

Monmouth County Three Bridges

Boroughs of Brielle and Manasquan

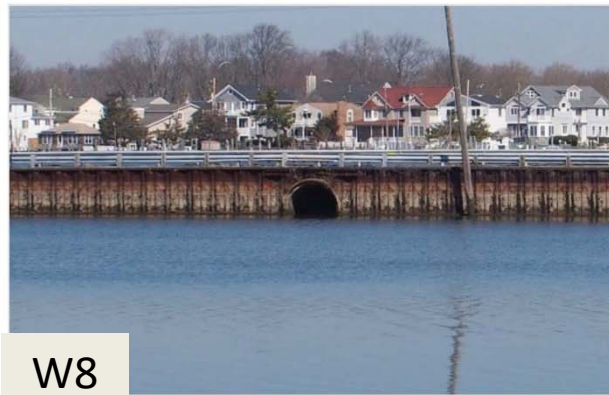
Bridge W-7, Green Avenue over Debbie's Creek

Structure W-8, Fisk Avenue Culvert between Debbie's Creek
and The Glimmer Glass

Bridge W-9, Brielle Road Bridge over The Glimmer Glass



W7



W8



W9

Public Information Center #3

Recommended Preliminary Preferred Alternatives

Scoping Phase, Section 106 of the National Historic Preservation Act,
N.J. Register of Historic Places Act, Section 4(f) and other Environmental Review Processes

February 15, 2018

2 to 4 pm Manasquan Borough Hall

6 to 8 pm Brielle Borough at the Curtis House

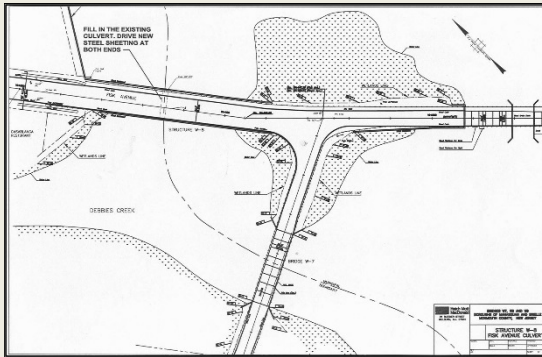


Agenda

- Welcome / Introductions
- Purpose of Meeting
- Public Interaction to Date
- Review of P&N & Goals
- Alternatives Considered and Recommended Preliminary Preferred Alternative for each Bridge
- Next Steps
- Opportunities for Input



