years until midpoint of construction duration.

If midpoint is less than 2 years, no escalation is required. Y = 2

\$32,804,275	x	1.02	x	1.00	=	\$ 33,460,361
Project Total		Contingencies (1+C)		1+[0.01(Y+1)(Y-2)]		Construction Cost for PD Estimate

Project Cost (Mil.)	Contingencies (C) Percent	Average Construction Duration in Years
0-10	3%	1
10-20	2.5%	2
20-50	2%	3
Over 50	1.5%	4

CONSTRUCTION ENGINEERING (CE)

Project Cost (Mil.)	% of Construction Cost
Less than 1.0	28.4%
1.0 to 5.0	17.6%
5.0 to 10.0	12.2%
10.0 & above	9.5%

CONSTRUCTION ENGINEERING AMOUNT	\$ 3,178,734
--	---------------------

CONTINGENCIES FOR CONSTRUCTION CHANGE ORDER

Total Federal Participating Items in Millions of \$	% of Construction Cost
\$0 to 0.1	\$6,000
0.1 to 0.5	25,000
0.5 to 5.0	25,000 + 4% of amount in excess of \$500,000
5.0 to 10.0	205,000 + 3% of amount in excess of \$5,000,000
10.0 to 15.0	355,000 + 2% of amount in excess of \$10,000,000
15.0 and Above	500000

CONSTRUCTION ENGINEERING AMOUNT	\$ 500,000
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Appendix H

As-Built Plans / Right-of-Way Plans

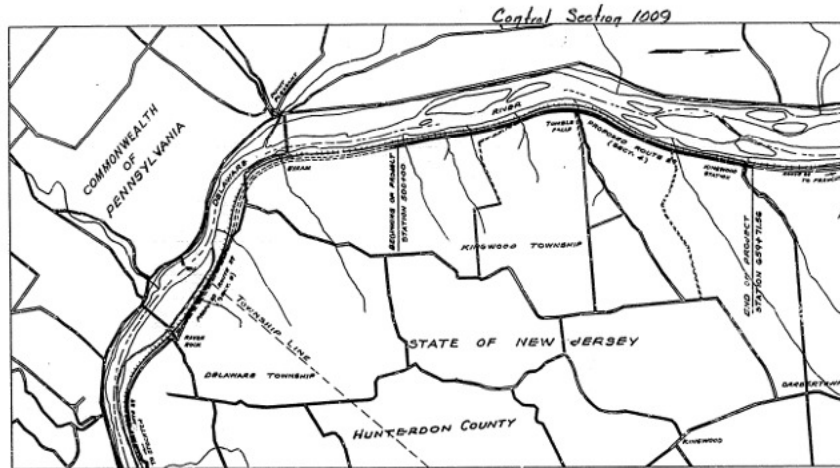
STATE OF NEW JERSEY
HIGHWAY DEPARTMENT

PLANS OF
ROUTE 29A (1927) SECTION 4
ROUTE 29 (1953)
From One Mile North of Byram to
Kingwood Station
GRADING

Kingwood Township Hunterdon County
Scales as Indicated May 1953

As Built

INDEX OF SHEETS	
1	KEY SHEET
2	TYPICAL SECTIONS AND ESTIMATE OF QUANTITIES
3	DISTRIBUTION SHEET
4-14	PLAN SHEETS
15	TIE SHEET
16-50	X- SECTIONS
51	EARTHWORK CHART
52-55	PROFILES AND X - SECTIONS OF CULVERTS
56	PLANS AND X - SECTIONS OF DRIVES STA. 582±'
57-63	CONSTRUCTION DETAILS



UTILITIES	
PENNSYLVANIA RAILROAD CO. NEW YORK CITY, NEW YORK	

LAYOUT & KEY MAP

SCALE - 1" = 1/2 MILE

LENGTH OF PROJECT - 15,971.56 Lin. Ft. - 3.025 Miles

STANDARD HIGHWAY SPECIFICATIONS OF 1941 TO GOVERN

Submitted by Robert Birtcher May 20, 1953
Director and Chief Road Engineer Date

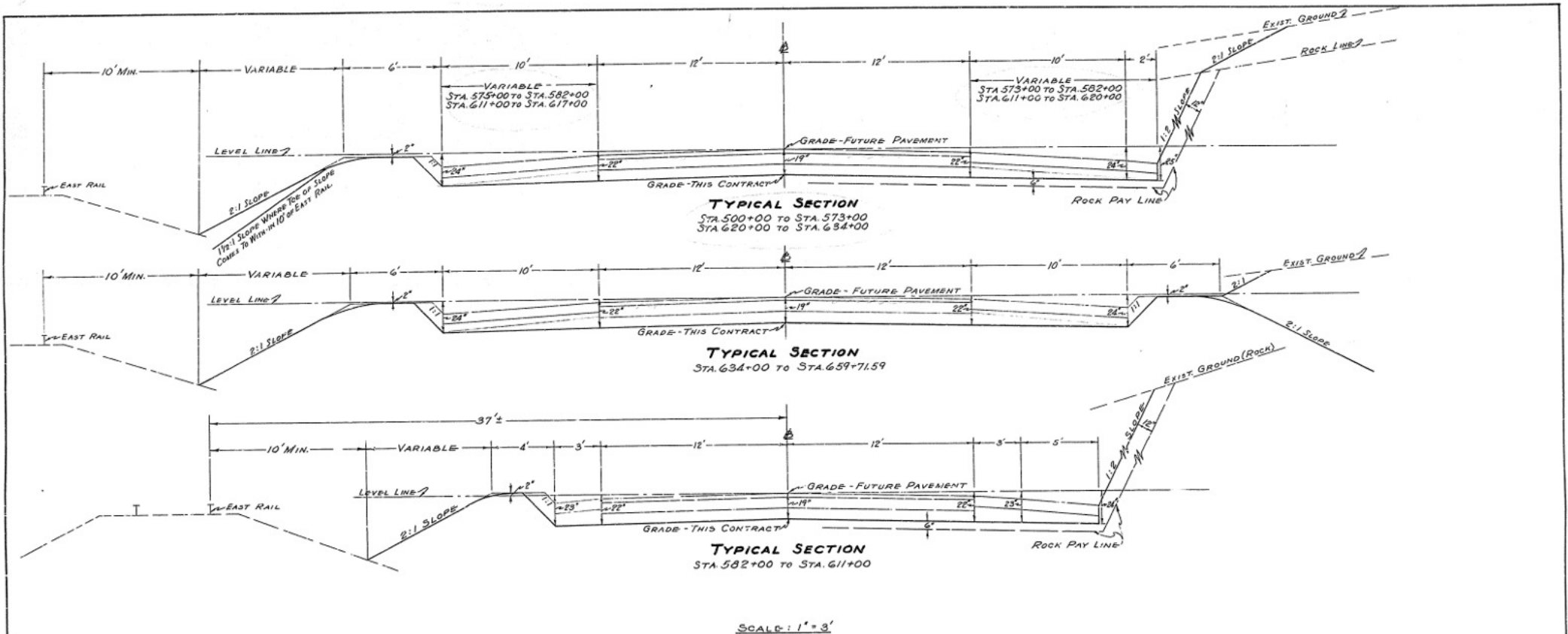
Approved by W. H. ... May 20, 1953
State Highway Engineer Date

