

# Rehabilitation of Two Morrissey Boulevard Bridges

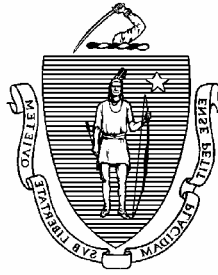
Mt. Vernon St. & Patten's Cove



## Public Meeting

July 14, 2009 at 6:30 pm  
BC High School, Loyola Function Room - Dorchester





# Commonwealth of Massachusetts

**Governor**

Deval L. Patrick

**Lieutenant Governor**

Timothy Murray

**Energy and Environmental Secretary**

Ian A. Bowles

**Department of Conservation and Recreation Commissioner**

Richard K. Sullivan, Jr.



## DCR Mission Statement

*To protect, promote and enhance  
our common wealth of natural,  
cultural and recreational  
resources.*

# Accelerated Bridge Program Overview

- Authorization:
  - C. 233 of the Acts of 2008
- Program Goals:
  - Improve the condition of the Commonwealth's bridges
  - Stimulate economic development and job creation
  - Save money by completing projects sooner
  - Complete projects efficiently and innovatively
  - Transparency and accountability



# Accelerated Bridge Program Overview

- **Size and Scope**
  - **MassHighway: \$2.078 billion**
    - Rehabilitation or replacement of 191 bridges
    - Preservation of 305 bridges
  - **DCR: \$906 million**
    - Rehabilitation or replacement of 29 bridges
    - Preservation of 50 bridges

**Total Program: \$2,984,000,000**



# Rehabilitation of Two Bridges



Morrissey Blvd. over  
Mt. Vernon St.  
(Lech Walesa Bridge)

Morrissey Blvd. over Patten's Cove  
(Bonetti Memorial Bridge)



# Key Plan

**Mt. Vernon St. Bridge**

**Sovereign Bank**

**Star Market**

**Morrissey Blvd**

**Mt. Vernon St**

**BC High**

**Patten's Cove Bridge**

**UMass**



# Rehabilitation of Two Morrissey Boulevard Bridges Mt. Vernon St. & Patten's Cove

## Consultant Design Team:

### **Fay, Spofford & Thorndike, LLC**

- Paul F. Harrington, P.E. – VP & Project Manager

### **Nitsch Engineering**

- Subconsultant for Traffic Management

## Contractor:

### **WES Construction Corp.**

- Kenneth J. Vogel, President
- Peter T. Doyle, Project Superintendent
- Neil E. Schwartz, Project Manager

# Construction Contract Update

- Notice to Proceed issued on May 22, 2009
- Activities performed to date:
  - Met with Boston Conservation Commission
  - Met with BWSC to coordinate with their ongoing Morrissey Boulevard project
  - Installed siltation fencing and hay bales
  - Paved median for traffic shift
  - Located the Staging Area

## Interface with Boston Water & Sewer Commission

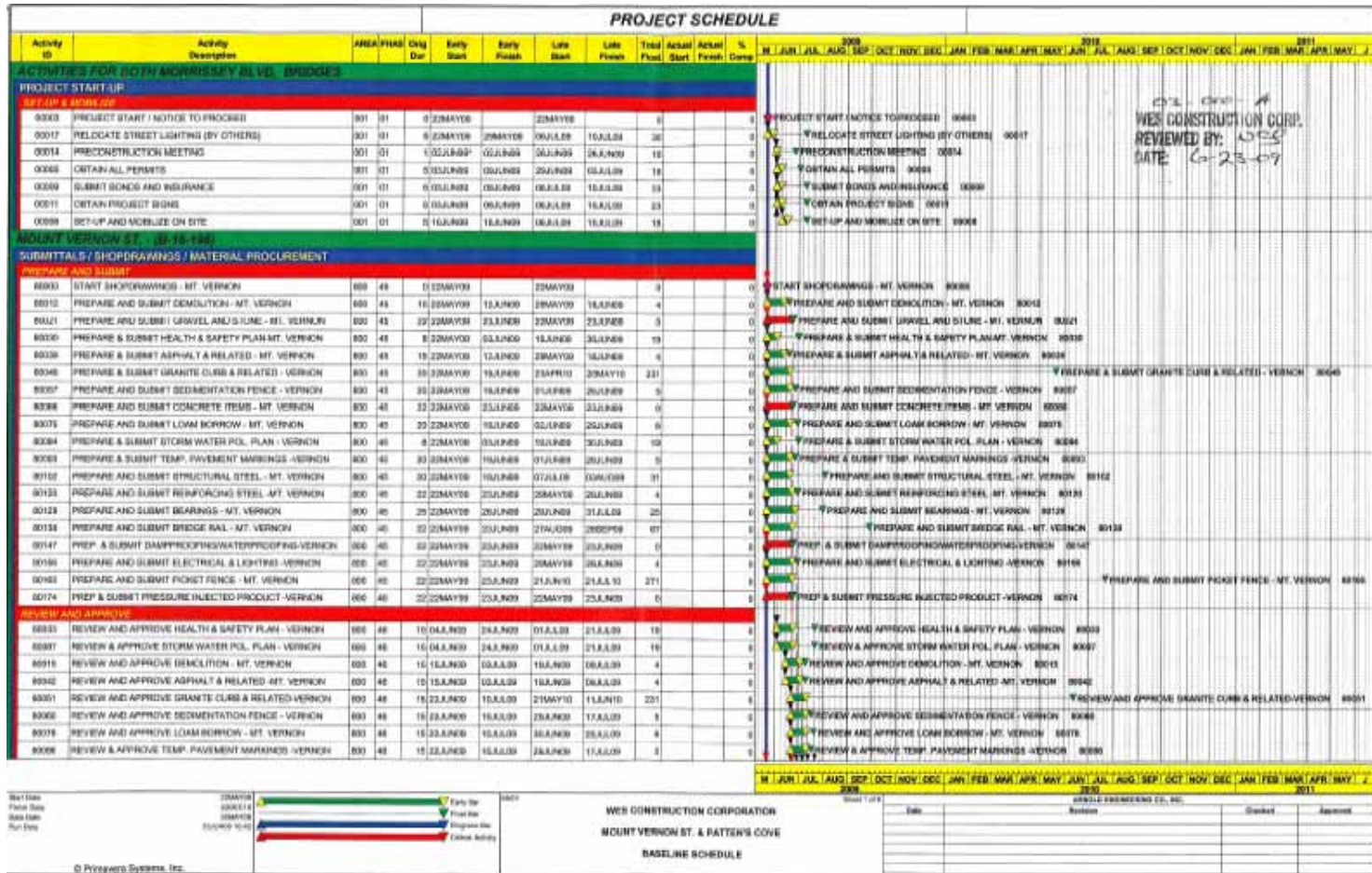
- BWSC project is currently schedule to be complete in Sept. 2009
- Surface restoration being coordinated between DCR and BWSC Project
- Coordination meeting held on June 19th