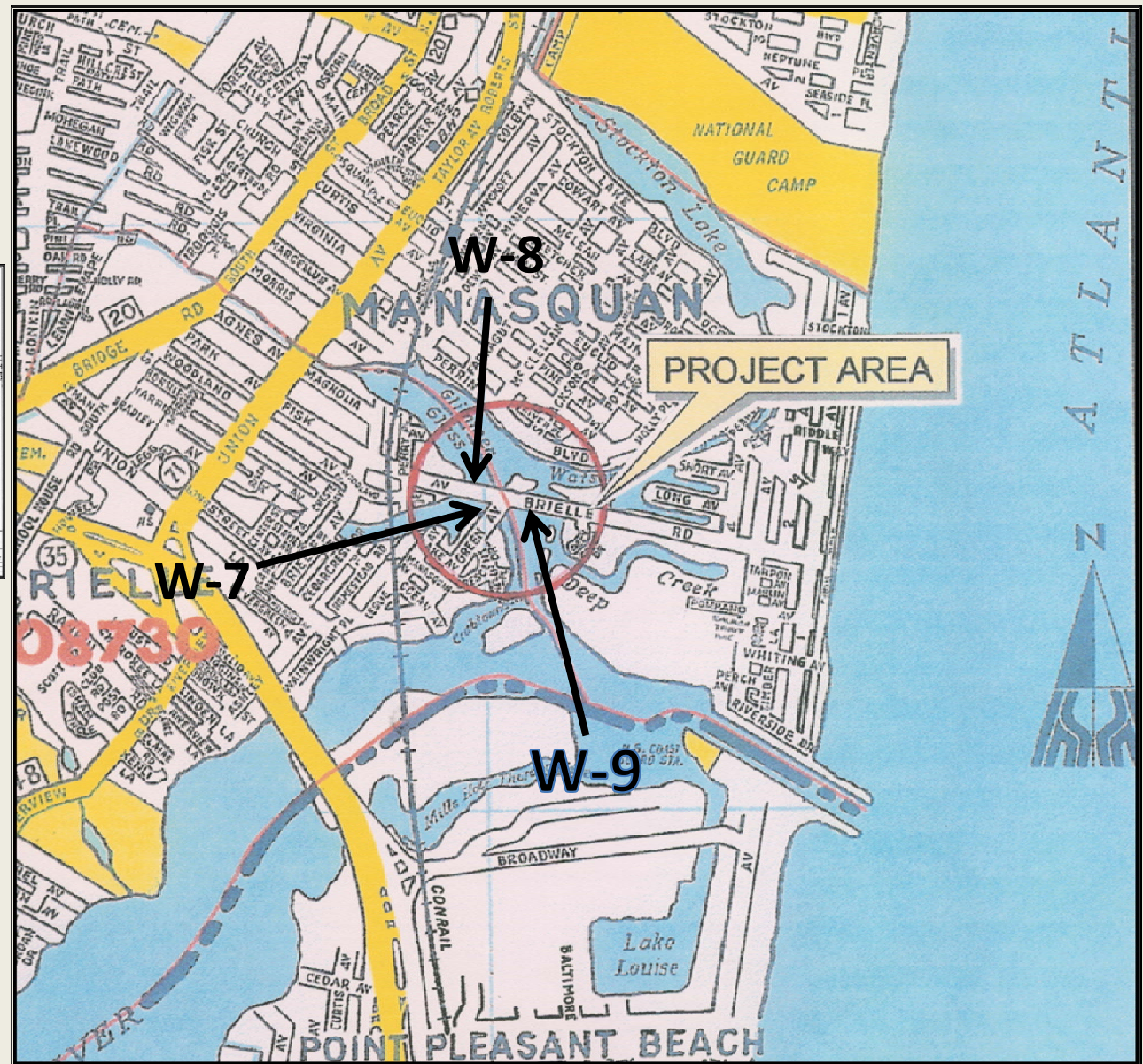
Location Map



Bridge W-7
(Green Avenue)

Structure W-8
(Fisk Avenue)

Bridge W-9
(Brielle Road)



Project Delivery Process



Public Interaction to Date (since 2016)

- **Meetings – Round 1 (April & May 2016)**

Re-Introduced Project, Solicited Public Opinion on Purpose, Needs, Goals and Objectives

- Local Officials Briefing, Brielle and Manasquan
- Stakeholder Meeting
- Public Information Centers, Brielle and Manasquan

- **Meetings – Round 2 (Nov. & Dec. 2016)**

Reviewed Project Alternatives

- Local Officials Briefing, Brielle and Manasquan
- Stakeholder Meeting
- Public Information Centers, Brielle and Manasquan



Public Interaction to Date (since 2016)

(continued)

- **Project Website**

monmouthcountythreebridges.com

Project Information , FAQs, contact information

- **Email / Letter Comments**



Project Purpose

To provide a safe and efficient crossing for all modes of travel within the project limits by addressing the geometric, structural, operational and maintenance deficiencies of:

Bridge W-7 (Green Avenue over Debbie's Creek),
Structure W-8 (Fisk Avenue Culvert), and
Bridge W-9 (Brielle Road over the Glimmer Glass)



Project Needs

- Bridge Needs (including emergency vehicles, clearances, bridge width)
- Roadway Needs (Lane/Shoulder Widths)
- System Linkage (Roadway Network Connectivity, Emergency Response, Coastal Evacuation, Marine Access)
- Pedestrian and Bicycle Compatibility / ADA



Project Goals and Objectives

- Provide sidewalk connectivity
- Reduce the safety risks for all users
- Reduce the frequency of major bridge maintenance activities
- Maintain traffic with minimum disruption during construction

Slide 1 of 2



Project Goals and Objectives

(continued)

- Avoid or minimize social, economic and environmental impacts
- Avoid, minimize and, if necessary, mitigate adverse effects on the National and NJ Register of Historic Places listed Bridge W-9
- Incorporate Context Sensitive Solutions approach into the design

Slide 2 of 2



Concerns Expressed During Purpose and Needs PIC #1

Six Main Categories: *(in no particular order)*

- Safety / Bicyclists / Pedestrians
- Operations (roadway and waterway)
- Historic Significance and Character of the Area
- Environmental and Right of Way Impacts
- Cost / Funding / Schedule
- Suggestions for Alternatives



December 15, 2016 PIC #2 Meeting Summary

Review of Project Alternatives

Brielle Borough: 2:00-4:00pm

Manasquan Borough: 6:00-8:00pm

PIC #2 Notifications and Invitations

- Municipal Websites
- Notification by Mail – 327
- Email Contacts – 162±
- Newspaper Legal Notices: Asbury Park Press & Coast Star
- Bulletin Boards/Flyers within study area
- Project Website Updates



December 15, 2016 PIC #2 Meeting Summary

Brielle Borough: 2:00-4:00pm

Manasquan Borough: 6:00-8:00pm

67 Attendees, Excluding Project Team

- Brielle Attendees: 39, Manasquan Attendees: 28

46 Comments Recorded by Team Members

21 Comments from Suggestion Boxes and 30-Day Period

(Comment period ending January 24, 2017)

- Suggestion Boxes: 9
- E-mail: 12

25 Post-Comment Period Comments

(January 24, 2017 to January 24, 2018)

