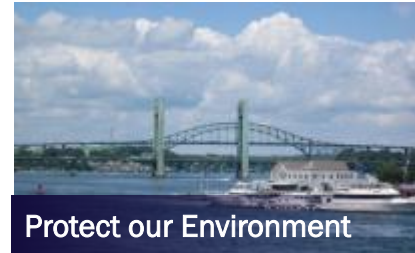


Manage our Resources



Explore Innovative Solutions



Protect our Environment



Preserve our Community

CITY OF PORTSMOUTH WASTEWATER DIVISION

TRAFFIC AND CONSTRUCTION MITIGATION FOR PEIRCE ISLAND WASTEWATER TREATMENT FACILITY UPGRADE

CITY COUNCIL WORK SESSION

APRIL 11, 2016

Topics for Discussion

1. Project Information & Status
2. Peirce Island Temporary Staging Areas
 - Parking Mitigation
- Break for Discussion/Q&A
3. Summary of Traffic Impacts
4. Barging Transportation Options
 - Break for Discussion/Q&A
5. Roadway Modifications
 - Break for Discussion/Q&A



Project Information & Status

- Major Upgrade of Peirce Island WWTF Mandated by EPA Consent Decree
- Design Complete
- Out to Bid with Barge Bid Alternates
- Construction Between July 2016 and September 2020