# Staging Location



# Detailed Construction Schedule



Rehabilitation of Mt. Vernon St. & Patten's Cove Bridges

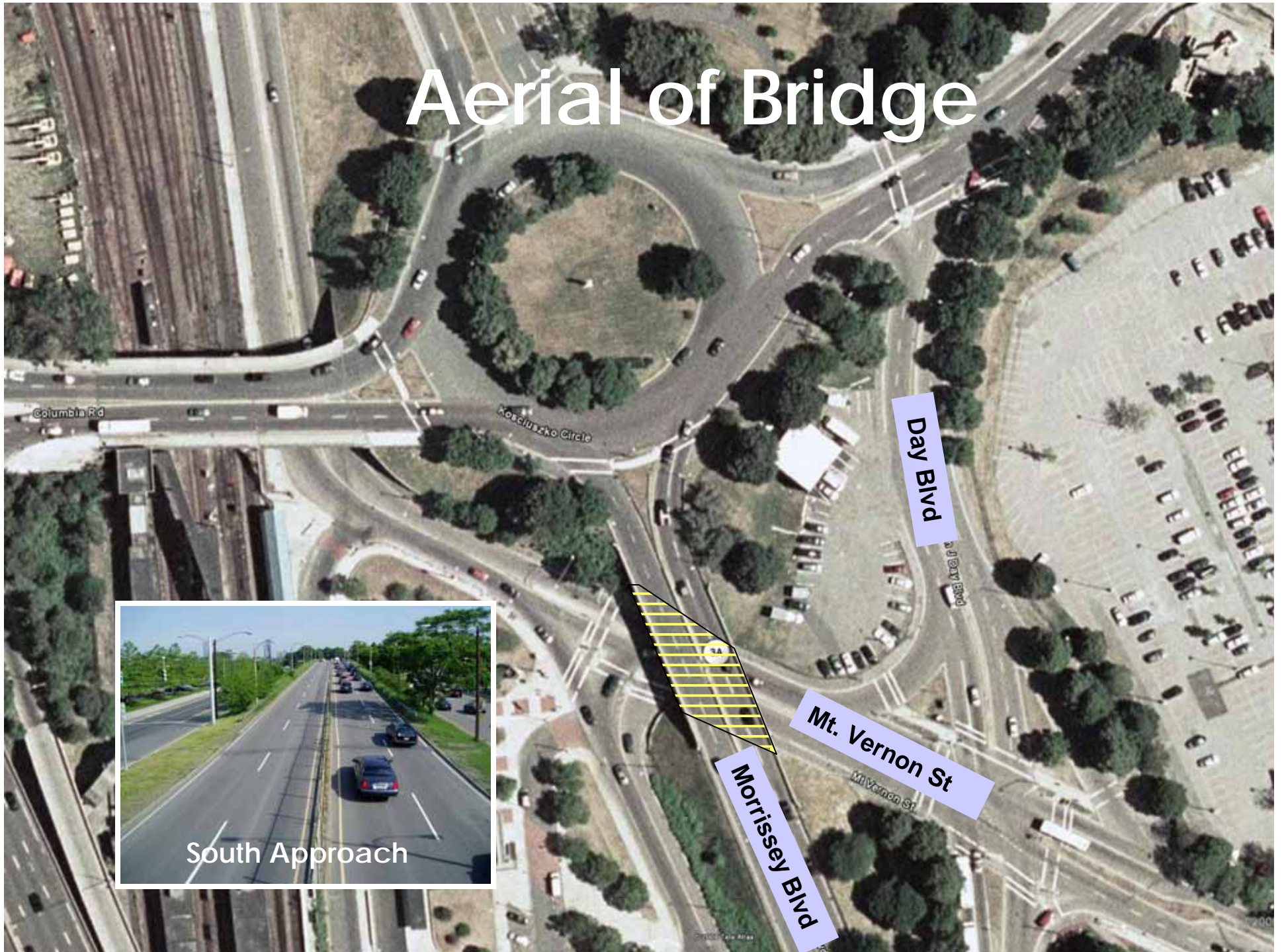
# Key Construction Dates

Activity	Date	Duration (mo.)
Notice to Proceed (NTP)	May 22, 2009	---
Mobilization, Submittal reviews, steel fabrication, etc...	ongoing	2 months
Implement Stage 1 Traffic Setup at Mt. Vernon Street	August 2009	14 months
Complete Stage 3 Traffic Setup at Mt. Vernon Street	September 2010	
Roadway Complete at Mt. Vernon Street	October 2010	1 month
Roadway Complete at Patten's Cove	December 2010	2 month
Project Completion	December 2010	19 months from NTP

# Mt. Vernon St. Bridge Location Map



# Aerial of Bridge



Day Blvd

Mt. Vernon St

Morrissey Blvd

Columbia Rd

Roschitzko Circle

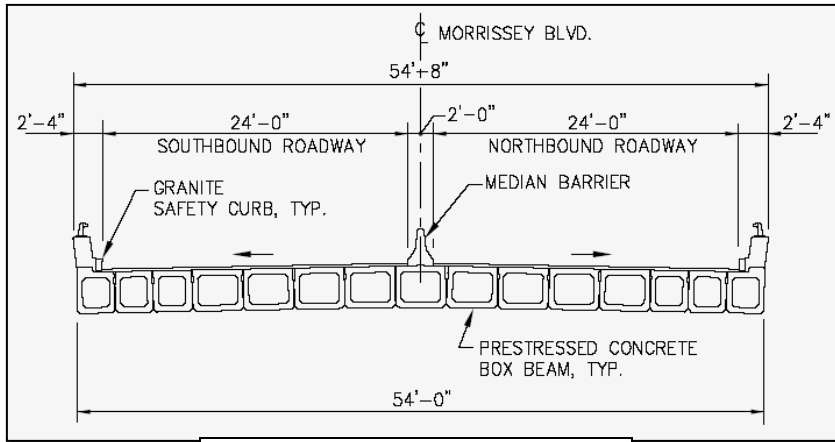
South Approach

# Mt. Vernon St. Bridge

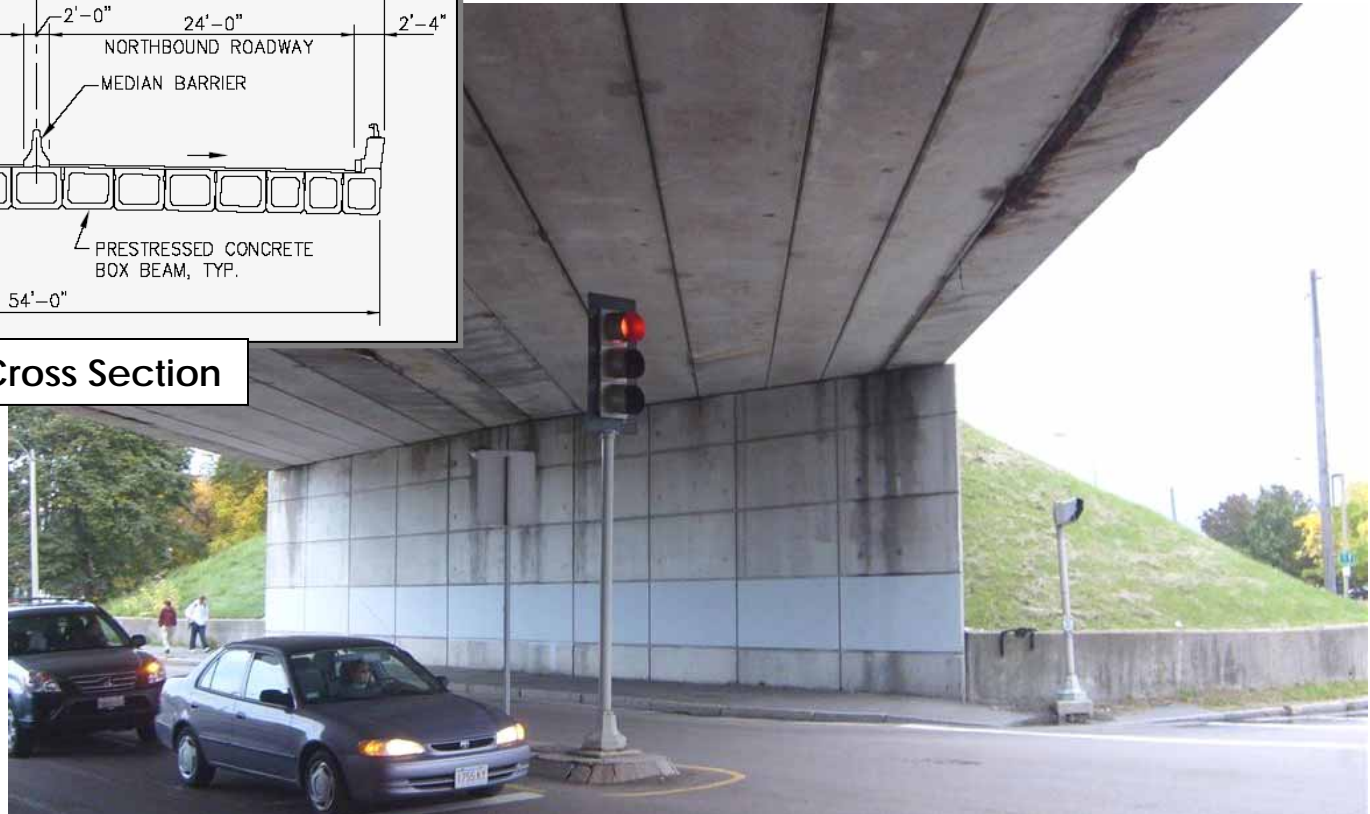
- DCR owned bridge
- Constructed in 1984
- Single span bridge
  - 94 ft span
  - 2 lanes each way
  - No sidewalks
  - No utilities on bridge
  - Precast concrete box beams



# Mt. Vernon St. Bridge



Existing Cross Section



# Mt. Vernon St. Bridge Existing Condition

- Inspections have identified the bridge as 'Structurally Deficient'
- Superstructure is in: 'Poor Condition'
- Major deteriorated elements:
  - Joint deterioration between box beams
  - Loss of prestressing strands at 5 beams and loss of lateral ties



# Mt. Vernon St. Bridge Existing Condition

- Lateral shift of approximately 3 inches at north end
- Loss of prestressing and lateral ties
- West fascia beam recently stabilized

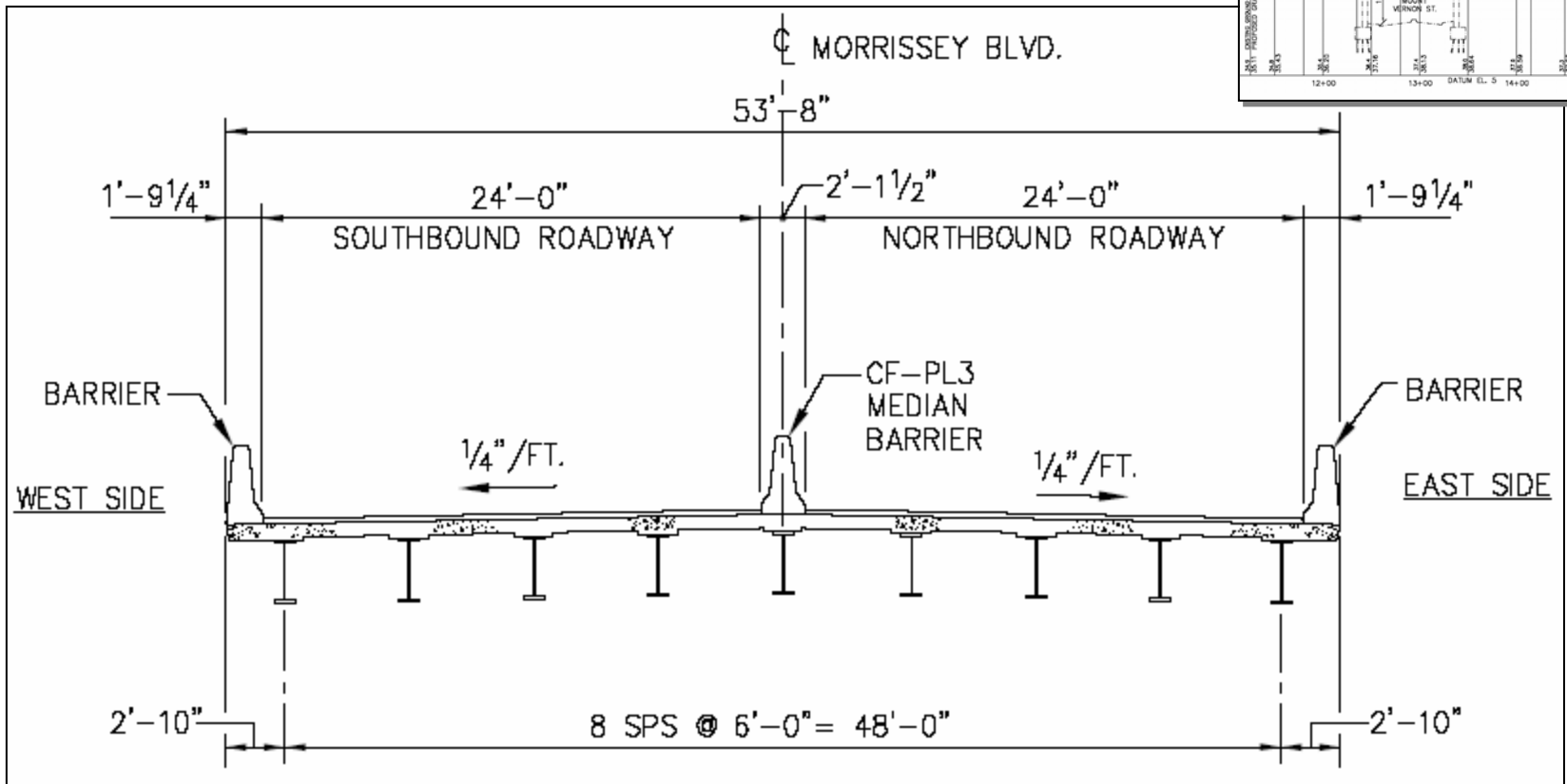
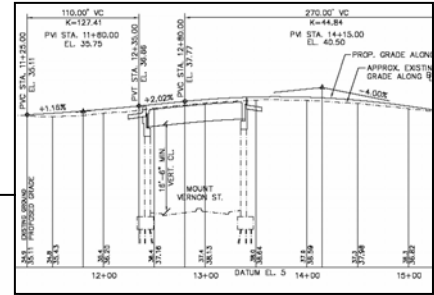