- Letters and E-mails: 21
- Newspaper Articles: 4+
- Petitions, DVD, studies by others

Website Visitors in 2017 = 3,864



February 15, 2018 PIC #3 Meeting

Recommended Preliminary Preferred Alternatives

Manasquan Borough: 2:00-4:00pm

Brielle Borough: 6:00-8:00pm

PIC #3 Notifications and Invitations

- Notification by Mail – 350+
- Email Contacts – 184±
- Municipal Websites
- Newspaper Legal Notices: Asbury Park Press and Coast Star
- Monmouth County Press Releases
- Bulletin Boards/Flyers within study area
- Website Updates



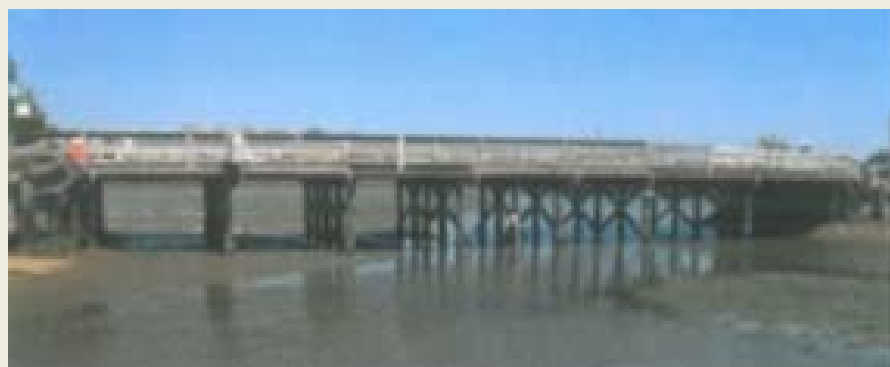
Alternatives Considered

- Alternatives investigated generally include:
 - No-Build
 - Rehabilitation
 - Replacement
- High-level and parallel bridge alternatives were also investigated for Bridge W-9 with several sub-alternative variations



Alternatives Considered

Monmouth County Bridge W-7
Green Avenue over Debbie's Creek



- Alternative 1 – No Build
- Alternative 2 – Rehabilitation
- Alternative 3 – Replacement with a Wider Bridge
- Alternative 4 – Replacement with Bridge W-9

Alternatives Considered

Monmouth County Bridge W-8

Fisk Avenue Culvert



- Alternative 1 – No Build
- Alternative 2 – Rehabilitation
- Alternative 3 – Elimination of the Culvert
- Alternative 4 – Replacement of Culvert

Alternatives Considered

Monmouth County Bridge W-9

Brielle Road over the Glimmer Glass



- Alternative 1 – No Build
- Alternative 2 – Rehabilitation (3 sub-alternatives)
- Alternative 3 – Retain Existing Bridge and Build Parallel Bridge (4 sub-alternatives)
- Alternative 4 – Replace Bridge (4 sub-alternatives)



Alternatives Considered

Monmouth County Bridge W-9

Brielle Road over the Glimmer Glass

Alternative 2: Rehabilitation Sub-Alternatives:

- Alternative 2A – Rehabilitation (Variation 1 – Restoration; Variation 2 – Rehabilitation without Widening)
- Alternative 2B – Modified Rehabilitation (with widening)
- Alternative 2C – Rehabilitation of Movable Span and Replacement of the Approach Spans



Alternatives Considered

Monmouth County Bridge W-9

Brielle Road over the Glimmer Glass

Alternative 3: Parallel Bridge Sub-Alternatives:

- Alternative 3A – Retain Existing Bridge (Close to Vehicular Traffic) and Build New Bridge on a Parallel Alignment – High Level Fixed Span Bridge
- Alternative 3B – Retain Existing Bridge (Close to Vehicular Traffic) and Build New Bridge on a Parallel Alignment – Movable Bridge
- Alternative 3C – Retain Existing Bridge (Convert to One-Way Traffic) and Build New Bridge on a Parallel Alignment – Movable Bridge
- Alternative 3D – Rehabilitate Existing Bridge and Build New Pedestrian/Bicyclist Bridge on a Parallel Alignment – Movable Bridge



Alternatives Considered

Monmouth County Bridge W-9

Brielle Road over the Glimmer Glass

Alternative 4: Bridge Replacement Sub-Alternatives:

- Alternative 4A – Build New Bridge on Current Alignment – High Level Fixed Span Bridge
- Alternative 4B – Build New Bridge on Current Alignment – Movable Bridge, Vertical Lift
- Alternative 4C – Build New Bridge on Current Alignment – Movable Bridge, Trunnion Bascule
- Alternative 4D – Build New Bridge on Current Alignment – Movable Bridge, Rolling Counterweight



December 15, 2016 PIC #2 Meeting Summary

Comments Expressed during Alternatives PIC

General Comments (all structures):