Peirce Island Temporary Staging Areas



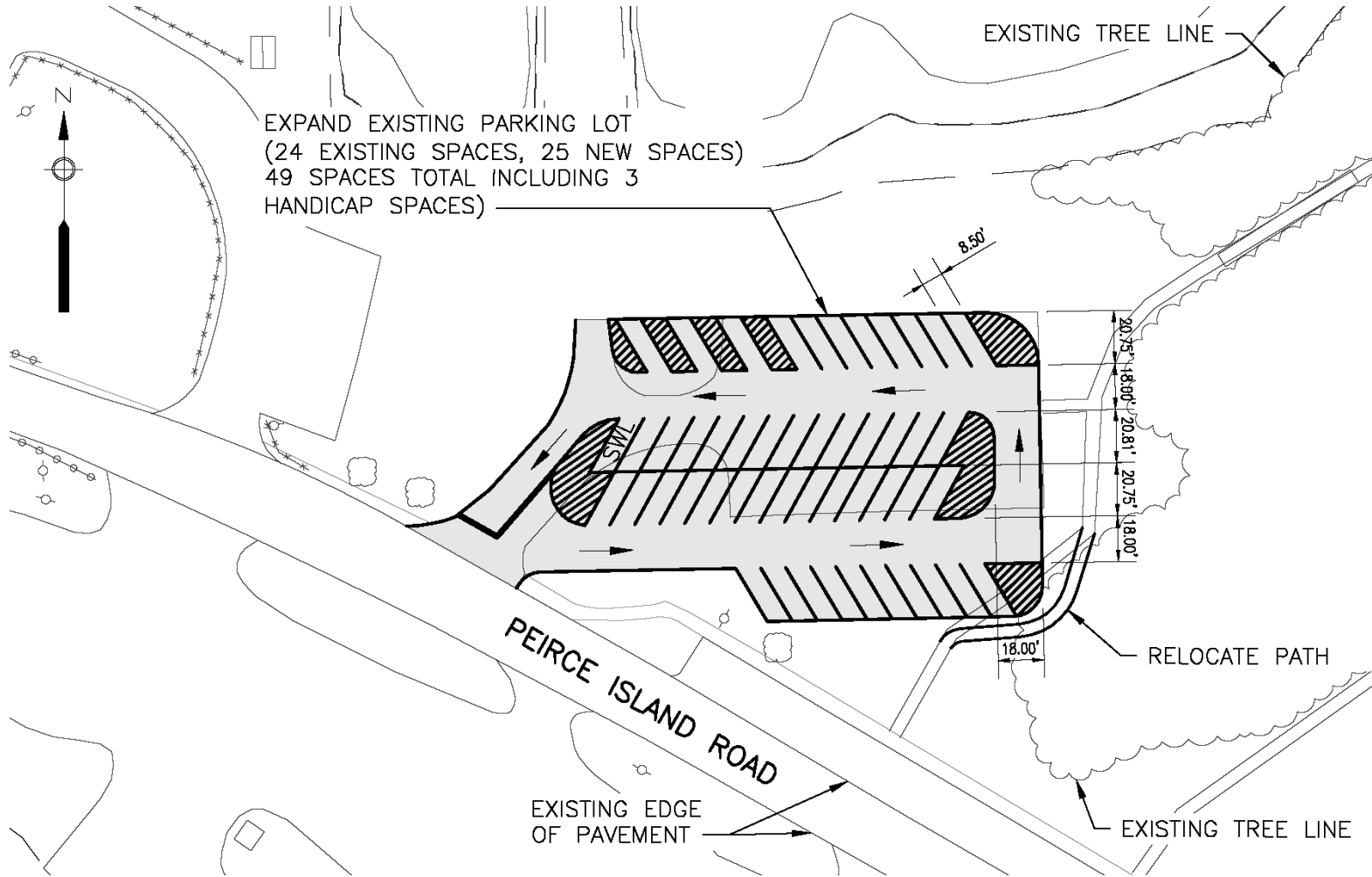
Peirce Island Pool Access



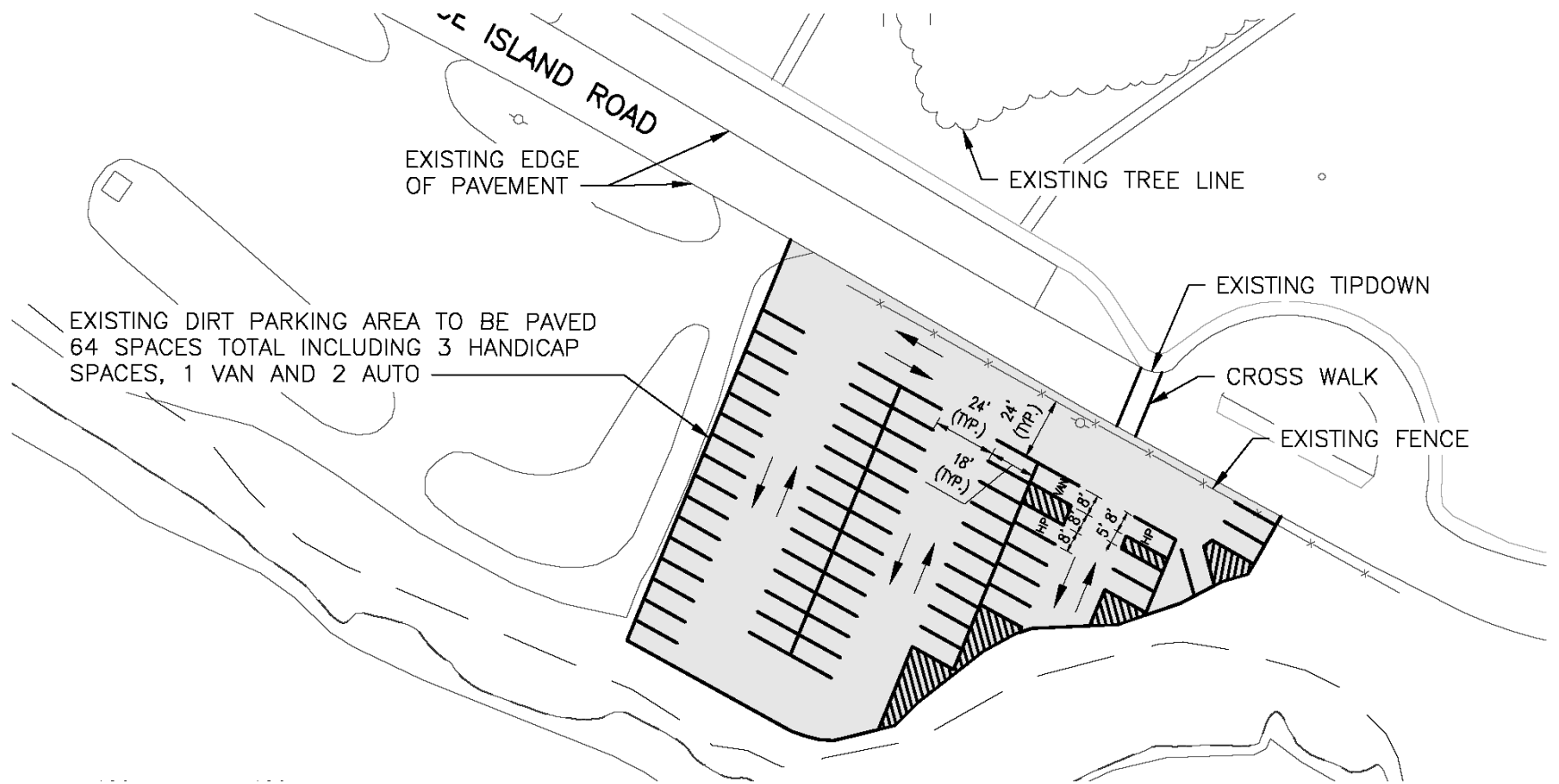
Peirce Island Parking Mitigation



Parking Mitigation – Expand Four Tree Island Parking Area



Parking Mitigation – Expand Boat Ramp Parking Area



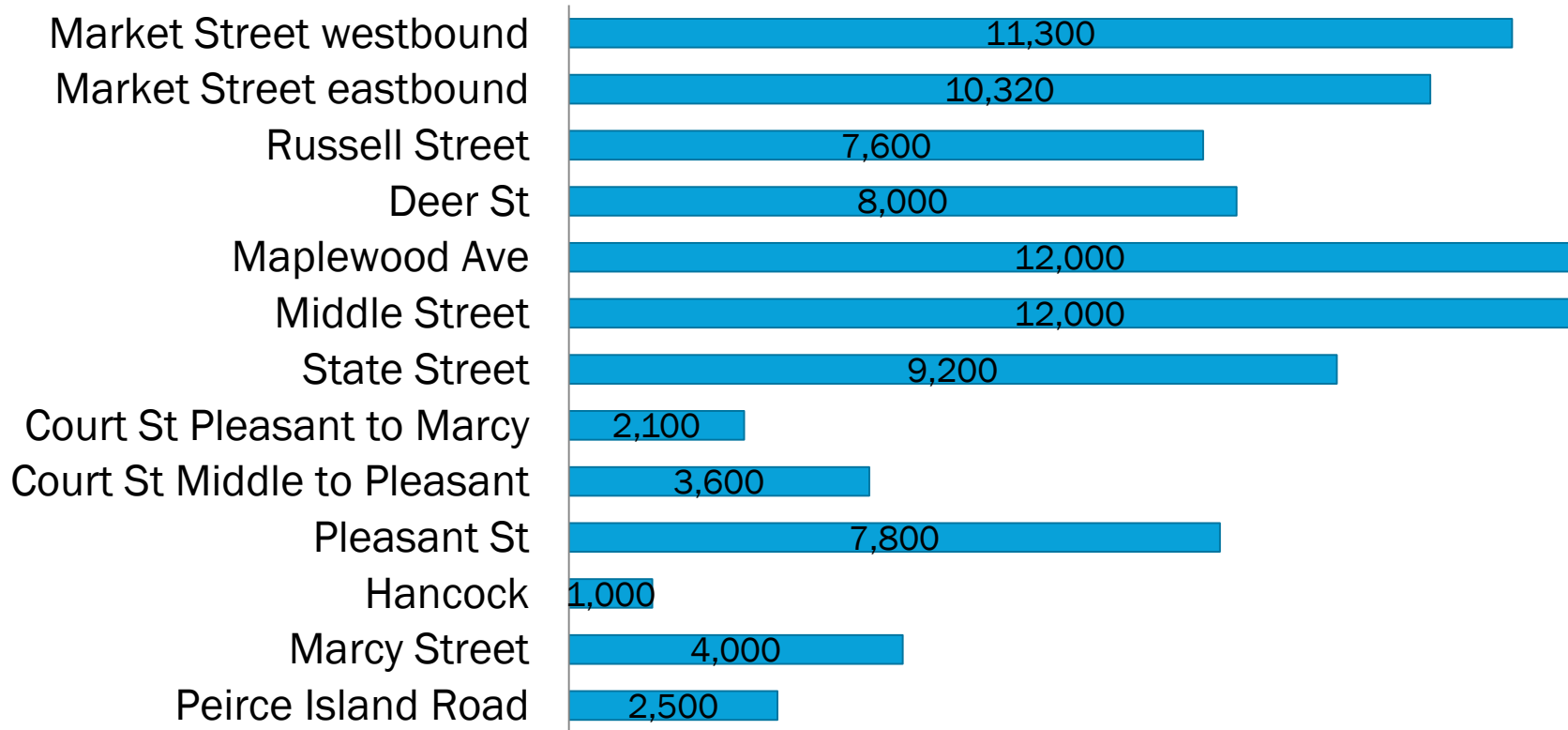
Questions and Answers



Current Traffic Volume

Summer Condition Traffic Volumes (Trips per Day)

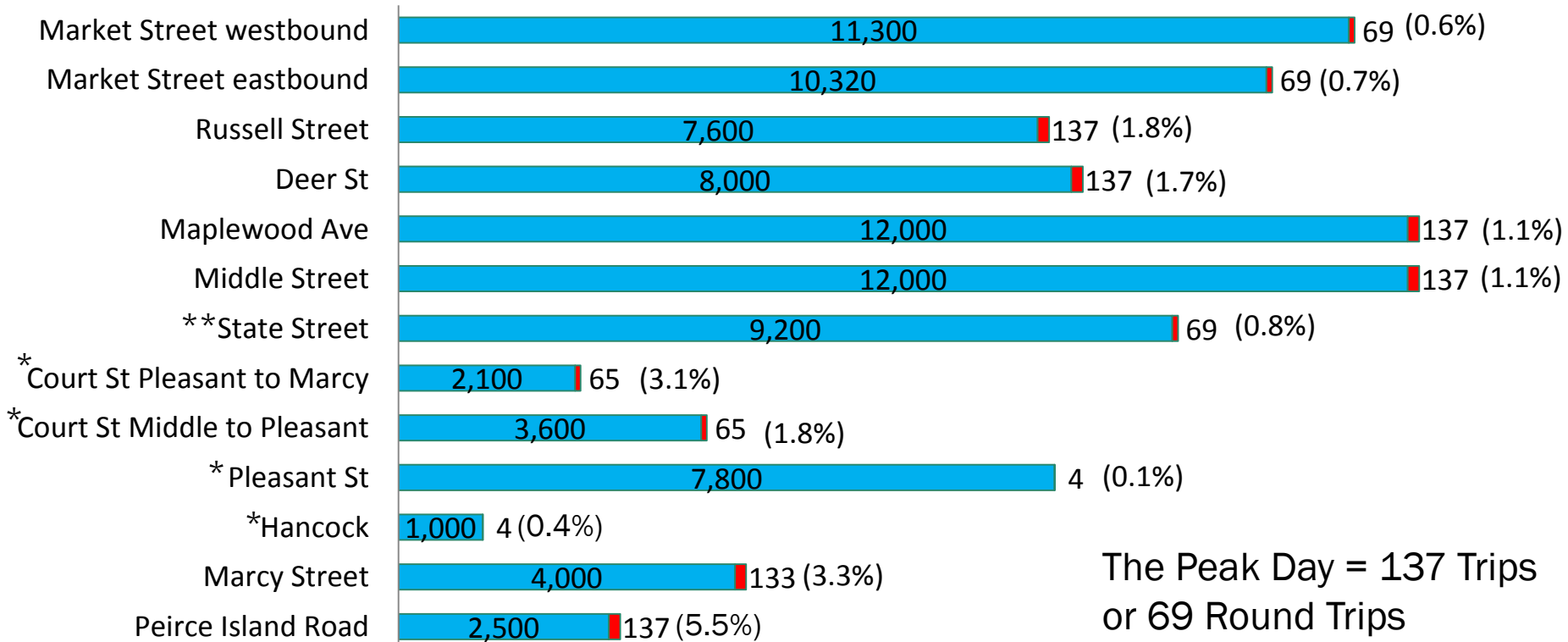
■ Existing Summer Month Street Volume



Net Change in Traffic Volume

Summer Condition Traffic Volumes with Peak Day Construction Traffic (Trips per Day)

