REPLACEMENT OF COUNTY BRIDGE 10-K-4

Porchtown Road (CR 613) over Still Run at Iona Lake

Richard Hooke, PE
Bridge Engineer

Public Information Center Meeting

November 14, 2024 @ 6:00 PM

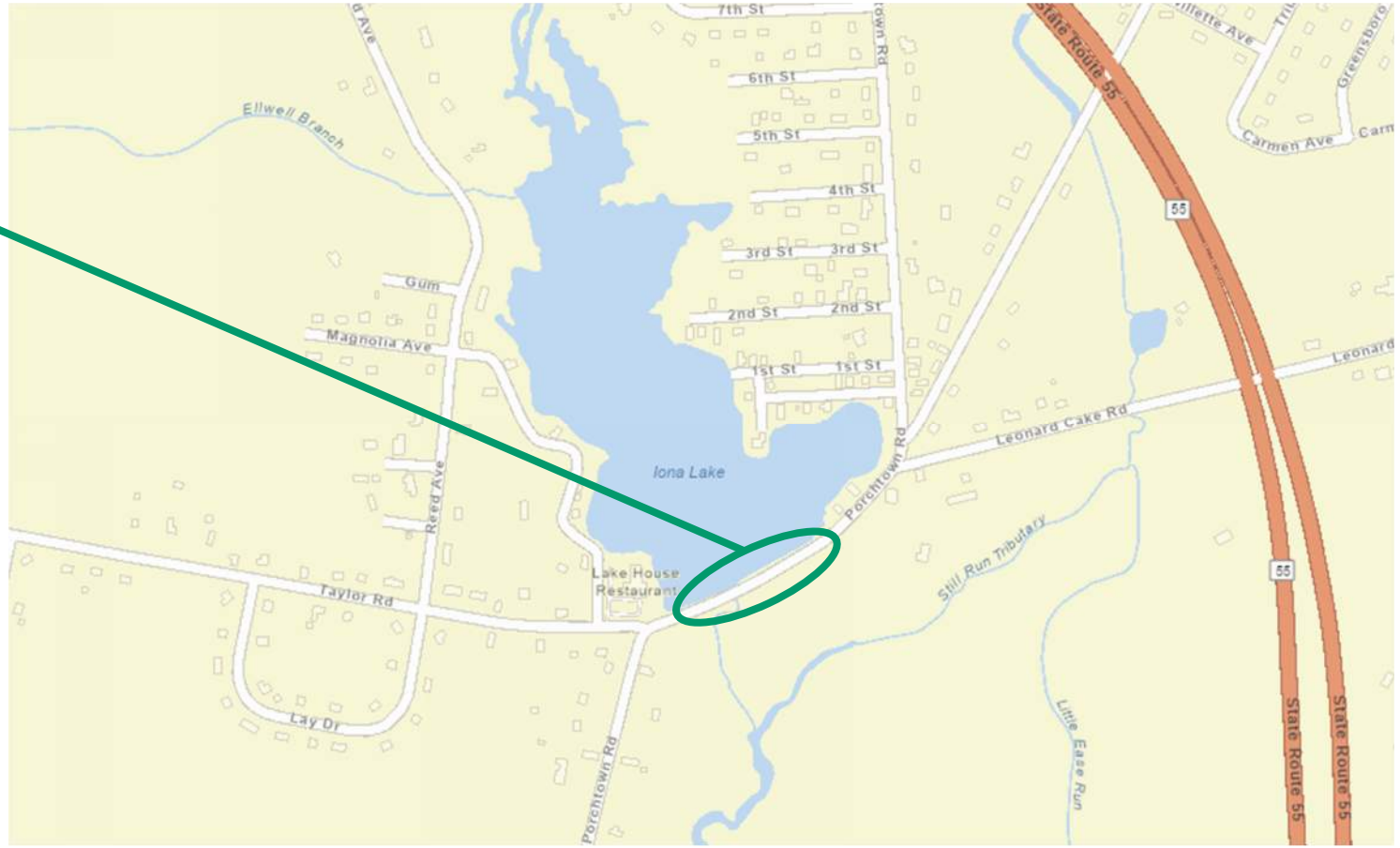
Agenda

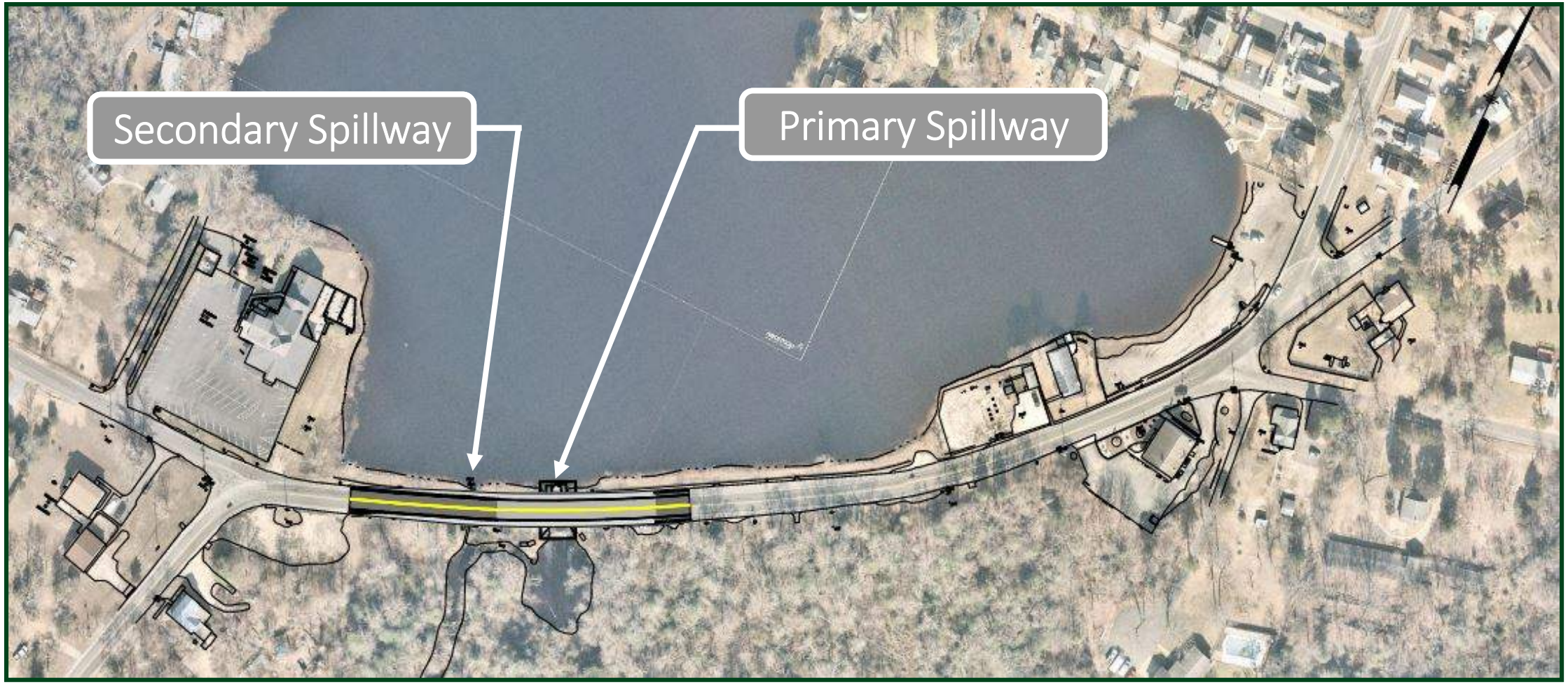
- Part 1 – General
  - Project Introduction
  - Summary of LCD Study
  - Recommendations and Preliminary Preferred Alternative
- Part 2 – Preliminary Engineering
  - Project Goals and Objectives
  - Design Elements
  - Local Impact
- Q & A

Project Introduction

- County Bridge 10-K-4, Porchtown Road(CR 613) over Still Run at Iona Lake is located in Franklin Township in Gloucester County

Bridge Location




Secondary Spillway
Primary Spillway

Project Introduction

- Built in 1938, Bridge 10-K-4 is a reinforced concrete slab culvert with a three-sided reinforced concrete drop spillway attached to the face of the culvert. Approximately 95 ft west of the bridge is a reinforced concrete box auxiliary spillway.