- Sidewalk connectivity, bicycle accommodation
- Keep same look the of existing bridges (if repair or replace)
- Improve Safety



December 15, 2016 PIC #2 Meeting Summary

Comments Expressed During Alternatives PIC
(through 30 day comment period to January 2018)

Bridge W-7, Green Avenue over Debbie's Creek

- Maintain current appearance
- Consider alternate sidewalk configurations



December 15, 2016 PIC #2 Meeting Summary

Comments Expressed during Alternatives PIC
(through 30 day comment period to January 2018)

Structure W-8, Fisk Avenue Culvert

- Opposition to elimination of culvert
- Suggestions to replace entire bulkhead



December 15, 2016 PIC #2 Meeting Summary

Concerns Expressed during Alternatives PIC
(post 30 day comment period to January 2018)

Bridge W-9, Brielle Road Bridge over The Glimmer Glass

- Strong opposition to high level alternatives
- Suggestion for parallel pedestrian structure
- Concerns regarding operating time of each alternative
- Rehabilitate existing structure
 - Historic considerations
 - Charm / character / appearance of area
 - Repair and maintain existing structure as-is
 - Cost concerns
- Replace existing structure
 - Replace with similar style structure
 - Meet current construction standards, ADA requirements
 - Safety concerns; emergency access route; first responder routes



Assessment of Alternatives

Alternatives were evaluated based on the following criteria:

- Meeting Project Purpose
 - Achieving Project Needs
 - Bridge Needs
 - Roadway Needs
 - System Linkage
 - Pedestrian/Bicyclist Compatibility, ADA Compliance
 - Achieving Goals and Objectives
 - Sidewalk Connectivity
 - Environmental Impacts
 - Historic Resources Impacts
 - Safety Improvements
 - Long Term Maintenance
 - Traffic Impacts & Detour during construction
- Additional Considerations:
- Construction / Life Cycle Costs
 - Required Permitting
 - Feedback / Concerns from Input
 - ROW Impacts and Costs
 - Construction Duration and Detours



Environmental Elements

- **Noise**
- **Air Quality**
- **Potential Ecological Constraints** - Floodplains, Wetlands, Waterbodies, Fish and Shellfish Habitat, Submerged Aquatic Vegetation, Threatened & Endangered Species, etc.
- **Cultural Resources** - Historic Bridge, Building, District or Site
- **Section 4(f) Involvement** - Historic Sites, Historic Bridges, Publicly owned Park Recreation Area, Wildlife or Waterfowl Refuge
- **Hazardous Materials**
- **Socioeconomics**
- **Environmental Justice**
- **Public Reaction**



State and Federal Environmental Review Processes Applicable to the Project:

- Coastal Area Facilities Review Act (CAFRA)
- Flood Hazard Area Permit and Stormwater Management Approval
- National Environmental Policy Act (NEPA)
- NJDEP Bureau of Tidelands Conveyance
- NJDEP 401 Water Quality Certification
- New Jersey Register of Historic Places Act
- Section 106 of the National Historic Preservation Act
 - (36 Code of Federal Regulations (CFR) 800) - Requires federal agencies to take into account the effects of their undertaking on historic properties)
- Section 4(f) (23 CFR Part 774)
- US Army Corps of Engineers Sections 10/404
- US Coast Guard
- Waterfront Development

The public is encouraged to provide comments on issues related to any of the environmental review processes, including Section 106 of the National Historic Preservation Act, the N.J. Register of Historic Places Act, and Section 4(f).