Approved by W. H. ...
Governor Date



1009 001 063

12-30

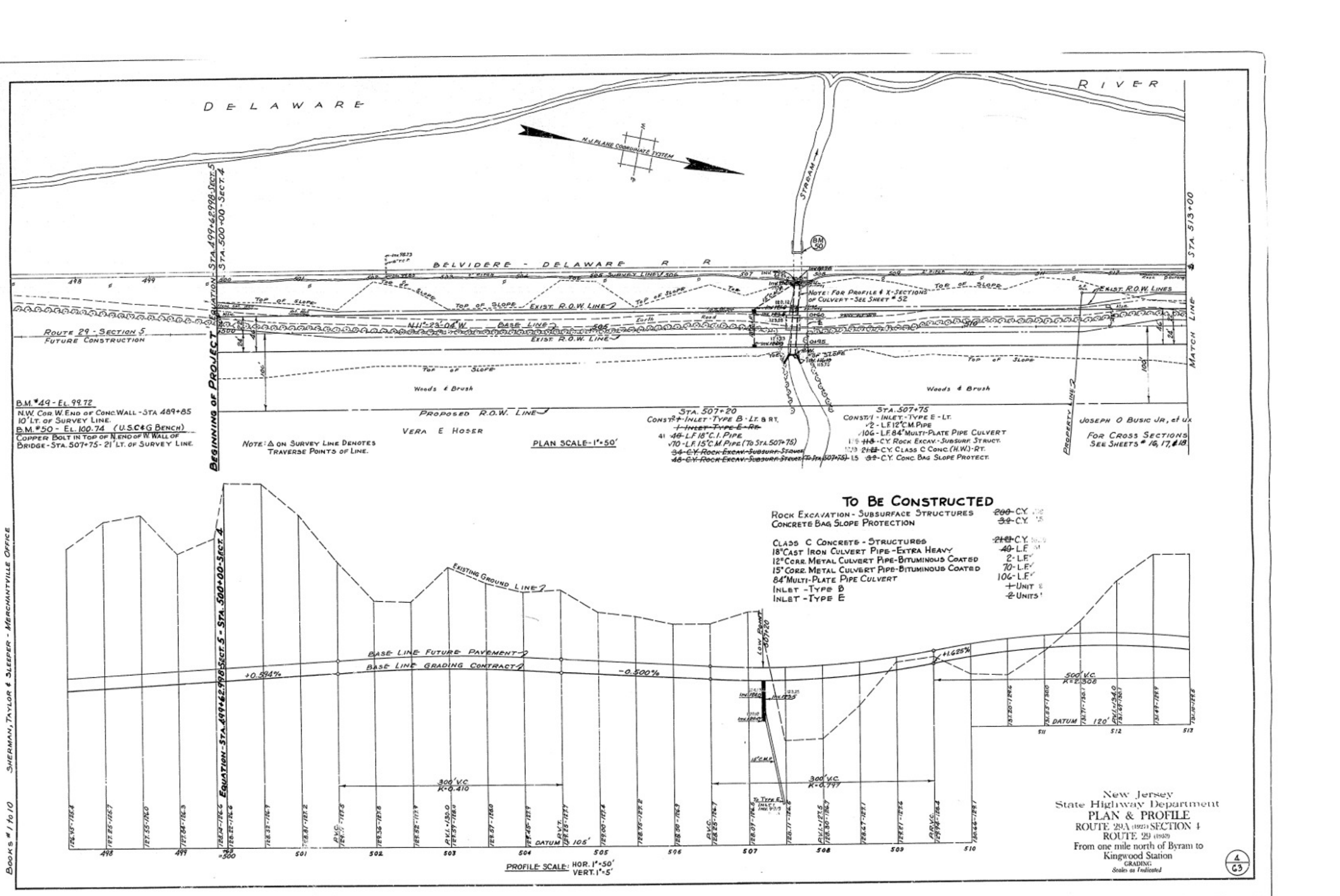


ESTIMATE OF QUANTITIES

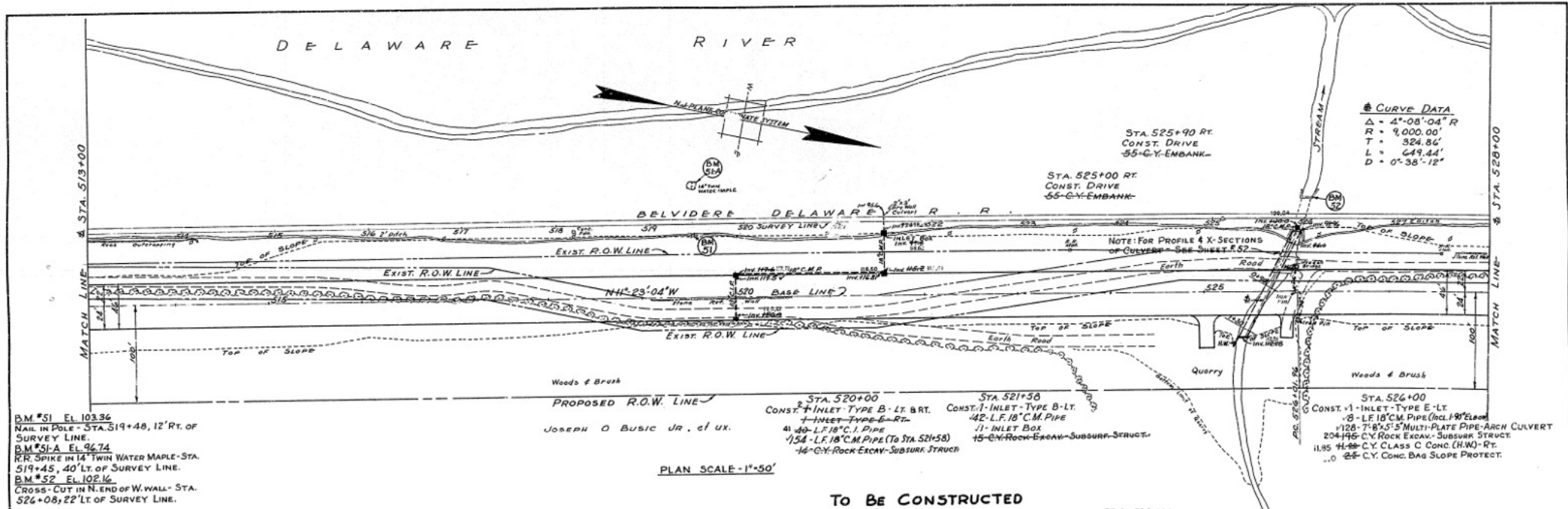
ITEM	DESCRIPTION	UNIT	QUANTITY	AS-BUILT	ITEM	DESCRIPTION	UNIT	QUANTITY	AS-BUILT	ITEM	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
1	FIELD OFFICE	LUMP SUM			18	18" CAST IRON CULVERT PIPE - EXTRA HEAVY	L.F.	582	593	35	WOOD BARRICADE	L.F.	200	0
2	CLEARING SITE	LUMP SUM			19	30" CAST IRON CULVERT PIPE - EXTRA HEAVY	L.F.	106	113	36	REINFORCEMENT STEEL IN STRUCTURES	LBS	4,282	4,777
3	STRIPPING	ACR	6	0	20	12" CORRUGATED METAL CULVERT PIPE - BITUMINOUS COATED	L.F.	8	93	SA-1	SCALPING	L.F.		5,600
4	ROADWAY EXCAVATION - EARTH	C.Y.	23,102	0	21	15" CORRUGATED METAL CULVERT PIPE - BITUMINOUS COATED	L.F.	70	70	SA-3	ROADWAY EXCAVATION - UNCLASSIFIED	C.Y.		236,109
5	ROADWAY EXCAVATION - ROCK	C.Y.	173,476	0	22	18" CORRUGATED METAL CULVERT PIPE - BITUMINOUS COATED	L.F.	3,812	3,862	SA-4	ADDITIONAL CLEARING SITE	ACR		158
6	BORROW EXCAVATION	C.Y.	10,000	0	23	24" CORRUGATED METAL CULVERT PIPE - BITUMINOUS COATED	L.F.	10	10					
7	DITCH EXCAVATION - EARTH	C.Y.	1,500	2,100	24	30" CORRUGATED METAL CULVERT PIPE - BITUMINOUS COATED	L.F.	182	177					
8	DITCH AND CHANNEL EXCAVATION - ROCK	C.Y.	100	115	25	72" MULTI-PLATE PIPE CULVERT	L.F.	214	214					
9	EARTH EXCAVATION - SUBSURFACE STRUCTURES - ADDITIONAL DEPTH	C.Y.	100	0	26	84" MULTI-PLATE PIPE CULVERT	L.F.	106	106					
10	ROCK EXCAVATION SUBSURFACE STRUCTURES	C.Y.	2,500	1,471	27	7'-8" X 5'-5" MULTI-PLATE PIPE ARCH CULVERT	L.F.	128	128					
11	4" TOP SOILING	S.Y.	15,000	16,486	28	10'-3" X 6'-9" MULTI-PLATE PIPE ARCH CULVERT	L.F.	136	135					
12	PEAT HUMUS	TONS	27	60	29	12'-4" X 7'-9" MULTI-PLATE PIPE ARCH CULVERT	L.F.	176	176					
13	MULCHING	S.Y.	15,000	7,528	30	INLETS - TYPE B	UNIT	36	41					
14	CONCRETE BAG SLOPS - PROTECTION	C.Y.	25	18	31	INLETS - TYPE E	UNIT	18	13					
15	BROKEN STONE OR WASHED GRAVEL	TONS	750	0	32	INLET BOXES	UNIT	9	9					
16	CLASS C CONCRETE IN STRUCTURES	C.Y.	225	183	33	EXTRA DEPTH OF INLETS - BELOW 8 FEET	L.F.	5	2					
17	UNDERDRAIN - TYPE F	L.F.	5,000	0	34	GROUTED RUBBLE STONE GUTTER	S.Y.	1,500	115					