# Mt. Vernon St. Rehabilitation

- Designed for a 75-year service life
- New superstructure with concrete deck and steel beams
- Steel to be coated using high quality 'metalizing'
- Substructure to be retained
- Abutment stem walls to be repainted
- New underbridge lighting



# Project Scope



**PROPOSED CROSS SECTION**



Rehabilitation of Mt. Vernon St. & Patten's Cove Bridges

# Completion of Median Fencing



# Completion of Median Fencing



Proposed Steel Picket Fence  
at Median



Existing Fencing



# Mt. Vernon St. Rehabilitation



# Mt. Vernon St. Rehabilitation



**Bridge seat detail eliminates bird nesting**

**Under bridge lighting**

**Painted abutment walls**

## Traffic Management - Mt. Vernon St.

- **Existing Capacity**
  - 2 southbound lanes
  - 2 northbound lanes
- **During Construction**
  - 1 southbound lane
  - 1 northbound lane
- **Built in 4 stages**
  - 3 stages for bridge construction
  - 1 stage to complete median and railing
  - 14-month duration for 4 stages

# Limited Night Work

- Removal of existing beams and erection of new steel will be done at night for the protection of pedestrians and vehicles on Mt. Vernon St.
- Estimated that a total of 9 night closures on Mt. Vernon St. will be required
- Night shift hours: 1 am to 5 am

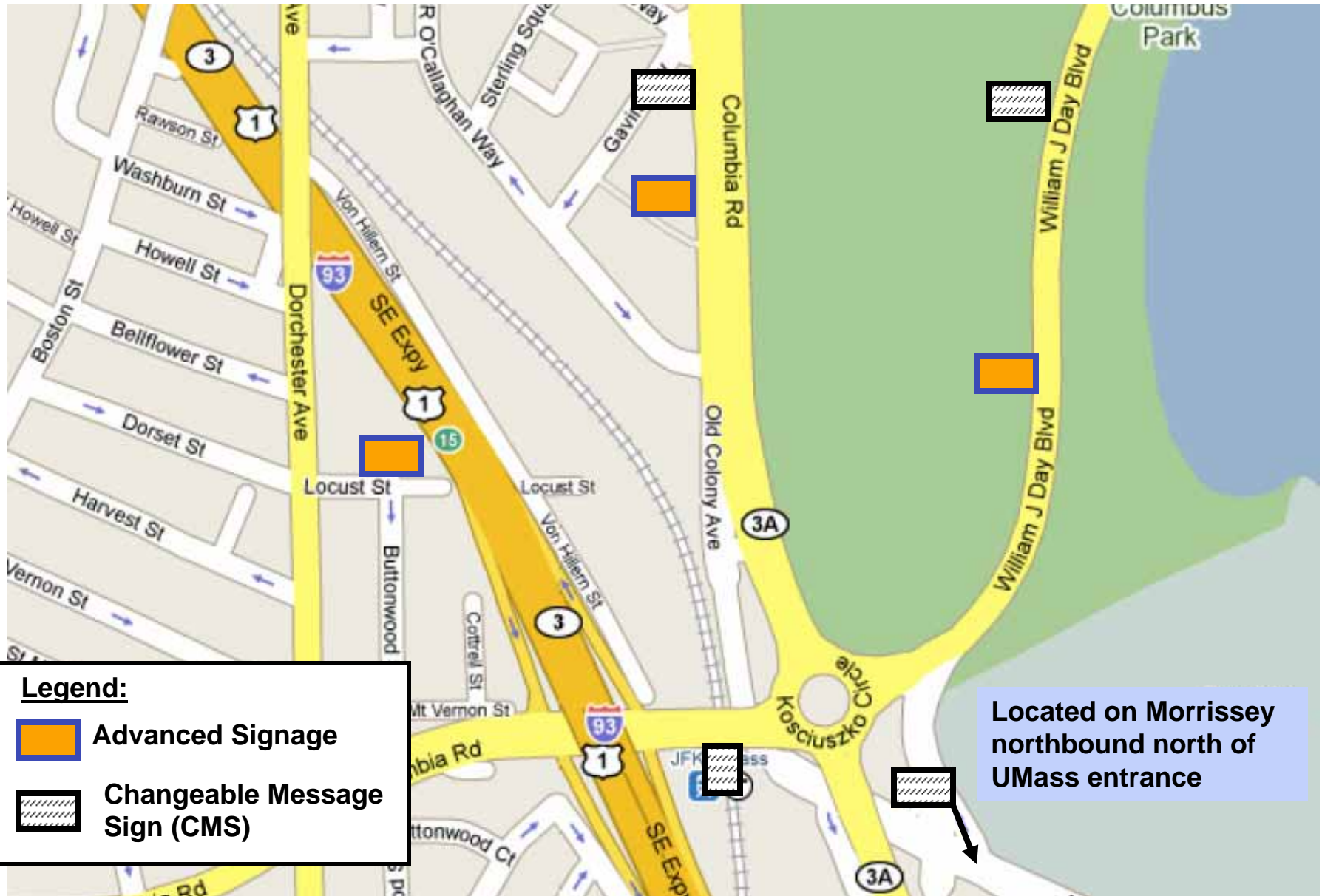


# Night Work Coordination

- Detour signage will be in place
- Police will control pedestrians and vehicles during these operations
- Scheduling will be coordinated with abutters' night deliveries and with AMTRAK Commuter Rail and MBTA Red Line and bus schedules
- No night work will be conducted during special events or holidays

# Mt. Vernon St. – Traffic Management Plan Schematics

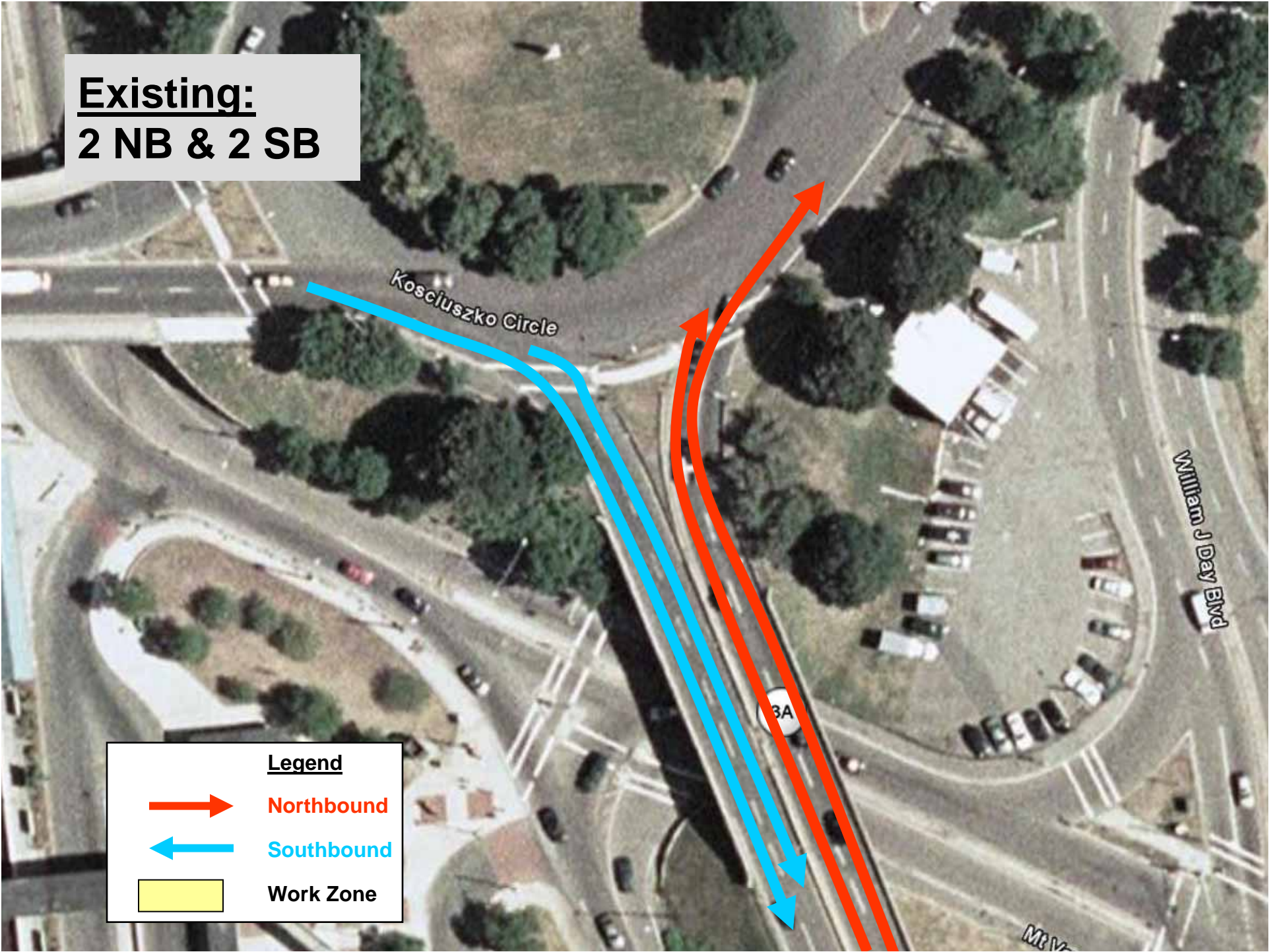
# Advanced Signing Plan - North end of project