Alternatives Analysis Matrix

Alternative - Variation Number	Description	Meets Project Purpose?	Achieves Project Needs?				Achieves Project Goals and Objectives										Key Advantages	Key Disadvantages
			Bridge Needs	Roadway Needs	System Linkage	Pedestrian and Bicyclist Compatibility	Sidewalk Connectivity	Safety Improvements	Long-Term Maintenance	Cultural Resources Impacts	Environmental Impacts	Permits Required ¹	ROW Impacts	Estimated Costs ²	Estimated Construction Duration	Traffic Impacts and Detours		
1	No Build	No	Structural Capacity: No Bridge Roadway Width: No Vertical Clearance: Not Applicable	No	No	No	No	Not Improved	High	No	None at first, but additional noise and vehicle emissions on local roads if bridge is closed	None	None	Yearly Maintenance Cost: ² \$20K (<10 years)	Not Applicable	None at first, but bridge may eventually be closed and require permanent detour.	No construction impacts	- Does not address substandard structural capacity or deck geometry of existing bridge - Potential for rising maintenance costs and eventual closure
2	Rehabilitation	No	Structural Capacity: Yes Bridge Roadway Width: No Vertical Clearance: Not Applicable	Partial	Yes	Partial	Partial	Partial: New bridge railings and guide rails.	Moderate	No	Low: Short term impacts during construction. 40,000 SF ± of permanent wetlands disturbance.	USACE (NWP 3, 6, & 15), USCG (Bridge Permit), NJDEP (CAFRA, WFD, Coastal Wetlands, GP 23, & Tidelands), Soil Erosion and Sediment Control Plan	1,850 SF ± of ROW acquisitions required. 4,850 SF ± of temporary construction easements across 4 parcels	Initial: \$2.4M (20-30 years) Life Cycle: \$4.8M ROW: \$55K	4-6 months	Low: Partial closures required, but shorter duration than full replacement option.	- Structural capacity increased - Nominal extension of service life	- Does not address long term structural integrity - Does not improve deck geometry - Still potential for high maintenance costs
3-1	Replacement with a Wider Bridge Sidewalks on One Side	Yes	Structural Capacity: Yes Bridge Roadway Width: Yes Vertical Clearance: Not Applicable	Yes	Yes	Yes	Yes	Substantial: New bridge railings and guide rails and updated geometry.	Low	No	Moderate: Short term impacts during construction. 1,500 SF ± of permanent wetlands disturbance.	USACE (NWP 6, 14, & 15), USCG (Bridge Permit), NJDEP (CAFRA, WFD, Coastal Wetlands, GP 23, & Tidelands), Soil Erosion and Sediment Control Plan	5,300 SF ± of ROW acquisitions required and 6,300 SF ± of temporary construction easements across 4 parcels	Initial: \$4.9M (75+ years) Life Cycle: \$5.4M ROW: \$80K	6-8 months	Moderate: Full closure required for short period.	- Addresses all project needs - Provides longest projected service life	- High initial cost - Higher construction impacts than rehabilitation - Requires moderate ROW acquisitions
3-2	Replacement with a Wider Bridge Sidewalks on Both Sides	Yes	Structural Capacity: Yes Bridge Roadway Width: Yes Vertical Clearance: Not Applicable	Yes	Yes	Yes	Yes	Substantial: New bridge railings and guide rails and updated geometry.	Low	No	High: 4800 SF ± of permanent wetlands disturbance	USACE (NWP 6, 14, & 15), USCG (Bridge Permit), NJDEP (CAFRA, WFD, Coastal Wetlands, GP 23, & Tidelands), Soil Erosion and Sediment Control Plan	8,800 SF ± of ROW acquisitions required and 7,300 SF ± of temporary construction easements	Initial: \$5.2M (75+ years) Life Cycle: \$5.8M ROW: \$130K	6-8 months	Moderate: Full closure required for short period.	- Addresses all project needs - Provides longest projected service life - Provides better sidewalk connectivity and reduces safety risks for pedestrians/bicyclists when compared to Alternative 3-1	- High initial cost - Higher construction impacts than rehabilitation - Higher environmental and ROW impacts when compared to Alternative 3-1

Monmouth County Three Bridges

Boroughs of Brielle and Manasquan

Bridge W-7, Green Avenue over Debbie's Creek
Structure W-8, Fisk Avenue Culvert between Debbie's Creek
and The Glimmer Glass
Bridge W-9, Brielle Road Bridge over The Glimmer Glass

Recommended Preliminary Preferred Alternatives



W-7: Green Avenue over Debbie's Creek



EXISTING CONDITIONS:

- **NARROW BRIDGE ROADWAY WIDTH (21.7')**
- **SUBSTANDARD LIVE LOAD CAPACITY**
- **SUBSTANDARD RAILINGS**
- **2015 NBIS REPORT SUFFICIENCY RATING OF 18.5 OUT OF 100**



W-7: Green Avenue over Debbie's Creek



Recommended Preliminary Preferred Alternative

Monmouth County Bridge W-7 Green Avenue over Debbie's Creek

Alternative 3: Replacement with a Wider Bridge

- Meets project purpose and all project needs
- Meets many project goals and objectives
- Provides new bridge with more durable materials (concrete)
 - Architectural treatments can be explored in final design
- Reduces number of piers/spans
- Widens bridge to provide standard width lanes with bicycle compatible shoulders and standard ADA compliant sidewalk