New Jersey
 State Highway Department
TYPICAL SECTIONS
 ESTIMATE OF QUANTITIES
 ROUTE 29A (1927) SECTION 4
 ROUTE 29 (1953)
 From one mile north of Byram to
 Kingwood Station
 GRADING
 Scales as Indicated

1009 002 063



1009 004 063



B.M. #51 EL 103.36
 NAIL IN POLE - STA. 519+48, 12' RT. OF SURVEY LINE.
 B.M. #51-A EL 96.74
 RR SPIKE IN 14" TWIN WATER MAPLE - STA. 519+45, 40' LT. OF SURVEY LINE.
 B.M. #52 EL 102.16
 CROSS-CUT IN N. END OF W. WALL - STA. 526+08, 22' LT. OF SURVEY LINE.

Joseph O Busic Jr. of ux.

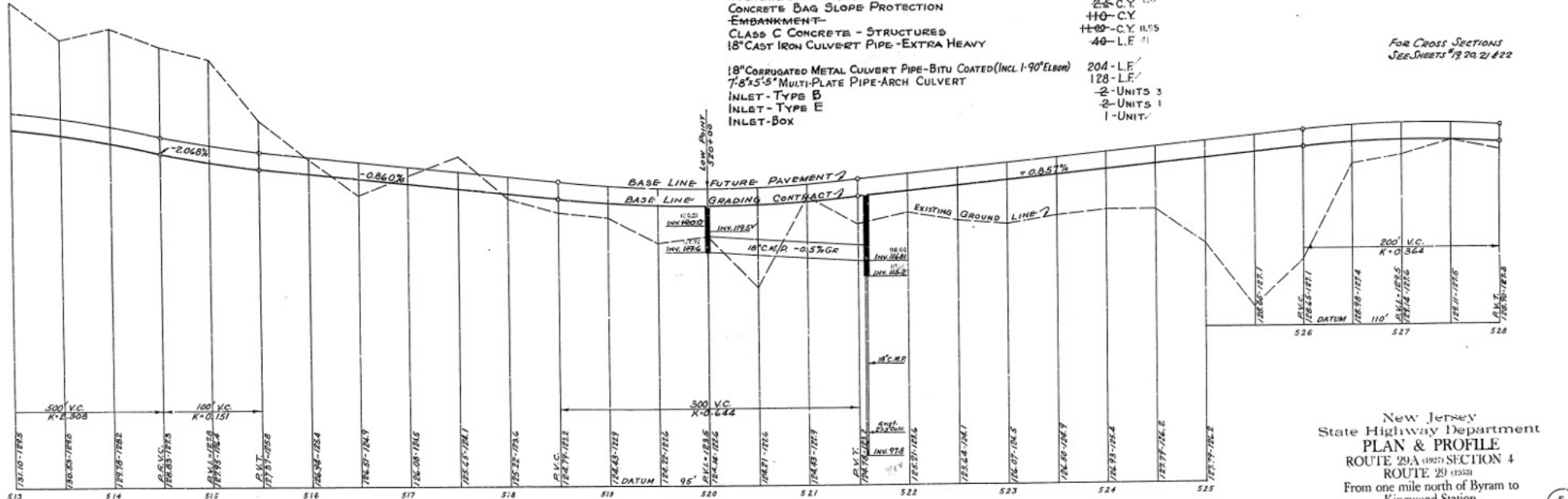
PLAN SCALE - 1"=50'

TO BE CONSTRUCTED

- ROCK EXCAVATION - SUBSURFACE STRUCTURES
- CONCRETE BAG SLOPE PROTECTION
- EMBANKMENT -
- CLASS C CONCRETE - STRUCTURES
- 18" CAST IRON CULVERT PIPE - EXTRA HEAVY
- 18" CORRUGATED METAL CULVERT PIPE - BITU COATED (INCL. 1-90' ELSON)
- 7'-8" x 5'-5" MULTI-PLATE PIPE-ARCH CULVERT
- INLET - TYPE B
- INLET - TYPE E
- INLET - BOX

- 224 - C.Y. 204
- 25 - C.Y. 110
- 110 - C.Y. 110
- 110 - C.Y. 110
- 40 - L.F. 204
- 204 - L.F. 128
- 2 - UNITS 3
- 2 - UNITS 1
- 1 - UNIT 1

FOR CROSS SECTIONS
 SEE SHEETS 1920.21 & 22



New Jersey
 State Highway Department
PLAN & PROFILE
 ROUTE 29A (1927) SECTION 4
 ROUTE 29 (1933)
 From one mile north of Byram to
 Kingwood Station
 GRADING
 Scales as Indicated

1009 005 063

DELAWARE

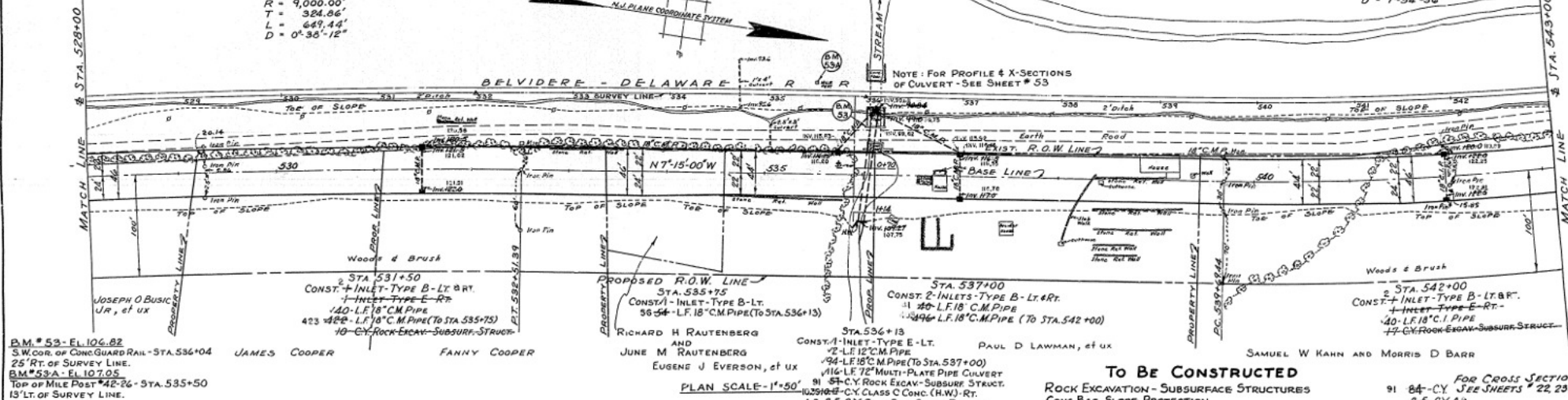
RIVER

CURVE DATA
 $\Delta = 4^{\circ}08'04''$ R
 $R = 9,000.00'$
 $T = 324.06'$
 $L = 649.14'$
 $D = 0^{\circ}36'12''$