■ Existing Summer Month Street Volume ■ Peak Day Construction Truck Volume



The Peak Day = 137 Trips
or 69 Round Trips

Notes: *Outbound Construction Traffic Only **Inbound Construction Traffic Only



Barging Background

- Originally Investigated by Project Team in 2014. Presented to Council on September 29, 2014. Not Pursued Due to Cost.
- Tasks Completed to Date:
 - Identified Potential Loading and Unloading Locations
 - Began Underwater Survey of Potential Unloading Locations
 - Defined Bid Alternates & Distributed to Contractors Via Addendum
 - Discussed Barging with Permitting Agencies



Barge Types – Spud Barge

- Fore and Aft Vertical Shafts, or Spuds, Hold Barge in Place
- Provides a Stable Platform
- Floats with the Tide



Barge Types – Jack-Up Barge

- Fore and Aft Vertical Shafts, or Spuds, Hold Barge in Place
- Provides a Fixed Platform



Barge Type – Load On / Load Off (LOLO)

- Crane Loads and Unloads Equipment and Material at Loading & Unloading Locations
- Requires Tug



Barge Type – Roll On / Roll Off (RORO)

- Requires Transfer Bridge
- Trucks Roll On and Off Barge
- Requires Tug



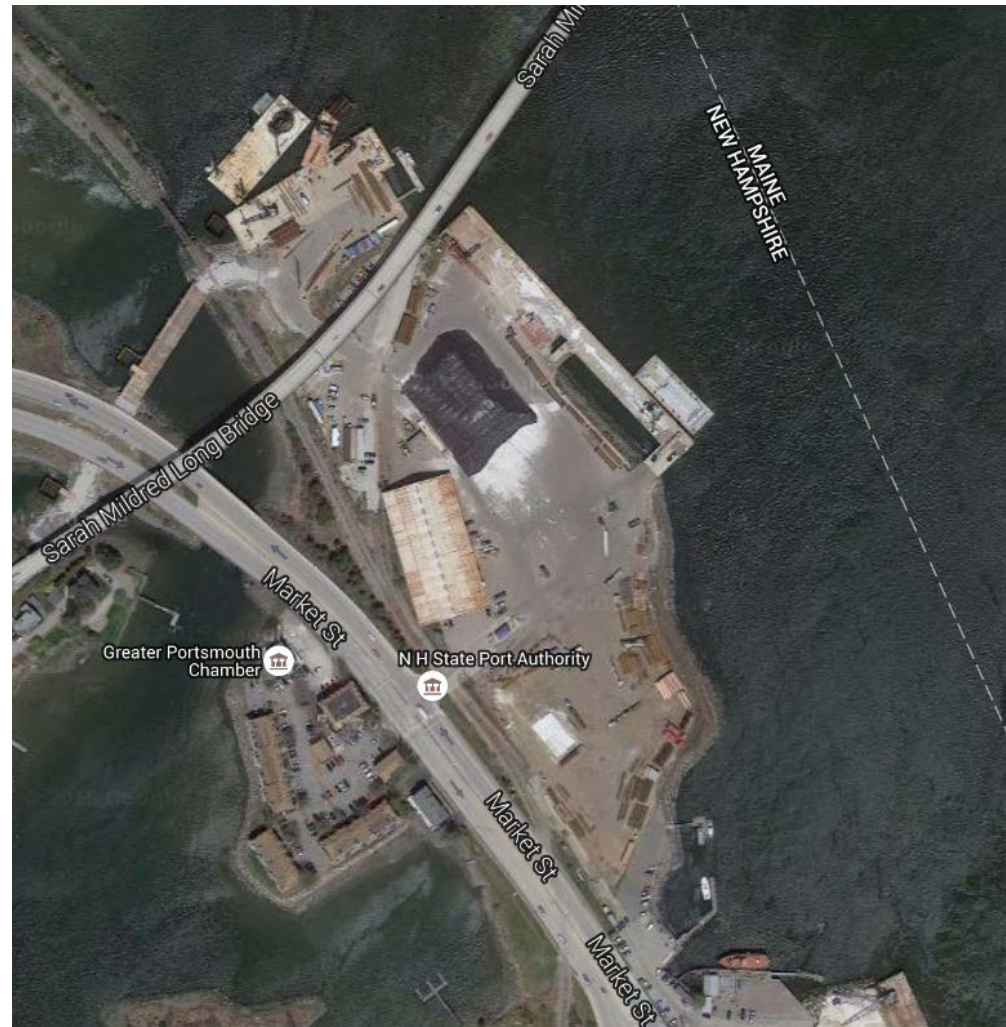
Barge Type – Landing Craft

- Trucks Roll On and Off Barge
- Smaller Capacity
- Requires Boat Ramp



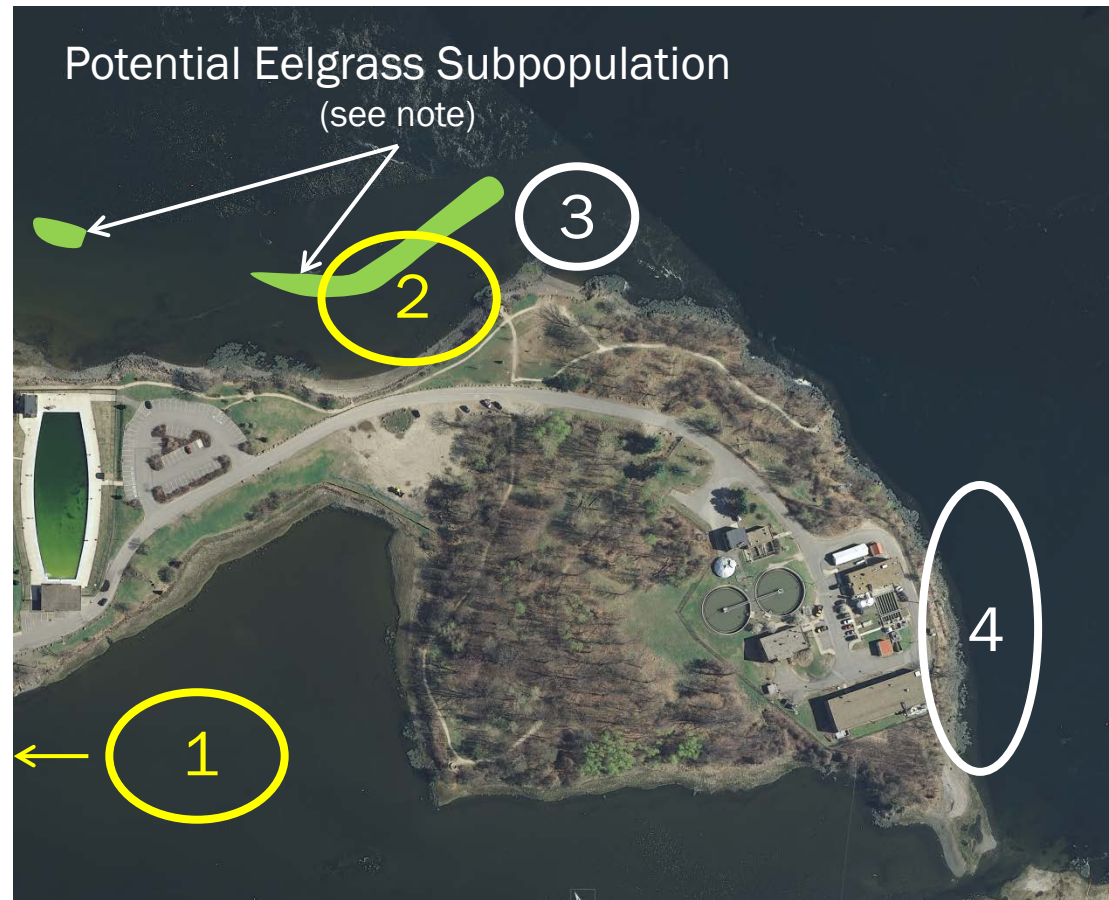
Potential Loading Facility Location

- Port of New Hampshire
- Shared Use
- Limited Laydown Area
- Periodic Shutdowns to Barging Due to Ship Traffic
- Contractor Free to Use Other Sites