# Advanced Signing Plan – South end of project



**Existing:  
2 NB & 2 SB**



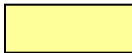
**Legend**



**Northbound**

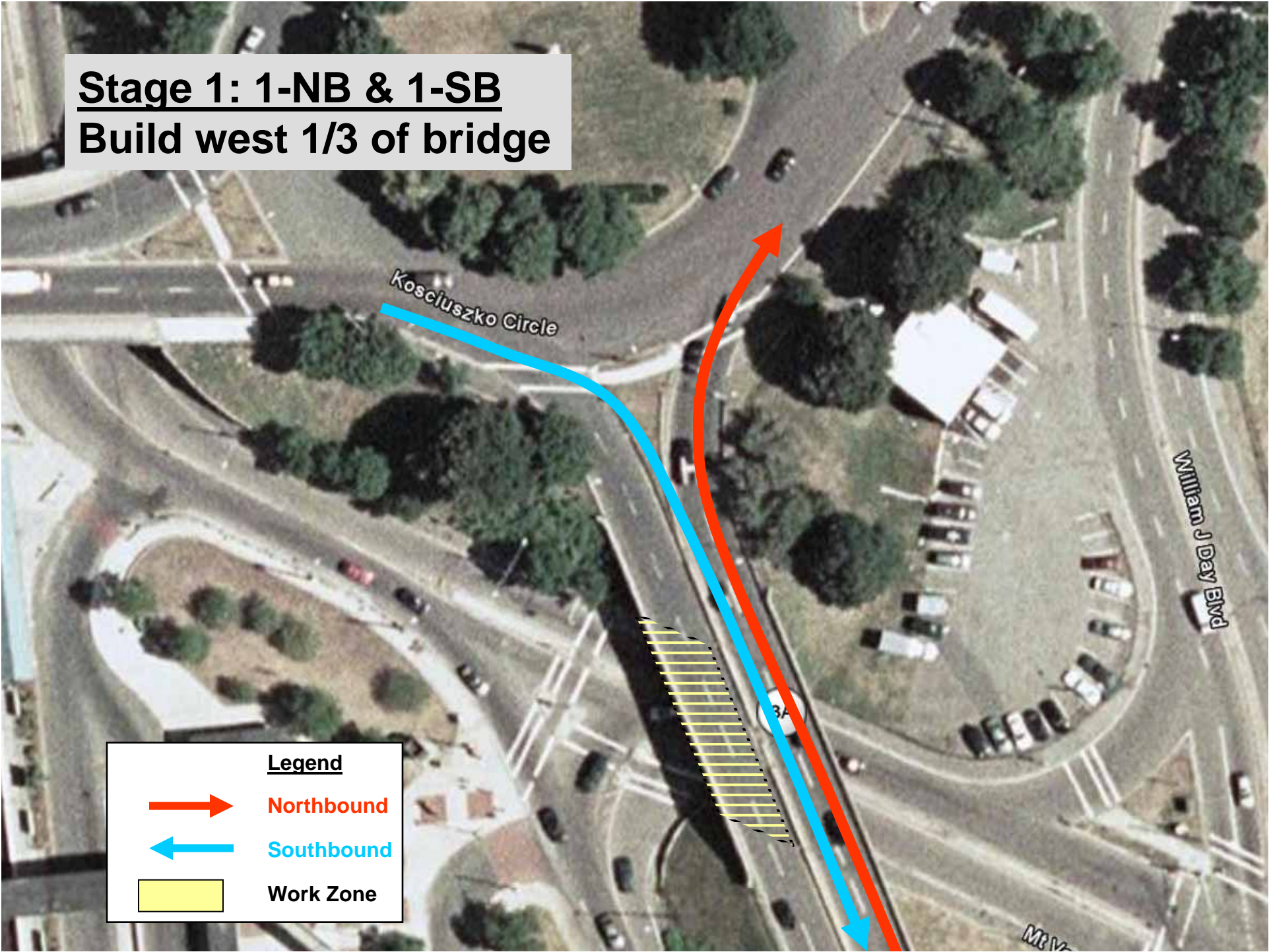




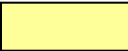
**Southbound**



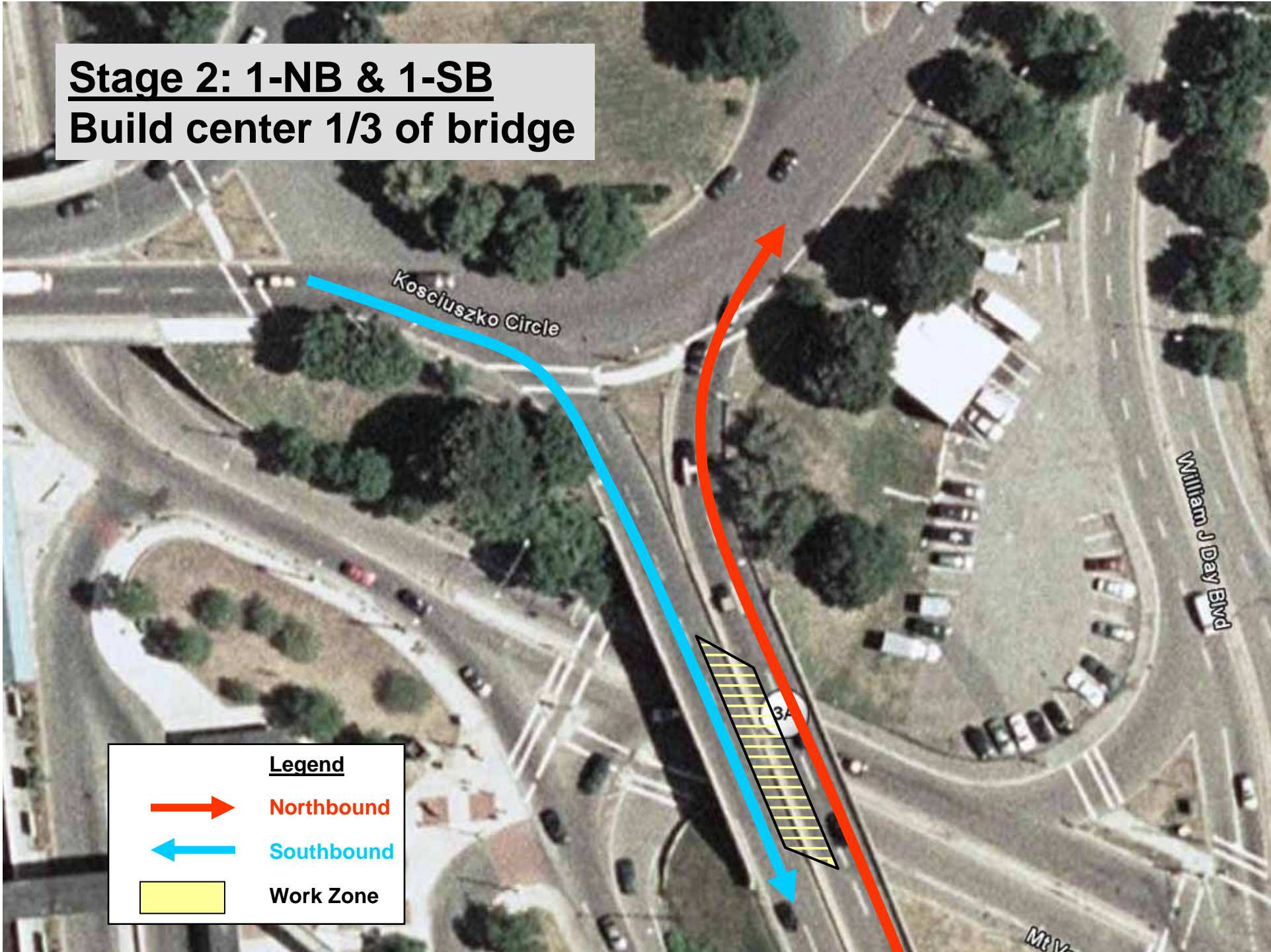
**Work Zone**

**Stage 1: 1-NB & 1-SB**  
**Build west 1/3 of bridge**



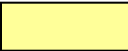