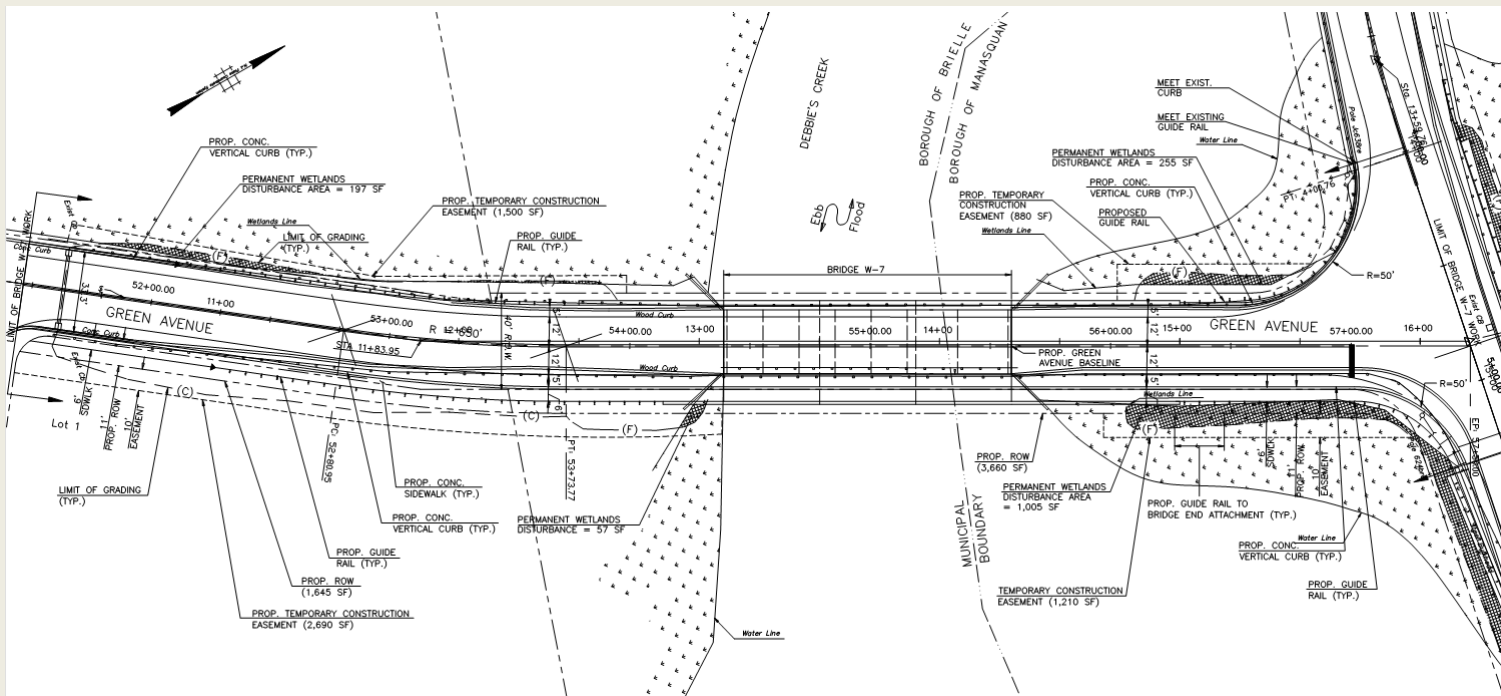


Recommended Preliminary Preferred Alternative

Monmouth County Bridge W-7

Green Avenue over Debbie's Creek

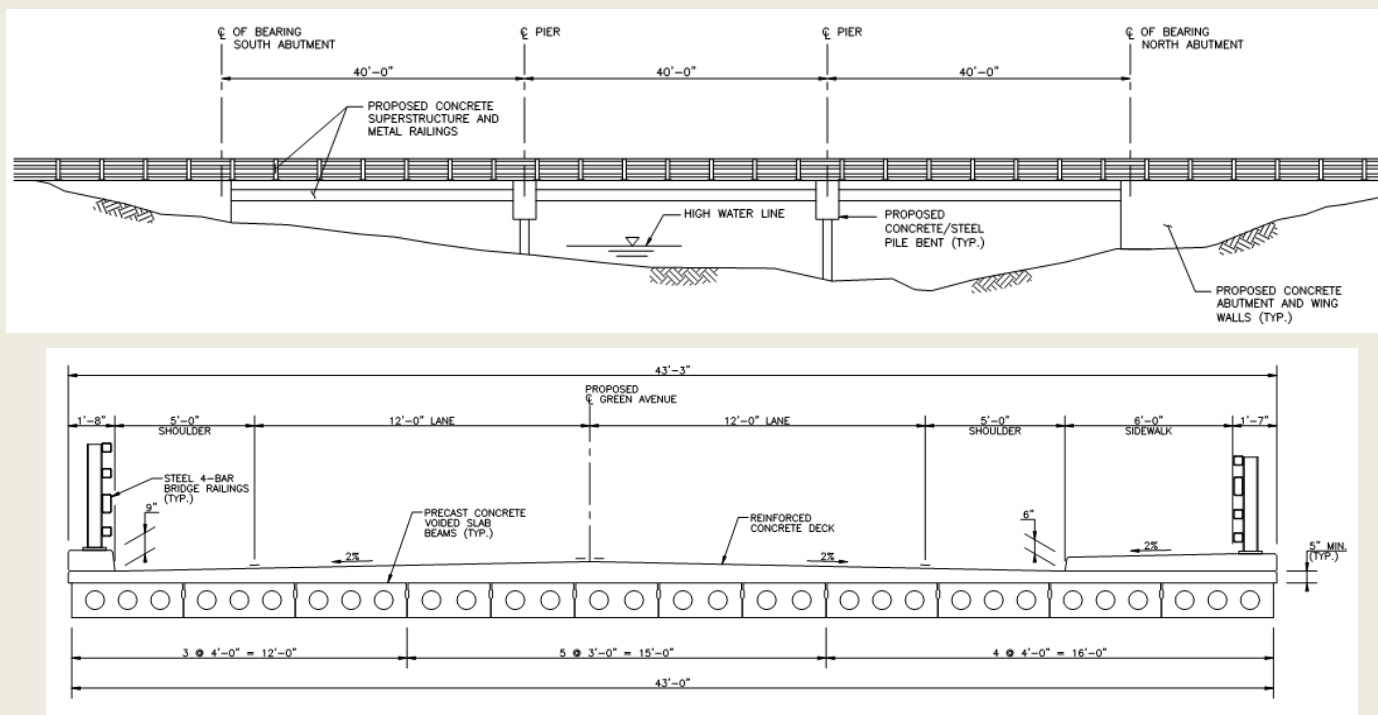
Alternative 3: Replacement with a Wider Bridge