Project Introduction

- Bridge 10-K-4 is in ‘fair’ condition due to the condition of the superstructure and substructure.
- All highway safety rating components are substandard including bridge railing and transitions, approach guide rails, and absence of shoulder, curbs, and sidewalks.
- Iona Lake Dam is classified by NJDEP Dam Safety as a Class II Significant Hazard structure.
- Iona Lake Dam is in poor condition with repairs, studies, and long-term improvements necessary.

Purpose and Need

- Purpose includes providing a low maintenance long-term solution which eliminates all existing structural deficiencies; restores the structural integrity and safety, eliminating or reducing the severity of flooding that occurs; incorporating operational, safety and pedestrian access improvements to the bridge; and minimizing impacts to the adjoining community and environment in accordance with AASHTO, NJDOT AND NJDEP Dam Safety Standards.

Local Concept Development (LCD) Study

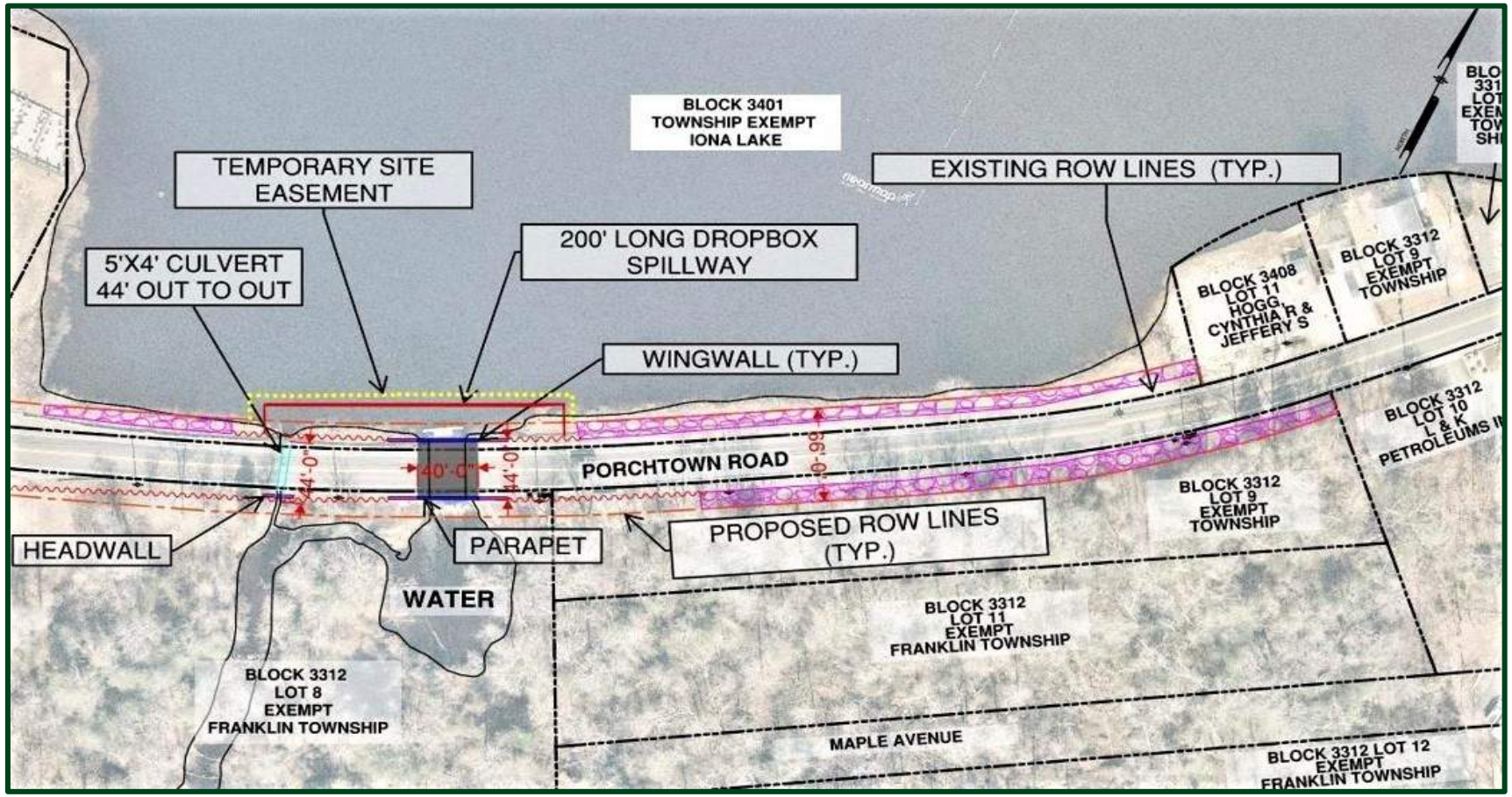
- Delaware Valley Regional Planning Commission (DVRPC) on behalf of Gloucester County performed an LCD Study to address the condition of Bridge 10-K-4.
- Accumulated and Completed Design Studies:
  - Existing Record Plans and Reports
  - Traffic Counts and Turning Movements
  - Environmental Screening and Wetland Delineation
  - Cultural Resources
  - Hydrologic and Hydraulic (H&H)