Legend	
	Northbound
	Southbound
	Work Zone

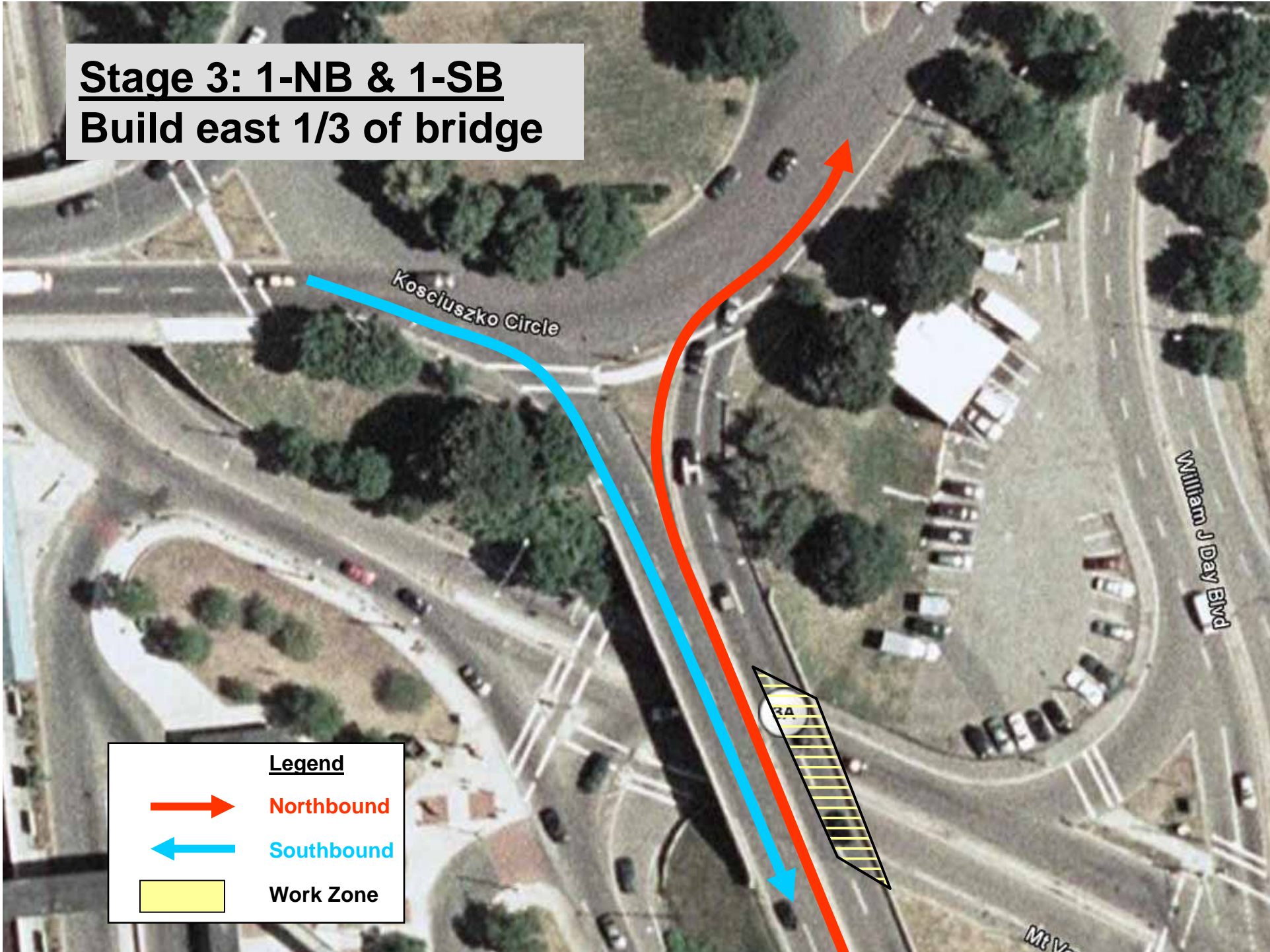
**Stage 2: 1-NB & 1-SB**  
**Build center 1/3 of bridge**





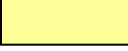
**Legend**

-  Northbound
-  Southbound
-  Work Zone

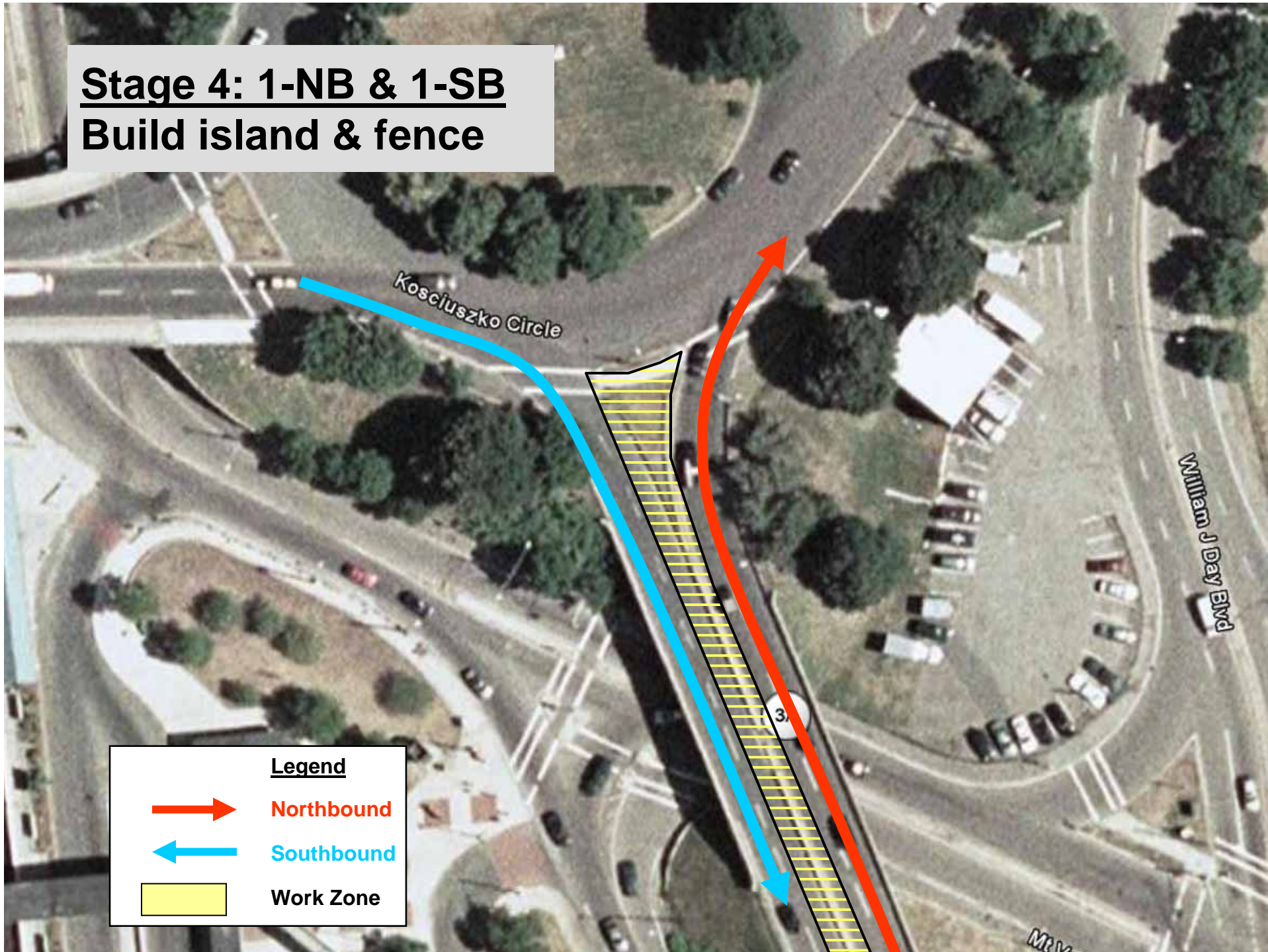
**Stage 3: 1-NB & 1-SB**  
**Build east 1/3 of bridge**