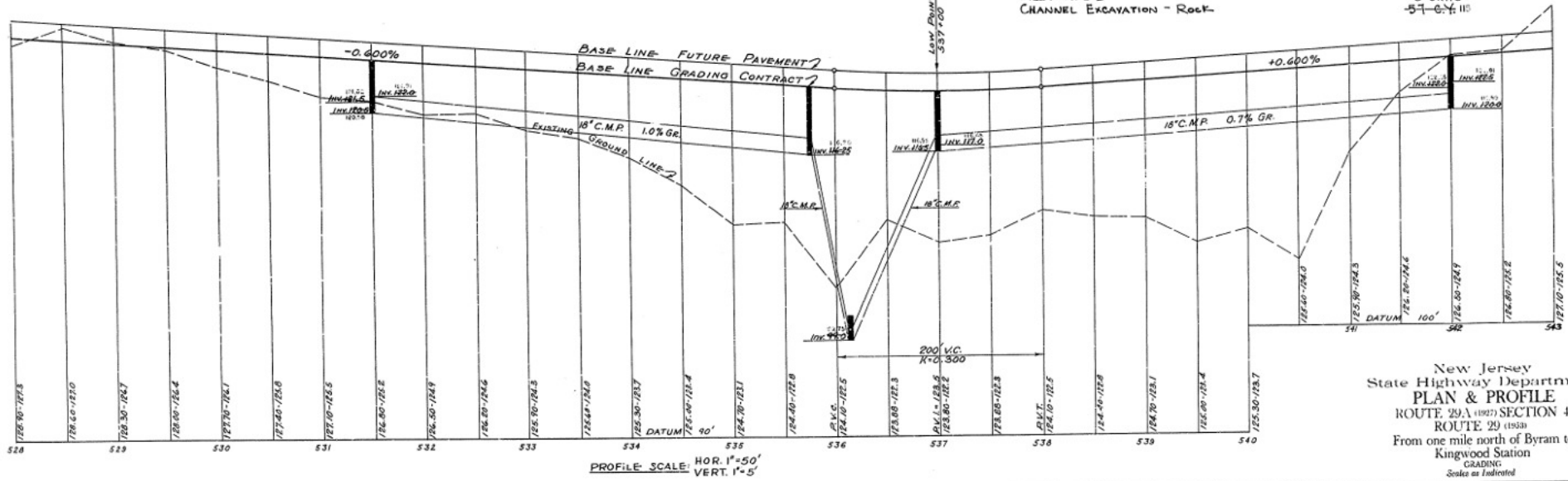
CURVE DATA
 $\Delta = 6^{\circ}56'32''$ L
 $R = 3,000.00'$
 $T = 234.58'$
 $L = 463.21'$
 $D = 1^{\circ}54'36''$



NOTE: FOR PROFILE & X-SECTIONS OF CULVERT - SEE SHEET # 53

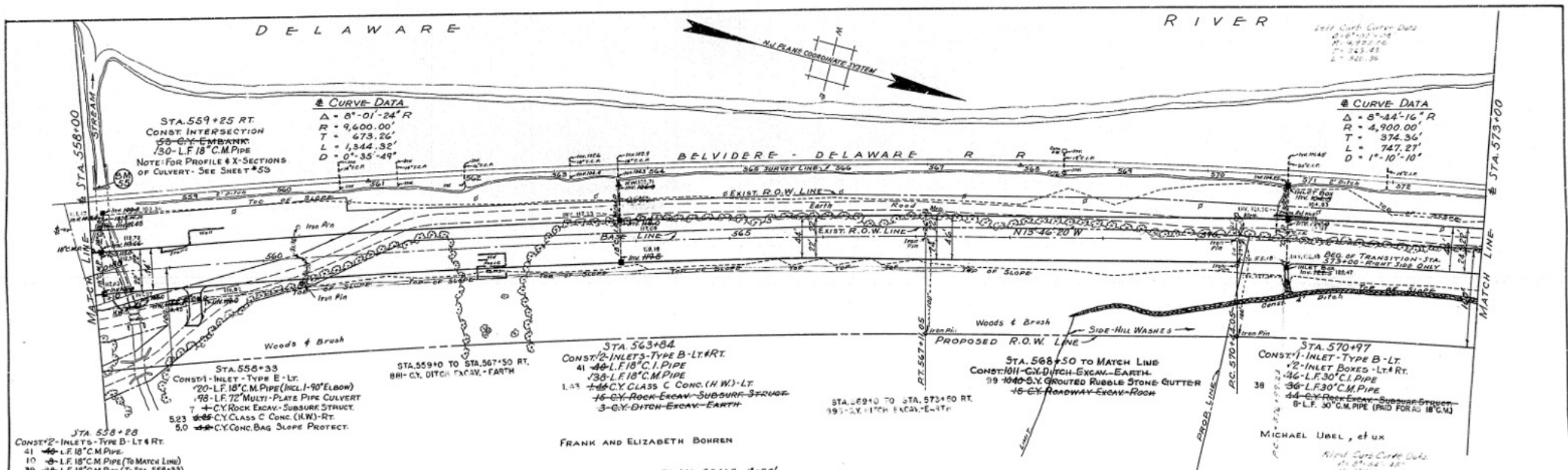


- To Be Constructed**
- ROCK EXCAVATION - SUBSURFACE STRUCTURES
 - CONC. BAG SLOPE PROTECTION
 - ROADWAY EXCAVATION - ROCK
 - CLASS C CONCRETE - STRUCTURES
 - 18" CAST IRON CULVERT PIPE - EXTRA HEAVY
 - 18" CORRUGATED METAL CULVERT PIPE - BITUMINOUS COATED
 - 72" MULTI-PLATE PIPE CULVERT
 - INLET-TYPE B
 - INLET-TYPE E
 - CHANNEL EXCAVATION - ROCK
- FOR CROSS SECTIONS SEE SHEETS # 22, 23 & 24**
- 91 84-CY
 - 3-6-CY 4.9
 - 10-CY
 - 16.5-CY 10.39
 - 40-L.F.
 - 2-L.F.
 - 116-L.F. 114.9
 - 116-L.F.
 - 5-UNITS 7
 - 3-UNITS 1
 - 57-CY 115



New Jersey
 State Highway Department
PLAN & PROFILE
 ROUTE 29A (1927) SECTION 4
 ROUTE 29 (1930)
 From one mile north of Byram to
 Kingwood Station
 GRADING
 Scales as Indicated

1009 006 063



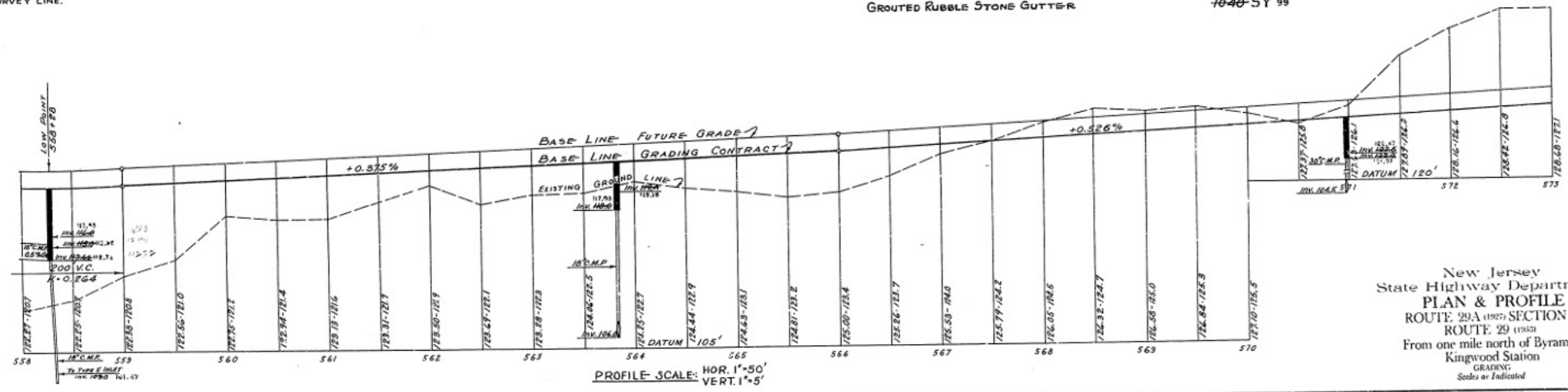
PLAN SCALE - 1"=50'

TO BE CONSTRUCTED

- DITCH EXCAVATION - EARTH 1014 CY 1774
- ROCK EXCAVATION - SUBSURFACE STRUCTURES 60 CY 7
- CONCRETE BAG SLOPE PROTECTION 40 CY 5.0
- ROADWAY EXCAVATION - ROCK 15 CY
- CLASS C CONCRETE - STRUCTURES 8.2 CY 0.6f
- 18" CAST IRON CULVERT PIPE - EXTRA HEAVY 40 L F 41
- 30" CAST IRON CULVERT PIPE - EXTRA HEAVY 46 L F 4
- EMDANKMENT 50 CY
- 18" CORRUGATED METAL CULVERT PIPE - BITU. COATED (INCL. 1.00' 2.00' 2.00') 174 L F 186
- 30" CORRUGATED METAL CULVERT PIPE - BITU. COATED 36 L F 38
- 72" MULTI-PLATE PIPE CULVERT 98 L F
- INLET - TYPE B 5 UNITS ✓
- INLET - TYPE E 1 UNIT ✓
- INLET BOX 2 UNITS ✓
- GROUTED RUBBLE STONE GUTTER 1040 SY 99

For Cross Sections See SHEETS # 24 29 30

BM #55-EL 104.989
S.W. COR. OF W. HEADWALL - STA 558+06
14' LT. OF SURVEY LINE.