Local Concept Development (LCD) Study

- Alternative Analysis evaluated 7 different conceptual alternatives including one (1) No-Build.
- Critical Design Criteria:
  - Public Involvement Meetings and Input from Stakeholders
  - Project Permits and Impacts
  - Traffic Operations
  - Environmental Constraints
  - Construction Cost and Duration

Preliminary Preferred Alternative (PPA)

- New Bridge and Culvert with Larger Spillway – Improved Hydraulics



Preliminary Preferred Alternative (PPA)

- Replace the spillways and primary bridge with larger structures
- Replace auxiliary culvert in-kind
- Provide overtopping protection

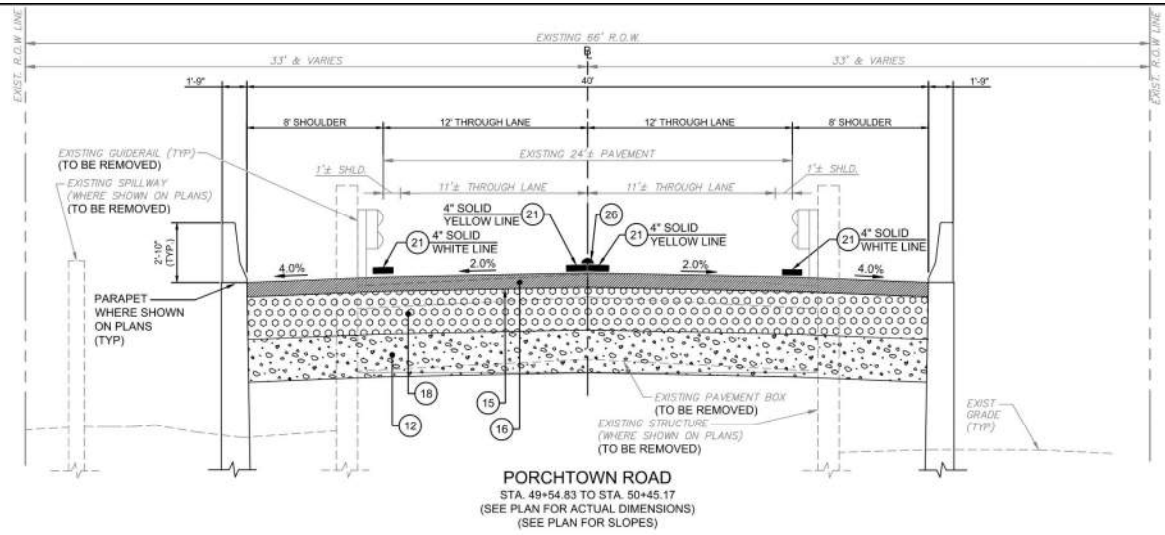
Project Goals and Objectives

- Replace the bridge, spillways and improve approach roadway conditions to meet AASHTO, NJDOT, and NJDEP Dam Safety Standards.
- Avoid, minimize and or mitigate environmental impacts and property acquisition.
- Correct or minimize the controlling substandard design elements.
- Secure all required permits and acquisition for new construction.