Recommended Preliminary Preferred Alternative

Monmouth County Bridge W-7 Green Avenue over Debbie's Creek

Alternative 3: Replacement with a Wider Bridge



W-8: Fisk Avenue Culvert

EXISTING CONDITIONS:

- CULVERT SUBMERGED AND PARTIALLY SILTED
- DETERIORATED STEEL SHEETING RETAINING WALLS AND CULVERT PIPE



W-8: Fisk Avenue Culvert



Fisk Avenue, looking west

Recommended Preliminary Preferred Alternative

Monmouth County Bridge W-8

Fisk Avenue Culvert

Alternative 4: Replacement of Culvert

- Meets project purpose and all project needs
- Meets many project goals and objectives
- Provides new culvert with similar materials (concrete)
 - Match existing hydraulic opening
- Replaces steel bulkhead at each end of culvert
- Add on: replace steel bulkhead full length of causeway, both sides of roadway

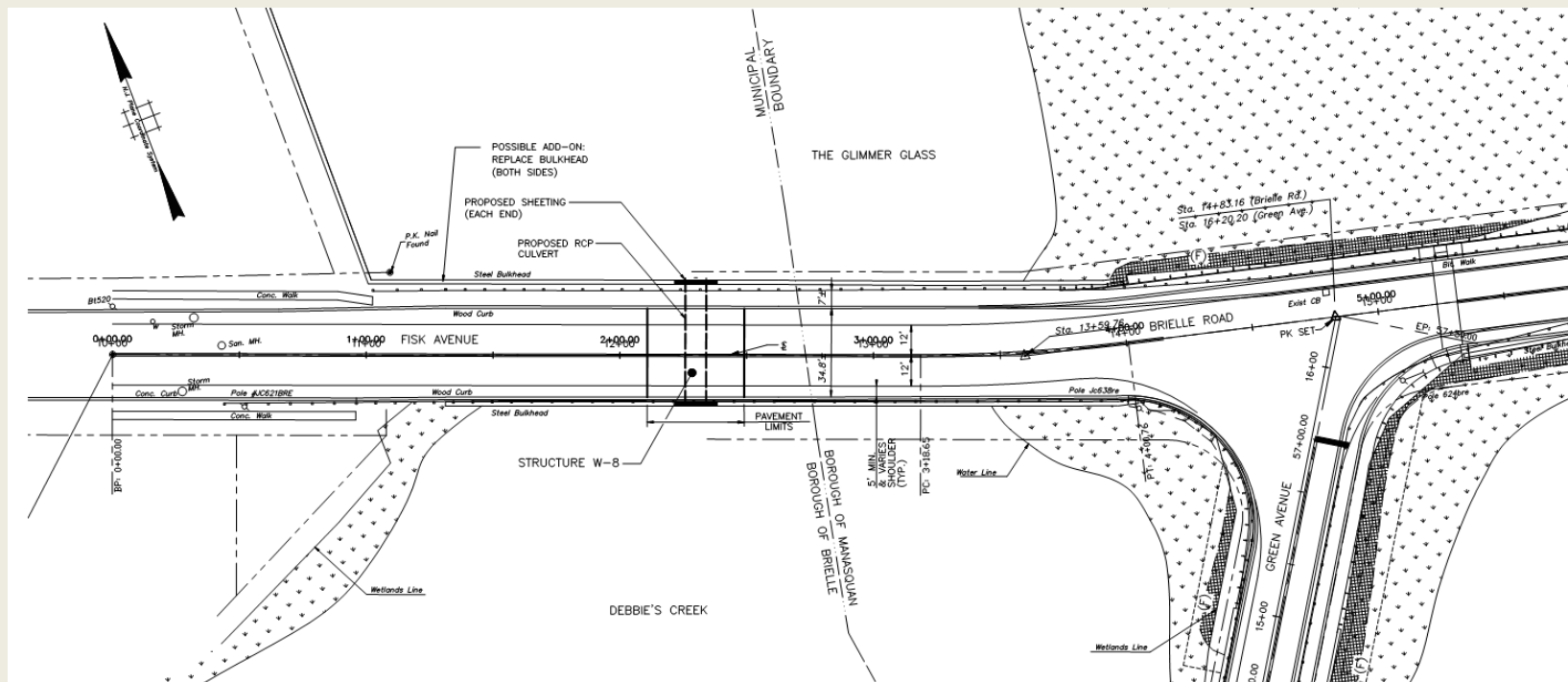


Recommended Preliminary Preferred Alternative

Monmouth County Bridge W-8

Fisk Avenue Culvert

Alternative 4: Replacement of Culvert



W-9: Brielle Road over The Glimmer Glass

EXISTING CONDITIONS:

- NARROW BRIDGE ROADWAY WIDTH (19.3' MIN. & VARIES)
- SUBSTANDARD LIVE LOAD CAPACITY
- SUBSTANDARD RAILINGS
- SUBSTANDARD VERTICAL CLEARANCE
- SUBSTANDARD & NON-REDUNDANT MECHANICAL & ELECTRICAL SYSTEMS
- 2015 NBIS REPORT SUFFICIENCY RATING OF 10.1 OUT OF 100

W-9: Brielle Road over The Glimmer Glass



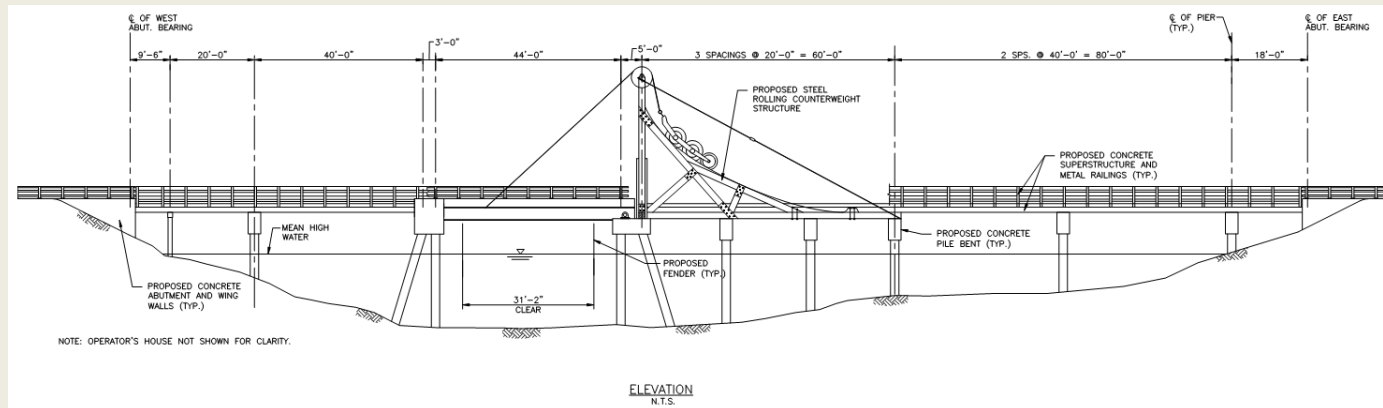
Recommended Preliminary Preferred Alternative