**Legend**

-  Northbound
-  Southbound
-  Work Zone

**Stage 4: 1-NB & 1-SB**  
**Build island & fence**



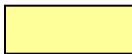
**Legend**



**Northbound**

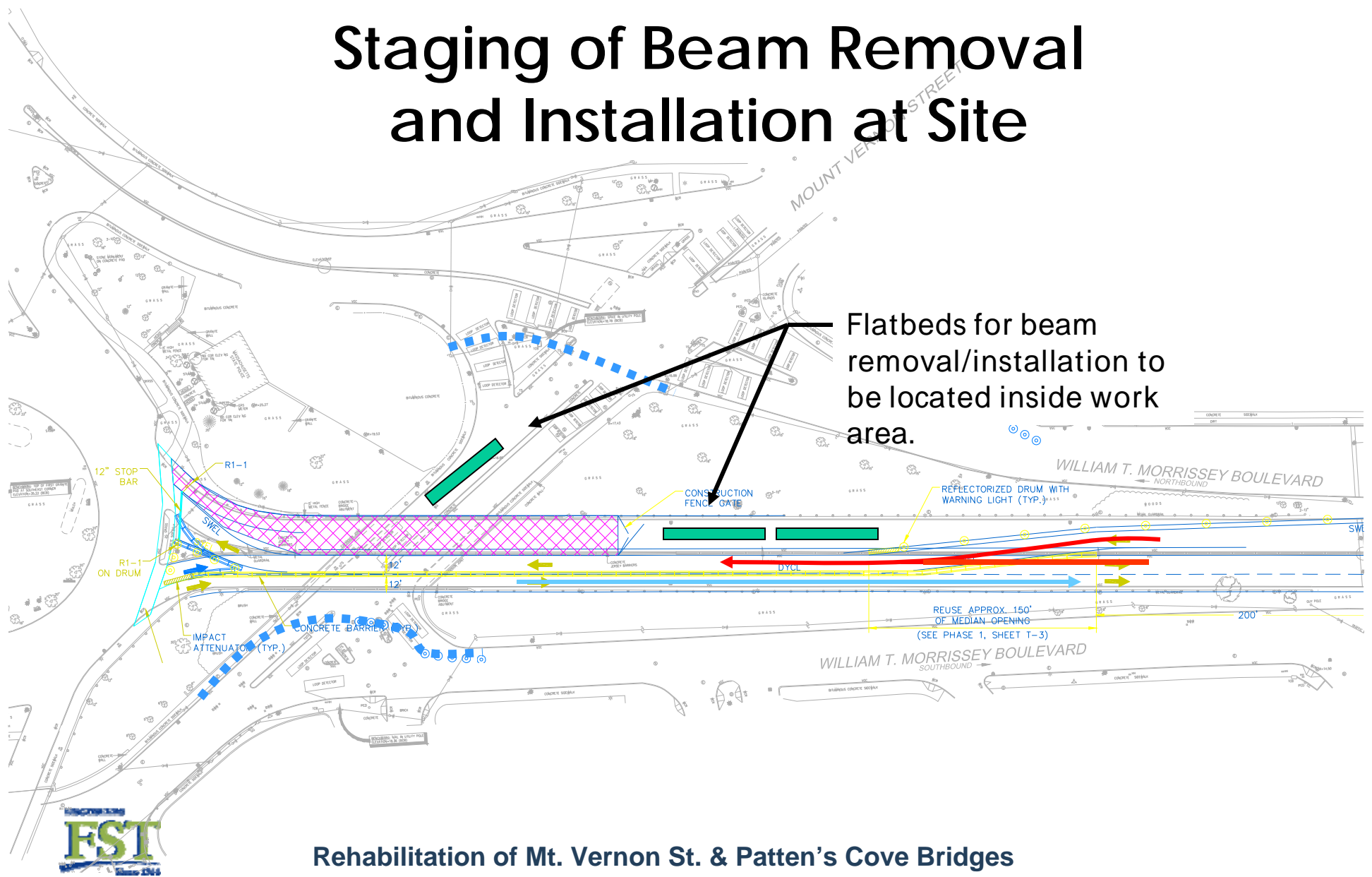


**Southbound**

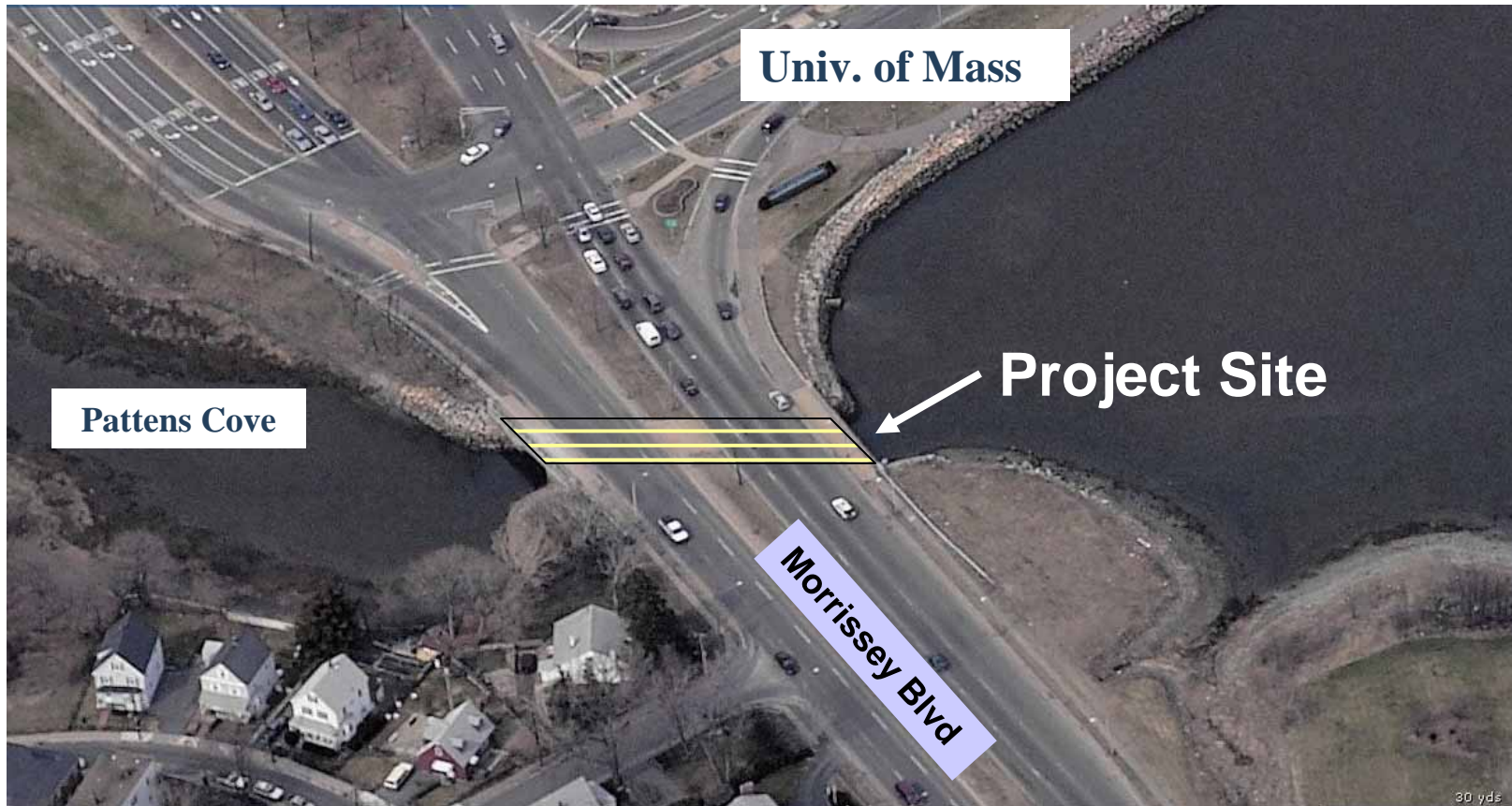


**Work Zone**

# Staging of Beam Removal and Installation at Site



# Patten's Cove Bridge Location Map



# Patten's Cove Bridge

- DCR owned bridge
- Constructed in 1984
- Single span bridge
  - 26 ft span
  - 3 lanes each way
  - 11' wide sidewalks both sides
  - Water, telephone, gas and electric lines on bridge
  - Precast concrete deck beams



# Patten's Cove Bridge

Looking west at  
the bridge



Roadway prior to  
recent overlay

# Patten's Cove - Existing Condition

- Superstructure is in 'Fair Condition'
- Major deteriorated elements:
  - Joint deterioration between box beams
  - Reflective cracking in pavement