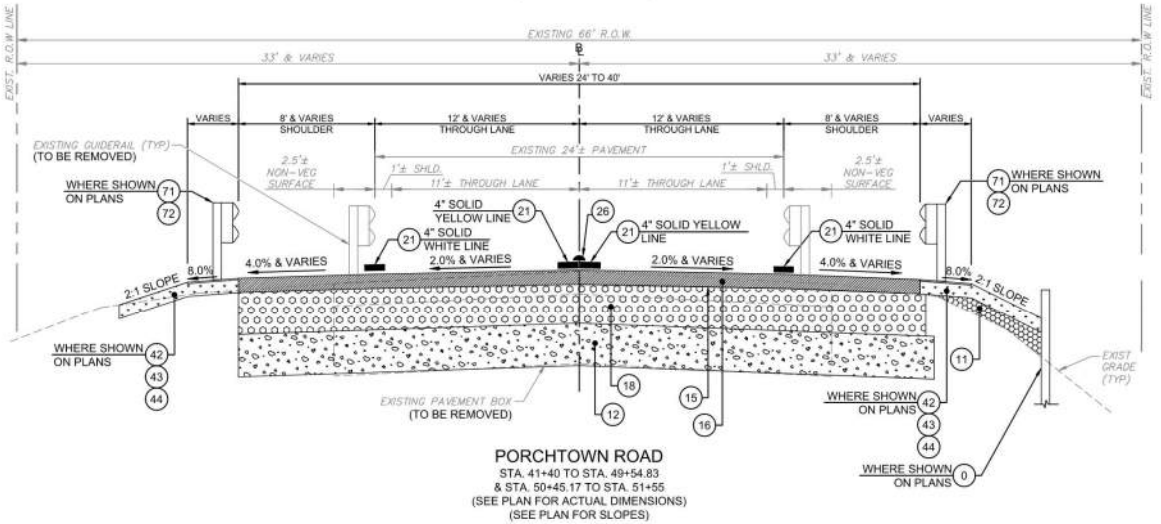
Preliminary Design Elements

- Roadway Design
- Bridge Design
- Spillway Design
- Overtopping Embankment Protection

Roadway Design



PORCHTOWN ROAD
STA. 49+54.83 TO STA. 50+45.17
(SEE PLAN FOR ACTUAL DIMENSIONS)
(SEE PLAN FOR SLOPES)

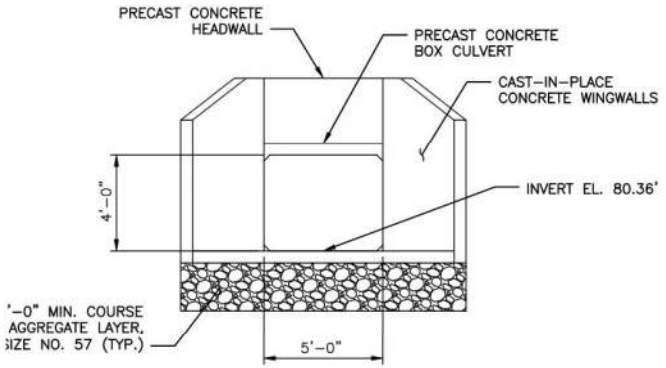


PORCHTOWN ROAD
STA. 41+40 TO STA. 49+54.83
& STA. 50+45.17 TO STA. 51+55
(SEE PLAN FOR ACTUAL DIMENSIONS)
(SEE PLAN FOR SLOPES)