PROFILE SCALE: HOR. 1"=50' VERT. 1"=5'

New Jersey State Highway Department
PLAN & PROFILE
ROUTE 29A (1957) SECTION 1
ROUTE 29 (1953)
From one mile north of Byram to Kingwood Station
GRADING
Scales as Indicated

B
63

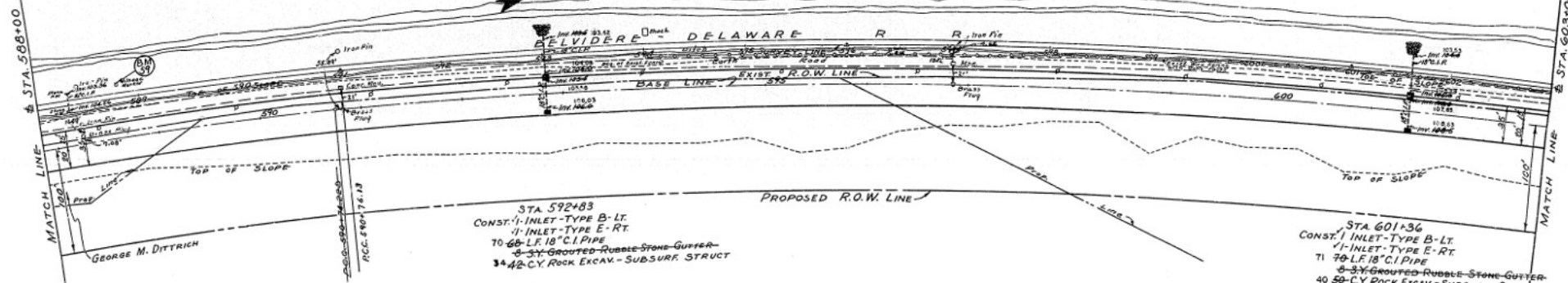
1009 008 063

DELAWARE

RIVER

△ CURVE DATA
 $\Delta = 72^{\circ}07'24''$ R $6^{\circ}51'16''$
 R = 3,912.40 3933.86
 T = 242.92 236.79
 L = 486.41 473.01
 D = 15-87-62

△ CURVE DATA
 $\Delta = 11^{\circ}42'30''$ R
 R = 4,000.00 5927.47
 T = 615.19 608.78
 L = 1,224.09 1213.32
 D = 05-57-18



STA 592+83
 CONST. 1' INLET - TYPE B - LT.
 1' INLET - TYPE E - RT.
 TO 60' L.F. 18" C.I. PIPE
 6-3% GROUTED RUBBLE STONE GUTTER
 34.42 C.Y. ROCK EXCAV. - SUBSURF. STRUCT.

STA 601+36
 CONST. 1' INLET - TYPE B - LT.
 1' INLET - TYPE E - RT.
 TO 70' L.F. 18" C.I. PIPE
 6-3% GROUTED RUBBLE STONE GUTTER
 40.50 C.Y. ROCK EXCAV. - SUBSURF. STRUCT.

IRA JEWEL WILLIAMS, et al

TO BE CONSTRUCTED

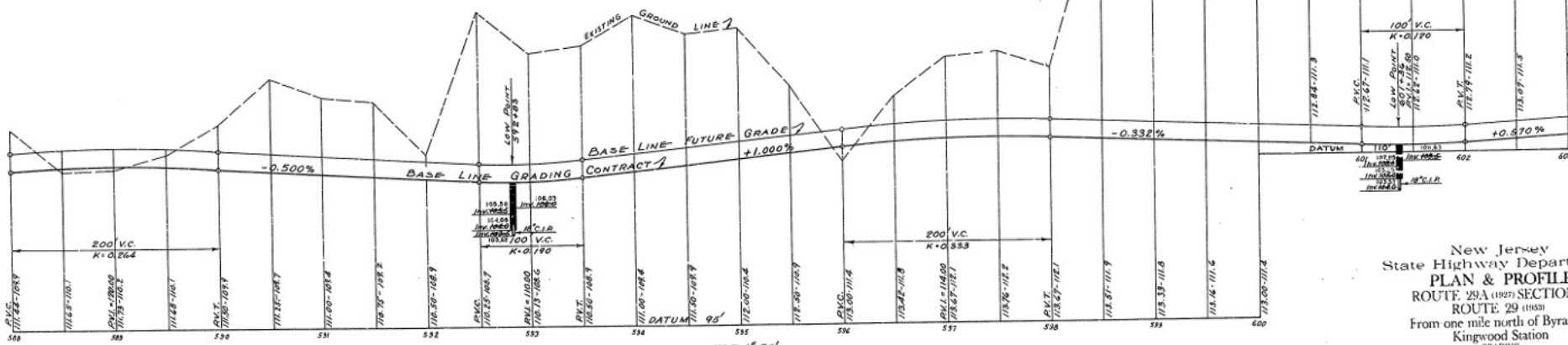
ROCK EXCAVATION - SUBSURFACE STR. 92 C.Y. 74
 18" CAST IRON CULVERT PIPE - EXTRA HEAVY 138 L.F. 141
 INLET - TYPE B 2 UNITS
 INLET - TYPE E 2 UNITS
 GROUTED RUBBLE STONE GUTTER 16 SY

ALCESTE R. MILBURY

For Cross Sections
 See Sheets #35, 36, 37, 38 & 39

PLAN SCALE - 1" = 50'

BM #59 - EL. 110.21
 TOP OF MILE POST - STA 588+78
 12' LT. OF SURVEY LINE.



PROFILE SCALE - HOR. 1" = 50' VERT. 1" = 5'

New Jersey
 State Highway Department
PLAN & PROFILE
 ROUTE 29A (1927) SECTION 4
 ROUTE 29 (1953)
 From one mile north of Byram to
 Kingwood Station
 GRADING
 Scale as Indicated

10
G3

1009 010 063

DELAWARE

RIVER

CURVE DATA

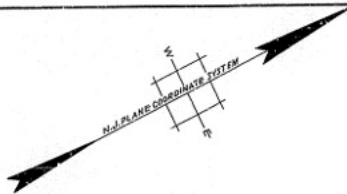
Δ = 6°-02'-32" L
R = 6,133.56'
T = 324.77'
L = 648.93'
D = 0°-58'-52"

CURVE DATA

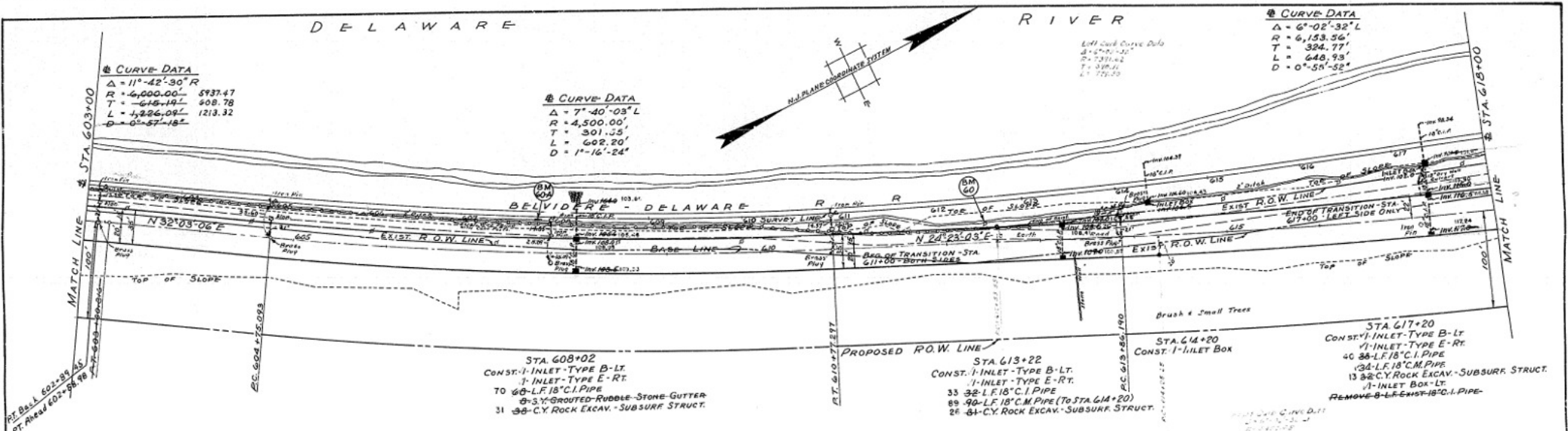
Δ = 11°-42'-30" R
R = 6,000.00' 5937.47
T = 648.14' 508.78
L = 4,826.09' 1213.32
D = 0°-57'-18"

CURVE DATA

Δ = 7°-40'-03" L
R = 4,500.00'
T = 301.35'
L = 602.20'
D = 1°-16'-24"



Left Hand Curve Data
Δ = 6°-02'-32"
R = 6,133.56'
T = 324.77'
L = 648.93'
D = 0°-58'-52"



B.M. #60-A - EL. 108.76
SQUARE-CUT IN TOP OF ROCK HW. STA. 607+81
5' RT. OF SURVEY LINE.
B.M. #60 - EL. 105.83
SPIKE IN POLE - STA. 612+56
20' RT. OF SURVEY LINE.