Monmouth County Bridge W-9

Brielle Road over the Glimmer Glass

Alternative 4D: Build New Bridge on Current Alignment – Movable Bridge, Rolling Counterweight

- Meets project purpose and needs and many project goals and objectives
- Build new, rolling counterweight bridge in same location
- Provide standard lane and shoulder widths, and ADA compliant sidewalks



Current Efforts

Continued Public Outreach

Round 3 – Recommended PPAs

- Local Officials Briefings
January 16, 2018
- Public Information Centers (Manasquan & Brielle)
February 15, 2018
- 30 day Post PIC #3 Comment Period
(through March 19, 2018)
- Project website updates – information and FAQs



Next Steps

- Review/Consider Feedback and Comments
- Prepare / Submit DRAFT Alternatives Analysis Report
- Cultural Resource / Section 106 Process
 - New Jersey Register Authorization
- Final Alternatives Analysis Report
- Environmental Assessment Document/ Section 4(f)
- Federal Authorization For Final Design



Input (Comments / Questions)

- Speak with Team Members during PIC
- Comment Boxes
- Email or send Comments to Facilitators
(through 30 Day Comment Period – ends 3/19/18)
- Check FAQs on website:

monmouthcountythreebridges.com

Future / Additional Opportunities to Comment:
During various environmental approval / permitting
processes (including Section 106, NEPA) and Final Design PIC



Thank You



monmouthcountythreebridges.com