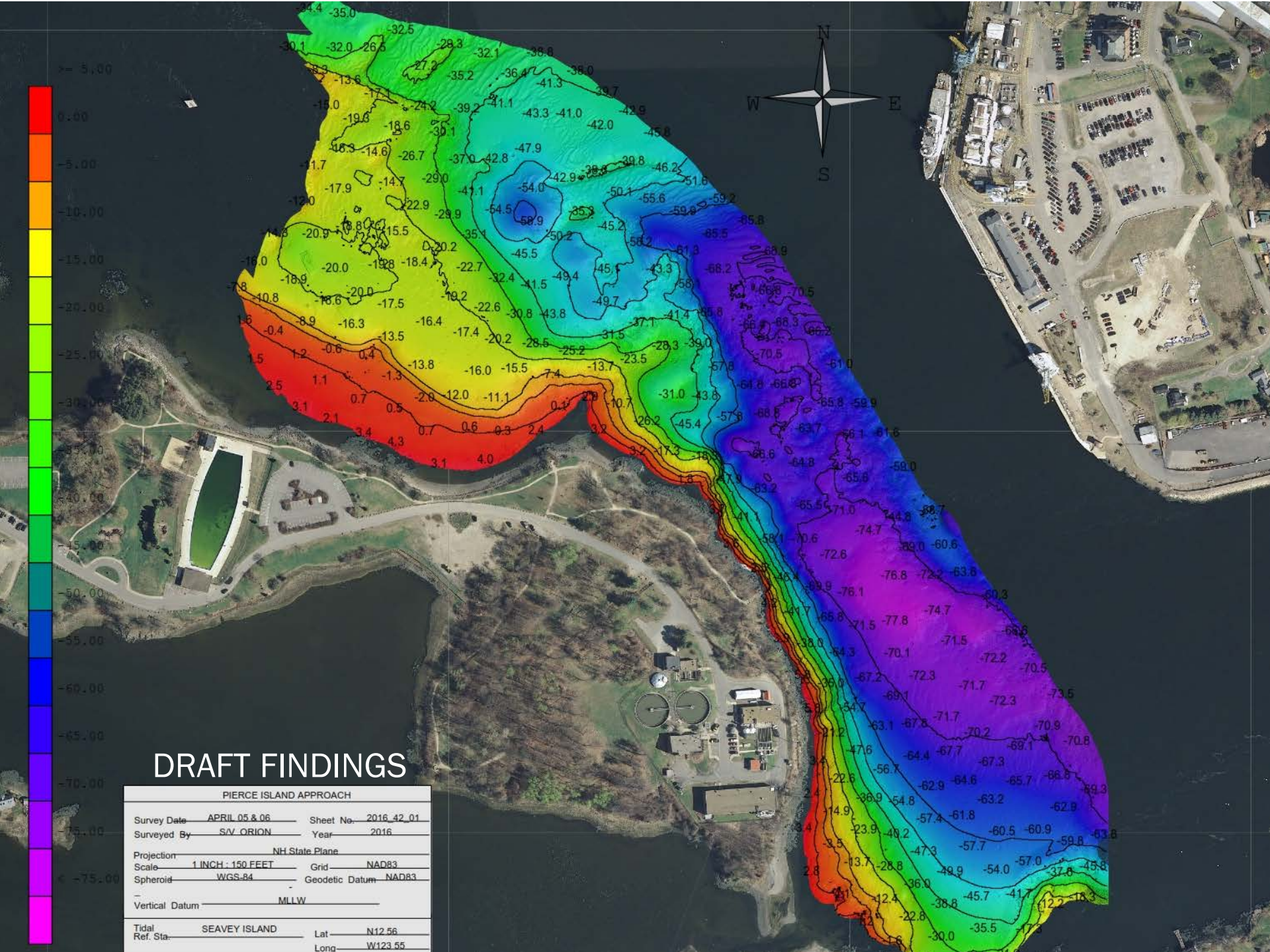
Potential Unloading Facility Locations

- Contractor to Choose Location & Type of Barge Operation
- Bathymetric Information to be Provided



Source: *Eelgrass Distribution in the Great Bay Estuary and Piscataqua River for 2013*, UNH.





DRAFT FINDINGS

PIERCE ISLAND APPROACH

Survey Date APRIL 05 & 06 Sheet No. 2016_42_01
 Surveyed By S/V ORION Year 2016
 Projection NH State Plane
 Scale 1 INCH : 150 FEET Grid NAD83
 Spheroid WGS-84 Geodetic Datum NAD83
 Vertical Datum MLLW

Tidal Ref. Sta. SEAVEY ISLAND Lat N12.56
 Long W123.55

Permitting

- Ongoing Discussion with Regulators (USACOE, NHDES)
- Ongoing Discussion with Other Agencies (USCG, EPA, Director of Ports, etc.)
- Final Permitting Needs Depend on Selected Contractor's Proposal



Barge Bid Alternates

- Alternate 1 – Barge Demolition and Surplus Excavated Materials Away
- Alternate 2 – Alternate 1 Plus Barge Selected Construction Materials To Site
- Alternate 3 – Alternate 1 and 2 Plus Barge All Vehicles 3 Axles or Greater and All Construction Equipment (Bulldozers, Excavators, Backhoes, etc.) Except Concrete Trucks and Pump Trucks
- Alternate 4- Alternate 1, 2, and 3 Plus Concrete Batch Plant / Barge Raw Concrete Materials



Bid Alternates – Impact on Traffic

Bid Alternate	Approximate Reduction In Construction Vehicles (%)
Alt. 1 – Barge Demo and Surplus Excavation Materials	50%
Alt. 2 – Alt. 1 Plus Barge Selected Construction Materials	60%
Alt. 3 – Alt. 1 and 2 Plus Vehicles 3 Axles or Greater and Construction Equipment Except Concrete Trucks and Pump Trucks	75%
Alt. 4 – Alt. 1, 2, and 3 Plus Concrete Batch Plant and Barge Raw Concrete Materials	90%



Bid Alternates – Other Considerations

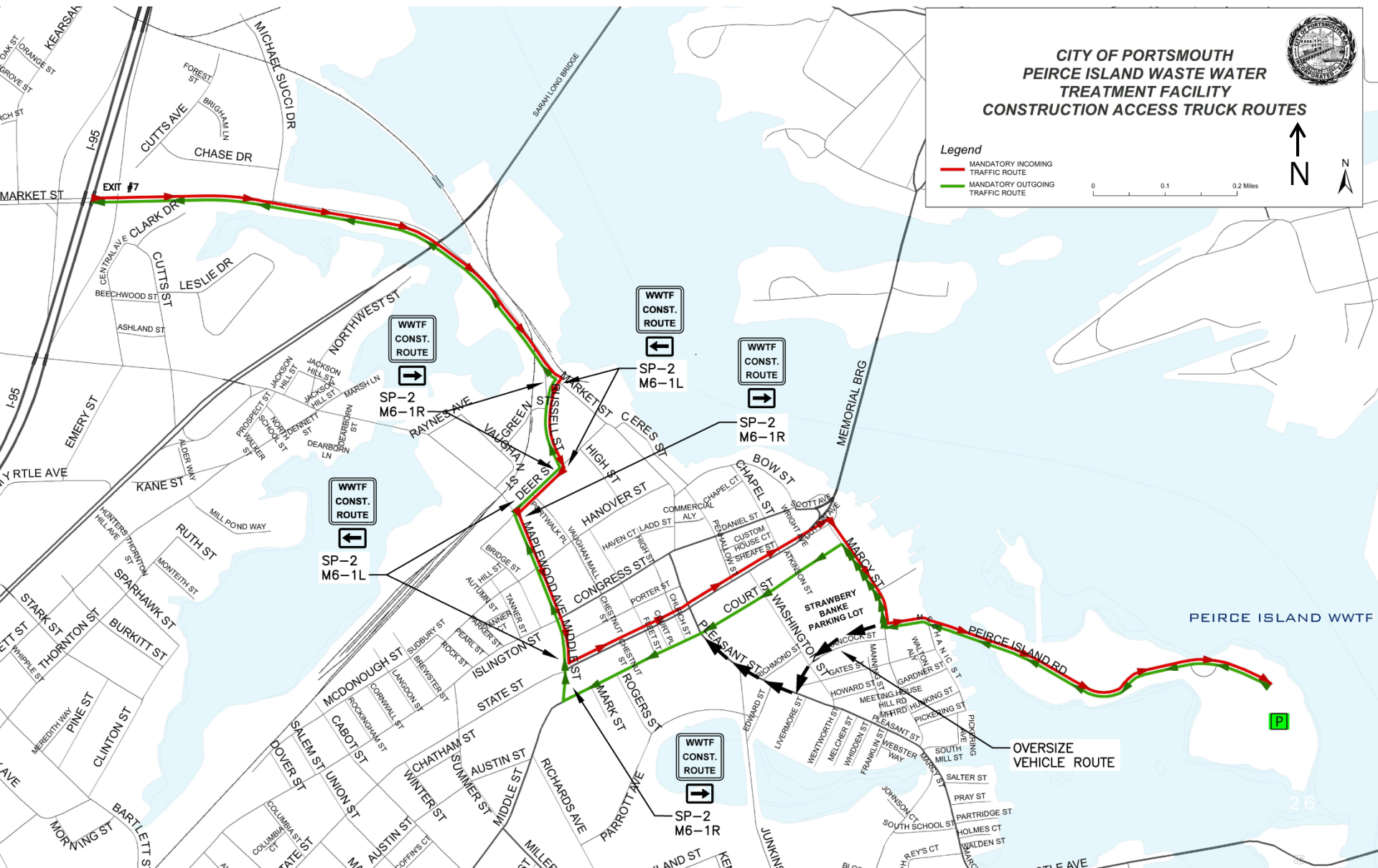
- Barging Not Able to Begin Until Permitting In Place
 - Trucks Allowed Until Barging Starts
 - Necessary to Meet Consent Decree Milestones
- Second and Third Shift Work May Be Necessary
- May Increase Length of Bid Period
- If Bid Alternate(s) Selected, May Need to Increase Bond Authorization