STA. 608+02
CONST. 1'-INLET-TYPE B-LT
1'-INLET-TYPE E-RT
TO 60'-L.F. 18" C.I. PIPE
8'-3" GROUTED-RUBBLE-STONE-GUTTER
31 36'-C.Y. ROCK EXCAV. - SUBSURF. STRUCT.

STA. 613+22
CONST. 1'-INLET-TYPE B-LT
1'-INLET-TYPE E-RT
33 36'-L.F. 18" C.I. PIPE
89 36'-L.F. 18" C.M. PIPE (TO STA. 614+20)
26 64'-C.Y. ROCK EXCAV. - SUBSURF. STRUCT.

STA. 617+20
CONST. 1'-INLET-TYPE B-LT
1'-INLET-TYPE E-RT
46 36'-L.F. 18" C.I. PIPE
134'-L.F. 18" C.M. PIPE
13 36'-C.Y. ROCK EXCAV. - SUBSURF. STRUCT.
1'-INLET BOX-LT
REMOVE B-LT EXIST. 18" C.I. PIPE

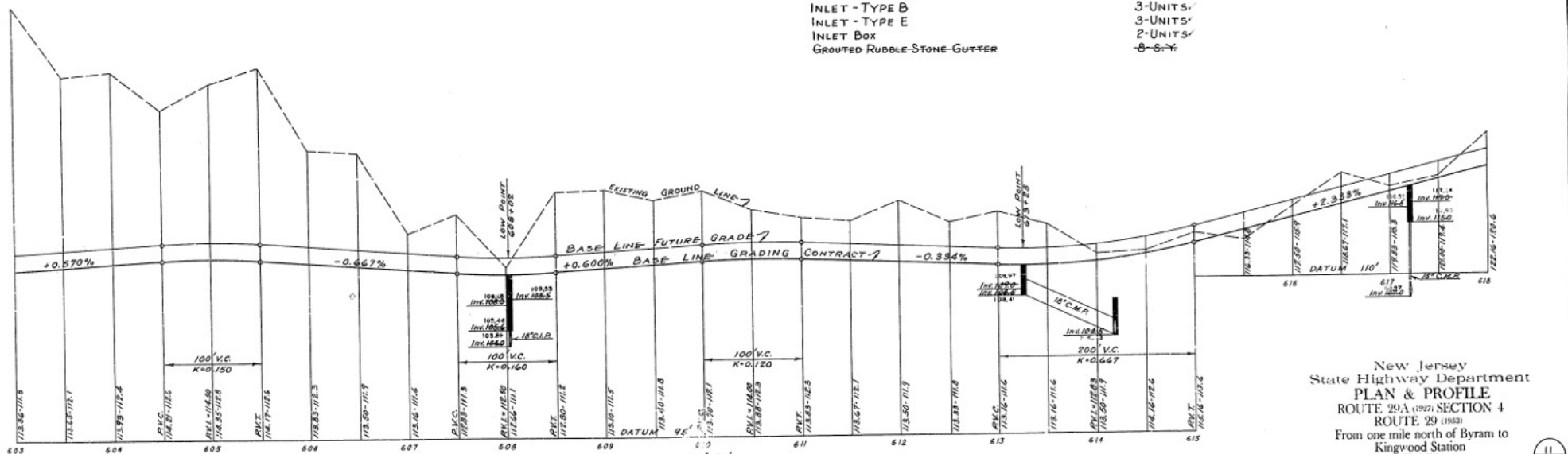
ALCESTER MILBURY

PLAN SCALE - 1" = 50'

TO BE CONSTRUCTED

- Rock Excavation - SUBSURFACE STR. 151'-C.Y. 70
- 18" CAST IRON CULVERT PIPE-EXTRA HEAVY 138'-L.F. 143
- 18" CORR. METAL CULVERT PIPE-BIT. COATED 124'-L.F. 123
- INLET - TYPE B 3-UNITS
- INLET - TYPE E 3-UNITS
- INLET BOX 2-UNITS
- GROUTED RUBBLE-STONE-GUTTER 8'-S-Y

For Cross Sections See SHEETS 40.41, 42 & 43



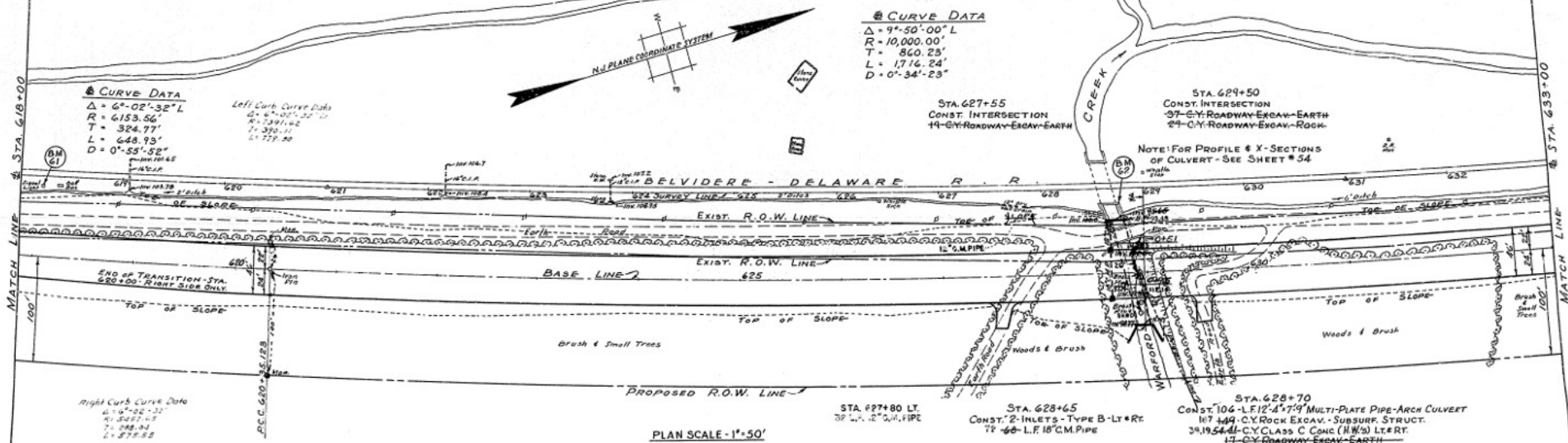
PROFILE SCALE - HOR. 1" = 50' VERT. 1" = 5'

New Jersey State Highway Department
PLAN & PROFILE
ROUTE 29A 1927 SECTION 4
ROUTE 29 (1933)
From one mile north of Byram to Kingwood Station
GRADING
Scales as Indicated

1009 011 063

DELAWARE

RIVER



PLAN SCALE - 1"=50'