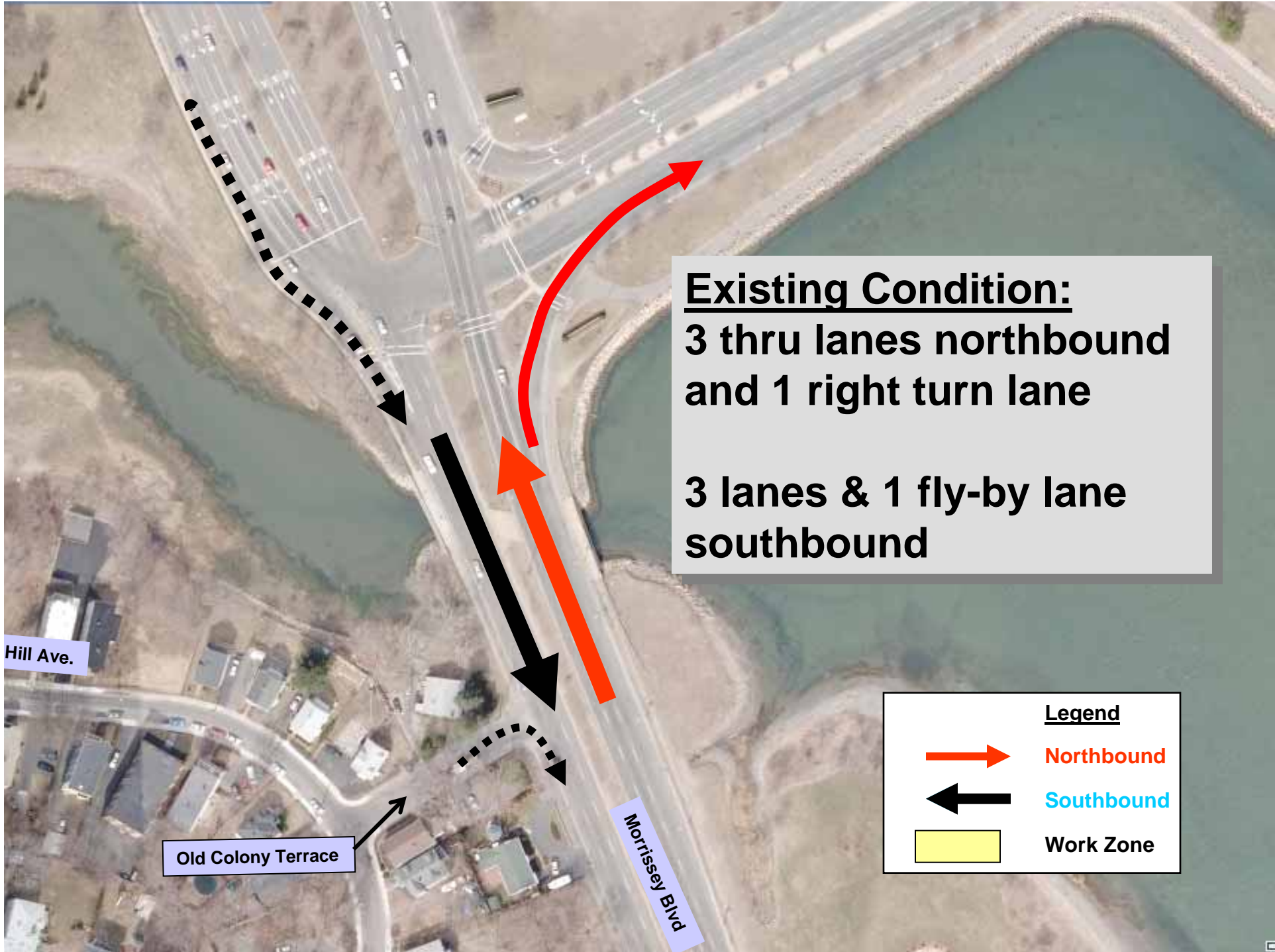
# Patten's Cove Rehabilitation

- Designed for a 75-year service life
- New superstructure with steel beams and jacked arches
- Steel to be galvanized
- Substructure to be retained
- Repave approaches and tie-in surface features at interface with BWSC project at University St. intersection



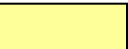
# Traffic Management – Patten’s Cove

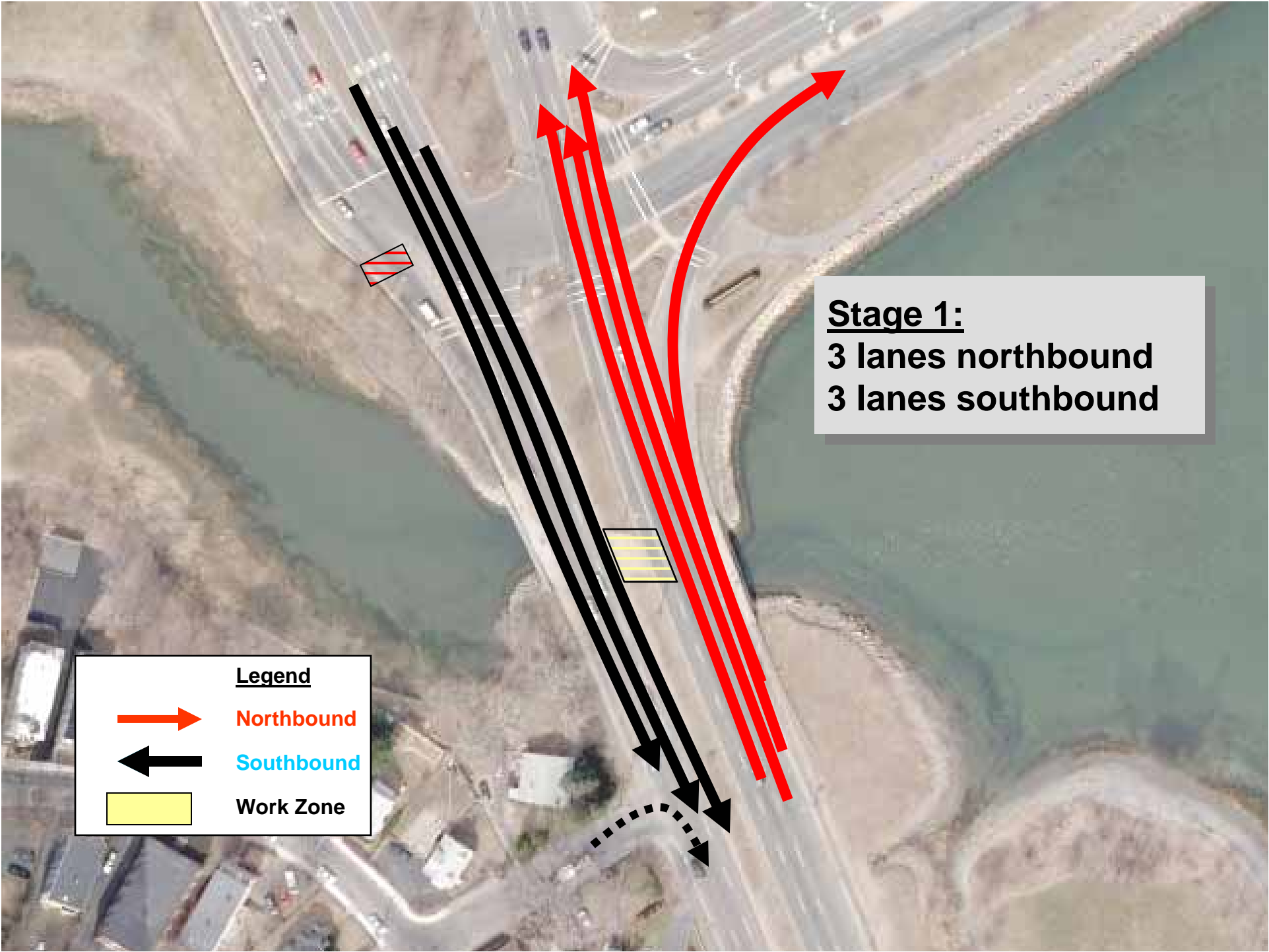
- **Existing Capacity**
  - 3 northbound thru lanes and 1 turn lane
  - 3 southbound lanes
- **During Construction**
  - 3 southbound lanes
  - 3 northbound thru lanes (plus turning lane)
- **4 Stages**
  - 4 stages for bridge construction
  - 14 month total duration of traffic impact
  - No night work anticipated

# Patten's Cove – Traffic Management Plan Schematics





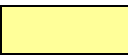
**Existing Condition:**  
3 thru lanes northbound  
and 1 right turn lane  
  
3 lanes & 1 fly-by lane  
southbound

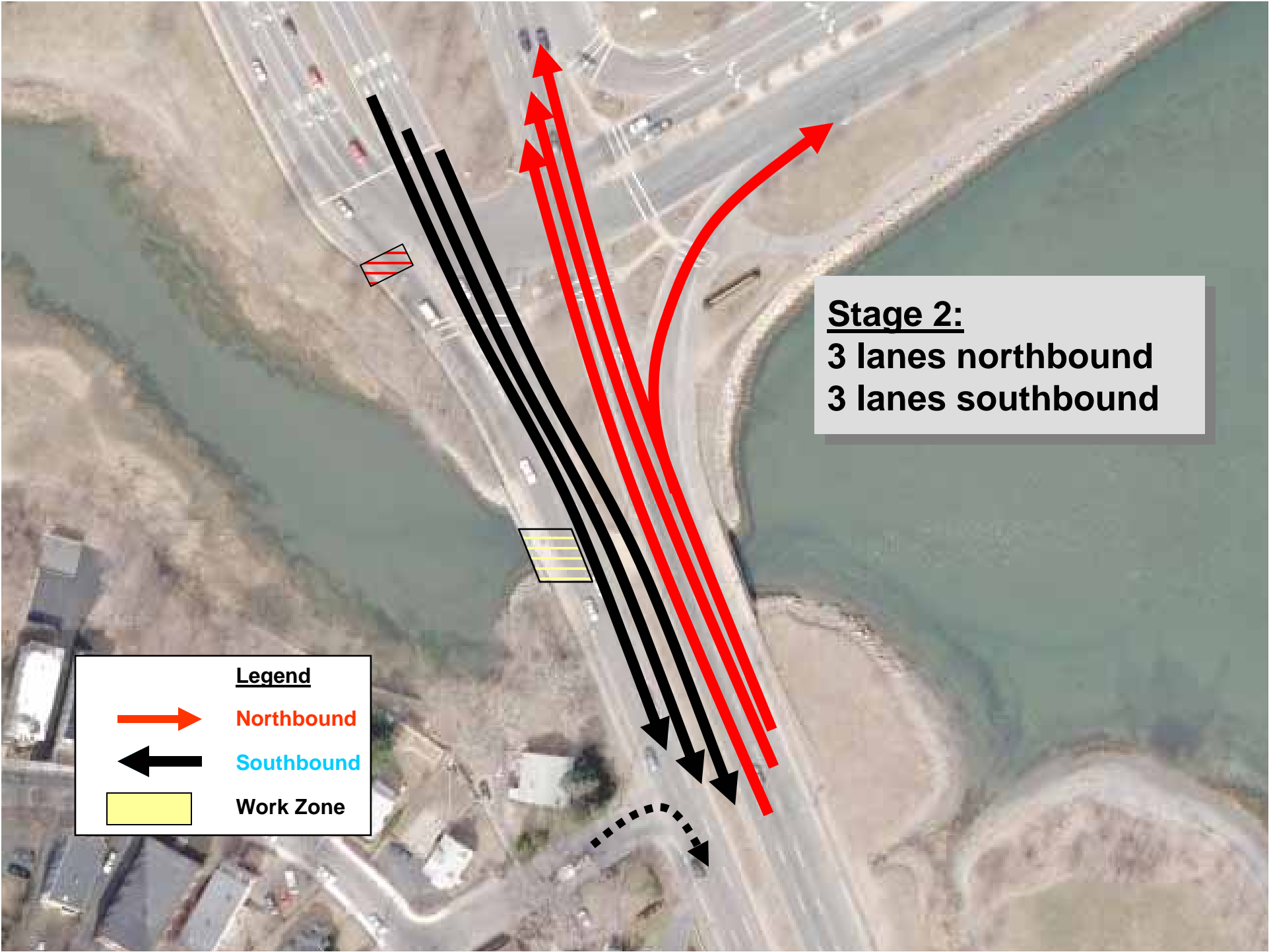
Legend	
	Northbound
	Southbound
	Work Zone