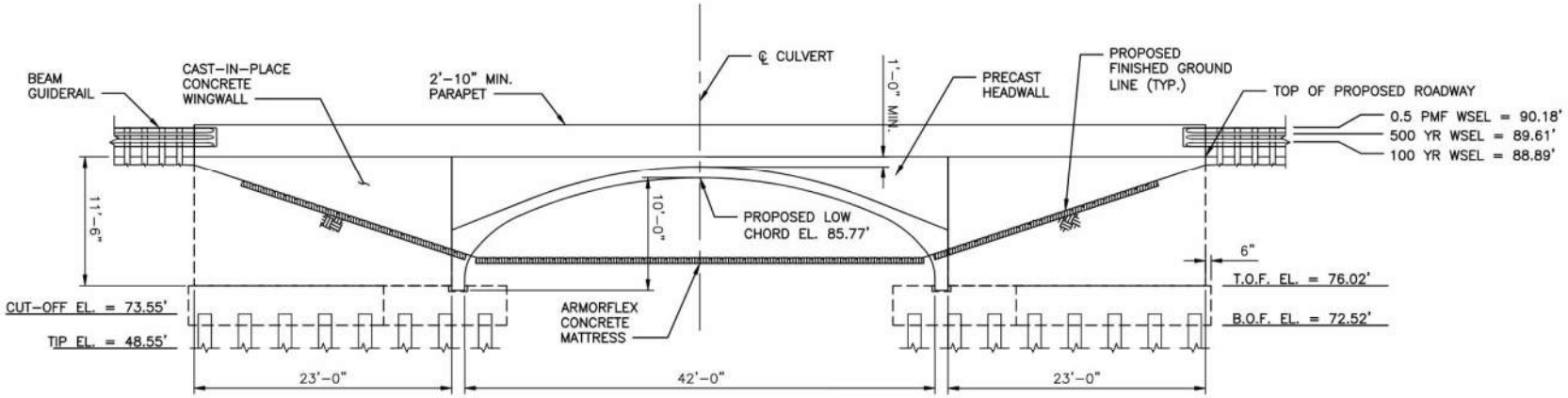
LEGEND

HATCH	DESCRIPTION
	HMA, 12.5 M 64, SURFACE COURSE, 2 1/2" THICK
	HMA, 19 M 64, BASE COURSE, 6" THICK
	DENSE GRADED AGGREGATE BASE COURSE, 6" THICK
	I-14 SOIL EMBANKMENT
	TOPSOIL, FERTILIZING, SEEDING, & STRAW MULCHING

Bridge Design

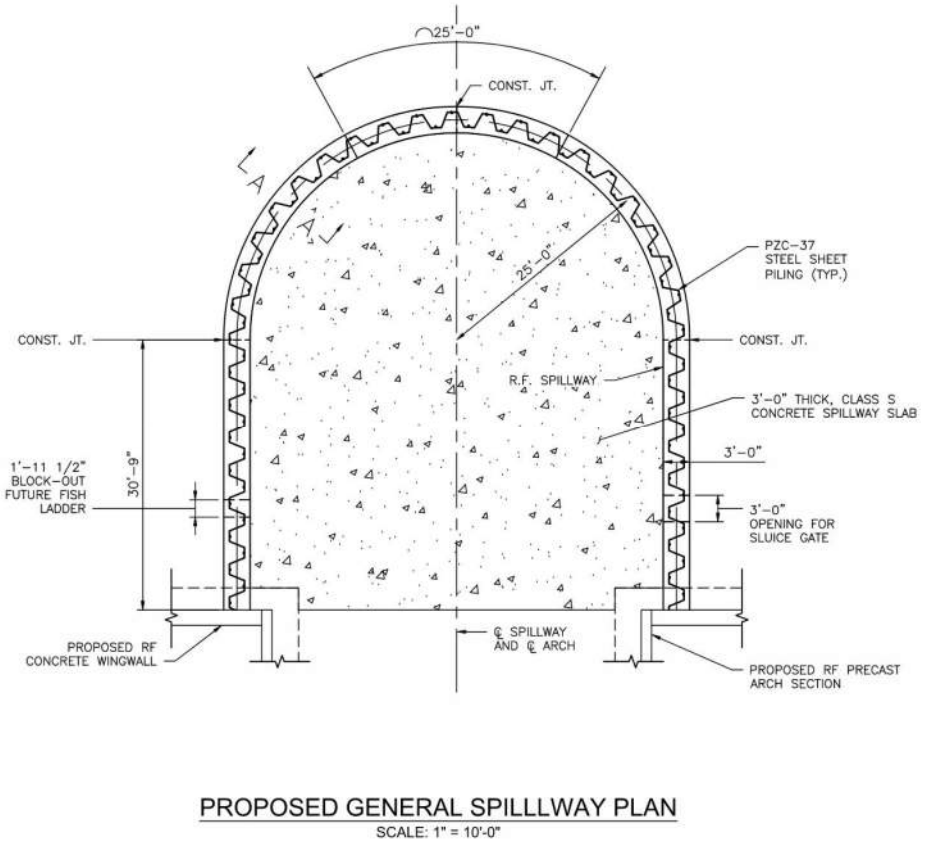


PROPOSED CULVERT ELEVATION
SCALE: 1/4" = 1'-0"