Questions and Answers



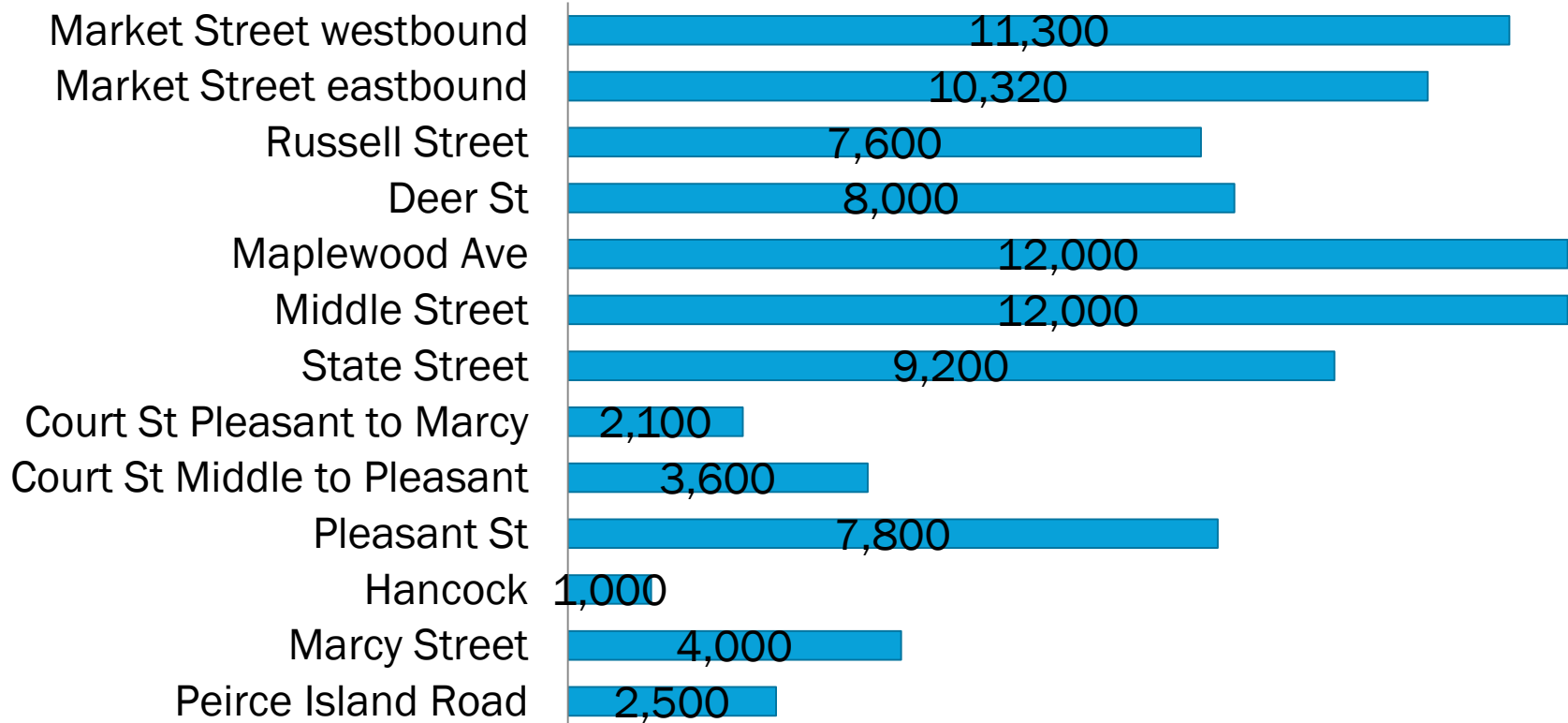
Construction Access Routes



Current Traffic Volume

Summer Condition Traffic Volumes (Trips per Day)

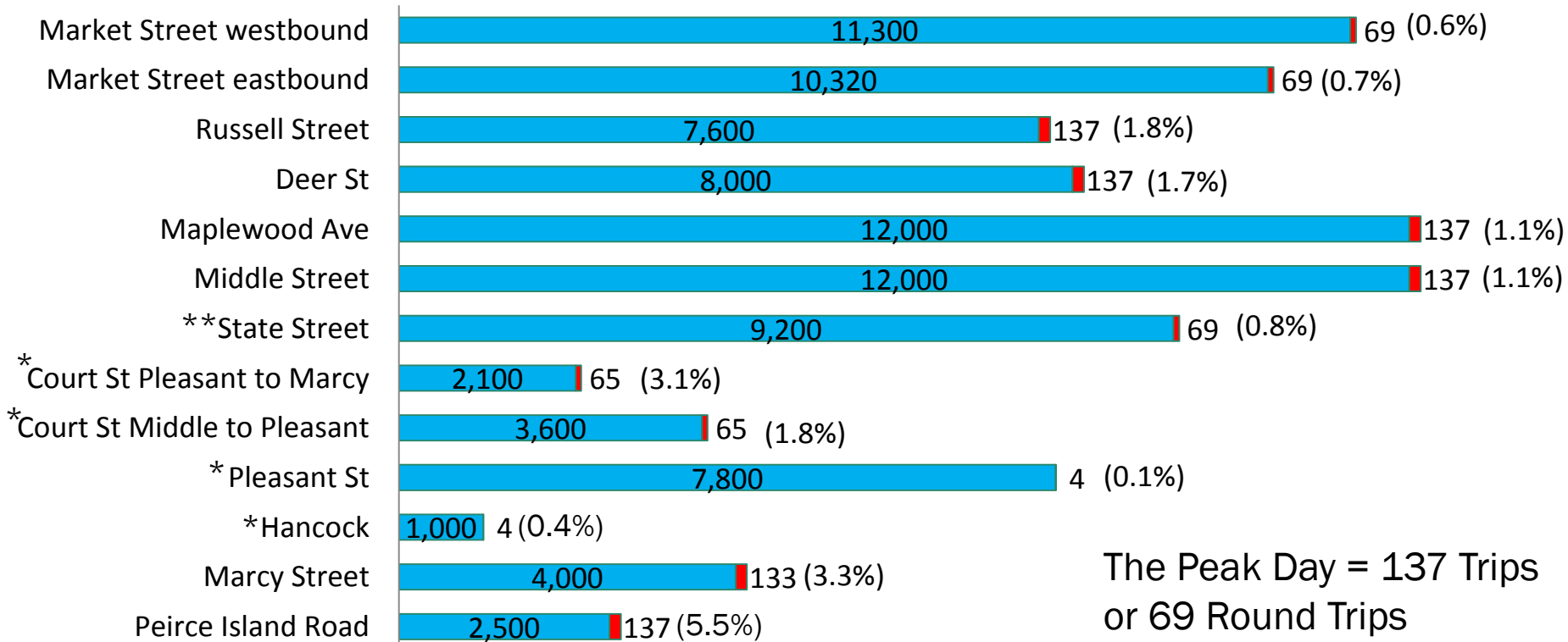
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Net Change in Traffic Volume