**Stage 1:**  
3 lanes northbound  
3 lanes southbound



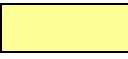
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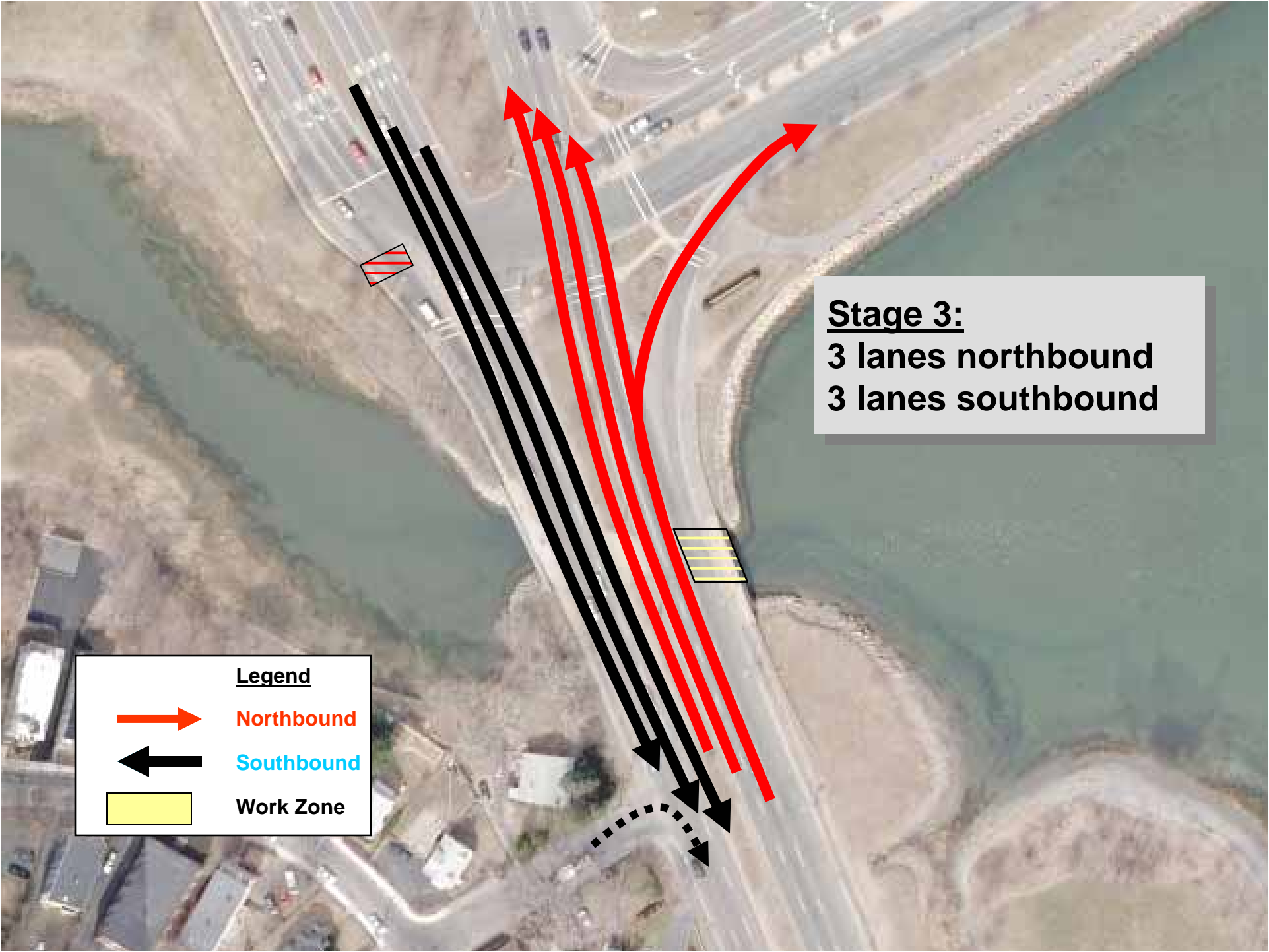
-  Northbound
-  Southbound
-  Work Zone



**Stage 2:**  
3 lanes northbound  
3 lanes southbound




**Legend**

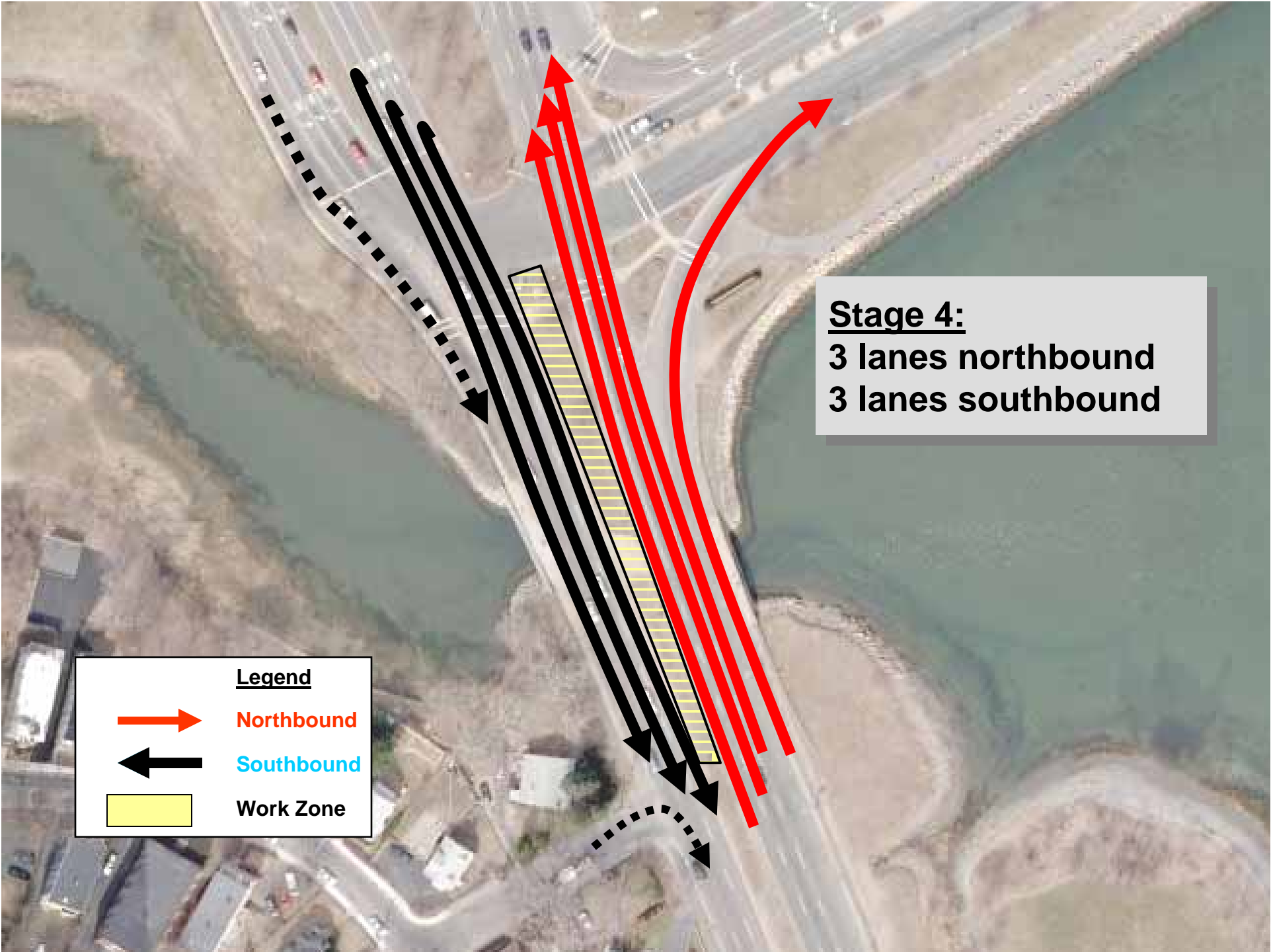
-  Northbound
-  Southbound
-  Work Zone



**Stage 3:**  
**3 lanes northbound**  
**3 lanes southbound**




**Legend**

-  Northbound
-  Southbound
-  Work Zone



**Stage 4:**  
3 lanes northbound  
3 lanes southbound

**Legend**

-  Northbound
-  Southbound
-  Work Zone

## Provisions to Limit Project Impacts (both bridges)

- All steel will be fabricated and stored prior to restricting traffic
- All approvals will be in place prior to restricting traffic
- Both bridges will be worked continuously until project is complete

## *Staying Informed*

DCR is committed to sharing information on projects being undertaken as part of the Accelerated Bridge Program (ABP) by taking the following steps:

- Conducting additional stakeholder briefings and public meetings to provide project updates and obtain feedback as project progresses
- Staffing a dedicated phone line, where the public can call to register concerns, questions, or suggestions. The phone number is: **617-626-4974**
- Posting regular updates on DCR's website: **[www.mass.gov/dcr](http://www.mass.gov/dcr)**
- Issuing press releases, traffic advisories, and providing traffic plan updates through Smart Routes
- Sending project announcements, as well as traffic advisories over a listserve
- Communicating via email account, to which the public can write to register concerns, questions, or suggestions. The account is: **[DCR.Updates@state.ma.us](mailto:DCR.Updates@state.ma.us)**



*department of Conservation and Recreation*

# Questions and Answers