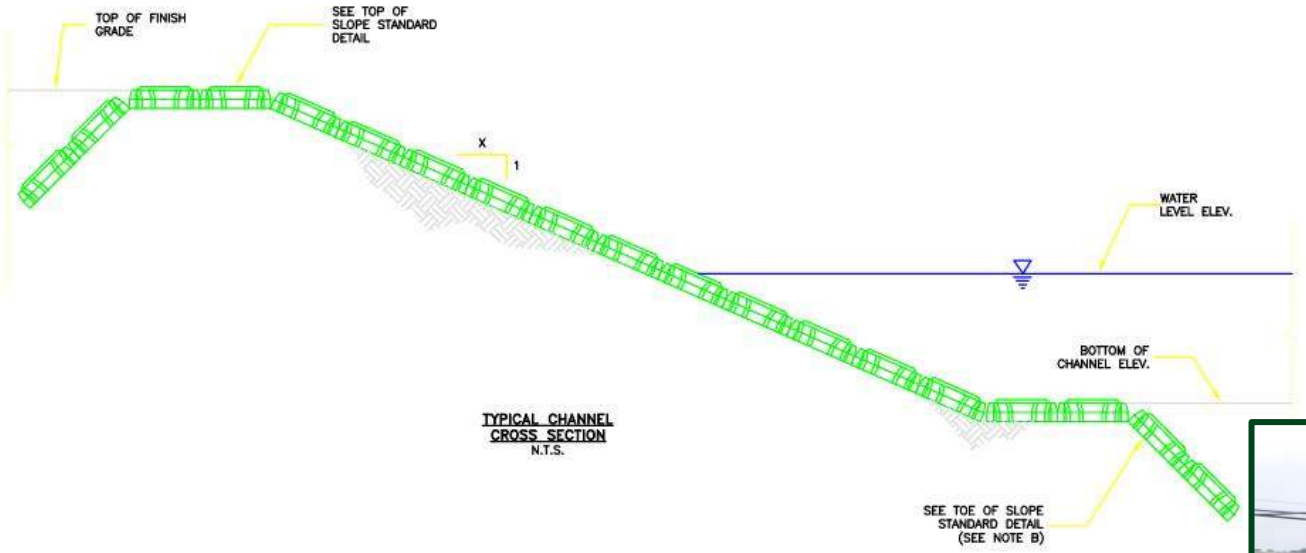
PROPOSED BRIDGE ELEVATION
SCALE: 1/8" = 1'-0"

Spillway Design



PROPOSED GENERAL SPILLLWAY PLAN
SCALE: 1" = 10'-0"

Overtopping Embankment Protection



TYPICAL CHANNEL CROSS SECTION
N.T.S.