ALCESTE R. MILBURY

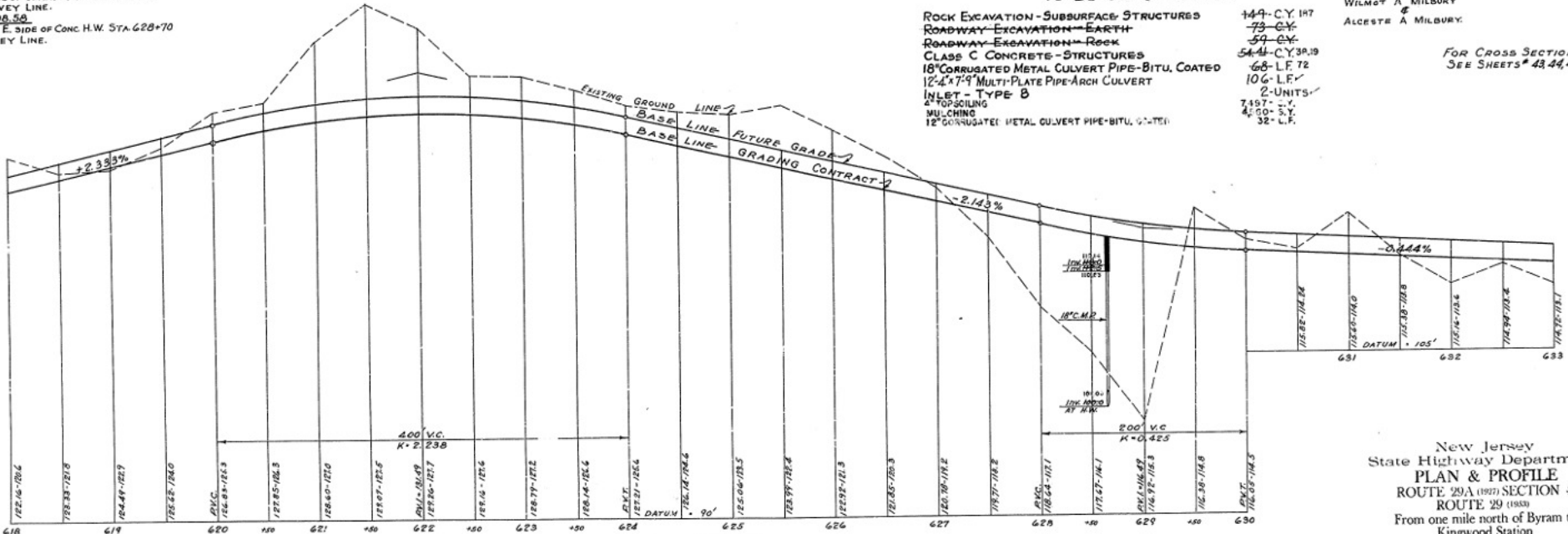
TO BE CONSTRUCTED

ROCK EXCAVATION - SUBSURFACE STRUCTURES	144 C.Y. INT
ROADWAY EXCAVATION - EARTH	73 C.Y.
ROADWAY EXCAVATION - ROCK	54 C.Y.
CLASS C CONCRETE - STRUCTURES	54.41 C.Y. 39.19
18" CORRUGATED METAL CULVERT PIPE-BITU. COATED	68 L.F. 72
12" x 7'-9" MULTI-PLATE PIPE-ARCH CULVERT	106 L.F.
INLET - TYPE B	2 UNITS
2" TOP SOILING	7.157 L.F.
MULCHING	4.50 S.Y.
12" CORRUGATED METAL CULVERT PIPE-BITU. COATED	32 L.F.

WILMOT A. MILBURY & ALCESTE A. MILBURY

FOR CROSS SECTIONS SEE SHEETS 43, 44, 45 & 46

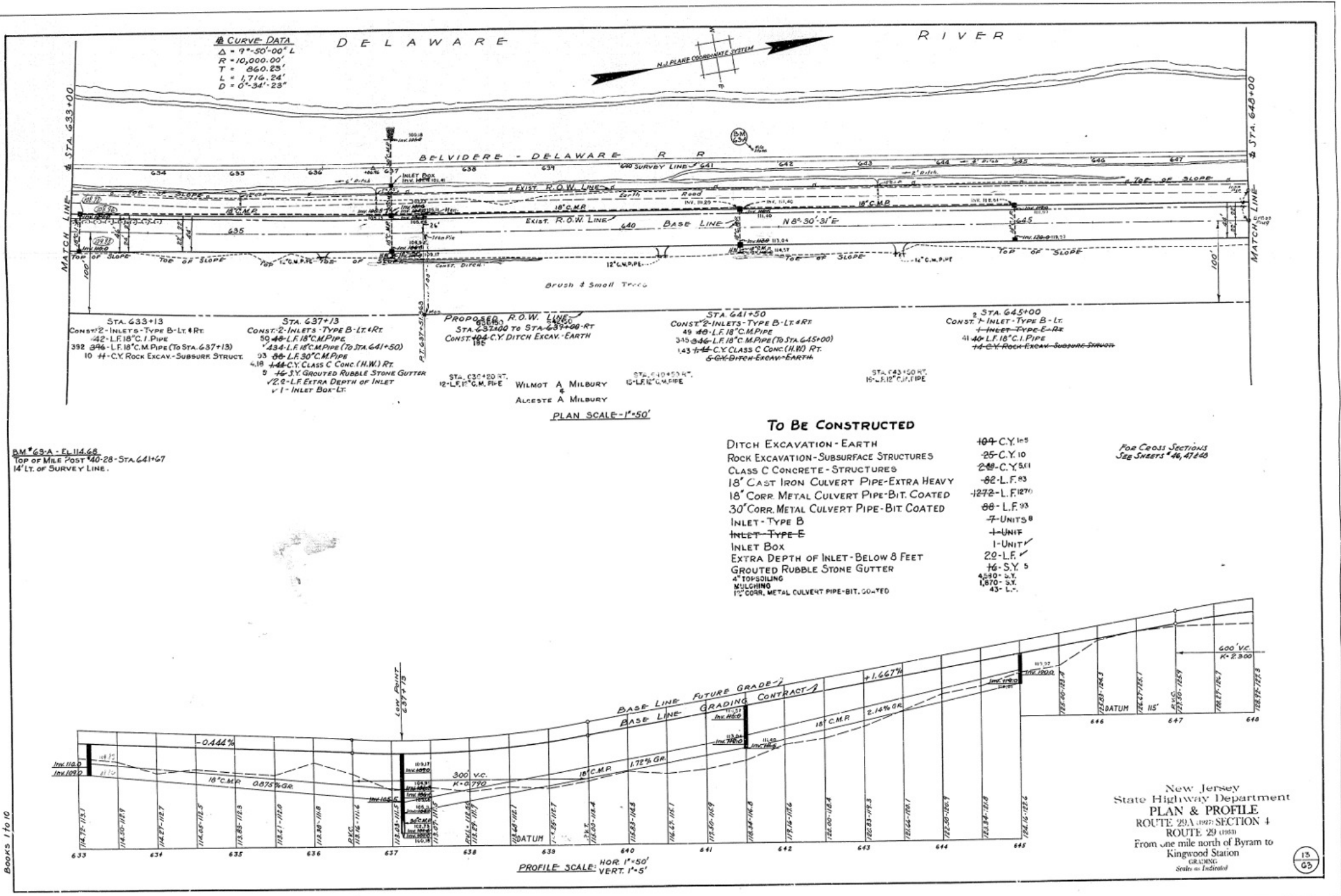
B.M. #61 - E.L. 110.71
 S.W. COR. OF BASE OF SENAPHORE - STA. 618+22
 6' RT. OF SURVEY LINE.
 B.M. #62 - E.L. 108.50
 CROSS-CUT IN E. SIDE OF CONC. H.W. STA. 628+70
 14' RT. OF SURVEY LINE.