Summer Condition Traffic Volumes with Peak Day Construction Traffic (Trips per Day)

■ Existing Summer Month Street Volume ■ Peak Day Construction Truck Volume

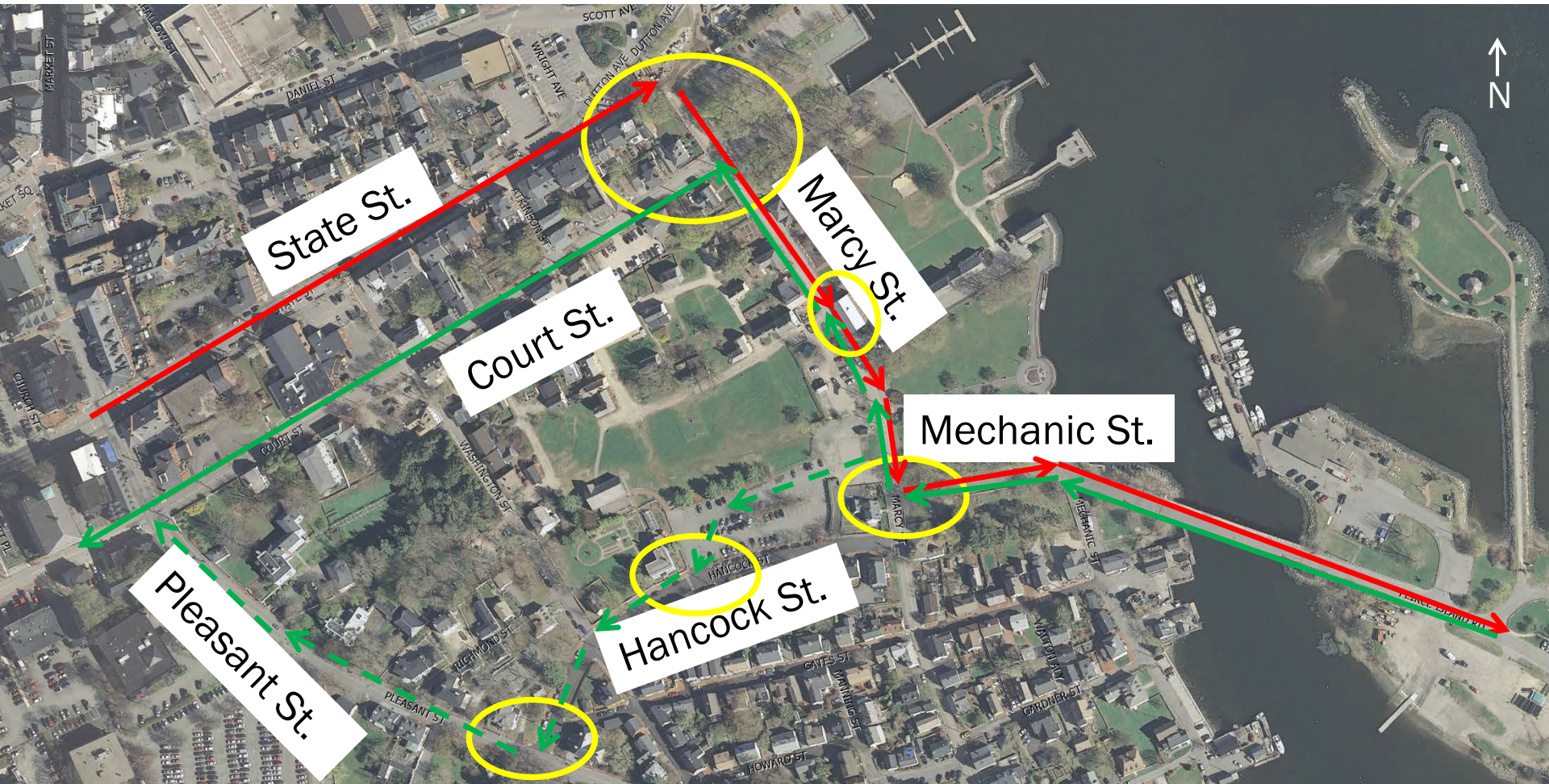


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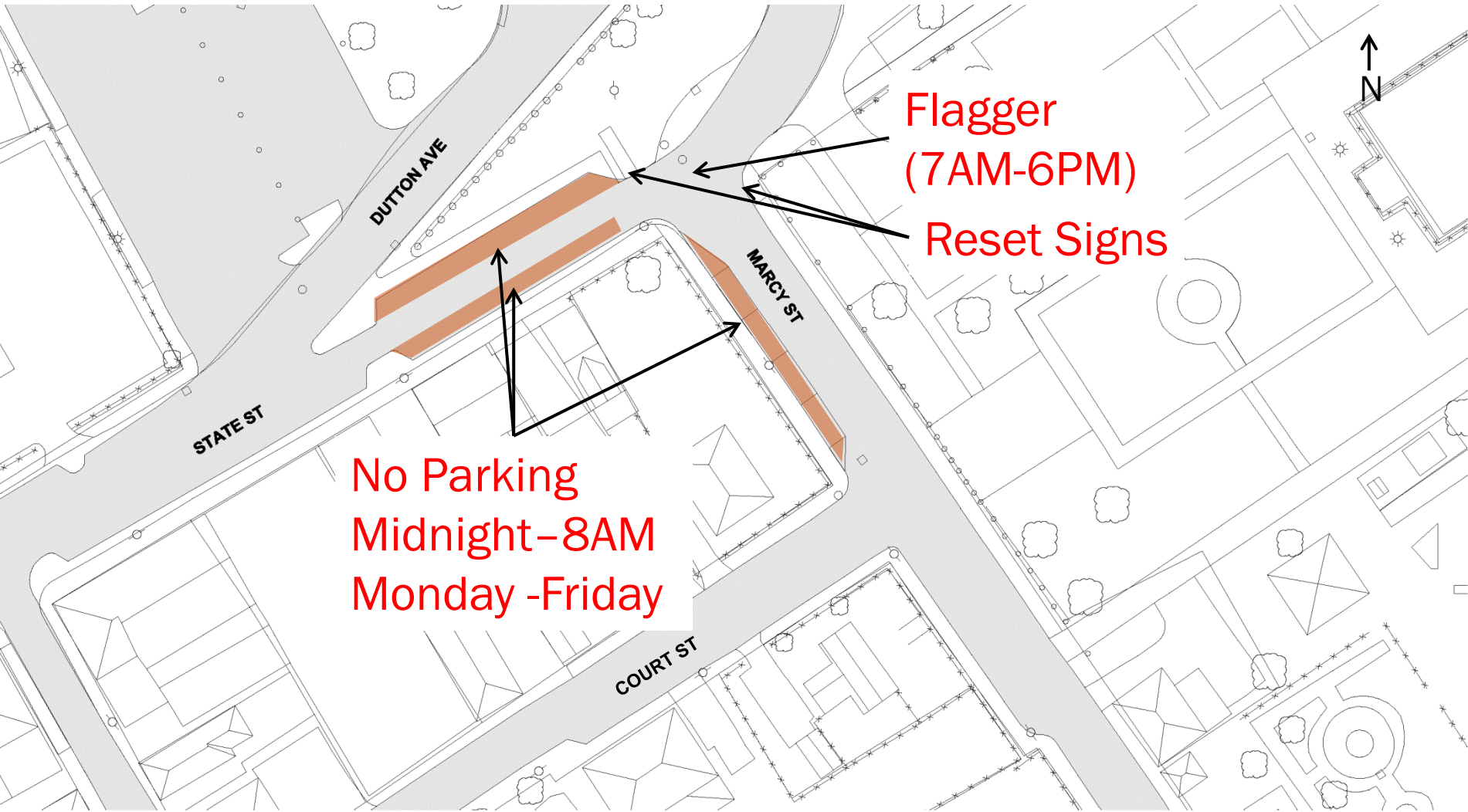
Notes: *Outbound Construction Traffic Only **Inbound Construction Traffic Only