Local Impact

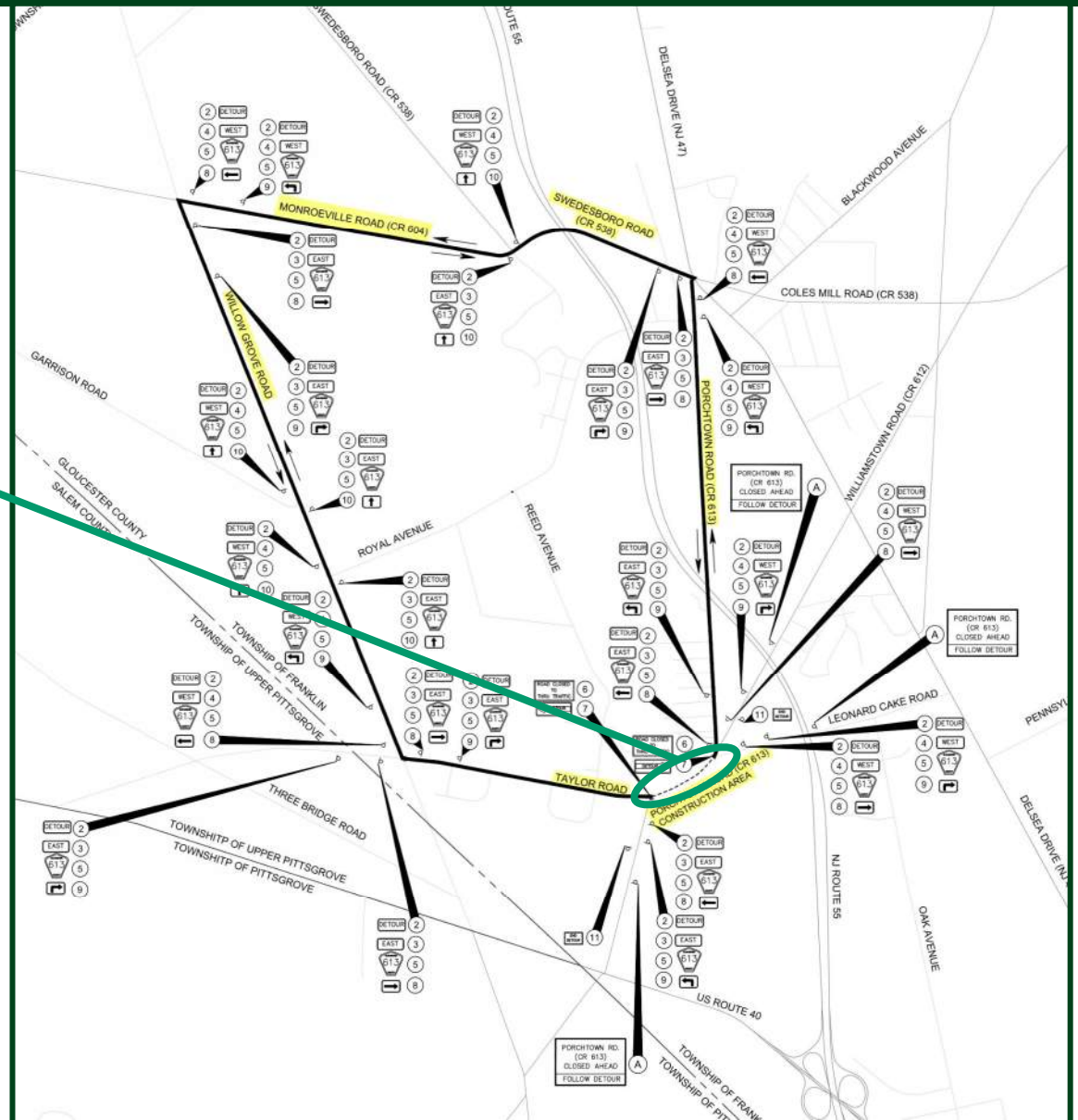
- Environmental and Permitting
- Traffic Detour
- Projected Schedule

Environmental and Permitting

- NJDEP Freshwater Wetlands Delineation
- Phase 1A Archaeological Survey and Intensive-Level Historic Architectural Survey to address Cultural Resources
- NJDEP Dam Safety Construction

Detour Route

Bridge Location



Project Schedule

Preliminary Design
- Ongoing since Spring 2024

Final Design
- Anticipated Completion Early Summer 2026

Construction
- Anticipated Spring 2027

Construction Complete
- Anticipated Spring 2028

Questions?

THIS PRESENTATION WILL BE AVAILABLE ON THE FRANKLIN TOWNSHIP WEBSITE WWW.FRANKLINTOWNSHIP.COM/NEWS FOR A MINIMUM OF 4 WEEKS AFTER THE PUBLIC INFORMATION CENTER. COMMENTS ARE ENCOURAGED TO BE SUBMITTED PRIOR TO DECEMBER 16TH, 2024 TO THE FOLLOWING EMAIL ADDRESS: @FRANKLIN.COM

THANK YOU!

Richard Hooke

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