PROFILE SCALE: HOR. 1"=50' VERT. 1"=5'

New Jersey
 State Highway Department
PLAN & PROFILE
 ROUTE 29A (1987) SECTION 4
 ROUTE 29 (1985)
 From one mile north of Byram to
 Kingwood Station
 GRADING
 Scales as Indicated

1009 012 063

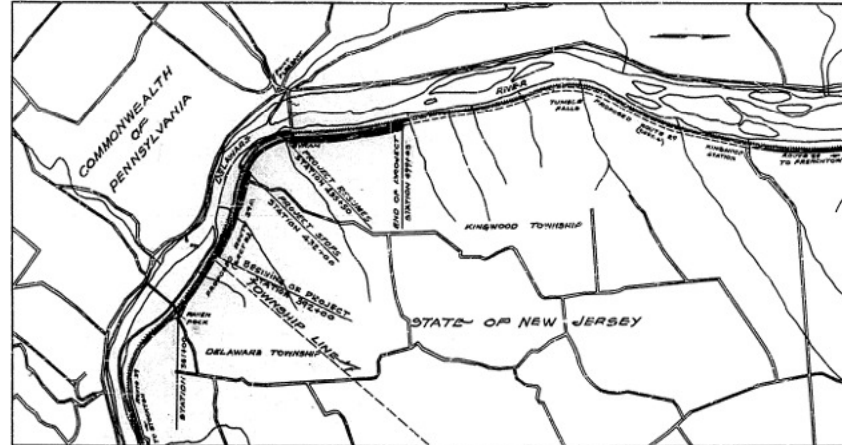


1009 013 063

STATE OF NEW JERSEY
 HIGHWAY DEPARTMENT
 PLANS OF
 ROUTE 29A (1927) SECTION 5A
 ROUTE 29 (1953)
 From Raven Rock to one mile north of Byram
 PARTIAL GRADING
 Delaware and Kingwood Townships Hunterdon County
 Scales as Indicated December 1953

AS-BUILT

INDEX OF SHEETS	
1	KEY SHEET
2	TYPICAL SECTIONS & ESTIMATE OF QUANTITIES SHEET
3	DISTRIBUTION SHEET
4 to 11	PLAN SHEETS
12	TIE SHEET
13 to 33	X-SECTION SHEETS
34	EARTHWORK CHART
35 to 36	PROFILES & X-SECTION OF CULVERTS
37 to 40	CONSTRUCTION DETAILS



CONTROL SECTION 1008

UTILITIES	
	PENNSYLVANIA RAILROAD CO.
	NEW YORK CITY, N.Y.
	N.J. BELL TELEPHONE CO.
	TRENTON, N.J.
	N.J. POWER & LIGHT CO.
	PHILLIPSBURG, N.J.

LAYOUT & KEY MAP

SCALE - 1" = 1/2 MILE

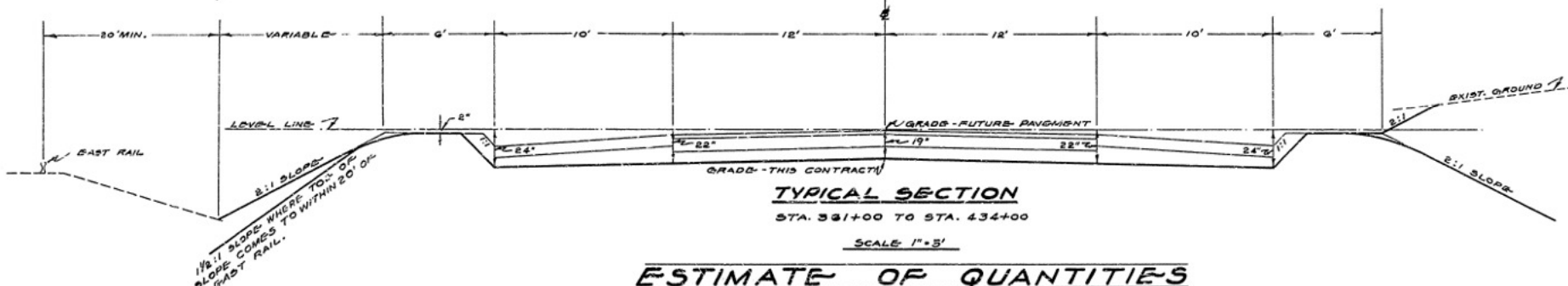
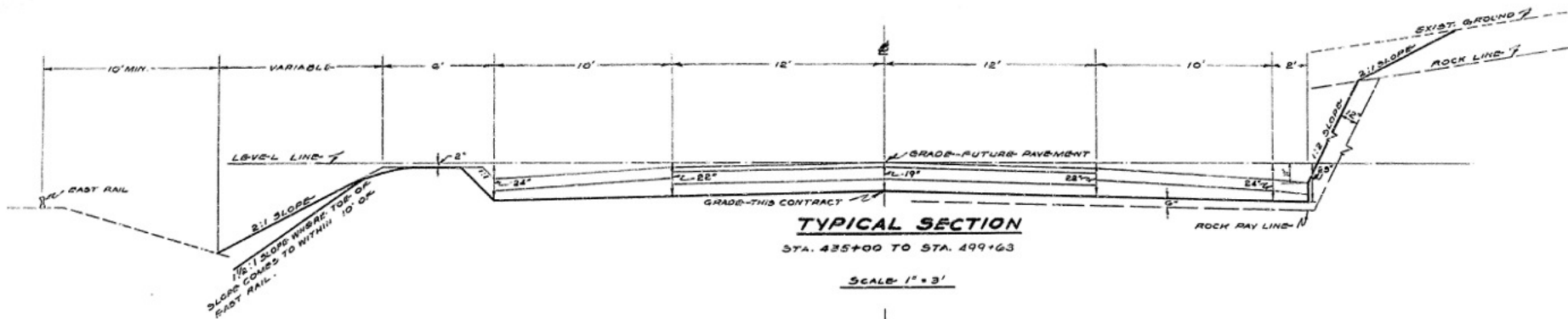
LENGTH OF PROJECT - 8,413 Lin. Ft. - 1.593 Miles

STANDARD HIGHWAY SPECIFICATIONS OF TO GOVERN

1-32

Submitted by Fred L. Leonard 12-29-53
 ASST. Director and Chief Road Engineer Date
 Approved by G. Herbert Buttrick 12-29-53
 ASST. State Highway Engineer Date
 Approved by R. V. Collier 12-29-53
 State Highway Commissioner Date

1008 001 | 040



ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY AS BUILT	ITEM	DESCRIPTION	UNIT	QUANTITY AS BUILT	ITEM	DESCRIPTION	UNIT	QUANTITY AS BUILT
1	FIELD OFFICE	L.S. LUMP SUM		27	GROUTED RUBBLE STONE GUTTER	S.Y.	80	54			
2	CLEARING SITE	L.S. LUMP SUM		28	HEADWALLS	CY	150	180			
3	STRIPPING, 8" DEPTH	ACRE	10	29	WOOD BARRICADE	LF	200	179			
4	ROADWAY EXCAVATION, EARTH	CY	15,168	30	DEMOLITION OF 2 STORY FRAME DWELLING, AT STATION 457+15	L.S. LUMP SUM		LUMP SUM			
5	ROADWAY EXCAVATION, ROCK	CY	114,012		SA-1 ROADWAY EXCAVATION UNCLASSIFIED	CY		119,132			
6	BORROW EXCAVATION	CY	15000		SA-4 CLEARING SITE	ACRD		5			
7	CHANNEL EXCAVATION	CY	500		SA-4 CALCIUM CHLORIDE	TOL		2			
8	DITCH EXCAVATION, EARTH	CY	400								
9	DITCH EXCAVATION, ROCK	CY	200								
10	ROCK EXCAVATION, SUBSURFACE STRUCTURES	CY	1000								
11	EARTH EXCAVATION, SUBSURFACE STRUCTURES, ADDITIONAL DEPTH	CY	100								
12	4" TOP SOILING	S.Y.	25000								
13	MULCHING (HAY)	S.Y.	20000								
14	BROKEN STONE OR WASHED GRAVEL	TONS	260								
15	UNDERDRAIN, TYPE F	LF	2,000								
16	18" REINFORCED CONCRETE CULVERT PIPE	LF	646								
17	24" REINFORCED CONCRETE CULVERT PIPE	LF	66								
18	30" REINFORCED CONCRETE CULVERT PIPE	LF	90								
19	18" CAST IRON CULVERT PIPE, EXTRA HEAVY	LF	200								
20	18" CORRUGATED METAL CULVERT PIPE WITH RIBS COATED BITUMINOUS COATED BAVED INTERST	LF	178								
21	6'3" x 4'10" CORRUGATED METAL PLATE PIPE ARCH	LF	74								
22	11'10" x 7'7" CORRUGATED METAL PLATE PIPE ARCH	LF	100								
23	INLETS, TYPE B	UNIT	15								
24	INLETS, TYPE E	UNIT	5								
25	INLET BOXES	UNIT	2								
26	EXTRA DEPTH OF INLETS, BELOW 8 FEET	LF	20								

New Jersey
State Highway Department
ESTIMATE OF QUANTITIES
TYPICAL SECTIONS
ROUTE 29A (1927) SECTION 5A
ROUTE 29 (1938)
From Raven Rock to one mile north of Byram
PARTIAL GRADING
Scale as Indicated

1008 002 | 040