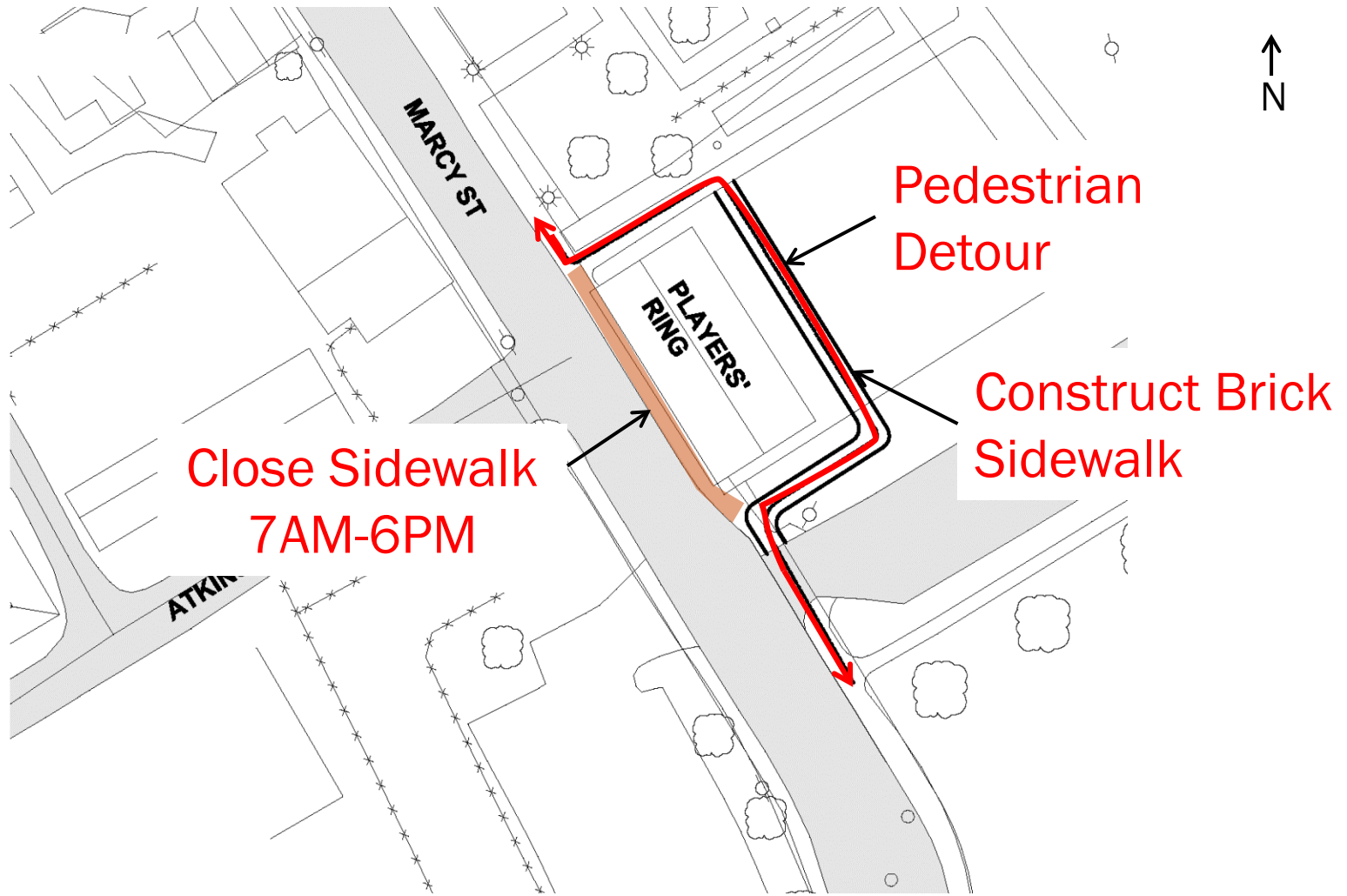
Downtown Locations



Downtown Locations – State St., Court St. & Marcy St.

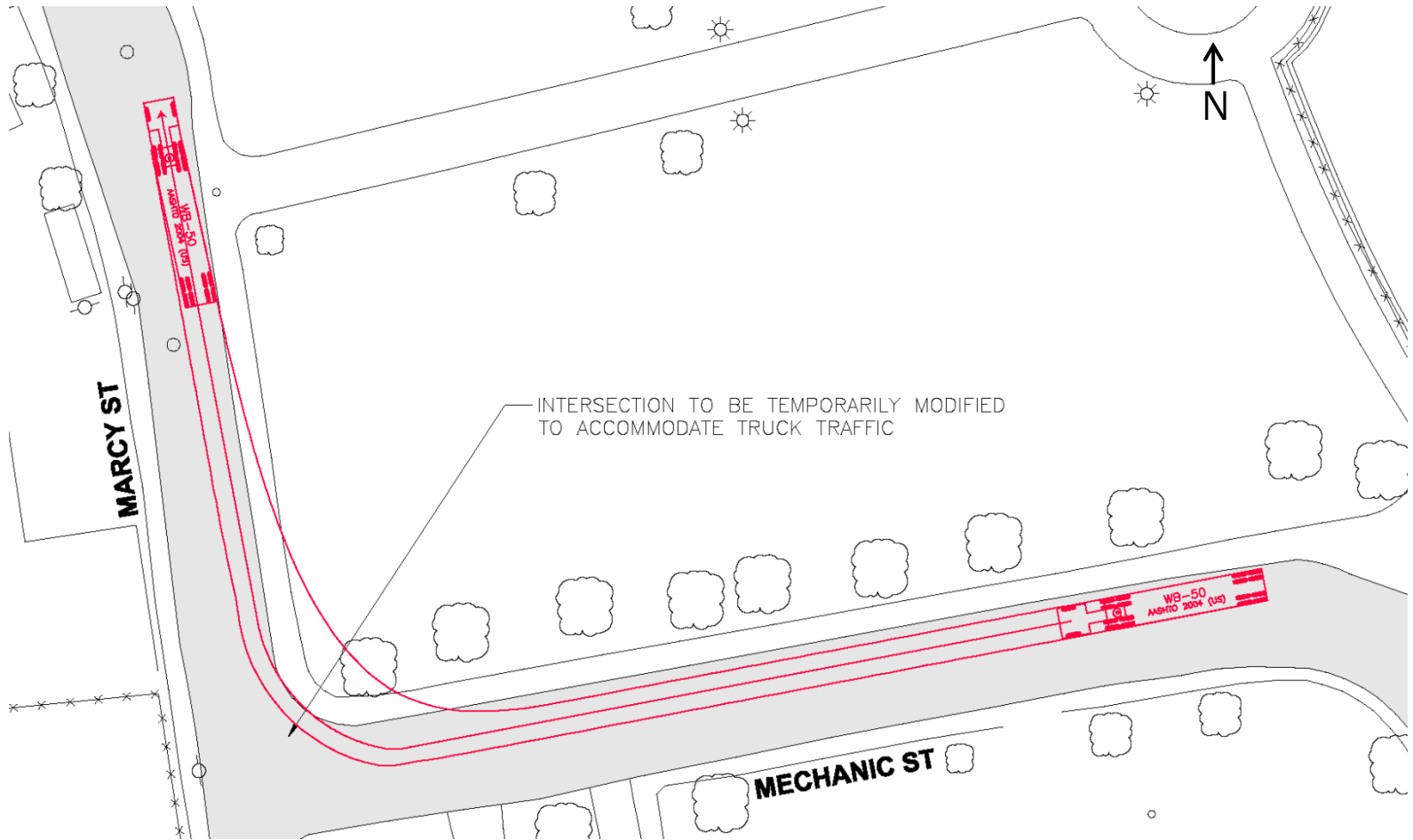


Downtown Locations– Marcy St.



Downtown Locations– Marcy St. & Mechanic St.

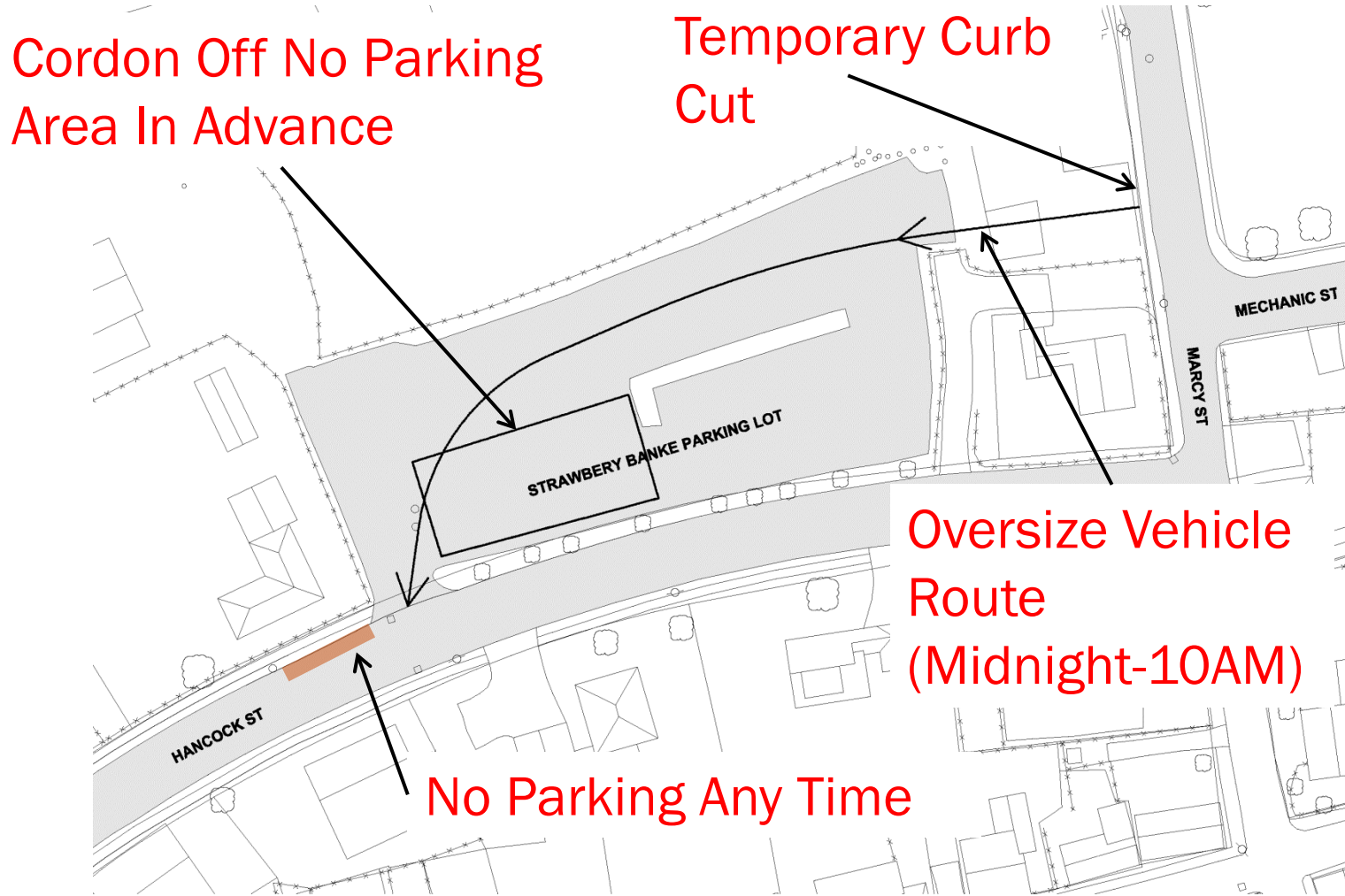
- Outgoing WB-50



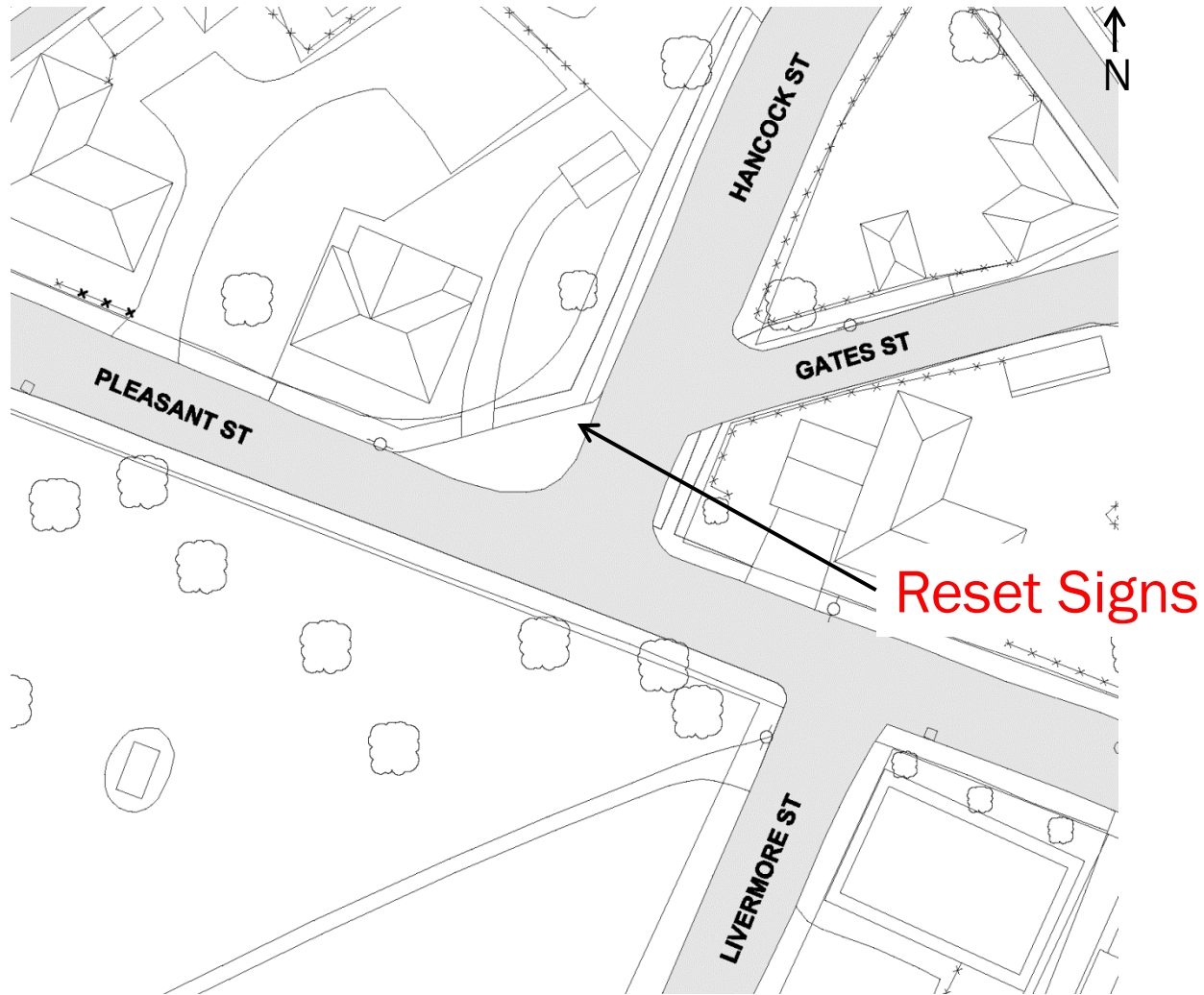
Downtown Locations– Marcy St. & Mechanic St.



Downtown Locations – Strawberry Banke



Downtown Locations– Hancock St. & Pleasant St.



Summary of Potential Mitigation Measures

- Add Bid Alternates for Barging
- Possible Relocation of Snow Dump
- Add Additional Parking at Four Tree Island Lot
- Add Additional Parking Adjacent to the Boat Ramp Lot
- Relocate the Pool Entrance
- Investigate Options for Dog Walking Area
- Look at Pool House Options
- Contractor Cannot Work During Specific Events
- Continue to Adjust as Needed During Construction



Questions and Answers

